TBM 700
Versions A and B

PILOT'S
INFORMATION MANUAL

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6.5.8	14	6.5.50	14	7.3.7	13
6.5.9	14	6.5.51	14	7.3.8	6
6.5.10	13	6.5.52	14	7.3.9	5
6.5.11	11	6.5.53	14	7.3.10	6
6.5.12	14	6.5.54	14	7.3.11	3
6.5.13	14	6.5.55	14	7.3.12	2
6.5.14	14	6.5.56	14	7.3.13	2
6.5.15	14	6.5.57	14	7.3.14	11
6.5.16	14	6.5.58	14	7.3.15	11
6.5.17	14	6.5.59	14	7.3.16	14
6.5.18	14	6.5.60	14	7.3.17	6
6.5.19	14	6.5.61	14	7.3.18	11
6.5.20	14	6.5.62	14	7.3.19	11
6.5.21	14	6.5.63	14	7.3.19A	11
6.5.22	14	6.5.64	14	7.3.19B	11

7.3.19C	11	7.5.6	6	7.8.4	13
7.3.19D	11	7.5.7	14	7.8.5	11
7.3.19E	14	7.5.8	11	7.8.6	11
7.3.19F	11	7.5.9	6	7.8.7	13
7.3.19G	11	7.5.10	6	7.8.8	11
7.3.19H	11	7.5.11	6	7.8.9	11
7.3.20	11	7.5.12	6	7.8.9A	11
7.3.21	11	7.6.1	13	7.8.9B	11
7.3.22	11	7.6.2	11	7.8.9C	11
7.3.22A	11	7.6.3	2	7.8.9D	11
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7.3.23	11	7.6.5	5	7.8.11	5
7.3.24	5	7.6.6	13	7.8.12	6
7.3.25	5	7.6.7	6	7.8.13	6
7.3.26	5	7.6.8	5	7.8.14	2
7.3.27	5	7.6.9	2	7.8.15	2
7.3.28	11	7.6.10	11	7.8.16	6
7.3.29	11	7.6.11	5	7.8.17	11
7.3.30	11	7.6.12	11	7.8.18	2
7.4.1	11	7.6.13	5	7.8.19	2
7.4.2	11	7.6.14	5	7.8.20	11
7.4.3	5	7.7.1	11	7.8.21	6
7.4.4	11	7.7.2	11	7.8.21A	6
7.4.5	2	7.7.3	5	7.8.21B	6
7.4.6	2	7.7.4	14	7.8.22	5
7.4.7	13	7.7.5	14	7.8.23	13
7.4.8	11	7.7.6	2	7.8.24	2
7.4.9	5	7.7.7	2	7.9.1	6
7.4.10	13	7.7.8	2	7.9.2	6
7.4.11	5	7.7.9	2	7.9.3	5
7.4.12	2	7.7.10	11	7.9.4	6
7.4.13	14	7.7.11	14	7.9.4A	6
7.4.14	11	7.7.12	5	7.9.4B	6
7.4.15	2	7.7.13	13	7.9.4C	5
7.4.16	11	7.7.14	5	7.9.4D	6
7.4.17	5	7.7.15	5	7.9.4E	6
7.4.18	2	7.7.16	5	7.9.4F	6
7.5.1	15	7.7.17	11	7.9.4G	5
7.5.2	16	7.7.18	5	7.9.4H	6
7.5.3	5	7.8.1	5	7.9.5	11
7.5.4	14	7.8.2	11	7.9.6	2
7.5.5	13	7.8.3	11	7.9.7	11

7.9.8	13	8.3.1	13
7.9.9	13	8.3.2	2
7.9.10	5	8.4.1	5
7.10.1	5	8.4.2	2
7.10.2	11	8.5.1	5
7.10.3	5	8.5.2	2
7.10.4	5	8.6.1	11
7.10.5	5	8.6.2	2
7.10.6	5	8.6.3	13
7.11.1	5	8.6.4	11
7.11.2	5	8.6.5	11
7.11.3	5	8.6.6	11
7.11.4	6	8.7.1	15
7.12.1	13	8.7.2	15
7.12.2	2	8.7.3	12
7.12.3	2	8.7.4	12
7.12.4	2	8.7.5	12
7.12.5	6	8.7.6	11
7.12.6	2	8.7.7	13
7.13.1	15	8.7.8	5
7.13.2	13	8.8.1	14
7.13.3	5	8.8.2	5
7.13.4	2	8.9.1	11
7.14.1	2	8.9.2	6
7.14.2	13		
7.15.1	5	Section 9 (See log of Supplements)	
7.15.2	15		
7.15.3	15		
7.15.4	13		
7.15.5	13		
7.15.6	13		
8.0.1	11		
8.0.2	6		
8.1.1	2		
8.1.2	2		
8.2.1	5		
8.2.2	2		

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SECTION 1

GENERAL

TABLE OF CONTENTS

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1.1 - GENERAL

This Handbook contains 9 Sections, and includes the material required by FAR Part 23 to be furnished to the pilot for operation of the TBM 700 airplane. It also contains supplemental data supplied by the manufacturer.

Section 1 provides basic data and information of general interest. It also contains definitions or explanations of abbreviations and terminology commonly used.

The general for complex optional systems are given in Section 9, "Supplements" of the Pilot's Operating Handbook.

PART 135 OPERATIONS

For 14 CFR 135 operations, TBM aircraft alternative source of electric power is able to supply 150 percent of the electrical loads of all required instruments and equipment for safe emergency operation of the aircraft for at least 1 hour.

Electrical load shedding procedure provided in Section 3 of this POH must be followed in order to meet the requirements of that Paragraph under 14 CFR 135.163(f)(2).

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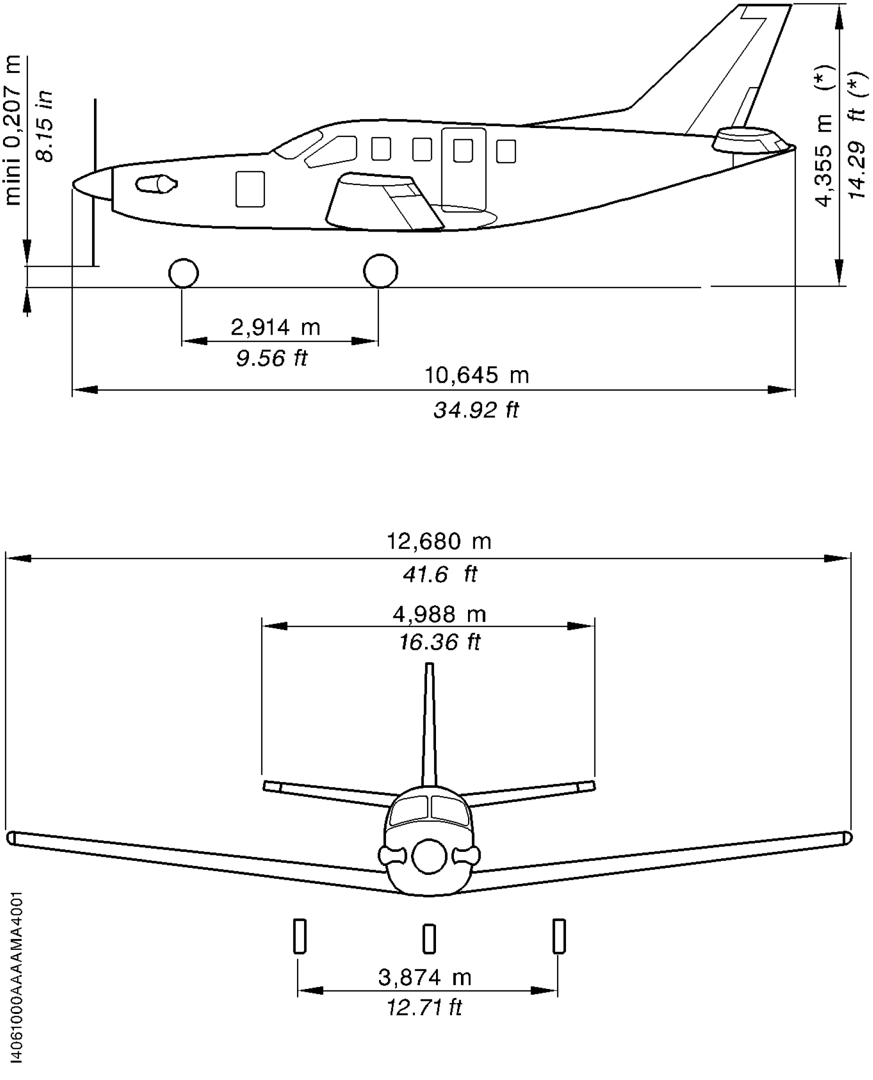
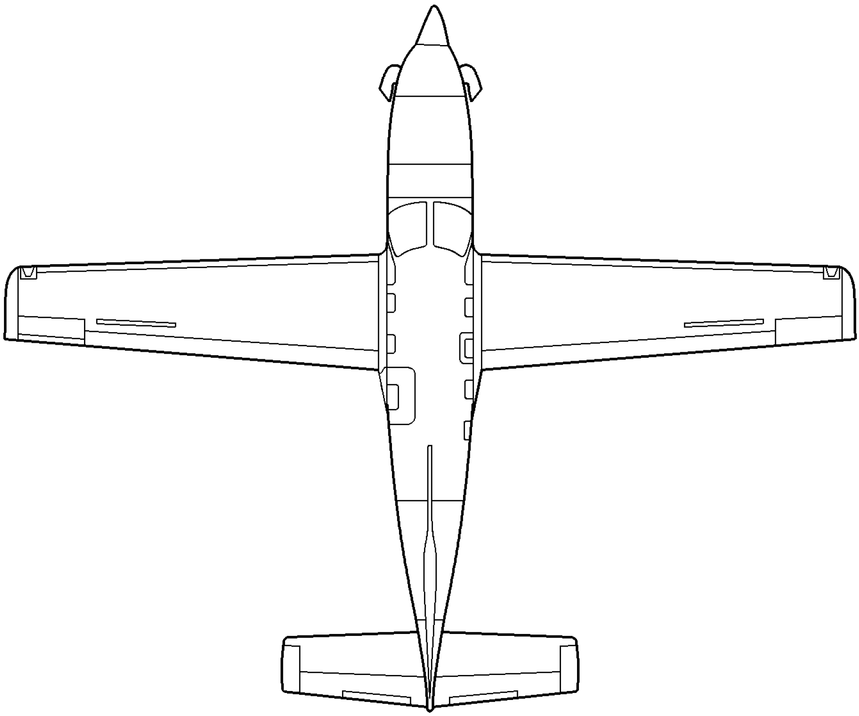
1.2 - THREE VIEW DRAWING



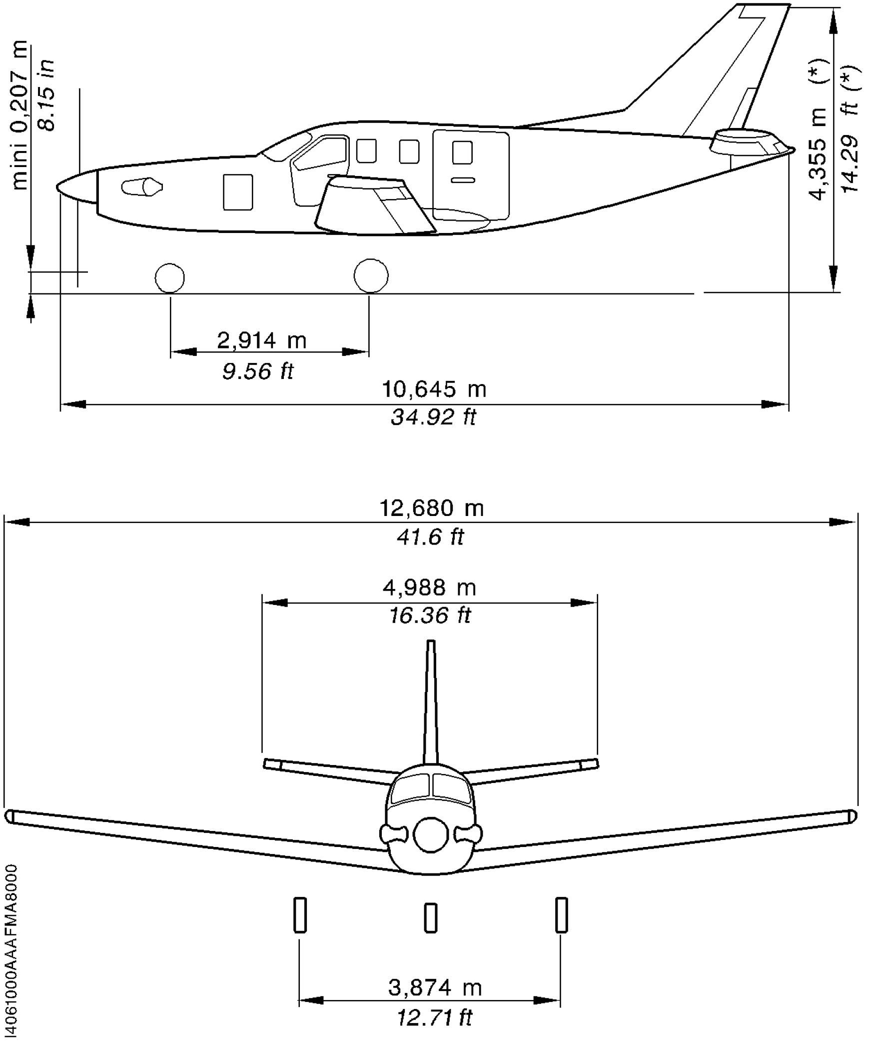
* Airplane on line of flight with extended FWD shock-absorber

Figure 1.2.1 (1 / 2) - THREE VIEW DRAWING - **TBM700A**



I4061000AAAAMA8501

Figure 1.2.1 (2 / 2) – THREE VIEW DRAWING – **TBM700A**



* Airplane on line of flight with extended FWD shock-absorber

Figure 1.2.1A (1 / 2) - THREE VIEW DRAWING - **TBM700B**

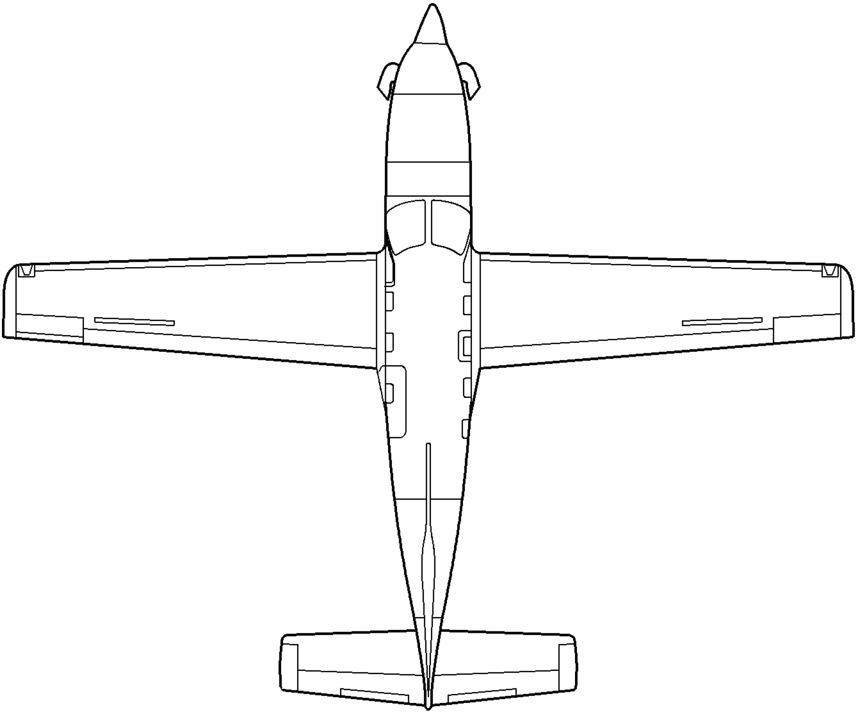


Figure 1.2.1A (2 / 2) – THREE VIEW DRAWING – **TBM700B**

1.3 - DESCRIPTIVE DATA

ENGINE

Number of engines : 1

Engine manufacturer : PRATT & WHITNEY CANADA

Engine model number : PT6A - 64

Engine type : Free turbine, reverse flow and 2 turbine sections

Compressor type :	4 axial stages 1 centrifugal stage
Combustion chamber type :	Annular
Turbine type :	1 gas generator turbine stage 2 power turbines stages

Horsepower rating and propeller speed : 700 SHP at 2000 RPM

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

Propeller model number : HC-E4N-3 / E9083S (K)

Number of blades : 4

Propeller diameter :
- Minimum : 90 inches (2.286 m)
- Maximum : 91 inches (2.311 m)

Propeller type : Adjustable constant speed, with feathering and hydraulic control reverse

Propeller blade setting at 30 inches station
- Low pitch : 21°
- Feathering : 86°
- Maximum reverse : - 11°

Propeller governor : 8210.007 WOODWARD

FUEL

Total capacity : 290.6 us gal (1100 Litres)
Total capacity each tank : 145.3 us gal (550 Litres)
Total usable : 281.6 us gal (1066 Litres)

CAUTION

THE USED FUEL MUST CONTAIN AN ANTI-ICE ADDITIVE, IN ACCORDANCE WITH SPECIFICATION MIL-I-27686 or MIL-I-85470. ADDITIVE CONCENTRATIONS (EGME or DIEGME) SHALL BE COMPRISED BETWEEN A MINIMUM OF 0.06 % AND A MAXIMUM OF 0.15 % BY VOLUME. REFER TO SECTION 8 "HANDLING, SERVICING AND MAINTENANCE" FOR ADDITIONAL INFORMATION.

CAUTION

THE USE OF AVIATION GASOLINE (AVGAS) MUST BE RESTRICTED TO EMERGENCY PURPOSES ONLY. AVGAS SHALL NOT BE USED FOR MORE THAN 150 CUMULATIVE HOURS DURING ANY PERIOD BETWEEN ENGINE OVERHAUL PERIODS

NOTE :
Use of AVGAS to be recorded in engine module logbook

US Specification (US)	French Specification (FR)	English Specification (UK)	NATO Code
ASTM-D1655 JET A ASTM-D1655 JET A1 ASTM-D1655 JET B	AIR 3405C Grade F35	DERD 2494 Issue 9	F35 without additive
MIL-DTL-5624 Grade JP-4	AIR 3407B	DERD 2454 Issue 4 Amdt 1	F40 with additive
MIL-DTL-5624 Grade JP-5	AIR 3404C Grade F44	DERD 2452 Issue 2 Amdt 1	F44 with additive when utilization
MIL-DTL-83133 Grade JP-8	AIR 3405C Grade F34	DERD 2453 Issue 4 Amdt 1	F34 with additive S748
	AIR 3404C Grade F43	DERD 2498 Issue 7	F43 without additive

Figure 1.3.1 - RECOMMENDED FUEL TYPES
(Reference : Service Bulletin P & W - C. No. 14004)

ENGINE OIL

System total capacity :
12.7 Quarts (12 Litres) (oil cooler included)

Usable capacity :
6 Quarts (5.7 Litres)

Maximum consumption in 10 hour period :
0.14 qt / hr (0.13 l / hr)
[0.3 lb / hr (136 cc / hr)]

Specification

Nominal Viscosity	Specification	NATO Code
5cSt	MIL-PRF-23699G	O.156 (STD) O.154 (HTS)

Figure 1.3.2 – RECOMMENDED ENGINE OIL TYPES
(Reference : Service Bulletin P & W – C. No. 14001 at the latest revision)

MAXIMUM CERTIFICATED WEIGHTS

Ramp : 6614 lbs (3000 kg)
Takeoff : 6579 lbs (2984 kg)
Landing : 6250 lbs (2835 kg)
Baggage weight (refer to Section 6 for cargo loading instructions) :
In FWD compartment (non pressurized) : 110 lbs (50 kg)
In aft compartment (pressurized) : 220 lbs (100 kg)

STANDARD AIRPLANE WEIGHTS

TBM700A :

Standard empty weight :	4050 lbs (1837 kg)
Maximum useful load :	2564 lbs (1163 kg)

TBM700B :

Standard empty weight :	4167 lbs (1890 kg)
	With "pilot" door : 4211 lbs (1910 kg)
Maximum useful load :	2447 lbs (1110 kg)
	With "pilot" door : 2403 lbs (1090 kg)

CABIN AND ENTRY DIMENSIONS

Maximum cabin width : 3' 11.64" (1.21 m)
Maximum cabin length : 13' 3.45" (4.05 m)
Maximum cabin height : 4' (1.22 m)

TBM700A :
Number of cabin entries : 1
Entry width : 2' 1.59" (0.65 m)
Entry height : 3' 10.85" (1.19 m)

TBM700B :
Number of cabin entries : 1 (standard) + 1 "pilot" door (if installed)
Entry width (standard) : 3' 6.52" (1.08 m)
Entry height (standard) : 3' 10.85" (1.19 m)
"Pilot" entry mean width : 2' 3.6" (0.70 m)
"Pilot" entry mean height : 3' 2.16" (0.97 m)

BAGGAGE SPACE ENTRY DIMENSIONS (NON PRESSURIZED)

Access by L.H. side door
Entry width : 1' 2.57" (0.37 m)
Entry height : 1' 8.08" (0.51 m)

SPECIFIC LOADINGS

Wing loading : 34 lbs / sq.ft (165.8 kg / $m^{2)}$
Power loading : 9.4 lbs / SHP (4.26 kg / SHP)

1.4 - ABBREVIATIONS AND TERMINOLOGY

METEOROLOGICAL TERMINOLOGY

ISA : ***International standard atmosphere***

OAT : ***Outside air temperature*** is the free air static temperature. It is expressed in either degrees Celsius or degrees Fahrenheit.

SAT : ***Static air temperature***

IOAT : ***Indicated outside air temperature***

QFE : Atmospheric pressure at the airport reference point.

QNH : QFE value corrected according to the airport altitude.

NOTE :
On the ground, the altimeter will indicate "zero" if it is set to QFE ; it will indicate airport altitude if it is set to QNH.

Standard Temperature :
Is 15°C (59°F) at sea level pressure altitude and decreases by 2°C (3.6°F) for each 1000 ft of altitude.

Pressure altitude :
Is the altitude read from an altimeter when the altimeter's barometric scale has been set to 29.92 inches of mercury (1013.2 hPa).

GENERAL AIRSPEED TERMINOLOGY AND SYMBOLS

KCAS : ***Knots Calibrated Airspeed*** is the indicated airspeed expressed in knots corrected for position and instrument error. Knots calibrated airspeed is equal to KTAS in standard atmosphere at sea level.

KIAS : ***Knots Indicated Airspeed*** is the speed shown on the airspeed indicator and expressed in knots.

KTAS : ***Knots True Airspeed*** is the airspeed expressed in knots relative to undisturbed air which is KCAS corrected for altitude and temperature.

V_A	:	***Maneuvering Speed*** is the maximum speed at which full or abrupt control movements may be used.
V_{FE}	:	***Maximum Flap Extended Speed*** is the highest speed permissible with wing flaps in a prescribed extended position.
V_{LE}	:	***Maximum Landing Gear Extended Speed*** is the maximum speed at which an airplane can be safely flown with the landing gear extended.
V_{LO}	:	***Maximum Landing Gear Operating Speed*** is the maximum speed at which the landing gear can be safely extended or retracted.
V_{MO}	:	***Maximum Operating Speed*** is the speed limit that may not be deliberately exceeded in normal flight operations.
V_R	:	***Rotation Speed*** is the speed at which rotation is initiated during takeoff to achieve takeoff safety speed at screen height.
V_{SO}	:	***Stalling Speed or the minimum steady flight speed*** at which the airplane is controllable in the landing configuration.
V_{S1}	:	***Stalling Speed or the minimum steady flight speed*** obtained in a specific configuration.
V_X	:	***Best Angle of Climb Speed*** is the airspeed which delivers the greatest gain of altitude in the shortest possible horizontal distance.
V_Y	:	***Best Rate of Climb Speed*** is the airspeed which delivers the greatest gain in altitude in the shortest possible time.

POWER TERMINOLOGY

Recovery altitude :
Maximum altitude at which it is possible, in standard temperature, to maintain a specified power.

Overheated start :
Engine start or attempt to start which causes the interturbine temperature to be higher than the maximum value permissible during start .

Flame out : Involuntary loss of the combustion chamber flame during operation.

GPU : ***Ground power unit***.

Feathering : Action which reduces the drag of a failed engine through propeller feathering.

Maximum Cruise Power :
Power developed at the couple limit, interturbines temperature limit or gas generator RPM limit without time limitations, corresponding to cruise conditions.

Ng : Gas generator RPM.

Np : Propeller rotation speed.

Reverse : Drag produced when the propeller blade setting is negative.

RPM : Revolutions per minute is engine speed.

SHP : Standard Horsepower is the power developed by the engine.

TRQ : ***Torque***.

AIRPLANE PERFORMANCE AND FLIGHT PLANNING TERMINOLOGY

Climb gradient :
Is the ratio of the change in height during a portion of climb, to the horizontal distance traversed in the same time interval.

Demonstrated crosswind velocity :
Is the velocity of the crosswind component for which adequate control of the airplane during takeoff and landing was actually demonstrated during certification tests. The value shown is not considered to be limiting.

g : Is acceleration due to gravity.

Usable fuel : Total fuel which can be effectively consumed by the engine.

WEIGHT AND BALANCE TERMINOLOGY

Reference datum :
Datum perpendicular to the longitudinal airplane centerline from which all distances are measured for balance purpose.

Arm : Is the distance from the reference datum to the center of gravity (C.G.) of an item.

Moment : Is the product of the weight of an item multiplied by its arm.

Center of gravity (C.G.) :
Airplane balance point. Its distance from the reference datum is found by dividing the total moment by the total weight of the airplane.

C.G. limits : ***Center of Gravity Limits*** are the extreme center of gravity locations within which the airplane must be operated at a given weight.

Standard empty weight :
Weight of a standard airplane including unusable fuel and full operating fluids (oil and hydraulic fluids).

Basic empty weight :
Standard empty weight plus optional equipment.

Useful load : Is the difference between maximum ramp weight and the basic empty weight.

Maximum ramp weight :
Is the maximum weight approved for ground maneuver. (It includes the weight of start, taxi and run up fuel).

Maximum takeoff weight :
Is the maximum weight approved at the beginning of the takeoff run.

Maximum landing weight :
Is the maximum weight approved for landing touchdown.

GENERAL ABBREVIATIONS

A	:	Ampere or Amber
ADC	:	Air Data Computer
AIL TRIM	:	Aileron trim
ALT. SEL.	:	Altitude selector
ALTI	:	Altimeter
AMP.	:	Ampere
AP	:	Autopilot
AUTO SEL	:	Automatic selector
AUX BP	:	Auxiliary boost pump
BAT	:	Battery
BAT OVHT	:	Battery overheat
BRT	:	Brightness
CAB PRESS	:	Cabin pressure
°C	:	Celsius degree
CONT.	:	Control
DIEGME	:	Diethylene glycol monomethyl ether
DIM	:	Dimmer
DISC	:	Disconnect
DN	:	Down
ECS	:	Environmental control system
EGME	:	Ethylene glycol monomethyl ether
EMER	:	Emergency
ENCOD. ALTI	:	Encoding altimeter
ESS. BUS TIE	:	Essential BUS tie
EXT. LIGHTS	:	Exterior lightings
°F	:	Fahrenheit degree
FCU	:	Fuel control unit
FIRE EXTING	:	Fire extinguisher
FL	:	Flight level
ft	:	Feet
ft/min	:	Feet per minute
G	:	Green
HI	:	High
HP	:	High pressure
hPa	:	Hectopascal
hr	:	Hour
HTR	:	Heater
IGNIT	:	Ignition
in	:	Inch
INERT SEP	:	Inertial separator

INDIC : Indicator
in.Hg : Inch of mercury
INT. LIGHTS : Interior lightings
INSTR. : Instrument
IRCR : Intermediate range cruise
ITT : Interturbine temperature
kg : Kilogram
kt : Knot (1 nautical mile/hr – 1852 m/hr)
kW : Kilowatt
l : Litre
L : Left
l/h : Litre / hour
lb or lbs : Pound(s)
L / D : Lift-to-drag
LDG : Landing
LDG GR : Landing gear
LRCR : Long Range Cruise
LO : Low
LP : Low pressure
LRN : Long range navigation
LTS TEST : Lightings test
m : Metre
m.a.c. : Mean aerodynamic chord
MAIN GEN : Main generation
MAN : Manual
MAN OVRD : Manual override
MAX RPM : Maximum revolutions per minute
MIN : Minimum
min : Minute
MLW : Maximum landing weight
mm : Millimetre
MRW : Maximum ramp weight
MTOW : Max. Take Off Weight
MXCR : Maximum cruise
MZFW : Max. Zero Fuel Weight
NM : Nautical mile
NOCR : Normal cruise (recommended)
NORM : Normal
PHF : Plan Horizontal Fixe (Horizontal stabilizer)
PRESS : Pressure

PROP	:	Propeller
psi	:	Pounds per square inch
qt	:	Quart (¼ us gal)
QTY	:	Quantity
R	:	Red or Right
RUD	:	Rudder
s or sec	:	Second
SEL	:	Selector
SIG	:	Signalization
SL	:	Sea level
S/N	:	Serial number
SPKR	:	Speaker
ST - BY	:	Stand-by
STALL HTR	:	Stall heater
Std	:	Standard
T°	:	Temperature
TEMP	:	Temperature
TO	:	Takeoff
TURN COORD	:	Turn coordinator
us gal	:	Gallon U.S
U	:	Voltage
V	:	Volt
VACUUM LO	:	Vacuum low
WARN	:	Warning
W / S	:	Windshield
WSR	:	Weather surveillance radar
XPDR	:	Transponder

RADIO - NAVIGATION ABBREVIATIONS

ADF	:	Automatic Direction Finder System
ADI	:	Attitude Director Indicator
ATC	:	Transponder
CDI	:	Course Deviation Indicator
COM	:	Communications Transceivers
DME	:	Distance Measuring Equipment
ELT	:	Emergency Locator Transmitter
HF	:	High Frequency
HSI	:	Horizontal Situation Indicator
IFR	:	Instrument Flight Rules
ILS	:	Instrument Landing System
IMC	:	Instrument Meteorological Conditions
MKR	:	Marker Radio Beacon
NAV	:	Navigation Indicators or Receivers
RMI	:	Radio Magnetic Indicator
VFR	:	Visual Flight Rules
VHF	:	Very High Frequency
VMC	:	Visual Meteorological Conditions
VOR	:	VHF Omnidirectional Range
VOR / LOC	:	VHF Omnidirectional Range Localizer

EFIS ABBREVIATIONS

ATTITUDE FAIL	:	Attitude failure
CMPST	:	Composite (EFIS composite mode)
CP	:	Control Panel
CRS	:	Course
DU	:	Display Unit
FD	:	Flight director
EADI	:	Electronic Attitude Deviation Indicator
EFIS	:	Electronic Flight Instrument System
EHSI	:	Electronic Horizontal Situation Indicator
ERMI	:	Electronic Radio Magnetic Indicator
HDG	:	Heading
RCP	:	Radar Control Panel
REF	:	Reference
SG	:	Symbol Generator
TST	:	Test

1.5 - CONVERSION FACTORS

IMPERIAL AND U.S UNITS TO METRIC UNITS			METRIC UNITS TO IMPERIAL AND U.S UNITS		
MULTIPLY	BY	TO OBTAIN	MULTIPLY	BY	TO OBTAIN
FEET	0.3048	METRE	METRE	3.2808	FEET
INCH	25.4	mm	mm	0.03937	INCH
Imp.Gal	4.546	Litre	Litre	0.220	Imp.Gal
us gal	3.785	Litre	Litre	0.264	us gal
lb	0.45359	kg	kg	2.2046	lb

Figure 1.5.1 - IMPERIAL AND U.S UNITS TO METRIC UNITS

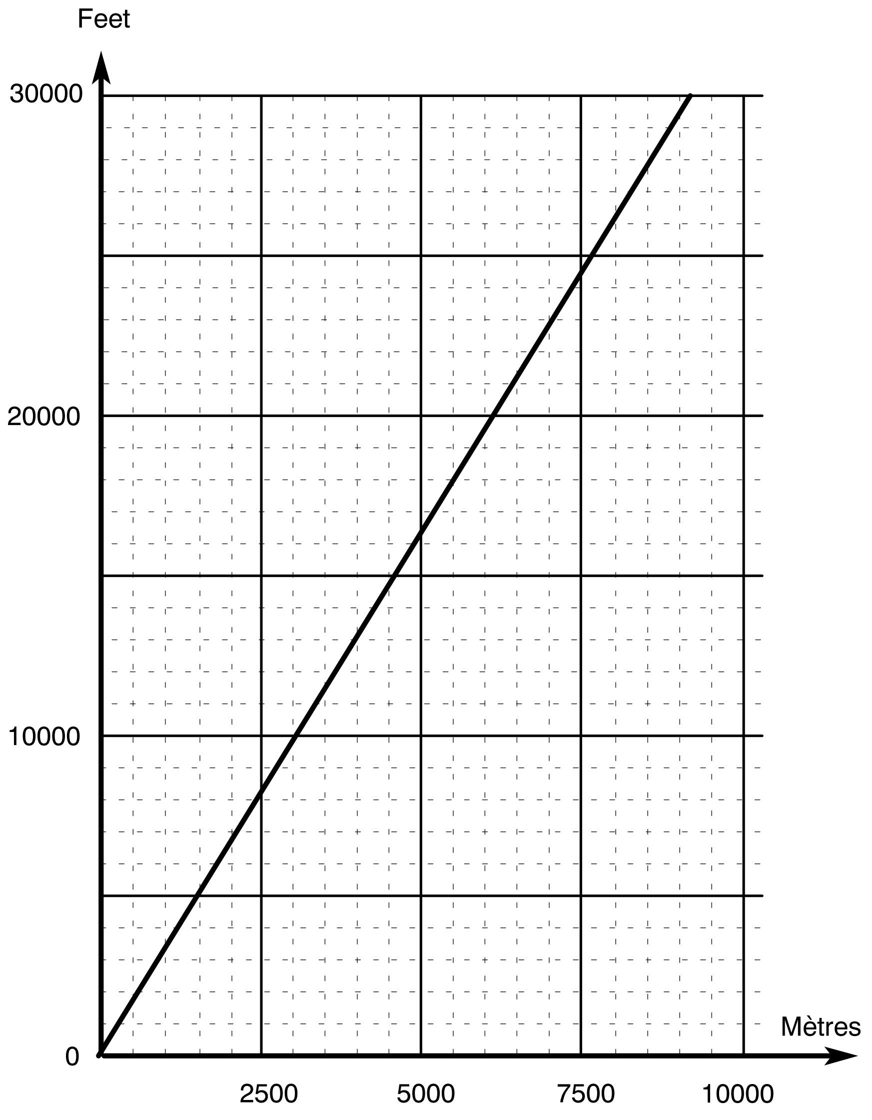


Figure 1.5.2 - FEET VERSUS METRES

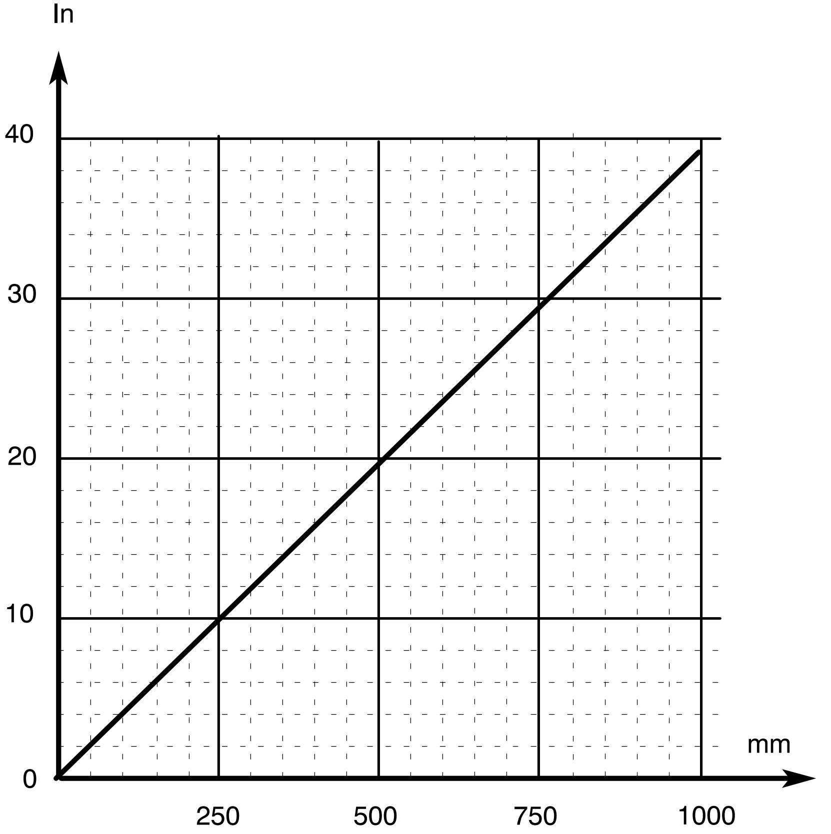


Figure 1.5.3 – INCHES VERSUS MILLIMETRES

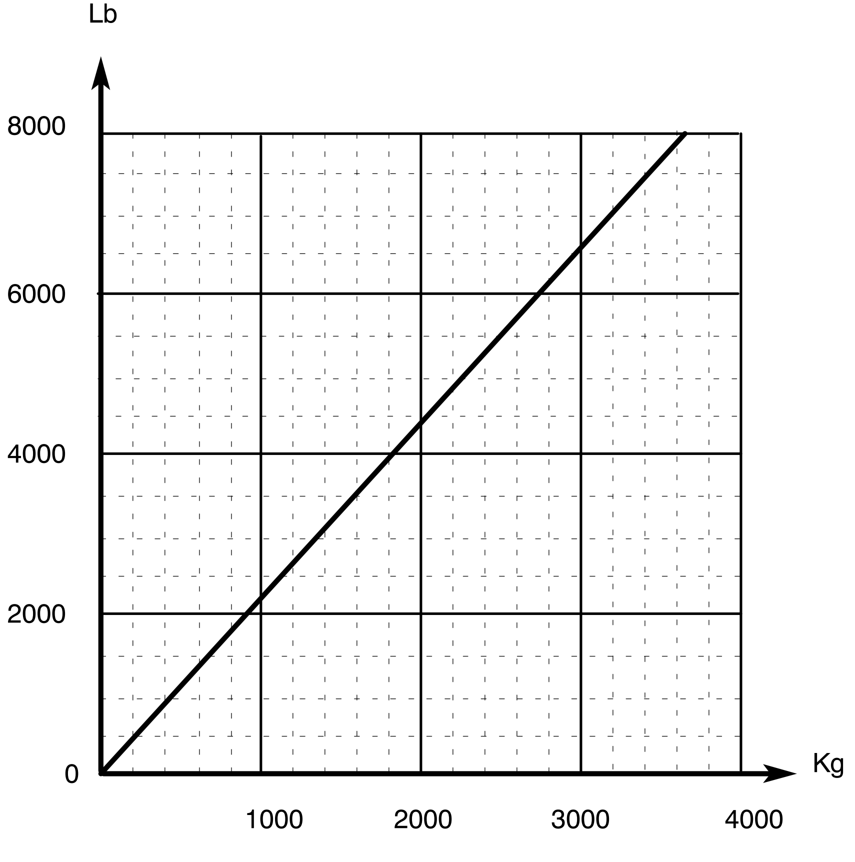


Figure 1.5.4 – POUNDS VERSUS KILOGRAMS

1.6 - PRESSURE AND STANDARD ATMOSPHERE

STANDARD ATMOSPHERE

Pressure altitude (ft)	Pressure (hPa)	°C	°F
0	1013.2	+ 15.0	+ 59.0
2000	942.1	+ 11.0	+ 51.8
4000	875.0	+ 7.0	+ 44.6
6000	811.9	+ 3.1	+ 37.6
8000	752.6	- 0.8	+ 30.5
10000	696.8	- 4.8	+ 23.4
12000	644.3	- 8.7	+ 16.2
14000	595.2	- 12.7	+ 9.2
16000	549.1	- 16.6	+ 2.2
18000	505.9	- 20.6	- 5.0
20000	465.6	- 24.6	- 12.4
22000	427.8	- 28.5	- 19.3
24000	392.6	- 32.5	- 26.5
26000	359.8	- 36.5	- 33.6
28000	329.3	- 40.4	- 40.7
30000	300.8	- 44.4	- 47.8

Figure 1.6.1 - STANDARD ATMOSPHERE

PRESSURE CONVERSION TABLE

NOTE :
The standard pressure of 1013.2 hPa is equal to 29.92 inches of mercury.

950 28.05	951 28.08	952 28.11	953 28.14	954 28.17	955 28.20	956 28.23	957 28.26	958 28.29	959 28.32
960 28.35	961 28.38	962 28.41	963 28.44	964 28.47	965 28.50	966 28.53	967 28.56	968 28.58	969 28.61
970 28.64	971 28.67	972 28.70	973 28.73	974 28.76	975 28.79	976 28.82	977 28.85	978 28.88	979 28.91
980 28.94	981 28.97	982 29.00	983 29.03	984 29.06	985 29.09	986 29.12	987 29.15	988 29.18	989 29.20
990 29.23	991 29.26	992 29.29	993 29.32	994 29.35	995 29.38	996 29.41	997 29.44	998 29.47	999 29.50
1000 29.53	1001 29.56	1002 29.59	1003 29.62	1004 29.65	1005 29.68	1006 29.71	1007 29.74	1008 29.77	1009 29.80
1010 29.83	1011 29.85	1012 29.88	1013 29.91	1014 29.94	1015 29.97	1016 30.00	1017 30.03	1018 30.06	1019 30.09
1020 30.12	1021 30.15	1022 30.18	1023 30.21	1024 30.24	1025 30.27	1026 30.30	1027 30.33	1028 30.36	1029 30.39
1030 30.42	1031 30.45	1032 30.47	1033 30.50	1034 30.53	1035 30.56	1036 30.59	1037 30.62	1038 30.65	1039 30.68
1040 30.71	1041 30.74	1042 30.77	1043 30.80	1044 30.83	1045 30.86	1046 30.89	1047 30.92	1048 30.95	1049 30.98

Figure 1.6.2 - PRESSURE CONVERSION TABLE

SECTION 2

LIMITATIONS

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

2.1 - GENERAL

The TBM 700 airplane is certified in the Normal Category.

This airplane must be flown in compliance with the limits specified by placards or markings and with those given in this Section and throughout the Pilot's Operating Handbook.

This Section of the airplane Pilot's Operating Handbook presents the various operating limitations, the significance of such limitations, instrument markings, color coding, and basic placards necessary for the safe operation of the airplane, its powerplant and installed equipment.

The limitations for optional systems are given in Section 9, "Supplements" of the Pilot's Operating Handbook.

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2.2 - AIRSPEED LIMITATIONS

Airspeed limitations and their operational significance are shown in Figure 2.2.1.

	SPEED	KCAS	KIAS	REMARKS
V_{MO}	Maximum operating speed	271	266	Do not intentionally exceed this speed in normal flight category
V_A	Maneuvering speed	160	158	Do not make abrupt or full control movements above this speed
V_{FE}	Maximum flaps extended speed : landing configuration takeoff configuration	 120 180	 122 178	Do not exceed these speeds depending on flaps position
V_{LO}	Maximum landing gear operating speed : extension retraction	 180 130	 178 128	Do not extend or retract landing gear above this speed
V_{LE}	Maximum landing gear extended speed	180	178	Do not exceed this speed with landing gear extended
	Maximum inertial separator operating speed	205	200	No limitation when inertial separator is in fixed position

Figure 2.2.1 - AIRSPEED LIMITATIONS

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2.3 - POWERPLANT LIMITATIONS

ENGINE

Number of engines : 1

Engine manufacturer : PRATT & WHITNEY CANADA

Engine model number : PT6A - 64

Engine operating limits for takeoff and continous operations :

Maximum power :
- 700 SHP : MAX TRQ 100 % at Np = 2000 RPM
  MAX TRQ 110 % at Np = 1800 RPM

Maximum power :
- Ng : 104.1 %
- Np : 2000 RPM

ITT :
- Anytime during engine operation :
  . continuous : 800°C
- During start : 870°C for 20 seconds max.
  1000°C for 5 seconds max.

CAUTION

WHEN NORMALLY OPERATING, REFER TO CHAPTER 5.7 "ENGINE OPERATION" TABLES

OIL

CAUTION

DO NOT MIX DIFFERENT BRANDS OR TYPES OF OIL

Maximum oil temperature : 104 °C

Oil pressure :
Minimum : 60 psi
Maximum : 135 psi

Oil capacity :
System total capacity : 12.7 Quarts (12 Litres) (Oil cooler included)
Usable capacity : 6 Quarts (5.7 Litres)

Oil grade (Specification) :

Nominal viscosity	US specification (US)	French specification (FR)	English specification (UK)	NATO code
Type 5cSt	MIL-L-23699C Amdt 1	MIL-L-23699C Amdt 1	DERD 2499 Issue 1	O.156

Figure 2.3.1 – ENGINE OIL RECOMMENDED TYPE
(Reference : Service Bulletin P & W – C. No. 14001)

FUEL

Fuel pressure :
Minimum : 10 psi
Maximum : 50 psi

Fuel limitations :
2 tanks : 145.3 us gal (550 Litres) each
Total fuel : 290.6 us gal (1100 Litres)
Usable fuel : 281.6 us gal (1066 Litres)
Unusable fuel : 9 us gal (34 Litres)
Maximum fuel unbalance : 25 us gal (95 Litres)

NOTE :
Usable fuel can be safely used during all normal airplane maneuvers.

CAUTION

THE FUEL USED MUST CONTAIN AN ANTI-ICE ADDITIVE, IN ACCORDANCE WITH SPECIFICATION MIL-I-27686 OR MIL-I-85470. ADDITIVE CONCENTRATIONS (EGME OR DIEGME) SHALL BE COMPRISED BETWEEN A MINIMUM OF 0.06 % AND A MAXIMUM OF 0.15 % BY VOLUME. REFER TO SECTION 8 "HANDLING, SERVICING AND MAINTENANCE" FOR ADDITIONAL INFORMATION

CAUTION

THE USE OF AVIATION GASOLINE (AVGAS) MUST BE RESTRICTED TO EMERGENCY PURPOSES ONLY. AVGAS SHALL NOT BE USED FOR MORE THAN 150 CUMULATIVE HOURS DURING ANY PERIOD BETWEEN ENGINE OVERHAUL PERIODS

NOTE :
Use of AVGAS to be recorded in engine module logbook.

CAUTION

MAXIMUM TIME FOR SIDESLIP CONDITION IS 30 SECONDS.

US Specification (US)	French Specification (FR)	English Specification (UK)	NATO Code
ASTM-D1655 JET A ASTM-D1655 JET A1 ASTM-D1655 JET B	AIR 3405C Grade F35	DERD 2494 Issue 9	F35 without additive
MIL-DTL-5624 Grade JP-4	AIR 3407B	DERD 2454 Issue 4 Amdt 1	F40 with additive
MIL-DTL-5624 Grade JP-5	AIR 3404C Grade F44	DERD 2452 Issue 2 Amdt 1	F44 with additive when utilization
MIL-DTL-83133 Grade JP-8	AIR 3405C Grade F34	DERD 2453 Issue 4 Amdt 1	F34 with additive S748
	AIR 3404C Grade F43	DERD 2498 Issue 7	F43 without additive

Figure 2.3.2 - RECOMMENDED FUEL TYPES
(Reference : Service Bulletin P & W - C. No. 14004)

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

Propeller model number : HC-E4N-3 / E9083S (K)

Propeller diameter :
Minimum : 90 inches (2.286 m)
Maximum : 91 inches (2.311 m)

Propeller blade setting at 30 inches station :
Low pitch : 21°
Feathering : 86°
Maximum reverse : - 11°

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2.4 - STARTER OPERATION LIMITS

Starter operation sequence is limited as follows :

if Ng ≤ 30 % . . . . 30 seconds

if Ng > 30 % . . . . 60 seconds

Should several sequences be necessary, respect following spacing :

1st sequence

wait . . . . 1 minute

2nd sequence

wait . . . . 5 minutes

3rd sequence

wait . . . . 30 minutes

4th sequence

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2.5 - WEIGHT AND C.G. LIMITS

WEIGHT LIMITS

Maximum ramp weight (MRW) : 6614 lbs (3000 kg)
Maximum takeoff weight (MTOW) : 6579 lbs (2984 kg)
Maximum landing weight (MLW) : 6250 lbs (2835 kg)
Maximum zero fuel weight in wings (MZFW) : 6001 lbs (2722 kg)
Maximum baggage weight in FWD compartment (non pressurized) : 110 lbs (50 kg)
Maximum baggage weight in aft compartment (pressurized) : 220 lbs (100 kg)

C.G. LIMITS – see Figure 6.4.2

Center of gravity range with landing gear down and flaps up, attitude 0° :

Forward limits :

181.3 inches (4.604 m) aft of datum at 4409 lbs (2000 kg) or less (14 % of m.a.c)

183.6 inches (4.664 m) aft of datum at 6250 lbs (2835 kg) (18 % of m.a.c)

184.8 inches (4.694 m) aft of datum at 6579 lbs (2984 kg) (20 % of m.a.c)

Aft limits :

194.9 inches (4.951 m) aft of datum at all weights below 6250 lbs (2835 kg) (37 % of m.a.c.)

194.3 inches (4.936 m) aft of datum at 6579 lbs (2984 kg) (36 % of m.a.c.)

Reference datum : 118.1 inches (3 m) in front of the firewall front face.
Straight line variation between points.
Leveling point : Cabin floor rails.

NOTE :
It is the responsibility of the pilot to insure that the airplane is properly loaded. See Section 6 "Weight and Balance" for proper loading instructions.

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2.6 - OPERATION LIMITS

MANEUVER LIMITS

This airplane is certified in the normal category.
The normal category is applicable to airplanes intended for non-aerobatic operations.

Non-aerobatic operations include any maneuvers incidental to normal flying, stalls (except whip stalls), lazy eights, chandelles, and steep turns in which the angle of bank is no more than 60°.

Aerobatic maneuvers, including spins, are not approved.

TEMPERATURE LIMITS

Minimum temperature at start and takeoff : - 40°C (- 40°F)

Maximum temperature at start and takeoff :
ISA + 37°C (+ 67°F) from 0 to 8000 ft pressure altitude

Maximum temperature in flight :
ISA + 37°C (+ 67°F) from 0 to 8000 ft pressure altitude
ISA + 30°C (+ 54°F) at 30000 ft pressure altitude
Linear decrease between 8000 and 30000 ft

Battery operation limit : 70°C (158°F) corresponding to "BAT OVHT" warning light illumination (if Cadmium-Nickel battery installed)

FLIGHT LOAD FACTOR LIMITS

Flaps up : $-1.5 \leq n \leq +3.8$ g
Flaps down : $-0 \leq n \leq +2.0$ g

CAUTION

INTENTIONAL NEGATIVE LOAD FACTORS PROHIBITED

SEVERE ICING CONDITIONS

WARNING

SEVERE ICING MAY RESULT FROM ENVIRONMENTAL CONDITIONS OUTSIDE OF THOSE FOR WHICH THE AIRCRAFT IS CERTIFICATED. FLIGHT IN FREEZING RAIN, FREEZING DRIZZLE, OR MIXED ICING CONDITIONS (SUPERCOOLED LIQUID WATER AND ICE CRYSTALS) MAY RESULT IN ICE BUILD-UP ON PROTECTED SURFACES EXCEEDING THE CAPABILITY OF THE ICE PROTECTION SYSTEM, OR MAY RESULT IN ICE FORMING AFT OF THE PROTECTED SURFACES. THIS ICE MAY NOT BE SHED USING THE ICE PROTECTION SYSTEMS, AND MAY SERIOUSLY DEGRADE THE PERFORMANCE AND CONTROLLABILITY OF THE AIRCRAFT

During flight, severe icing conditions that exceed those for which the aircraft is certificated shall be determined by the following visual cues. If one or more of these visual cues exists, immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the icing conditions.

- Unusually extensive ice accumulation on the airframe and windshield in areas not normally observed to collect ice.
- Accumulation of ice on the upper surface of the wing aft of the protected area.

Since the autopilot, when operating, may mask tactile cues that indicate adverse changes in handling characteristics, use of the autopilot is prohibited when any of the visual cues specified above exist, or when unusual lateral trim requirements or autopilot trim warnings are encountered while the aircraft is in icing conditions.

Refer to the list of ”Equipment required depending on type of operation” in this same chapter.

In any case of icing conditions, first refer to particular procedures described in Chapter 4.5 (normal procedures) and in case of unforeseen icing conditions, refer in addition to the emergency procedure described in Chapter 3.13.

FLAP OPERATING ENVELOPE

The use of flaps is not authorized above 15 000 ft.

REVERSE UTILIZATION

The use of control reverse BETA (β) range is prohibited :

- during flight,
- on ground, if the engine is not running.

EQUIPMENT REQUIRED DEPENDING ON TYPE OF OPERATION

The airplane is approved for day & night VFR and day & night IFR operations when appropriate equipment is installed and operating correctly.

The type certification for each use requires the following equipment. The equipment must be installed and operate perfectly according to the indicated type of use.

CAUTION

IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT THE FOLLOWING EQUIPMENT LISTS ARE IN ACCORDANCE WITH THE SPECIFIC NATIONAL OPERATION RULES OF THE AIRPLANE REGISTRATION COUNTRY DEPENDING ON THE TYPE OF OPERATION.

NOTE :
Systems and equipment mentioned hereafter do not include specific flight and radio-navigation instruments required by decree concerning operation conditions for civil airplanes in general aviation or other foreign regulations (for example FAR PART 91 and 135).

Day VFR

1) Pilot instruments

- Airspeed indicator
- Sensitive and adjustable altimeter
- Magnetic compass with built-in compensator

2) Warning lights

- Oil pressure
- Low fuel pressure
- Fuel selector OFF
- Fuel auxiliary pump ON
- L.H. and R.H fuel tank low level
- Non functioning of fuel timer
- Battery overheat
- Battery stop
- Main generator OFF
- Low voltage
- Ground power unit connected
- Inertial separator
- Starter
- Ignition
- Flaps
- Landing gears and doors

3) Aural warning

- V_{MO} warning
- Landing gear warning
- Stall warning

4) Engine instruments

- Torquemeter
- Propeller tachometer
- Interturbine temperature indicator (ITT)
- Gas generator tachometer (Ng)
- Oil pressure indicator
- Oil temperature indicator

5) Various indicators

- Fuel gauge indicators (2)
- Fuel pressure indicator
- Voltmeter
- Ammeter
- Outside air temperature

6) Installations

- Fuel mechanical pump (main)
- Fuel electrical pump (auxiliary)
- Fuel shut-off valve
- Fuel timer
- Starter generator
- Inertial separator
- Stall warning
- Electrical aileron trim
- Electrical rudder trim
- Manual elevator pitch trim
- Engine ignition
- Landing gear electro-hydraulic unit
- Landing gear emergency hydraulic pump (manual)
- Flaps
- Overspeed regulator
- Manual feathering
- Battery

7) Miscellaneous

- Seats (each occupant)
- Belts (each occupant)
- Straps (each occupant)
- Pilot's operating handbook

Night VFR

1) All equipment required for day VFR
2) Attitude display indicator
3) Instrument lighting
4) Instrument panel lighting
5) Emergency lighting
6) Vertical speed indicator
7) Navigation lights (4)
8) Anticollision lights (2)
9) Landing light

IFR

1) All equipment required for day VFR
2) All equipment required for night VFR (if flight is performed during night)
3) Taxi light (if flight is performed during night)
4) Clock
5) 2nd altimeter
6) Emergency static source
7) Pitot static tube deicing

Pressurized flight

- Cabin altimeter
- Cabin vertical speed indication
- Cabin differential pressure indication
- Pressurization control valve
- Safety valve
- Pressurization control
- Maximum cabin altitude and pressure warning light

Flight into icing conditions

- All equipment required for IFR flight
- Propeller deicing
- L.H. windshield deicing
- Airframe, stabilizer and elevator horn deicing
- Wing leading edge inspection light (if night flight)
- Stall warning deicing
- Inertial separator

ALTITUDE OPERATING LIMITS

Maximum altitude : 30000 ft (9145 m)
Maximum differential pressure : 6.2 psi

Operation in RVSM area

Reduced Vertical Separation Minima (RVSM) are met pending airplane compliance with SB 70-120-34.

Airworthiness Approval alone does not authorize flight into airspace for which an RVSM Operational Approval is required by an ICAO Regional Navigation Agreement.

NOTE :
Only altimeters AM250 are compliant with TBM 700 operation in RVSM area.

IN-FLIGHT CIRCUIT BREAKER USE LIMITS

A tripped circuit breaker should not be reset in flight unless deemed necessary for continued safe flight and landing. Only one reset should be attempted.

2.7 - MISCELLANEOUS LIMITS

SEATING LIMITS C.G.

From 1 to 6 seats :

- 2 seats at 180.5 inches (4.585 m) }
- 2 seats at 219.1 inches (5.565 m) } see NOTE 1
- 2 seats at 259.3 inches (6.585 m) }

- 2 seats at 180.5 inches (4.585 m) }
- 2 seats at 222.1 inches (5.641 m) } see NOTE 2
- 2 seats at 272.3 inches (6.916 m) }

BAGGAGE LIMITS

- Front baggage at 128 inches (3.250 m)
- Rear baggage at 297.6 inches (7.560 m) } see NOTE 1
- Rear baggage at 303 inches (7.695 m) } see NOTE 2

NOTE 1 :
Valid S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25.

NOTE 2 :
Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, <u>plus</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25.

MINIMUM CREW

- One pilot

MAXIMUM OCCUPANCY

The number of persons on board is limited by approved seating configuration installed (6 or 7 seats) but must not exceed seven, including the pilot.

USE OF DOORS

Flight with door open or ajar is prohibited.

CHEMICAL TOILET CABINET (if installed)

The cabinet must be stowed during take-off and landing. No baggage on the top of the cabinet for the whole flight.

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2.8 - MARKINGS

AIRSPEED INDICATOR

Airspeed indicator markings and their color code significance are shown in Figure 2.8.1.

MARKING	KIAS (Value or range)	SIGNIFICANCE
White arc	60 – 122	Full Flap Operating Range Lower limit is maximum weight V_{SO} in landing configuration.
Wide	60 – 75	Transition point between wide and narrow arcs is stall speed with flaps UP
Narrow	75 – 122	Upper limit is maximum speed permissible with flaps LDG
Red line	266	Maximum speed for all operations

Figure 2.8.1 – AIRSPEED INDICATOR MARKINGS

PRESSURIZATION

MARKING	VALUE	SIGNIFICANCE
Red line	6.2 psi	Cabin ΔP limit

Figure 2.8.2 – PRESSURIZATION MARKING

ENGINE INSTRUMENTS

Engine instrument markings and their color code significance are shown in Figure 2.8.3.

INSTRUMENT	Red Line or arc Minimum Limit	Yellow Line or Arc Caution Range	Green Arc Normal Operating	Red Line Maximum Limit
Oil temperature	– 40 °C	– 40 to 0 °C 104 to 110 °C	0 to 104 °C	110 °C
Oil pressure	60 psi	60 to 100 psi	100 to 135 psi	135 psi
Fuel pressure	0 to 5 psi	---	10 to 50 psi	50 psi
Generator RPM (Ng)	---	---	51 to 104 %	104 %
Propeller RPM (Np)	---	450 to 1000 RPM	1600 to 2000 RPM	2000 RPM
ITT	---	800 to 1090 °C	400 to 800 °C	800 °C normal limit --------------- 1090 °C (red triangle) absolute limit
Torque (TRQ)	---	100 %	0 to 110 % (arc ½ thick from 100 to 110 %)	110 %

Figure 2.8.3 – ENGINE INSTRUMENT MARKINGS

SUCTION GAGE

MARKING	CORRESPONDING VALUE
Green	Normal operating from 4.4 to 5.2 in.Hg
Red lines	at 4.4 and 5.2 in.Hg

Figure 2.8.4 – SUCTION GAGE MARKINGS

2.9 - PLACARDS

(1) Under L.H. front side window - Valid S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25 :

THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT OPERATING HANDBOOK.

INVERTED FLIGHT	PROHIBITED
ACROBATIC MANEUVERS	PROHIBITED
INTENTIONAL SPINS	PROHIBITED
MAXIMUM TAKEOFF WEIGHT	2984 kg / 6579 lbs
MAXIMUM LANDING WEIGHT	2835 kg / 6250 lbs
DESIGN LOAD FACTOR (MAXIMUM)	
FLAPS UP	$-1.5 \leq n \leq +3.8$ g
FLAPS DOWN	$0 \leq n \leq +2$ g

MANEUVERING SPEED V_A	158 KIAS
MAXIMUM OPERATING SPEED V_{MO}	266 KIAS
FLAPS EXTENDED MAXIMUM SPEED V_{FE}	
TAKEOFF CONFIGURATION	178 KIAS
LANDING CONFIGURATION	122 KIAS
LANDING GEAR EXTENDED MAXIMUM SPEED V_{LE}	178 KIAS
LANDING GEAR OPERATING MAXIMUM SPEED V_{LO}	
UP	128 KIAS
DOWN	178 KIAS

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ICING CONDITIONS ALLOWED

FLIGHT CONDITIONS : DAY AND NIGHT VFR AND IFR

(1) Under L.H. front side window - Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, <u>plus</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25 :

FLIGHT CONDITIONS : DAY AND NIGHT VFR AND IFR

THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND PILOT OPERATING HANDBOOK

ICING CONDITIONS ALLOWED

INVERTED FLIGHT	PROHIBITED
ACROBATIC MANEUVERS	PROHIBITED
INTENTIONAL SPINS	PROHIBITED
MAXIMUM TAKEOFF WEIGHT	2984 kg / 6579 lbs
MAXIMUM LANDING WEIGHT	2835 kg / 6250 lbs
DESIGN LOAD FACTOR (MAXIMUM)	
FLAPS UP	$-1.5 \leq n \leq +3.8$ g
FLAPS DOWN	$0 \leq n \leq +2$ g

MANEUVERING SPEED V_A	158 KIAS
MAXIMUM OPERATING SPEED V_{MO}	266 KIAS
FLAPS EXTENDED MAXIMUM SPEED V_{FE}	
TAKEOFF CONFIGURATION	178 KIAS
LANDING CONFIGURATION	122 KIAS
LANDING GEAR EXTENDED MAXIMUM SPEED V_{LE}	178 KIAS
LANDING GEAR OPERATING MAXIMUM SPEED V_{LO}	
UP	128 KIAS
DOWN	178 KIAS

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(2) Calibration chart on compass and on windshield post

WARNING

TURN L AND R WINDSHIELD DE-ICE OFF BEFORE COMPASS READING

For	N	30	60	E	120	150
Steer						
For	S	210	240	W	300	330
Steer						

DATE : RADIO ON

(3) On rear baggage compartment bottom bulkhead (pressurized)

100 kg - 220 lbs MAXIMUM

IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE BAGGAGES ARE PROPERLY SECURED

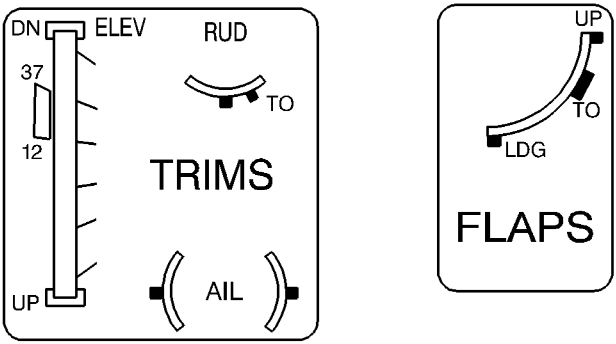
FOR LOADING INSTRUCTIONS SEE "WEIGHT AND BALANCE DATA" IN PILOT'S OPERATING HANDBOOK

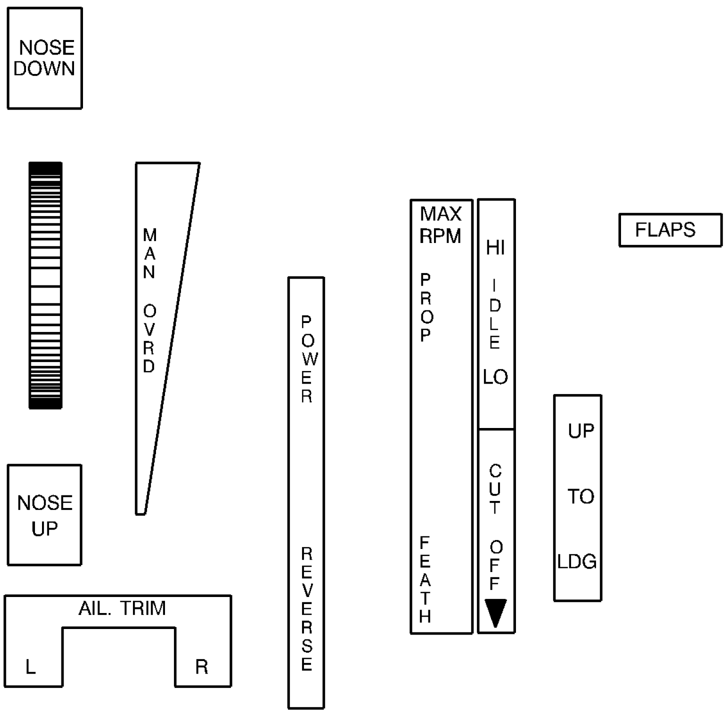
(4) On FWD baggage compartment door frame (non pressurized)

50 kg - 110 lbs MAXIMUM

FOR LOADING INSTRUCTIONS SEE "WEIGHT AND BALANCE DATA" IN PILOT'S OPERATING HANDBOOK

(5) **TBM700A** Under radio rack, in front of pedestal





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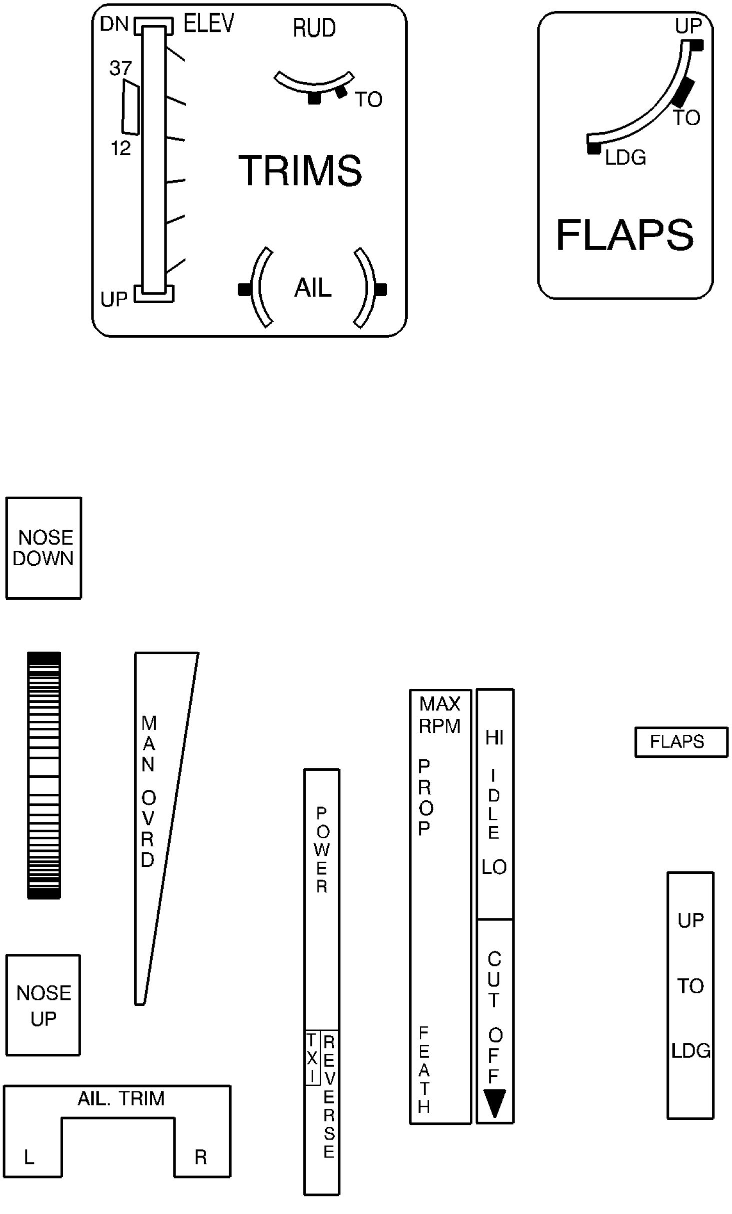
(5) **TBM700B** Under radio rack, in front of pedestal



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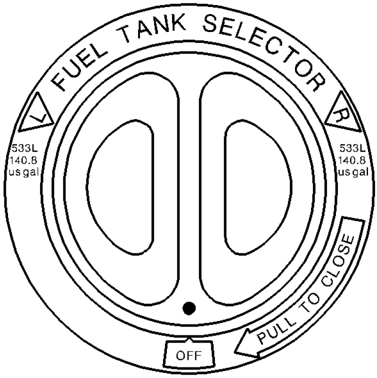
(6) On fuel selector



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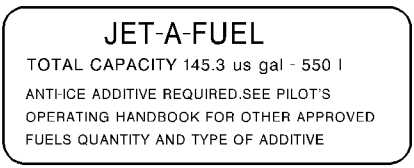
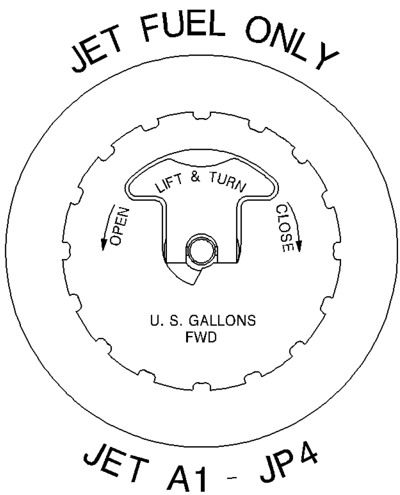
(7) Near fuel tank caps





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(8) On internal face of L.H. engine cowling

Oil system
capacity
12 l
12.7 qt

(9) On R.H. side, at front seat level and under seating of intermediate and rear passenger seats, which are fitted with oxygen

EMERGENCY OXYGEN

IN DRAWER UNDER SEAT ; PULL FULLY
THE MASK OUT OF DRAWER ; AT FULL
EXTENSION GIVE CORD A TUG.
MAXIMUM DURATION – 12 min
SEE POH
NO SMOKING WHILE IN USE

(10) On landing gear emergency control access door

LDG GEAR
EMERGENCY
UNDER HATCH

(11) On rear passenger's table casing (if installed)

TABLE MUST BE STOWED DURING TAKEOFF AND LANDING

(12) Under R.H. control wheel

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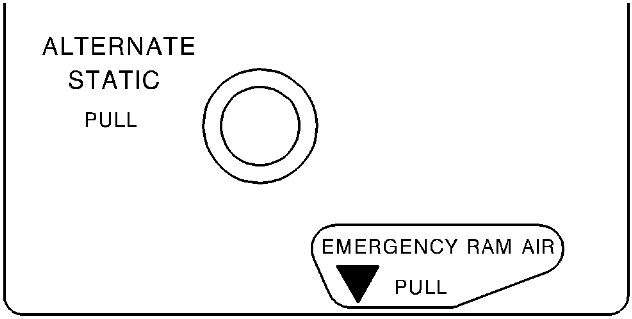

(13) On nose gear door

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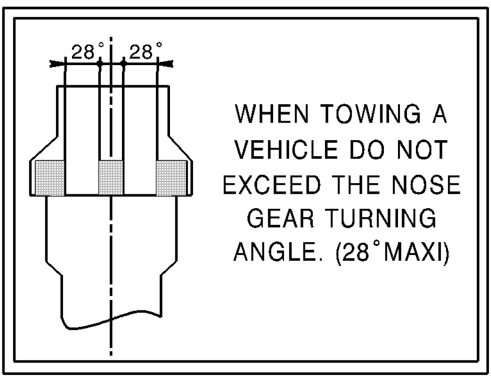


(14) On nose gear leg

NOSE LANDING GEAR
TIRE PRESSURE : 6,5 bar
94 psi

(15) On main gear leg

MAIN LANDING GEAR
TIRE PRESSURE : 8,25 bar
120 psi

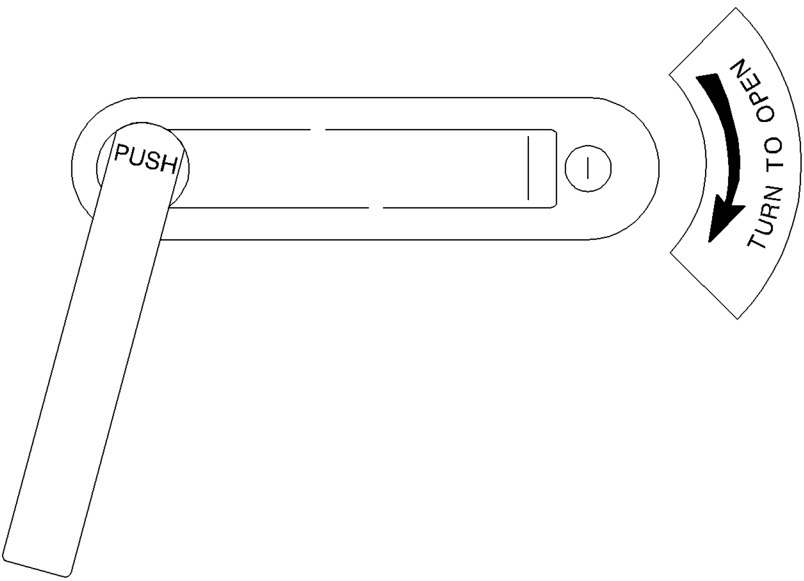
(16) On engine cowling, in front of baggage compartment door

EXTERNAL POWER
28 VOLTS D.C. NOMINAL
800 AMPS
STARTING CAPACITY MIN
DO NOT EXCEED 1400 AMPS

(17) **TBM700A** On access door – External side

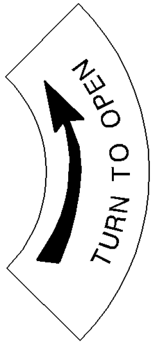
TBM700B On ”pilot” door – External side (if installed)

I4112002AAAEMA8100



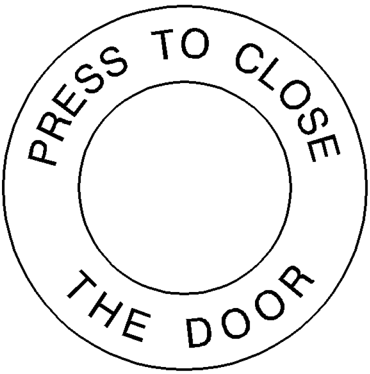
(17) **TBM700B** On access door – External side

I4112002AAAEMA8000

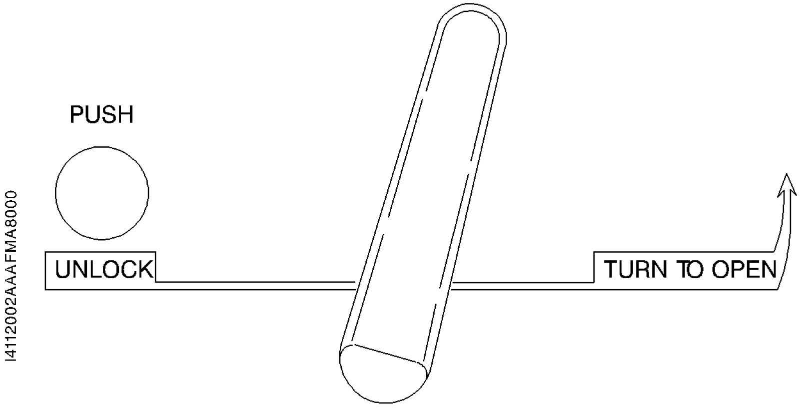


(18) **TBM700B** On outer fuselage skin aft of access door and in the cabin forward of access door

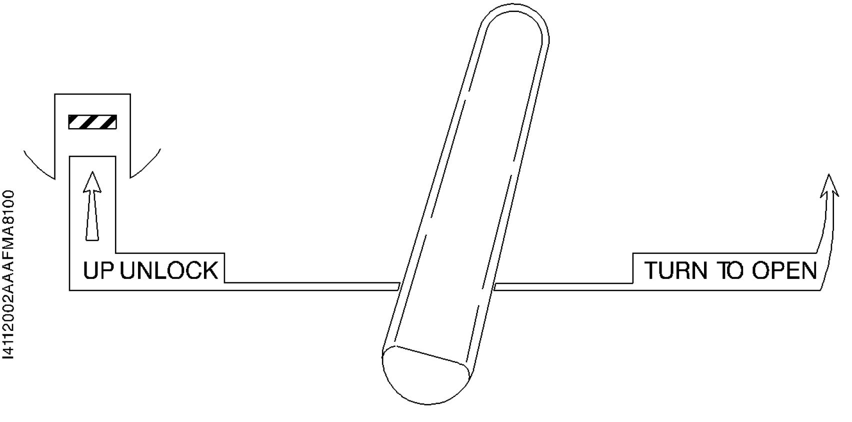
I4112002AAADMA8000



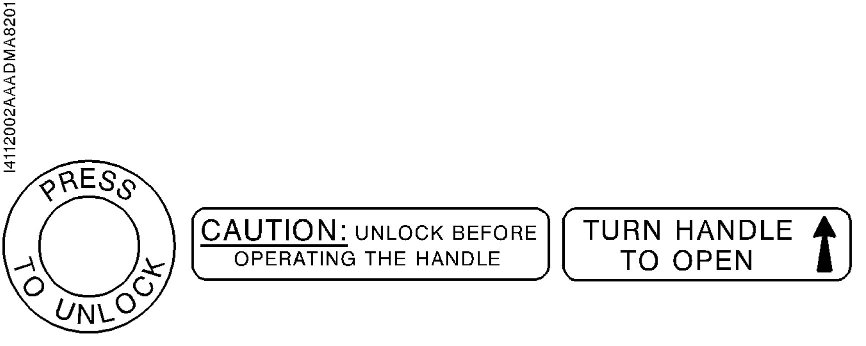
(19) **TBM700A** from S / N 1 to S / N 49, except airplanes equipped as a retrofit with modification No. MOD70-019-25
On access door - Internal side



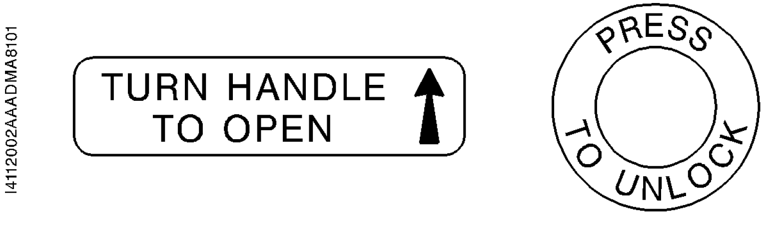
(19) **TBM700A** from S / N 50, plus airplanes equipped as a retrofit with modification No. MOD70-019-25
On access door - Internal side



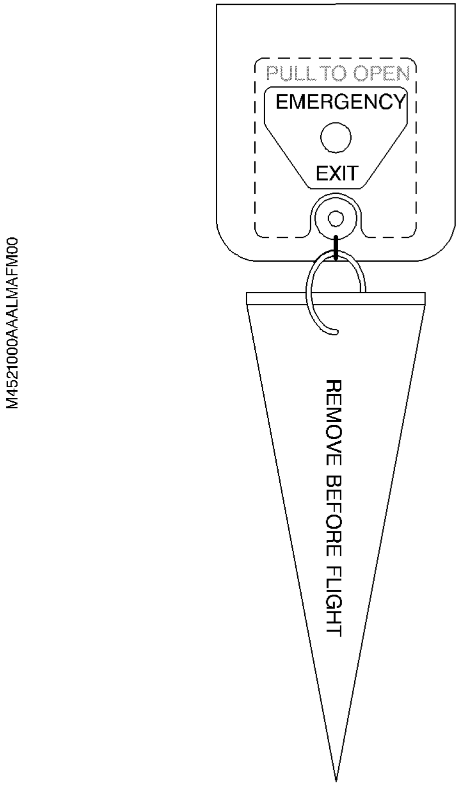
(19) **TBM700B** On access door - Internal side



(19) **TBM700B** On "pilot" door - Internal side (if installed)

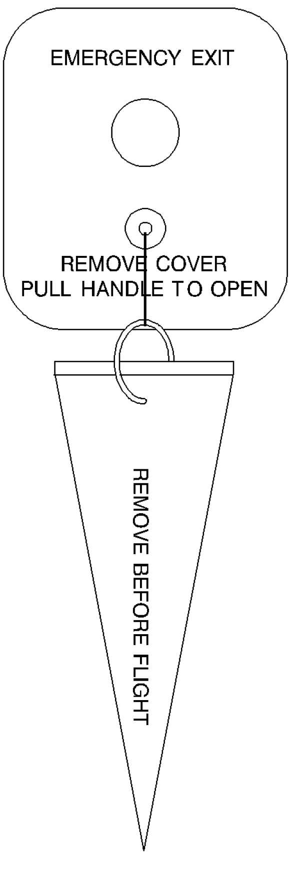


(20) From S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification No. MOD 70-019-25
On emergency exit handle

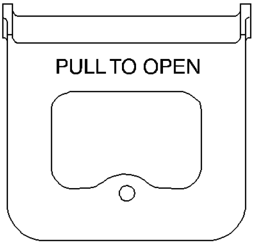


(20) From S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, <u>plus</u> airplanes equipped as a retrofit with modification No. MOD 70-019-25
On emergency exit handle

Marking on cover



Marking on handle



M4521000AAALMAFM00

(21) **TBM700A, TBM700B** On last step of stairs

STAIRS MAX LOAD : ONE PERSON

(22) **TBM700B** On R.H. access door jamb

**DO NOT USE
HAND RAIL
TO RETRACT
OR STOW
STAIRS**

(23) On internal face of L.H. engine cowl

BATTERY

☐ CADMIUM-NICKEL

☐ LEAD-ACID (AU PLOMB)

IN THIS CASE "BAT OVHT"
RED WARN LT IS DEACTIVATED

I4112001AAADMA8000

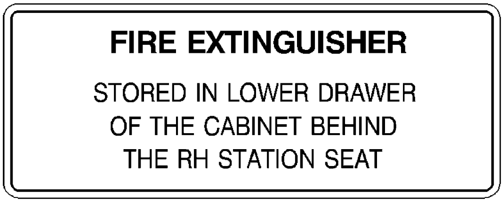
(24) On the potty seat curtain (if installed), on pilot's side

CURTAIN MUST BE STOWED FOR TAKE-OFF AND LANDING

Post-MOD70-0391-26D

(25) On R.H. side at front seat level

I4113207AAAAMA8300



(26) On the lower drawer of the R.H. cabinet

I4113207AAAAMA8000

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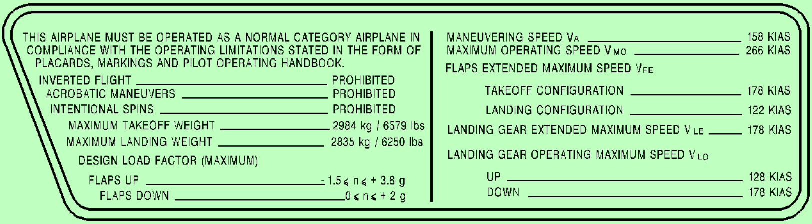
2.9 - PLACARDS

(1) Under L.H. front side window - Valid S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25 :

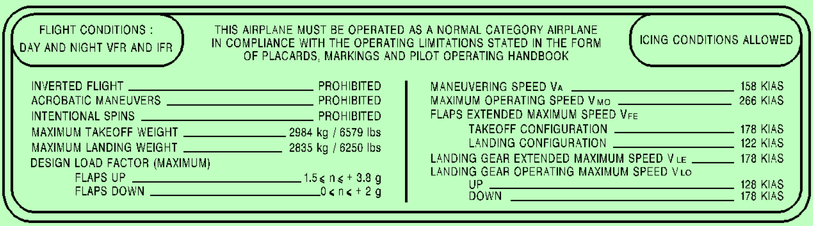


I4113004AAAKMA8100

ICING CONDITIONS ALLOWED

FLIGHT CONDITIONS : DAY AND NIGHT VFR AND IFR

(1) Under L.H. front side window - Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, <u>plus</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25 :



I4113004AAAKMA8000

(2) Calibration chart on compass and on windshield post

WARNING

TURN L AND R WINDSHIELD DE-ICE OFF BEFORE COMPASS READING

For	N	30	60	E	120	150
Steer						
For	S	210	240	W	300	330
Steer						

DATE : RADIO ON

(3) On rear baggage compartment bottom bulkhead (pressurized)

I4112003AAABMA8300

100 kg MÁXIMO

É DE RESPONSABILIDADE DO PILOTO
CHECAR SE TODA BAGAGEM ESTÁ
ADEQUADAMENTE SEGURA.

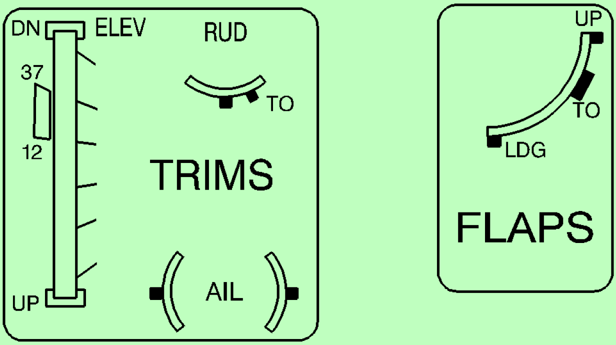
PARA INSTRUÇÕES DE CARREGAMENTO
CONSULTAR A SEÇÃO DE PESO E
BALANCEAMENTO DO MANUAL DE VÔO

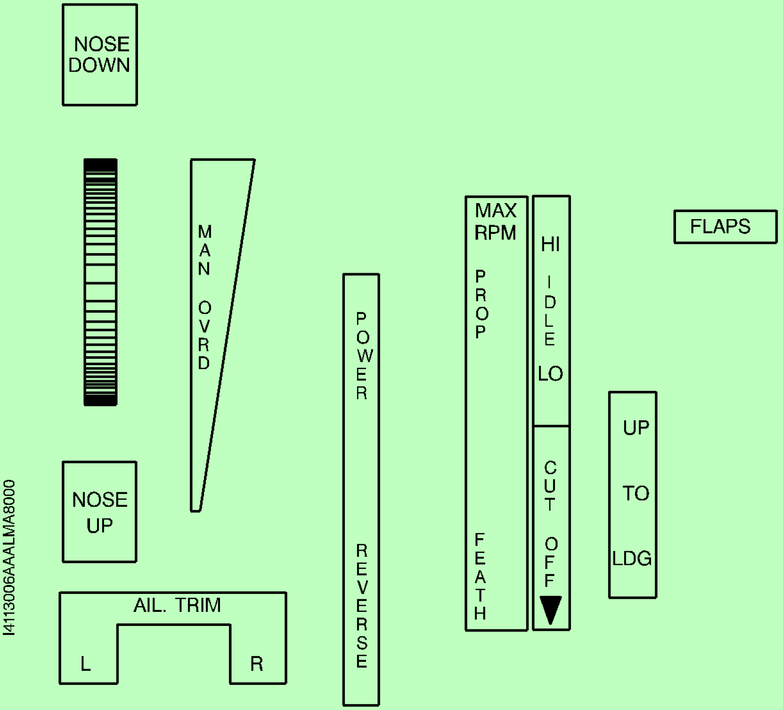
(4) On FWD baggage compartment door frame (non pressurized)

50 KG MÁXIMO

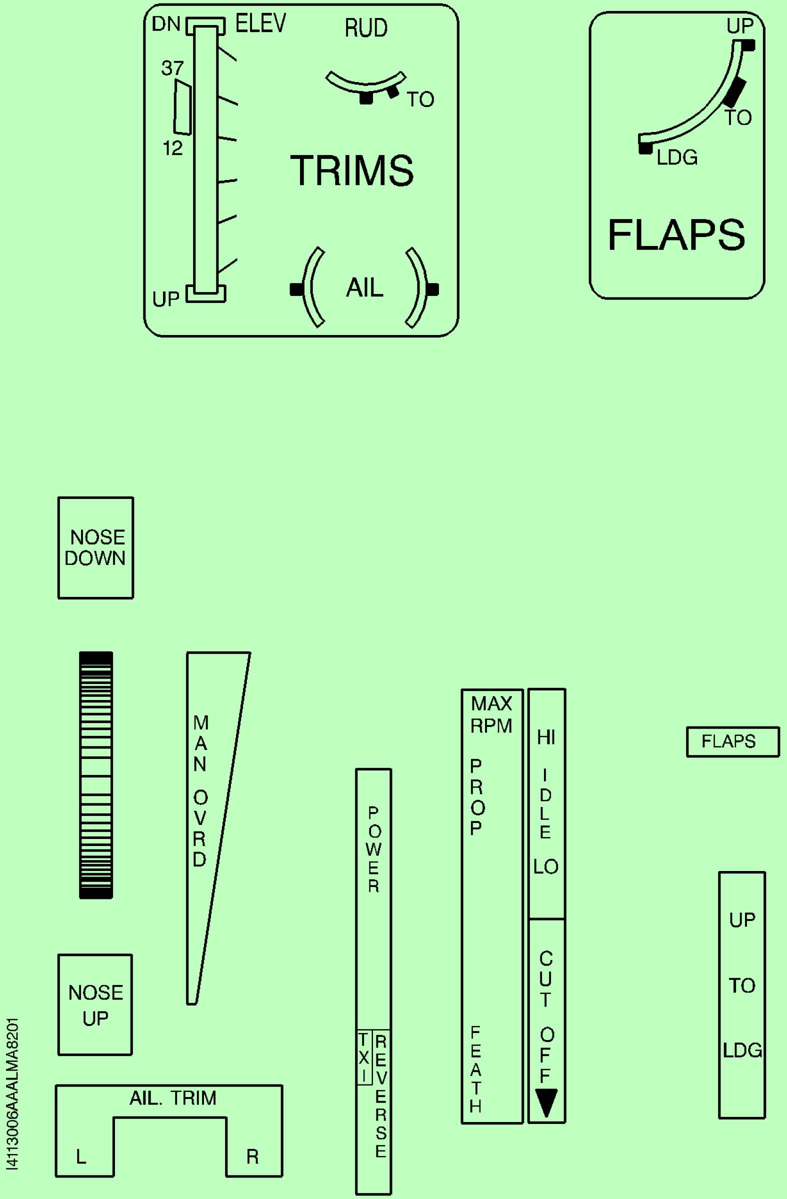
PARA INSTRUÇÕES DE CARREGAMENTO
CONSULTAR A SEÇÃO DE PESO E
BALANCEAMENTO DO MANUAL DE VÔO

(5) **TBM700A** Under radio rack, in front of pedestal



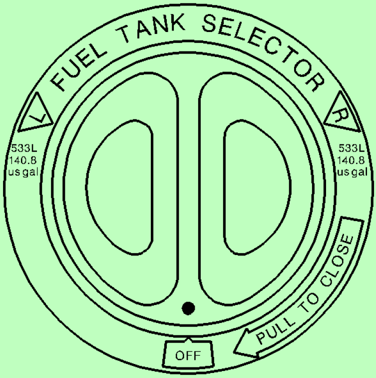


(5) **TBM700B** Under radio rack, in front of pedestal



(6) On fuel selector

I4113006AAALMA8100



(7) Near fuel tank caps

I4112004AAAAMA8100

QAV-1 JET A JET A-1
CAPACIDADE TOTAL 550 L - 145,3 us gal
ADITIVO ANTI CONGELANTE REQUERIDO,
VEJA MANUAL DE VÔO PARA
QUANTIDADE E TIPO DE ADITIVO

(8) On internal face of L.H. engine cowling

**Capacidade
de óleo
12 l
12,7 qt**

(9) On R.H. side, at front seat level and under seating of intermediate and rear passenger seats, which are fitted with oxygen

OXIGÊNIO DE EMERGÊNCIA

NO COMPARTIMENTO ABAIXO DO ASSENTO, PEGUE A MÁSCARA DE OXIGÊNIO, PUXE-A FIRMEMENTE EM SUA DIREÇÃO E COLOQUE-A SOBRE A FACE.
DURAÇÃO MÁXIMA : 12 MIN
NÃO FUME ENQUANTO O OXIGÊNIO ESTIVER SENDO USADO.

(10) On landing gear emergency control access door

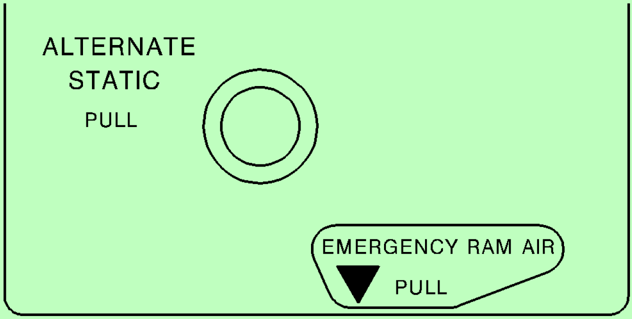
**LDG GEAR
EMERGENCY
UNDER HATCH**

(11) On rear passenger's table casing (if installed)

A MESA DEVERÁ ESTAR RECOLHIDA PARA DECOLAGEM E POUSO

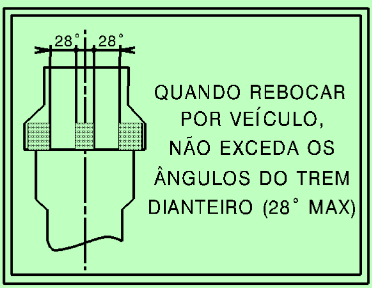
(12) Under R.H. control wheel

I4113006AAAKMA8000



(13) On nose gear door

I4112001AAACMA8100



(14) On nose gear leg

NOSE LANDING GEAR
TIRE PRESSURE : 6,5 bar
94 psi

(15) On main gear leg

MAIN LANDING GEAR
TIRE PRESSURE : 8,25 bar
120 psi

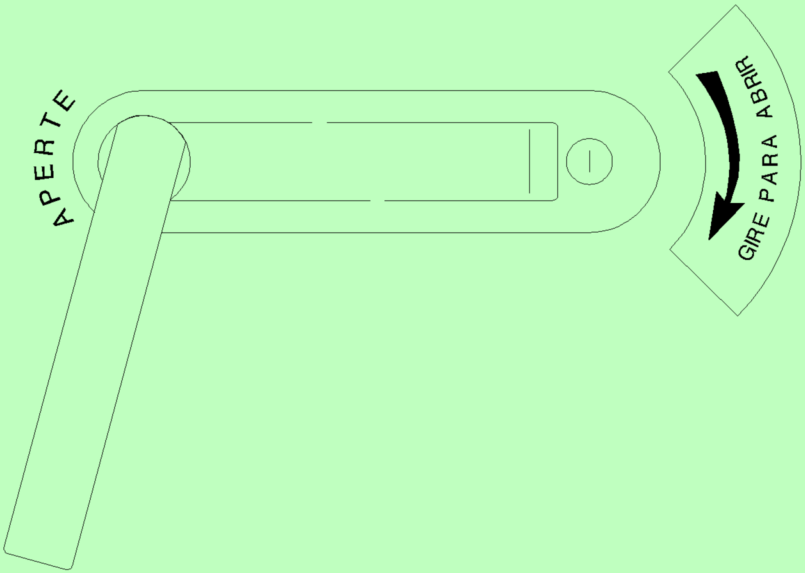
(16) On engine cowling, in front of baggage compartment door

- TOMADA EXTERNA
- 28 VOLTS D.C. NOMINAL
- 800 AMPS
CAPACIDADE MÍNIMA PARA PARTIDA
- NÃO EXCEDA 1400 AMPS

I4112001AAACMA8200

(17) **TBM700A** On access door – External side

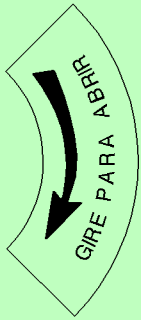
TBM700B On "pilot" door – External side (if installed)



I4112002AAAEMA8200

(17) **TBM700B** On access door – External side

I4112002AAAEMA8300

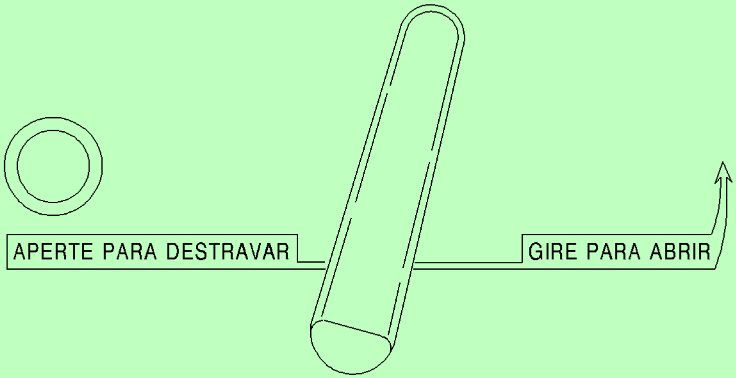


(18) **TBM700B** On outer fuselage skin aft of access door and in the cabin forward of access door

I4112002AAADMA8400

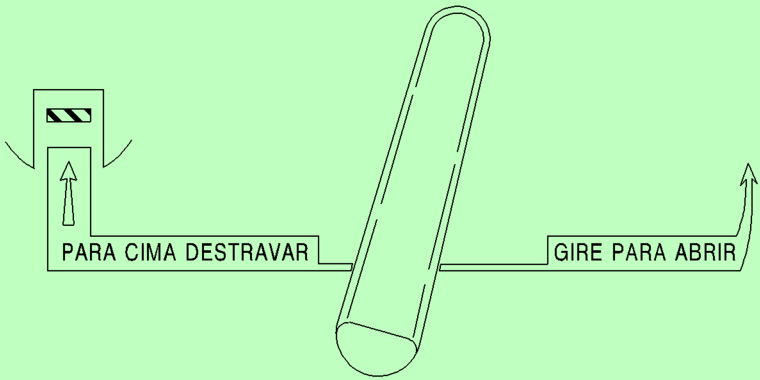
(19) **TBM700A** from S / N 1 to S / N 49, except airplanes equipped as a retrofit with modification No. MOD70-019-25
On access door - Internal side

I4113004AAASMA8001

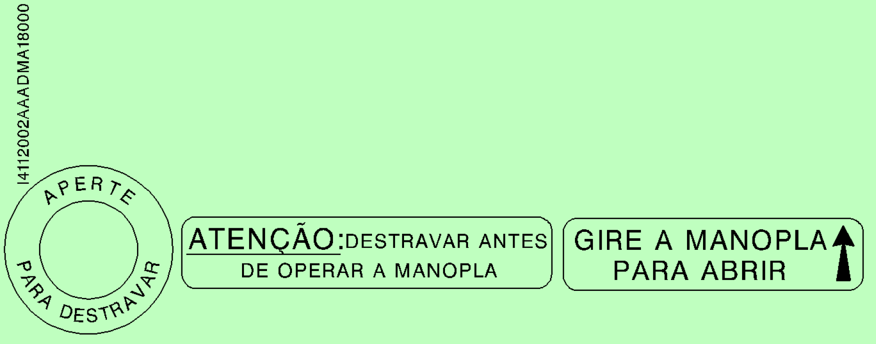


(19) **TBM700A** from S / N 50, plus airplanes equipped as a retrofit with modification No. MOD70-019-25
On access door - Internal side

I4113004AAASMA8101

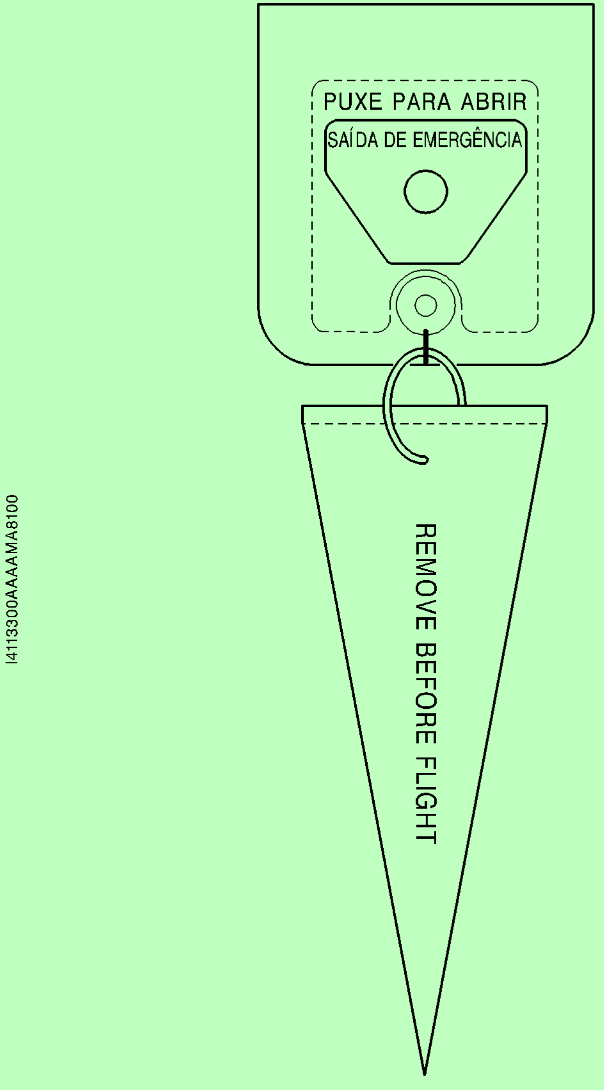


(19) **TBM700B** On access door – Internal side



(19) **TBM700B** On "pilot" door – Internal side (if installed)

(20) From S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification No. MOD 70-019-25
On emergency exit handle



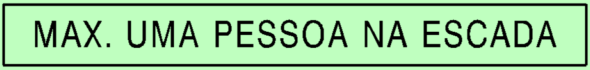
(20) From S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification No. MOD 70-019-25
On emergency exit handle

Marking on cover

Marking on handle

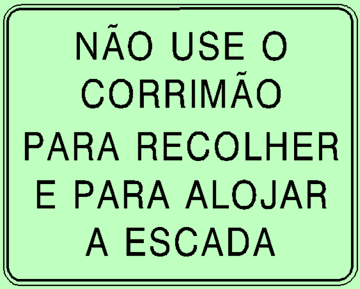
I4113300AAAAMA8000

(21) **TBM700A, TBM700B** On last step of stairs



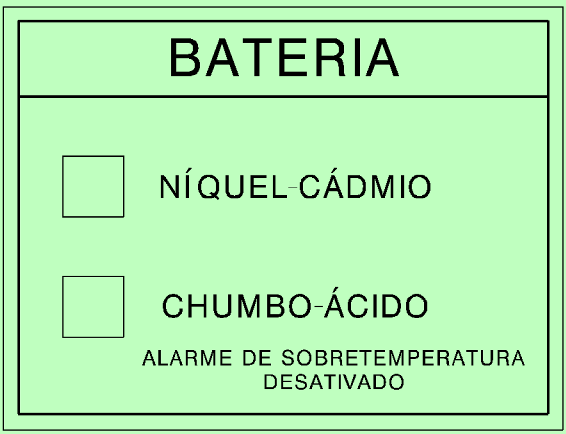
I4113400AAAAMA8000

(22) **TBM700B** On R.H. access door jamb



I4113400AAABMA8200

(23) On internal face of L.H. engine cowl



I4112001AAADMA8100

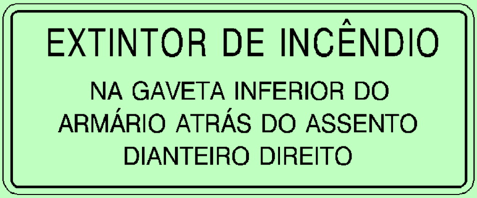
(24) On the potty seat curtain (if installed), on pilot's side

CURTAIN MUST BE STOWED FOR TAKE-OFF AND LANDING

Post-MOD70-0391-26D

(25) On R.H. side at front seat level

I4113207AAAAMA18000



(26) On the lower drawer of the R.H. cabinet

I4113207AAAAMA8200

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SECTION 3

EMERGENCY PROCEDURES

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TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

TABLE OF CONTENTS
(Continued)

3.1 - GENERAL

The recommended procedures for different failures or emergency situations are provided in this Section.

Emergency procedures associated with optional or particular equipment which require pilot's operating handbook supplements are provided in Section 9 "Supplements".

Pilot must know procedures given in this section and be prepared to take appropriate action should an emergency arise.

Some emergency procedures are a part of pilot basic training. Although these emergencies are discussed here, this information is not intended to replace such training, but only to provide a source of reference and review. This information also provides failure procedures which are not the same for all airplanes.

It is important for the pilot to be familiar with standard emergency procedures to be at the optimum efficacy if necessary.

Alarm system recall

Main failure or state modification of the different systems are provided by an advisory panel.

This panel includes **red** warning lights indicating a failure which requires an immediate action from the pilot, and **amber** warning lights indicating failures or discrepancies which require an action as soon as practical.

Red or amber failure warning are coupled with the lighting of

	– a flashing red indicator	**MASTER WARNING**
or	– a flashing amber indicator	**MASTER CAUTION**

Both indicators are located on the upper part of the L.H. instrument panel. When either one lights up, press it once to reactivate, it will go out and is ready to signal in the event of another failure. On the warning light central panel, the corresponding failure warning light remains ON as long as the failed condition exists.

3.2 - REJECTED TAKEOFF PROCEDURE

Following an engine failure, refer to Chapter 3.3, Paragraph "ENGINE FAILURE AT TAKEOFF BEFORE ROTATION".

For any other reason :

1 - Power lever . . . . **IDLE**

2 - Reverse . . . . **AS REQUIRED**

3 - Braking . . . . **AS REQUIRED**

If the airplane cannot be stopped on the remaining runway :

4 - Power lever . . . . **IDLE**

5 - Condition lever . . . . **CUT OFF**

6 - Tank selector . . . . **OFF**

7 - CRASH lever . . . . **PULL DOWN**

Evacuate if necessary, after the airplane has come to a stop.

INTENTIONALLY LEFT BLANK

3.3 - ENGINE FAILURES

ENGINE FAILURE AT TAKEOFF BEFORE ROTATION

1 – Power lever . . . . **IDLE**

2 – Braking . . . . **AS REQUIRED**

If the airplane cannot be stopped on the remaining runway :

3 – Condition lever . . . . **CUT OFF**

4 – Tank selector . . . . **OFF**

5 – CRASH lever . . . . **PULL DOWN**

3.3 - ENGINE FAILURES

ENGINE FAILURE AFTER ROTATION

- *If altitude does not allow to choose a favourable runway or field : Land straight ahead keeping flaps at TO and without changing landing gear position.*

Before touch-down :

1 - Maintain . . . . **IAS > 80 KIAS**

2 - Power lever . . . . **IDLE**

3 - Condition lever . . . . **CUT OFF**

4 - Tank selector . . . . **OFF**

5 - CRASH lever . . . . **PULL DOWN**

- *If altitude allows to reach a favourable runway or ground :*

1 - LDG . . . . **DN**

2 - Flaps . . . . **AS REQUIRED**

3 - Maintain . . . . **IAS > 100 KIAS, FLAPS UP**
IAS > 90 KIAS, Flaps TO

4 - Power lever . . . . **IDLE**

5 - Propeller governor lever . . . . **FEATHER**

Before touch-down :

6 - Condition lever . . . . **CUT OFF**

7 - Tank selector . . . . **OFF**

8 - CRASH lever . . . . **PULL DOWN**

3.3 - ENGINE FAILURES

ENGINE FAILURE DURING FLIGHT

1 - If AP engaged :
"AP / TRIM DISC INT" push-button .... **PRESSED**

2 - Power lever .... **IDLE**

3 - Propeller governor lever .... **FEATHER**

4 - Condition lever .... **CUT OFF**

5 - Remaining fuel .... **CHECK**

6 - Tank selector .... **SWITCH TANKS**

7 - "AUX BP" switch
and fuel pressure .... **CHECK / CORRECT**

8 - Air start (Refer to Chapter 3.4)

9 - In case of high altitude (above 12000 ft), undertake an EMERGENCY DESCENT (Refer to Chapter 3.6)

10 - If air start not successful, perform a FORCED LANDING (Refer to Chapter 3.7)

3.3 - ENGINE FAILURES

OIL PRESSURE DROP

RED WARNING LIGHT **OIL PRESS** **ON**

1 - Oil pressure indicator . . . . **CHECK**

2 - If the indicated pressure is correct . . . . **SHORTEN THE FLIGHT / MONITOR**

3 - If indicated pressure is below the green arc . . . . **CONFIRMED FAILURE**

Due to the oil pressure drop, the propeller blade angle may go towards high pitch and therefore lead to a Np propeller rotation speed decrease.

CAUTION

PREPARE FOR AN ENGINE STOP, SHORTLY ; REDUCE POWER TO THE MINIMUM NECESSARY, LAND AS SOON AS PRACTICAL.

If engine power drops itself :

4 - Power lever . . . . **IDLE**

5 - Propeller governor lever . . . . **FEATHER**

6 - Condition lever . . . . **CUT OFF**

Perform a FORCED LANDING (Refer to Chapter 3.7)

3.3 - ENGINE FAILURES

ENGINE REGULATION DISCREPANCY, POWER LOSS, POWER LEVER CONTROL LOSS (1/2)

1 - If circumstances allow :
Power lever . . . . **IDLE**

2 - Confirm engine still running

3 - Check that no parameter exceeds allowed values

4 - "MAN OVRD" control . . . . **ACTUATED**
progressively forward
(Adjust power necessary to continue flight)

If the available power is weak, extend the landing gear only on a glide path in final approach and extend full flaps only in short final. Do not perform a go-around.

CAUTION

IN "MANUAL OVERRIDE" ENGINE IS NEITHER PROTECTED AGAINST SLAM ACCELERATIONS, NOR AGAINST MAXIMUM SPEED OVERSHOOTING. AVOID RAPID CONTROL MOVEMENTS AND MANAGE ENGINE PARAMETERS

CAUTION

IN SOME CASES, WHEN "MANUAL OVERRIDE" CONTROL IS USED, THE AVAILABLE POWER MAY NOT BE SUFFICIENT TO ENSURE A GO-AROUND IN LANDING CONFIGURATION, IN PARTICULAR IF THE WEIGHT IS NEAR THE MAXIMUM WEIGHT

5 - Continue flight, SHORTEN if possible

3.3 - ENGINE FAILURES

ENGINE REGULATION DISCREPANCY, POWER LOSS, POWER LEVER CONTROL LOSS (2/2)

6 - Perform a normal landing WITHOUT REVERSE

7 - Braking . . . . **AS REQUIRED**

If minimum power obtained is excessive :

1 - Reduce airspeed by setting airplane in nose-up attitude at IAS < 178 KIAS

2 - "INERT SEP" switch . . . . **ON**

3 - If ITT > 800°C :
"INERT SEP" switch . . . . **OFF**

4 - Landing gear control . . . . **DN**

5 - Flaps . . . . **TO**

6 - Establish a long final or an ILS approach respecting IAS < 178 KIAS

7 - When runway is assured :
Condition lever . . . . **CUT OFF**

8 - Propeller governor lever . . . . **FEATHER**
if necessary to extend trajectory

9 - Flaps . . . . **LDG as required**
(at IAS < 122 KIAS)

10 - Land normally WITHOUT REVERSE

11 - Braking . . . . **AS REQUIRED**

3.3 - ENGINE FAILURES

GOVERNOR REGULATION CONTROL NOT OPERATING

May indicate a rupture of the linkage of the governor control.

1 - Continue the flight.

2 - If Np < 2000 RPM, do not perform a go-around and do not use the reverse.

In that case, the go-around performance and the reverse efficiency might be lower than expected. The airplane repair is mandatory before any other flight.

3.3 - ENGINE FAILURES

EXCESSIVE PROPELLER ROTATION SPEED

Indicates :

- a propeller governor failure

  In that case, the propeller overspeed limiter will limit initially the rotation speed to 2100 RPM approximately.

- or a propeller governor and overspeed limiter failure

  In that case, only the torque limiter operates to limit the power. However, the pilot intervention is necessary to maintain Np ≤ 2000 RPM. The propeller reducer is designed for a max. Np of 2200 RPM.

1 - Reduce the power and the aircraft speed to avoid propeller rotation speeds higher than 2000 RPM.

2 - Land as soon as possible.

3 - Do not perform a go-around.

A go-around would damage the engine reduction gearbox.

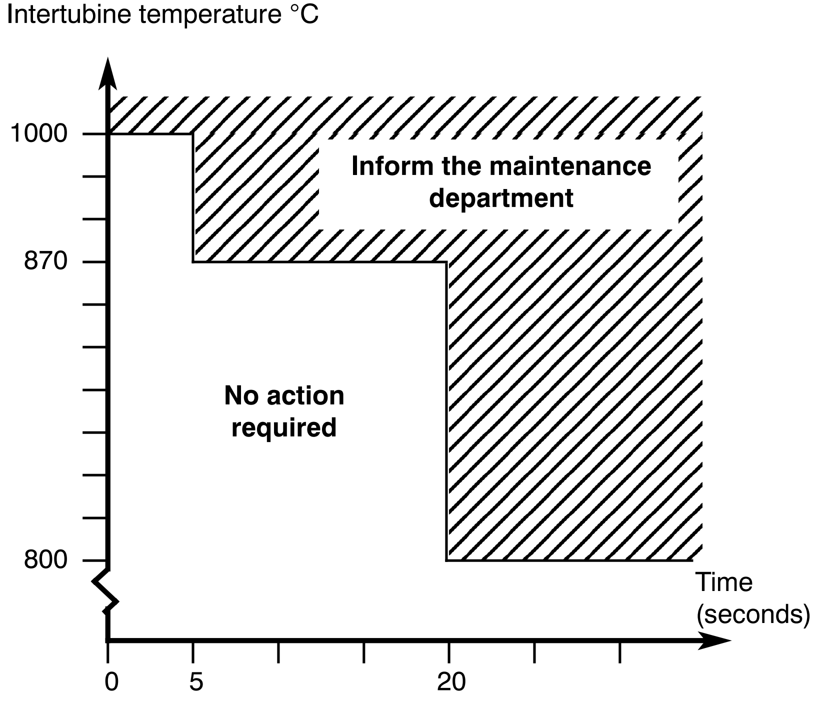
The airplane repair is mandatory before any other flight.

3.3 - ENGINE FAILURES

RED WARNING LIGHT ITT ON (1/2)

Indicates that ITT exceeds 800°C

During an engine start



TEMPERATURE LIMITS DURING START

If the above diagram limits are exceeded :

1 - ITT indicator . . . . **CHECK**

2 - Stop the starting procedure.

3.3 - ENGINE FAILURES

RED WARNING LIGHT ITT ON (2/2)

3 - Record the engine parameters read as well as ground conditions.

4 - Inform maintenance department.

During flight

1 - ITT indicator . . . . **CHECK**

2 - Reduce power and correct display according to "Engine Operation" tables - Chapter 5.7

If ITT remains > 800°C :

3 - Reduce power to maintain ITT < 800°C.

4 - Shorten the flight.

5 - Record the airplane and engine parameters read in case of overtemperature.

6 - Inform maintenance department at the end of the flight.

3.3 – ENGINE FAILURES

ENGINE DOES NOT STOP ON GROUND

If the engine does not stop when the condition lever is set to CUT OFF, proceed as follows :

1 – "AP / TRIMS MASTER" switch . . . . **OFF**

2 – "RADIO MASTER" switch . . . . **OFF**

3 – Radar switch (if installed) . . . . **OFF**

4 – "INT. LIGHTS" panel
All switches . . . . **OFF**

5 – "EXT. LIGHTS" panel
All switches . . . . **OFF**

6 – "ECS" panel
All switches . . . . **OFF**

7 – Tank selector . . . . **OFF**

Wait for engine stop due to lack of fuel in the pipes

8 – "GENERATOR" selector . . . . **MAIN**

9 – "SOURCE" selector . . . . **OFF**

10 – CRASH lever . . . . **PULL DOWN**

11 – Inform the maintenance department

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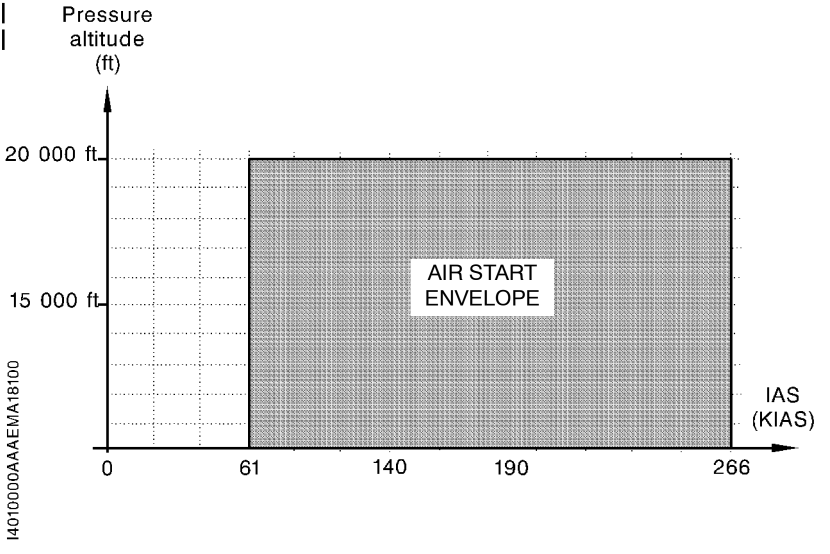
3.4 - AIR START

AIR START ENVELOPE



Air start may be attempted outside of the enveloppe. However, above 20000 ft or with Ng < 13 %, ITT tends to increase during start and prudence is recommended.

Figure 3.4.1 - AIR START ENVELOPE

3.4 – AIR START

AIR START WITH STARTER (1/2)

CAUTION

THE STARTER CANNOT OPERATE IF THE "GENERATOR" SELECTOR IS ON "ST-BY"

CAUTION

IGNITION IS NOT AVAILABLE IF THE "ESS BUS TIE" SWITCH IS KEPT "EMER"

1 – "BLEED VALVE" switch . . . . **OFF**

CAUTION

"BLEED VALVE" SWITCH ON MAY CAUSE OVERTEMPERATURE OR ABNORMAL ACCELERATION

2 – "FREON" or "AIR COND" switch (if installed) . . . . **OFF**

3 – Air start envelope . . . . **CHECKED**

4 – Electric consumption . . . . **REDUCE**

5 – Power lever . . . . **IDLE**

6 – Propeller governor lever . . . . **FEATHER**

7 – Condition lever . . . . **CUT OFF**

8 – Tank selector . . . . **CHECK**

9 – "AUX BP" fuel switch . . . . **ON**

10 – "IGNITION" switch . . . . **AUTO or ON**

11 – "STARTER" switch . . . . **ON**

3.4 – AIR START

AIR START WITH STARTER (2/2)

12 – Condition lever . . . . **LO / IDLE**
when Ng ∼ 13 %

13 – ITT and Ng . . . . **MONITOR**

14 – When Ng ∼ 50 % steady . . . . **STARTER OFF**
IGNITION AUTO

15 – Condition lever . . . . **HI / IDLE**

16 – Propeller governor lever . . . . **MAX. RPM**

17 – Power lever . . . . **AS REQUIRED**

18 – Electrical equipment . . . . **AS REQUIRED**

19 – "AUX BP" fuel switch . . . . **AUTO**

20 – "BLEED VALVE" switch . . . . **AS REQUIRED**

CAUTION

WITH THE EFS 40 OPTION, DISPLAYS ARE MOMENTARILY LOST DURING STARTER OPERATION

CAUTION

WITH ALTIMETERS AM250 (if installed), ALTITUDE INFORMATION IS MOMENTARILY CUT OFF DURING STARTER OPERATION

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3.5 - FIRE AND SMOKE

ENGINE FIRE ON GROUND

Symptoms : ITT increasing, red warning light **ITT** on, smoke, ...

1 - Power lever .... **IDLE**
2 - Condition lever .... **CUT OFF**
3 - "BLEED VALVE" switch .... **OFF**
4 - "FREON" or "AIR COND" switch (if installed) .... **OFF**
5 - Brakes .... **AS REQUIRED**
6 - Tank selector .... **OFF**
7 - Warn ground assistance, if necessary
8 - CRASH lever .... **PULL DOWN**
9 - EVACUATE as soon as possible

CABIN FIRE ON GROUND

1 - Power lever .... **IDLE**
2 - Condition lever .... **CUT OFF**
3 - Brakes .... **AS REQUIRED**
4 - Warn ground assistance, if necessary
5 - CRASH lever .... **PULL DOWN**
6 - Cabin extinguisher (if installed) .... **AS REQUIRED**
7 - EVACUATE as soon as possible

3.5 - FIRE AND SMOKE

ENGINE FIRE IN FLIGHT

Symptoms : ITT increasing, red warning light **ITT** on, smoke, ...

1 - Power lever . . . . **IDLE**

2 - Propeller governor lever . . . . **FEATHER**

3 - Condition lever . . . . **CUT OFF**

4 - "AUX BP" fuel switch . . . . **OFF**

5 - Tank selector . . . . **OFF**

6 - "BLEED VALVE" switch . . . . **OFF**

7 - "FREON" or "AIR COND" switch (if installed) . . . . **OFF**

8 - In case of high altitude (above 12000 ft), undertake an EMERGENCY DESCENT (Refer to Chapter 3.6)

9 - Perform a FORCED LANDING (ENGINE CUT OFF) (Refer to Chapter 3.7)

WARNING

AFTER ENGINE FIRE, DO NOT ATTEMPT AN AIR START

3.5 – FIRE AND SMOKE

CABIN ELECTRICAL FIRE OR SMOKE DURING FLIGHT (1/2)

If the origin is known :

1 – Oxygen and goggles (if installed) . . . . **USE AS REQUIRED (pilot and passengers)**

2 – Defective equipment
Corresponding circuit breaker . . . . **PULL**

Descend quickly below 12000 ft

3 – Using the on board extinguisher (if installed), EXTINGUISH fire if necessary

4 – Smoke elimination
(if necessary) . . . . **UNDERTAKE PROCEDURE (Refer to this chapter)**

5 – LAND as soon as possible

If the origin is unknown :

1 – Oxygen and goggles . . . . **USE AS REQUIRED (pilot and passengers)**

2 – "CABIN FAN" switch . . . . **OFF**

3 – Non essential equipment . . . . **OFF**

4 – Smoke elimination
(if necessary) . . . . **UNDERTAKE PROCEDURE (Refer to this chapter)**

If smoke or fire stops :

LAND as soon as possible.

3.5 - FIRE AND SMOKE

CABIN ELECTRICAL FIRE OR SMOKE DURING FLIGHT (2/2)

If smoke or fire persists :

5 - "SOURCE" selector . . . . **OFF**

6 - "GENERATOR" selector . . . . **OFF**

7 - Fire . . . . **EXTINGUISH if necessary with the on board extinguisher (if installed)**

8 - All "pull-off" type circuit-breakers . . . . **PULL**

9 - All electrical equipment . . . . **CUT OFF**

10 - "SOURCE" selector . . . . **BAT**

11 - "GENERATOR" selector . . . . **MAIN**

12 - Necessary circuit-breakers . . . . **ENGAGE one after the other checking for possible fire or smoke**

13 - Necessary electrical equipment . . . . **ON one after the other checking for possible fire or smoke**

14 - Defective equipment
Corresponding circuit breaker . . . . **PULL**

15 - Not affected essential equipment . . . . **ON as required**

16 - LAND as soon as possible

3.5 – FIRE AND SMOKE

SMOKE ELIMINATION

1 – Smoke origin .... **IDENTIFY**

2 – Oxygen and goggles (if installed) .... **USE AS REQUIRED (pilot and passengers)**

3 – If smoke persists, undertake an EMERGENCY DESCENT (Refer to Chapter 3.6)

4 – "BLEED VALVE" switch .... **OFF**

5 – "FREON" or "AIR COND" switch (if installed) .... **OFF**

6 – "DUMP" control .... **ACTUATE**

Wait until the differential pressure drops

7 – "RAM AIR" control knob .... **PULL**
If smoke increases .... **PUSH**

8 – LAND as soon as possible

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3.6 - EMERGENCY DESCENTS

PROCEDURE IN SMOOTH AIR

1 - Power lever . . . . **IDLE**
2 - Oxygen . . . . **If necessary**
3 - Propeller governor lever . . . . **MAX. RPM**
4 - Flaps . . . . **UP**
5 - Landing gear . . . . **UP**
6 - Speed . . . . **V_{MO} = 266 KIAS**

PROCEDURE IN ROUGH AIR OR IN CASE OF STRUCTURE PROBLEM

1 - Power lever . . . . **IDLE**
2 - Oxygen . . . . **If necessary**
3 - Propeller governor lever . . . . **MAX. RPM**
4 - Reduce speed . . . . **IAS ≤ 178 KIAS**
5 - Landing gear . . . . **DN**
6 - Flaps . . . . **UP**
7 - Keep . . . . **IAS ≤ 178 KIAS**

3.6 – EMERGENCY DESCENTS

GLIDE DISTANCE AND OPTIMUM SPEED	
Configuration	
1 – Flaps	**UP**
2 – Landing gear	**UP**
3 – Propeller governor lever	**FEATHER**
4 – Optimum speed (L / D ratio = 10)	**IAS = 110 KIAS**

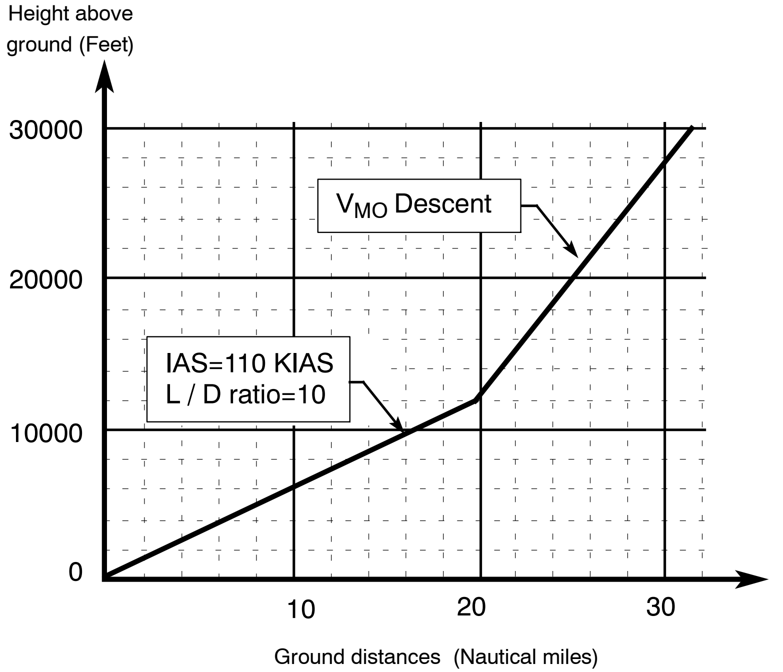

Figure 3.6.1 – MAXIMUM GLIDE SLOPE

3.7 - EMERGENCY LANDINGS

FORCED LANDING (ENGINE CUT OFF)

1 - Power lever . . . . **IDLE**

2 - Propeller governor lever . . . . **FEATHER**

3 - Condition lever . . . . **CUT OFF**

4 - Tank selector . . . . **OFF**

5 - "AUX BP" fuel switch . . . . **OFF**

6 - "BLEED VALVE" switch . . . . **OFF**

7 - "FREON" or "AIR COND" switch (if installed) . . . . **OFF**

8 - "DUMP" switch . . . . **ACTUATED**

9 - Glide speed . . . . **110 KIAS maintained until favourable ground approach**

If ground allows it :

10 - Landing gear . . . . **DN**

If ground does not allow it :

11 - Keep landing gear . . . . **UP**

12 - When chosen ground is assured . . . . **FLAPS LDG**

13 - CRASH lever . . . . **PULL DOWN**

14 - Final approach . . . . **IAS = 80 KIAS**

15 - Land flaring out

16 - EVACUATE after stop

3.7 - EMERGENCY LANDINGS

TIRE BLOWOUT DURING LANDING

1 - Control direction with brakes and nose wheel steering

2 - REVERSE . . . . **AS REQUIRED**

3 - Stop airplane to minimize damages

4 - Perform engine SHUT-DOWN procedure (Refer to Chapter 4.3)

3.7 - EMERGENCY LANDINGS

LANDING WITH UNLOCKED MAIN LANDING GEAR (1/2)

1 – Ask control tower or another airplane to visually check landing gear position

> **CAUTION**
>
> **IF ONE MAIN LANDING GEAR IS NOT DOWN, IT IS BETTER TO LAND WITH GEAR UP.**

If defective gear is down but unlocked :

2 – "BLEED VALVE" switch . . . . **OFF**

3 – "DUMP" switch . . . . **ACTUATED**

4 – Maintain tank selector on defective landing gear side to lighten corresponding wing [maximum fuel unbalance 25 us gal (95 litres)]

5 – Choose a runway with headwind or crosswind blowing from defective gear side

6 – Align the airplane to land on the runway edge opposite to the defective landing gear

7 – Land and set nose gear immediately on ground to assure lateral control

8 – Use full aileron during roll-out to lift the wing with the defective landing gear

9 – Preferably do not use reverse

10 – Complete taxiing with a slight turn toward defective landing gear

3.7 - EMERGENCY LANDINGS

LANDING WITH UNLOCKED MAIN LANDING GEAR (2/2)

11 - Condition lever . . . . **CUT OFF**

12 - Engine stop procedure . . . . **COMPLETE**

13 - EVACUATE

If landing gear drags during landing :

14 - Condition lever . . . . **CUT OFF**

15 - CRASH lever . . . . **PULL DOWN**

16 - Tank selector . . . . **OFF**

17 - EVACUATE after airplane comes to a stop

3.7 - EMERGENCY LANDINGS

LANDING WITH DEFECTIVE NOSE LANDING GEAR (DOWN UNLOCKED OR NOT DOWN)

1 – Transfer passengers to the rear, if necessary

2 – Approach . . . . **Flaps TO**
IAS = 90 KIAS

3 – Land with nose–up attitude, keep nose high

4 – Condition lever . . . . **CUT OFF**

5 – Propeller governor lever . . . . **FEATHER**

6 – Touch–down slowly with nose wheel and keep elevator at nose–up stop

7 – Moderate braking

8 – CRASH lever . . . . **PULL DOWN**

9 – EVACUATE after airplane comes to a stop

3.7 - EMERGENCY LANDINGS

LANDING WITH GEAR UP

1 – Final approach . . . . **Standard**
(Flaps LDG, IAS = 80 KIAS)

2 – "BLEED VALVE" switch . . . . **OFF**

3 – "DUMP" switch . . . . **ACTUATED**

When runway is assured :

4 – Power lever . . . . **IDLE**

5 – Propeller governor lever . . . . **FEATHER**

6 – Condition lever . . . . **CUT OFF**

7 – Tank selector . . . . **OFF**

8 – Flare out

9 – After touch–down, CRASH lever . . . . **PULL DOWN**

10 – EVACUATE after airplane comes to a stop

3.7 - EMERGENCY LANDINGS

LANDING WITHOUT ELEVATOR CONTROL

1 - Configuration .... **LANDING GEAR DN - FLAPS LDG**

2 - Airspeed .... **Maintain IAS = 95 KIAS**

3 - Power as necessary to maintain airspeed according to an easy approach slope $\simeq$ 300 ft / min

4 - Adjust elevator by using manual pitch trim wheel

5 - When ground approaches, decrease slope progressively

6 - Reduce power progressively

3.7 - EMERGENCY LANDINGS

LANDING WITH FLAPS MALFUNCTION

For flaps deflections from "UP" to "TO" position :

Proceed as for a normal landing, maintaining approach airspeed :

- Weight $\leq$ 6250 lbs (2835 kg) . . . . **IAS = 100 KIAS**

Provide for a landing distance increased up to about 60 %

For flaps deflections greater than "TO" position :

Proceed as for a normal landing, maintaining approach airspeed :

- Weight $\leq$ 6250 lbs (2835 kg) . . . . **IAS = 95 KIAS**

Provide for a landing distance increased up to about 50 %

3.7 - EMERGENCY LANDINGS

DITCHING

1 - Landing gear . . . . **UP**

In heavy swell with light wind, land parallel to the swell (rollers).

In heavy wind, land facing wind.

2 - Flaps . . . . **LDG**

3 - Maintain a descent rate as low as possible when approaching the water

4 - Airspeed . . . . **IAS = 80 KIAS**

5 - "BLEED VALVE" switch . . . . **OFF**

6 - "DUMP" switch . . . . **ACTUATED**

7 - CRASH lever . . . . **PULL DOWN**

8 - Maintain attitude without rounding off until touch-down

TBM700A

9 - EVACUATE through EMERGENCY EXIT and / or the upper part of main door

TBM700B

9 - EVACUATE through EMERGENCY EXIT

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3.8 - FUEL SYSTEM

RED WARNING LIGHT [FUEL PRESS] ON (1/2)

Indicates a fuel pressure drop at "HP" engine pump inlet

1 - Remaining fuel . . . . **CHECK**

2 - Tank selector . . . . **SWITCH TANKS**

3 - Fuel pressure indication . . . . **CHECK**

4 - "AUX BP" fuel switch . . . . **AUTO**
CHECK / CORRECT

If alarm persists :

5 - "AUX BP" fuel switch . . . . **ON**

Warning light [AUX BP ON] on . . . . **CHECK**

6 - Fuel pressure . . . . **CHECK**

If pressure is normal again and warning light is off, mechanical pump has failed.

7 - Maintain "AUX BP" fuel switch . . . . **ON**

If pressure remains at 0 (or drops to 0 after "AUX BP" pump operation) and if warning [FUEL PRESS] *remains on :*

8 - Tank switching . . . . **PERFORM**

If pressure is normal again, a supply problem may have occurred from the tank selected first (air vent, fuel icing, etc ...).

⬇

3.8 – FUEL SYSTEM

RED WARNING LIGHT FUEL PRESS ON (2/2)

If pressure remains at 0 and if warning **FUEL PRESS** *remains on :*

9 – Selection of the fullest tank . . . . **PERFORM**

10 – Avoid high power and rapid movements of the power lever.

11 – Descend to an altitude below 20000 ft.

12 – Land as soon as possible.

3.8 – FUEL SYSTEM

AMBER WARNING LIGHT **AUX BP ON** ON

(Indication is normal if ”AUX BP” fuel switch is in ON position)

If ”AUX BP” fuel switch is in AUTO position :

1 – Reset to . . . . **ON**

2 – Then to . . . . **AUTO**

If **AUX BP ON** *warning light goes out, continue flight normally*

If **AUX BP ON** *warning light remains on, mechanical booster pump has failed*

In that case :

3 – ”AUX BP” fuel switch . . . . **ON**

4 – Shorten flight

3.8 – FUEL SYSTEM

AMBER WARNING LIGHT FUEL L. LO OR FUEL R. LO ON

Indicates level drop in the corresponding tank

1 – Corresponding gage . . . . **CHECK**

2 – Check the other tank has been automatically selected

If not :

3 – "FUEL SEL" switch . . . . **MAN**

4 – Select tanks manually as required

AMBER WARNING LIGHT AUTO SEL ON

Indicates that the mode control automatic timer is off or has failed

1 – "FUEL SEL" switch . . . . **AUTO CHECK / CORRECT**

2 – If it is on AUTO : confirmed failure

3 – "FUEL SEL" switch . . . . **MAN**

4 – Select tanks manually as required

3.9 - ELECTRICAL SYSTEM

RED WARNING LIGHT **BAT OVHT** ON
(if Cadmium-Nickel battery installed)

Indicates a battery overheat

1 - "SOURCE" selector . . . . **OFF**

WARNING LIGHT **BAT OVHT** **ON**

2 - Monitor airplane mains battery voltage

3 - LAND AS SOON AS POSSIBLE

REMARK :
In case of subsequent electrical generator failure, the battery can be used again by selecting :

4 - "GENERATOR" selector . . . . **OFF**

WARNING LIGHT **MAIN GEN** **ON**

5 - "SOURCE" selector . . . . **BAT**

6 - Refer to paragraph "AMBER WARNING LIGHT "LO VOLT" ON functioning on "ST-BY GENERATOR" (after "MAIN GEN" failure)"

AMBER WARNING LIGHT **BAT OFF** ON

Indicates that "SOURCE" selector has been positioned on OFF or GPU, or that the battery is disconnected from the mains

1 - If necessary . . . . **CORRECT**

2 - If warning persists . . . . **SHORTEN FLIGHT**

3 - Monitor airplane mains voltage

3.9 - ELECTRICAL SYSTEM

AMBER WARNING LIGHT **MAIN GEN** ON

Indicates that "GENERATOR" selector has been positioned to OFF or ST-BY, or main generator is cut off

1 - If necessary .... **CORRECT**

2 - If warning persists .... **"MAIN GEN" switching confirmed**

3 - "MAIN GENERATOR RESET" push-button .... **PUSH**

In case of failure :

4 - Keep the following systems connected :

- A/P system
- Deicing systems except right windshield
- STROBE and NAV lights
- Cockpit emergency lights
- VHF 1
- NAV/GPS 1
- BLEED
- Landing lights on short final

This will allow keeping electrical consumption below maximum standby capacity.

All other not necessary equipment can be disconnected.

5 - "GENERATOR" selector .... **ST- BY**
(RESET if necessary)

3.9 – ELECTRICAL SYSTEM

AMBER WARNING LIGHT LO VOLT ON
normal functioning on "MAIN GEN"

1 – Voltmeter voltage . . . . **CHECK**

2 – If voltage is < 26 Volts, monitor a possible drop or any indication of battery run-down

In that case :

3 – Keep the following systems connected :

- A/P system
- Deicing systems except right windshield
- STROBE and NAV lights
- Cockpit emergency lights
- VHF 1
- NAV/GPS 1
- BLEED
- Landing lights on short final

This will allow keeping electrical consumption below maximum standby capacity.

All other not necessary equipment can be disconnected.

4 – "GENERATOR" selector . . . . **ST-BY**
(RESET if necessary)

5 – Voltage and battery charge . . . . **MONITOR**

3.9 - ELECTRICAL SYSTEM

AMBER WARNING LIGHT LO VOLT ON functioning on "ST-BY GENERATOR" (after "MAIN GEN" failure) (1/2)

Amber warning lights **MAIN GEN** and **LO VOLT** ON with "GENERATOR" selector on "ST-BY"

1 - "GENERATOR" selector . . . . **MAIN**

2 - "MAIN GENERATOR RESET" push-button . . . . **PRESS**

If successful :

3 - Disconnect ancillary electrical systems not essential

4 - Monitor voltmeter and ammeter

Prepare to SHORTEN FLIGHT

If not successful :

5 - "GENERATOR" selector . . . . **ST-BY**

6 - "ST-BY GENERATOR RESET" push-button . . . . **PRESS**

If successful :

7 - Disconnect ancillary electrical systems not essential

8 - Monitor voltmeter and ammeter

Prepare to SHORTEN FLIGHT

If not successful, both generators failure is confirmed. If possible, return to VMC conditions

3.9 - ELECTRICAL SYSTEM

AMBER WARNING LIGHT $\boxed{\text{LO VOLT}}$ ON

functioning on "ST-BY GENERATOR" (after "MAIN GEN" failure) (2/2)

9 - "GENERATOR" selector . . . . **OFF**

If conditions allow : VMC and non icing conditions

10 - Descend . . . . **Altitude ≤ 12000 ft**

11 - "ESS BUS TIE" reverse switch . . . . **Cover up EMER position**

In this configuration, only both "ESS BUS" bars and "BUS BAT" bar are directly supplied by the battery

Available ancillary systems - see Figure 3.9.1

12 - LAND as soon as possible

If necessary, it is always possible to use other ancillary systems by selecting :

- "ESS BUS TIE" reverse switch . . . . **NORMAL**

If flight conditions do not allow :

13 - Manually disconnect all ancillary systems which are not essential

14 - LAND as soon as possible

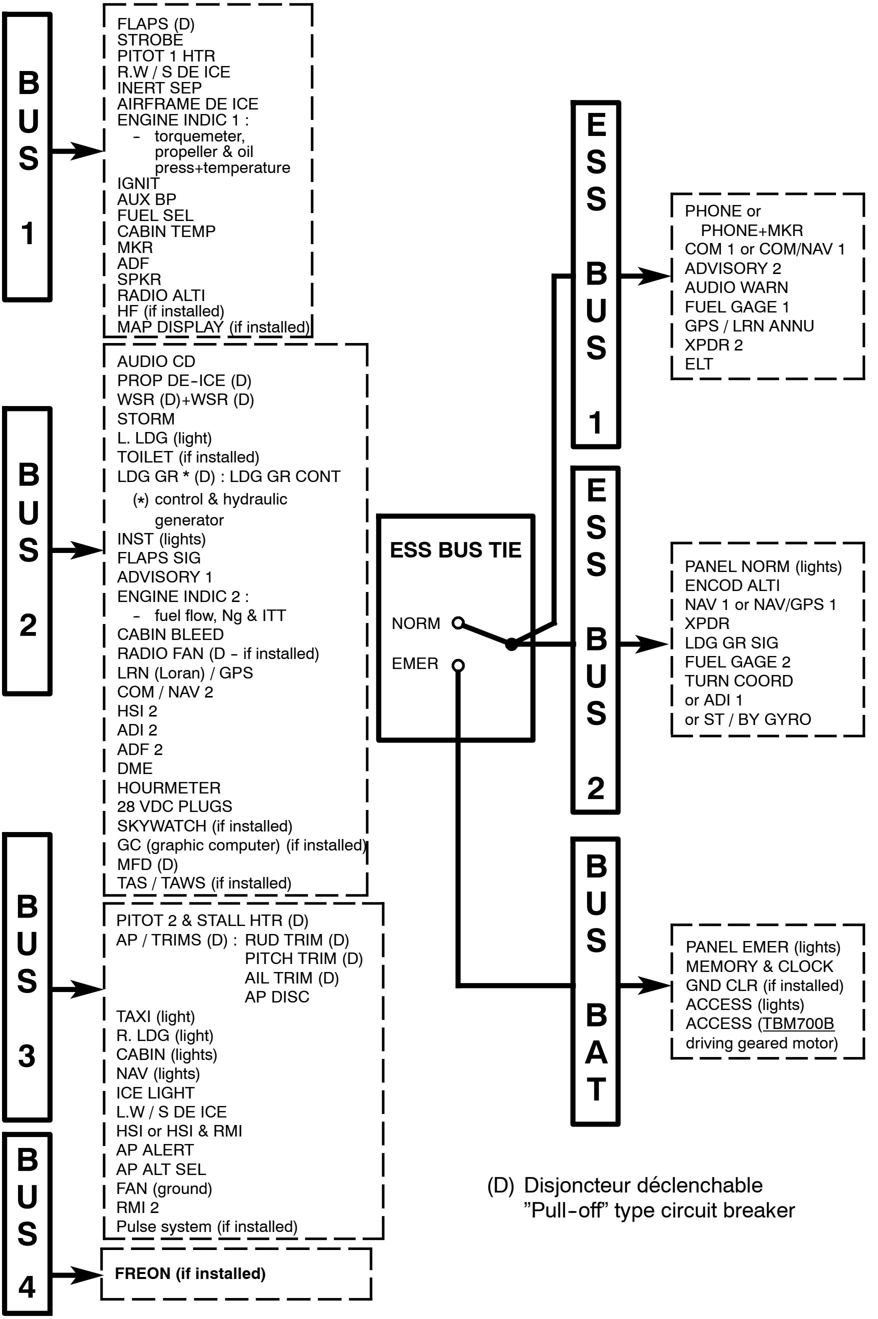

Figure 3.9.1 – ELECTRICAL DISTRIBUTION OF BUS BARS

3.9 - ELECTRICAL SYSTEM

"RADIO MASTER" SWITCH FAILURE

NOTE :
This procedure is not valid for aircraft S/N 1 to 17 if the "RADIO FAN" circuit breaker is not releasable manually.

In case of "RADIO MASTER" switch misfunction, leading to the impossibility of energizing the radionavigation equipment :

1 - "RADIO FAN" circuit breaker . . . . **PULL**
[Circuit breaker panel L.H. (or R.H., if "pilot" door installed) lower corner]

The radionavigation equipment are supplied again and the flight can continue.

However the equipment forced ventilation is no longer available. An excessive use of VHF COM transmitters may reduce their power, so that transmission range will be limited.

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3.10 - PRESSURIZATION AND AIR CONDITIONING

RED WARNING LIGHT CAB PRESS ON

1 - Pressurization indicator . . . . **CHECK**

If ΔP > 6.2 psi :

2 - "BLEED VALVE" switch . . . . **OFF**

3 - EMERGENCY DESCENT (Refer to Chapter 3.6)

If cabin altitude > 10000 ft :

4 - Oxygen . . . . **Refer to Chapter 3.13**

5 - "BLEED VALVE" switch . . . . **CHECK ON**

6 - "DUMP" switch . . . . **CHECK UNDER GUARD**

7 - "RAM AIR" control knob . . . . **CHECK PUSHED**

8 - Limit flight altitude to maintain cabin altitude < 12000 ft

9 - If necessary EMERGENCY DESCENT (Refer to Chapter 3.6)

CABIN NOT DEPRESSURIZED AFTER LANDING

ΔP cabin > 0

1 - "DUMP" switch . . . . **ACTUATED**

2 - "BLEED VALVE" switch . . . . **OFF**

3 - "RAM AIR" control knob . . . . **PULLED if necessary**

4 - Wait for complete cabin depressurization before opening the door

3.10 – PRESSURIZATION AND AIR CONDITIONING

AMBER WARNING LIGHT $\boxed{\text{BLEED OFF}}$ ON

(Normal signal if "BLEED VALVE" switch is OFF)

1 – If necessary .... **CORRECT**

2 – In case of failure, the airplane is no longer pressurized, nor conditioned

Flight may be continued at a maximum altitude of 12000 ft

3.10 – PRESSURIZATION AND AIR CONDITIONING

RED WARNING LIGHT **BLEED TEMP** ON

Indicates overheat of air conditioning pack. Normally this leads to "BLEED VALVE" cutoff and to **BLEED OFF** amber warning light illumination

Should automatic cutoff occur or not :

1 – "BLEED VALVE" switch . . . . **OFF**

2 – If necessary EMERGENCY DESCENT (Refer to Chapter 3.6) or continue flight at an altitude < 12000 ft

REMARK :
Overheat may be due to a low airspeed in hot weather (beginning of climb for example). In that case, a higher airspeed may be sufficient to cause the overheat condition disappear, then **BLEED TEMP** *warning light will go out*

In that case :

3 – "BLEED VALVE" switch . . . . **ON**

4 – "BLEED" selector . . . . **LO**

5 – Continue flight

3.10 - PRESSURIZATION AND AIR CONDITIONING

RED WARNING LIGHT DOOR ON

Indicates that one of the door latches of the access door and (if installed) of the "pilot" door has not been correctly locked

On ground*, check the correct locking, as well as the latches position of the access door and (if installed) of the "pilot" door*

During flight :

1 - Start a slow descent

2 - Decrease cabin ΔP by selecting a higher cabin altitude and maximum cabin rate

If real failure of one of the doors is noted :

3 - "BLEED VALVE" switch . . . . **OFF**

4 - "DUMP" switch . . . . **ACTUATED**

5 - If necessary, undertake an EMERGENCY DESCENT of "IN ROUGH ATMOSPHERE" type (Refer to Chapter 3.6)

3.10 - PRESSURIZATION AND AIR CONDITIONING

AMBER WARNING LIGHT VACUUM LO ON
Suction gage indicator . . . . **CHECK**
Low vacuum may lead to misfunctioning of leading edge deicing, pressurization and gyroscopic vacuum-operated instruments . . . . **MONITOR**
If necessary, fly to an altitude ≤ 12000 ft and if possible return to VMC conditions

3.10 – PRESSURIZATION AND AIR CONDITIONING

DEFOG MALFUNCTION

If moisture starts to quickly cover the inside of the windscreen with the distributor already positioned on "DEFOG" :

1 – "DEFOG / NORMAL" distributor . . . . **NORMAL**

2 – "CABIN TEMP" selector . . . . **Set to around a 10 o'clock position**

3 – "L. WINDSHIELD" switch . . . . **ON**

4 – "R. WINDSHIELD" switch (if installed) . . . . **ON**

If there is no improvement and if the flight safety is engaged :

5 – Altitude . . . . **$\leq$ 12000 ft**

6 – "BLEED VALVE" switch . . . . **OFF**

NOTE :
If in flight, the cabin will quickly be depressurized. Therefore, the cabin vertical speed indicator and altimeter indications will rapidly meet those of respectively the aircraft VSI and altimeter.

3.11 - LANDING GEAR AND FLAPS

LANDING GEAR RETRACTION DISCREPANCY

NOTE :
Symptoms have to be considered at the end of the sequence.

- **Symptoms**

  Red warning light OFF **and** 1 to 3 green light(s) ON.

  or

  Steady red warning light ON **and** 0 to 3 green light(s) ON.

- **Actions**

  Refer to “EMERGENCY GEAR EXTENSION”.

3.11 - LANDING GEAR AND FLAPS

LANDING GEAR EXTENSION DISCREPANCY

NOTE :
Symptoms have to be considered at the end of the sequence.

- **Symptoms**

  Red warning light OFF **and** 1 to 3 green light(s) OFF.

  or

  Steady red warning light ON **and** 0 to 3 green light(s) OFF.

- **Actions**

  Refer to "EMERGENCY GEAR EXTENSION".

3.11 – LANDING GEAR AND FLAPS

LANDING GEAR RETRACTION DISCREPANCY

NOTE :
Symptoms have to be considered at the end of the sequence.

A – Symptoms :

Steady red warning light ON **and** 0 to 3 green light(s) ON.

– Actions :

Refer to "EMERGENCY GEAR EXTENSION".

B – Symptoms :

Red warning light flashing **and** 3 green lights OFF.

– Actions :

1 – "LDG GR" circuit breaker .... **PULL**

If the red warning light goes off :

The flight may be continued without any restriction.
Before extending the landing gear, refer to "EMERGENCY GEAR EXTENSION".

If the red warning light becomes steady ON :

"LDG GR" circuit breaker .... **PUSH**

Refer to "EMERGENCY GEAR EXTENSION".

3.11 – LANDING GEAR AND FLAPS

LANDING GEAR EXTENSION DISCREPANCY

NOTE :
Symptoms have to be considered at the end of the sequence.

- **Symptoms**

  Steady red warning light ON **and** 0 to 3 green light(s) OFF.

  or

  Red warning light flashing **and** 0 to 3 green light(s) OFF.

- **Actions**

  Refer to "EMERGENCY GEAR EXTENSION".

3.11 - LANDING GEAR AND FLAPS

EMERGENCY GEAR EXTENSION (1/2)

NOTE :
This procedure has to be followed in case of any discrepancy or doubt about the gear extension or retraction.

Maintain IAS ≤ 128 KIAS

1 - Landing gear control . . . . **DN**

2 - "LDG GR" circuit breaker . . . . **PULL**

3 - Floor hatch . . . . **OPEN**

4 - By-pass selector . . . . **FULLY PULL / LOCKED**

CAUTION

THE ENTIRE EXTENSION OF THE LANDING GEAR MAY TAKE UP TO 110 CYCLES. IT IS MANDATORY TO HAVE A CLEAR HARDENING OF THE MANUAL CONTROL AT THE END OF THE MANEUVER

5 - Hand pump . . . . **ACTUATE with maximum amplitude**

If landing gear is down and locked (red light not illuminated, three green lights illuminated) :

Continue flight if necessary at a speed BELOW 178 KIAS, exit and/or remain outside icing conditions.

Land.

CAUTION

DO NOT ENTER ICING CONDITIONS (THIS COULD ADVERSELY INCREASE DRAG AND WEIGHT DUE TO ICE ACCUMULATION, AND LOCK WHEELS AND STRUTS).

CLIMB PERFORMANCE WILL BE DEGRADED BY 50 %.

INDICATED CRUISE AIRSPEED WILL BE REDUCED COMPARED TO A CLEAN AIRCRAFT, BECAUSE OF THE DRAG.

THIS SHOULD BE TAKEN INTO ACCOUNT WHEN CALCULATING THE AIRCRAFT RANGE.

3.11 - LANDING GEAR AND FLAPS

EMERGENCY GEAR EXTENSION (2/2)

If landing gear does not lock (other than 3 green indicator lights illuminated) :

6 - "LDG GR" circuit breaker . . . . **PUSH**

7 - "CHECK DN" switch . . . . **ACTUATE**

If the hardening of the manual lever is marked and if the normal indicating shows 3 green indicator lights or the "CHECK DN" indicating shows 3 green indicator lights :

8 - LAND.

If manual extension bar remains soft or if one (or more) green indicator light(s) does(do) not illuminate and upon pressing "CHECK DN", then a gear unlock condition is confirmed. Recycle the landing gear as follows :

9 - By-pass selector . . . . **UNLOCK / PUSH**

10 - Wait a minute.

11 - Landing gear control (IAS ≤ 128 KIAS) . . . . **UP**

Perform landing gear extension attempts in the NORMAL mode while applying positive load factors during the maneuver as well as skidding.

In case of failure, refer to Chapter 3.7 "EMERGENCY LANDINGS", Paragraph "LANDING WITH UNLOCKED MAIN LANDING GEAR" or Paragraph "LANDING WITH DEFECTIVE NOSE LANDING GEAR".

Indication :
If one main landing gear leg is not in the down position, it is preferable to land with landing gear up (Refer to Chapter 3.7, Paragraph "LANDING WITH GEAR UP").

3.11 - LANDING GEAR AND FLAPS

RED WARNING LIGHT FLAPS ON

Indicates a dissymmetry of flap deflection. This immediately stops the flap motor and prevents further operation of the flaps

1 - "FLAPS" circuit-breaker . . . . **PULL**

2 - Flap control lever . . . . **UP**

3 - SHORTEN flight maintaining airspeeds :
- *IAS ≤ 178 KIAS* *for deflections between "UP" and "TO" positions*
- *IAS ≤ 122 KIAS* *for deflections greater than "TO" position*

4 - For landing, refer to Chapter 3.7, Paragraph "LANDING WITH FLAPS MALFUNCTION".

FLAPS MALFUNCTION

In case of blockage of flaps or inoperant flap control lever between "UP" and "LDG" positions, with no flaps warning light illumination:

1 - "FLAPS" circuit breaker . . . . **PULL**

2 - Flap control lever . . . . **UP**

3 - SHORTEN flight maintaining airspeeds :
- *IAS ≤ 178 KIAS* *for deflections between "UP" and "TO" positions*
- *IAS ≤ 122 KIAS* *for deflections greater than "TO" position*

4 - For landing, refer to Chapter 3.7, Paragraph "LANDING WITH FLAPS MALFUNCTION".

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3.12 - DEICING SYSTEM

LEADING EDGES DEICING FAILURE

Symptoms : Failure on one of the two pneumatic deicing pulses :
- Ice on wing outboard sections
- Or ice on wing inboard sections and stabilizers
- One of the two cycling green lights is not lit

1 - LEAVE icing conditions as soon as possible

2 - "AIRFRAME DE ICE" switch . . . . **OFF**

PROPELLER DEICING FAILURE

Symptoms :
- Propeller deicing green light is not lit
- Propeller vibrations

1 - REDUCE power

2 - ACTUATE propeller governor lever to vary RPM within operating range

3 - LEAVE icing conditions as soon as possible

3.12 – DEICING SYSTEM

INERTIAL SEPARATOR FAILURE

Symptoms :
- Warning light is not lit within 30 seconds following "INERT SEP" switch setting ON
- Neither torque drop, nor increase of ITT observed during maneuver

LEAVE icing conditions as soon as possible

WINDSHIELD DEICING FAILURE

Symptoms :
- Windshield being covered uniformly by ice
- No perception of heat when touching deiced section
- Windshield deicing green light is not lit

Symptoms may result from overheat. In that case :

1 – "L.WINDSHIELD" switch . . . . **OFF / ON when necessary**

2 – "R.WINDSHIELD" switch (if installed) . . . . **OFF / ON when necessary**

In case of total failure :

1 – "CABIN TEMP" selector . . . . **Maxi HOT**

2 – "DEFOG / NORMAL" distributor . . . . **Maxi DEFOG**

Before landing wait for a sufficient visibility

3.12 – DEICING SYSTEM

WINDSHIELD MISTING OR INTERNAL ICING

Symptoms : – Mist or ice on windshield internal face

1 – "CABIN TEMP" selector . . . . **Max HOT**

2 – "DEFOG / NORMAL" distributor . . . . **Max DEFOG**

3 – "L. WINDSHIELD" switch . . . . **ON**

4 – "R. WINDSHIELD" switch (if installed) . . . . **ON**

If not successful, to gain sufficient visibility :

5 – Manually clean a sufficient visibility area

6 – If necessary, clean L.H. side window and conduct a sideslip approach (rudder pedals to the right) in order to get sufficient landing visual references

7 – Maintain IAS ≥ 90 KIAS

CAUTION

IN CASE OF SIDESLIP APPROACH WITH PEDAL ON THE RIGHT DURING A LONG PERIOD, SELECT R.H. FUEL TANK

3.12 – DEICING SYSTEM

AMBER WARNING LIGHT **PITOT 1** **PITOT 2** OR **STALL HTR** ON

Indicates a heating failure of the corresponding probe

PITOT 1 Icing conditions may alter airspeed indications on the airspeed indicator

1 – AVOID icing conditions

If it is not possible :

2 – Perform moderate descent or climb attitudes

V_{MO} overshooting and stall warning lights are always operating

PITOT 2 V_{MO} overshoot warning may be altered by icing conditions

Monitor maximum airspeed . . . . **$\leq$ 266 KIAS**

STALL HTR Correct operation of the aural stall warning may be altered by severe or prolonged icing

MONITOR and MAINTAIN minimum airspeed according to airplane configuration and icing conditions

3.13 - MISCELLANEOUS

RUNAWAY OF ONE OF THE THREE ELECTRICAL TRIM TABS

1 – "AP / DISC TRM INT" push button ..... **PRESSED AND HOLD**

The three trim tabs are disconnected and runaway stops

2 – "AP / TRIMS MASTER" switch .... **OFF**

3 – "AP / DISC TRM INT" push button .... **RELEASED**

4 – Pitch trim may be used manually

5 – Reduce airspeed if necessary to reduce control forces

If pitch trim runaway

6 – "AP / TRIMS MASTER" switch .... **AP OFF**

The pitch trim may be used manually, the two other trim tabs may be used again electrically

If rudder or aileron trim runaway

7 – PULL circuit breaker corresponding to the defective trim tab

8 – "AP / TRIMS MASTER" switch .... **ON**

Two other trim tabs may be used again electrically

CRACK IN COCKPIT WINDOW OR WINDOW PANEL

1 – Descend slowly

2 – Reduce cabin ΔP by selecting a higher cabin altitude and the maximum cabin rate

3.13 - MISCELLANEOUS

EMERGENCY EXIT USE

1 - Check that the anti-theft safety pin has been removed
2 - Lift up the opening handle
3 - Pull emergency exit assembly toward oneself to release it from its recess
4 - Put the emergency exit door inside fuselage or throw it away from the fuselage through the opening
5 - EVACUATE airplane

EMERGENCY BEACON USE (ELT)

Before a forced landing :

1 - On COM VHF 121.5 MHZ or on a known air traffic control frequency, transmit the "MAY DAY" signal if possible

After landing :

2 - "ELT" switch . . . . **ON or MAN**
(maintain it ON or MAN until aid arrives)

3.13 - MISCELLANEOUS

TOTAL COMMUNICATION FAILURE

1 - Refer to PARTICULAR TRANSPONDER USES procedures

2 - Apply air traffic control procedures in case of communications failure :
- code 7700 during 1 minute, then
- code 7600

3 - Try to restore communications by using all possible combinations of the headset, micro and loudspeaker

MAIN GYRO HEADING FAILURE

Use standby compass

CAUTION

"L. WINDSHIELD" AND "R. WINDSHIELD" SWITCHES, AS WELL AS AIR CONDITIONING SYSTEM (IF INSTALLED) MUST BE SET TO "OFF" BEFORE COMPASS READING

3.13 - MISCELLANEOUS

PARTICULAR TRANSPONDER USES

1 - Check transponder mode selector . . . . **ON or ALT**

2 - Codes selector :

7700	EMERGENCY DISTRESS
7600	COMMUNICATIONS FAILURE
7500	HIJACKING

ACCIDENTAL SPINS

(Voluntary spins are prohibited)

In case of accidental spins

1 - Control wheel . . . . **NEUTRAL : PITCH AND ROLL**

2 - Rudder . . . . **FULLY OPPOSED TO THE SPIN**

3 - Power lever . . . . **IDLE**

4 - Flaps . . . . **UP when rotation is stopped**

5 - Level the wings and ease out of the dive

3.13 - MISCELLANEOUS

OXYGEN USE (1/2)

WARNING

SMOKING IS STRICTLY PROHIBITED ANY TIME OXYGEN SYSTEM IS USED.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE UP, ETC...)

WARNING

IN CASE GENERATOR FAILS TO ACTIVATE, PULL ON THE OTHER LANYARD

Front seats

1 - Open drawer located in R.H. seat seating
2 - Take a mask, uncoil tube totally
3 - Fully extend the lanyard
4 - Tug to activate the generator ; when the oxygen flow is felt, adjust the mask on the face
5 - "NORMAL / MASK" micro inverter .... **MASK**
6 - Descend quickly to 12000 ft or below

Passengers

1 - Open drawers located in both seatings of the seats fitted with oxygen (seating marked with a placard)
2 - Take a mask, uncoil tube totally
3 - Fully extend the lanyard
4 - Tug to activate the generator ; when the oxygen flow is felt, adjust the mask on the face

3.13 - MISCELLANEOUS

OXYGEN USE (2/2)

NOTE :

Whenever an oxygen generator is activated, **OXYGEN** *warning light, located on the advisory panel, illuminates.*
The warning light will remain ON as long as the used generator is not replaced

AIRSPEED INDICATING SYSTEM FAILURE

Symptoms : erroneous indication in flight

1 - "PITOT 1 HTR" switch . . . . **CHECK ON**

2 - "PITOT 2 & STALL HTR" switch . . . . **CHECK ON**

If symptoms persist :

3 - "ALTERNATE STATIC" selector . . . . **PULL THOROUGHLY**

If symptoms persist, as well as on the airspeed indicator of the R.H instrument panel (if installed), carry out a precautionary approach maintaining an adequate speed.

3.13 - MISCELLANEOUS

FLIGHT INTO SEVERE ICING CONDITIONS

Severe icing conditions, particularly freezing rain and freezing drizzle, can be identified by :

- unusually extensive ice accumulation on the airframe and windshield in areas not normally observed to collect ice,
- accumulation of ice on the upper surface of the wing aft of the protected area.

Procedures for exiting freezing rain or freezing drizzle conditions :

1 - Inform Air Traffic Control to exit severe icing conditions by changing the route or the altitude.

2 - Avoid any sudden maneuver on flight controls.

3 - Do not engage the autopilot.

4 - If the autopilot is engaged, hold the control wheel firmly and disengage the autopilot.

5 - If an unusual roll response or uncommanded roll control movement is observed, reduce the angle-of-attack.

6 - Do not extend flaps when holding in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility of ice forming on the upper surface further aft on the wing than normal, possibly aft of the protected area.

7 - If the flaps are extended, do not retract them until the airframe is clear of ice.

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SECTION 4

NORMAL PROCEDURES

TABLE OF CONTENTS

TABLE OF CONTENTS
(Continued)

4.1 - GENERAL

This Section provides procedures for the conduct of normal operation of TBM 700 airplane.

The first part of this Section lists the normal procedures required as a check list.

The amplified procedures are developed in the second part of the Section.

The normal procedures for optional systems are given in Section 9, "Supplements" of the Pilot's Operating Handbook.

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4.2 - AIRSPEEDS FOR NORMAL OPERATION

CONDITIONS : - Takeoff weight : 6579 lbs (2984 kg)
- Landing weight : 6250 lbs (2835 kg)

1 Rotation airspeed (V_R)
- Flaps TO . . . . Depending on weight
(See ”Takeoff distances” Chapter 5.8)

2 Best rate of climb speed (V_Y)
- Landing gear UP, flaps UP . . . . 123 KIAS

3 Best angle of climb speed (V_x) . . . . 95 KIAS

4 Maximum speed : Flaps TO . . . . 178 KIAS
Flaps LDG . . . . 122 KIAS

5 Maximum speed with landing gear down . . . . 178 KIAS

6 Maximum landing gear operating speed
- Extension . . . . 178 KIAS
- Retraction . . . . 128 KIAS

7 Approach speed
- Flaps LDG . . . . 80 KIAS

8 Maximum operating speed (V_{MO}) . . . . 266 KIAS

9 Glide speed (maximum L / D ratio)
- Landing gear UP, flaps UP . . . . 110 KIAS

10 Maximum inertial separator operating speed . . . . 200 KIAS

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4.3 - CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION

(See Figure 4.3.1)

IMPORTANT

* During outside inspection, visually check inspection doors and airplane general condition.
* In cold weather, remove even small accumulations of frost, ice or snow from wing, tail and control surfaces.
* In case of night flight, check good operation of all navigation lights, landing lights, strobe lights and make sure that an emergency lamp is on board.
* If icing conditions are foreseen, particularly check good functioning of all electrical and pneumatic ice protection systems
* Check that type and quantity of fuel used for refueling are correct.
* Remove covers on :
  - pitots (2)
  - static ports (3)
  - engine air inlet and propeller locking (1).
* Remove tie-downs.
* Refer to Section 8 for quantities, products and specifications of products and materials currently used.

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

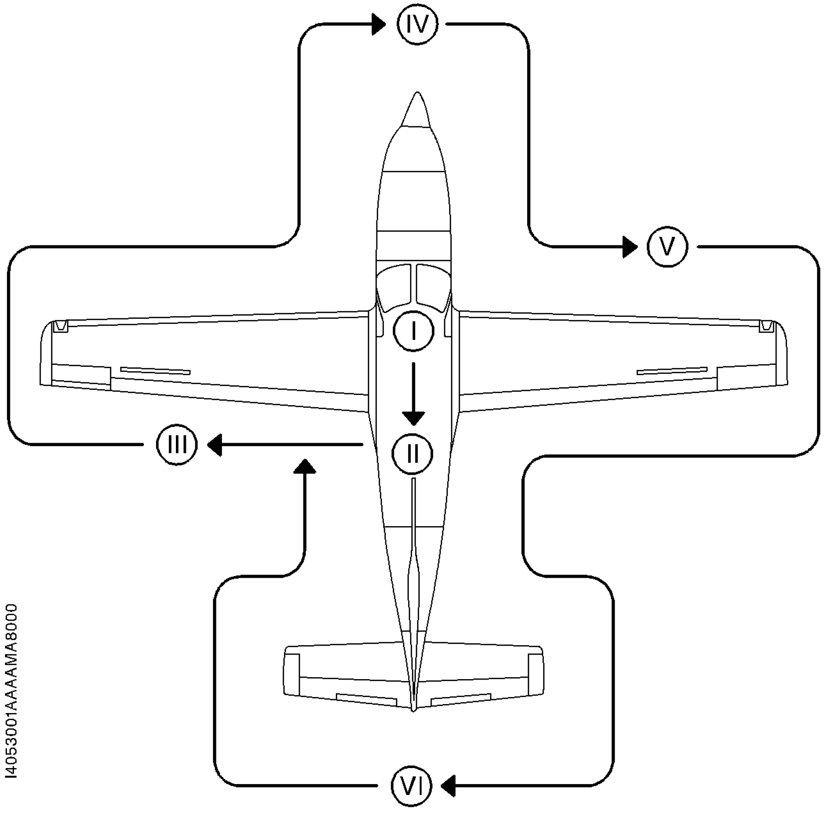

Figure 4.3.1 - PREFLIGHT INSPECTION

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

A - INSIDE INSPECTIONS

Cockpit I

- CRASH lever . . . . **UP**

1 - ELECTRIC POWER panel
- "SOURCE" selector . . . . **OFF**
- "GENERATOR" selector . . . . **MAIN**

2 - ENGINE START panel
- "IGNITION" switch . . . . **AUTO or OFF**
- "STARTER" switch . . . . **OFF**

3 - EXT LIGHTS panel
- All switches . . . . **OFF**

4 - GYRO INST panel
- All switches . . . . **OFF**

5 - Breakers panel
- All breakers . . . . **ENGAGED**

6 - DE ICE SYSTEM panel
- All switches . . . . **OFF**

7 - Landing gear control . . . . **DN**

8 - Landing gear emergency control
- Lever . . . . **PULLED DOWN**
- By-pass selector . . . . **PUSHED**
- Door . . . . **IN PLACE**

9 - "AP / TRIMS MASTER" switch . . . . **OFF**

10 - "RADIO MASTER" switch . . . . **OFF**

11 - Radar switch (if installed) . . . . **OFF**

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CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

12 - ECS panel
- "BLEED VALVE" switch . . . . **OFF**
- "CABIN FAN" switch . . . . **OFF**
- "FREON" or "AIR COND" switch (if installed) . . . . **OFF**
- "DUMP" switch . . . . **GUARDED**

13 - "RAM AIR" control knob . . . . **PUSHED**

14 - Fuel
- "FUEL SEL" selector . . . . **MAN**
- "AUX BP" switch . . . . **OFF**
- Tank selector . . . . **L or R**

15 - Flight control lock . . . . **REMOVED / STOWED**

16 - Flight controls . . . . **Deflections checked**

17 - Parking brake . . . . **SET**

18 - Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

19 - Flaps control . . . . **UP**

20 - BAT BUS power supply
- Stop watch . . . . **CHECKED**
- Access lighting . . . . **CHECKED**
- Emergency lighting . . . . **CHECKED**

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

> **CAUTION**
>
> **BEFORE SELECTING SOURCE, CHECK :**
>
> **21 - "IGNITION" switch . . . . AUTO or OFF**
>
> **22 - "STARTER" switch . . . . OFF**
>
> **23 - Landing gear control . . . . DN**

24 - "SOURCE" selector . . . . **BAT or GPU**

25 - Voltage . . . . **CHECK**
- BAT . . . . **> 25 Volts**
- GPU . . . . **≃ 28 Volts**

26 - EXT LIGHTS panel
- "LTS TEST" push button . . . . **PRESS**
  (3 green lamps "L.LDG / TAXI / R.LDG" ON)
- "L.LDG / TAXI / R.LDG" switches . . . . **ON**
  (3 green lamps ON)
- "L.LDG / TAXI / R.LDG" switches . . . . **OFF**

27 - Fuel gages
- Operation / quantity . . . . **CHECK**

28 - ADVISORY PANEL
- Test 1 . . . . **ALL WARNING LIGHTS ON**
- Test 2 . . . . **ALL WARNING LIGHTS ON**

29 - Oxygen emergency
system . . . . **WARNING LIGHT** **OXYGEN** **OFF**

30 - INT LIGHTS panel . . . . **CHECK**

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

31 - ECS panel
- "LT TEST" push button (if vapor cycle cooling system installed) . . . . **PRESS (green lamp ON)**

32 - Flaps . . . . **LDG**

33 - Landing gear panel . . . . **Warning lights : 3 GREEN ON**
Test 1, then 2 : RED ON + 3 GREEN ON

34 - "PITOT 1 HTR" switch . . . . **ON**

WARNING LIGHT | **PITOT 1** | **OFF**

35 - "PITOT 2 & STALL HTR" switch . . . . **ON**

WARNING LIGHTS | **PITOT 2** / **STALL HTR** | **OFF**

"PITOT 1 HTR" switch . . . . **OFF**

"PITOT 2 & STALL HTR" switch . . . . **OFF**

36 - DE ICE SYSTEM panel
- "LTS TEST" push button . . . . **PRESS (All green lights ON)**

WARNING

DO NOT TOUCH PITOTS NOR STALL WARNING VANE. THEY COULD BE HOT ENOUGH TO BURN SKIN

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

37 - EXT LIGHTS panel
- "STROBE" . . . . **ON**
- "NAV" . . . . **ON**
- "ICE LIGHT" . . . . **ON**

From outside the airplane, check operation of all lights and the stall warning horn

38 - Reentering the airplane
- EXT LIGHTS panel . . . . **ALL SWITCHES OFF**
- DE ICE SYSTEM panel . . . . **ALL SWITCHES OFF**

39 - "SOURCE" selector . . . . **OFF**

Cabin II

1 - Cabin fire extinguisher (if installed) . . . . **CHECK**
(Pressure / Attachment)

2 - Seats / belts . . . . **CHECK**

3 - Windows . . . . **CHECK**
(General condition / No crack)

4 - Emergency exit . . . . **CLOSED / LOCKED**
- Anti-theft safety . . . . **REMOVE / STOW**

5 - Baggage compartment . . . . **STRAPS IN PLACE**

6 - Partition net (if installed) . . . . **IN PLACE**

7 - Emergency beacon . . . . **AUTO**

8 - Doors operation . . . . **CHECK**

9 - Stairs condition . . . . **CHECK**
(Condition / Play)

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CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

B - AIRPLANE OUTSIDE

L.H. wing **III**

1 - Flap . . . . **CHECK (Condition / Play)**

2 - Aileron and trim / Spoiler . . . . **CHECK (Condition / Free movement / Deflection)**

3 - Trailing edge static discharger . . . . **CHECK (Condition / Attachment)**

4 - Wing tip / nav. lights / Strobe / landing light . . . . **Condition - CHECK**

5 - OAT probe . . . . **Condition - CHECK**

6 - Fuel tank . . . . **CAP CLOSED / LOCKED**

7 - Fuel tank air vent . . . . **Unobstructed - CHECK**

8 - External pitot (IAS) . . . . **Condition - CHECK**

9 - Internal pitot (V_{MO}) . . . . **Condition - CHECK**

10 - Wing lower surface . . . . **CHECK (No leak)**

11 - Wing deicer boots . . . . **CHECK (Condition / Attachment)**

12 - Fuel tank drain (two on each wing) . . . . **DRAIN (Fuel free of water and contamination)**

13 - L.H. main landing gear
  - Shock-absorber / doors / tire / wheel well . . . . **CHECK**

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Fuselage forward section IV

1 - Baggage compartment
  - Inside . . . . **CONTROLLED**
  - Door . . . . **CLOSED / LOCKED**

2 - GPU door . . . . **CLOSED**
(If not used)

3 - Fuel circuit drain . . . . **DRAIN**
(Fuel free of water and contamination)
  - Filter contamination indicator **CHECK**

4 - L.H. exhaust stub . . . . **CHECK**
(Condition / No crack)

5 - Upper engine cowls . . . . **OPEN**

For the first flight of the day :
  - Oil cap . . . . **CLOSED / LOCKED**
  - Engine oil level . . . . **CHECK**
  - Fuel pipes . . . . **CHECK**
(No leak, deterioration, wear)

6 - Engine cowls . . . . **Condition - CHECK**
CLOSED / LOCKED

7 - Air inlets
  - Main . . . . **No crack - UNOBSTRUCTED**
  - Lateral / upper . . . . **UNOBSTRUCTED**

8 - Propeller and spinner . . . . **CHECK**
(No nicks, cracks or oil leaks / Attachment)

9 - Nose gear
  - Landing light / shock-absorber / doors /
    tire / wheel well . . . . **CHECK**

CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

10 - R.H. exhaust stub . . . . **CHECK**
(Condition / No cracks)

R.H. wing V

1 - Fuel tank drain (two on each wing) . . . . **DRAIN**
(Fuel free of water and contamination)

2 - Main landing gear
- Shock-absorber / doors / tire / wheel well . . . . **CHECK**

3 - Wing deicer boots . . . . **CHECK**
(Condition / Attachment)

4 - Stall warning . . . . **CHECK**
(Condition / Deflection)

5 - Wing lower surface . . . . **CHECK**
(No leaks)

6 - Fuel tank . . . . **CAP CLOSED / LOCKED**

7 - Fuel tank air vent . . . . **Unobstructed - CHECK**

8 - Wing tip / nav. light / strobe / landing light . . . . **Condition - CHECK**

9 - Trailing edge static discharger . . . . **CHECK**
(Condition / Number / Attachment)

10 - Aileron / spoiler . . . . **CHECK**
(Condition / Free movement / Deflection)

11 - Flap . . . . **CHECK**
(Condition / Play)

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CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Fuselage rear section / Empennages VI

1 - Static pressure ports . . . . **Clean - CHECK**

2 - Ventral fins . . . . **CHECK**
(Attachment condition)

3 - Inspection door under fuselage . . . . **CLOSED - CHECK**
(Attachments)

4 - Horizontal stabilizer
deicer boots (R.H. side) . . . . **CHECK**
(Condition / Attachments)

5 - Elevator and trim . . . . **CHECK**
(Condition / Deflection free movement / Trim position)

6 - Static dischargers . . . . **CHECK**
(Condition)

7 - Vertical stabilizer deicer boots . . . . **CHECK**
(Condition / Attachments)

8 - Rudder and trim . . . . **CHECK**
(Condition / Trim position)

9 - Static dischargers . . . . **CHECK**
(Condition)

10 - Tail cone . . . . **Condition - CHECK**

11 - Static pressure ports . . . . **Clean - CHECK**

CHECK-LIST PROCEDURES

BEFORE STARTING ENGINE (1/2)

CAUTION

"BLEED VALVE" SWITCH ON "ON" MAY CAUSE OVERTEMPERATURE OR ABNORMAL ACCELERATION AT START

CAUTION

MAKE SURE THAT "MAN OVRD" CONTROL IS OFF TO AVOID OVERTEMPERATURE RISKS AT START

1 - Preflight inspection . . . . **COMPLETED**
2 - Cabin access door . . . . **CLOSED / LOCKED**
3 - "Pilot" door (if installed) . . . . **CLOSED / LOCKED**
4 - Baggage . . . . **STOWED**
5 - Parking brake . . . . **SET**
6 - Weight and balance . . . . **COMPUTED / CHECKED**
7 - Pilot and R.H. station seats . . . . **ADJUSTED**
8 - R.H and L.H. pedals . . . . **ADJUSTED**
9 - Belts and harnesses (Pilot and passengers) . . . . **FASTENED**
10 - Crash lever . . . . **UP**
11 - "IGNITION" switch . . . . **AUTO or OFF**
12 - "STARTER" switch . . . . **OFF**
13 - Landing gear control . . . . **DN**
14 - "RADIO MASTER" switch . . . . **ON**
15 - RADIO VHF1 . . . . **ON - ADJUSTED**
16 - Authorization for engine starting . . . . **ASKED**

CHECK-LIST PROCEDURES

BEFORE STARTING ENGINE (2/2)

17 - Radar switch (if installed) . . . . **OFF**

18 - "SOURCE" selector . . . . **BAT (or GPU)**

19 - "BAT TEMP TEST" push-button
(if installed - with a Cadmium-Nickel battery) . . . . **PRESS**

20 - Passengers briefing . . . . **AS REQUIRED**

21 - Access door and
(if installed) "pilot" door **WARNING LIGHT** **DOOR** **OFF**

22 - Fuel
- Gages . . . . **CHECKED**
- Tank selector . . . . **L or R - CHECKED**
- "FUEL SEL" switch . . . . **AUTO**

WARNING LIGHT **AUTO SEL** **OFF**

- "SHIFT" push-button . . . . **PRESS**
The selector changes tank
On ground, observe a tank change
every minute and 15 seconds

23 - Fuel flowmeter totalizer . . . . **CHECKED - ADJUSTED**

24 - Engine instruments . . . . **CHECK**

25 - ITT TEST . . . . **CARRY OUT**

26 - Fire detection TEST (if installed) . . . . **CARRY OUT**

27 - EXT LIGHTS panel
- "STROBE" . . . . **AS REQUIRED**

28 - In case of night flight
- INT LIGHTS panel : "INSTR" + "PANEL" . . . . **ADJUSTED**
- Navigation lights . . . . **ON**
- Flashlight (if necessary) . . . . **IN PLACE**

CHECK-LIST PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (1/5)

CAUTION

BEFORE SELECTING SOURCE, CHECK :

1 - "IGNITION" switch . . . . AUTO or OFF

2 - "STARTER" switch . . . . OFF

3 - "INERT SEP" switch . . . . OFF

4 - Landing gear control . . . . DN

5 - ELECTRIC POWER panel
- "SOURCE" selector . . . . **BAT**
- Voltage . . . . **CHECKED > 25 Volts**

6 - Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX RPM**
- Condition lever . . . . **CUT OFF**

CHECK-LIST PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (2/5)

7 - FUEL panel
- "AUX BP" switch . . . . **ON**

WARNING LIGHT	**AUX BP ON**	**ON**
WARNING LIGHT	**FUEL PRESS**	**OFF**

- Fuel pressure indicator . . . . **Green sector**

8 - Propeller . . . . **AREA CLEAR**

9 - ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

NOTE :
The utilization of the starter is bound by limitations mentioned in Chapter 2.4 "STARTER OPERATION LIMITS".

Ng $\simeq$ 13 %
- Condition lever . . . . **LO / IDLE**

Monitor increase of :
- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure . . . . **WARNING LIGHT** **OIL PRESS** **OFF**

10 - "STARTER" switch . . . . **OFF**
Check Ng > 52 %

CHECK-LIST PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (3/5)

11 - Condition lever .... **HI / IDLE**

12 - Engine instruments .... **CHECK : Ng ≃ 69 % (± 2 %)**
(Oil pressure / Oil temperature / ITT = green sector)

13 - FUEL panel
- "AUX BP" switch .... **AUTO**

WARNING LIGHT	**AUX BP ON**	**OFF**

14 - Generator .... **WARNING LIGHT** | **MAIN GEN** | **OFF**

RESET if necessary
- Battery ammeter .... **CHARGE CHECKED**
- Battery voltage .... **CHECKED**
(V ≃ 28 Volts)

CAUTION

IF 10 SECONDS AFTER HAVING POSITIONED CONDITION LEVER TO "LO / IDLE" THERE IS NO IGNITION OR IF DURING IGNITION SEQUENCE, OVERTEMPERATURE INDICATION APPEARS (MAX. ITT : 870°C FOR MORE THAN 20 SECONDS - 1000°C FOR MORE THAN 5 SECONDS),

INTERRUPT STARTING PROCEDURE :

Condition lever .... CUT OFF

"IGNITION" switch .... OFF (or AUTO)

Wait ITT < 800°C, then :

"STARTER" switch .... OFF

BEFORE ANY RESTARTING ATTEMPT, CARRY OUT A MOTORING (Refer to paragraph "MOTORING")

CHECK-LIST PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (4/5)

CAUTION

IF ENGINE STAGNATES,

INTERRUPT STARTING PROCEDURE :

Condition lever . . . . CUT OFF

"IGNITION" switch . . . . OFF (or AUTO)

"STARTER" switch . . . . OFF

WAIT FOR 1 MINUTE (Refer to Chapter 2.4 "STARTER OPERATION LIMITS"), THEN TRY TO RESTART

ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

Ng ≃ 13 %

- Condition lever . . . . **HI / IDLE**

Monitor increase of :
- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure . . . . **WARNING LIGHT** **OIL PRESS** **OFF**

CHECK-LIST PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (5/5)

Ng $\simeq$ 50 %

- "STARTER" switch . . . . **OFF**

WARNING LIGHTS	**STARTER** / **IGNITION**	**OFF**

Engine instruments . . . . **CHECK Ng increasing to 69 % (± 2 %)**
(Oil pressure / ITT = green sector)

NOTE :
This behaviour should only be observed with outside low temperature (IOAT < 0 °C), cold engine.
This procedure may be used for the first starting of the day.

CHECK-LIST PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (1/5)

1 - GPU . . . . **CONNECTED**

CAUTION

BEFORE SELECTING SOURCE, CHECK :

2 - "IGNITION" switch . . . . AUTO or OFF

3 - "STARTER" switch . . . . OFF

4 - "INERT SEP" switch . . . . OFF

5 - Landing gear control . . . . DN

6 - "SOURCE" selector . . . . **GPU**

WARNING LIGHT	**GPU**	**ON**
WARNING LIGHT	**BAT OFF**	**ON**

- Voltmeter . . . . **VOLTAGE CHECKED**

(V ≃ 28 Volts)

7 - Engine controls

- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE**
  (Flight idle stop)
- Propeller governor lever . . . . **MAX RPM**
- Condition lever . . . . **CUT OFF**

CHECK-LIST PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (2/5)

8 - FUEL panel
- "AUX BP" switch . . . . **ON**

WARNING LIGHTS	**AUX BP ON**	**ON**
	FUEL PRESS	**OFF**

- Fuel pressure indicator . . . . **CHECK**

9 - Propeller . . . . **AREA CLEAR**

10 - ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

NOTE :
The utilization of the starter is bound by limitations mentioned in Chapter 2.4 "STARTER OPERATION LIMITS".

Ng $\simeq$ 13 %
- Condition lever . . . . **LO / IDLE**

Monitor increase of :
- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure . . . . **WARNING LIGHT** | **OIL PRESS** | **OFF**

CHECK-LIST PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (3/5)

11 - "SOURCE" selector .... **BAT**

WARNING LIGHT | **BAT OFF** | **OFF**

12 - Propeller governor lever .... **FEATHER**

13 - GPU .... **HAVE IT DISCONNECTED**

WARNING LIGHT | **GPU** | **OFF**

14 - Condition lever .... **HI / IDLE**

15 - Propeller governor lever .... **MAX. RPM**

16 - Engine instruments .... **CHECK : Ng $\simeq$ 69 % ($\pm$ 2 %)**
(Oil pressure / Oil temperature / ITT = green sector)

17 - FUEL panel
- "AUX BP" switch .... **AUTO**

WARNING LIGHT | **AUX BP ON** | **OFF**

18 - Generator .... **WARNING LIGHT** | **MAIN GEN** | **OFF**

RESET if necessary

- Battery ammeter .... **CHARGE CHECKED**
- Battery voltage .... **CHECKED**
(V $\simeq$ 28 Volts)

CHECK-LIST PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (4/5)

CAUTION

IF 10 SECONDS AFTER HAVING POSITIONED CONDITION LEVER TO "LO / IDLE" THERE IS NO IGNITION OR IF DURING IGNITION SEQUENCE, OVERTEMPERATURE INDICATION APPEARS (MAX. ITT : 870°C FOR MORE THAN 20 SECONDS - 1000°C FOR MORE THAN 5 SECONDS),

INTERRUPT STARTING PROCEDURE :

Condition lever .... CUT OFF

"IGNITION" switch .... OFF (or AUTO)

Wait ITT < 800°C, then :

"STARTER" switch .... OFF

BEFORE ANY RESTARTING ATTEMPT, CARRY OUT A MOTORING (Refer to paragraph "MOTORING")

CAUTION

IF ENGINE STAGNATES,

INTERRUPT STARTING PROCEDURE :

Condition lever .... CUT OFF

"IGNITION" switch .... OFF (or AUTO)

"STARTER" switch .... OFF

WAIT FOR 1 MINUTE (Refer to Chapter 2.4 "STARTER OPERATION LIMITS"), THEN TRY TO RESTART

CHECK-LIST PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (5/5)

ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

Ng ≃ 13 %

- Condition lever . . . . **HI / IDLE**

Monitor increase of :
- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure . . . . **WARNING LIGHT** **OIL PRESS** **OFF**

Ng ≃ 50 %
- "STARTER" switch . . . . **OFF**

WARNING LIGHTS	**STARTER**	**OFF**
	IGNITION	

Engine instruments . . . . **CHECK Ng increasing to 69 % (± 2 %) (Oil pressure / ITT = green sector)**

NOTE :
This behaviour should only be observed with outside low temperature (IOAT < 0 °C), cold engine.
This procedure may be used for the first starting of the day.

CHECK-LIST PROCEDURES

MOTORING (1/2)

CAUTION

AFTER ANY STARTING INTERRUPT PROCEDURE :

- **WAIT FOR ENGINE TOTAL SHUT-DOWN**
- **WAIT AT LEAST 30 SECONDS BEFORE INITIATING A MOTORING**

1 - Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

2 - Fuel
- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

WARNING LIGHTS		
	AUX BP ON	ON
	FUEL PRESS	OFF

CHECK-LIST PROCEDURES

MOTORING (2/2)

3 - "IGNITION" switch . . . . **OFF**

WARNING LIGHT	**IGNITION**	**OFF**

To clear fuel and vapor internally trapped :

4 - "STARTER" switch . . . . **ON**
during 15 sec maxi

WARNING LIGHT	**STARTER**	**FLASHING**

To cool engine following shut-down in high temperature environment :

4 - "STARTER" switch . . . . **ON**
during 30 sec

WARNING LIGHT	**STARTER**	**FLASHING**

5 - "STARTER" switch . . . . **OFF**

WARNING LIGHT	**STARTER**	**OFF**

6 - FUEL panel
- "AUX BP" switch . . . . **OFF**

WARNING LIGHTS	**AUX BP ON**	**OFF**
	FUEL PRESS	**ON**

CHECK-LIST PROCEDURES

MOTORING FOLLOWED BY AN ENGINE START (1/2)

Within starter operating limits (continuous max. 1 minute), it is possible to initiate a starting procedure from a motoring procedure.

1 – Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

2 – Fuel
- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

WARNING LIGHTS		
	AUX BP ON	ON
	FUEL PRESS	OFF

3 – "IGNITION" switch . . . . **OFF**

4 – "STARTER" switch . . . . **ON during 15 sec**

CHECK-LIST PROCEDURES

MOTORING FOLLOWED BY AN ENGINE START (2/2)

5 - After 15 seconds :
- "IGNITION" switch .... **AUTO or ON**
- Ng .... **Check at 13 % minimum**
- Condition lever .... **LO / IDLE**

6 - Monitor increase of :
- ITT .... **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure .... **WARNING LIGHT** **OIL PRESS** **OFF**

Ng ≃ 50 % stable
- "STARTER" switch .... **OFF**

WARNING LIGHTS **STARTER** / **IGNITION** **OFF**

7 - Engine instruments .... **CHECK : Ng > 52 %**
(Oil pressure / ITT = green sector)

8 - Condition lever .... **HI / IDLE**

9 - Engine instruments .... **CHECK : Ng ≃ 69 % (± 2 %)**
(Oil pressure / Oil temperature / ITT = green sector)

10 - FUEL panel
- "AUX BP" switch .... **AUTO**

WARNING LIGHT **AUX BP ON** **OFF**

11 - Generator .... **WARNING LIGHT** **MAIN GEN** **OFF**

RESET if necessary
- Battery ammeter .... **CHARGE CHECKED**
- Battery voltage .... **CHECKED**
(V ≃ 28 Volts)

CHECK-LIST PROCEDURES

AFTER STARTING ENGINE (1/2)

1 - GYRO INST panel
- All switches . . . . **ON**

Pull on the caging knobs when starting the ADI(s).

2 - Gyroscopic suction gage indicator . . . . **GREEN SECTOR**

WARNING LIGHT	VACUUM LO	OFF

3 - GYRO SLAVING selector . . . . **SLAVE**

4 - DE ICE SYSTEM panel
- "PROP DE ICE" switch . . . . **ON**
  Check illumination of the green light located above the switch
- "PROP DE ICE" switch . . . . **OFF**
- "L.WINDSHIELD" switch . . . . **ON**
- "R.WINDSHIELD" switch (if installed) . . . . **ON**
  Check illumination of the green light located above the switch (except if hot conditions)
- "L.WINDSHIELD" switch . . . . **OFF**
- "R.WINDSHIELD" switch (if installed) . . . . **OFF**

Increase power so as to get Ng ≥ 80% to check AIRFRAME DE ICE

- "AIRFRAME DE ICE" switch . . . . **ON**
  Visually check functioning of deicer boots during 1 total cycle and illumination of the two green lights located above the switch
- "AIRFRAME DE ICE" switch . . . . **OFF**
- "INERT SEP" switch . . . . **ON**

WARNING LIGHT	INERT SEP	ON
		after 30 seconds

CHECK-LIST PROCEDURES

AFTER STARTING ENGINE (2/2)

5 - "GENERATOR" selector
- On "MAIN" .... **Voltage and current checked**

when current ≤ 50 amps :
- on "ST-BY" .... **Voltage and current checked (reset if necessary)**
- then again on "MAIN"

6 - Flaps .... **UP**

7 - ECS panel
- "BLEED VALVE" switch .... **ON (LO or HI)**
- "CABIN FAN" switch .... **As required**
- "FREON" or "AIR COND" switch (if installed) .. **As required**
- "CABIN TEMP" selector .... **ADJUST**
- "DEFOG / NORMAL" distributor .... **AS REQUIRED**
  Cabin altitude selector .... **Airfield altitude - 500 feet**
  Cabin rate selector .... **ARROW UPWARDS (at the halfway post)**

8 - RADIO
- Radio means .... **ON - ADJUSTED**

9 - Radar switch (if installed) .... **SBY**

10 - "EFIS MASTER" switch (if installed) .... **ON**
- "TEST / CMPST" button .... **PRESS**
- "TST / REF" button .... **PRESS at least 3 seconds**

11 - "AP / TRIMS MASTER" switch .... **ON**
- Preflight test button .... **PRESS**
- "AP / TRIMS MASTER" operation .... **CHECK**
- Pitch trim .... **UP / DN, then ADJUSTED**
- Yaw trim .... **L / R, then ADJUSTED**
- Roll trim .... **L / R, then ADJUSTED**

CHECK-LIST PROCEDURES

TAXIING

1 - "TAXI" light .... **ON**

2 - "INERT SEP" switch .... **CHECKED ON**

CHECK WARNING LIGHT | **INERT SEP** | **ON**

3 - Passenger briefing .... **AS REQUIRED**

4 - Parking brake .... **RELEASED**

WARNING LIGHT | **PARK BRAKE** | **OFF**

5 - L.H. and R.H. seats brakes .... **CHECKED**

6 - Nose wheel steering .... **CHECKED**

7 - Power lever .... **AS REQUIRED**

CAUTION

AVOID USING REVERSE DURING TAXIING

8 - Flight instruments .... **CHECK**

9 - Advisory panel .... **CHECK**

CHECK-LIST PROCEDURES

BEFORE TAKEOFF (1/2)

1 - Parking brake . . . . **SET**

WARNING LIGHT | **PARK BRAKE** | **ON**

2 - Condition lever . . . . **HI / IDLE**
[Ng : 69 % (± 2 %)]

3 - Propeller governor lever . . . . **FEATHER twice,**
then MAX. RPM

4 - Fuel
- Gages . . . . **CHECK**
(Quantity / Symmetry)
- "FUEL SEL" . . . . **CHECK AUTO**
- "AUX BP" . . . . **CHECK AUTO**

5 - Flaps . . . . **TO**

6 - DE ICE SYSTEM panel
- "AIRFRAME DE ICE" switch . . . . **As required**
- "PROP DE ICE" switch . . . . **As required**

If runway is in good condition, without icing conditions :

- "INERT SEP" switch . . . . **OFF**

WARNING LIGHT | **INERT SEP** | **OFF**

If there is standing water or other contamination on the runway :

- "INERT SEP" switch . . . . **Leave ON**

WARNING LIGHT | **INERT SEP** | **ON**

- "L.WINDSHIELD" switch . . . . **As required**
- "R.WINDSHIELD" switch (if installed) . . . . **As required**
- "PITOT 1 HTR" switch . . . . **ON**
- "PITOT 2 & STALL HTR" switch . . . . **ON**

CHECK-LIST PROCEDURES

BEFORE TAKEOFF (2/2)

7 - Advisory panel .... **CHECK**
All warning lights OFF,

except	PARK BRAKE	**ON**
and, if used	INERT SEP	**ON**

8 - Electronic equipment /
Flight instruments / Radar .... **CHECK / ADJUST**

9 - Engine instruments .... **CHECK**

10 - Pilot's / Passengers' belts .... **CHECK**

11 - Flight controls .... **DEFLECTIONS CHECKED**

12 - Trims
- Pitch .... **ADJUSTED**
- Yaw .... **ADJUSTED**
- Roll .... **ADJUSTED**

13 - Parking brake .... **RELEASED**

WARNING LIGHT	**PARK BRAKE**	**OFF**

14 - "STROBE" switch .... **ON**

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 Amperes

CHECK-LIST PROCEDURES

TAKEOFF (1/2)

WHEN LINED UP

CAUTION

- **IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.**
- **IF ICING CONDITIONS ARE FORESEEN, REFER TO CHAPTER 4.5, PARAGRAPH "FLIGHT INTO KNOWN ICING CONDITIONS"**

1 - Heading - HSI - Stand-by compass . . . . **CHECK**
   - Altimeter setting . . . . **CHECK**

2 - Horizon . . . . **Attitude + 2° - CHECK**

3 - Lights
   - "L.LDG / TAXI / R.LDG" . . . . **ON**

4 - Engine instruments . . . . **CHECK**
(ITT = green sector)

5 - Advisory panel . . . . **CHECK**
All warning lights OFF,

except	**INERT SEP**	**if used**
except	**IGNITION**	**if used**

6 - Radar switch (if installed) . . . . **As required**

7 - PROP O' SPEED GOVERNOR TEST
   - Increase power until propeller RPM reaches 1900 RPM
   - PROP O' SPEED . . . . **TEST : Maintain engaged**
   - Observe that propeller RPM decreases by 50 to 250 RPM
   - PROP O' SPEED . . . . **TEST : Release**
   - Check that propeller RPM increases by a minimum of 50 RPM when compared to minimum value during PROP O'SPEED test.

CHECK-LIST PROCEDURES

TAKEOFF (2/2)

8 - Brakes . . . . **RELEASED**

9 - Power lever . . . . **TRQ = 100 %**

10 - Takeoff . . . . **ROTATION : See "Takeoff distances" Chapter 5.8**
- Normal take off . . . . **ATTITUDE : 7°5**
- Short take off . . . . **ATTITUDE : 15°**

11 - Vertical speed indicator . . . . **POSITIVE**

12 - Brakes . . . . **APPLY (Briefly)**

13 - Landing gear control . . . . . (IAS < 128 KIAS) . . . . **UP**
At sequence end, check : All warning lights OFF

14 - Lights
- "TAXI" . . . . **OFF**
- "L.LDG / R.LDG" . . . . **AS REQUIRED**

15 - Initial climb speed . . . . **110 KIAS**

16 - Flaps . . . . **UP**

17 - Climb speed (recommended) . . . . **130 KIAS**

18 - "YAW DAMPER" push-button . . . . **ON**

CHECK-LIST PROCEDURES

CLIMB

1 – Power lever .... **ADJUST according to engine operation table – Chapter 5.7**

> **CAUTION**
>
> **OBSERVE TRQ / Ng / Np / ITT / T°**
> **AND OIL PRESSURE LIMITATIONS.**
> **USE OPTIMUM TORQUE**
> **AND / OR REFER TO TABLES IN CHAPTER 5.7**

2 – Climb speed .... **AS REQUIRED**

3 – ECS panel

- Cabin altitude selector .... **Cruise altitude + 1000 feet**
- Cabin rate selector .... **ADJUST**
- Pressurization .... **CHECK**
- "CABIN TEMP" selector .... **ADJUST**

4 – Fuel tank gages .... **CHECK / CORRECT (Quantity / Symmetry)**

5 – DE ICE SYSTEM .... **As required**
Refer to Chapter 4.5
"PARTICULAR PROCEDURES"

> **CAUTION**
>
> **IF HEAVY PRECIPITATION, TURN IGNITION**
> **AND INERT SEP ON**

CHECK-LIST PROCEDURES

CRUISE

1 - Power lever .... **ADJUST according to engine operation table - Chapter 5.7**

> **CAUTION**
>
> **OBSERVE TRQ / Ng / Np / ITT / T°**
> **AND OIL PRESSURE LIMITATIONS.**
> **USE OPTIMUM TORQUE**
> **AND / OR REFER TO TABLES IN CHAPTER 5.7**

2 - Pressurization .... **CHECK**

3 - Fuel

- Gages .... **CHECK**

  REGULARLY CHECK :

  - consumption

  Pre-MOD70-0402-28

  - tank automatic change (every 10 minutes)

  Post-MOD70-0402-28

  - tank automatic change (every 5 minutes)

  All

  - symmetry [max. dissymmetry 25 us gal (95 Litres)]

4 - DE ICE SYSTEM .... **As required**
Refer to Chapter 4.5
"PARTICULAR PROCEDURES"

> **CAUTION**
>
> **IF HEAVY PRECIPITATION, TURN IGNITION**
> **AND INERT SEP ON**

CHECK-LIST PROCEDURES

DESCENT

1 - Altimeter settings . . . . **COMPLETE**

2 - ECS panel
- Cabin altitude selector . . . . **Airfield altitude + 500 feet**
- Cabin rate selector . . . . **Adjusted**

3 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5
"PARTICULAR PROCEDURES"

> **CAUTION**
>
> **IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON**

4 - Windshield misting protection system . . . . **As required**

5 - Fuel
- Gages . . . . **CHECK**
(Quantity / Symmetry)
- Fullest tank . . . . **SELECT**

6 - Passengers briefing . . . . **As required**

7 - Seats, belts and harnesses . . . . **LOCKED**

CHECK-LIST PROCEDURES

BEFORE LANDING

Long final

1 – Altimeters .... **CHECK**

2 – Fuel
- Gages .... **CHECK (Quantity / Symmetry)**
- Fullest tank .... **SELECT**

3 – "INERT SEP" switch ...... (IAS ≤ 200 KIAS) .... **ON**

4 – Propeller lever .... **MAX RPM**

5 – Landing gear control ...... (IAS ≤ 178 KIAS) .... **DN**
- Green indicator lights .... **ON**

6 – Flaps .... (IAS ≤ 178 KIAS) .... **TO**

7 – Lights
- "L.LDG / TAXI / R.LDG" .... **ON**

8 – Autopilot .... **OFF**

9 – Radar switch (if installed) .... **SBY**

Short final

10 – Flaps .... (IAS ≤ 122 KIAS) .... **LDG**

11 – Approach speed (Flaps LDG) .... **80 KIAS**

12 – "YAW DAMPER" push-button .... **OFF**

CHECK-LIST PROCEDURES

LANDING

1 - Power lever . . . . **IDLE**

After wheel touch

2 - Reverse . . . . **As required**
(Reverse may be applied as soon as the wheels touch the ground.) To avoid ingestion of foreign objects, come out the reverse as speed reduces and use the brakes if necessary for further deceleration.

CAUTION

USE OF CONTROL REVERSE BETA (β) RANGE (BEHIND THE FLIGHT IDLE POSITION) IS PROHIBITED DURING FLIGHT

CAUTION

ON SNOWY OR DIRTY RUNWAY, IT IS BETTER NOT TO USE REVERSE

3 - Brakes . . . . **As required**

CHECK-LIST PROCEDURES

GO-AROUND

1 - Simultaneously
- Power lever . . . . **TRQ = 100 %**
- Attitude . . . . **7°5**

2 - Flaps . . . . **TO**

If the vertical speed is positive and if IAS is at or above 85 KIAS :

3 - Landing gear control . . . . **UP**
All warning lights OFF

If IAS is at or above 110 KIAS :

4 - Flaps . . . . **UP**

5 - Climb speed . . . . **AS REQUIRED**

CHECK-LIST PROCEDURES

TOUCH AND GO

After wheel touch

1 - Flaps . . . . **TO**

2 - Elevator trim . . . . **Green sector**

3 - Power lever . . . . **Display TRQ = 100 %**

4 - Takeoff . . . . **ROTATION : See "Takeoff distances" Chapter 5.8**
ATTITUDE : 7°5

AFTER LANDING

RUNWAY CLEAR - AIRPLANE STOPPED

1 - DE ICE SYSTEM panel
- "AIRFRAME DE ICE" switch . . . . **OFF**
- "PROP DE ICE" switch . . . . **OFF**
- "INERT SEP" switch . . . . **CHECKED ON**
- "L.WINDSHIELD" switch . . . . **As required**
- "R.WINDSHIELD" switch (if installed) . . . . **As required**
- "PITOT 1 HTR" switch . . . . **OFF**
- "PITOT 2 & STALL HTR" switch . . . . **OFF**

2 - Radar switch (if installed) . . . . **CHECKED SBY**

3 - Transponder . . . . **SBY**

4 - Flaps . . . . **UP**

5 - Lights
- "L.LDG / R.LDG" . . . . **OFF**
- "TAXI" . . . . **ON**

6 - "STROBE" switch . . . . **OFF**

CHECK-LIST PROCEDURES

SHUT-DOWN (1/2)

1 - Parking brake . . . . **SET**

WARNING LIGHT **PARK BRAKE** **ON**

2 - "TAXI" light . . . . **OFF**

3 - Pressurization
- "BLEED VALVE" switch . . . . **OFF**
- Check for cabin depressurization

4 - "FAN FLOW" switch (if installed) . . . . **As required**

5 - "AIR COND" switch (if installed) . . . . **OFF**

6 - Condition lever . . . . **HI / IDLE**

7 - Power lever . . . . **IDLE for 2 minutes**

8 - GYRO INST panel
- All switches . . . . **OFF**

9 - "EFIS MASTER" switch (if installed) . . . . **OFF**

10 - "AP / TRIMS MASTER" switch . . . . **OFF**

11 - "RADIO MASTER" switch . . . . **OFF**

12 - Propeller governor lever . . . . **FEATHER for 15 seconds**

13 - Condition lever . . . . **CUT OFF**

CAUTION

IN CASE OF SHUT-DOWN ON A CONTAMINATED AREA :

- **Condition lever . . . . CUT OFF**
- **Propeller governor lever . . . . FEATHER**

CHECK-LIST PROCEDURES

SHUT-DOWN (2/2)

14 - Fuel
- "AUX BP" switch . . . . **OFF**
- "FUEL SEL" switch . . . . **MAN**
- Tank selector . . . . **OFF**

15 - "INERT SEP" switch . . . . **OFF**

16 - INT LIGHTS panel
- All switches . . . . **OFF**

17 - EXT LIGHTS panel
- All switches . . . . **OFF**

18 - "GENERATOR" selector . . . . **OFF**

19 - "SOURCE" selector . . . . **OFF**

CAUTION

IN CASE OF HIGH OAT [ABOVE 35° C (95° F)], IT IS REQUIRED TO PERFORM 30 SECONDS DRY MOTORING RUN AFTER SHUT-DOWN TO IMPROVE COOLING OF THE BEARING CAVITIES AND MINIMIZE OIL COKING (REFER TO PARAGRAPH "MOTORING")

INTENTIONALLY LEFT BLANK

4.4 - AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION

A - INSIDE INSPECTIONS

Cockpit I

- CRASH lever . . . . **UP**

1 - ELECTRIC POWER panel
- "SOURCE" selector . . . . **OFF**
- "GENERATOR" selector . . . . **MAIN**

2 - ENGINE START panel
- "IGNITION" switch . . . . **AUTO or OFF**
  The "IGNITION" switch is normally selected to AUTO. This ensures ignition, whenever the "STARTER" switch is set to ON.
- "STARTER" switch . . . . **OFF**
  If not, starter is going to operate as soon as "SOURCE" selector is moved to BAT or GPU (if connected).

3 - EXT LIGHTS panel
- All switches . . . . **OFF**

4 - GYRO INST panel
- All switches . . . . **OFF**

5 - Breakers panel
- All breakers . . . . **ENGAGED**

6 - DE ICE SYSTEM panel
- All switches . . . . **OFF**

7 - Landing gear control . . . . **DN**

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

8 – Landing gear emergency control
Open door of emergency landing gear compartment.
- Lever . . . . **PULLED DOWN**
- By–pass selector . . . . **PUSHED**
- Door . . . . **IN PLACE**

By–pass selector must be pushed at its maximum stop, so as to have the door in place.

9 – "AP / TRIMS MASTER" switch . . . . **OFF**

10 – "RADIO MASTER" switch . . . . **OFF**

11 – Radar switch (if installed) . . . . **OFF**

12 – ECS panel
- "BLEED VALVE" switch . . . . **OFF**
- "CABIN FAN" switch . . . . **OFF**
- "FREON" or "AIR COND" switch (if installed) . . . . **OFF**
- "DUMP" switch . . . . **GUARDED**

13 – RAM AIR control . . . . **PUSHED**

14 – Fuel
- "FUEL SEL" selector . . . . **MAN**
- "AUX BP" switch . . . . **OFF**
- Tank selector . . . . **L or R**

15 – Flight control lock . . . . **REMOVED / STOWED**
The flight control lock is normally stowed in the front cargo compartment with the towing bar and the blanking covers.

16 – Flight controls . . . . **Deflections checked**

17 – Parking brake . . . . **SET**

18 – Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

When engine is shut-off, a lack of hydraulic pressure prevents movement into reverse range. Trying to force the mechanism will cause damage.

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

19 - Flaps control . . . . **UP**

20 - BAT BUS power supply
- Stop watch . . . . **CHECKED**
- Access lighting . . . . **CHECKED**
- Emergency lighting . . . . **CHECKED**

This check allows to ensure that the fuse of the "BAT BUS" operates correctly.

CAUTION

BEFORE SELECTING SOURCE, CHECK :

21 - "IGNITION" switch . . . . AUTO or OFF

22 - "STARTER" switch . . . . OFF

23 - Landing gear control . . . . DN

24 - "SOURCE" selector . . . . **BAT or GPU**

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

25 - Voltage . . . . **CHECK**
- BAT . . . . **> 25 Volts**

  If not, use a GPU or charge battery. This minimum voltage is not an absolute guarantee for a correctly charged battery, particularly with a cadmium nickel technology. It is recommended to use a GPU in cold weather, when airplane has been stopped more than 3 hours at a temperature below – 10°C (+14°F).
- GPU . . . . **≃ 28 Volts**

  If using a GPU, ensure that it provides a 28-volt regulated voltage, with negative on earth, as well as it supplies 800 amperes minimum and 1400 amperes maximum. See placard located near ground power receptacle door.

26 - EXT LIGHTS panel
- "LTS TEST" push button . . . . **PRESS**
  (3 green lamps "L.LDG / TAXI / R.LDG" ON)
- "L.LDG / TAXI / R.LDG" switches . . . . **ON**
  (3 green lamps ON)

  An outside inspection is not necessary ; the illuminated three green lamps located on switches prove the correct operation of the three landing lights.
- "L.LDG / TAXI / R.LDG" switches . . . . **OFF**

27 - Fuel gages
- Operation / quantity . . . . **CHECK**

28 - ADVISORY PANEL
- Test 1 . . . . **ALL WARNING LIGHTS ON**
- Test 2 . . . . **ALL WARNING LIGHTS ON**

  "Test 1" and "2" correspond to BUS bars 1 or 2, which feed them respectively.

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

29 – Oxygen emergency

system . . . . **WARNING LIGHT** **OXYGEN** **OFF**

If not, seek which of the oxygen generators has been activated. The amber strip around each generator becomes black by thermal effect, if the generator has been operated. Moreover, check regularly oxygen masks good condition, check them for correct connection to their lanyards and that incorporated microphones (pilot only) are correctly connected (in oxygen drawer) to radio system. Oxygen emergency system in good operation condition must be imperatively taken on board during all flights, even at low altitude in order to be used in case of smoke in the cabin. Operation of the system can not be checked ; only good condition of the different components can be checked.

30 – INT LIGHTS panel . . . . **CHECK**

31 – ECS panel
- "LT TEST" push button
  (if vapor cycle cooling system installed) . . . . **PRESS (green lamp ON)**

32 – Flaps . . . . **LDG**

33 – Landing gear panel . . . . **Warning lights : 3 GREEN ON**
Test 1, then 2 : RED ON + 3 GREEN ON

"Test 1" and "2" correspond to BUS bars 1 or 2, which feed them respectively.

34 – "PITOT 1 HTR" switch . . . . **ON**

WARNING LIGHT **PITOT 1** **OFF**

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Correct operation of pitot (PITOT 1 and 2) tube heating elements and of stall aural warning system (STALL HTR) is indicated by extinction of corresponding lights on the advisory panel, when control switches are ON.

35 - "PITOT 2 & STALL HTR" switch . . . . **ON**

WARNING LIGHTS | **PITOT 2** | **STALL HTR** | **OFF**

- "PITOT 1 HTR" switch . . . . **OFF**
- "PITOT 2 & STALL HTR" switch . . . . **OFF**

36 - DE ICE SYSTEM panel
- "LTS TEST" push button . . . . **PRESS (All green lights ON)**

WARNING

DO NOT TOUCH PITOTS NOR STALL WARNING VANE. THEY COULD BE HOT ENOUGH TO BURN SKIN

37 - EXT LIGHTS panel
- "STROBE" . . . . **ON**
- "NAV" . . . . **ON**
- "ICE LIGHT" . . . . **ON**

From outside the airplane, check operation of all lights and the stall warning horn

38 - Reentering the airplane
- EXT LIGHTS panel . . . . **ALL SWITCHES OFF**
- DE ICE SYSTEM panel . . . . **ALL SWITCHES OFF**

39 - "SOURCE" selector . . . . **OFF**

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Cabin II

1 - Cabin fire extinguisher (if installed) . . . . **CHECK**
(Pressure / Attachment)
The fire extinguisher is provided with a pressure gage.

2 - Seats / belts . . . . **CHECK**

3 - Windows . . . . **CHECK**
(General condition / No cracks)

4 - Emergency exit . . . . **CLOSED / LOCKED**
- Anti-theft safety . . . . **REMOVE / STOW**

5 - Baggage compartment . . . . **STRAPS IN PLACE**

6 - Partition net (if installed) . . . . **IN PLACE**

7 - Emergency beacon . . . . **AUTO**
Check AUTO position on the switch located on the R.H. instrument panel and on the emergency beacon switch located on aft baggage compartment floor.

8 - Doors operation . . . . **CHECK**

9 - Stairs condition . . . . **CHECK**
(Condition / Play)
Particularly check condition of lower door retaining cable(s) at the level of the handle.

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

B - AIRPLANE OUTSIDE

The preflight inspection described in Figure 4.3.1 is recommended before each flight.

NOTE :
If a preflight inspection is performed, just after the engine shut-off, be careful because the leading edge of engine air inlet, as well as exhaust stubs may be very hot.

If the airplane was in long term storage or if it has undergone major maintenance or if it has been used from emergency airfields, a thorough outside inspection is recommended.

When the airplane is stored outside, the use of the flight control lock and blanking covers is recommended. Propeller should be tied down to prevent rotation without oil pressure.

When the airplane is stored for extended periods of time, a thorough preflight inspection is recommended. Particular attention should be paid to possible blockages in airspeed sensing lines, foreign objects in engine intake and exhaust stubs and water contamination of the fuel system.

L.H. wing III

1 - Flap . . . . **CHECK (Condition / Play)**

Also inspect the lower surface, as well as flap fairing, where pebbles (and even ice in case of slush on the runway) may have accumulated.

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

2 - Aileron and trim / Spoiler . . . . **CHECK**
(Condition / Free movement / Deflection)
Ensure there are no foreign objects in the spoiler recess. When ailerons are in the neutral position, it is normal that spoilers are lightly extended at upper surface.

3 - Trailing edge static discharger . . . . **CHECK**
(Condition / Attachment)

4 - Wing tip / nav. lights /
Strobe / landing light . . . . **Condition - CHECK**

5 - OAT probe . . . . **Condition - CHECK**

6 - Fuel tank . . . . **CAP CLOSED / LOCKED**
Fuel tank caps must be tight (which is characterized by a consequent exertion to lock and unlock them) to avoid water infiltration in case of rain on ground, and to avoid fuel loss in flight.

7 - Fuel tank air vent . . . . **UNOBSTRUCTED - CHECK**
Air vent is not likely to be obstructed by ice or water, as it is located in a wing lower surface recess.

8 - External pitot (IAS) . . . . **Condition - CHECK**

9 - Internal pitot (V_{MO}) . . . . **Condition - CHECK**

10 - Wing lower surface . . . . **CHECK**
- Check fuel tank access doors for leaks
- Check for surface damage.

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

11 - Wing deicer boots . . . . **CHECK**
(Condition / Attachment)
Care must be taken when refuelling the airplane to avoid damaging the wing deicer boots. A protective apron should be used if possible.

12 - Fuel tank drain (two on each wing) . . . . **DRAIN**
(Fuel free of water and contamination)
In case of water in fuel system, drain it carefully using the four drain valves of tank sumps, and the fuel filter drain valve, till every trace of water or deposit has disappeared.
A long term storage of the airplane causes water accumulation in fuel, which absorbs additive. This phenomenon occurs when an excessive quantity of water accumulates in fuel tank sumps. Refer to Section 8 for servicing operations relative to fuel additives.

13 - L.H. main landing gear
- Shock-absorber / doors /
tire / wheel well . . . . **CHECK**
If airplane has been used from muddy airfields or in snow, check wheel wells to make sure they are clean and not obstructed.
Check frequently all landing gear retraction mechanism components, shock-absorbers, tires and brakes. This is particularly important for airplanes used from hilly fields.
Improperly serviced or worn shock-absorbers may result in excessive loads being transmitted to the airplane structure during ground operations. Without passengers and baggages on board, the unpainted surface of the main gear shock absorber tube must be visible about :
. 55 mm (2.17 in) of minimum height with half tank (140 us gal),
. 40 mm (1.57 in) of minimum height with full tanks (280 us gal).

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Fuselage forward section IV

1 – Baggage compartment
   - Inside . . . . **CONTROLLED**
   - Door . . . . **CLOSED / LOCKED**

2 – GPU door . . . . **CLOSED**
(If not used)

3 – Fuel circuit drain . . . . **DRAIN**
(Fuel free of water and contamination)
   - Filter contamination indicator . . . . **CHECK**
Open the inspection door located on L.H. side under front baggage compartment

4 – L.H. exhaust stub . . . . **CHECK**
(Condition / No crack)
Inspect if possible pressure port located inside exhaust stub. A missing port or a cracked port may hinder correct operation of continuous heating of air inlet lip.

5 – Upper engine cowls . . . . **OPEN**

For the first flight of the day :
   - Oil cap . . . . **CLOSED / LOCKED**
   - Engine oil level . . . . **CHECK**
   - Fuel pipes . . . . **CHECK**
(No leak, deterioration, wear)

6 – Engine cowls . . . . **Condition - CHECK**
CLOSED / LOCKED

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

7 – Air inlets
- Main .... **No crack – UNOBSTRUCTED**
  Check for no cracks, which are sometimes put in evidence by traces of soot resulting from exhaust gases.
- Lateral / upper .... **UNOBSTRUCTED**
  Lateral air inlets, which supply air conditioning system and oil cooler, are provided with blanking covers. It is not the case for upper air inlet of RAM AIR system (circular grille located in front of R.H. windshield).

8 – Propeller and spinner .... **CHECK**
(No nicks, cracks or oil leaks / Attachment)
In case of operation from contaminated runways, it is necessary to carefully examine propeller blades, where traces of abrasion may be found. Propeller damage may reduce blade life time and degrade performance. Any propeller damage should be referred to maintenance personnel.

9 – Nose gear
- Landing light / shock absorber / doors /
  tire / wheel well .... **CHECK**

Without passengers and baggages on board, the unpainted surface of the nose gear shock absorber tube must be visible about :
- 57 mm (2.22 in) of minimum height with full tanks,
- 63 mm (2.46 in) of minimum height with half tank.

NOTE :
Crush or relieve the shock absorber one time or twice before the inspection to remove possible sticking.

In case of doubt, request a check of the shock absorber pressure.

10 – R.H. exhaust stub .... **CHECK**
(Condition / No cracks)

AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

R.H. wing V

Additional remarks are identical to those of L.H. wing.

1 - Fuel tank drain (two on each wing) .... **DRAIN**
(Fuel free of water and contamination)

2 - Main landing gear
- Shock absorber / doors / tire / wheel well .... **CHECK**

3 - Wing deicer boots .... **CHECK**
(Condition / Attachment)

4 - Stall warning .... **CHECK**
(Condition / Deflection)

5 - Wing lower surface .... **CHECK**
(No leaks)

6 - Fuel tank .... **CAP CLOSED / LOCKED**

7 - Fuel tank air vent .... **Unobstructed - CHECK**

8 - Wing tip / nav. light / strobe / landing light .... **Condition - CHECK**

9 - Trailing edge static discharger .... **CHECK**
(Condition / Number / Attachment)

10 - Aileron / spoiler .... **CHECK**
(Condition / Free movement / Deflection)

11 - Flap .... **CHECK**
(Condition / Play)

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AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (Cont'd)

Fuselage rear section / Empennages VI

Check that outside handle of emergency exit is flush with door skin.

1 - Static pressure ports . . . . **Clean - CHECK**

2 - Ventral fins . . . . **CHECK**
(Attachment condition)
Ventral fins are made of two parts (one fixed part and one removable part with rear lower inspection door). Check that these two parts are connected by the locking roller.

3 - Inspection door under fuselage . . . . **CLOSED - CHECK**
(Attachments)

4 - Horizontal stabilizer
deicer boots (R.H. side) . . . . **CHECK**
(Condition / Attachments)

5 - Elevator and trim . . . . **CHECK**
(Condition / Deflection free movement / Trim position)
To check the deflection, hold the two half-elevators near fuselage, inside both elevator trims to avoid stresses.

6 - Static dischargers . . . . **CHECK**
(Condition)

7 - Vertical stabilizer deicer boots . . . . **CHECK**
(Condition / Attachments)

8 - Rudder and trim . . . . **CHECK**
(Condition / Trim position)

9 - Static dischargers . . . . **CHECK**
(Condition)

10 - Tail cone . . . . **Condition - CHECK**

11 - Static pressure ports . . . . **Clean - CHECK**

AMPLIFIED PROCEDURES

BEFORE STARTING ENGINE (1/4)

Check that the weight and balance are within the correct limits. Brief passengers about use of seat belts and the emergency oxygen system, as well as opening the access door and the emergency exit.

CAUTION

"BLEED VALVE" SWITCH ON "ON" MAY CAUSE OVERTEMPERATURE OR ABNORMAL ACCELERATION AT START

CAUTION

MAKE SURE THAT "MAN OVRD" CONTROL IS OFF TO AVOID OVERTEMPERATURE RISKS AT START

1 - Preflight inspection . . . . **COMPLETED**

2 - Cabin access door . . . . **CLOSED / LOCKED**

3 - "Pilot" door (if installed) . . . . **CLOSED / LOCKED**

4 - Baggage . . . . **STOWED**

5 - Parking brake . . . . **SET**
"PARK BRAKE" warning light located on advisory panel does not indicate that parking brake is set. For that, press on brake pedals before turning parking brake selector to the right.

6 - Weight and balance . . . . **COMPUTED / CHECKED**

7 - Pilot and R.H. station seats . . . . **ADJUSTED**
Adjust pilot and R.H. station seats and harnesses, so as to permit access to all flight controls. The pilot at L.H. station must be able to easily reach ECS panel.

AMPLIFIED PROCEDURES

BEFORE STARTING ENGINE (2/4)

8 - R.H and L.H. pedals . . . . **ADJUSTED**

9 - Belts and harnesses (Pilot and passengers) . . . . **FASTENED**
Check belt buckles for correct locking, as well as automatic locking of shoulder harness by exerting a rapid pull on the latter.

10 - Crash lever . . . . **UP**

11 - "IGNITION" switch . . . . **AUTO or OFF**
The "IGNITION" switch is normally selected to AUTO. This ensures ignition, whenever the starter is activated.

12 - "STARTER" switch . . . . **OFF**
If not, starter is going to operate as soon as "SOURCE" selector is positioned on BAT or GPU in case of supplying by GPU.

13 - Landing gear control . . . . **DN**

14 - "RADIO MASTER" switch . . . . **ON**

15 - RADIO VHF1 . . . . **ON / ADJUSTED**
An electric relay automatically cuts off radio equipment during starter operation.
The function "GND CLR" (ground clearance) enables, when "RADIO MASTER" switch is ON, to obtain VHF1 supply without having selected battery contact.

16 - Authorization for engine starting . . . . **ASKED**

17 - Radar switch (if installed) . . . . **OFF**

18 - "SOURCE" selector . . . . **BAT (or GPU)**

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AMPLIFIED PROCEDURES

BEFORE STARTING ENGINE (3/4)

19 - "BAT TEMP TEST" push-button
(if installed - with a Cadmium-Nickel battery) . . . . **PRESS**
Check illumination of the "BAT OVHT" warning light on the advisory panel, check increase of the temperature indicated on the battery temperature indicator.

20 - Passengers briefing . . . . **AS REQUIRED**

21 - Access door and
(if installed) "pilot" door **WARNING LIGHT** **DOOR** **OFF**

If "DOOR" warning light is not OFF, open the access door and (if installed) the "pilot" door and reclose it (them). Check locking pins are in place (green band is visible). Do not take off with "DOOR" warning light ON on the advisory panel.

22 - Fuel
- Gages . . . . **CHECKED**
- Tank selector . . . . **L or R - CHECKED**
- "FUEL SEL" switch . . . . **AUTO**

WARNING LIGHT **AUTO SEL** **OFF**

- "SHIFT" push-button . . . . **PRESS**
The selector changes tank
On ground, observe a tank change
every minute and 15 seconds

23 - Fuel flowmeter totalizer . . . . **CHECKED - ADJUSTED**
Total fuel quantity on board may be set on flowmeter totalizer - see Section 7 or refer to manufacturer technical data.

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AMPLIFIED PROCEDURES

BEFORE STARTING ENGINE (4/4)

24 – Engine instruments . . . . **CHECK**

25 – ITT TEST . . . . **CARRY OUT**

. With AMETEK type instrument, check 1888 number appearance in digital readout window.

. With MORS type instrument, check 1888 number appearance in digital readout window, as well as ITT red warning light illumination on advisory panel.

26 – Fire detection TEST (if installed) . . . . **CARRY OUT**

27 – EXT LIGHTS panel

– "STROBE" . . . . **AS REQUIRED**

The use of strobe lights may generate discomfort to personnel on ground, particularly by night.

28 – In case of night flight

– INT LIGHTS panel : "INSTR" + "PANEL" . . . . **ADJUSTED**

– Navigation lights . . . . **ON**

– Flashlight (if necessary) . . . . **IN PLACE**

To maintain battery power for starting, and only when "GND CLR" (ground clearance) is available on airplane, VHF1 can be operated by setting "SOURCE" selector to OFF and "RADIO MASTER" switch to ON. A correct operation is provided by the "GND CLR" green light illuminating above the "RADIO MASTER" switch. If battery voltage is low (near 25 volts), turn off all unessential electrical equipment before selecting the starter ON. By night, emergency lighting, provided by two luminous spot lights located above front seats, is sufficient to illuminate crew documents and instrument panel.

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (1/6)

CAUTION

BEFORE SELECTING SOURCE, CHECK :

1 – "IGNITION" switch . . . . AUTO or OFF

2 – "STARTER" switch . . . . OFF

3 – "INERT SEP" switch . . . . OFF

4 – Landing gear control . . . . DN

5 – ELECTRIC POWER panel
- "SOURCE" selector . . . . **BAT**
- Mains voltage . . . . **CHECKED > 25 Volts**

6 – Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (2/6)

7 - FUEL panel
- "AUX BP" switch . . . . **ON**

WARNING LIGHT	**AUX BP ON**	**ON**
WARNING LIGHT	**FUEL PRESS**	**OFF**

- Fuel pressure indicator . . . . **Green sector**

8 - Propeller . . . . **AREA CLEAR**

9 - ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

NOTE :
The utilization of the starter is bound by limitations mentioned in Chapter 2.4 "STARTER OPERATION LIMITS".

Ng $\simeq$ 13 %
- Condition lever . . . . **LO / IDLE**
  When condition lever is positioned on LO / IDLE before having obtained 13 % of Ng, there is a risk of overtemperature further to an excessive accumulation of fuel inside the combustion chamber before ignition.

Monitor increase of :
- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
  The absolute limit read on the indicator is 1090°C during the starting sequence (red triangle). However, the ITT limits during the starting sequence are :
  . 870°C for 20 seconds max.
  . 1000°C for 5 seconds max.

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (3/6)

In case of higher temperature and longer time, stop immediately the starting procedure as indicated in the following caution and inform the maintenance department.

If starting engine procedure is aborted further to overtemperature indications (max. ITT : 870°C for more than 20 seconds – 1000°C for more than 5 seconds), maintaining during few seconds "STARTER" switch ON (within starter operating limits) may reduce max. ITT obtained by ventilating combustion chamber.

NOTE :
No action is required for the following conditions :

- *ITT from 800 °C to 870 °C limited to 20 seconds,*
- *ITT from 870 °C to 1000 °C limited to 5 seconds.*

CAUTION

IF 10 SECONDS AFTER HAVING POSITIONED CONDITION LEVER TO "LO / IDLE" THERE IS NO IGNITION OR IF DURING IGNITION SEQUENCE, OVERTEMPERATURE INDICATION APPEARS (MAX. ITT : 870°C FOR MORE THAN 20 SECONDS – 1000°C FOR MORE THAN 5 SECONDS),

INTERRUPT STARTING PROCEDURE :

Condition lever . . . . CUT OFF

"IGNITION" switch . . . . OFF (or AUTO)

Wait ITT < 800°C, then :

"STARTER" switch . . . . OFF

BEFORE ANY RESTARTING ATTEMPT, CARRY OUT A MOTORING (Refer to paragraph "MOTORING")

CONTINUE WITH NORMAL PROCEDURE HEREAFTER

In case of starting with hot engine, an ITT decrease comprised between 150°C and 170°C (within starter operation limits), before opening of the condition lever, may allow to stay within above mentioned ITT limits.

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (4/6)

- Ng
  The start sequence must be timed to ensure starter limits are not exceeded. Lengthy operation of the starter results in excessive temperature of the engine :
  - If Ng does not reach 30 % within 30 seconds, after the starter is selected ON, abort the start.
  - If Ng does not reach 50 % within 1 minute, abort the start.
  - Before starting a new test, respect delays indicated in Chapter 2.4 "STARTER OPERATION LIMITS".
- Oil pressure . . . . **WARNING LIGHT** **OIL PRESS** **OFF**

CAUTION

IF ENGINE STAGNATES,

INTERRUPT STARTING PROCEDURE :

Condition lever . . . . CUT OFF
"IGNITION" switch . . . . OFF (or AUTO)
"STARTER" switch . . . . OFF

WAIT FOR 1 MINUTE (Refer to Chapter 2.4 "STARTER OPERATION LIMITS"), THEN TRY TO RESTART

ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS **STARTER** **FLASHING**
IGNITION **ON**

Ng $\simeq$ 13 %

- Condition lever . . . . **HI / IDLE**

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (5/6)

Monitor increase of :

- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure . . . . **WARNING LIGHT** | **OIL PRESS** | **OFF**

Ng ≃ 50 %

- "STARTER" switch . . . . **OFF**

WARNING LIGHTS | **STARTER** / **IGNITION** | **OFF**

Engine instruments . . . . **CHECK Ng increasing to 69 % (± 2 %) (Oil pressure / ITT = green sector)**

NOTE :
This behaviour should only be observed with outside low temperature (IOAT < 0 °C), cold engine.
This procedure may be used for the first starting of the day.

CONTINUE WITH NORMAL PROCEDURE HEREAFTER

10 – "STARTER" switch . . . . **OFF**
Check Ng > 52 %

11 – Condition lever . . . . **HI / IDLE**

12 – Engine instruments . . . . **CHECK : Ng ≃ 69 % (± 2 %) (Oil pressure / Oil temperature / ITT = green sector)**

⬇

AMPLIFIED PROCEDURES

STARTING ENGINE USING AIRPLANE POWER (6/6)

13 – FUEL panel
- "AUX BP" switch . . . . **AUTO**

  At this time, observing a drop in the fuel pressure is normal.

WARNING LIGHT	**AUX BP ON**	**OFF**

14 – Generator . . . . **WARNING LIGHT** | **MAIN GEN** | **OFF**

RESET if necessary

"MAIN GEN" warning light normally goes out, as soon as "STARTER" warning light goes out.

If not, increase Ng over 70 % to start main generator.
- Battery ammeter . . . . **CHARGE CHECKED**
- Battery voltage . . . . **CHECKED**
  (V $\simeq$ 28 Volts)

AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (1/7)

Before connecting GPU, check that its indicated voltage is correct.

1 – GPU . . . . **CONNECTED**

CAUTION

BEFORE SELECTING SOURCE, CHECK :

2 – "IGNITION" switch . . . . AUTO or OFF

3 – "STARTER" switch . . . . OFF

4 – "INERT SEP" switch . . . . OFF

5 – Landing gear control . . . . DN

6 – "SOURCE" selector . . . . **GPU**

WARNING LIGHT	**GPU**	**ON**
WARNING LIGHT	**BAT OFF**	**ON**

– Voltmeter . . . . **VOLTAGE CHECKED (V $\simeq$ 28 Volts)**

If voltage is ≥ 30 volts, immediately turn "SOURCE" selector to OFF. Radio navigation equipment may be damaged before main fuse failure.

7 – Engine controls

– "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

– Power lever . . . . **IDLE (Flight idle stop)**

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AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (2/7)

- Propeller governor lever . . . . **MAX RPM**
- Condition lever . . . . **CUT OFF**

8 - FUEL panel

- "AUX BP" switch . . . . **ON**

WARNING LIGHTS	**AUX BP ON**	**ON**
	FUEL PRESS	**OFF**

- Fuel pressure indicator . . . . **CHECK**

9 - Propeller . . . . **AREA CLEAR**

10 - ENGINE START panel

- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS	**STARTER**	**FLASHING**
	IGNITION	**ON**

NOTE :
The use of the starter is limited. Refer to Chapter 2.4 "STARTER OPERATION LIMITS".

Ng $\simeq$ 13 %

- Condition lever . . . . **LO/ IDLE**

When condition lever is positioned on LO / IDLE before having obtained 13 % of Ng, there is a risk of overtemperature further to an excessive accumulation of fuel inside the combustion chamber before ignition.

Avoid staying at or above 13 %, Ng is usually stabilized after leaving starter ON during 10 seconds.

Monitor increase of :

- ITT . . . . **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**

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AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (3/7)

The absolute limit read on the indicator is 1090°C during the starting sequence (red triangle). However, the ITT limits during the starting sequence are :

. 870°C for 20 seconds max.

. 1000°C for 5 seconds max.

In case of starting with hot engine, an ITT decrease comprised between 150°C and 170°C (within starter operation limits), before opening of the condition lever, may allow to stay within above mentioned ITT limits.

In case of higher temperature and longer time, stop immediately the starting procedure as indicated in the following caution and inform the maintenance department.

This starting engine procedure must be also applied in case of drop in voltage supplied by GPU. This drop will be shown by a low or zero Ng acceleration.

If starting engine procedure is aborted further to overtemperature indications (max. ITT : 870°C for more than 20 seconds – 1000°C for more than 5 seconds), maintaining during few seconds "STARTER" switch ON (within starter operating limits) may reduce max. ITT obtained by ventilating combustion chamber.

NOTE :
No action is required for the following conditions :

- *ITT from 800 °C to 870 °C limited to 20 seconds,*
- *ITT from 870 °C to 1000 °C limited to 5 seconds.*

AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (4/7)

CAUTION

IF 10 SECONDS AFTER HAVING POSITIONED CONDITION LEVER TO "LO / IDLE" THERE IS NO IGNITION OR IF DURING IGNITION SEQUENCE, OVERTEMPERATURE INDICATION APPEARS (MAX. ITT : 870°C FOR MORE THAN 20 SECONDS – 1000°C FOR MORE THAN 5 SECONDS),

INTERRUPT STARTING PROCEDURE :

Condition lever . . . . CUT OFF

"IGNITION" switch . . . . OFF

Wait ITT < 800°C, then :

"STARTER" switch . . . . OFF

BEFORE ANY RESTARTING ATTEMPT, CARRY OUT A MOTORING (Refer to paragraph "MOTORING")

CONTINUE WITH NORMAL PROCEDURE HEREAFTER

- Ng
  The start sequence must be timed to ensure starter limits are not exceeded. Lengthy operation of the starter results in excessive temperature of the engine :
  - If Ng does not reach 30 % within 30 seconds, after the starter is selected ON, abort the start.
  - If Ng does not reach 50 % within 1 minute, abort the start.
  - Before starting a new test, respect delays indicated in Chapter 2.4 "STARTER OPERATION LIMITS".
- Oil pressure . . . . **WARNING LIGHT** **OIL PRESS** **OFF**

AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (5/7)

CAUTION

IF ENGINE STAGNATES,

INTERRUPT STARTING PROCEDURE :

Condition lever . . . . CUT OFF

"IGNITION" switch . . . . OFF (or AUTO)

"STARTER" switch . . . . OFF

WAIT FOR 1 MINUTE (Refer to Chapter 2.4 "STARTER OPERATION LIMITS"), THEN TRY TO RESTART

ENGINE START panel
- "IGNITION" switch . . . . **AUTO**
- "STARTER" switch . . . . **ON**

WARNING LIGHTS		
	STARTER	**FLASHING**
	IGNITION	**ON**

Ng $\simeq$ 13 %

- Condition lever . . . . **HI / IDLE**

AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (6/7)

Monitor increase of :

- ITT .... **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- Oil pressure ..... **WARNING LIGHTS** OIL PRESS **OFF**

Ng ≃ 50 %

- "STARTER" switch .... **OFF**

WARNING LIGHTS STARTER / IGNITION **OFF**

Engine instruments .... **CHECK Ng increasing to 69 % (± 2 %) (Oil pressure / ITT = green sector)**

NOTE :
This behaviour should only be observed with outside low temperature (IOAT < 0 °C), cold engine.
This procedure may be used for the first starting of the day.

CONTINUE WITH NORMAL PROCEDURE HEREAFTER

11 - "SOURCE" selector .... **BAT**

WARNING LIGHT BAT OFF **OFF**

12 - Propeller governor lever .... **FEATHER**
This reduces propeller blast on the person disconnecting the GPU.

13 - GPU .... **HAVE IT DISCONNECTED**

WARNING LIGHT GPU **OFF**

AMPLIFIED PROCEDURES

STARTING ENGINE USING EXTERNAL POWER (GPU) (7/7)

This means that ground power receptacle door has been correctly locked.

14 - Condition lever .... **HI / IDLE**

15 - Propeller governor lever .... **MAX. RPM**

16 - Engine instruments .... **CHECK : Ng ≃ 69 % (± 2 %)**
(Oil pressure / Oil temperature / ITT = green sector)

17 - FUEL panel
- "AUX BP" switch .... **AUTO**

At this time, observing a drop in the fuel pressure is normal.

WARNING LIGHT	**AUX BP ON**	**OFF**

18 - Generator .... **WARNING LIGHT** | **MAIN GEN** | **OFF**
RESET if necessary

"MAIN GEN" warning light normally goes out, as soon as "STARTER" warning light goes out.

If not, increase Ng over 70 % to start main generator.
- Battery ammeter .... **CHARGE CHECKED**
- Battery voltage .... **CHECKED**
(V ≃ 28 Volts)

AMPLIFIED PROCEDURES

MOTORING (1/3)

To drain fuel accumulated inside the combustion chamber, a motoring procedure is required following an aborted start.

A 15-second dry motoring run is sufficient to clear any fuel pooled in the engine. The fuel is removed in liquid or vapor form, through an airflow intended to dry combustion chamber, turbines and exhaust nozzles.

To improve cooling of the bearing cavities and prevent oil coking after shut-down in high OAT [above 35° C (95° F)] environment, it is recommended to perform a 30-second dry motoring run.

It is possible that no trace of drainage be observed under engine, due to the drainage collector intended to prevent parking area from contamination.

CAUTION

AFTER ANY STARTING INTERRUPT PROCEDURE :

- **WAIT FOR ENGINE TOTAL SHUT-DOWN**
- **WAIT AT LEAST 30 SECONDS BEFORE INITIATING A MOTORING**

1 - Engine controls
   - "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

   - Power lever . . . . **IDLE (Flight idle stop)**
   - Propeller governor lever . . . . **MAX RPM**
   - Condition lever . . . . **CUT OFF**

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AMPLIFIED PROCEDURES

MOTORING (2/3)

2 – FUEL panel
- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

WARNING LIGHTS	**AUX BP ON**	**ON**
	FUEL PRESS	**OFF**

Fuel pressure is necessary for lubrication of HP pump.

3 – "IGNITION" switch . . . . **OFF**

WARNING LIGHT	**IGNITION**	**OFF**

To clear fuel and vapor internally trapped :

4 – "STARTER" switch . . . . **ON**
for 15 sec maxi

WARNING LIGHT	**STARTER**	**FLASHING**

To cool engine following shut-down in high temperature environment :

4 – "STARTER" switch . . . . **ON**
during 30 sec

WARNING LIGHT	**STARTER**	**FLASHING**

If ignition symptoms occur (ITT increasing), check that "IGNITION" switch is OFF, that condition lever is on CUT OFF and continue motoring.

5 – "STARTER" switch . . . . **OFF**

WARNING LIGHT	**STARTER**	**OFF**

AMPLIFIED PROCEDURES

MOTORING (3/3)

6 – FUEL panel
  – "AUX BP" switch . . . . **OFF**

WARNING LIGHTS	**AUX BP ON**	**OFF**
	FUEL PRESS	**ON**

AMPLIFIED PROCEDURES

MOTORING FOLLOWED BY AN ENGINE START (1/3)

Amplified procedures stated in starting engine sequences using airplane power or with GPU are also to be applied to hereunder procedure.

Within starter operating limits (continuous max. 1 minute), it is possible to initiate a starting procedure from a motoring procedure.

This procedure will conserve the battery by taking advantage of first Ng acceleration.

1 – Engine controls
- "MAN OVRD" control . . . . **OFF (Notched)**

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION

- Power lever . . . . **IDLE (Flight idle stop)**
- Propeller governor lever . . . . **MAX. RPM**
- Condition lever . . . . **CUT OFF**

2 – Fuel
- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

WARNING LIGHTS	AUX BP ON	ON
	FUEL PRESS	OFF

3 – "IGNITION" switch . . . . **OFF**

4 – "STARTER" switch . . . . **ON during 15 sec**

AMPLIFIED PROCEDURES

MOTORING FOLLOWED BY AN ENGINE START (2/3)

5 - After 15 seconds :
- "IGNITION" switch .... **AUTO or ON**
- Ng .... **Check at 13 % minimum**
- Condition lever .... **LO / IDLE**

6 - Monitor increase of :
- ITT .... **(max. ITT : 870°C for 20 seconds max. 1000°C for 5 seconds max.)**
- Ng
- oil pressure **WARNING LIGHT** **OIL PRESS** **OFF**

NOTE :
No action is required for the following conditions :
- *ITT from 800°C to 870°C limited to 20 seconds,*
- *ITT from 870°C to 1000°C limited to 5 seconds.*

Ng $\simeq$ 50 % stable
- "STARTER" switch .... **OFF**

WARNING LIGHTS **STARTER** / **IGNITION** **OFF**

7 - Engine instruments .... **CHECK : Ng > 52 % (Oil pressure / ITT = green sector)**

8 - Condition lever .... **HI / IDLE**

9 - Engine instruments .... **CHECK : Ng $\simeq$ 69 % (± 2 %) (Oil pressure / Oil temperature / ITT = green sector)**

AMPLIFIED PROCEDURES

MOTORING FOLLOWED BY AN ENGINE START (3/3)

10 – FUEL panel
- "AUX BP" switch .... **AUTO**

WARNING LIGHT	**AUX BP ON**	**OFF**

11 – Generator .... **WARNING LIGHT** | **MAIN GEN** | **OFF**

RESET if necessary

- Battery ammeter .... **CHARGE CHECKED**
- Battery voltage .... **CHECKED** **(V ≃ 28 Volts)**

AMPLIFIED PROCEDURES

AFTER STARTING ENGINE (1/4)

1 – GYRO INST panel
– All switches . . . . **ON**
Pull on the caging knobs when starting the ADI(s).

2 – Gyroscopic suction gage indicator . . . . **GREEN SECTOR**

WARNING LIGHT	VACUUM LO	OFF

3 – GYRO SLAVING selector . . . . **SLAVE**

4 – DE ICE SYSTEM panel
Flight into known icing conditions is authorized only when all ice protection equipment are operating correctly. This equipment may be activated before takeoff, even during taxiing, in case of icing conditions on ground. Refer to Chapter 4.5 "PARTICULAR PROCEDURES" of this Section.

– "PROP DE ICE" switch . . . . **ON**
Check illumination of the green light located above the switch

Illumination of the green light shows that power supplied to blade root electric resistors is between 8 and 10 amperes. It is advised to wait at least a whole half cycle (90 seconds) to check that both blade pairs are correctly deiced.

– "PROP DE ICE" switch . . . . **OFF**
– "L.WINDSHIELD" switch . . . . **ON**
– "R.WINDSHIELD" switch (if installed) . . . . **ON**
Check illumination of the green light located above the switch (except if hot conditions)

This light may remain OFF, if cabin temperature is very high, for example after a prolonged parking in hot conditions (see Chapter 7.13 for operational principle).

AMPLIFIED PROCEDURES

AFTER STARTING ENGINE (2/4)

- "L.WINDSHIELD" switch .... **OFF**
- "R.WINDSHIELD" switch (if installed) .... **OFF**

Increase power so as to get Ng ≥ 80% to check AIRFRAME DE ICE

Theoretically, necessary air bleed to inflate wing and empennage leading edges, as well as depression necessary to their deflation are sufficient when power lever is positioned on IDLE. However, it is advised for check to choose a Ng power ≥ 80 % in order to obtain operation design pressure, which enables illuminating surely the two green lights and avoiding "VACUUM LO" untimely alarms.

- "AIRFRAME DE ICE" switch .... **ON**
  Visually check functioning of deicer boot during 1 total cycle and illumination of the two green lights located above the switch

  The cycle lasts 67 seconds. Check both inflation impulses, and illumination of each corresponding green light :
  - the first impulse inflates the external and middle wing boots,
  - the second impulse inflates the leading edge boots of empennages and inner wing.
- "AIRFRAME DE ICE" switch .... **OFF**
- "INERT SEP" switch .... **ON**

WARNING LIGHT	**INERT SEP**	**ON**

after 30 seconds

  "INERT SEP" switch is kept on while taxiing in order to avoid ingestion of particles by the engine.

5 - "GENERATOR" selector
For these tests, "BLEED VALVE" switch must be left OFF, to unload the generator circuit.
- On "MAIN" .... **Voltage and current checked**

AMPLIFIED PROCEDURES

AFTER STARTING ENGINE (3/4)

when current ≤ 50 amps :

- on "ST-BY" .... **Voltage and current checked (reset if necessary)**

  If the indicated voltage on the "ST BY" generator is low (close to 27 volts), reset the "ST BY" generator and recheck the voltage. The indicated voltage should be in the green range.

- then again on "MAIN"

6 - Flaps .... **UP**

7 - ECS panel

Selecting the air conditioning system ON will start the blower. To avoid overloading the generator, ensure ammeter reading is less than 1000 amperes.

- "BLEED VALVE" switch .... **ON (LO or HI)**
- "CABIN FAN" switch .... **As required**

  There is no inconvenience to set "CABIN FAN" switch ON before starting engine for passenger and crew comfort, provided that voltage is > 25 volts.
- "FREON" or "AIR COND" switch (if installed) ... **As required**
- "CABIN TEMP" selector .... **ADJUST**

  Turn selector clockwise to increase temperature.
- "DEFOG / NORMAL" distributor .... **AS REQUIRED**

  Usually selected to NORMAL. However, if canopy misting is evident, select DEFOG and increase a little the cabin temperature thanks to the "CABIN TEMP" selector.

  Cabin altitude selector .... **Airfield altitude - 500 feet**

  Cabin rate selector .... **ARROW UPWARDS (at the halfway post)**

  Such a selection will limit cabin rate selector at about ± 500 ft/min. If selector is turned to the right, limited values of cabin rate selector increase.

8 - RADIO

- Radio means .... **ON - ADJUSTED**

AMPLIFIED PROCEDURES

AFTER STARTING ENGINE (4/4)

9 - Radar switch (if installed) . . . . **SBY**

10 - "EFIS MASTER" switch (if installed) . . . . **ON**
- "TEST / CMPST" button . . . . **PRESS**
- "TST / REF" button . . . . **PRESS at least 3 seconds**

Detailed control procedures of EFIS system are described in Section 9 "Supplements".

11 - "AP / TRIMS MASTER" switch . . . . **ON**
- Preflight test button . . . . **PRESS**
- "AP / TRIMS MASTER" operation . . . . **CHECK**

Detailed control procedures of autopilot and electrical pitch trim are described in Section 9 "Supplements".
- Pitch trim . . . . **UP / DN, then ADJUSTED**

  Adjust the indicator in green range (graduated from 12 to 37 % of center of gravity) facing corresponding center of gravity.
- Yaw trim . . . . **L / R, then ADJUSTED**

  Adjust the indicator in green range TO (TAKEOFF).
- Roll trim . . . . **L / R, then ADJUSTED**

  Adjust the indicator first at neutral position (horizontal marker).

AMPLIFIED PROCEDURES

TAXIING (1/2)

1 – "TAXI" light .... **ON**

2 – "INERT SEP" switch .... **CHECKED ON**

CHECK WARNING LIGHT	INERT SEP	ON

It is recommended that the inertial separator be used during all ground operations.

3 – Passenger briefing .... **AS REQUIRED**

4 – Parking brake .... **RELEASED**
Make sure that chocks are removed (if used).

WARNING LIGHT	PARK BRAKE	OFF

5 – L.H. and R.H. seat brakes .... **CHECKED**

6 – Nose wheel steering .... **CHECKED**
The control wheel will move (roll) in the same direction as the rudder pedals due to the rudder / aileron interconnect.

7 – Power lever .... **AS REQUIRED**
After initial acceleration, power lever may be in the "TAXI RANGE" sector, avoiding excessive movements in order to keep a constant ground speed.
The condition lever must be in the HI / IDLE position to keep the propeller RPM (Np) out of the caution (yellow) range while taxiing.

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AMPLIFIED PROCEDURES

TAXIING (2/2)

CAUTION

AVOID USING REVERSE DURING TAXIING

Operation in the Beta (β) range / reverse is not restricted during ground operations. However, foreign particles (dust, sand, grass, gravel, etc...) may be blown into the air, ingested by the engine (above all if "INERT SEP" switch is turned OFF) and cause damage to the propeller.

8 – Flight instruments . . . . **CHECK**
Check navigation and communication systems before or during taxiing, check gyroscopic instruments during ground turns.

9 – Advisory panel . . . . **CHECK**

AMPLIFIED PROCEDURES

BEFORE TAKEOFF (1/3)

1 – Parking brake . . . . **SET**

WARNING LIGHT	PARK BRAKE	ON

2 – Condition lever . . . . **HI / IDLE**
[Ng : 69 % (± 2 %)]

3 – Propeller governor lever . . . . **FEATHER twice, then MAX. RPM**

During this test, the power lever must be at flight idle. Keep the time spent with the propeller RPM in the caution (yellow) range at a minimum.

4 – Fuel

- Gages . . . . **CHECK (Quantity / Symmetry)**
- "FUEL SEL" switch . . . . **CHECKED AUTO**
- "AUX BP" switch . . . . **CHECKED AUTO**

5 – Flaps . . . . **TO**

6 – DE ICE SYSTEM panel

- "AIRFRAME DE ICE" switch . . . . **As required**
- "PROP DE ICE" switch . . . . **As required**

If runway is in good condition, without icing conditions :

- "INERT SEP" switch . . . . **OFF**

WARNING LIGHT	INERT SEP	OFF

Warning light goes out immediately, but it takes 30 seconds to retract the separator.

AMPLIFIED PROCEDURES

BEFORE TAKEOFF (2/3)

If there is standing water or other contamination on the runway :

- "INERT SEP" switch . . . . **Left ON**

WARNING LIGHT	**INERT SEP**	**ON**

- "L.WINDSHIELD" switch . . . . **As required**
- "R.WINDSHIELD" switch (if installed) . . . . **As required**
- "PITOT 1 HTR" switch . . . . **ON**
- "PITOT 2 & STALL HTR" switch . . . . **ON**

7 - Advisory panel . . . . **CHECK**
All warning lights OFF,

except	**PARK BRAKE**	**ON**
and, if used	**INERT SEP**	**ON**

8 - Electronic equipment /
Flight instruments / Radar . . . . **CHECK / ADJUST**
On ground, maintain radar on SBY in order not to generate radiations prejudicial to outside persons.

9 - Engine instruments . . . . **CHECK**
All engine parameters must be in green range, except propeller RPM, which will be about 1000 RPM or more with power lever at IDLE.

10 - Pilot's / Passengers' belts . . . . **CHECK**

11 - Flight controls . . . . **DEFLECTIONS CHECKED**

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AMPLIFIED PROCEDURES

BEFORE TAKEOFF (3/3)

12 – Trims
- Pitch . . . . **ADJUSTED**
- Yaw . . . . **ADJUSTED**
- Roll . . . . **ADJUSTED**

13 – Parking brake . . . . **RELEASED**

WARNING LIGHT	**PARK BRAKE**	**OFF**

14 – "STROBE" switch . . . . **ON**

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 Amperes

After starting engine with airplane power, a battery charge above 50 amperes is normal. If this indication remains steady at a high value, it may be then a battery or generation system failure. Do not take off in these conditions.

AMPLIFIED PROCEDURES

TAKEOFF (1/3)

WHEN LINED UP

CAUTION

- **IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.**
- **IF ICING CONDITIONS ARE FORESEEN, REFER TO CHAPTER 4.5, PARAGRAPH "FLIGHT INTO KNOWN ICING CONDITIONS"**

1 - Heading - HSI - Stand-by compass . . . . **CHECK**
The indication of the stand-by compass is disturbed when windshield(s) deice system(s) is (are) activated.
– Altimeter setting . . . . **CHECK**

2 - Horizon . . . . **Attitude + 2° - CHECK**
Horizon has been set so as to indicate a 2° nose up attitude, when airplane center of gravity is at a middle average.

3 - Lights
– "L.LDG / TAXI / R.LDG" . . . . **ON**

4 - Engine instruments . . . . **CHECK**
(ITT = green sector)

5 - Advisory panel . . . . **CHECK**
All warning lights OFF,
except **INERT SEP** **if used**
except **IGNITION** **if used**

AMPLIFIED PROCEDURES

TAKEOFF (2/3)

6 - Radar switch (if installed) . . . . **As required**

7 - PROP O' SPEED GOVERNOR TEST
- Increase power until propeller RPM reaches 1900 RPM
- PROP O' SPEED . . . . **TEST : Maintain engaged**
- Observe that propeller RPM decreases by 50 to 250 RPM
- PROP O' SPEED . . . . **TEST : Release**
- Check that propeller RPM increases by a minimum of 50 RPM when compared to minimum value during PROP O'SPEED test.

8 - Brakes . . . . **RELEASED**

It is not necessary to reduce power at the end of "OVERSPEED" test ; torque will be about 40 % before brake release. For a normal takeoff, maximum torque (100 %) will be applied after brake release. On short runway, maximum torque will be applied before brake release.

9 - Power lever . . . . **TRQ = 100 %**

10 - Takeoff . . . . **ROTATION : See "Takeoff distances" Chapter 5.8**
- Normal take off . . . . **ATTITUDE : 7°5**
- Short take off . . . . **ATTITUDE : 15°**

Rotation speed at takeoff, according to airplane weight, is also given in Chapter 5.8.

11 - Vertical speed indicator . . . . **POSITIVE**

12 - Brakes . . . . **APPLY (Briefly)**

AMPLIFIED PROCEDURES

TAKEOFF (3/3)

13 – Landing gear control . . . . . . (IAS < 128 KIAS) . . . . **UP**
At sequence end, check : All warning lights OFF
In practice, if preconized attitude is kept, there is no difficulty to maintain a speed < 128 KIAS until landing gear retraction is completed.

14 – Lights
– "TAXI" . . . . **OFF**
– "L.LDG / R.LDG" . . . . **AS REQUIRED**

15 – Initial climb speed . . . . **110 KIAS**

16 – Flaps . . . . **UP**

17 – Climb speed (recommended) . . . . **130 KIAS**

18 – "YAW DAMPER" push–button . . . . **ON**

INTENTIONALLY LEFT BLANK

AMPLIFIED PROCEDURES

TAKEOFF (3/3)

13 – Landing gear control . . . . . . (IAS < 128 KIAS) . . . . **UP**

During the sequence :

- The red warning light flashes ; it indicates that the landing gear motor is electrically supplied. It goes off when the 3 landing gears are locked. If the red warning light is fixed ON, there is a discrepancy (refer to EMERGENCY PROCEDURES).
- It is possible that the 3 landing gear position green indicator lights flash uncertainly then go off at the end of the sequence.

At sequence end, check : All warning lights OFF

In practice, if preconized attitude is kept, there is no difficulty to maintain a speed < 128 KIAS until landing gear retraction is completed.

14 – Lights
- "TAXI" . . . . **OFF**
- "L.LDG / R.LDG" . . . . **AS REQUIRED**

15 – Initial climb speed . . . . **110 KIAS**

16 – Flaps . . . . **UP**

17 – Climb speed (recommended) . . . . **130 KIAS**

18 – "YAW DAMPER" push-button . . . . **ON**

INTENTIONALLY LEFT BLANK

AMPLIFIED PROCEDURES

CLIMB (1/2)

1 – Power lever .... **ADJUST according to engine operation table – Chapter 5.7**

CAUTION

**OBSERVE TRQ / Ng / Np / ITT / T°
AND OIL PRESSURE LIMITATIONS.
USE OPTIMUM TORQUE
AND / OR REFER TO TABLES IN CHAPTER 5.7**

Torque setting during climb must be adjusted according to engine operation tables in Chapter 5.7. These tables give the max. climb power torque setting (MXCL). For each engine, when torque is reduced below 100 % at high altitude according to the tables, the ITT will be approximately constant during final climb, giving a particular value of ITT. For a simplified engine operation during climb, power may be set first of all by torque, using 100 %, then, when the ITT typical value for climb is reached, by indicated ITT, using this particular value. The margin between this indicated ITT and 785°C (recommended ITT limit during continuous operation) will gradually reduce as flight time is performed.

2 – Climb speed .... **AS REQUIRED**
Best climb speed is 123 KIAS. Performance tables concerning climb at 130 and 160 KIAS are given in Chapter 5.9.

⬇

AMPLIFIED PROCEDURES

CLIMB (2/2)

3 - ECS panel
- Cabin altitude selector . . . . **Cruise altitude + 1000 feet**
- Cabin rate selector . . . . **ADJUST so as to obtain a cabin climb rate of about 500 ft/min**

  It concerns the control on triple indicator of cabin rate, as well as increasing of differential pressure and cabin altitude.
- Pressurization . . . . **CHECK**
- "CABIN TEMP" selector . . . . **ADJUST**

  Anticipate setting to hot position during climb. Do not wait a fresh sensation to perform this setting. Desired temperature will be as longer to obtain as setting is made later.

4 - Fuel tank gages . . . . **CHECK / CORRECT (Quantity / Symmetry)**

Pre-MOD70-0402-28

In spite of fuel selector automatic operation, a non-negligible dissymmetry may be observed at the end of climb, for example when 10 minutes of climb have been performed on the same fuel tank. Consequently, it is recommended to select the fullest tank by pushing the "SHIFT" push-button, at the beginning of the climb. Tolerated maximum dissymmetry is 25 us gal (95 Litres).

5 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5 "PARTICULAR PROCEDURES"

> **CAUTION**
>
> **IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON**

AMPLIFIED PROCEDURES

CRUISE (1/2)

1 - Power lever .... **ADJUST according to engine operation table - Chapter 5.7**

As indicated in lower part of these tables, reducing propeller RPM is possible (without touching power lever), in order to improve sound comfort without significant performance change (speed, consumption). However, at the time of this setting, limit permitted by torque limiter may be reached. This limit is 110 % (red line on indicator) at sea level and drops to about 100 % at 30000 ft. Therefore, any propeller RPM reducing performed in altitude from a torque close to 100 % (if ITT limit permits it) will be followed by a non-negligible power (and performance) decrease owing to torque limiter.

> **CAUTION**
>
> **OBSERVE TRQ / Ng / Np / ITT / T°**
> **AND OIL PRESSURE LIMITATIONS.**
> **USE OPTIMUM TORQUE**
> **AND / OR REFER TO TABLES IN CHAPTER 5.7**

Engine operation tables (Chapter 5.7) give torque to be applied according to IOAT, in order not to exceed authorized maximum power.

When "INERT SEP" switch is OFF, a more accurate setting of power must then be performed according to cruise performance tables presented in Chapter 5.10.

2 - Pressurization .... **CHECK**

AMPLIFIED PROCEDURES

CRUISE (2/2)

3 - Fuel

- Gages .... **CHECK**

REGULARLY CHECK :

- consumption

Pre-MOD70-0402-28

- tank automatic change (every 10 minutes)

Post-MOD70-0402-28

- tank automatic change (every 5 minutes)

All

- symmetry [max. dissymmetry 25 us gal (95 Litres)]

4 - DE ICE SYSTEM .... **As required**
Refer to Chapter 4.5
"PARTICULAR PROCEDURES"

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON

AMPLIFIED PROCEDURES

DESCENT (1/2)

1 – Altimeter settings . . . . **COMPLETE**

2 – ECS panel
- Cabin altitude selector . . . . **Airfield altitude + 500 feet**
- Cabin rate selector . . . . **Adjusted**

  Set first arrow upwards. This will limit cabin rate at about – 500 ft/min.

3 – DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5
"PARTICULAR PROCEDURES"

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON

The maximum speed for changing the position of the inertial separator is 200 KIAS. Prior to descending into or through known or suspected icing conditions, select "INERT SEP" switch ON prior to accelerating beyond 200 KIAS. There are no special speed limitations with the inertial separator secured in either position.

CAUTION

USE OF CONTROL REVERSE BETA (β) RANGE (BEHIND THE FLIGHT IDLE POSITION) IS PROHIBITED DURING FLIGHT

4 – Windshield misting protection system . . . . **As required**
To avoid canopy misting in moist conditions, turn "DEFOG / NORMAL" distributor in DEFOG section, turn "CABIN TEMP" selector in hot section, and turn windshield heat ON prior to descent.

⬇

AMPLIFIED PROCEDURES

DESCENT (2/2)

5 - Fuel
- Gages . . . . **CHECK (Quantity / Symmetry)**
- Fullest tank . . . . **SELECT**

Even if dissymmetry is < 25 us gal (95 Litres), it is better at this time to choose the fullest tank.

6 - Passengers briefing . . . . **As required**

7 - Seats, belts and harnesses . . . . **LOCKED**

AMPLIFIED PROCEDURES

BEFORE LANDING (1/2)

Long final

1 – Altimeters .... **CHECK**

2 – Fuel
– Gages .... **CHECK**
(Quantity / Symmetry)
– Fullest tank .... **SELECT**
Maximum tolerated dissymmetry is 25 us gal (95 Litres).

3 – "INERT SEP" switch ...... (IAS ≤ 200 KIAS) .... **ON**

4 – Propeller lever .... **MAX RPM**

5 – Landing gear control ...... (IAS ≤ 178 KIAS) .... **DN**
– Green warning lights .... **ON**

6 – Flaps .... (IAS ≤ 178 KIAS) .... **TO**

7 – Lights
– "L.LDG / TAXI / R.LDG" .... **ON**

8 – Autopilot .... **OFF**
Autopilot must be disconnected at the latest at 200 ft above the ground or at decision height or before go–around, whichever is the highest.

9 – Radar switch (if installed) .... **SBY**

Short final

10 – Flaps .... (IAS ≤ 122 KIAS) .... **LDG**
However, when autopilot is engaged, in APR mode, with coupled GS, flaps must be extended in landing position before crossing the OUTER MARKER.

⬇

AMPLIFIED PROCEDURES

BEFORE LANDING (2/2)

11 – Approach speed (Flaps LDG) . . . . **80 KIAS**
To ensure positive and rapid engine response to throttle movement, it is recommended that a minimum of 10 % torque be maintained on final approach until landing is assured.

12 – "YAW DAMPER" push-button . . . . **OFF**
The pilot effort required to use the rudder pedals is reduced if the yaw damper is turned off. This is particularly significant when landing in a crosswind.

AMPLIFIED PROCEDURES

BEFORE LANDING (1/2)

Long final

1 – Altimeters . . . . **CHECK**

2 – Fuel
- Gages . . . . **CHECK (Quantity / Symmetry)**
- Fullest tank . . . . **SELECT**

Maximum tolerated dissymmetry is 25 us gal (95 Litres).

3 – "INERT SEP" switch . . . . . . (IAS ≤ 200 KIAS) . . . . **ON**

4 – Propeller lever . . . . **MAX RPM**

5 – Landing gear control . . . . . . (IAS ≤ 178 KIAS) . . . . **DN**

During the sequence :

- The red warning light flashes ; it indicates that the landing gear motor is electrically supplied. It goes off when the 3 landing gears are locked. If the red warning light is fixed ON, there is a discrepancy (refer to EMERGENCY PROCEDURES).
- It is possible that the 3 landing gear position green indicator lights flash uncertainly then come on at the end of the sequence, indicating that the landing gears are locked in down position.
- Green indicator lights . . . . **ON**

6 – Flaps . . . . (IAS ≤ 178 KIAS) . . . . **TO**

7 – Lights
- "L.LDG / TAXI / R.LDG" . . . . **ON**

⬇

AMPLIFIED PROCEDURES

BEFORE LANDING (2/2)

8 - Autopilot . . . . **OFF**
Autopilot must be disconnected at the latest at 200 ft above the ground or at decision height or before go-around, whichever is the highest.

9 - Radar switch (if installed) . . . . **SBY**

Short final

10 - Flaps . . . . (IAS ≤ 122 KIAS) . . . . **LDG**
However, when autopilot is engaged, in APR mode, with coupled GS, flaps must be extended in landing position before crossing the OUTER MARKER.

11 - Approach speed (Flaps LDG) . . . . **80 KIAS**
To ensure positive and rapid engine response to throttle movement, it is recommended that a minimum of 10 % torque be maintained on final approach until landing is assured.

12 - "YAW DAMPER" push-button . . . . **OFF**
The pilot effort required to use the rudder pedals is reduced if the yaw damper is turned off. This is particularly significant when landing in a crosswind.

AMPLIFIED PROCEDURES

LANDING

1 - Power lever . . . . **IDLE**
Avoid three-point landings. Adopt a positive flight attitude in order to touch runway first with main landing gear.

After wheels touch :

2 - Reverse . . . . **As required**
(Reverse may be applied as soon as the wheels touch the ground.)
To avoid ingestion of foreign objects, come out the reverse as speed reduces and use the brakes if necessary for further deceleration.
High power reverse at low speed can throw loose material into the air, and can cause control problems and decrease the comfort of crew and passengers. If permitted by the runway length, it is better to adopt a moderate reverse.

CAUTION

ON SNOWY OR DIRTY RUNWAY, IT IS BETTER NOT TO USE REVERSE

3 - Brakes . . . . **As required**
It is advised not to brake energetically, as long as speed has not reached 40 KIAS, as otherwise wheels may be locked.

AMPLIFIED PROCEDURES

GO-AROUND

1 - Simultaneously
  - Power lever . . . . **TRQ = 100 %**
  - Attitude . . . . **7°5**

  The airplane will tend to yaw to the left when power is applied. Right rudder pressure will be required to maintain coordinated straight flight until the rudder trim can be adjusted.

2 - Flaps . . . . **TO**

  If speed has been maintained at 80 KIAS or more and TRQ 100 %, select TO flaps as soon as the 8° attitude has been attained.

If the vertical speed is positive and if IAS is at or above 85 KIAS :

3 - Landing gear control . . . . **UP**
All warning lights OFF

If IAS is at or above 110 KIAS :

4 - Flaps . . . . **UP**

5 - Climb speed . . . . **AS REQUIRED**

AMPLIFIED PROCEDURES

TOUCH AND GO

After wheels touch

1 – Flaps . . . . **TO**
Check that flaps have well reached the TO position before increasing power. Do not increase power with full flaps, as airplane may lift off prematurely at low speed.

2 – Elevator trim . . . . **Green sector**
To use elevator trim manual control is faster than to use electric control. Ensure that runway length is sufficient to complete this sequence.

3 – Power lever . . . . **Display TRQ = 100 %**

4 – Takeoff . . . . **ROTATION : See "Takeoff distances" Chapter 5.8**
ATTITUDE : 7°5
However, the pilot's operating handbook does not supply distances concerning touch and go. These distances are let to pilot's initiative.

AMPLIFIED PROCEDURES

AFTER LANDING

RUNWAY CLEAR – AIRPLANE STOPPED

1 – DE ICE SYSTEM panel
- "AIRFRAME DE ICE" switch . . . . **OFF**
- "PROP DE ICE" switch . . . . **OFF**
- "INERT SEP" switch . . . . **CHECKED ON**

  It is highly recommended to use inertial separator during all ground operations.
- "L.WINDSHIELD" switch . . . . **As required**
- "R.WINDSHIELD" switch (if installed) . . . . **As required**
- "PITOT 1 HTR" switch . . . . **OFF**
- "PITOT 2 & STALL HTR" switch . . . . **OFF**

2 – Radar switch (if installed) . . . . **CHECKED SBY**
Maintain radar on SBY in order not to generate radiations prejudicial to outside persons.

3 – Transponder . . . . **SBY**

4 – Flaps . . . . **UP**

5 – Lights
- "L.LDG / R.LDG" . . . . **OFF**
- "TAXI" . . . . **ON**

6 – "STROBE" switch . . . . **OFF**

AMPLIFIED PROCEDURES

SHUT-DOWN (1/2)

1 - Parking brake . . . . **SET**

WARNING LIGHT	PARK BRAKE	ON

2 - "TAXI" light . . . . **OFF**

3 - Pressurization
- "BLEED VALVE" switch . . . . **OFF**
- Check for cabin depressurization

4 - "FAN FLOW" switch (if installed) . . . . **As required**

5 - "AIR COND" switch (if installed) . . . . **OFF**

6 - Condition lever . . . . **HI / IDLE**

7 - Power lever . . . . **IDLE for 2 minutes**
This allows the engine to stabilize at minimum obtainable ITT in order to minimize the likelihood of oil coking in the #3 bearing area.

8 - GYRO INST panel
- All switches . . . . **OFF**

9 - "EFIS MASTER" switch (if installed) . . . . **OFF**

10 - "AP / TRIMS MASTER" switch . . . . **OFF**

11 - "RADIO MASTER" switch . . . . **OFF**

12 - Propeller governor lever . . . . **FEATHER for 15 seconds**
Keep propeller governor lever on FEATHER position for 15 seconds minimum before shutting down engine.

AMPLIFIED PROCEDURES

SHUT-DOWN (2/2)

13 - Condition lever . . . . **CUT OFF**

> **CAUTION**
>
> **IN CASE OF SHUT-DOWN ON A CONTAMINATED AREA :**
>
> **- Condition lever . . . . CUT OFF**
>
> **- Propeller governor lever . . . . FEATHER**

14 - Fuel
When fuel pressure is below 10 psi (± 2 psi), check "AUX BP" pump is operating.
- "AUX BP" switch . . . . **OFF**
- "FUEL SEL" switch . . . . **MAN**
- Tank selector . . . . **OFF**

15 - "INERT SEP" switch . . . . **OFF**

16 - INT LIGHTS panel
- All switches . . . . **OFF**

17 - EXT LIGHTS panel
- All switches . . . . **OFF**

18 - "GENERATOR" selector . . . . **OFF**

19 - "SOURCE" selector . . . . **OFF**

> **CAUTION**
>
> **IN CASE OF HIGH OAT [ABOVE 35° C (95° F)], IT IS REQUIRED TO PERFORM 30 SECONDS DRY MOTORING RUN AFTER SHUT-DOWN TO IMPROVE COOLING OF THE BEARING CAVITIES AND MINIMIZE OIL COKING (REFER TO PARAGRAPH "MOTORING")**

4.5 - PARTICULAR PROCEDURES

REMARK :
The procedures and procedure elements given in this Chapter "PARTICULAR PROCEDURES" supplement the normal procedures or complete certain elements of the normal procedures described in Chapter(s) 4.3 and/or 4.4.

FLIGHT INTO KNOWN ICING CONDITIONS (1/5)

General

1 - Icing conditions exist when the IOAT on the ground or in flight is + 13°C or below, <u>and</u> visible moisture in any form is present (clouds, fog with visibility of one mile (1.6 km) or less, rain, snow, sleet or ice crystals).

2 - Icing conditions also exist when the IOAT on the ground is + 13°C or below <u>and</u> when operating on ramps, taxiways or runways where surface snow, ice, standing water or slush may be ingested by the engine or freeze on engine or cowlings.

NOTE :
Refer to Figure 5.4.1 to convert IOAT to SAT in flight.
SAT = IOAT – 2°C on the ground.

3 - Flight into known icing conditions is authorized when all airplane equipment provided for ice protection is operating correctly. This includes :
- Pneumatic deice system for inboard and outboard wing, for stabilizers and for elevator horns.
- Propeller electrical deice system.
- Electrical heating system for both pitots and for the stall warning incidence sensor.
- Windshield electrical deice system.
- Inertial separator.

Description of deice systems is presented in Chapter 7.13.

Ice accumulation thickness is monitored by the pilot on the L.H. wing leading edge.

At night, a leading edge icing inspection light located on the fuselage L.H. side, activated by the "ICE LIGHT" switch, is provided.

PARTICULAR PROCEDURES

FLIGHT INTO KNOWN ICING CONDITIONS (2/5)

Boots are automatically cycling at the optimum time to assure proper ice removal. Correct operation of the system can be checked observing the corresponding green advisory light illumination at each boot inflation impulse. If correct operation cannot be confirmed, do not enter or leave as soon as possible icing conditions.

Apply ”LEADING EDGES DEICING FAILURE” emergency procedure.

Ice protection procedures

1 - Prior to entering IMC, as a preventive :

If IOAT $\leq$ 13° C :

- ”INERT SEP” switch . . . . **ON**
- ”IGNITION” switch . . . . **ON**
- ”PROP DE ICE” switch . . . . **ON**
- “AIRFRAME DE ICE” switch . . . . **ON**
- “WINDSHIELD DE ICE” switch . . . . **ON**

2 - When operating under IMC :

- ”INERT SEP” switch . . . . **ON**
- ”IGNITION” switch . . . . **ON**
- ”PROP DE ICE” switch . . . . **ON**
- “AIRFRAME DE ICE” switch . . . . **ON**
- “WINDSHIELD DE ICE” switch . . . . **ON**

NOTE :
When IOAT is below – 25° C, avoid operations of the ”AIRFRAME DEICE SYSTEM” for a too long period because the boots could be damaged. The ”INERT SEP” switch must be left ON while the airplane remains in icing conditions.

PARTICULAR PROCEDURES

FLIGHT INTO KNOWN ICING CONDITIONS (3/5)

2 - When operating under IMC :
- All "DE ICE SYSTEM" switches . . . . **ON**
- "IGNITION" switch . . . . **ON**
- "INERT SEP" switch . . . . **ON**

CAUTION

SHOULD CONDITIONS REQUIRE IT, APPLY THESE DIRECTIVES FROM BEGINNING OF TAXI ONWARDS

CAUTION

DO NOT OPERATE THE INERTIAL SEPARATOR IF THE AIRSPEED EXCEEDS 200 KIAS. THERE IS NO SPEED LIMITATION WHEN THE INERTIAL SEPARATOR IS IN FIXED POSITION

If a high speed descent (> 200 KIAS) is anticipated into known icing conditions, position "INERT SEP" switch to ON before accelerating. This will avoid reducing speed below 200 KIAS during descent to set the inertial separator.

IF AIRPLANE LEAVES ICING CONDITIONS, MAINTAIN "INERT SEP" ON AS LONG AS ICE THICKNESS ON NON-DEICED VISIBLE PARTS EXCEEDS 15 mm (OR ½ INCH)

This will avoid ice fragments coming from propeller spinner and being ingested by engine.

INERTIAL SEPARATOR POSITION AFFECTS ENGINE PARAMETERS (PARTICULARLY TRQ AND ITT). CARE MUST BE EXERCISED WHEN OPERATING THE INERTIAL SEPARATOR OR WHEN INCREASING POWER WITH THE INERTIAL SEPARATOR ON, TO AVOID EXCEEDING ENGINE LIMITATIONS

PARTICULAR PROCEDURES

FLIGHT INTO KNOWN ICING CONDITIONS (4/5)

NOTE :
"IGNITION" switch may be left ON for a long period.
Standby compass indications are altered when windshield deicing system(s) operate(s).

3 - Procedures for holding, approach and landing in icing conditions :

- Minimum recommended speeds are :

. Flaps UP	130 KIAS
. Flaps TO	110 KIAS
. Flaps LDG	90 KIAS

- If there is ice on the unprotected surfaces of the airplane, during flight end phase, conduct holding with the flaps up. Use flaps as required for final approach and landing at minimum speeds noted above.

PARTICULAR PROCEDURES

FLIGHT INTO KNOWN ICING CONDITIONS (5/5)

Ice accumulation effects

When ice has accumulated on the unprotected surfaces of the airplane, aerodynamic characteristics may be changed.

Particularly stall speeds may increase by up to :

- Flaps UP 20 KIAS
- Flaps TO 15 KIAS
- Flaps LDG 10 KIAS

Correct operation of the aural stall warning may be altered by severe or prolonged icing.

Indeed, in case of severe or prolonged icing, an ice concretion due to refreezing around the heated stall warning may appear. Above-recommended speeds take into account, on one side, the stall speed increase due to profile shape deterioration and, on the other side, the weight increase of the iced-up airplane (taking as a basis the airplane maximum weight when not iced-up).

Rate of climb values with ice accumulation on the unprotected surfaces are to be decreased by 10 %.

Cruise speeds may be decreased by 10 %, if cruise power is not changed, or more, if cruise power setting should be decreased due to the additional inertial separator limitations (ITT limitation).

Because of the higher landing speed, landing distances will be increased. In the landing configuration, using 90 KIAS approach speed increases landing distance by 20 % - refer to Chapter 5.13 "LANDING DISTANCES".

PARTICULAR PROCEDURES

FLIGHT INTO SEVERE ICING CONDITIONS (1/2)

THE FOLLOWING WEATHER CONDITIONS MAY BE CONDUCIVE TO SEVERE IN-FLIGHT ICING :

- Visible rain at temperatures below 0°C ambient air temperature,
- Droplets that splash or splatter on impact at temperatures below 0°C ambient air temperature.

Procedures for exiting the severe icing environment

REMARK :
These procedures are applicable to all flight phases from takeoff to landing.

Monitor the ambient air temperature. While severe icing may form at temperatures as cold as – 18°C, increased vigilance is warranted at temperatures around freezing with visible moisture present. If the visual cues specified in Section 2 "Limitations" for identifying severe icing conditions are observed, accomplish the following :

1 - Immediately request priority handling from Air Traffic Control to facilitate a route or an altitude change to exit the severe icing conditions in order to avoid extended exposure to flight conditions more severe than those for which the aircraft has been certificated.

2 - Avoid abrupt and excessive maneuvering that may exacerbate control difficulties.

3 - Do not engage the autopilot.

4 - If the autopilot is engaged, hold the control wheel firmly and disengage the autopilot.

5 - If an unusual roll response or uncommanded roll control movement is observed, reduce the angle-of-attack.

PARTICULAR PROCEDURES

FLIGHT INTO SEVERE ICING CONDITIONS (2/2)

6 - Do not extend flaps when holding in icing conditions. Operation with flaps extended can result in a reduced wing angle-of-attack, with the possibility of ice forming on the upper surface further aft on the wing than normal, possibly aft of the protected area.

7 - If the flaps are extended, do not retract them until the airframe is clear of ice.

8 - Report these weather conditions to Air Traffic Control.

PARTICULAR PROCEDURES

FLIGHT UNDER HEAVY PRECIPITATIONS

1 – "IGNITION" switch . . . . **ON**
This action is intended, in highly improbable case of an engine flame-out further to an important ingestion, to ensure immediate restarting without action of the pilot.

2 – "INERT SEP" switch . . . . **ON**

UTILIZATION ON RUNWAYS COVERED WITH WATER

If takeoff or landing must be performed on a runway covered with water :

1 – "IGNITION" switch . . . . **ON**

2 – "INERT SEP" switch . . . . **ON**

UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW (1/2)

Refer if required to paragraph "UTILIZATION BY COLD WEATHER AND VERY COLD WEATHER".

Preflight inspection

1 – Remove any snow or ice from the wings, stabilizers and movable surfaces, landing gear wells and gear doors, as well as flap tracks, actuators and their fairings.

2 – Spray anti-icing fluid on the wings, stabilizers and movable surfaces (upper and lower surfaces) and in the landing gear wells, shortly before takeoff.

Taxiing

1 – "INERT SEP" switch . . . . **ON**

2 – Taxi at very slow speed (max. 5 KIAS), flaps up, brake occasionally to maintain the brake pads warm (this will prevent any subsequent locking due to freezing after takeoff).

PARTICULAR PROCEDURES

UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW (2/2)

Before takeoff

1 – If the runway is long enough, takeoff should be performed with the flaps in the up position. In that case, rotation speed must be increased by 5 KIAS.

NOTE :
Takeoff distances must be increased to take into account the flap position (+ 15 % compared to the takeoff position) and the runway condition.
The ground roll may be multiplied by 3 in some melting or not tamped snow cases.

2 – ”IGNITION” switch . . . . **ON**

3 – ”INERT SEP” switch . . . . **ON**

Takeoff

1 – Lightly lift up nose wheel during takeoff run in order to reduce the forward resistance due to snow accumulation against the wheel.

2 – After takeoff, normally retract the landing gear, then perform a complete cycle (extension / retraction) at IAS ≤ 128 KIAS.

Before landing

1 – ”IGNITION” switch . . . . **ON**

2 – ”INERT SEP” switch . . . . **ON**

Touch and Go

Prohibited

On the ramp, after landing or taxiing :

1 – Do not use the parking brake to prevent brake lock.

2 – Use chocks and / or tie-down the airplane.

PARTICULAR PROCEDURES

UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS (1/2)

Refer if required to paragraph "UTILIZATION BY COLD WEATHER AND VERY COLD WEATHER".

Preflight inspection

1 – Remove any snow or ice from the wings, stabilizers and movable surfaces, landing gear wells and gear doors, as well as flap tracks, actuators and their fairings.

2 – Spray anti-icing fluid on the wings, stabilizers and movable surfaces (upper and lower surfaces), shortly before takeoff.

Taxiing

1 – "INERT SEP" switch . . . . **ON**

2 – Taxi at very slow speed (max. 5 KIAS).
Use β area of power lever to adjust speed.
Apply very smooth variations using power lever.

3 – Steer the airplane using the rudder.
Make turns at a very low speed, engine torque tends to make the airplane turn to the left.

4 – Use brakes only at very low speed and progressively.

Before takeoff

1 – "IGNITION" switch . . . . **ON**

2 – "INERT SEP" switch . . . . **ON**

Takeoff

1 – After takeoff, normally retract the landing gear, then perform a complete cycle (extension / retraction) at IAS $\leq$ 128 KIAS.

Before landing

1 – "IGNITION" switch . . . . **ON**

2 – "INERT SEP" switch . . . . **ON**

PARTICULAR PROCEDURES

UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS (2/2)

Landing

After wheel touch

1 - Use reverse only if necessary and very progressively by monitoring the airplane behaviour.
The engine torque tends to make the airplane turn to the left.

2 - Taxi at very slow speed (max. 5 KIAS).
Use β area of power lever to adjust speed.
Apply very smooth variations using power lever.

3 - Steer the airplane using the rudder.
Make turns at a very low speed, engine torque tends to make the airplane turn to the left.

4 - Use brakes only at very low speed and progressively.

On the ramp, after landing or taxiing :

1 - Do not use the parking brake to prevent brake lock.

2 - Use chocks and / or tie-down the airplane.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (– 0° C TO – 25° C) AND VERY COLD WEATHER (– 25° C TO – 40° C) (1/10)

REMARK :
The procedures hereafter supplement the normal procedures for the airplane use when operating under temperatures between 0° C and – 40° C on ground.

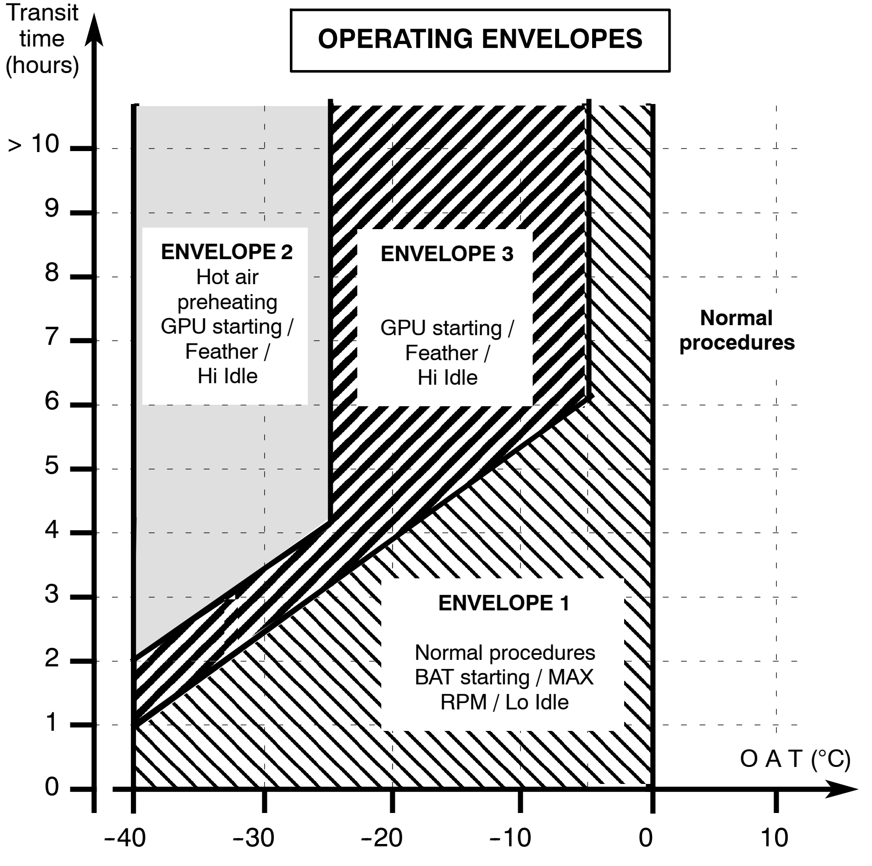

Figure 4.5.1 – OPERATING ENVELOPES BY COLD WEATHER (– 0° C to – 25° C) AND VERY COLD WEATHER (– 25° C to – 40° C)

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (2/10)

ENVELOPE 1

The procedures hereafter supplement the normal procedures for the airplane use when operating in the "envelope 1" defined in Figure 4.5.1.

Preflight inspection

1 - Remove any snow or ice from the wings, stabilizers and movable surfaces.

Apply, according to the condition of runways and taxiways, the procedures "UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW" or the procedures "UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS".

2 - Carry out a complete rotation of the propeller to check its free rotation.

3 - Do not perform a fuel draining. If the airplane is operating permanently under negative temperatures, drainings will have to be performed once a week after having parked the airplane in a heated hangar.

4 - Remove chocks and / or release ties from the airplane.

5 - Check the free deflection of the flight controls and of the elevator trim.

6 - Check the free deflection of the power lever and of the propeller governor lever.

Before starting the engine / Starting the engine / After starting the engine

Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (3/10)

Taxiing / Before takeoff / Takeoff

1 - On "DE-ICE SYSTEM" panel :
- "INERT SEP" switch . . . . **ON**

WARNING LIGHT | **INERT SEP** | **ON**

- "PITOT 1 HTR" switch . . . . **ON**
- "PITOT 2 & STALL HTR" switch . . . . **ON**
- "PROP DE-ICE" switch . . . . **ON**

2 - Apply normal procedures

3 - Apply, according to the condition of runways and taxiways, the procedures "UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW" or the procedures "UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS".

Landing / After landing

1 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

2 - Apply, according to the condition of runways and taxiways, the procedures "UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW" or the procedures "UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS".

Shut down

1 - Parking brake . . . . **RELEASED**

WARNING LIGHT | **PARK BRAKE** | **OFF**

It is recommended not to use the parking brake by cold or very cold weather, so that the brakes do not stick when cooling.

2 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

3 - Use chocks and / or tie-down the airplane using anchor points on ground.

4 - Put blanking caps and plugs on air inlets, exhaust stubs, pitots and static ports.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (4/10)

ENVELOPE 2

The procedures hereafter supplement or replace the normal procedures for the airplane use when operating in the "envelope 2" defined in Figure 4.5.1.

Preflight inspection

1 - Preheat the engine and the cabin.

Preheating the engine and the cabin during at least 30 minutes is necessary using a heater (70°C mini). Hot air pipes must be installed :
- in the air inlet,
- on engine rear table by opening the upper cowling,
- in the cabin by half-opening the upper half-door,
- in the R.H. front baggage compartment for the EFIS versions during 10 minutes at the end of the engine preheating.

2 - Remove any snow or ice from the wings, stabilizers and movable surfaces.

Apply, according to the condition of runways and taxiways, the procedures "UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW" or the procedures "UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS".

3 - Spray anti-icing fluid on the wings, stabilizers and movable surfaces (upper and lower surfaces), shortly before takeoff.

4 - Carry out a complete rotation of the propeller to check its free rotation.

5 - Do not perform a fuel draining. If the airplane is operating permanently under negative temperatures, drainings will have to be performed once a week after having parked the airplane in a heated hangar.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (– 0° C TO – 25° C) AND VERY COLD WEATHER (– 25° C TO – 40° C) (5/10)

6 – Remove chocks and / or release ties from the airplane.

7 – Check the free deflection of the flight controls and of the elevator trim.

8 – Check the free deflection of the power lever and of the propeller governor lever.

9 – "IGNITION" switch . . . . **ON during 30 seconds**

WARNING LIGHT **IGNITION** **ON**

then "IGNITION" switch . . . . **AUTO**

WARNING LIGHT **IGNITION** **OFF**

This enables to preheat spark igniters before starting the engine.

Before starting the engine

Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

Starting the engine

The starting must be mandatorily performed using an external power source (GPU).

1 – Ground power unit . . . . **CONNECTED**

2 – "SOURCE" selector . . . . **GPU**

WARNING LIGHT **GPU** **ON**

WARNING LIGHT **BAT OFF** **ON**

– Voltmeter . . . . **VOLTAGE CHECKED (U = 28 Volts)**

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (– 0° C TO – 25° C) AND VERY COLD WEATHER (– 25° C TO – 40° C) (6/10)

3 – Engine controls
- "MAN OVRD" control .... **OFF (Notched)**

> **CAUTION**
>
> **WHEN THE ENGINE IS SHUTDOWN, THE POWER LEVER MUST NOT BE MOVED BEHIND THE FLIGHT IDLE POSITION**

- Power lever .... **IDLE**
- Propeller governor lever .... **Feather**
- Condition lever .... **CUT OFF**

4 – Fuel panel
- "AUX BP" switch .... **ON**

WARNING LIGHT	**AUX BP ON**	**ON**
WARNING LIGHT	**FUEL PRESS**	**OFF**

- Fuel pressure indicator .... **Check**

5 – Propeller .... **AREA CLEAR**

6 – "ENGINE START" panel
- "IGNITION" switch .... **ON**

WARNING LIGHT	**IGNITION**	**ON**

- "STARTER" switch .... **ON**

WARNING LIGHT	**STARTER**	**FLASHING**

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (7/10)

Ng ≃ 13 %

- Condition lever . . . . **HI / IDLE**

Move directly condition lever to HI / IDLE

NOTE :
The more the temperature is low, the more the selector is hard to move.
Starter limits and checks of starting sequence are unchanged.

7 - Engine instruments . . . . **Check NG = 69 % (± 2 %)**
(Oil pressure / ITT = green sector)

8 - "SOURCE" selector . . . . **BAT**

WARNING LIGHT **BAT OFF** **OFF**

9 - "IGNITION" switch . . . . **AUTO**

WARNING LIGHT **IGNITION** **OFF**

10 - Ground power unit . . . . **HAVE IT DISCONNECTED**

WARNING LIGHT **GPU** **OFF**

11 - "FUEL" panel
- "AUX BP" switch . . . . **AUTO**

WARNING LIGHT **AUX BP ON** **OFF**

12 - Generator . . . . **WARNING LIGHT** **MAIN GEN** **OFF**

RESET if necessary

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (8/10)

After starting the engine

1 - On "ECS" panel

As soon as the current flow is lower than 100 A :

- "BLEED VALVE" switch . . . . **ON**
- "CABIN TEMP" selector . . . . **FULL HOT**

2 - Propeller governor lever

As soon as the oil temperature is greater than 0°C :

- Propeller governor lever . . . . **MAX. RPM**
- Perform 2 propeller regulations

3 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

Taxiing / Before takeoff / Takeoff

Apply procedures defined for Envelope 1.

Landing / After landing / Shut down

Apply procedures defined for Envelope 1.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (9/10)

ENVELOPE 3

The procedures defined for the "envelope 2" are also applicable for the "envelope 3". However it is possible to start the engine using GPU **without preheating of the engine and the cabin** with a heater. In that case the procedure "After starting the engine" is modified as follows :

Preflight inspection / **Before starting the engine** / **Starting the engine**

Apply the procedures defined for the Envelope 2.

After starting the engine

1 - "ECS" panel

As soon as the current flow is lower than 100 A :

- "BLEED VALVE" switch . . . . **ON**
- "CABIN TEMP" selector . . . . **FULL HOT**

Preheat the cabin respecting time defined in Figure 4.5.2 before switching on the navigation and monitoring systems. This allows to respect minimum temperatures necessary for the equipment operation.

2 - Propeller governor lever

As soon as the oil temperature is greater than 0°C :

- Propeller governor lever . . . . **MAX. RPM**
- Perform 2 propeller regulations

3 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

PARTICULAR PROCEDURES

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (10/10)

Taxiing / Before takeoff / Takeoff

Apply procedures defined for Envelope 1.

Landing / After landing / Shut down

Apply procedures defined for Envelope 1.

Complement

If landing is foreseen by cold or very cold weather, or in case of prolonged operation of the airplane in such conditions, it is recommended to prepare the airplane as specified in Chapter 8.9.

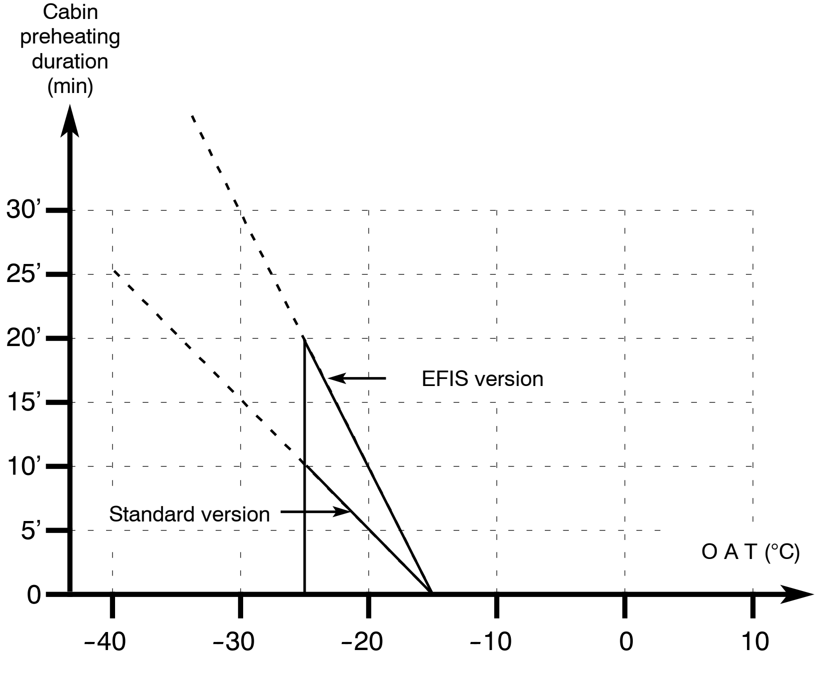

Figure 4.5.2 – PREHEATING DURATION

PARTICULAR PROCEDURES

LANDING PROCEDURE WITH STRONG HEADWIND OR CROSSWIND (1/2)

If landing must be performed with strong headwind or crosswind, increase approach speed by the greatest of these 2 following values :

- $\Delta V = \dfrac{(\text{WIND DOWN} - 10)}{2}$ (Ex. WIND DOWN = 30 kt i.e. ΔV = 10 kt)

  The wind down is the longitudinal component of the wind.

- Gust amplitude

Use flaps LDG.
It is not desirable to adopt configuration with flaps TO. Lateral control is not improved, and flare phase is lengthened in time and in distance, with increase of piloting difficulties and landing performance.

During approach with crosswind, maintain airplane in drift correction at the latest until the beginning of flare.

CAUTION

MAXIMUM TIME FOR SIDESLIP CONDITION IS 30 SECONDS.

In short final, on a short runway, it is necessary to use normal approach speed (80 KIAS) with flaps LDG, in order to avoid an excessive speed. Indeed, in this case, landing distance indicated in Chapter 5.13, would not be respected.

Before touch-down, generate a slideslip with the rudder in order to align fuselage with the runway (ie left crosswind, left wing low).

Do not use or select the fuel tank on the low wing side during prolonged sideslips with a fuel low warning or gage indicating low.

Retract flaps immediately after landing.

Flap travel is slow and will not have an appreciable effect on landing performance.

PARTICULAR PROCEDURES

LANDING PROCEDURE WITH STRONG HEADWIND OR CROSSWIND (2/2)

Do not try to stabilize the airplane by pushing down the elevator control just after the touch ; this operation may provide pitch oscillations while increasing the yaw movement to the wind.

Do not deflect ailerons into wind while taxiing. This will raise spoilers and have a detrimental effect. A good solution is to maintain ailerons to neutral position during second taxi phase after landing and during first taxi phase before takeoff.

Maximum demonstrated crosswind for landing is 20 kt.

The most restrictive situation is as follows :
- takeoff with wind coming from the left,
- wet runway,
- aft C.G.

PARTICULAR PROCEDURES

UTILIZATION ON GRASS RUNWAY

CAUTION

THE SMALL WHEELS OF THE AIRPLANE AND ITS WEIGHT MAY LEAD IT TO SINK IN SOPPY OR LOOSE GROUND

Before planning the landing, ensure that the field is hard, smooth and dry enough. Landing and, a fortiori, takeoff shall not be envisaged if any doubt exists about the condition of such a runway.

Particular directives

TAXI / TAKEOFF

1 – "INERT SEP" switch . . . . **ON**

2 – Reverse . . . . **Do not use**
In fact, on a flat runway with grass, it is necessary to adopt a power greater than the one obtained when the power lever is set to IDLE, so the pilot will not be tempted to use the reverse.

LANDING

1 – "INERT SEP" switch . . . . **ON**

After wheel touch down :

2 – Reverse . . . . **Only if necessary**

Do not maintain reverse at speeds below 40 KIAS to avoid ingestion of foreign matter.

Indeed, under this speed, using the reverse makes a cloud of solid particles (dusts, sand, gravels, trocken grass, and so on ...) appear around the front face of the airplane. This will damage the propeller and, after ingestion, the engine internal components (compressor and turbine blades).

PARTICULAR PROCEDURES

OPERATION IN RVSM CONDITIONS

After altitude capture, in altitude hold mode of the autopilot, discrepancy between desired altitude and held altitude must be adjusted using the vertical trim control in order not to exceed $\pm$ 20 ft.

In RVSM area, the transponder # 1 must be used first.

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SECTION 5

PERFORMANCE

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SECTION 5

PERFORMANCE

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5.1 - ACOUSTIC LIMITATION

	Maximum noise level permissible	Demonstrated noise level
ICAO, Annex 16, Chapter 6, Appendix 3	**80 dB(A)**	**73.3 dB(A)**
ICAO, Annex 16, Chapter 10, Appendix 6	**88 dB(A)**	**80.4 dB(A)**

TBM 700 airplane has received the noise limitation type certificate Nr N181 dated 31st January 1990 replaced by the Type Certificate Data Sheet EASA.A.010 on 14th July 2004.

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5.1 - FLYOVER NOISE LEVEL

Flyover noise level measured in accordance with 14 CFR Part 36 Appendix F : 77.4 dB (A).

NOTE :
No determination has been made by the Federal Aviation Administration that the noise levels of this airplane are or should be acceptable or unacceptable for operation at, into or out of any airport.

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5.2 - AIRSPEED CALIBRATION

NOTE :
Indicated airspeeds (IAS) : instrument error supposed to be null (power configuration for cruise condition flight).

FLAPS UP LDG GR UP		FLAPS TO LDG GR DN		FLAPS LDG LDG GR DN	
KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
125	127	70	69	60	58
150	152	80	80	70	68
175	177	90	90	80	78
200	205	100	101	90	88
225	228	120	121	100	98
250	253	140	141	110	108
266	271	160	162	120	118
MPH IAS	MPH CAS	MPH IAS	MPH CAS	MPH IAS	MPH CAS
144	146	81	79	69	67
173	175	92	92	81	78
201	204	104	104	92	90
230	233	115	116	104	101
259	262	138	139	115	113
288	292	161	162	127	124
307	311	184	187	138	136

Figure 5.2.1 - NORMAL STATIC SOURCE

FLAPS UP LDG GR UP		FLAPS TO LDG GR DN		FLAPS LDG LDG GR DN	
KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
125	124	70	70	60	59
150	149	80	80	70	69
175	174	90	90	80	79
200	199	100	100	90	90
225	224	120	120	100	100
250	249	140	139	110	110
271	270	160	159	120	120
MPH IAS	MPH CAS	MPH IAS	MPH CAS	MPH IAS	MPH CAS
144	142	81	81	69	68
173	171	92	92	81	79
201	200	104	104	92	91
230	229	115	115	104	104
259	258	138	138	115	115
288	287	161	160	127	127
312	311	184	183	138	138

Figure 5.2.2 – ALTERNATE STATIC SOURCE (BLEED LO)

5.3 - CABIN PRESSURIZATION ENVELOPE

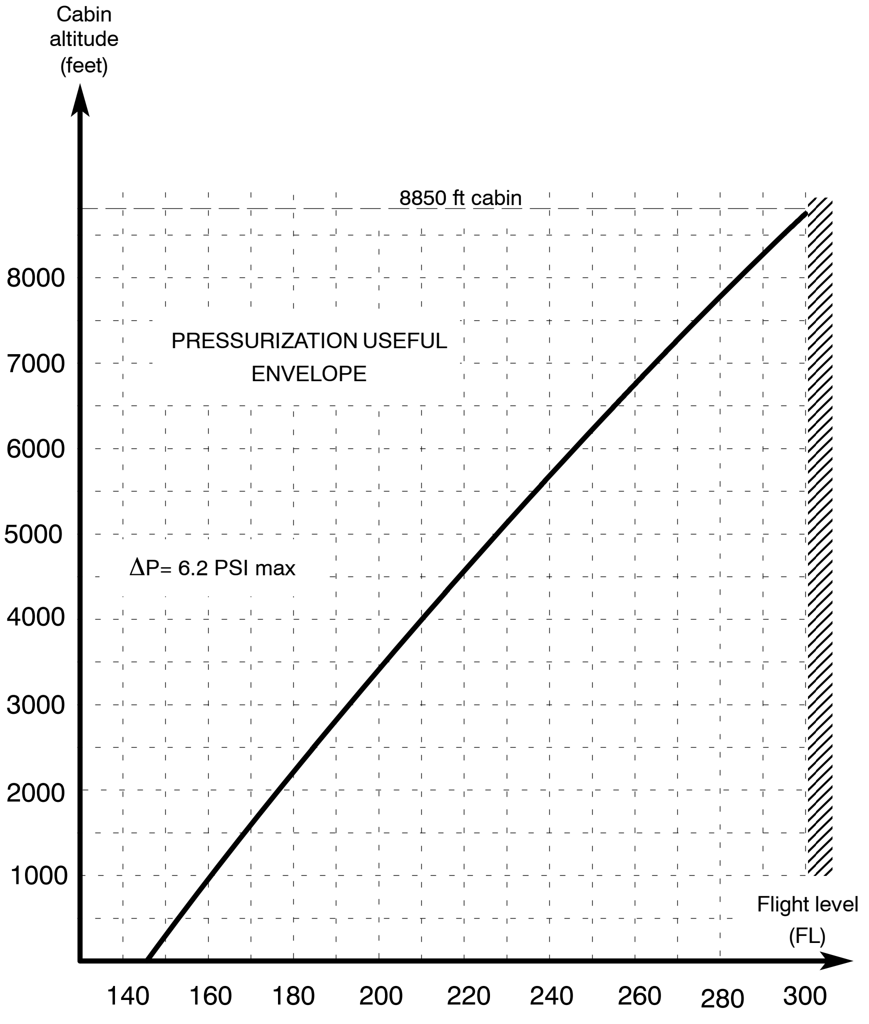

Figure 5.3.1 - CABIN PRESSURIZATION ENVELOPE

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5.4 - SAT - IOAT CONVERSIONS

NOTE :
These indicated temperatures are available for stabilized cruise at normal operating power.

Pressure altitude (feet)	ISA - 20°C		ISA - 10°C		ISA		ISA + 10°C		ISA + 20°C	
	SAT	IOAT	SAT	IOAT	SAT	IOAT	SAT	IOAT	SAT	IOAT
SL	- 05	02	05	12	15	22	25	32	35	42
2000	- 09	- 02	01	08	11	18	21	28	31	38
4000	- 13	- 06	- 03	04	07	14	17	25	27	35
6000	- 17	- 10	- 07	00	03	11	13	21	23	31
8000	- 21	- 13	- 11	- 03	- 01	07	09	17	19	27
10000	- 25	- 17	- 15	- 07	- 05	03	05	13	15	23
12000	- 29	- 21	- 19	- 11	- 09	- 01	01	10	11	20
14000	- 33	- 25	- 23	- 14	- 13	- 04	- 03	06	07	16
16000	- 37	- 28	- 27	- 18	- 17	- 08	- 07	02	03	12
18000	- 41	- 32	- 31	- 22	- 21	- 12	- 11	- 01	- 01	08
20000	- 45	- 36	- 35	- 26	- 25	- 15	- 15	- 05	- 05	04
22000	- 48	- 39	- 38	- 29	- 28	- 19	- 18	- 09	- 08	00
24000	- 52	- 43	- 42	- 33	- 32	- 23	- 22	- 13	- 12	- 04
26000	- 56	- 47	- 46	- 36	- 36	- 27	- 26	- 17	- 16	- 08
28000	- 60	- 50	- 50	- 40	- 40	- 31	- 30	- 21	- 20	- 12
30000	- 64	- 54	- 54	- 45	- 44	- 35	- 34	- 26	- 24	- 16

Figure 5.4.1 - SAT - IOAT CONVERSIONS

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5.5 - STALL SPEEDS

AIRPLANE WEIGHT	CONFIG.		BANK											
	FLIGHT IDLE		0°			30°			45°			60°		
	LDG GR	Flaps	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS
4850 lbs (2200 kg)	UP	UP	65	66	75	70	71	81	78	79	90	91	93	105
	DN	TO	62	63	71	67	68	77	73	75	84	87	89	100
	DN	LDG	53	53	61	57	57	66	63	63	73	75	75	86
5512 lbs (2500 kg)	UP	UP	70	71	81	75	76	86	82	84	94	98	100	113
	DN	TO	66	67	76	71	72	82	78	80	90	93	95	107
	DN	LDG	57	57	66	61	61	70	68	68	78	81	81	93
6579 lbs (2984 kg)	UP	UP	75	76	86	80	82	92	88	90	101	105	107	121
	DN	TO	71	72	82	75	77	86	84	86	97	100	102	115
	DN	LDG	61	61	70	66	66	76	73	73	84	86	86	99

Figure 5.5.1 - STALL SPEEDS

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5.6 - WIND COMPONENTS

EXAMPLE :	Angle between wind direction and flight path	:	50 °
	Headwind	:	8 kts
	Crosswind	:	10 kts
	Wind speed	:	13 kts

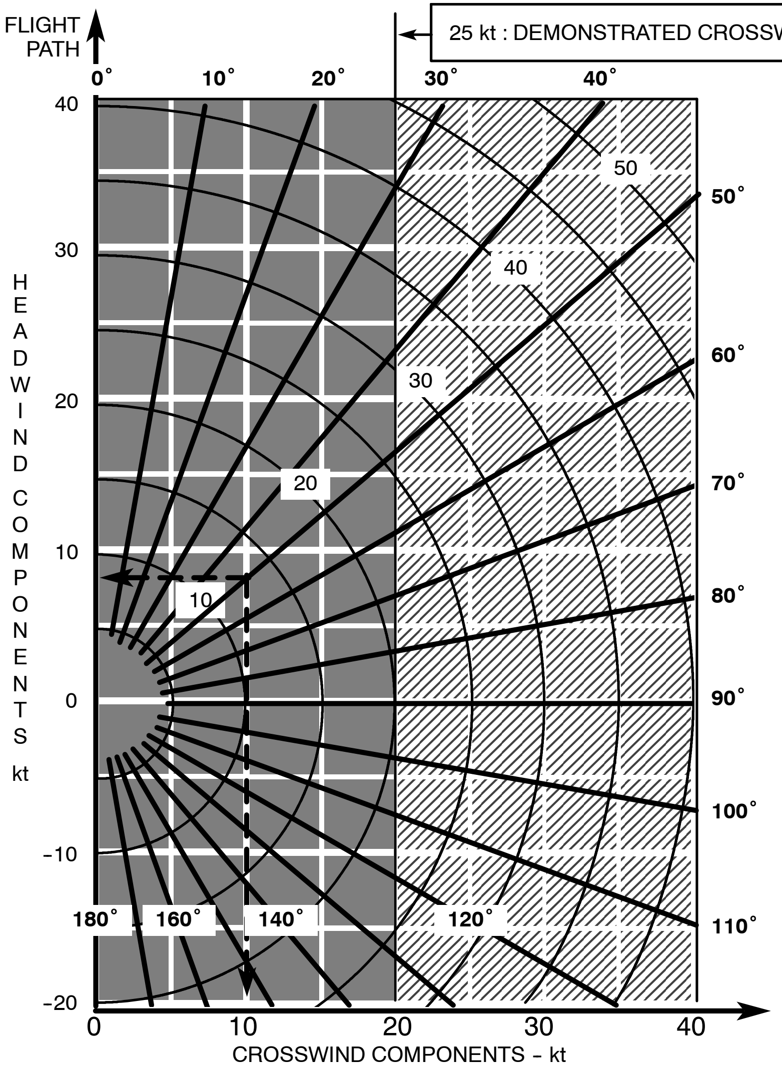

Figure 5.6.1 - WIND COMPONENTS

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5.7 - ENGINE OPERATION

The following tables must be used during normal operation of the airplane.

The following conditions are given :

- Np = 2000 RPM,
- BLEED LO.

The torque must be set at or below the value corresponding to the local conditions of flight level and temperature.

Example : for FL = 260 and IOAT = – 25°C, the following tables give the maximum torque to be set.

Maximum climb power : TRQ = 84 % for IAS = 130 KIAS
(Add 1 % of TRQ for each additional 15 KIAS on climb airspeed)
(cf. tables Figures 5.7.1A and 5.7.1B)

Maximum cruise power : TRQ = 98 %
(cf. tables Figures 5.7.2A and 5.7.2B)

Recommended cruise power : TRQ = 92 %
(cf. tables Figures 5.7.3A and 5.7.3B)

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 % FOR NP = 2000 RPM

REMARK :
The engine ITT limit at 800°C during continuous operation may be used in case of operational need. However, in order to ensure a good engine aging, an ITT limit at 785°C is recommended during continuous operation (climb and cruise).

ENGINE OPERATION

Conditions : ***Maximum climb power (FL ≤ 200)*** ☐ ISA
Landing gear and flaps UP
IAS = 130 KIAS - Np = 2000 RPM - BLEED LO

NOTE :
Add 1 % of TRQ for each additional 10 KCAS on climb airspeed

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	100	110	120	130	140	150	160	170	180	190	200
- 25	- 19											
- 23	- 17											
- 21	- 15											
- 19	- 13			**TRQ = 100 %**								100
- 17	- 11											99
- 15	- 09											97
- 13	- 07										100	95
- 11	- 05										98	93
- 09	- 03									100	96	91
- 07	- 01									99	94	89
- 05	+ 01								100	97	92	87
- 03	+ 03								99	95	90	85
- 01	+ 05								97	93	87	82
+ 01	+ 07							100	95	90	85	80
+ 03	+ 09							98	93	88	82	78
+ 05	+ 11						100	95	91	86	80	75
+ 07	+ 13						98	93	88	83	78	72
+ 09	+ 15					100	95	90	86	81	74	69
+ 11	+ 17				100	97	93	88	83	78	71	66
+ 13	+ 19				99	95	90	85	80	74	69	
+ 15	+ 21			100	97	92	88	82	77	71		
+ 17	+ 23			99	94	90	84	79	67			
+ 19	+ 25		100	96	92	86	81	67				
+ 21	+ 27		98	94	88	83	68					
+ 23	+ 29	100	96	90	76	67						
+ 25	+ 31	97	84	76	67							
+ 27	+ 33	84	75	67								
+ 29	+ 35	74	68									
+ 31	+ 37	69										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.1A - ENGINE OPERATION
[Maximum climb power (FL ≤ 200)]

ENGINE OPERATION

Conditions : ***Maximum climb power (FL ≥ 200)*** ☐ ISA
Landing gear and flaps UP
IAS = 130 KIAS – Np = 2000 RPM – BLEED LO

NOTE :
Add 1 % of TRQ for each additional 10 KCAS on climb airspeed

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	200	210	220	230	240	250	260	270	280	290	300
– 65	– 58										100	94
– 63	– 56										97	92
– 61	– 54									100	95	90
– 59	– 52									99	93	88
– 57	– 50									97	91	85
– 55	– 48		**TRQ = 100 %**						100	94	89	84
– 53	– 46								98	92	87	82
– 51	– 44							100	95	90	85	80
– 49	– 42							99	93	88	83	79
– 47	– 40							97	92	87	82	77
– 45	– 38						100	95	90	85	80	76
– 43	– 36						98	93	88	83	79	75
– 41	– 34						97	92	87	82	78	73
– 39	– 32					100	95	90	85	81	76	72
– 37	– 30					98	94	89	84	79	74	70
– 35	– 28					97	92	87	82	77	73	68
– 33	– 26				100	95	91	86	81	76	71	66
– 31	– 25				99	94	89	84	79	74	69	65
– 29	– 23				97	92	87	82	77	72	68	63
– 27	– 21			100	95	90	85	80	75	70	66	61
– 25	– 19			98	93	88	83	78	73	69	64	59
– 23	– 17		100	95	91	86	81	76	71	67	62	58
– 21	– 15		98	94	89	84	79	74	70	65	60	57
– 19	– 13	100	96	92	87	82	77	73	68	63	59	55
– 17	– 11	99	94	90	85	80	75	71	66	61	57	53
– 15	– 09	97	92	88	83	78	74	69	64	59	55	
– 13	– 07	95	90	86	81	76	72	67	62	57	53	
– 11	– 05	93	88	84	79	74	70	65	60	55		
– 09	– 03	91	86	82	77	72	68	63	58	53		
– 07	– 01	89	84	80	75	70	65	60	56			
– 05	+ 01	87	82	77	73	68	63	58	54			
– 03	+ 03	85	80	75	70	66	60	55				
– 01	+ 05	82	78	73	68	63	57	53				
+ 01	+ 07	80	75	70	65	60	55					
+ 03	+ 09	78	73	67	62	57						
+ 05	+ 11	75	70	65	59							
+ 07	+ 13	72	67	62								
+ 09	+ 15	69	64									
+ 11	+ 17	66										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.1B – ENGINE OPERATION
[Maximum climb power (FL ≥ 200)]

ENGINE OPERATION

Conditions : ***Maximum cruise power (FL ≤ 200)*** ☐ ISA
Landing gear and flaps UP
Np = 2000 RPM – BLEED LO

NOTE :
Use preferably recommended cruise power

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	100	110	120	130	140	150	160	170	180	190	200
– 25	– 15											
– 23	– 13											
– 21	– 11											
– 19	– 09		**TRQ = 100 %**									
– 17	– 07											
– 15	– 05											
– 13	– 03											
– 11	– 02											
– 09	00											100
– 07	+ 02											99
– 05	+ 04											97
– 03	+ 06										100	95
– 01	+ 08										98	93
+ 01	+ 10									100	95	91
+ 03	+ 12									98	93	88
+ 05	+ 14								100	96	91	85
+ 07	+ 16								98	93	88	82
+ 09	+ 18							100	96	91	84	78
+ 11	+ 20							98	93	87	81	75
+ 13	+ 22							97	91	85	79	
+ 15	+ 24						100	93	87	82		
+ 17	+ 26					100	96	90	84			
+ 19	+ 28					98	92	86				
+ 21	+ 29				100	95	89					
+ 23	+ 31			100	97	84						
+ 25	+ 33		100	92	84							
+ 27	+ 35	100	92	83								
+ 29	+ 37	91	83									
+ 31	+ 39	82										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.2A – ENGINE OPERATION
[Maximum cruise power (FL ≤ 200)]

ENGINE OPERATION

Conditions : ***Maximum cruise power (FL ≥ 200)*** ☐ ISA
Landing gear and flaps UP
Np = 2000 RPM – BLEED LO

NOTE :
Use preferably recommended cruise power

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	200	210	220	230	240	250	260	270	280	290	300
– 65	– 54											
– 63	– 52											
– 61	– 50											100
– 59	– 48											98
– 57	– 46										100	96
– 55	– 44				**TRQ = 100 %**						98	94
– 53	– 42										97	92
– 51	– 40									100	95	90
– 49	– 38									98	93	88
– 47	– 36									97	91	86
– 45	– 34								100	95	89	84
– 43	– 32								99	93	88	82
– 41	– 30								97	91	86	80
– 39	– 28							100	95	90	84	79
– 37	– 26							99	93	88	82	77
– 35	– 24							97	91	86	81	75
– 33	– 22						100	95	89	84	79	73
– 31	– 20						98	93	88	82	77	71
– 29	– 19						96	91	86	80	75	69
– 27	– 17					100	94	89	84	78	73	67
– 25	– 15					98	92	87	82	76	71	66
– 23	– 13				100	96	90	85	80	74	69	64
– 21	– 11				98	94	88	83	78	72	67	62
– 19	– 09				97	92	86	81	76	70	65	61
– 17	– 07			100	95	90	84	79	74	68	63	59
– 15	– 05			98	93	88	82	77	72	66	61	57
– 13	– 03		100	96	91	86	80	74	69	64	59	55
– 11	– 02		98	94	88	84	78	72	67	62	57	53
– 09	00	100	96	92	86	81	75	70	65	59	54	51
– 07	+ 02	99	94	89	84	79	73	67	62	56	52	
– 05	+ 04	97	92	87	81	77	71	65	59	54		
– 03	+ 06	95	90	85	79	74	68	62	56			
– 01	+ 08	93	87	82	76	71	65	60				
+ 01	+ 10	91	85	80	73	69	62					
+ 03	+ 12	88	82	77	71	66						
+ 05	+ 14	85	79	74	68							
+ 07	+ 16	82	76	72								
+ 09	+ 18	78	73									
+ 11	+ 20	75										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.2B – ENGINE OPERATION
[Maximum cruise power (FL ≥ 200)]

ENGINE OPERATION

Conditions : ***Normal (recommended) cruise power (FL ≤ 200)*** ☐ ISA
Landing gear and flaps UP
Np = 2000 RPM – BLEED LO

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	100	110	120	130	140	150	160	170	180	190	200
– 25	– 15											
– 23	– 13											
– 21	– 11											
– 19	– 09		**TRQ = 100 %**									
– 17	– 07											
– 15	– 05											100
– 13	– 03											98
– 11	– 02											96
– 09	00										100	94
– 07	+ 02										98	92
– 05	+ 04									100	96	90
– 03	+ 06									99	93	87
– 01	+ 08								100	96	91	85
+ 01	+ 10								98	93	88	82
+ 03	+ 12							100	95	90	85	79
+ 05	+ 14							98	93	88	83	76
+ 07	+ 16						100	95	90	85	81	74
+ 09	+ 18						98	93	88	83	78	71
+ 11	+ 20					100	95	90	86	80	74	67
+ 13	+ 22					98	93	88	82	76	62	
+ 15	+ 24				100	95	91	85	72	63		
+ 17	+ 26			100	97	93	84	72	63			
+ 19	+ 28		100	99	95	81	72	64				
+ 21	+ 29	100	94	88	80	72	64					
+ 23	+ 31	93	88	80	72	65						
+ 25	+ 33	87	79	71	66							
+ 27	+ 35	79	73	67								
+ 29	+ 37	74	69									
+ 31	+ 39	70										

CAUTION

THE TRQ MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.3A – ENGINE OPERATION
[Normal (recommended) cruise power (FL ≤ 200)]

ENGINE OPERATION

Conditions : ***Normal (recommended) cruise power (FL ≥ 200)*** ISA
Landing gear and flaps UP
Np = 2000 RPM – BLEED LO

T° (°C)		FLIGHT LEVEL (FL)										
SAT	IOAT	200	210	220	230	240	250	260	270	280	290	300
– 65	– 54											100
– 63	– 52											98
– 61	– 50										100	95
– 59	– 48										98	93
– 57	– 46										96	90
– 55	– 44									100	94	88
– 53	– 42									98	92	86
– 51	– 41								100	96	90	84
– 49	– 39								99	94	88	82
– 47	– 37								97	92	86	80
– 45	– 35							100	95	90	85	78
– 43	– 33							99	94	88	83	76
– 41	– 31		**TRQ = 100 %**					97	92	86	81	75
– 39	– 29						100	95	90	84	79	74
– 37	– 27						98	94	87	82	77	72
– 35	– 25						97	92	85	80	75	69
– 33	– 23					100	95	90	83	78	73	67
– 31	– 21					98	93	88	81	76	71	66
– 29	– 19				100	96	91	86	79	74	69	64
– 27	– 17				98	94	89	83	77	72	67	62
– 25	– 15				96	92	87	81	75	70	65	60
– 23	– 13			100	94	90	85	79	73	68	63	58
– 21	– 12			98	92	87	83	76	71	66	61	57
– 19	– 10		100	96	90	85	80	74	69	64	59	55
– 17	– 08		98	93	88	83	78	72	67	62	58	53
– 15	– 06	100	96	91	86	81	76	70	65	60	56	51
– 13	– 04	98	94	89	83	78	73	67	63	58	54	50
– 11	– 02	96	92	87	81	76	71	65	60	56	52	48
– 09	00	94	89	84	78	74	69	63	58	54	50	46
– 07	+ 02	92	87	82	76	71	66	60	56	52	48	
– 05	+ 04	90	84	79	74	68	64	58	54	50		
– 03	+ 06	87	82	77	71	66	61	56	52			
– 01	+ 08	85	79	74	68	63	58	53				
+ 01	+ 10	82	77	72	66	60	55					
+ 03	+ 12	79	74	69	63	58						
+ 05	+ 14	76	71	67	60							
+ 07	+ 16	74	68	64								
+ 09	+ 18	71	65									
+ 11	+ 20	67										

CAUTION

THE TRQ MUST NEVER EXCEED 100 % FOR Np = 2000 RPM

Figure 5.7.3B – ENGINE OPERATION
[Normal (recommended) cruise power (FL ≥ 200)]

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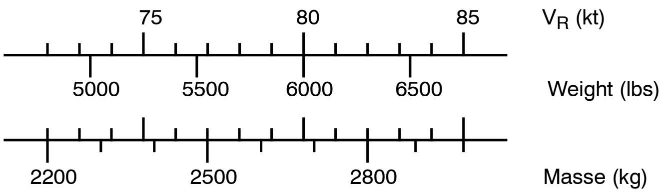
5.8 - TAKEOFF DISTANCES

WEIGHT : 5512 lbs (2500 kg)

Associated conditions :
- Landing gear DN and flaps TO
- 15° of attitude - TRQ = 100 %
- Np = 2000 RPM - BLEED LO
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 5512 lbs (2500 kg) At 50 ft = 91 KIAS - 105 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	787	1280	886	1411	951	1493	1017	1591
2000	886	1411	984	1558	1066	1657	1132	1772
4000	984	1558	1099	1722	1181	1837	1280	1968
6000	1099	1722	1230	1903	1329	2051	1444	2215
8000	1230	1903	1394	2149	1526	2329	1657	2510
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1083	1690	1148	1788	1214	1903	1247	1969
2000	1214	1870	1296	1985	1378	2133	1444	2231
4000	1363	2100	1476	2247	1575	2411	1640	2526
6000	1575	2379	1690	2559	1837	2756	1919	2887
8000	1804	2707	1968	2920	2100	3133	2198	3281

Figure 5.8.1 - TAKEOFF DISTANCES - 5512 lbs (2500 kg)

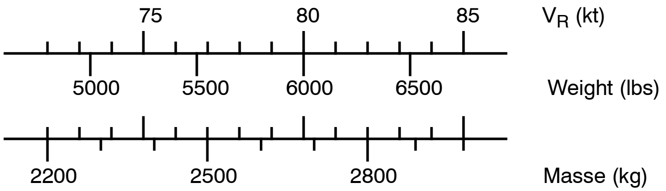
Corrections :
. Reduce total distances of 10 % every 10 kts of headwind
. Increase total distances of 30 % every 10 kts of tail-wind
. Increase by : 7 % on hard sod; 10 % on short grass; 15 % on wet runway; 25 % on high grass; 30 % on slippery runway

NOTE :
Between ISA + 30°C and ISA + 37°C, it may be necessary to cut-off the Bleed in order to set TRQ = 100 % during takeoff while respecting the engine limitations. In this case, reduce power after takeoff to set the Bleed ON.

TAKEOFF DISTANCES

WEIGHT : 6579 lbs (2984 kg)

Associated conditions :
- Landing gear DN and flaps TO
- 15° of attitude – TRQ = 100 %
- Np = 2000 RPM – BLEED LO
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 6579 lbs (2984 kg)	**At 50 ft = 94 KIAS - 108 MPH IAS**							
PRESSURE ALTITUDE ft	ISA – 35°C		ISA – 20°C		ISA – 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1083	1673	1214	1870	1280	2001	1378	2133
2000	1214	1870	1345	2067	1444	2198	1542	2362
4000	1345	2067	1509	2297	1640	2461	1739	2625
6000	1509	2297	1706	2559	1837	2723	1968	2920
8000	1706	2559	1903	2854	2067	3051	2231	3281
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1476	2264	1575	2395	1690	2559	1755	2657
2000	1673	2493	1772	2657	1903	2854	1969	2953
4000	1870	2789	2001	2953	2149	3182	2231	3314
6000	2100	3117	2297	3346	2461	3609	2543	3740
8000	2428	3543	2657	3839	2854	4134	2969	4298

Figure 5.8.2 – TAKEOFF DISTANCES – 6579 lbs (2984 kg)

Corrections :
- Reduce total distances of 10 % every 10 kts of headwind
- Increase total distances of 30 % every 10 kts of tail–wind
- Increase by : 7 % on hard sod; 10 % on short grass; 15 % on wet runway; 25 % on high grass; 30 % on slippery runway

NOTE :
Between ISA + 30°C and ISA + 37°C, it may be necessary to cut–off the Bleed in order to set TRQ = 100 % during takeoff while respecting the engine limitations. In this case, reduce power after takeoff to set the Bleed ON.

5.9 - CLIMB PERFORMANCE

CLIMB SPEEDS (IAS = 130 KIAS)

Conditions : Maximum climb power
Landing gear and flaps UP
IAS = 130 KIAS - BLEED LO

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
4850 lbs (2200 kg)	SL	3060	2920	2800	2690	2590	2480
	2000	3030	2890	2770	2660	2550	2455
	4000	3000	2860	2740	2630	2520	2415
	6000	2970	2830	2700	2590	2480	2380
	8000	2930	2800	2660	2550	2440	2340
5512 lbs (2500 kg)	SL	2600	2485	2380	2285	2190	2105
	2000	2570	2455	2350	2250	2160	2080
	4000	2540	2425	2320	2220	2130	2045
	6000	2510	2395	2290	2185	2090	2010
	8000	2480	2350	2250	2150	2035	1975
6579 lbs (2984 kg)	SL	2050	1955	1875	1795	1720	1640
	2000	2025	1925	1840	1765	1690	1620
	4000	1995	1900	1815	1735	1660	1585
	6000	1970	1870	1780	1700	1625	1555
	8000	1935	1840	1745	1665	1590	1520

Figure 5.9.1 - CLIMB SPEEDS (IAS = 130 KIAS)

CLIMB PERFORMANCE

CLIMB SPEEDS (IAS = 160 KIAS)

Conditions : Maximum climb power
Landing gear and flaps UP
IAS = 160 KIAS – BLEED LO

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA – 20°C	ISA – 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
4850 lbs (2200 kg)	SL	2680	2560	2440	2330	2220	2120
	2000	2640	2500	2390	2280	2180	2080
	4000	2590	2460	2340	2230	2130	2030
	6000	2550	2420	2290	2180	2080	1980
	8000	2500	2360	2240	2130	2030	1925
5512 lbs (2500 kg)	SL	2290	2180	2000	1980	1890	1805
	2000	2250	2135	2030	1940	1850	1765
	4000	2200	2090	1990	1895	1805	1725
	6000	2150	2050	1945	1845	1760	1680
	8000	2110	2000	1895	1795	1730	1625
6579 lbs (2984 kg)	SL	1820	1730	1650	1570	1490	1415
	2000	1780	1690	1600	1530	1460	1380
	4000	1740	1650	1560	1490	1410	1345
	6000	1700	1610	1520	1450	1370	1305
	8000	1660	1570	1480	1400	1330	1255

Figure 5.9.2 – CLIMB SPEEDS (IAS = 160 KIAS)

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 130 KIAS)

Conditions : ***ISA - 20°C***
Maximum climb power
Landing gear and flaps UP
IAS = 130 KIAS – 2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. us gal	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. us gal	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. us gal	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00.45	4	3	1.1	1	00.45	4	3	1.1	2	01.00	5	4	1.3	2
4000	01.30	6	5	1.6	3	01.30	8	6	2.1	3	02.00	10	8	2.6	4
6000	02.00	10	7	2.6	4	02.15	11	9	2.9	5	03.00	14	11	3.7	6
8000	02.45	12	10	3.2	6	03.00	15	12	4.0	7	04.00	19	15	5	9
10000	03.15	15	12	4.0	7	04.00	18	14	4.8	9	05.00	23	18	6	11
12000	04.00	18	14	4.8	9	04.45	21	17	5.5	11	06.00	27	22	7.1	14
14000	04.45	21	17	5.5	11	05.30	25	19	6.6	13	07.15	32	25	8.5	16
16000	05.30	24	19	6.3	13	06.30	28	22	7.4	15	08.15	36	28	9.5	19
18000	06.00	27	21	7.1	15	07.15	31	25	8.2	17	09.30	40	32	10.6	22
20000	07.00	29	23	7.7	17	08.00	35	27	9.2	20	10.30	44	35	11.6	25
22000	07.45	32	25	8.5	19	09.00	38	30	10.0	22	11.45	49	38	12.9	29
24000	08.30	35	27	9.3	21	10.00	41	32	10.8	25	13.00	53	42	14	32
26000	09.15	37	29	9.8	23	11.00	44	35	11.6	28	14.00	57	45	15.1	36
28000	10.00	40	32	10.6	26	12.00	48	37	12.7	31	15.30	62	49	16.4	40
30000	11.00	43	34	11.4	28	13.00	51	40	13.5	34	16.45	67	52	17.7	45

Figure 5.9.3 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 130 KIAS) / ISA – 20°C

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 130 KIAS)

Conditions : ***ISA***
Maximum climb power
Landing gear and flaps UP
IAS = 130 KIAS – 2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00.45	4	3	1.1	2	00.45	4	3	1.1	2	01.00	5	4	1.3	2
4000	01.30	7	6	1.8	3	01.45	8	7	2.1	4	02.15	11	9	2.9	5
6000	02.15	11	8	2.9	5	02.30	12	10	3.2	6	03.15	16	13	4.2	7
8000	03.00	14	11	3.7	7	03.30	16	13	4.2	8	04.30	21	17	5.5	10
10000	03.45	17	14	4.5	8	04.15	20	16	5.3	10	05.30	26	20	6.9	13
12000	04.30	20	16	5.3	10	05.15	24	19	6.3	12	06.45	31	24	8.2	16
14000	05.00	24	19	6.3	12	06.15	28	22	7.4	15	08.00	36	28	9.5	19
16000	06.00	27	21	7.1	14	07.00	32	25	8.5	17	09.00	41	32	10.8	22
18000	06.45	30	23	7.9	17	08.00	35	28	9.2	20	10.30	46	36	12.2	26
20000	07.30	33	26	8.7	19	09.00	39	31	10.3	23	11.45	50	40	13.2	29
22000	08.30	36	28	9.5	21	10.00	43	34	11.4	26	13.00	55	43	14.5	33
24000	09.15	39	31	10.3	24	11.00	47	37	12.4	29	14.30	60	47	15.9	38
26000	10.15	43	33	11.4	27	12.15	51	40	13.5	33	16.00	66	52	17.4	43
28000	11.30	46	36	12.1	31	13.45	55	43	14.5	37	18.00	72	57	19	49
30000	12.45	50	39	13.2	36	15.30	60	47	15.9	43	20.30	79	62	20.9	58

Figure 5.9.4 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 130 KIAS) / ISA

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 130 KIAS)

Conditions : ***ISA + 20°C***
Maximum climb power
Landing gear and flaps UP
IAS = 130 KIAS – 2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00.45	4	3	1.0	2	01.00	5	4	1.3	2	01.15	6	5	1.6	3
4000	01.30	8	6	2.1	4	01.45	9	7	2.4	4	02.15	12	10	3.2	5
6000	02.15	12	9	3.2	5	02.45	14	11	3.7	6	03.30	18	14	4.8	8
8000	03.00	16	12	4.2	7	03.45	18	14	4.8	9	04.45	24	19	6.3	11
10000	04.00	19	15	5.0	9	04.45	23	18	6.1	11	06.00	29	23	7.7	15
12000	05.00	23	18	6.1	12	05.45	27	21	7.1	14	07.30	35	27	9.2	18
14000	05.45	26	21	6.9	14	06.45	31	24	8.2	17	08.45	40	32	10.6	22
16000	06.30	30	23	7.9	16	07.45	35	28	9.2	19	10.00	46	36	12.2	25
18000	07.30	34	26	9.0	19	08.45	40	31	10.6	23	11.30	52	40	13.7	30
20000	08.30	37	29	9.8	22	10.00	44	35	11.6	27	13.15	58	45	15.3	35
22000	09.45	41	32	10.8	26	11.30	49	39	12.9	31	15.15	64	50	16.9	41
24000	11.00	45	36	11.9	30	13.00	54	43	14.3	36	17.30	72	56	19	48
26000	12.30	50	39	13.2	35	15.00	60	47	15.9	43	20.30	80	63	21.1	58
28000	14.30	55	43	14.5	42	17.30	67	52	17.7	51	24.30	91	72	24	72
30000	17.00	62	48	16.4	51	21.00	75	59	19.8	63	30.30	107	84	28.3	94

Figure 5.9.5 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 130 KIAS) / ISA + 20°C

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 160 KIAS)

Conditions : ***ISA - 20°C***
Maximum climb power
Landing gear and flaps UP
IAS = 160 KIAS up to 20000 ft ; – 4 KIAS / 2000 ft then
2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00.45	4	3	1.1	2	01.00	4	3	1.1	2	01.00	6	4	1.6	3
4000	01.30	7	5	1.8	4	01.45	9	7	2.4	5	02.15	11	9	2.9	6
6000	02.15	11	9	2.9	6	02.45	13	10	3.4	7	03.30	16	13	4.2	9
8000	03.00	14	11	3.7	8	03.30	17	13	4.5	10	04.30	21	17	5.5	12
10000	04.00	18	14	4.8	11	04.30	21	16	5.5	13	05.45	27	21	7.1	16
12000	04.45	21	17	5.5	13	05.30	25	20	6.6	15	07.00	32	25	8.5	20
14000	05.30	25	19	6.6	16	06.30	29	23	7.7	19	08.15	37	29	9.8	24
16000	06.30	28	22	7.4	18	07.30	33	26	8.7	22	09.30	42	33	11.1	28
18000	07.15	31	25	8.2	21	08.30	37	29	9.8	25	11.00	47	37	12.4	32
20000	08.15	35	27	9.2	24	09.45	41	32	10.8	29	12.30	52	41	13.7	37
22000	09.00	38	30	10.0	28	10.45	45	35	11.9	33	13.45	58	45	15.3	42
24000	10.00	41	32	10.8	31	12.00	49	39	12.9	37	15.15	63	49	16.6	47
26000	11.00	45	35	11.9	34	13.00	53	41	14.0	41	16.45	68	53	18	53
28000	12.00	48	37	12.7	37	14.00	56	44	14.8	44	18.15	73	57	19.3	58
30000	13.00	51	40	13.5	41	15.00	60	47	15.9	48	19.45	78	61	20.6	63

Figure 5.9.6 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 160 KIAS) / ISA – 20°C

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 160 KIAS)

Conditions : ***ISA***
Maximum climb power
Landing gear and flaps UP
IAS = 160 KIAS up to 20000 ft ; – 4 KIAS / 2000 ft then
2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00.45	4	3	1.1	2	01.00	5	4	1.3	3	01.15	6	5	1.6	3
4000	01.30	8	6	2.1	4	02.00	10	8	2.6	5	02.30	12	10	3.2	7
6000	02.30	12	10	3.2	7	03.00	14	11	3.7	8	03.45	18	15	4.8	10
8000	03.30	16	13	4.2	10	04.00	19	15	5.0	11	05.00	24	19	6.3	14
10000	04.30	20	16	5.3	12	05.00	24	19	6.3	14	06.30	30	24	7.9	18
12000	05.15	24	19	6.3	15	06.00	28	22	7.4	18	08.00	36	28	9.5	23
14000	06.15	28	22	7.4	18	07.15	33	26	8.7	21	09.15	42	33	11.1	28
16000	07.15	32	25	8.5	21	08.30	37	29	9.8	25	10.45	48	38	12.7	33
18000	08.15	36	28	9.5	25	09.45	42	33	11.1	29	12.30	54	42	14.3	38
20000	09.15	40	31	10.6	29	11.00	47	37	12.4	34	14.00	60	47	15.9	44
22000	10.15	44	34	11.6	32	12.00	52	41	13.7	39	15.45	67	52	17.7	50
24000	11.15	47	37	12.4	36	13.30	56	44	14.8	44	17.30	73	57	19.3	56
26000	12.30	51	40	13.5	41	15.00	62	49	16.4	50	19.30	79	62	20.9	64
28000	14.00	56	44	14.8	46	16.30	66	52	17.4	55	21.45	87	68	23.0	72
30000	15.30	60	47	15.8	52	18.30	72	57	19.0	62	24.30	95	75	25.1	83

Figure 5.9.7 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 160 KIAS) / ISA

CLIMB PERFORMANCE

TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 160 KIAS)

Conditions : ***ISA + 20°C***
Maximum climb power
Landing gear and flaps UP
IAS = 160 KIAS up to 20000 ft ; – 4 KIAS / 2000 ft then
2000 RPM – BLEED LO

NOTE :
Time, consumption and distance from the 50 ft

Pressure altitude (feet)	WEIGHT 4850 lbs (2200 kg)					WEIGHT 5512 lbs (2500 kg)					WEIGHT 6579 lbs (2984 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	01.00	5	4	1.3	3	01.00	5	4	1.3	3	01.15	7	6	1.8	4
4000	01.45	9	7	2.4	5	02.15	11	8	2.9	6	02.45	14	11	3.7	8
6000	02.45	14	11	3.7	8	03.15	16	13	4.2	9	04.15	21	16	5.5	12
8000	03.45	18	14	4.8	11	04.30	21	17	5.5	13	05.30	28	22	7.4	16
10000	04.45	23	18	6.1	14	05.30	27	21	7.1	17	07.15	34	27	9.0	21
12000	05.45	27	21	7.1	17	06.45	32	25	8.5	21	08.45	41	32	10.8	26
14000	06.45	32	25	8.5	21	08.00	37	29	9.8	25	10.15	48	38	12.7	32
16000	08.00	36	28	9.5	25	09.30	43	33	11.4	29	12.00	55	43	14.5	38
18000	09.00	41	32	10.8	29	11.00	48	38	12.7	35	14.00	62	49	16.4	45
20000	10.30	46	36	12.2	34	12.30	55	43	14.5	41	16.15	71	56	18.8	53
22000	12.15	52	41	13.7	41	14.30	62	49	16.4	49	19.15	81	63	21.4	64
24000	14.15	58	45	15.3	48	17.00	69	54	18.2	58	22.45	92	72	24.3	78
26000	16.30	65	51	17.2	57	20.00	78	61	20.6	69	27.30	106	83	28.0	96
28000	19.15	72	56	19.0	68	23.45	88	69	23.2	84	34.00	124	98	32.8	123
30000	23.00	82	64	21.7	83	29.00	102	80	26.9	105	46.00	155	121	41.0	170

Figure 5.9.8 – TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 160 KIAS) / ISA + 20°C

CLIMB PERFORMANCE

CLIMB PERFORMANCE AFTER GO-AROUND

Conditions : Maximum climb power
Landing gear DN and flaps LDG
IAS = 90 KIAS

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA – 35°C	ISA – 20°C	ISA – 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
4850 lbs (2200 kg)	SL	2270	2100	2000	1910	1820	1740	1650
	2000	2240	2070	1960	1870	1780	1695	1620
	4000	2200	2030	1920	1830	1730	1650	1570
	6000	2160	1980	1880	1780	1690	1600	1520
	8000	2120	1940	1830	1730	1630	1545	1465
5512 lbs (2500 kg)	SL	1900	1750	1660	1580	1500	1435	1355
	2000	1860	1720	1630	1550	1470	1395	1330
	4000	1820	1680	1590	1500	1430	1350	1285
	6000	1790	1630	1550	1460	1380	1305	1235
	8000	1750	1590	1500	1410	1330	1255	1185
6579 lbs (2984 kg)	SL	1410	1300	1230	1165	1105	1045	985
	2000	1380	1265	1195	1130	1065	1010	955
	4000	1345	1230	1155	1090	1025	970	915
	6000	1310	1190	1115	1050	985	925	870
	8000	1270	1145	1070	1000	940	880	825

Figure 5.9.9 – CLIMB PERFORMANCE AFTER GO-AROUND

CLIMB PERFORMANCE

CLIMB PERFORMANCE - FLAPS TO

Conditions : Climb maximum power
Landing gear UP and flaps TO
IAS = 110 KIAS

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA − 35°C	ISA − 20°C	ISA − 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
4850 lbs (2200 kg)	SL	3170	2970	2850	2730	2620	2520	2410
	2000	3160	2950	2820	2700	2600	2490	2395
	4000	3140	2920	2800	2670	2570	2460	2365
	6000	3110	2900	2760	2650	2540	2430	2330
	8000	3080	2870	2740	2610	2500	2395	2295
5512 lbs (2500 kg)	SL	2710	2540	2430	2330	2230	2145	2050
	2000	2700	2520	2400	2300	2200	2120	2035
	4000	2680	2490	2380	2270	2180	2090	2005
	6000	2650	2460	2350	2250	2150	2060	1975
	8000	2620	2440	2320	2220	2120	2030	1940
6579 lbs (2984 kg)	SL	2140	2000	1910	1830	1750	1680	1600
	2000	2120	1975	1880	1800	1720	1650	1585
	4000	2100	1950	1860	1775	1700	1620	1555
	6000	2075	1925	1830	1750	1670	1595	1525
	8000	2050	1895	1805	1720	1640	1565	1495

Figure 5.9.10 - CLIMB PERFORMANCE - FLAPS TO

5.10 - CRUISE PERFORMANCE

Conditions : ISA
Weight 5512 lbs (2500 kg)

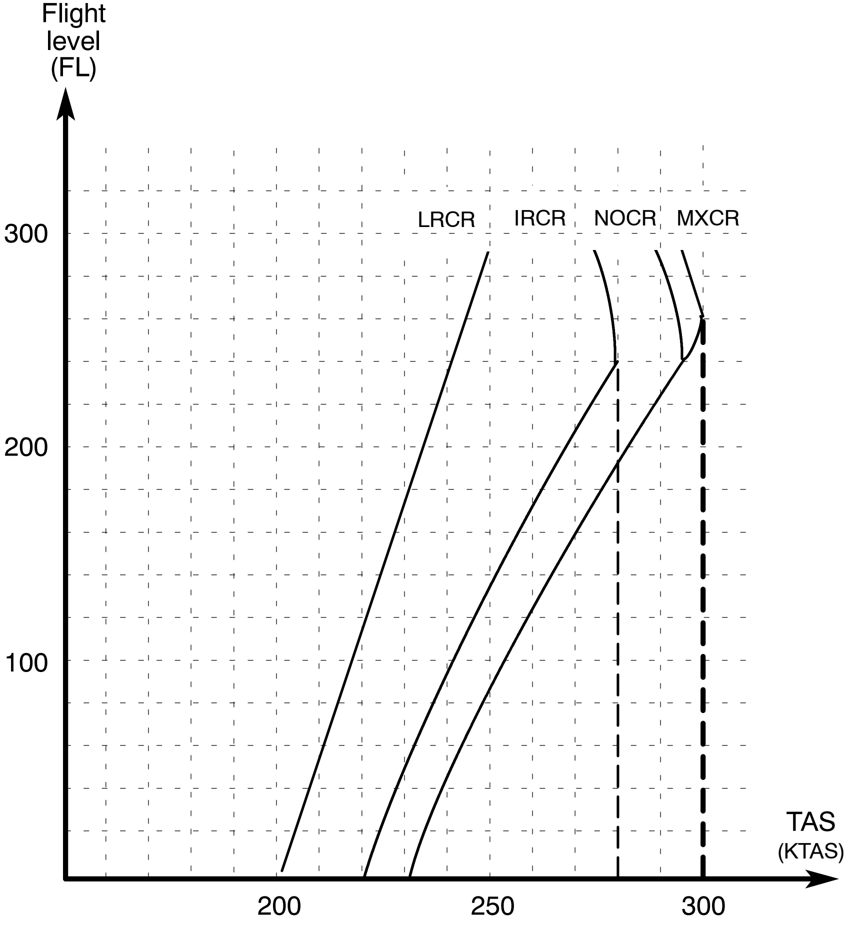


Figure 5.10.1 - CRUISE PERFORMANCE

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA - 20°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 2	100	304	239	80.3	231	226	230	225	229	224
5000	– 8	100	275	216	72.6	226	237	225	236	223	235
10000	– 17	100	250	196	66.0	221	249	220	248	218	246
15000	– 26	100	232	182	61.2	216	263	214	261	213	259
18000	– 32	100	223	175	58.9	213	271	211	269	210	267
20000	– 36	100	218	171	57.6	211	277	209	275	208	273
21000	– 37	100	216	170	57.1	210	280	208	278	207	276
22000	– 39	100	214	168	56.5	209	283	207	281	206	279
23000	– 41	100	212	166	56.0	208	286	206	284	205	282
24000	– 43	100	210	165	55.6	207	290	205	287	203	285
25000	– 45	100	209	164	55.3	206	293	204	291	202	288
26000	– 46	100	208	163	54.9	205	296	203	294	201	291
27000	– 48	100	207	162	54.7	204	300	202	297	200	294
28000	– 50	100	206	162	54.4	203	303	201	301	199	298
29000	– 52	100	206	161	54.3	202	307	200	304	198	301
30000	– 54	100	205	161	54.2	201	310	199	308	197	305

Figure 5.10.2 – CRUISE PERFORMANCE –
Maximum cruise / ISA – 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA - 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 12	100	308	242	81.4	229	228	228	227	227	226
5000	+ 2	100	279	219	73.6	224	240	223	238	222	237
10000	– 7	100	254	199	67.0	219	252	218	251	216	249
15000	– 16	100	234	184	61.9	214	266	213	264	211	262
18000	– 22	100	225	177	59.4	211	274	209	272	208	270
20000	– 25	100	220	173	58.2	209	281	207	278	206	276
21000	– 27	100	218	171	57.6	208	284	206	281	205	279
22000	– 29	100	216	170	57.1	207	287	205	285	204	282
23000	– 31	100	215	168	56.7	206	290	204	288	202	285
24000	– 33	100	213	167	56.3	205	293	203	291	201	288
25000	– 34	100	212	166	55.9	204	297	202	294	200	291
26000	– 36	100	210	165	55.6	203	300	201	298	199	295
27000	– 38	100	209	164	55.3	202	304	200	301	198	298
28000	– 40	100	209	164	55.2	201	307	199	305	197	302
29000	– 42	97	201	158	53.2	197	307	195	303	193	300
30000	– 44	93	194	152	51.2	193	306	190	301	188	298

Figure 5.10.3 – CRUISE PERFORMANCE –
Maximum cruise / ISA – 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA - 5°C***
Landing gear and flaps UP
2000 RPM (*) - BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 17	100	310	243	81.8	228	230	227	229	226	228
5000	+ 8	100	280	220	74.1	223	241	222	240	221	238
10000	- 2	100	255	200	67.4	218	254	217	252	216	250
15000	- 11	100	235	185	62.2	213	267	212	265	210	263
18000	- 17	100	226	178	59.8	210	276	208	274	207	272
20000	- 20	100	222	174	58.6	208	282	206	280	205	278
21000	- 22	100	220	173	58.1	207	285	205	283	204	281
22000	- 24	100	218	171	57.5	206	289	204	286	203	284
23000	- 26	100	216	170	57.1	205	292	203	289	202	287
24000	- 28	100	215	168	56.7	204	295	202	293	200	290
25000	- 29	100	213	167	56.3	203	298	201	296	199	293
26000	- 31	100	212	166	56.0	202	302	200	299	198	296
27000	- 33	99	210	165	55.5	200	304	198	301	196	299
28000	- 35	96	202	159	53.5	197	304	194	301	193	298
29000	- 37	92	195	153	51.5	193	303	190	300	188	296
30000	- 39	88	188	147	49.6	188	302	186	298	183	294

Figure 5.10.4 - CRUISE PERFORMANCE -
Maximum cruise / ISA - 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA***
Landing gear and flaps UP
2000 RPM (*) - BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 22	100	312	245	82.3	228	231	227	230	226	229
5000	+ 13	100	282	221	74.5	223	243	221	241	220	240
10000	+ 3	100	257	201	67.8	217	255	216	253	215	252
15000	- 6	100	237	186	62.5	212	269	211	267	209	265
18000	- 12	100	228	179	60.2	209	278	208	275	206	273
20000	- 15	100	223	175	58.9	207	284	205	281	204	279
21000	- 17	100	221	174	58.5	206	287	204	285	203	282
22000	- 19	100	220	172	58.0	205	290	203	288	202	285
23000	- 21	100	218	171	57.5	204	293	202	291	201	289
24000	- 22	100	216	170	57.1	203	297	201	294	199	292
25000	- 24	100	215	169	56.8	202	300	200	298	198	295
26000	- 26	99	209	164	55.2	200	303	198	300	197	298
27000	- 28	95	202	159	53.5	196	302	194	298	193	297
28000	- 30	91	195	153	51.6	192	301	189	297	188	295
29000	- 32	88	188	148	49.8	188	299	186	296	184	293
30000	- 34	84	181	142	47.9	184	298	182	294	178	288

Figure 5.10.5 - CRUISE PERFORMANCE -
Maximum cruise / ISA

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA + 5°C***
Landing gear and flaps UP
2000 RPM (*) - BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 27	100	313	246	82.8	227	232	226	231	225	230
5000	+ 18	100	283	223	74.9	222	244	221	243	219	241
10000	+ 8	100	258	202	68.1	217	256	215	255	214	253
15000	- 1	100	238	187	62.9	211	270	210	268	208	267
18000	- 6	100	229	180	60.6	208	279	207	277	205	275
20000	- 10	100	224	176	59.3	206	285	204	283	203	281
21000	- 12	100	223	175	58.9	205	288	203	286	202	284
22000	- 14	100	221	174	58.5	204	291	202	289	201	287
23000	- 16	100	220	172	58.0	203	295	201	292	200	290
24000	- 17	100	218	172	57.7	202	298	200	296	198	293
25000	- 19	97	211	166	55.9	199	299	197	296	195	294
26000	- 21	94	204	161	54.0	196	299	193	296	192	293
27000	- 23	90	197	155	52.0	192	298	189	294	188	292
28000	- 25	87	190	149	50.1	188	297	185	293	183	290
29000	- 27	83	182	143	48.2	183	296	181	292	178	287
30000	- 29	80	176	138	46.4	179	294	177	290	173	284

Figure 5.10.6 - CRUISE PERFORMANCE -
Maximum cruise / ISA + 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA + 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 32	100	315	247	83.2	226	233	225	233	224	231
5000	+ 23	100	285	224	75.4	221	245	220	244	219	242
10000	+ 13	100	259	203	68.4	216	258	214	256	213	255
15000	+ 4	100	240	188	63.3	211	272	209	270	208	268
18000	– 1	100	231	181	60.9	208	281	206	278	204	277
20000	– 5	100	226	177	59.7	206	287	203	284	202	283
21000	– 7	100	224	176	59.2	205	291	202	287	201	286
22000	– 9	100	223	175	58.9	203	294	201	291	200	289
23000	– 11	98	218	171	57.6	201	295	200	294	197	290
24000	– 13	96	211	166	55.7	198	296	196	293	194	290
25000	– 15	92	204	160	53.9	195	296	192	292	191	290
26000	– 17	89	197	155	52.0	191	296	188	291	186	288
27000	– 19	86	190	150	50.3	187	295	185	290	182	287
28000	– 20	82	184	144	48.5	184	294	181	289	178	285
29000	– 22	79	176	139	46.6	179	292	176	287	173	282
30000	– 24	75	170	133	44.9	175	290	172	285	168	279

Figure 5.10.7 – CRUISE PERFORMANCE –
Maximum cruise / ISA + 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Maximum cruise

Conditions : ***ISA + 20°C***
Landing gear and flaps UP
2000 RPM (*) - BLEED LO

NOTE :
Use preferably recommended cruise power

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 42	100	319	250	84.3	225	236	224	235	223	233
5000	+ 33	100	289	227	76.3	220	248	218	246	217	245
10000	+ 23	100	262	206	69.3	214	261	213	259	211	257
15000	+ 14	100	243	190	64.1	209	275	207	273	206	270
18000	+ 9	100	234	183	61.7	206	284	204	281	202	279
20000	+ 4	97	225	177	59.4	202	288	201	287	199	284
21000	+ 2	94	218	171	57.5	198	288	198	286	196	283
22000	0	92	211	166	55.7	196	288	193	285	191	282
23000	- 2	88	204	160	53.9	195	292	190	284	188	281
24000	- 3	86	197	155	52.0	188	287	185	283	184	280
25000	- 5	82	190	149	50.2	185	286	182	282	179	278
26000	- 7	79	183	144	48.3	181	285	178	281	175	276
27000	- 9	76	176	139	46.6	176	283	174	279	170	274
28000	- 11	72	170	133	44.8	172	281	169	276	166	272
29000	- 13	69	163	128	43.1	168	280	164	274	161	268
30000	- 15	66	156	122	41.2	164	278	160	272	156	265

Figure 5.10.8 - CRUISE PERFORMANCE -
Maximum cruise / ISA + 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA - 20°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 2	100	304	239	80.3	231	226	230	225	229	224
5000	- 8	100	275	216	72.6	226	237	225	236	223	235
10000	- 17	100	250	196	66.0	221	249	220	248	218	246
15000	- 26	100	232	182	61.2	216	263	214	261	213	259
18000	- 32	100	223	175	58.9	213	271	211	269	210	267
20000	- 36	100	218	171	57.6	211	277	209	275	208	273
21000	- 37	100	216	170	57.1	210	280	208	278	207	276
22000	- 39	100	214	168	56.5	209	283	207	281	206	279
23000	- 41	100	212	166	56.0	208	286	206	284	205	282
24000	- 43	100	210	165	55.6	207	290	205	287	203	285
25000	- 45	100	209	164	55.3	206	293	204	291	202	288
26000	- 46	100	208	163	54.9	205	296	203	294	201	291
27000	- 48	100	207	162	54.7	204	300	202	297	200	294
28000	- 50	100	206	162	54.4	203	303	201	301	199	298
29000	- 52	100	206	161	54.3	202	307	200	304	198	301
30000	- 54	100	205	161	54.2	201	310	199	308	197	305

Figure 5.10.9 – CRUISE PERFORMANCE –
Normal cruise / ISA – 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA - 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 12	100	308	242	81.4	229	228	228	227	227	226
5000	+ 2	100	279	219	73.6	224	240	223	238	222	237
10000	- 7	100	254	199	67.0	219	252	218	251	216	249
15000	- 16	100	234	184	61.9	214	266	213	264	211	262
18000	- 22	100	225	177	59.4	211	274	209	272	208	270
20000	- 25	100	220	173	58.2	209	281	207	278	206	276
21000	- 27	100	218	171	57.6	208	284	206	281	205	279
22000	- 29	100	216	170	57.1	207	287	205	285	204	282
23000	- 31	100	215	168	56.7	206	290	204	288	202	285
24000	- 33	100	213	167	56.3	205	293	203	291	201	288
25000	- 34	100	212	166	55.9	204	297	202	294	200	291
26000	- 36	100	210	165	55.6	203	300	201	298	199	295
27000	- 38	99	207	162	54.7	201	302	199	299	196	296
28000	- 40	96	199	157	52.7	197	302	195	298	192	294
29000	- 42	92	193	151	50.9	193	300	191	297	188	293
30000	- 44	88	185	145	48.9	188	298	186	295	184	291

Figure 5.10.10 – CRUISE PERFORMANCE –
Normal cruise / ISA – 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA - 5°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 17	100	310	243	81.8	228	230	227	229	226	228
5000	+ 8	100	280	220	74.1	223	241	222	240	221	238
10000	– 2	100	255	200	67.4	218	254	217	252	216	250
15000	– 11	100	235	185	62.2	213	267	212	265	210	263
18000	– 17	100	226	178	59.8	210	276	208	274	207	272
20000	– 20	100	222	174	58.6	208	282	206	280	205	278
21000	– 22	100	220	173	58.1	207	285	205	283	204	281
22000	– 24	100	218	171	57.5	206	289	204	286	203	284
23000	– 26	100	216	170	57.1	205	292	203	289	202	287
24000	– 28	100	215	168	56.7	204	295	202	293	200	290
25000	– 29	100	213	167	56.3	203	298	201	296	199	293
26000	– 31	98	208	163	54.9	200	299	198	295	196	293
27000	– 33	95	201	158	53.1	196	298	194	296	192	292
28000	– 35	91	195	153	51.4	193	298	190	295	187	290
29000	– 37	87	188	147	49.6	188	297	186	293	183	288
30000	– 39	83	181	142	47.7	184	295	182	291	179	287

Figure 5.10.11 – CRUISE PERFORMANCE –
Normal cruise / ISA – 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 22	100	312	245	82.3	228	231	227	230	226	229
5000	+ 13	100	282	221	74.5	223	243	221	241	220	240
10000	+ 3	100	257	201	67.8	217	255	216	253	215	252
15000	– 6	100	237	186	62.5	212	269	211	267	209	265
18000	– 12	100	228	179	60.2	209	278	208	275	206	273
20000	– 15	100	223	175	58.9	207	284	205	281	204	279
21000	– 17	100	221	174	58.5	206	287	204	285	203	282
22000	– 19	100	220	172	58.0	205	290	203	288	202	285
23000	– 21	100	218	171	57.5	204	293	202	291	201	289
24000	– 22	100	216	170	57.1	203	297	201	294	199	292
25000	– 24	97	209	164	55.3	199	296	197	294	195	291
26000	– 26	94	203	159	53.6	195	295	194	293	191	290
27000	– 28	90	196	154	51.9	192	295	190	292	187	287
28000	– 31	86	190	149	50.1	188	294	186	291	183	286
29000	– 33	83	183	144	48.3	184	293	182	289	178	284
30000	– 35	78	176	138	46.5	180	291	177	287	174	282

Figure 5.10.12 – CRUISE PERFORMANCE –
Normal cruise / ISA

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA + 5°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 27	100	313	246	82.8	227	232	226	231	225	230
5000	+ 18	100	283	223	74.9	222	244	221	243	219	241
10000	+ 8	100	258	202	68.1	217	256	215	255	214	253
15000	– 1	100	238	187	62.9	211	270	210	268	208	267
18000	– 6	100	229	180	60.6	208	279	207	277	205	275
20000	– 10	100	224	176	59.3	206	286	204	283	203	281
21000	– 12	100	223	175	58.9	205	288	203	286	202	284
22000	– 14	100	221	174	58.5	204	291	202	289	201	287
23000	– 16	97	216	170	57.1	201	292	199	290	198	287
24000	– 18	95	209	164	55.1	198	292	196	290	194	287
25000	– 20	92	202	159	53.4	194	292	192	289	190	286
26000	– 22	89	195	153	51.5	190	291	189	289	186	285
27000	– 24	84	188	148	49.8	187	290	185	287	181	283
28000	– 26	81	182	143	48.0	183	290	180	286	177	281
29000	– 28	78	175	137	46.2	179	288	176	284	172	278
30000	– 30	74	171	134	45.2	174	286	171	281	168	276

Figure 5.10.13 – CRUISE PERFORMANCE –
Normal cruise / ISA + 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA + 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 32	100	315	247	83.2	226	233	225	233	224	231
5000	+ 23	100	285	224	75.4	221	245	220	244	219	242
10000	+ 13	100	259	203	68.4	216	258	214	256	213	255
15000	+ 4	100	240	188	63.3	211	272	209	270	208	268
18000	– 1	100	231	181	60.9	208	281	206	278	204	277
20000	– 6	100	226	177	59.7	206	287	203	284	202	283
21000	– 8	98	220	173	58.1	203	288	202	286	199	283
22000	– 10	96	214	168	56.5	200	289	198	286	196	284
23000	– 12	92	207	162	54.7	197	289	195	286	192	283
24000	– 13	90	200	157	52.8	193	289	191	286	188	282
25000	– 15	87	193	152	51.1	190	288	187	285	185	281
26000	– 17	83	187	147	49.4	185	287	184	284	181	279
27000	– 19	79	181	142	47.7	182	286	179	282	176	277
28000	– 21	76	174	137	46.0	178	285	175	280	172	275
29000	– 23	73	167	131	44.1	173	283	170	278	167	272
30000	– 25	69	166	130	43.9	169	280	166	276	162	269

Figure 5.10.14 – CRUISE PERFORMANCE –
Normal cruise / ISA + 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Normal (recommended) cruise

Conditions : ***ISA + 20°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

NOTE :
Power recommended by PRATT & WHITNEY CANADA

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 42	100	319	250	84.3	225	236	224	235	223	233
5000	+ 33	100	289	227	76.3	219	248	218	246	217	245
10000	+ 23	100	262	206	69.3	214	261	213	259	211	257
15000	+ 14	100	243	190	64.1	209	275	207	273	206	270
18000	+ 9	96	226	177	59.7	202	279	201	278	199	275
20000	+ 4	90	213	167	56.3	196	280	194	277	193	275
21000	+ 2	87	206	162	54.4	193	279	191	277	189	274
22000	0	84	200	157	52.8	189	279	187	276	185	274
23000	- 2	81	193	152	51.0	185	278	184	275	182	272
24000	- 4	78	187	146	49.3	181	276	180	274	178	271
25000	- 6	76	180	141	47.6	177	275	176	273	173	269
26000	- 8	72	173	136	45.8	173	273	172	271	169	267
27000	- 10	69	167	131	44.1	169	272	168	270	164	264
28000	- 12	66	160	126	42.3	164	269	163	268	159	261
29000	- 14	63	157	120	40.6	160	268	159	265	154	257
30000	- 16	60	147	115	38.8	156	265	154	262	149	254

Figure 5.10.15 – CRUISE PERFORMANCE –
Normal cruise / ISA + 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA - 20°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 1	88	286	225	75.6	220	215	219	214	218	213
5000	– 8	88	257	202	68.0	215	226	213	222	212	221
10000	– 18	88	233	183	61.6	210	238	209	236	208	234
15000	– 27	88	214	168	56.5	206	250	204	248	202	246
18000	– 32	88	205	161	54.2	203	258	201	256	199	254
20000	– 36	88	200	157	52.8	201	264	199	262	197	259
21000	– 38	88	198	155	52.2	200	267	198	265	196	262
22000	– 40	88	195	153	51.6	199	270	197	268	195	265
23000	– 42	88	193	152	51.1	198	273	196	271	194	268
24000	– 44	88	192	151	50.7	197	276	195	274	193	271
25000	– 45	88	190	149	50.2	196	279	194	277	192	274
26000	– 47	88	188	148	49.7	195	283	193	280	191	277
27000	– 49	88	187	147	49.4	194	286	192	283	190	280
28000	– 51	88	186	146	49.1	193	289	191	286	189	283
29000	– 53	88	185	145	48.9	192	293	190	290	188	286
30000	– 54	87	183	144	48.3	190	294	188	292	185	287

Figure 5.10.16 – CRUISE PERFORMANCE –
Intermediate cruise / ISA – 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA - 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 11	88	289	227	76.3	219	218	218	217	217	216
5000	+ 2	88	261	205	68.9	214	229	212	226	210	224
10000	– 7	88	236	185	62.3	209	241	208	239	206	237
15000	– 17	88	217	170	57.2	204	254	203	252	201	250
18000	– 22	88	207	162	54.7	201	262	200	260	198	257
20000	– 26	88	202	159	53.4	199	268	198	265	196	263
21000	– 28	88	199	157	52.7	198	271	196	268	195	266
22000	– 30	88	198	155	52.2	197	274	196	271	193	268
23000	– 31	88	195	153	51.6	196	277	195	274	192	271
24000	– 33	88	194	152	51.2	195	280	193	277	191	274
25000	– 35	88	192	151	50.7	194	283	192	280	190	277
26000	– 37	88	190	150	50.3	192	285	191	283	188	279
27000	– 39	85	185	146	49.0	189	285	188	283	185	279
28000	– 41	82	179	141	47.3	186	285	184	281	182	278
29000	– 43	79	173	135	45.6	183	285	180	280	177	276
30000	– 45	76	166	130	43.9	179	283	176	279	173	274

Figure 5.10.17 – CRUISE PERFORMANCE –
Intermediate cruise / ISA – 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA - 5°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 17	88	290	228	76.7	218	219	217	218	216	217
5000	+ 7	88	262	206	69.3	213	230	211	227	210	225
10000	- 2	88	237	186	62.7	208	242	207	241	205	239
15000	- 12	88	218	171	57.5	203	255	202	253	200	251
18000	- 17	88	209	164	55.1	200	263	199	261	197	259
20000	- 21	88	203	160	53.7	198	269	197	267	195	264
21000	- 23	88	201	158	53.1	197	272	196	270	194	267
22000	- 25	88	199	156	52.5	196	275	195	273	193	270
23000	- 26	88	197	155	52.0	195	278	194	276	191	273
24000	- 28	88	195	153	51.5	194	281	193	279	190	276
25000	- 30	87.5	193	151	50.9	192	283	191	281	188	278
26000	- 32	84.7	187	146	49.3	189	283	187	281	185	277
27000	- 34	82	181	142	47.7	185	283	184	280	181	276
28000	- 36	79	174	137	46.0	182	282	180	279	177	274
29000	- 38	76	167	131	44.2	178	281	175	277	172	272
30000	- 40	73.3	161	126	42.5	174	280	171	275	168	270

Figure 5.10.18 – CRUISE PERFORMANCE –
Intermediate cruise / ISA – 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 22	88	292	229	77.1	218	221	216	219	215	218
5000	+ 12	88	264	207	69.8	213	232	210	228	209	227
10000	+ 3	88	239	188	63.1	208	243	206	242	205	240
15000	- 7	88	219	172	57.9	203	257	201	255	199	253
18000	- 12	88	210	165	55.5	199	265	198	263	196	260
20000	- 16	88	204	161	54.0	197	271	196	269	194	266
21000	- 18	88	202	159	53.5	196	273	195	272	193	269
22000	- 20	88	200	157	52.8	195	277	194	275	192	272
23000	- 21	88	198	156	52.4	194	280	193	278	191	275
24000	- 23	87.3	195	153	51.5	193	283	191	280	188	276
25000	- 25	84.3	188	148	49.8	189	282	188	279	185	275
26000	- 27	81.2	182	143	48.1	185	281	184	278	181	274
27000	- 29	78	176	138	46.4	182	280	180	277	177	272
28000	- 31	75	169	133	44.6	178	279	176	276	172	270
29000	- 33	72	162	128	42.9	174	277	171	273	168	268
30000	- 35	69	156	122	41.2	170	276	167	271	163	265

Figure 5.10.19 – CRUISE PERFORMANCE –
Intermediate cruise / ISA

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA + 5°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 27	88	293	230	77.5	217	222	216	221	215	220
5000	+ 17	88	266	209	70.2	212	233	209	229	208	228
10000	+ 8	88	240	188	63.4	207	245	205	243	204	242
15000	– 2	88	220	173	58.2	202	258	200	256	199	254
18000	– 7	88	211	166	55.8	199	266	197	264	195	262
20000	– 11	88	206	162	54.4	196	272	195	270	193	268
21000	– 13	88	204	160	53.9	195	275	194	273	192	270
22000	– 14	88	201	158	53.1	194	278	193	276	190	272
23000	– 16	85.6	195	153	51.5	191	279	189	276	187	272
24000	– 18	82.7	189	148	49.9	188	279	186	276	183	272
25000	– 20	79.8	182	143	48.2	185	278	182	275	180	271
26000	– 22	76.9	176	139	46.6	181	277	179	274	175	269
27000	– 24	74	170	134	45.0	177	275	174	272	172	269
28000	– 27	71	164	129	43.3	173	274	170	270	166	264
29000	– 29	68.1	157	124	41.6	169	273	166	268	162	262
30000	– 31	65.2	151	119	39.9	165	271	161	266	158	260

Figure 5.10.20 – CRUISE PERFORMANCE –
Intermediate cruise / ISA + 5°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA + 10°C***
Landing gear and flaps UP
2000 RPM (*) – BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 32	88	295	232	77.9	216	223	215	222	214	221
5000	+ 22	88	267	210	70.6	211	234	209	230	208	229
10000	+ 13	88	241	189	63.7	206	246	205	245	203	243
15000	+ 4	88	221	174	58.5	201	259	199	258	198	255
18000	– 2	88	212	167	56.1	198	268	196	266	194	263
20000	– 6	88	207	162	54.6	196	274	194	272	192	269
21000	– 8	86.5	201	158	53.1	194	275	191	272	189	269
22000	– 10	84	195	153	51.5	190	275	188	272	186	269
23000	– 12	81	190	149	50.1	187	275	185	271	182	268
24000	– 14	78	183	144	48.3	184	275	181	271	178	267
25000	– 16	75.5	177	139	46.8	180	273	177	270	174	266
26000	– 18	73	171	134	45.2	176	272	174	269	170	263
27000	– 20	70	165	130	43.6	172	271	169	267	168	265
28000	– 22	67	159	124	41.9	168	269	165	265	161	258
29000	– 24	64	153	120	40.3	164	268	160	262	157	256
30000	– 26	61	146	115	38.6	160	266	156	260	153	255

Figure 5.10.21 – CRUISE PERFORMANCE –
Intermediate cruise / ISA + 10°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Intermediate cruise

Conditions : ***ISA + 20°C***
Landing gear and flaps UP
2000 RPM (*) - BLEED LO

Pressure altitude (feet)	IOAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						4850 lbs (2200 kg)		5512 lbs (2500 kg)		6173 lbs (2800 kg)	
			l / h	kg / h	us gal / h	IAS	TAS	IAS	TAS	IAS	TAS
0	+ 42	88	299	235	79.0	215	225	214	224	213	223
5000	+ 32	88	271	212	71.5	210	237	208	233	206	232
10000	+ 23	88	245	192	64.6	205	249	203	247	202	245
15000	+ 14	88	224	176	59.3	199	262	198	260	196	258
18000	+ 8	84	209	164	55.2	192	266	190	263	189	261
20000	+ 4	79	196	154	51.9	186	266	185	263	182	260
21000	+ 2	76.4	190	150	50.3	183	266	181	263	179	259
22000	0	74	184	144	48.6	180	265	178	262	175	258
23000	- 2	71.2	178	140	47.0	176	264	174	262	171	257
24000	- 4	69	172	135	45.4	173	264	171	261	167	255
25000	- 6	66	165	130	43.7	169	262	166	259	162	253
26000	- 8	63.4	159	125	42.1	165	261	162	256	158	250
27000	- 10	60.7	154	120	40.6	160	258	157	254	153	247
28000	- 12	58	148	116	39.0	157	257	153	251	148	243
29000	- 14	55.5	141	111	37.2	152	254	148	248	142	238
30000	- 17	53	135	106	35.7	148	252	143	244	136	232

Figure 5.10.22 - CRUISE PERFORMANCE -
Intermediate cruise / ISA + 20°C

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Long Range Cruise (5512 lbs - 2500 kg)

Conditions : Landing gear and flaps UP
2000 RPM (*) – BLEED LO

LEGEND :	IOAT : °C	IAS : KIAS
	FF : us gal/h	
	FF : lbs/h	TAS : KTAS

Presssure altitude (feet)	TRQ (%)	ISA – 20°C	ISA – 10°C	ISA	ISA + 10°C	ISA + 20°C
15000	60.5	- 28 176 46.4 304 214	- 18 174 47.0 309 216	- 8 172 47.6 311 219	+ 2 171 48.2 315 221	+ 12 169 48.9 320 223
18000	59	- 34 171 43.2 282 218	- 24 169 43.7 287 221	- 14 168 44.4 291 223	- 4 166 45.0 295 226	+ 6 165 45.7 300 228
19000	58.5	- 36 169 42.2 276 220	- 26 167 42.7 280 222	- 16 166 43.4 284 225	- 6 164 44.1 289 227	+ 4 163 44.7 293 229
20000	58	- 38 168 41.2 269 222	- 28 166 41.7 273 224	- 18 164 42.4 278 226	- 8 163 43.1 282 228	+ 2 161 43.7 287 231
21000	57.5	- 40 166 40.4 265 223	- 30 164 40.8 267 225	- 20 163 41.5 271 228	- 10 161 42.1 276 230	+ 0 160 42.7 280 232
22000	57	- 42 165 39.5 258 224	- 32 163 39.9 262 227	- 22 161 40.6 265 229	- 12 159 41.2 269 232	- 1 158 41.7 273 234
23000	56.5	- 44 163 38.7 254 226	- 34 161 39.1 256 228	- 24 159 39.7 260 231	- 13 158 40.3 265 233	- 3 156 40.9 267 235
24000	56	- 46 161 37.9 249 227	- 36 159 38.3 251 230	- 25 158 38.8 254 232	- 15 156 39.4 258 234	- 5 154 40.0 262 237
25000	55.5	- 48 159 37.2 243 228	- 38 158 37.6 247 231	- 27 156 38.1 249 233	- 17 154 38.6 254 236	- 7 153 39.2 256 238
26000	55	- 50 157 36.5 238 229	- 39 156 36.9 243 232	- 29 154 37.4 245 235	- 19 152 37.8 247 237	- 9 151 38.3 251 239
27000	54.5	- 52 156 35.8 234 230	- 41 154 36.2 238 233	- 31 152 36.7 240 236	- 21 151 37.1 243 238	- 11 149 37.6 247 240
28000	54	- 53 154 35.1 229 231	- 43 152 35.5 234 235	- 33 151 36.1 236 237	- 23 149 36,5 238 239	– 13 147 37.0 243 241
29000	53.5	- 55 152 34.6 227 232	- 45 150 35.0 229 236	- 35 149 35.5 231 239	- 25 147 35.9 236 241	- 15 145 36.3 238 242

Figure 5.10.23 – CRUISE PERFORMANCE –
Long Range Cruise (5512 lbs – 2500 kg)

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

CRUISE PERFORMANCE

Long Range Cruise (6173 lbs - 2800 kg)

Conditions : Landing gear and flaps UP
2000 RPM (*) – BLEED LO

LEGEND : **IOAT** : °C **IAS** : KIAS
FF : us gal/h
FF : lbs/h **TAS** : KTAS

Presssure altitude (feet)	TRQ (%)	ISA – 20°C	ISA – 10°C	ISA	ISA + 10°C	ISA + 20°C
15000	65.5	**- 28 179** 48.1 315 **218**	**- 18 177** 48.8 320 **220**	**- 8 176** 49.5 324 **223**	**+ 2 174** 50.1 328 **225**	**+ 12 172** 50.8 333 **227**
18000	64	**- 34 174** 45.0 295 **222**	**- 24 172** 45.7 300 **225**	**- 14 171** 46.2 302 **227**	**- 4 169** 47.0 309 **230**	**+ 6 167** 47.6 311 **232**
19000	63.5	**- 36 172** 44.1 289 **223**	**- 26 170** 44.7 293 **226**	**- 16 169** 45.3 298 **229**	**- 6 167** 46.0 302 **231**	**+ 4 166** 46.6 304 **233**
20000	63	**- 38 170** 43.2 282 **225**	**- 28 169** 43.7 287 **227**	**- 18 167** 44.4 291 **230**	**- 8 166** 45.0 295 **233**	**+ 3 164** 45.6 298 **234**
21000	62.5	**- 40 169** 42.3 278 **226**	**- 30 167** 42.9 280 **229**	**- 20 166** 43.5 284 **232**	**- 9 164** 44.1 289 **234**	**+ 1 162** 44.6 293 **236**
22000	62	**- 42 167** 41.5 271 **227**	**- 32 165** 42.0 276 **230**	**- 21 164** 42.5 278 **233**	**- 11 162** 43.2 282 **236**	**- 1 161** 43.7 287 **238**
23000	61.5	**- 44 165** 40.6 267 **229**	**- 34 164** 41.1 269 **232**	**- 23 162** 41.7 273 **235**	**- 13 161** 42.3 278 **237**	**- 3 159** 42.9 280 **239**
24000	61	**- 46 164** 39.8 260 **230**	**- 35 162** 40.3 265 **233**	**- 25 161** 40.8 267 **236**	**- 15 159** 41.5 271 **238**	**- 5 157** 42.0 276 **240**
25000	60.5	**- 47 162** 39.0 256 **232**	**- 37 160** 39.6 260 **235**	**- 27 159** 40.1 262 **237**	**- 17 157** 40.7 267 **239**	**- 7 155** 41.2 269 **241**
26000	60	**- 49 160** 38.3 251 **233**	**- 39 159** 38.8 254 **236**	**- 29 157** 39.4 258 **239**	**- 19 155** 39.9 262 **241**	**- 9 153** 40.4 265 **243**
27000	59.5	**- 51 159** 37.6 247 **235**	**- 41 157** 38.2 249 **237**	**- 31 155** 38.7 254 **240**	**- 21 153** 39.2 258 **242**	**- 11 151** 39.8 260 **244**
28000	59	**- 53 157** 37.0 243 **236**	**- 43 155** 37.5 245 **238**	**- 33 153** 38.0 249 **241**	**- 23 151** 38.6 254 **243**	**- 13 149** 39.1 256 **245**
29000	58.5	**- 55 155** 36.5 238 **238**	**- 45 153** 37.0 243 **239**	**- 35 151** 37.5 245 **242**	**- 25 149** 38.0 249 **244**	**- 15 147** 38.5 251 **246**

Figure 5.10.24 – CRUISE PERFORMANCE –
Long Range Cruise (6173 lbs – 2800 kg)

(*) Propeller RPM utilization between 1600 and 2000 RPM is possible without changing performance. Display the TRQ indicated in table with Np = 2000 RPM, then reduce Np without resetting power lever (within limits permitted by torque limiter).

5.11 - TIME, CONSUMPTION AND DESCENT DISTANCE

Conditions : Power as required to maintain constant Vz
Landing gear and flaps UP
CAS = 230 KCAS - 2000 RPM - BLEED LO

Pressure altitude (feet)	Vz = 1500 ft/min					Vz = 2000 ft/min					Vz = 2500 ft/min				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	us gal			l	kg	us gal			l	kg	us gal	
30000	20.00	70	55	18.5	92	15.00	50	39	13.2	70	12.00	37	29	9.8	57
28000	18.40	67	53	17.7	85	14.00	47	37	12.4	65	11.10	34	27	9	52
26000	17.20	63	49	16.6	80	13.00	43	34	11.4	60	10.25	32	25	8.4	48
24000	16.00	58	45	15.3	72	12.00	41	32	10.8	55	09.35	29	23	7.7	43
22000	14.40	54	42	14.3	65	11.00	37	29	9.8	50	08.50	27	21	7.1	39
20000	13.20	49	39	12.9	58	10.00	34	27	9	45	08.00	24	19	6.3	35
18000	12.00	45	35	11.9	50	09.00	31	24	8.2	40	07.10	23	18	6.1	31
16000	10.40	40	31	10.6	45	08.00	28	22	7.4	35	06.25	20	16	5.3	27
14000	09.20	35	28	9.2	40	07.00	24	19	6.3	30	05.35	18	14	4.8	23
12000	08.00	31	24	8.2	33	06.00	20	16	5.3	25	04.50	15	12	4	20
10000	06.40	26	20	6.9	27	05.00	18	14	4.8	20	04.00	13	10	3.4	16
8000	05.20	21	16	5.5	20	04.00	14	11	3.7	16	03.10	10	8	2.6	13
6000	04.00	16	12	4.2	15	03.00	11	9	2.9	12	02.25	8	6	2.1	10
4000	02.40	10	8	2.6	10	02.00	8	6	2.1	8	01.35	5	4	1.3	6
2000	01.20	5	4	1.3	5	01.00	4	3	1.1	4	00.50	3	2	0.8	3
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0

Figure 5.11.1 - TIME, CONSUMPTION AND DESCENT DISTANCE

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5.12 - HOLDING TIME

Conditions : Landing gear and flaps UP
IAS = 120 KIAS - 2000 RPM - BLEED LO
TRQ ≃ 30 %

Pressure altitude (feet)	FUEL USED DURING HOLDING TIME											
	Weight 4850 lbs (2200 kg)						Weight 5512 lbs (2500 kg)					
	10 min			30 min			10 min			30 min		
	l	kg	us gal	l	kg	us gal	l	kg	us gal	l	kg	us gal
SL	29	23	7.7	87	69	23.0	31	24	8.2	93	72	24.6
5000	25	20	6.6	75	60	19.8	27	21	7.1	81	63	21.4
10000	23	18	6.1	69	54	18.2	24	19	6.3	72	57	19.0
15000	20	16	5.3	60	48	15.8	22	17	5.8	66	51	17.4
20000	19	15	5.0	57	45	15.0	20	16	5.3	60	48	15.8

Figure 5.12.1 - HOLDING TIME

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5.13 - LANDING DISTANCES

WEIGHT : 6250 lbs (2835 kg)

Associated conditions :
- Landing gear DN and flaps LDG
- Approach speed IAS = 80 KIAS
- Touch-down speed IAS = 65 KIAS
- Maximum braking without reverse
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Landing distance (clear to 50 ft) (in ft)

PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1050	1900	1115	2000	1180	2070	1215	2135
2000	1115	2000	1215	2100	1245	2200	1310	2265
4000	1180	2100	1280	2230	1345	2330	1410	2395
6000	1280	2230	1380	2360	1445	2460	1510	2525
8000	1380	2360	1475	2490	1540	2590	1610	2690
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1280	2200	1310	2300	1380	2360	1445	2430
2000	1345	2330	1410	2430	1475	2495	1540	2560
4000	1445	2460	1510	2560	1575	2655	1640	2755
6000	1575	2645	1640	2720	1705	2820	1770	2920
8000	1705	2790	1770	2885	1835	2985	1900	3085

Figure 5.13.1 - LANDING DISTANCES - 6250 lbs (2835 kg)

Corrections :
. Reduce total distances of 10 % every 10 kt of headwind
. Increase total distances of 30 % every 10 kt of tail-wind

Other runway surfaces require the following correction factors :

Increase by :
- 7 % on hard grass
- 10 % on short grass
- 15 % on wet runway
- 25 % on high grass
- 30 % on slippery runway

LANDING DISTANCES

WEIGHT : 5071 lbs (2300 kg)

Associated conditions :
- Landing gear DN and flaps LDG
- Approach speed IAS = 80 KIAS
- Touch-down speed IAS = 60 KIAS
- Maximum braking without reverse
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Landing distance (clear to 50 ft) (in ft)

PRESSURE ALTITUDE ft	ISA – 35°C		ISA – 20°C		ISA – 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	885	1900	950	2000	1000	2070	1030	2135
2000	950	2000	1030	2100	1065	2200	1115	2265
4000	1000	2100	1080	2230	1150	2330	1200	2395
6000	1080	2230	1180	2360	1230	2460	1280	2525
8000	1180	2360	1245	2490	1310	2590	1360	2690
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1080	2200	1115	2300	1180	2360	1230	2430
2000	1150	2330	1200	2430	1245	2495	1310	2560
4000	1230	2460	1280	2560	1345	2655	1395	2755
6000	1345	2645	1395	2720	1445	2820	1510	2920
8000	1445	2790	1510	2885	1560	2985	1610	3085

Figure 5.13.2 – LANDING DISTANCES – 5071 lbs (2300 kg)

Corrections :
. Reduce total distances of 10 % every 10 kt of headwind
. Increase total distances of 30 % every 10 kt of tail-wind

Other runway surfaces require the following correction factors :

Increase by :
- 7 % on hard grass
- 10 % on short grass
- 15 % on wet runway
- 25 % on high grass
- 30 % on slippery runway

SECTION 6

WEIGHT AND BALANCE

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6.1 - GENERAL

This section is intended to provide the pilot with the procedure to determine the weight and balance of the airplane.

A list of equipment available for this airplane is included at the end of this section.

The list of specific optional equipment installed on your airplane as delivered from the factory can be found in the records carried in the airplane.

IT IS THE PILOT'S RESPONSIBILITY TO ENSURE THAT THE AIRPLANE IS PROPERLY LOADED AND THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.

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6.2 - AIRPLANE WEIGHING PROCEDURES

Refer to Maintenance Manual for the procedures to use.

NOTE :
Weighing carried out at the factory takes into account all equipment installed on the airplane. The list of this equipment and the total weight is noted in the Individual Inspection Record.

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6.3 - BAGGAGE LOADING

There are two baggage compartments :

- one in fuselage non pressurized forward section, between firewall and cockpit with maximum baggage capacity of 110 lbs (50 kg).
- the other one is in the rear of the pressurized cabin with maximum baggage capacity of 220 lbs (100 kg).

Stowing straps are provided for securing parcels and baggage on compartment floor.

WARNING

IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE PARCELS AND BAGGAGES ARE PROPERLY SECURED IN THE CABIN

TRANSPORT OF DANGEROUS PRODUCT IS NORMALLY PROHIBITED, HOWEVER IF TRANSPORT OF SUCH PRODUCT IS NECESSARY, IT WILL BE PERFORMED IN COMPLIANCE WITH REGULATIONS CONCERNING TRANSPORT OF DANGEROUS PRODUCT AND ANY OTHER APPLICABLE REGULATION

DO NOT ALLOW ANY LIVE ANIMALS, FULL BOTTLES, CLOSED CONTAINERS AND / OR AEROSOLS IN FORWARD NON-PRESSURIZED COMPARTMENT

Baggage compartments loading must be done in accordance with the weight and balance limits of the airplane.

Generally, if rear seats are not used, first load aft compartment, then, if required, FWD compartment.

If rear seats are used, first load FWD compartment, then, if required, aft compartment.

Weight and balance graph should be checked to ensure the airplane is within the allowable limits.

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6.4 - DETERMINING WEIGHT AND BALANCE

GENERAL

This section is intended to provide the pilot with the procedure to detemine the weight and balance of the airplane.

IT IS THE PILOT'S RESPONSIBILITY TO ENSURE THAT THE AIRPLANE IS PROPERLY LOADED AND THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.

This procedure requires the following data related to the basic characteristics of the empty airplane to be obtained from the last airplane Weight and Balance Report :

- the empty weight, expressed in kg or lbs,
- the moment, expressed in m.kg or in.lbs,
- the CG, expressed in MAC %.

If the airplane empty weight has varied since last Weight and Balance Report (for example, due to installation of optional equipment), refer to paragraph "DETERMINING EMPTY AIRPLANE CHARACTERISTICS" to determine the new empty weight and the corresponding moment.

USING THE WEIGHT AND BALANCE FORM AND DIAGRAM

This procedure determines the airplane weight and balance characteristics for flight.

Select the units for the Weight and Balance determination, either m and kg, or lb and in, and use the dedicated form (Figures 6.4.3 or 6.4.4 or 6.4.5 or 6.4.6), appropriate to the chosen units and airplane configuration.

1) Record the basic empty weight (1a), moment (1b) and CG (MAC %) (1c) from the last Weight and Balance Report (see sample of Weight and Balance reports Figures 6.4.1 and 6.4.2).
2) Record the expected loading (2a) and compute each associated moment (2b).
3) Compute Zero Fuel Weight (3a) and moment (3b) as sum of all the above weights (1a) + (2a) and moments (1b) + (2b).
4) Check value (3a) to be below Maximum Zero Fuel Weight.

5) Compute Zero Fuel Weight arm (5) and CG (MAC %) (5c) using given formulas.

6) Record the loaded Fuel (6a) and compute associated moment (6b).

7) Compute Ramp Weight (7a) and moment (7b) as sum of Zero Fuel Weight (3a) + loaded Fuel (6a) and moments (3b) + (6b).

8) Check value (7a) to be below Maximum Ramp Weight.

9) Compute Ramp Weight arm (9) and CG (MAC %) (9c) using given formulas.

10) Record the expected Taxi Fuel (negative value) (10a) and compute associated moment (10b).

11) Compute Takeoff Weight (11a) and moment (11b) as sum of Ramp Weight (7a) + Taxi Fuel (10a) and moments (7b) + (10b).

12) Check value (11a) to be below Maximum Takeoff Weight.

13) Compute Takeoff Weight arm (13) and CG (MAC %) (13c) using given formulas.

14) Record the expected Trip Fuel (negative value) (14a) and compute associated moment (14b).

15) Compute Landing Weight (15a) and moment (15b) as sum of Takeoff Weight (11a) + Trip Fuel (14a) and moments (11b) + (14b).

16) Check value (15a) to be below Maximum Landing Weight.

17) Compute Landing Weight arm (17) and CG (MAC %) (17c) using given formulas.

18) Plot Zero Fuel Weight, Takeoff Weight and Landing Weight on Weight and Balance Diagram.

19) Check that all points are within the weight and balance limits and that they are vertically aligned.

20) Record these data on your navigation log.

AIRPLANE LOADING FORM (m, kg) - Valid from S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification Nr MOD 70-019-25

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (m) - 4.392)}{1.51} \times 100$$

Item		Weight (kg)	Arm (m)	Moment (m.kg)	CG (MAC %)
Empty Weight	(kg)	(1a)		(1b)	(1c)
Baggage FWD	(< 50 kg)	(2a)	3.250	(2b)	
Front Seats	(kg)	(2a)	4.585	(2b)	
Inter. Seats	(kg)	(2a)	5.565	(2b)	
Rear bench	(kg)	(2a)	6.585	(2b)	
Baggage AFT	(< 100 kg)	(2a)	7.560	(2b)	
Zero Fuel Weight	(< 2 722 kg)	(3a)	(5)	(3b)	(5c)
Fuel	(kg)	(6a)	4.820	(6b)	
Ramp Weight	(< 3 000 kg)	(7a)	(9)	(7b)	(9c)
Taxi Fuel	(kg)	(10a)	4.820	(10b)	
Takeoff Weight	(< 2 984 kg)	(11a)	(13)	(11b)	(13c)
Trip Fuel	(kg)	(14a)	4.820	(14b)	
Landing Weight	(< 2 835 kg)	(15a)	(17)	(15b)	(17c)

EXAMPLE OF AIRPLANE WEIGHT AND BALANCE REPORT

NOTE :
Airplane original report shall be kept with the airplane POH.

REGISTRE INDIVIDUEL DE CONTROLE
INDIVIDUAL INSPECTION RECORD

FICHE DE PESEE

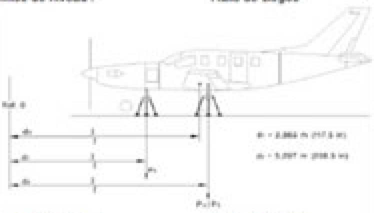
CONFIGURATION 6 PLACES

TBM 700

S/N :

F : 8

Mise de niveau : Rails de sieges



Point de levage avant

Points de levage gauche et droit

SEULEMENT POUR INFORMATION, SE REFERER A LA LIMITATION DU MANUEL DE VOL SECTION 2

LIMITATION

Masse maxi au décollage :	2984	Kg	A
Masse maxi à l'atterrissage :	2835	Kg	

Centrage (trains sortis et volets rentrés)

2000	Kg	14 à 37	%	A
2835	Kg	18.3 à 37	%	
2984	Kg	20 à 36	%	

PESEE EFFECTUEE SUR POINTS DE LEVAGE

Avion non peint
Sans huile moteur

	Masse lue (Kg)	Tare (Kg)	Masse nette (Kg)
Point gauche	716,4		P2
Point droit	689,5		P3
Point avant	508,2		P1
Masse P0 (Kg) =		1914.1	

DISTANCE DU C.G. A LA REFERENCE

$$d0 = \frac{(P1 \times d1) + (P2 + P3) \times d2}{P0}$$

$$d0 = \frac{(508,2 \times 2,985) + (716,4 + 689,5) \times 5,297}{1914.1} = 4.683$$

CORRECTION

	Masse (Kg)	Bras Levier (m)	Moment (m * Kg)
Masse P0	1914.1	4.683	8963.73
Peinture (2)	30	4,873	146.19
Huile moteur (3)	11,2	2,09	23.41
Carburant inconso.	27,2	4,7	127.84
RESULTATS	W: 1941,3 (1a)	D0: 4,683	M: 9091,57 (1b)

CENTRAGE A VIDE (EN % DE LA CMA)

$$CG = \frac{D0 - 4,392}{1,51} \times 100$$

$$CG = \frac{4,683 - 4,392}{1,51} \times 100 = 19.3$$

CALCUL DE L'INDEX DE BASE
Cf section 6 du manuel de vol

Masse à vide (W) : 1941,3 Kg (1a)

Centrage à Vide (CG) : 19.3 % (1c)

Moment (M) : 9091.57

1 - Rayer la mention inutile.
2 - Valeur non prise en compte si l'avion était peint lors de la pesée.
3 - Valeur non prise en compte si l'avion a été pesé avec huile.

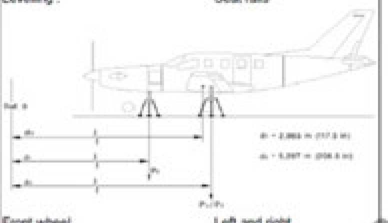
DATE : VISA DE CONTRÔLE :

Figure 6.4.1 – Example of Weight and Balance Report and basic airplane characteristics, in kg and m

NOTE :
Airplane original report shall be kept with the airplane POH.

	REGISTRE INDIVIDUEL DE CONTROLE INDIVIDUAL INSPECTION RECORD WEIGHT AND BALANCE REPORT 6-SEAT CONFIGURATION	**TBM 700** S/N : F : 6

Levelling : Seat rails



Front wheel

Left and right
Wheel points

LIMITATIONS — ONLY FOR INFORMATION, REFER TO LIMITATIONS SECTION 2 OF POH

Maximun take off weight : 6579 lbs
Maximun landing weight : 6250 lbs
A

Balance (landing gears down and flaps up)

4400 lbs	14 - 37	%	A
6250 lbs	18 - 37	%	
6579 lbs	20 - 36	%	

WEIGHING CARRIED OUT ON JACK POINTS

Not painted airplane
Without engine oil

	Gross Weight (lb)	Tare (lb)	Net Weight (lb)
Left point	1579,4		P2
Right point	1520,1		P3
Front point	1120,4		P1
Weight P0 (lbs) =	4219.9		

DISTANCE FROM C.G. TO REFERENCE

$$d0 = \frac{(P1 \times d1) + (P2 + P3) \times d2}{P0}$$

$$d0 = \frac{(1120,4 \times 117,5) + (1579,4 + 1520,1) \times 208,5}{4219.9} = 184.3$$

CORRECTIONS

	Weight (lb)	Arm (in)	Moment (in * lb)
Weight P0	4219.9	184.3	777892.8
Paint (2)	66,2	191,8	12697.2
Engine oil (3)	24,7	82,3	2032.8
Unusable fuel	(1a) 60	185	11100.0
RESULTS	W: 4279,9	D0: 184,3	M: 788992,75 (1b)

BALANCE
MAC (%)

$$CG = \frac{D0 - 173}{59} \times 100$$

$$CG = \frac{184,3 - 173}{59} \times 100 = 19.3$$

BASIC INDEX CALCULATION
See section 6 of Pilot's Operating Handbook

Empty weight (W) : 4279,9 lb (1a)

Balance (CG) : 19.3 % (1c)

Moment (M) : 788992.8

1 - Scratch useless mention.
2 - Values not taken into account if the airplane was painted when weighed.
3 - Values not taken account if the oil tank was full when the airplane was weighed.

DATE : INSPECTION VISA :

SAMPLE

Figure 6.4.2 – Example of Weight and Balance Report and basic airplane characteristics, in lb and in

WEIGHT AND BALANCE FORM AND DIAGRAM (m, kg) - Valid from S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (m) - 4.392)}{1.51} \times 100$$

Item		Weight (kg)	Arm (m)	Moment (m.kg)	CG (MAC %)
Empty Weight	(kg)				
Baggage FWD	(< 50 kg)		3.250		
Front Seats	(kg)		4.585		
Inter. Seats	(kg)		5.565		
Rear bench	(kg)		6.585		
Baggage AFT	(< 100 kg)		7.560		
Zero Fuel Weight	(< 2 722 kg)				
Fuel	(kg)		4.820		
Ramp Weight	(< 3 000 kg)				
Taxi Fuel	(kg)		4.820		
Takeoff Weight	(< 2 984 kg)				
Trip Fuel	(kg)		4.820		
Landing Weight	(< 2 835 kg)				

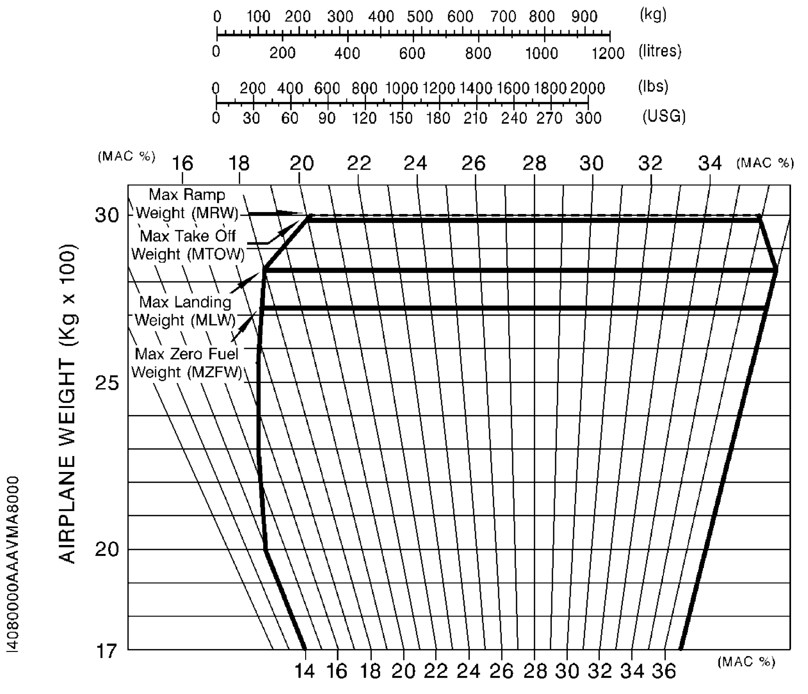


Figure 6.4.3 - Weight and Balance diagram

WEIGHT AND BALANCE FORM AND DIAGRAM (m, kg) - Valid for S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (m) - 4.392)}{1.51} \times 100$$

Item		Weight (kg)	Arm (m)	Moment (m.kg)	CG (MAC %)
Empty Weight	(kg)				
Baggage FWD	(< 50 kg)		3.250		
Front Seats	(kg)		4.585		
Inter. Seats	(kg)		5.641		
Rear bench	(kg)		6.916		
Baggage AFT	(< 100 kg)		7.695		
Zero Fuel Weight	(< 2 722 kg)				
Fuel	(kg)		4.820		
Ramp Weight	(< 3 000 kg)				
Taxi Fuel	(kg)		4.820		
Takeoff Weight	(< 2 984 kg)				
Trip Fuel	(kg)		4.820		
Landing Weight	(< 2 835 kg)				

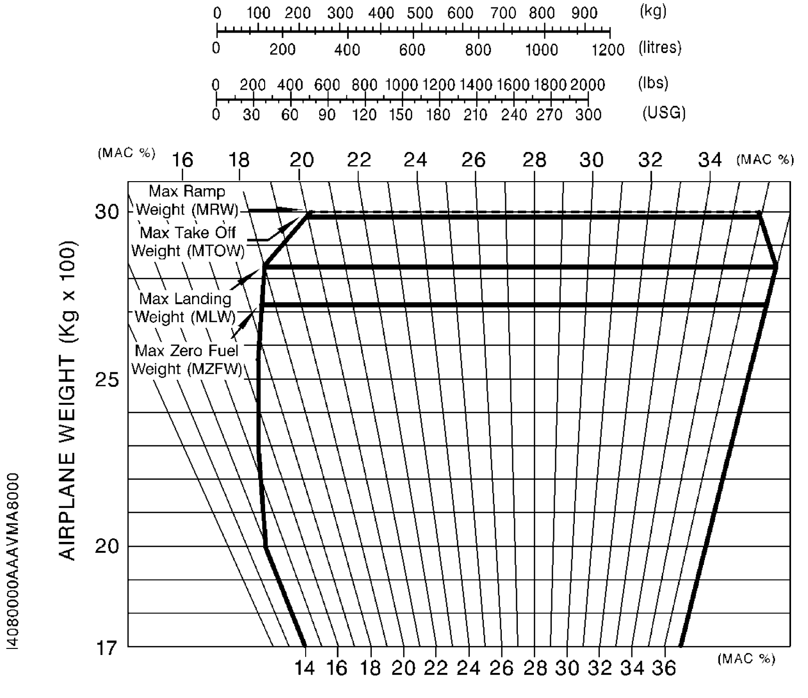


Figure 6.4.4 – Weight and Balance diagram

WEIGHT AND BALANCE FORM AND DIAGRAM (in, lbs) - Valid from S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification Nr MOD 70-019-25

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (in) - 172.93)}{59.45} \times 100$$

Item		Weight (lbs)	Arm (in)	Moment (in.lbs)	CG (MAC %)
Empty Weight	(lbs)				
Baggage FWD	(< 110 lbs)		128.0		
Front Seats	(lbs)		180.5		
Inter. Seats	(lbs)		219.1		
Rear bench	(lbs)		259.3		
Baggage AFT	(< 220 lbs)		297.6		
Zero Fuel Weight	(< 6 001 lbs)				
Fuel	(lbs)		189.8		
Ramp Weight	(< 6 614 lbs)				
Taxi Fuel	(lbs)		189.8		
Takeoff Weight	(< 6 579 lbs)				
Trip Fuel	(lbs)		189.8		
Landing Weight	(< 6 250 lbs)				

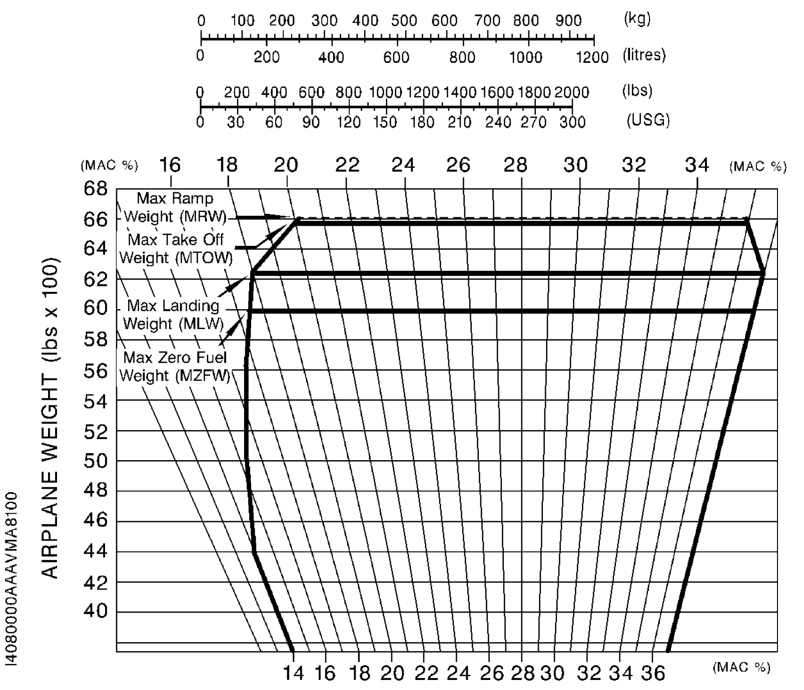


Figure 6.4.5 – Weight and Balance diagram

WEIGHT AND BALANCE FORM AND DIAGRAM (in, lbs) - Valid for S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (in) - 172.93)}{59.45} \times 100$$

Item		Weight (lbs)	Arm (in)	Moment (in.lbs)	CG (MAC %)
Empty Weight	(lbs)				
Baggage FWD	(< 110 lbs)		128.0		
Front Seats	(lbs)		180.5		
Inter. Seats	(lbs)		222.1		
Rear bench	(lbs)		272.3		
Baggage AFT	(< 220 lbs)		303.0		
Zero Fuel Weight	(< 6 001 lbs)				
Fuel	(lbs)		189.8		
Ramp Weight	(< 6 614 lbs)				
Taxi Fuel	(lbs)		189.8		
Takeoff Weight	(< 6 579 lbs)				
Trip Fuel	(lbs)		189.8		
Landing Weight	(< 6 250 lbs)				

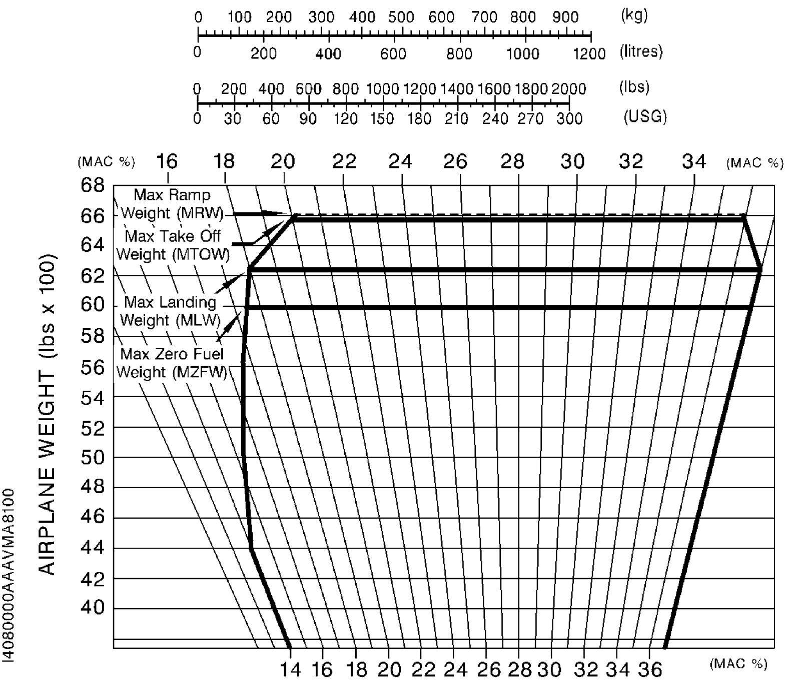


Figure 6.4.6 – Weight and Balance diagram

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WEIGHT AND BALANCE SAMPLES (m, kg) - Valid from S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25

<u>CAUTION</u>

LOADING SAMPLES (FIGURE 6.4.7 OR 6.4.8) ARE ONLY GIVEN AS AN EXAMPLE ; FOR CALCULATION CONCERNING YOUR AIRPLANE, REFER TO THE DIAGRAM CORRESPONDING TO ITS VALIDITY

	Fig. 6.4.7
1 - Airplane basic characteristics :	
W = Empty weight	1 860 kg
Moment	8 618 m.kg
Balance Arm	4.633 m
CG (MAC %)	16 %
2 - Foreseen loading :	
1 Pilot and no front Passenger	90 kg
2 Intermediate Passengers	200 kg
2 Rear Passengers	160 kg
AFT Cargo in baggage compartment	90 kg
Fuel	500 kg
3 - Foreseen fuel :	
Taxi Fuel	- 16 kg
Trip Fuel	- 310 kg

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (m) - 4.392)}{1.51} \times 100$$

Item		Weight (kg)	Arm (m)	Moment (m.kg)	CG (MAC %)
Empty Weight	(kg)	1 860	4.633	8 618	16
Baggage FWD	(< 50 kg)	0	3.250	0	
Front Seats	(kg)	90	4.585	413	
Inter. Seats	(kg)	200	5.565	1 113	
Rear bench	(kg)	160	6.585	1 054	
Baggage AFT	(< 100 kg)	90	7.560	680	
Zero Fuel Weight	(< 2 722 kg)	2 400	4.949	11 878	36.9
Fuel	(kg)	500	4.820	2 410	
Ramp Weight	(< 3 000 kg)	2 900	4.927	14 288	35.4
Taxi Fuel	(kg)	- 16	4.820	- 77	
Takeoff Weight	(< 2 984 kg)	2 884	4.928	14 211	35.5
Trip Fuel	(kg)	- 310	4.820	- 1 494	
Landing Weight	(< 2 835 kg)	2 574	4.941	12 717	36.4

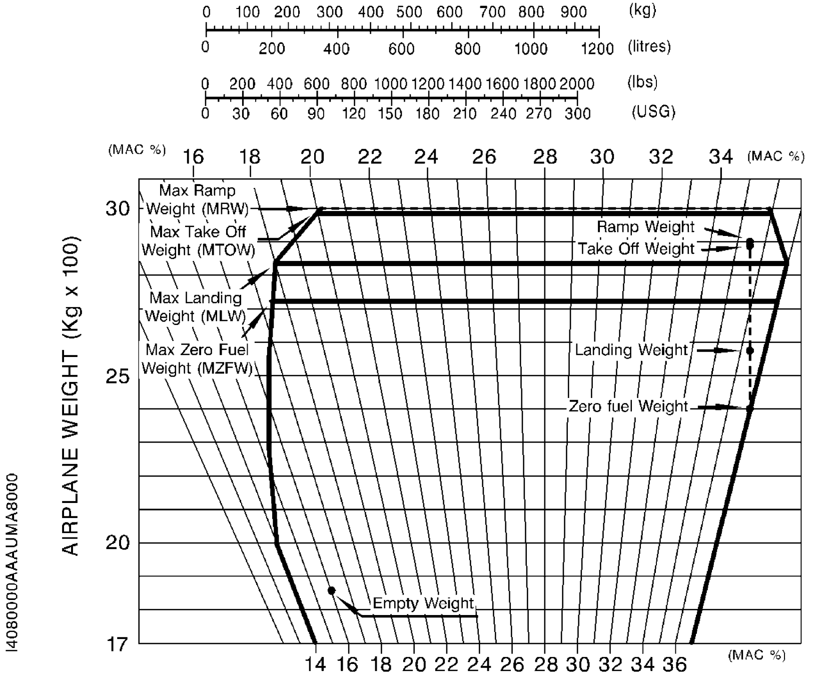

Figure 6.4.7 – Loading sample

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WEIGHT AND BALANCE SAMPLES (in, lbs) - Valid for S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

CAUTION

LOADING SAMPLES (FIGURE 6.4.7 OR 6.4.8) ARE ONLY GIVEN AS AN EXAMPLE ; FOR CALCULATION CONCERNING YOUR AIRPLANE, REFER TO THE DIAGRAM CORRESPONDING TO ITS VALIDITY

	Fig. 6.4.8
1 - Airplane basic characteristics :	
W = Empty weight	4 300 lbs
Moment	787 402 in.lbs
Balance Arm	183.1 in
CG (MAC %)	17.2 %
2 - Foreseen loading :	
FWD compartment	100 lbs
1 Pilot and 1 front Passenger	400 lbs
1 Intermediate Passenger	160 lbs
1 Rear Passenger	160 lbs
AFT Cargo in baggage compartment	100 lbs
Fuel	1 380 lbs
3 - Foreseen fuel :	
Taxi Fuel	- 36 lbs
Trip Fuel	- 1 000 lbs

Moment = Weight x Arm

$$CG\ (MAC\ \%) = \frac{(Arm\ (in) - 172.93)}{59.45} \times 100$$

Item		Weight (lbs)	Arm (in)	Moment (in.lbs)	CG (MAC %)
Empty Weight	(lbs)	4 300	183.1	787 402	17.2
Baggage FWD	(< 110 lbs)	100	128.0	12 800	
Front Seats	(lbs)	400	180.5	72 200	
Inter. Seats	(lbs)	160	222.1	35 536	
Rear bench	(lbs)	160	272.3	43 568	
Baggage AFT	(< 220 lbs)	100	303.0	30 300	
Zero Fuel Weight	(< 6 001 lbs)	5 220	188.1	981 806	25.5
Fuel	(lbs)	1 380	189.8	261 924	
Ramp Weight	(< 6 614 lbs)	6 600	188.4	1 243 730	26.0
Taxi Fuel	(lbs)	- 36	189.8	- 6 833	
Takeoff Weight	(< 6 579 lbs)	6 564	188.4	1 236 897	26.0
Trip Fuel	(lbs)	- 1 000	189.8	- 189 800	
Landing Weight	(< 6 250 lbs)	5 564	188.2	1 047 097	25.7

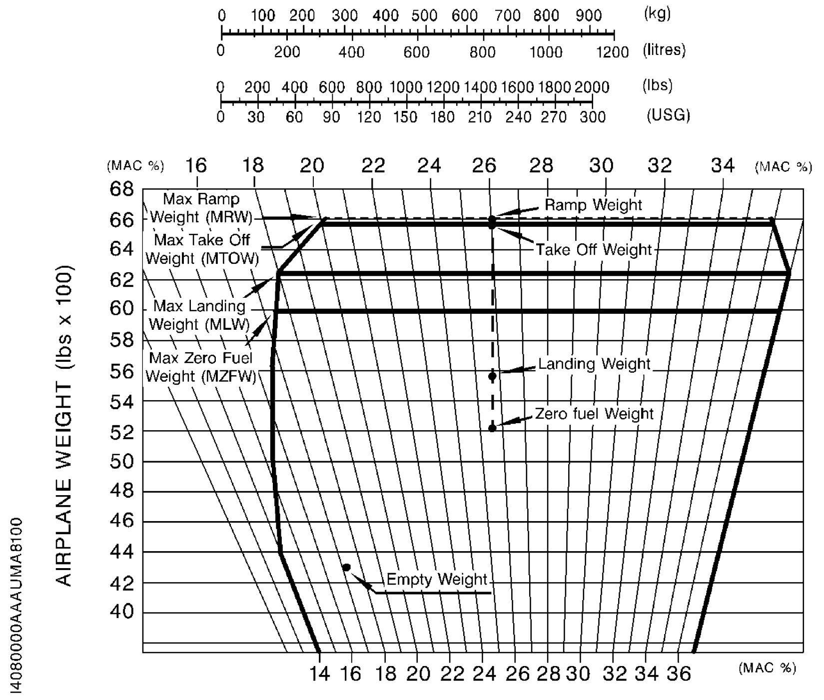

Figure 6.4.8 – Weight and Balance diagram

DETERMINING EMPTY AIRPLANE CHARACTERISTICS

Empty airplane characteristics (weight and balance) may vary with regard to those indicated on weighing form according to installed optional equipment.

List of equipment (paragraph 6.5) contains the standard and optional equipment, as well as their characteristics (weight, arm).

Use the chart below to compute new empty weight and corresponding balance if necessary.

DATE	EQUIPMENT OR MODIFICATION DESCRIPTION	(+) (−)	WEIGHT MODIFICATION			BASIC EMPTY WEIGHT		
			Weight lb	Arm in.	Moment lb.in/1000	Weight W	Arm "d_o"	Moment
	According to delivery							

Figure 6.4.9 – SAMPLE WEIGHT AND BALANCE RECORD

$$\boxed{\text{CG m.a.c.\%} = \frac{(do - 172.93)}{59.45} \times 100}$$

Use the above formula to express arm "d_o" in % of mean aerodynamic chord.

NOTE :
Arm expressed in inches with regard to reference.

Front seats	: 180.5 in. (4.585 m)	}	Valid S / N 1 to 23, 25,
Intermediate seats	: 219.1 in. (5.565 m)	}	28, 33 and 35, <u>except</u>
Rear seats	: 259.3 in. (6.585 m)	}	airplanes equipped as
FWD cargo compart.	: 128.0 in. (3.250 m)	}	a retrofit with
Aft bagg. compart.	: 297.6 in. (7.560 m)	}	modification
Fuel	: 189.8 in. (4.820 m)	}	Nr MOD 70-019-25

Front seats	: 180.5 in. (4.585 m)	}	Valid S / N 24, 26, 27,
Intermediate seats	: 222.1 in. (5.641 m)	}	29 to 32, 34, 36 to 9999,
Rear divan (2 seats)	: 272.3 in. (6.916 m)	}	<u>plus</u> airplanes equipped
FWD cargo compart.	: 128.0 in. (3.250 m)	}	as a retrofit with
Aft bagg. compart.	: 303.0 in. (7.695 m)	}	modification
Fuel	: 189.8 in. (4.820 m)	}	Nr MOD 70-019-25

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6.5 - LIST OF EQUIPMENT

The following list contains standard equipment installed on each airplane and available optional equipment.

A separate list of equipment of items installed at the factory in your specific airplane is provided in your airplane file.

Columns showing weight (in pounds) and arm (in inches) provide the weight and center of gravity location for the equipment.

In the list of Required, Standard or Optional equipment (not restrictive), a letter "R", "S", "O" or "A" allows classifying the equipment :

"R" : equipment items required for certification

"S" : standard equipment items

"A" : optional equipment items which are in addition to required or standard items

"O" : optional equipment items replacing required or standard items

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		01 - SPECIFIC OPTIONAL EQUIPMENT			
A	01008	Flight inspection system capability	NAVCAL	97.223 (44.10)	231.69 (5.885)
A	01018	EFIS HEADING # 1/ # 2 miscompare	KING	0.033 (0.015)	125.98 (3.200)
A	01019	DME KN 63 shield case	SOCATA	0.331 (0.150)	231.50 (5.880)
A	01024	Manual device for battery charge		0.551 (0.250)	125.98 (3.200)
A	01026A	Flight ceiling at 31000 ft	SOCATA	/	/

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		21 - ENVIRONMENTAL SYSTEM			
		21-20 - Distribution			
S		Cabin fan AVVC 00244	VETUS	3.307 (1.500)	251.97 (6.400)
		21-30 - Pressurization control			
S		Cabin altitude differential pressure and rate of climb indicator 3300-J51 CODE J.51	UNITED INSTRUMENTS	0.937 (0.425)	157.48 (4.000)
S		Cabin altitude warn switch 214 C40.3.261	CONDEC/ EATON	0.077 (0.035)	153.94 (3.910)
S		Cabin pressurization dump solenoïd valve 5112-1	AEROSPACE	0.441 (0.200)	181.10 (4.600)
S		Cabin νP warn switch 17-600-01	UMA	0.143 (0.065)	139.76 (3.550)
S		Check valve 985C-63-3	LE BOZEC	0.198 (0.090)	118.11 (3.000)
S		Outflow valve controller 130618-1	GARRETT	1.653 (0.750)	157.48 (4.000)
S		Outflow valve 103760-1	GARRETT	1.543 (0.700)	317.32 (8.060)
S		Safety valve 103760-2	GARRETT	1.543 (0.700)	317.32 (8.060)
		21-50 - Temperature conditioning system			
S		Cooling turbine 2204600-1	GARRETT	6.537 (2.965)	98.43 (2.500)
S		Ground conditioning heat M5922H-9A1	DYNAMIC AIR	13.911 (6.310)	90.55 (2.300)
O	0285-21	Ground conditioning fan - Version A (TBM 700A) T700A21.50100100	SOCATA	13.911 (6.310)	90.55 (2.300)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	0285-21	Ground conditioning fan - Version B (TBM 700B) T700A21.50100100	SOCATA	13.911 (6.310)	90.55 (2.300)
S		Heat exchanger 195980-1	GARRETT	12.599 (5.715)	114.17 (2.900)
S		Heat exchanger 195980-3	GARRETT	12.599 (5.715)	114.17 (2.900)
S		Overheat switch 1173T200	NEO DYN	0.110 (0.050)	114.17 (2.900)
S		Pilot regulator 3214102-1	GARRETT	0.573 (0.260)	116.14 (2.950)
S		Pressure regulating and shut-off valve 3213876-9	GARRETT	4.564 (2.070)	114.17 (2.900)
S		Temperature control sensor 622446-1	GARRETT	0.628 (0.285)	133.86 (3.400)
S		Temperature control valve 979432-2	GARRETT	2.469 (1.120)	106.30 (2.700)
S		Temperature control valve 979432-5	GARRETT	2.469 (1.120)	106.30 (2.700)
S		Water separator 85020-8	GARRETT	2.249 (1.020)	94.49 (2.400)
		21-55 - Vapor cycle cooling system			
A	21001A	Vapor cycle cooling system (TBM700A)	SOCATA (CASEY)	89.948 (40.800)	259.37 (6.588)
A	21002A	Vapor cycle cooling system - version A (TBM700A)	SOCATA (KEITH)	67.681 (30.700)	315.98 (8.026)
A	21002B	Vapor cycle cooling system - version B (TBM700B)	SOCATA (KEITH)	67.681 (30.700)	318.50 (8.090)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		22 - AUTO FLIGHT *NOTE :* *KFC 325 autopilot is included in EFIS equipment (ATA 34)*			
S		AFC air data computer KDC 222 P/N 065-00085-0002	HONEYWELL	0.970 (0.440)	167.32 (4.250)
S		AFC computer KCP 220 P/N 065-00064-0008	HONEYWELL	3.086 (1.400)	171.26 (4.350)
S		AFC mode annunciator KA 185A P/N 065-00087-0000	HONEYWELL	0.485 (0.220)	155.51 (3.950)
S		AFC mode selector KMC 321 P/N 065-00086-0008	HONEYWELL	0.882 (0.400)	155.51 (3.950)
S		Altitude and vertical speed preselector KAS 297C P/N 065-00089-0004	HONEYWELL	1.124 (0.510)	155.51 (3.950)
S		Amplifier separator KA 25A P/N 071-02008-0000	HONEYWELL	1.279 (0.580)	194.88 (4.950)
S		Amplifier separator KA 21	SOCATA	1.279 (0.580)	194.88 (4.950)
S		Audio alerter KAA 15 P/N 071-01466-0000	HONEYWELL	0.750 (0.340)	171.26 (4.350)
S		Pitch servo KS 270A P/N 065-00059-0004	HONEYWELL	2.601 (1.180)	247.44 (6.285)
S		Pitch servo KS 270A P/N 065-00059-0023	HONEYWELL	2.601 (1.180)	247.44 (6.285)
S		Pitch trim servo KS 272A P/N 065-00059-0023	HONEYWELL	2.403 (1.090)	157.48 (4.000)
S		Roll servo KS 271A P/N 065-00060-0001	HONEYWELL	2.403 (1.090)	227.76 (5.785)
S		Yaw servo KS 271A P/N 065-00060-0000	HONEYWELL	2.403 (1.090)	253.74 (6.445)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Yaw rate gyro KRG 331 P/N 060-00024-0000	HONEYWELL	0.750 (0.340)	171.26 (4.350)
O	22002	Altitude and vertical speed preselector KAS 297C with warning at ± 200 ft	HONEYWELL	1.124 (0.510)	155.51 (3.950)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		23 - COMMUNICATIONS			
S		Antenna 16-21B-P3	CHELTON	1.036 (0.470)	192.91 or 267.72 (4.900 or 6.800)
A		Audio control box KMA 24H-52 P/N 066-01055-0052	HONEYWELL	1.698 (0.770)	151.57 (3.850)
S		Cockpit loud-speaker 7202/01	AUTOSONIK	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker ARC 100	AUDAX	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker SXE-1010	ALPINE ELECTRONICS	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker AB 100 SC	ALPINE ELECTRONICS	0.772 (0.350)	181.10 (4.600)
S		Radio headset H10-30	DAVID CLARK	/	/
S		Static dischargers Type 2-16SC-1	CHELTON	Negligible	/
A		VHF COM # 1 KY 196A-30 P/N 064-01054-0030 (with rack and wiring kit)	HONEYWELL	3.197 (1.450)	151.57 (3.850)
O		VHF COM-NAV # 2 KX 165-25 P/N 069-01025-0025	HONEYWELL	5.644 (2.560)	151.57 (3.850)
S		Warning loud-speaker AD 3071/Y8	RTC (PHILIPS)	0.110 (0.050)	181.10 (4.600)
S		Warning loud-speaker AD 2071/Z8	PHILIPS	0.110 (0.050)	181.10 (4.600)
A	23004A	HF COM KHF 950	KING	31.900 (14.470)	310.63 (7.890)
A	23004B	HF COM KHF 950 compatible with OPT70 21002	KING	31.460 (14.270)	311.46 (7.911)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	23005A	COM1-NAV # 1 KX 165-25 without EFIS	KING	Δ-3.440 (Δ-1.560)	151.73 (3.854)
O	23005B	COM1-NAV # 1 KX 165-25 with EFIS	KING	Δ-3.000 (Δ-1.360)	152.13 (3.864)
A	23006A	Passengers address system	SOCATA	0.992 (0.450)	230.31 (5.850)
A	23007A	COM1-COM2 KTR 908	KING	13.942 (6.324)	232.13 (5.896)
A	23008A	Audio control box KMA 24H-52 (R.H. instrument panel)	KING	1.984 (0.900)	150.00 (3.810)
A	23009A	Additional equipment for electrostatic dischargers	CHELTON	Negligible	/
A	23010A	Dual channel audio control box AMS 44 with option OPT70 01008 (for export only)	NAT	2.204 (1.000)	153.94 (3.910)
O	23011A	Radio headset H10-13.4	DAVID CLARK	/	/
O	23011B	Radio headset 7001	PELTOR	/	/
O	23011C	Radio headset HMEC 25-KA	SENNHEISER	/	/
O	23011D	Radio stereo-headset HMEC 25-KA-S	SENNHEISER	/	/
O	23011E	Radio stereo-headset HMEC 25-KAX	SENNHEISER	/	/
O	23011F	Radio stereo-headset Serie X	BOSE	/	/
O	23011G	Radio stereo-headset HMEC 25-6A	SENNHEISER	/	/
A	23012A	Audio-Marker PMA 7000-MS	PS ENGINEERING	- 1.190 (- 0.540)	155.59 (3.952)
A	23012B	Audio-Marker PMA 7000-MS (with EFIS equipment)	PS ENGINEERING	- 1.190 (- 0.540)	140.12 (3.559)
A	23013A	VHF COM antenna 16-21B-XX under fuselage	CHELTON	1.036 (0.470)	272.28 (6.916)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	23013B	VHF COM antenna 16-41-XX under fuselage	CHELTON	1.036 (0.470)	272.28 (6.916)
A	23013C	VHF COM antenna 16-21B-XX under fuselage	CHELTON	1.036 (0.470)	280.31 (7.120)
A	23014A	VHF COM # 1 KY 196B	KING	2.998 (1.360)	153.54 (3.900)
A	23015A	VHF COM # 2 KY 196B	KING	2.998 (1.360)	153.54 (3.900)
O	23017B	COM-NAV # 1 KX 165A with EFIS (TBM700B)	HONEYWELL	Δ-3.000 (Δ-1.360)	151.73 (3.854)
O	23017C	COM-NAV # 1 KX 165A with EFIS (with KN 40 converter)	HONEYWELL	Δ1.235 (Δ0.560)	123.31 (3.132)
O	23017Z	COM-NAV # 1 KX 165A (retrofit 8.33 MHz)	HONEYWELL	/	152.36 (3.870)
A	23018B	COM/NAV - GPS # 2 GNS430			
		- with GPS # 1 and EFIS coupled	GARMIN	- 0.353 (- 0.160)	208.15 (5.287)
		- EFIS coupled	GARMIN	- 1.036 (- 0.470)	196.85 (5.000)
A	23018Z	COM/NAV - GPS # 2 GNS430 EFIS coupled	GARMIN	0.198 (0.090)	388.86 (9.877)
A	23019B	COM/NAV - GPS # 1 GNS430 EFIS coupled	GARMIN	- 4.056 (- 1.840)	160.67 (4.081)
A	23021A	VHF COM # 3 KY 196B	KING	2.998 (1.360)	153.54 (3.900)
O	23022B	COM-NAV # 2 KX 165A with EFIS (TBM700B)	HONEYWELL	/	167.40 (4.252)
O	23022C	COM-NAV # 2 KX 165A with EFIS	HONEYWELL	/	167.40 (4.252)
O	23022Z	COM-NAV # 2 KX 165A (retrofit 8.33)	HONEYWELL	/	152.36 (3.870)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	23023	Audio selector and Marker GMA 340	GARMIN	1.609 (0.730)	129.05 (3.278)
A	23024A	COM/NAV/GPS # 1 (B-RNAV) GNS 530 system, interfaced with EFIS : (antenna forward of frame 7)			
		. Transceiver GNS 530	GARMIN	8.49 (3.850)	151.57 (3.850)
		. VHF antenna (under fuselage) 16-21B-P3	CHELTON	0.86 (0.390)	271.65 (6.900)
		. GPS antenna KA 92	HONEYWELL	0.26 (0.120)	196.85 (5.000)
		or GA 56	GARMIN	0.46 (0.210)	196.85 (5.000)
A	23025A	COM/NAV/GPS # 2 (B-RNAV) GNS 530 system, Interfaced with GI 106A CDI and EHSI : (antenna in aircraft centerline)			
		. Transceiver GNS 530	GARMIN	8.49 (3.850)	151.57 (3.850)
		. VHF antenna (upper fuselage) 16-21B-P3	CHELTON	0.86 (0.390)	271.65 (6.900)
		. GPS antenna KA 92	HONEYWELL	0.26 (0.120)	204.72 (5.200)
		or GA 56	GARMIN	0.46 (0.210)	204.72 (5.200)
		. CDI GI 106A	MID CONTINENT	1.46 (0.660)	155.51 (3.950)
A	23026A	VHF DATA LINK KDR 510 (with MFD KMD 850) (antenna under wing)	HONEYWELL	2.454 (1.113)	191.69 (4.869)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		24 - ELECTRICAL POWER			
		24-30 - DC generation			
R		Ammeter 12-1200-9L 28 or AM99-05	AID FALGAYRAS	0.309 (0.140)	175.20 (4.450)
R		Battery F20/40 H1CT (70) P/N 33490-40-920 (4)	VARTA	80.468 (36.500)	112.00 (2.845)
R		Electric power center 160GC02Y02	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02AY02 (Ignition priority + contact splitting)	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center (Freon) 160GC02Y03	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02Y04 (Freon + ignition priority)	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02Y05 (Freon + ignition priority + contact splitting) S/N 92-9999 and S/N 1-92 after SB 70-031-24	ECE	11.023 (5.000)	127.95 (3.250)
R		Stand-by generator T700A2430045900	SOCATA	12.125 (5.500)	102.36 (2.600)
R		Stand-by generator T700A2430080900	SOCATA	12.125 (5.500)	102.36 (2.600)
R		Starter generator 8012F	AUXILEC	24.471 (11.100)	110.24 (2.800)
R		Voltmeter 12-5000-6L 28 or VT99-04	AID FALGAYRAS	0.220 (0.100)	175.20 (4.450)
O	24001A	Battery 4076-1	SAFT	83.334 (37.800)	112.00 (2.845)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	24001B	Battery with temperature sensor 4076-10	SAFT	82.849 (37.580)	112.20 (2.850)
O	24002A	Lead-Acid battery RG-380E/44	CONCORDE	85.979 (39.000)	112.20 (2.850)
A	0303-24	Charger/Maintainer for lead acid battery (airplanes equipped with OPT70 24002)		0.220 (0.100)	114.17 (2.900)
		24-40 - External power supply			
S		Ground power receptacle MS 3506-1	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.794 (0.360)	114.17 (2.900)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		25 - EQUIPMENT AND FURNISHINGS			
A	25001A	Toilets	SOCATA	30.055 (13.633)	285.91 (7.262)
A	25003A	Pilot piddle pak (TBM700A)	SOCATA	0.220 (0.100)	174.01 (4.420)
A	25003B	Pilot piddle pak	SOCATA	0.220 (0.100)	174.01 (4.420)
A	25004A	Leather upholstering - version A "American L."	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004B	Leather upholstering - version B "Wentworth"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004C	Leather upholstering - version C "Design"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004D	Leather upholstering - version D "Autolux"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	0386-25	Leather upholstering "Vulcain"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25005A	JEPPESEN filing cabinet (TBM700A)	SOCATA	12.302 (5.580)	201.06 (5.107)
A	25005B	JEPPESEN filing cabinet - PPI	SOCATA	18.739 (8.500)	202.76 (5.150)
A	25005C	JEPPESEN filing cabinet - Composite	SOCATA	14.991 (6.800)	202.76 (5.150)
A	25006A	Storage box (TBM700A)	SOCATA	11.155 (5.060)	201.06 (5.107)
A	25006B	Refreshment cabinet (TBM700A)	SOCATA	15.873 (7.200)	201.06 (5.107)
A	25006C	Storage box - PPI	SOCATA	20.282 (9.200)	202.76 (5.150)
A	25006D	Refreshment cabinet - PPI	SOCATA	23.589 (10.700)	202.76 (5.150)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	25006E	Storage box – Composite	SOCATA	16.314 (7.400)	202.76 (5.150)
A	25006F	Refreshment cabinet – Composite	SOCATA	18.960 (8.600)	202.76 (5.150)
A	25007A	Retractable table	SOCATA	4.123 (1.870)	244.25 (6.204)
A	25009A	Audio cabinet (TBM700A)	SOCATA	21.429 (9.720)	205.04 (5.208)
A	25009B	Audio cabinet – PPI	SOCATA	8.704 (13.020)	205.43 (5.218)
A	25009C	Audio cabinet – Composite	SOCATA	24.052 (10.910)	206.14 (5.236)
A	25009D	BECKER audio cabinet	SOCATA	29.916 (13.570)	224.57 (5.704)
A	25009E	BECKER audio cabinet (compatible with OPT70 23012 and OPT70 23023)	SOCATA	28.439 (12.900)	224.45 (5.701)
A	25009F	BECKER audio cabinet (compatible with OPT70 23012 and OPT70 23023)	SOCATA	28.439 (12.900)	224.45 (5.701)
O	25013A	Map holder on R.H. control wheel	SOCATA	0.463 (0.210)	167.72 (4.260)
O		LED lighted chart holder	MADELEC SYSTEM	0.595 (0.270)	/
O	25017A	Window panel blinds and upper door locking safety device (TBM700A)	SOCATA	ΔNegli-gible	/
A	25018A	Smoke goggles	PURITAN	0.573 (0.260)	200.00 (5.080)
S		Smoke goggles	INTER-TECHNIQUE	0.286 (0.130)	200.00 (5.080)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	25021A	Coat hanger	SOCATA	Negligible	/
O	25022A	Upholstery panels modifications - Version A	SOCATA	Δ 7.720 (Δ 3.500)	216.53 (5.500)
O	25022B	Upholstery panels modifications - Version B	SOCATA	Δ 5.510 (Δ 2.500)	216.53 (5.500)
O	25022C	Upholstery panels modifications - Version C	SOCATA	Δ 5.510 (Δ 2.500)	216.53 (5.500)
A	25024A	Carpet protecting mat - version A (TBM700A)	SOCATA	5.730 (2.600)	246.10 (6.250)
A	25024B	Carpet protecting mat - version B (TBM700B)	SOCATA	5.730 (2.600)	246.10 (6.250)
O	25025A	Cabin furnishings "LUXE" (TBM700B)	SOCATA	Δ 7.720 (Δ 3.500)	288.38 (7.325)
O	25025B	Cabin furnishings "VIP" (TBM700B)	SOCATA	Δ 7.720 (Δ 3.500)	288.38 (7.325)
A	25026A	Partition net between the cabin and the baggage compartment	SOCATA	2.756 (1.250)	289.53 (7.354)
A	25027A	Cargo transportation capability (with pilot door) (pilot alone on board) (TBM700B)	SOCATA	25.353 (11.500)	246.69 (6.266)
A	25027B	Cargo transportation capability (with pilot door) (1 pilot + 1 FWD passenger) (TBM700B)	SOCATA	30.864 (14.000)	246.10 (6.251)
A	25028A	28V plugs - Lighter	SOCATA	/	/
A	25031	Cargo transportation capability without pilot door (TBM700B)	SOCATA	20.393 (9.250)	289.53 (7.354)
A	25032	Front seats ease covers	SOCATA	2.756 (1.250)	183.78 (4.668)
A	0151-25	CD reader PCD 7100	PS ENGINEERING	2.20 (1.000)	205.04 (5.208)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	0174-25	Optional 12 V plugs	SOCATA	3.31 (1.500)	195.28 (4.960)
A	0246-25B	Potty seat (Chemical toilets cabinet) and its associated curtain (TBM700B)	DOMETIQUE/ CATHERINEAU	54.23 (24.600)	219.96 (5.587)
		Seats - Belts (Standard equipment)			
S		Seats (6 places without oxygen equipment) (TBM700A) :			
		- Pre-MOD70-019-25 Valid S/N 1 to 23, 25, 28, 33 and 35 :			
S		. Pilot's seat T700A2512000 (TBM700A)	SOCATA	24.250 (11.000)	180.31 (4.580)
S		. Front R.H. Seat T700A2512000 (TBM700A)	SOCATA	24.250 (11.000)	180.31 (4.580)
S		. Intermediate seat (R.H. or L.H.) (back to flight direction) (TBM700A) T700A2522000	SOCATA	23.148 (10.500)	217.72 (5.330)
S		. Rear L .H. Seat T700A2522001 (TBM700A)	SOCATA	24.250 (11.000)	257.09 (6.530)
S		. Rear R. H. seat T700A2522000 (TBM700A)	SOCATA	23.148 (10.500)	257.09 (6.530)
		or			
O		. Rear divan Model 3028 P/N 303437-3 T700A2522000990 as a retrofit	ERDA	74.956 (34.000)	271.30 (6.891)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Seats (6 places with or without oxygen equipment)			
		- Post-MOD70-019-25 Valid S/N 24, 26, 27, 29 to 32, 34, 36 to 9999 :			
S		. Pilot's seat T700A2512000 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Pilot's seat T700A2512002 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512002 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (S/N 128 only)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Front R.H. Seat T700A2512000 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Front R.H. Seat T700A2512002 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. Seat T700A2512002 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. Seat T700A2512082 (S/N 128 only)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. seat T700A2512082 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700A) T700A2522000	PPI	25.507 (11.570)	218.31 (5.545)
S		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700B) T700A2522004	PPI	25.507 (11.570)	218.31 (5.545)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700A) T700A2522004	PPI	25.507 (11.570)	218.31 (5.545)
		or			
S		. Rear divan Model 3028 P/N 303437-3 T700A2522000 (TBM700A - Pre-MOD70-023)	ERDA	74.956 (34.000)	271.30 (6.891)
		or			
S		. Double chair T700A2521201 (TBM700A - Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair T700A2521230 (TBM700A - Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
S		. Rear divan T700B2520018 (TBM700B)	PPI	57.319 (26.000)	271.30 (6.891)
S		Belt and harness T700A2510007	ANJOU AERONAU-TIQUE	1.786 (0.810)	192.91 or 287.40 (4.900 or 7.300)
		Leather seats - Belts			
O		. Pilot's seat T700A2512000 (TBM700A)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (TBM700B)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512000 (TBM700A)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512002 (TBM700A - Post-MOD70-019)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512082 (TBM700B)	SOCATA	27.56 (12.500)	182.68 (4.640)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		. L.H. intermediate seat (back to flight direction) T700A2522000 (TBM700A)	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. L.H. intermediate seat (back to flight direction) T700A2522004	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. R.H. intermediate seat (back to flight direction) T700A2522000 (TBM700A)	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. R.H. intermediate seat (back to flight direction) T700A2522004	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. Rear Divan T700A2522000 (TBM700A - Pre-MOD70-023)	SOCATA	50.71 (23.000)	271.30 (6.891)
O		. Double chair T700A2521201 (TBM700A - Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair T700A2521230 Post-MOD70-023	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair, L.H. Seat (TBM700B) T700B2520018	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, L.H. Seat (TBM700B) T700B2520015	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, R.H. Seat (TBM700B) T700B2520018	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, R.H. Seat (TBM700B) T700B2520015	SOCATA	25.35 (11.500)	271.30 (6.891)
		Seats - Belts (Optional equipment)			
A	25002A	TBM700A 7-place accomodation	SOCATA	Δ 11.574 (Δ 5.250)	308.78 (7.843)
		- Valid S/N 7 :			
		. Pilot's seat	SOCATA	24.250 (11.000)	180.30 (4.580)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		. Front R.H. seat	SOCATA	24.250 (11.000)	180.30 (4.580)
		. L.H. intermediate seat (back to flight direction)	SOCATA	23.148 (10.500)	217.72 (5.330)
		. R.H. intermediate seat	SOCATA	23.148 (10.500)	220.47 (5.600)
		. Rear R .H. seat	SOCATA	23.148 (10.500)	254.45 (6.463)
	Cont'd	. Rear divan	ERDA	74.956 (34.000)	289.13 (7.344)
A	25002B	TBM700A 7-place accomodation :	PPI	Δ 30.137 (Δ 13.670)	237.76 (6.039)
		- Valid from S/N 68 to 128 except S/N 72 to 75 :			
		. Pilot's seat	PPI		182.68 (4.640)
		. Front R.H. seat	PPI		182.68 (4.640)
		. L.H. intermediate seat (back to flight direction)	PPI		218.31 (5.545)
		. R.H. intermediate seat	PPI		212.95 (5.409)
		. Rear R .H. seat	PPI		242.20 (6.152)
		. Rear divan	PPI		271.30 (6.891)
A	25002C	TBM700B 7-place accomodation :	PPI	Δ 30.137 (Δ 13.670)	237.76 (6.039)
		- Valid from S/N 129 :			
		. Pilot's seat	PPI		182.68 (4.640)
		. Front R.H. seat	PPI		182.68 (4.640)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		. L.H. intermediate seat (back to flight direction)	PPI		218.31 (5.545)
		. R.H. intermediate seat	PPI		212.95 (5.409)
		. Rear R .H. seat	PPI		242.20 (6.152)
		. Rear divan	PPI		271.30 (6.891)
		25-60 - Emergency equipment			
A	25019A	Axe	SOCATA	2.425 (1.100)	195.28 (4.960)
A	25020A	First aid kit	SOCATA	3.968 (1.800)	285.43 (7.250)
		25-61 - Emergency locator transmitter			
A		Emergency beacon JE2 or JE2NG (Not valid for U.K., Germany and Austria)	JOLLIET	3.086 (1.400)	311.02 (7.900)
O	25008A	Emergency beacon ELT 910 (For export only)	NARCO		
		- TBM700A		Δ 2.646 (Δ 1.200)	270.47 (6.870)
		- TBM700B		Δ 2.646 (Δ 1.200)	295.28 (7.500)
O	25012A	Emergency beacon ELT 90 (EUROCAE)	SOCATA	3.307 (1.500)	270.87 (6.880)
O	25012B	Emergency beacon ELT 91 (TSO)	SOCATA	3.307 (1.500)	270.87 (6.880)
O	25016A	Three-frequency emergency locator transmitter ELT 96 (EUROCAE)	SOCATA		
		- TBM700A		3.638 (1.650)	297.64 (7.560)
		- TBM700B		3.638 (1.650)	271.65 (6.900)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	25016B	Three-frequency emergency locator transmitter (TSO) ELT 97	SOCATA		
		- TBM700A		3.638 (1.650)	297.64 (7.560)
		- TBM700B		3.638 (1.650)	271.65 (6.900)
O	0153-25B	Emergency beacon KANNAD 406AF (installed under rear seat in cabin) (with support)	SERPE-IESM		
		Pre-MOD70-138-53, retrofit only to replace option OPT70 25016 :			
		- TBM700A		2.45 (1.110)	297.64 (7.560)
		- TBM700B		2.45 (1.110)	347.09 (8.816)
		. ELT/NAV interface box CS144A	SERPE-IESM	1.81 (0.823)	297.64 (7.560)
		. Antenna 21-41	CHELTON	0.31 (0.140)	339.37 (8.620)
O	0153-25D	Emergency beacon KANNAD 406 AF (installed under rear seat in cabin) (with support)	SERPE-IESM		
		Pre-MOD70-138-53, retrofit only to replace option OPT70 25016 :			
		- TBM700A		2.45 (1.110)	297.64 (7.560)
		- TBM700B		2.45 (1.110)	347.09 (8.816)
		. ELT/NAV interface box CS144A	SERPE-IESM	1.81 (0.823)	297.64 (7.560)
		. Antenna 1327-82	CHELTON	0.33 (0.150)	339.37 (8.620)
A	0273-25A	Emergency Locator Transmitter KANNAD 406 AF Compact - automatic fixed - (installed in cabin), of which:	SERPE-IESM	2.29 (1.040)	272.95 (6.933)
		. Antenna ANT300	SERPE-IESM	0.33 (0.150)	313.39 (7.960)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		26 - FIRE PROTECTION			
A	26001A	Portable fire extinguisher unit (TBM 700A) FH 15 N	AREOFEU	4.696 (2.130)	176.38 (4.480)
		or H1-10 AIR	MAIP	4.266 (1.935)	176.38 (4.480)
A	26001B	Portable fire extinguisher unit H1-10 AIR	MAIP	4.266 (1.935)	192.16 (4.881)
		or 863520-00	L'HOTELLIER	3.638 (1.650)	192.16 (4.881)
A	26002A	Engine fire detection system	L'HOTELLIER	1.455 (0.660)	96.06 (2.440)
A	0391-26	Portable fire extinguisher unit 74-00	AIR TOTAL		
		Version A	AIR TOTAL	4.89 (2.220)	170.11 (4.321)
		Version B	AIR TOTAL	4.89 (2.220)	192.16 or 194.16 (4.881 or 4.932)
		Version C	AIR TOTAL	4.96 (2.250)	193.80 (4.923)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		27 - FLIGHT CONTROLS			
		27-10 - Roll control			
R		Roll trim actuator 145700.01 or 145700.02	LPMI	1.543 (0.700)	212.60 (5.400)
		27-20 - Yaw control			
R		Rudder trim actuator 145700.01 or 145700.02	LPMI	1.543 (0.700)	395.27 (10.040)
R		Trim and flap indicator 4724	PEKLY S.A	1.102 (0.500)	159.45 (4.050)
A	27001A	AFC and electric trim control on R.H. control wheel	SOCATA	0.882 (0.400)	157.48 (4.000)
		27-30 - Pitch control			
S		Pitch trim actuator 145400-01 or 145400-02	LPMI	1.213 (0.550)	425.20 (10.800)
		27-50 - Wing flaps (control)			
R		Flap control including :	AVIAC	15.520 (7.040)	218.50 (5.550)
		- Flap motor 6157-1	AVIAC	2.866 (1.300)	216.54 (5.500)
		- Flap actuator 1-5295 / 2-5295	AVIAC	1.918 (0.870)	216.54 (5.500)
		or 1-5297 / 2-5297		1.830 (0.830)	220.47 (5.600)
O	27002A	Flap control	LPMI	17.438 (7.910)	218.50 (5.550)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		28 - FUEL SYSTEM			
		28-20 - Fuel supply			
R		Electric boost pump 2003-B	WELDON	3.483 (1.580)	129.92 (3.300)
R		Electric boost pump 2022-B	WELDON	3.483 (1.580)	129.92 (3.300)
R		Electric boost pump 1B9-5	AIRBORNE	4.409 (2.000)	129.92 (3.300)
R		Engine driven fuel pump 1127-01	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Engine driven fuel pump 1127-01 A	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Engine driven fuel pump 1127-02	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Fuel sequencer unit E3-003-00	STPI	1.764 (0.800)	125.98 (3.200)
R		Fuel unit 35001C14-1	LE BOZEC	5.512 (2.500)	133.07 (3.380)
R		Fuel unit L88A15-651	INTER-TECHNIQUE	4.586 (2.080)	133.07 (3.380)
O	28001A	A35 fuel sequencer unit	TFE	1.102 (0.500)	125.98 (3.200)
		28-40 - Fuel indication			
R		Amplifier indicator (in us gal) 748-758-1	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in us gal) 748-859-1	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in us gal) 748-859-2	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in litres) 749-338	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
R		Fuel pressure indicator 19-3005 or PC99-06	AID FALGAYRAS	0.309 (0.140)	157.48 (4.000)
R		Inboard L.H. gage 768-403 or 762-438-1-0	INTER-TECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Inboard R.H. gage 768-404 or 762-439-1-0	INTER-TECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Intermediate gage 766-976-1 or 762-440-1-0	INTER-TECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Outboard gage 766-977-1 or 762-441-1-0	INTER-TECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Low level sensor 722-447	INTER-TECHNIQUE	0.100 (0.045)	183.07 (4.650)
O	0427-28A	Low level sensor 747-971-1-0	ZODIAC/INTER-TECHNIQUE	0.143 (0.065)	192.91 (4.900)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		30 - ICE AND RAIN PROTECTION			
S		Deicer, L.H. elevator horn T700A5520015006(920)	SOCATA	3.307 (1.500)	403.15 (10.240)
S		Deicer, R.H. elevator horn T700A5520015007(921)	SOCATA	3.307 (1.500)	403.15 (10.240)
S		Deicer, L.H. horizontal stabilizer T700A3013003000	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer, R.H. horizontal stabilizer T700A3013003001	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer, vertical stabilizer T700A3014003000	SOCATA	3.968 (1.800)	374.02 (9.500)
S		Deicer, inboard L.H. wing T700A3010001002	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer, inboard R.H. wing T700A3010001003	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer, middle L.H. wing T700A3010001004	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer, middle R.H. wing T700A3010001005	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer (Std), outboard L.H. wing T700A3010001006	SOCATA	3.307 (1.500)	173.23 (4.400)
S		Deicer, outboard R.H. wing T700A3010001007	SOCATA	3.307 (1.500)	173.23 (4.400)
S		Dual port distribution valve 1532-10C	LUCAS	2.425 (1.100)	125.98 (3.200)
S		Timer 42E25-2	LUCAS	0.772 (0.350)	177.17 (4.500)
S		Timer 42E25-2A	LUCAS	0.772 (0.350)	177.17 (4.500)
S		Water separator and filter 44E21-2A	LUCAS	1.102 (0.500)	125.98 (3.200)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		Deicer, outboard L.H. wing T700A3010012000 (with radar OPT70 34007A)	SOCATA	2.646 (1.200)	173.23 (4.400)
		30-40 - Windshield deicing			
S		Windshield heater controller WH 89-10	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
S		Windshield heater controller WH 89-10A	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
S		Windshield heater controller TWH 93-01	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
		30-60 - Propeller deicing			
S		Deicing kit 67-600-2	GOODRICH	1.764 (0.800)	48.43 (1.230)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		31 - INDICATING/RECORDING SYSTEMS			
		31-20 - Independent instruments			
S		Chronometer M800 (28V)	DAVTRON	0.154 (0.070)	157.48 (4.000)
S		Chronometer 420000	ASTROTECH	0.154 (0.070)	157.48 (4.000)
O	31001A	Stop watch Q18-945-22-28-1-LE	THOMMEN	0.419 (0.190)	157.48 (4.000)
O	31002A	Hourmeter 56457-3 (engine running time)	DATCON	0.551 (0.250)	156.30 (3.970)
O	31002B	Hourmeter 56457-3 (flying time)	DATCON	0.551 (0.250)	156.30 (3.970)
		31-50 - Aural warning			
R		Aural warning system T700A3155011000	SOCATA	0.661 (0.300)	183.07 (4.650)
		31-60 - Visual warning			
R		Advisory panel AP 89-11	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)
R		Advisory panel AP 00-06	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)
R		Advisory panel AP 00-08 (with option OPT70 26002)	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		32 - LANDING GEARS			
		32-10 - Main landing gear			
R		L.H. main landing gear 21135-001-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		L.H. main landing gear 21135-002-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		R.H. main landing gear 21136-001-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		R.H. main landing gear 21136-002-00	ERAM	50.044 (22.700)	200.39 (5.090)
O	0141-32	L.H. main landing gear D23767000	MESSIER DOWTY	51.590 (23.400)	200.39 (5.090)
O	0141-32	R.H. main landing gear D23768000	MESSIER DOWTY	51.590 (23.400)	200.39 (5.090)
		32-20 - Nose landing gear			
R		Nose gear 21130-001-00	ERAM	52.910 (24.000)	93.70 (2.380)
O	0141-32	Nose gear D23766000	MESSIER DOWTY	53.570 (24.300)	93.70 (2.380)
		32-30 - Extension and retraction			
R		Door actuator EC 6230	HRL	1.345 (0.610)	192.91 (4.900)
R		Main locking actuator 08-1480	HRL	13.228 (6.000)	208.07 (5.285)
R		Nose locking actuator 08-1480	HRL	13.228 (6.000)	110.24 (2.800)
R		Hand pump 914-8D27	TELEDYNE	2.326 (1.055)	181.10 (4.600)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	0342-52	Lower main landing gear doors (R.H. and L.H.)	SOCATA	6.614 (3.000)	204.33 (5.190)
		32-35 - Hydraulic generation			
R		Hydraulic power pack :	LHC		
		- up to S/N 10 : 1118-02 or 03		6.548 (2.970)	84.65 (2.150)
		- from S/N 11 to S/N 227 : 1118-03		6.548 (2.970)	84.65 (2.150)
	060-32	- from S/N 1 (retrofit) and from S/N 228 : 1118-04		10.362 (4.700)	84.65 (2.150)
		32-40 - Wheels and brakes			
R		Brake assembly 030-19100	PARKER	14.991 (6.800)	204.33 (5.190)
R		Main tire 18x5.5-8PR TL	DUNLOP	13.228 (6.000)	204.33 (5.190)
R		Main tire 18x5.5-8/190T	MICHELIN	12.200 (5.534)	204.33 (5.190)
R		Main tire 18x5.5-8PR FLE	GOODYEAR	13.450 (6.101)	204.33 (5.190)
R		Master cylinder 010-07801	PARKER	0.882 (0.400)	145.67 (3.700)
R		Master cylinder 010-07802	PARKER	0.882 (0.400)	145.67 (3.700)
R		Nose tire 5.00x5-6PR	DUNLOP	6.400 (2.903)	89.57 (2.275)
R		Nose tire 5.00-5-10PR TL	MICHELIN	6.000 or 5.600 (2.722 or 2540)	89.57 (2.275)
R		Nose tire 5.00-5-10PR TL	GOODYEAR	6.300 (2.858)	89.57 (2.275)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
R	0408-32	Nose tire 5.00-5-10PR	GOODYEAR	6.834 (3.100)	89.57 (2.275)
R		Nose tire 5.00x5-10-120TL	AVIATOR	5.600 (2.540)	89.57 (2.275)
R		Nose wheel 40-262A	PARKER	2.976 (1.350)	89.57 (2.275)
R		Main wheel (Model 40-270) 040-27000	PARKER	11.023 (5.000)	204.33 (5.190)
R		Parking brake valve 060-01600	PARKER	0.331 (0.150)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		33 - LIGHTS			
		33-10 - Instrument panel lighting			
S		L.H. tube 67135 U290 C62S	SELA	Negligible	/
S		R.H. tube 67135 U290 C63S	SELA	Negligible	/
S		DC/AC inverter 18-916-226	SELA	0.331 (0.150)	153.54 (3.900)
S		Intensity control 419-12-22k-100k	SELA	0.220 (0.100)	157.48 (4.000)
S		Instruments emergency lighting 2240-3	WEMAC	0.110 (0.050)	181.10 (4.600)
A	33001A	PULSELITE unit (for landing lights) 1NC P/N 1220/2410-2	PRECISE FLIGHT	1.265 (0.574)	202.60 (5.146)
		33-40 - External lighting			
S		L.H. wing inspection light (icing detection) T700A3340012	SOCATA	0.198 (0.090)	151.57 (3.850)
S		Landing lights 4596	GE	0.794 (0.360)	179.13 (4.550)
S		Taxi light assembly A715-1 (4587)	WHELEN	1.102 (0.500)	93.70 (2.380)
S		NAV/Anticollision system :	WHELEN		
S		- Anticollision power supply A413A HDA-DF-28 or A413A HDA-DF-14/28 or A413A HDA-CF-14/28	WHELEN	2.998 (1.360)	204.72 (5.200)
S		- L.H. navigation light assy A600 PR 28 or R.H. navigation ligth assy A600 PG 28	WHELEN	0.507 (0.230)	185.04 (4.700)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S	Cont'd	– L.H. navigation light assy A600 PR D28 or R.H. navigation ligth assy A600 PG D28	WHELEN	0.507 (0.230)	185.04 (4.700)
O	33002	Halogen landing lights Q5596	WHELEN	0.794 (0.360)	179.13 (4.550)
		Halogen taxi light Q5587	WHELEN	1.102 (0.500)	93.70 (2.380)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION			
A	34036A	COM-NAV KX 165 - SINGLE	KING	1.301 (0.590)	151.57 (3.850)
A	34036B	COM-NAV KX 165 - SINGLE EFIS coupled	KING	1.301 (0.590)	151.57 (3.850)
		34-10 - Flight environment data			
		34-11 - Air data systems			
R		Airspeed indicator # 1 8040 Code B.617	UNITED INSTRUMENTS	0.716 (0.325)	157.48 (4.000)
R		Altimeter 5934 PAD-1 Code A.186 (R.H. Instrument panel)	UNITED INSTRUMENTS	0.904 (0.410)	157.48 (4.000)
R		Altimeter #1 5934 PAD-3 Code A.186	UNITED INSTRUMENTS	0.904 (0.410)	157.48 (4.000)
O		Encoding altimeter # 1 KEA 130A P/N 066-03064-0005 (L.H. Instrument panel)	KING	1.764 (0.800)	157.48 (4.000)
R		Lift transducer 799-5	SAFE FLIGHT INSTRUMENTS	0.882 (0.400)	173.23 (4.400)
R		Lift transducer 799-8	SAFE FLIGHT INSTRUMENTS	0.882 (0.400)	173.23 (4.400)
S		Pitot heated probe AN 5812-1	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.750 (0.340)	200.79 (5.100)
R		Static reference plug T700A3415017	SOCATA	Negli-gible	/
S		Static reference selector TB30 77010000	SOCATA	0.220 (0.100)	157.48 (4.000)
S		Vertical speed indicator 2" 7201 C.172 (L.H. instrument panel)	UNITED INSTRUMENTS	1.102 (0.500)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Vertical speed indicator 3" 7060 C.118 (L.H. instrument panel)	UNITED INSTRUMENTS	1.213 (0.550)	157.48 (4.000)
R		VMO νP switch 32202 or 32202-1	HYDRA ELECTRIC	0.220 (0.100)	141.73 (3.600)
O	34011A	Airspeed indicator # 1 8140 Code B.666	UNITED INSTRUMENTS	0.800 (0.363)	172.83 (4.390)
O	34012A	Servoed encoding altimeter # 1 KEA 346	KING	3.086 (1.400)	153.15 (3.890)
A	34018A	Vertical speed indicator 3" 7060 (R.H. instrument panel)	UNITED INSTRUMENTS	1.433 (0.650)	153.15 (3.890)
A	34019A	Airspeed indicator # 2 8040 Code B.617 (R.H. instrument panel)	UNITED INSTRUMENTS	0.926 (0.420)	154.96 (3.936)
A	34019B	TAS airspeed indicator # 2 8140 Code B.666 (R.H. instrument panel)	UNITED INSTRUMENTS	0.75 (0.340)	157.48 (4.000)
A	34022A	Vertical speed indicator 2" 7201 (R.H. instrument panel)	UNITED INSTRUMENTS	1.213 (0.550)	153.54 (3.900)
O	34053	Encoding altimeter # 2 KEA 130A (R.H. instrument panel)	KING	0.794 (0.360)	156.89 (3.985)
O	0159-34	Installation of two altimeters (provision for "RVSM") #1 and #2 AM250	AMETEK		
		- Version A (standard altimeter #2 replaced)		Δ +3.02 (Δ+1.37)	153.54 (3.900)
		- Version B (standard altimeter #2 kept)		Δ +4.10 (Δ+1.86)	153.54 (3.900)
O	0160-34A	Authorization to operate in "RVSM" area (Post SB70-120-34)		/	/

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-13 - Outside temperature			
S		Outside air temperature indicator 301C	DAVTRON	0.265 (0.120)	157.48 (4.000)
		34-20 - Attitude and direction			
		34-21 - Heading reference system			
S		Directional gyro KG 102A P/N 060-00015-0000	KING	4.299 (1.950)	192.91 (4.900)
S		Flux valve KMT 112 P/N 071-01052-0000	KING	0.309 (0.140)	181.10 (4.600)
S		HSI Slave KA 51B P/N 071-01242-0006	KING	0.198 (0.090)	153.54 (3.900)
S		HSI KI 525A P/N 066-03046-0001	KING	3.946 (1.790)	157.48 (4.000)
S		HSI KI 525A P/N 066-03046-0007	KING	3.946 (1.790)	157.48 (4.000)
A	34023A	HSI # 2 KCS 55A (R.H. instrument panel) (Incompatible with OPT70 21002) (TBM700A)	KING	12.787 (5.800)	212.83 (5.406)
A	34023B	HSI # 2 KCS 55A (R.H. instrument panel)	KING	12.787 (5.800)	206.14 (5.236)
		34-22 - Turn and bank indication			
O		Turn coordinator 9013 Code N.5	UNITED INSTRUMENTS	1.620 (0.735)	157.48 (4.000)
		34-23 - Magnetic compass			
R		Stand-by compass C2350 DL4CM	AIRPATH	0.551 (0.250)	163.39 (4.150)
R		Stand-by compass C2350 L4.M23	AIRPATH	0.551 (0.250)	163.39 (4.150)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-24 - ADI and standby horizon			
A		ADI flight director KI 256 P/N 060-00017-0001	KING	3.307 (1.500)	157.48 (4.000)
A	34002A	Additional horizon 505.2BS / 7° (Adjustable pointer) (R.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
O	34002B	Electric standby horizon 505.2BS / 7° (Adjustable pointer) (L.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
A	34002C	Additional horizon 505.2BSK / 7° (Fixed pointer) (R.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
O	34002D	Electric standby horizon 505.2BSK / 7° (Fixed pointer) (L.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
A	34002E	Additional horizon 1100-28LS (7F) (Adjustable pointer) (R.H. instrument panel)	BFG	2.645 (1.200)	153.54 (3.900)
O	34002F	Electric standby horizon 1100-28LS (7F) (Adjustable pointer) (L.H. instrument panel)	BFG	2.645 (1.200)	153.54 (3.900)
O	34048A	Instantaneous vertical speed Indicator (IVSI) 7160 Code C.134 (L.H. instr. panel)	UNITED INSTRUMENT	0.187 (0.085)	145.91 (3.706)
A	34048B	Instantaneous vertical speed Indicator (IVSI) 7160 Code C.134 (R.H. instr. panel)	UNITED INSTRUMENT	1.433 (0.650)	145.91 (3.706)
A	34050A	ADI # 2 Model AI.330 AP	BFG	3.483 (1.580)	151.97 (3.860)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-25 - Radio magnetic indication			
S		RMI 1 KI 229 (See ATA 34-54)	KING		
A	34016A	RMI 2 KI 229 (R.H. instrument panel) coupled with RMI 1 KI 229	KING	6.173 (2.800)	172.83 (4.390)
A	34016B	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KI 229	KING	3.086 (1.400)	153.54 (3.900)
A	34016C	RMI 2 KI 229 (R.H. instrument panel) coupled with RMI 1 KNI 582	KING	6.173 (2.800)	172.83 (4.390)
A	34016D	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KNI 582	KING	3.086 (1.400)	153.54 (3.900)
A	34016E	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KNI 582 (KCS 55A System # 2)	KING	3.086 (1.400)	153.54 (3.900)
O	34020A	RMI 1 KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	172.83 (4.390)
O	34020B	RMI 1 KNI 582 (L.H. instrument panel), EFIS coupled	KING	2.998 (1.360)	172.83 (4.390)
O	34020C	RMI 1 KNI 582 (L.H. instrument panel) with integrated KN 40 converter	KING	7.738 (3.510)	214.45 (5.447)
O	34020D	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled	HONEYWELL	2.998 (1.360)	172.83 (4.390)
		Converter KN 40	HONEYWELL	4.23 (1.920)	257.87 (6.550)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34020E	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled with integrated KN40 converter	HONEYWELL	7.738 (3.510)	214.45 (5.447)
O	34020F	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled	HONEYWELL	3.505 (1.590)	161.50 (4.102)
		Converter KN 40	HONEYWELL	4.23 (1.920)	257.87 (6.550)
A	34031A	RMI 2 KNI 582 (R.H. instrument panel) coupled with RMI 1 KNI 582	KING	3.527 (1.600)	172.83 (4.390)
A	34031B	RMI 2 KNI 582 (R.H. instrument panel) coupled with RMI 1 KNI 582 - EFIS	KING	3.527 (1.600)	172.83 (4.390)
A	34039A	Switching of RMI 1 KI 229 NAV1 KNS80 and NAV2 KN53	KING	0.441 (0.200)	157.48 (4.000)
A	34039B	Switching of RMI 1 KI 229 NAV1 KN53 and NAV2 KN53	KING	0.441 (0.200)	157.48 (4.000)
		34-28 - Electronic flight instrumentation system			
O	34001A	EFIS (EFS 40 + AP KFC 325) :	KING		
		- with standby horizon M32 RCA 22	RC ALLEN	71.716 (32.530)	133.19 (3.383)
		- with horizon 5000B	EDO AIRE / SIGMATEK	71.520 (32.440)	132.60 (3.368)
O	34001B	EFIS (EFS 40 + AP KFC 325) :	KING		
		- with standby horizon M32 RCA 22	RC ALLEN	71.716 (32.530)	133.19 (3.383)
		- with horizon 5000B	EDO AIRE / SIGMATEK	71.520 (32.440)	132.60 (3.368)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34001C	EFIS (EFS 40 + AP KFC 325) :	KING		
		– with DME KDI 574 (without KN 40 converter)	KING	67.813 (30.760)	125.63 (3.191)
		34-30 - Landing and taxiing aids			
		34-31 - Marker			
S		MARKER receiver KR 21 P/N 066-01021-0001	KING	0.562 (0.255)	157.48 (4.000)
S		MARKER antenna DM N27-3	DORNE & MARGOLIN	0.750 (0.340)	129.92 (3.300)
A	34046A	MARKER indicator repeater (EFIS) KA35A	KING	0.330 (0.150)	151.57 (3.850)
		34-40 - Independent position determining			
		34-41 - Stormscope			
A	34009A	Stormscope WX 1000+	BFG	16.535 (7.500)	228.35 (5.800)
A	34009B	Stormscope WX 1000	BFG	15.432 (7.000)	230.71 (5.860)
A	34009C	Stormscope WX 1000+ EFIS coupled	BFG	15.432 (7.000)	230.71 (5.860)
A	34009D	Stormscope WX 1000E EFIS coupled – Remote installed control	BFG	9.502 (4.310)	269.09 (6.835)
A	34009E	Stormscope WX 1000E EFIS coupled	BFG	15.939 (7.230)	230.94 (5.866)
A	34009F	Stormscope WX 1000E EFIS coupled, shared with the SKYWATCH (for export only)	BFG	15.939 (7.230)	230.94 (5.866)
A	34009G	Stormscope WX 1000+ shared with the SKYWATCH	BFG	16.535 (7.500)	228.35 (5.800)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34041A	Stormscope WX 950	BFG	4.700 (2.130)	191.85 (4.873)
A	34056A	Stormscope WX 500 EFIS coupled, with indicator on GNS 530 or MFD KMD 850 or GMX 200, of which :	BFG	4.938 (2.240)	232.28 (5.900)
		. Antenna NY163	BFG	0.84 (0.380)	311.02 (7.900)
		. Processor WX 500	BFG	2.27 (1.030)	255.91 (6.500)
		34-42 - Weather radar			
A	34007A	Weather radar RDS 81 (Not valid for Germany and Austria)	KING	27.778 (12.600)	165.75 (4.210)
A	34007B	Graphic weather radar RDS 81 (Not valid for Germany and Austria)	KING	33.289 (15.100)	162.99 (4.140)
A	34007E	Weather radar RDS 81 EFIS coupled (Not valid for Germany and Austria)	KING	27.998 (12.700)	164.17 (4.170)
A	34007F	Graphic weather radar RDS 81 EFIS coupled, with KNS 81 (Not valid for Germany and Austria)	KING	33.510 (15.200)	162.68 (4.132)
A	34007G	Graphic weather radar RDS 81 EFIS coupled, with GPS KLN 90 (Not valid for Germany and Austria)	KING	33.510 (15.200)	162.68 (4.132)
A	34007H	Weather radar RDS 81 without screen (Not valid for Germany and Austria)	KING	19.400 (8.800)	171.26 (4.350)
A	34008A	Weather radar RDS 82 VP	KING	27.778 (12.600)	165.75 (4.210)
A	34008B	Graphic weather radar RDS 82 VP	KING	33.289 (15.100)	162.99 (4.140)
A	34008E	Weather radar RDS 82 VP EFIS coupled	KING	27.998 (12.700)	164.17 (4.170)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34008F	Graphic weather radar RDS 82 VP EFIS coupled, with KNS 81	KING	33.510 (15.200)	162.68 (4.132)
A	34008G	Graphic weather radar RDS 82 VP EFIS coupled, with GPS KLN 90	KING	33.510 (15.200)	162.68 (4.132)
A	34025A	Weather radar RDS 82	KING	27.778 (12.600)	165.75 (4.210)
A	34025B	Graphic weather radar RDS 82	KING	33.289 (15.100)	162.99 (4.140)
A	34025E	Weather radar RDS 82 EFIS coupled	KING	27.998 (12.700)	164.17 (4.170)
A	34025F	Graphic weather radar RDS 82 EFIS coupled, with KNS 81	KING	33.510 (15.200)	162.68 (4.132)
A	34025G	Graphic weather radar RDS 82 EFIS coupled, with GPS KLN 90	KING	33.510 (15.200)	162.68 (4.132)
A	34025H	Weather radar RDS 82 EFIS coupled, with control box CP466A	KING	19.400 (8.800)	171.26 (4.350)
A	34040A	Weather radar RDR 2000	KING	21.054 (9.550)	163.70 (4.158)
A	34040B	Weather radar RDR 2000 with graphic generator	KING	25.150 (11.410)	161.22 (4.095)
A	34040E	Weather radar RDR 2000 EFIS coupled	KING	21.054 (9.550)	163.70 (4.158)
A	34040F	Weather radar RDR 2000 EFIS coupled, with indicator on MFD KMD 850 or GMX 200	HONEYWELL	11.530 (5.230)	173.46 (4.406)
A	34040G	Weather radar RDR 2000 with graphic generator, EFIS coupled	KING	25.150 (11.410)	161.22 (4.095)
A	34040H	Weather radar RDR 2000 EFIS coupled, with control box CP466A	KING	17.394 (7.890)	167.20 (4.247)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-43 - Radioaltimeter			
A	34010A	Radioaltimeter KRA 10A (Not valid for Germany and Austria)	KING	5.291 (2.400)	325.98 (8.280)
A	34010B	Radioaltimeter KRA 10A EFIS coupled (Not valid for Germany and Austria)	KING	5.291 (2.400)	325.98 (8.280)
A	34010C	Radioaltimeter KRA 10A EFIS coupled, without indicator (Not valid for Germany and Austria)	KING	4.409 (2.000)	361.65 (9.186)
A	34037A	Radioaltimeter KRA 405 (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
A	34037B	Radioaltimeter KRA 405B (TBM700A)	KING	9.943 (4.510)	202.44 (5.142)
A	34037F	Radioaltimeter, KRA 405B EFIS coupled			
		– TBM700A		9.943 (4.510)	202.44 (5.142)
		– TBM700B		9.943 (4.510)	192.48 (4.889)
		of which :			
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	244.25 (6.204)
		. Indicator KNI 415	HONEYWELL	1.70 (0.770)	155.24 (3.943)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037F	Radioaltimeter KRA 405B (TBM700B new version with weight lowering of coaxial cables), EFIS coupled, of which :		8.179 (3.710)	195.82 (4.974)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)
		. Indicator KNI 415	HONEYWELL	1.70 (0.770)	155.24 (3.943)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	Cont'd	. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037H	Radioaltimeter, KRA 405B EFIS coupled, without KNI 415, with aural warning, of which :		7.50 (3.400)	201.57 (5.120)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037I	Radioaltimeter, KRA 405B EFIS coupled, without KNI 415 or aural warning			
		- TBM700A		8.245 (3.740)	211.93 (5.383)
		- TBM700B		8.245 (3.740)	201.22 (5.111)
		of which :			
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	244.25 (6.204)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037I	Radioaltimeter KRA 405B (TBM700B new version with weight lowering of coaxial cables), EFIS coupled, without KNI 415 and aural warning, of which :		5.622 (2.550)	209.96 (5.333)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	Cont'd	. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037J	Radioaltimeter KRA 405 EFIS coupled, with KNI 415 (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
A	34037K	Radioaltimeter KRA 405 EFIS coupled and with AMS 44 (refer to ATA 23) (for export only) (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
		34-44 - Traffic advisory system			
A	34047A	SKYWATCH Traffic advisory system SKY 497 (with indicator on stormscope)	BFG	15.785 (7.160)	145.91 (3.706)
A	34047B	SKYWATCH Traffic advisory system SKY 497 EFIS coupled (with indicator on stormscope)	BFG	13.139 (5.960)	150.12 (3.813)
A	34047E	SKYWATCH Traffic advisory system SKY 497 (with indicator) EFIS coupled	BFG	15.432 (7.000)	150.16 (3.814)
A	34059A	SKYWATCH HP Traffic advisory system SKY 899 (with indicator on MFD 850 or GNS 530), of which :	BFG	12.720 (5.770)	151.18 (3.840)
		. Antenna NY164	BFG	2.29 (1.040)	218.50 (5.550)
		. Processor TRC899	BFG	8.88 (4.030)	133.86 (3.400)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34059B	SKYWATCH HP Traffic advisory system SKY 899 EFIS and TAS coupled (with indicator on MFD 850 or GNS 530), of which :	BFG	12.720 (5.770)	151.18 (3.840)
		. Antenna NY164	BFG	2.29 (1.040)	218.50 (5.550)
		. Processor TRC899	BFG	8.88 (4.030)	133.86 (3.400)
A	34061A	TAS + TAWS system KMH 880 (not autonomous) (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.63 (7.09)	158.42 (4.024)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage)	HONEYWELL	0.95 (0.430)	218.11 (5.540)
		(under fuselage)		0.95 (0.430)	256.69 (6.520)
A	34061B	TAS + TAWS system KMH 880 (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.89 (7.21)	166.02 (4.217)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage)	HONEYWELL	0.95 (0.430)	218.11 (5.540)
		(under fuselage)		0.95 (0.430)	256.69 (6.520)
		. Antenna KA 92	HONEYWELL	0.26 (0.120)	196.85 (5.000)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34061C	TAS + TAWS system KMH 880 (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.65 (7.10)	158.42 (4.024)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage)	HONEYWELL	0.95 (0.430)	218.11 (5.540)
		(under fuselage)		0.95 (0.430)	256.69 (6.520)
		34-45 - Enhanced Ground Proximity Warning System (EGPWS)			
A	34060A	EGPWS, of which :	HONEYWELL	2.535 (1.150)	185.39 (4.709)
		. Antenna KA 92	HONEYWELL	0.26 (0.120)	244.09 (6.200)
		. Computer KGP 560	HONEYWELL	1.37 (0.620)	192.91 (4.900)
		. Control box MD41-1208	MID CONTINENT	0.24 (0.110)	155.51 (3.950)
		34-50 - Dependent position determining			
		34-51 - NAV 1 installation			
S		VHF NAV # 1 KNS 80 P/N 066-04008-0000 (Not valid for Germany and Austria)	KING	5.952 (2.700)	151.57 (3.850)
S		VHF GS-NAV antenna DM N4-17	DORNE & MARGOLIN	3.307 (1.500)	401.57 (10.200)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		VHF GS-NAV antenna DM N4-17N	DORNE & MARGOLIN	3.307 (1.500)	401.57 (10.200)
O	34013A	KNS 81 (without graphic output)	KING	5.291 (2.400)	151.57 (3.850)
O	34013B	KNS 81 (with graphic output)	KING	5.291 (2.400)	151.57 (3.850)
		34-52 - NAV 2 installation			
S		VHF NAV # 2 KI 206 P/N 066-03034-0004	KING	1.301 (0.590)	151.57 (3.850)
S		VHF NAV # 2 KI 206 P/N 066-03034-0005	KING	1.301 (0.590)	151.57 (3.850)
A	34024A	VHF # 2 KN 53	KING	4.321 (1.960)	149.61 (3.800)
		34-53 - Transponder			
S		Transponder # 1 KT 79 P/N 066-01053-0000	KING	6.614 (3.000)	157.48 (4.000)
A	34021A	Transponder # 2 KT 79 (interfaced with encoding altimeter # 1)	KING	4.189 (1.900)	149.61 (3.800)
A	34021B	Transponder # 2 KT 70 (interfaced with encoding altimeter # 1)	KING	7.319 (3.320)	149.61 (3.800)
A	34021C	Transponder # 2 KT 71 (interfaced with encoding altimeter # 1)	KING	7.319 (3.320)	149.61 (3.800)
A	34021D	Transponder # 2 KT 76C (interfaced with encoding altimeter # 1)	HONEYWELL	3.175 (1.440)	150.59 (3.825)
A	34021E	Transponder # 2 KT 70 (interfaced with encoding altimeter # 2)	KING	7.319 (3.320)	149.61 (3.800)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34021G	Transponder # 2 KT 76C+ (interfaced with encoding altimeter # 2)	HONEYWELL	3.175 (1.440)	150.59 (3.825)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
O	34026A	Transponder # 1 KT 70	KING	7.319 (3.320)	149.61 (3.800)
O	34026B	Transponder # 1 KT 71	KING	7.319 (3.320)	149.61 (3.800)
O	34026C	Transponder # 1 KT 76C of which	HONEYWELL	3.175 (1.440)	150.59 (3.825)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
O	34057A	Transponder # 1 GTX 327 of which	GARMIN	5.600 (2.540)	148.66 (3.776)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
A	34058A	Transponder # 2 GTX 327 of which	GARMIN	5.600 (2.540)	148.66 (3.776)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
A	34062A	Transponder # 1 GTX 330 Mode S (without antenna diversity)	GARMIN	7.496 (3.400)	153.54 (3.900)
		Antenna KA 60		0.198 (0.090)	150.08 (3.812)
O	0152-34	Transponder # 1 GTX330D Mode S (European countries only)	GARMIN	7.496 (3.400)	152.60 (3.876)
		- Without version Antenna KA 60 (under fuselage)	HONEYWELL	0.198 (0.090)	150.08 (3.812)
		(above fuselage - on frame 5)		0.198 (0.090)	176.57 (4.485)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-54 - Automatic Direction Finder (ADF)			
A		ADF (basic) :			
A		- Receiver KR 87 P/N 066-01072-0000 or 0004	KING	3.197 (1.450)	152.64 (3.877)
A		- Antenna KA 44B	KING	2.800 (1.270)	195.28 (4.960)
A		- RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel)	KING	2.866 (1.300)	153.86 (3.908)
A	34017A	ADF indicator KI 227-01 (R.H. instrument panel) with HSI 1 heading reference	KING	0.882 (0.400)	151.97 (3.860)
A	34017B	ADF indicator KI 227-01 (R.H. instrument panel) with HSI 2 heading reference	KING	0.882 (0.400)	151.97 (3.860)
O	34028A	ADF (dual) :		16.314 (7.400)	174.61 (4.435)
		- 2 receivers KR 87 P/N 066-01072-0000	KING	6.394 (2.900)	152.64 (3.877)
		- 2 antennas KA 44B	KING	5.600 (2.540)	213.03 (5.411)
		- RMI KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	153.90 (3.909)
O	34028B	ADF (dual), EFIS coupled :		16.314 (7.400)	174.61 (4.435)
		- 2 receivers KR 87 P/N 066-01072-0000	KING	6.394 (2.900)	152.64 (3.877)
		- 2 antennas KA 44B	KING	5.600 (2.540)	213.03 (5.411)
		- RMI KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	153.90 (3.909)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34055A	ADF SC+ :			
		– Receiver KR87/Indicator KI227 P/N 066-01072-0014	HONEYWELL	3.902 (1.770)	157.48 (4.000)
		– Antennas KA 44B	HONEYWELL	2.800 (1.270)	195.28 (4.960)
		– RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel) (European countries only)	KING	2.866 (1.300)	153.86 (3.908)
O	34055B	ADF SC+, EFIS coupled :			
		– Receiver KR87/Indicator KI227 P/N 066-01072-0014	HONEYWELL	3.902 (1.770)	157.48 (4.000)
		– Antenna KA 44B	HONEYWELL	2.800 (1.270)	195.28 (4.960)
		– RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel) (European countries only)	KING	2.866 (1.300)	153.86 (3.908)
		34-55 - DME installation			
A	34014A	DME KN63 with NAV1 KNS81 and NAV2 KX165	KING	4.321 (1.960)	209.84 (5.330)
A	34014C	DME KN63 system, of which : (through NAV1 KN53 and NAV2 KN53 channels)	HONEYWELL	4.321 (1.960)	209.84 (5.330)
		– Indicator in radio rack KDI 572	HONEYWELL	0.800 (0.363)	151.57 (3.850)
		– Receiver KN 63	HONEYWELL	2.800 (1.270)	232.28 (5.900)
		– Antenna KA 60	HONEYWELL	0.20 (0.090)	230.31 (5.850)
A	34038A	DME KN62A	KING	2.600 (1.180)	151.57 (3.850)
A	34045A	DME KDI 574 (with EFIS)	KING	0.770 (0.350)	151.57 (3.850)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-56 - LORAN-C				
A	34005A	LORAN-C	KLN 88	KING	12.566 (5.700)	168.11 (4.270)
A	34005B	LORAN-C EFIS coupled	KLN 88	KING	12.125 (5.500)	168.90 (4.290)
A	34006A	LORAN-C	604	APOLLO	4.850 (2.200)	170.47 (4.330)
		34-57 - Global Positioning System (GPS)				
A	34027B	GPS EFIS coupled	KLN 90	KING	8.576 (3.890)	160.28 (4.071)
A	34027C	GPS	KLN 90	KING	8.576 (3.890)	160.28 (4.071)
A	34030A	GPS	KLN 90A	KING	9.921 (4.500)	153.94 (3.910)
A	34030B	GPS EFIS coupled	KLN 90A	KING	8.774 (3.980)	155.20 (3.942)
A	34033A	GPS	KLN 90B	HONEYWELL	9.921 (4.500)	153.94 (3.910)
A	34033B	GPS EFIS coupled	KLN 90B	HONEYWELL	8.774 (3.980)	155.20 (3.942)
A	34033C	GPS (B-RNAV)	KLN 90B	HONEYWELL	9.921 (4.500)	153.94 (3.910)
A	34033D	GPS (B-RNAV), EFIS coupled, of which :	KLN 90B	HONEYWELL	8.774 (3.980)	155.20 (3.942)
		. Receiver	KLN 90B	HONEYWELL	6.19 (2.810)	155.20 (3.942)
		. Antenna	KA 92	HONEYWELL	0.26 (0.120)	240.16 (6.100)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-60 - Flight management computing			
		34-61 - Moving map display system			
A	34042B	Moving map display ARGUS 7000CE	EVENTIDE	3.461 (1.570)	145.98 (3.708)
A	34042G	Moving map display ARGUS (with EFIS) 7000CE	EVENTIDE	3.461 (1.570)	145.98 (3.708)
		34-62 - Multifunction display			
A	34054A	MFD KMD 850 (TBM700B)	HONEYWELL	6.415 (2.910)	153.54 (3.900)
O	0210-34A	MFD GMX 200	GARMIN	5.42 (2.460)	153.54 (3.900)
O	0210-34B	MFD GMX 200 (with chart view)	GARMIN	5.42 (2.460)	153.54 (3.900)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		35 - OXYGEN			
S		Generator 117024-02	PURITAN	0.948 (0.430)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
S		Mask 174554 / 174555	PURITAN	0.441 (0.200)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
S	0244-35	Mask 174095-87 (as spares for Mask 174554) (Airplanes not equipped with OPT70 35001)	PURITAN	0.441 (0.200)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
O	35001A	Gaseous oxygen system (30000 ft)	EROS/INTER TECHNIQUE	22.930 (10.400)	178.19 (4.526)
O	35001B	Gaseous oxygen system (31000 ft)	EROS/INTER TECHNIQUE	24.692 (11.200)	178.19 (4.526)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		37 - VACUUM			
S		Air ejector valve 19E17-5A	LUCAS	0.661 (0.300)	116.14 (2.950)
S		Gyro suction gage 3-310-5	UMA	0.143 (0.065)	157.48 (4.000)
S		Gyro vacuum air filter 1J7-2	AIRBORNE	0.375 (0.170)	139.76 (3.550)
S		Regulator and relief valve 38E-96-2D	LUCAS	1.323 (0.600)	116.14 (2.950)
S		Vacuum relief valve 691-21A	LUCAS	0.331 (0.150)	139.76 (3.550)
S		Valve 557-18 E	LUCAS	0.353 (0.160)	118.11 (3.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		52 - DOORS			
A	52002A	"Pilot" door (TBM700B)	SOCATA	44.092 (20.000)	171.26 (4.350)
A	0342-52	Additional landing gear doors	SOCATA	6.613 (3.000)	204.33 (5.190)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		56 - WINDOWS			
O	56001A	Deiced R.H. windshield	SPS	Δ 1.764 (Δ 0.800)	158.27 (4.020)
A		Window and capability of camera/observation :			
A	56002A	– 6 Pax standard	SOCATA	143.299 (65.000)	242.36 (6.156)
A	56002B	– Camera capability	SOCATA	89.132 (40.430)	239.96 (6.095)
A	56002C	– Observation	SOCATA	83.333 (37.800)	240.51 (6.109)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		57 - WINGS			
O	57001A	Utilization on runways covered with melting snow (TBM700A, from S/N 1 to 110)	SOCATA	Δ-7.716 (Δ-3.500)	200.00 (5.080)
S	57001A	Utilization on runways covered with melting snow (From S/N 111)	SOCATA	Δ-7.716 (Δ-3.500)	200.00 (5.080)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		61 - PROPELLER			
		61-10 - Propeller assembly			
S		Propeller (4-blade) HC-E4N.3 / E 9083 S (K)	HARTZELL	153.220 (69.500)	43.11 (1.095)
		61-20 - Controls			
R		Overspeed governor A210632	WOODWARD	2.734 (1.240)	59.06 (1.500)
S		Propeller governor 8210.007	WOODWARD	2.646 (1.200)	59.06 (1.500)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		71 - POWER PLANT			
R		Turboprop engine PT6 A-64	P & W CANADA	496.30 (225.000)	79.72 (2.025)
S		Silentblocks (Qty 4) 95007-16	BARRY	2.921 (1.325)	79.72 (2.025)
		71-60 - Air inlet			
R		Inertia ice separator actuator 148600-09	LPMI	1.720 (0.780)	62.99 (1.600)
R		Inertia ice separator actuator 148600-09A	LPMI	1.720 (0.780)	62.99 (1.600)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		77 - ENGINE INDICATING			
R		Compressor turbine tacho-generator (Ng) MIL-G-26611C GEU-7/A	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.981 (0.445)	108.27 (2.750)
R		Gas generator speed indicator (Ng) 523278	AMETEK	0.705 (0.320)	157.48 (4.000)
R		Gas generator speed indicator (Ng) 5428-703-91-03	SEXTANT	1.290 (0.585)	151.57 (3.850)
R		Propeller speed indicator 523277	AMETEK	0.705 (0.320)	157.48 (4.000)
R		Propeller speed indicator 5428-704-91-03	SEXTANT	1.290 (0.585)	151.57 (3.850)
R		Propeller tacho-generator (Np) P/N 32005-007 MIL-G-26611 GEU-7/A	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.981 (0.445)	55.12 (1.400)
R		Torquemeter 523276	AMETEK	0.705 (0.320)	157.48 (4.000)
		or 5428-750-91-03	SEXTANT	1.257 (0.570)	151.57 (3.850)
R		Torque transducer CZ 52E8-G	AUXITROL/ SAGEM	0.452 (0.205)	55.12 (1.400)
R		or 8107.200.00.10	MORS/ SEXTANT	0.463 (0.210)	53.54 (1.360)
		77-12 - Fuel management			
S		Flowmeter 90 12 00 :			
S		- Indicator 455-6110	ARNAV	0.331 (0.150)	157.48 (4.000)
S		- Transmitter 455-2069-02	ARNAV	0.661 (0.300)	106.30 (2.700)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Flowmeter 90 12 00 :			
S		– Indicator 912080-38 or 912080-38A or 912080-38B	SHADIN	0.930 (0.422)	143.70 (3.650)
S		– Transmitter 660 526A or 660 526AS	SHADIN	1.000 (0.454)	110.20 (2.799)
		77-20 - Engine temperature indicating			
R		ITT indicator 523279	AMETEK	0.937 (0.425)	157.48 (4.000)
O		ITT indicator 5428-554-91-03	SEXTANT	1.389 (0.630)	151.57 (3.850)
		77-40 - Engine Trend Monitor (ETM)			
O	77003A	ETM (Engine Trend Monitor)	SHADIN	4.034 (1.830)	154.92 (3.935)
O	77003B	ETM (Engine Trend Monitor)	SHADIN	4.034 (1.830)	154.92 (3.935)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		79 - LUBRICATION			
		79-20 - Distribution			
R		Oil cooler L8538233	LORI	10.472 (4.750)	90.55 (2.300)
		79-30 - Indicating			
R		Oil dual indicator 523280	AMETEK	1.102 (0.500)	157.48 (4.000)
O		Oil dual indicator 5427-350-91-03	SEXTANT	1.179 (0.535)	151.57 (3.850)
R		Oil pressure transmitter CZ 55E5.3	SAGEM	0.342 (0.155)	102.17 (2.595)
O	79001A	Oil pressure transmitter 8107-400-00-10	THALES	0.441 (0.200)	106.30 (2.700)
A	0169-79A	Chip detection system (2 detectors)	P & W CANADA	Neglig.	/
A	0169-79B	Chip detection system (1 detector)	P & W CANADA	Neglig.	/

6.5 - LIST OF EQUIPMENT

The following list contains standard equipment installed on each airplane and available optional equipment.

A separate list of equipment of items installed at the factory in your specific airplane is provided in your airplane file.

Columns showing weight (in pounds) and arm (in inches) provide the weight and center of gravity location for the equipment.

In the list of Required, Standard or Optional equipment (not restrictive), a letter ”R”, ”S”, ”O” or ”A” allows classifying the equipment :

- ”R” : equipment items required for certification
- ”S” : standard equipment items
- ”A” : optional equipment items which are in addition to required or standard items
- ”O” : optional equipment items replacing required or standard items

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		01 - SPECIFIC OPTIONAL EQUIPMENT			
S	01004A	Brazil certification markings	SOCATA	/	/
A	01008	Flight inspection system capability	NAVCAL	97.223 (44.10)	231.69 (5.885)
A	01018	EFIS HEADING # 1/ # 2 miscompare	KING	0.033 (0.015)	125.98 (3.200)
A	01019	DME KN 63 shield case	SOCATA	0.331 (0.150)	231.50 (5.880)
A	01024	Manual device for battery charge		0.551 (0.250)	125.98 (3.200)
A	01026A	Flight ceiling at 31000 ft	SOCATA	/	/

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		21 - ENVIRONMENTAL SYSTEM			
		21-20 - Distribution			
S		Cabin fan AVVC 00244	VETUS	3.307 (1.500)	251.97 (6.400)
		21-30 - Pressurization control			
S		Cabin altitude differential pressure and rate of climb indicator 3300-J51 CODE J.51	UNITED INSTRUMENTS	0.937 (0.425)	157.48 (4.000)
S		Cabin altitude warn switch 214 C40.3.261	CONDEC/ EATON	0.077 (0.035)	153.94 (3.910)
S		Cabin pressurization dump solenoïd valve 5112-1	AEROSPACE	0.441 (0.200)	181.10 (4.600)
S		Cabin νP warn switch 17-600-01	UMA	0.143 (0.065)	139.76 (3.550)
S		Check valve 985C-63-3	LE BOZEC	0.198 (0.090)	118.11 (3.000)
S		Outflow valve controller 130618-1	GARRETT	1.653 (0.750)	157.48 (4.000)
S		Outflow valve 103760-1	GARRETT	1.543 (0.700)	317.32 (8.060)
S		Safety valve 103760-2	GARRETT	1.543 (0.700)	317.32 (8.060)
		21-50 - Temperature conditioning system			
S		Cooling turbine 2204600-1	GARRETT	6.537 (2.965)	98.43 (2.500)
S		Ground conditioning heat M5922H-9A1	DYNAMIC AIR	13.911 (6.310)	90.55 (2.300)
O	0285-21	Ground conditioning fan - Version A (TBM 700A) T700A21.50100100	SOCATA	13.911 (6.310)	90.55 (2.300)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	0285-21	Ground conditioning fan - Version B (TBM 700B) T700A21.50100100	SOCATA	13.911 (6.310)	90.55 (2.300)
S		Heat exchanger 195980-1	GARRETT	12.599 (5.715)	114.17 (2.900)
S		Heat exchanger 195980-3	GARRETT	12.599 (5.715)	114.17 (2.900)
S		Overheat switch 1173T200	NEO DYN	0.110 (0.050)	114.17 (2.900)
S		Pilot regulator 3214102-1	GARRETT	0.573 (0.260)	116.14 (2.950)
S		Pressure regulating and shut-off valve 3213876-9	GARRETT	4.564 (2.070)	114.17 (2.900)
S		Temperature control sensor 622446-1	GARRETT	0.628 (0.285)	133.86 (3.400)
S		Temperature control valve 979432-2	GARRETT	2.469 (1.120)	106.30 (2.700)
S		Temperature control valve 979432-5	GARRETT	2.469 (1.120)	106.30 (2.700)
S		Water separator 85020-8	GARRETT	2.249 (1.020)	94.49 (2.400)
		21-55 - Vapor cycle cooling system			
A	21001A	Vapor cycle cooling system (TBM700A)	SOCATA (CASEY)	89.948 (40.800)	259.37 (6.588)
A	21002A	Vapor cycle cooling system - version A (TBM700A)	SOCATA (KEITH)	67.681 (30.700)	315.98 (8.026)
A	21002B	Vapor cycle cooling system - version B (TBM700B)	SOCATA (KEITH)	67.681 (30.700)	318.50 (8.090)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		22 - AUTO FLIGHT *NOTE :* *KFC 325 autopilot is included in EFIS equipment (ATA 34)*			
S		AFC air data computer KDC 222 P/N 065-00085-0002	HONEYWELL	0.970 (0.440)	167.32 (4.250)
S		AFC computer KCP 220 P/N 065-00064-0008	HONEYWELL	3.086 (1.400)	171.26 (4.350)
S		AFC mode annunciator KA 185A P/N 065-00087-0000	HONEYWELL	0.485 (0.220)	155.51 (3.950)
S		AFC mode selector KMC 321 P/N 065-00086-0008	HONEYWELL	0.882 (0.400)	155.51 (3.950)
S		Altitude and vertical speed preselector KAS 297C P/N 065-00089-0004	HONEYWELL	1.124 (0.510)	155.51 (3.950)
S		Amplifier separator KA 25A P/N 071-02008-0000	HONEYWELL	1.279 (0.580)	194.88 (4.950)
S		Amplifier separator KA 21	SOCATA	1.279 (0.580)	194.88 (4.950)
S		Audio alerter KAA 15 P/N 071-01466-0000	HONEYWELL	0.750 (0.340)	171.26 (4.350)
S		Pitch servo KS 270A P/N 065-00059-0004	HONEYWELL	2.601 (1.180)	247.44 (6.285)
S		Pitch servo KS 270A P/N 065-00059-0023	HONEYWELL	2.601 (1.180)	247.44 (6.285)
S		Pitch trim servo KS 272A P/N 065-00059-0023	HONEYWELL	2.403 (1.090)	157.48 (4.000)
S		Roll servo KS 271A P/N 065-00060-0001	HONEYWELL	2.403 (1.090)	227.76 (5.785)
S		Yaw servo KS 271A P/N 065-00060-0000	HONEYWELL	2.403 (1.090)	253.74 (6.445)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Yaw rate gyro KRG 331 P/N 060-00024-0000	HONEYWELL	0.750 (0.340)	171.26 (4.350)
O	22002	Altitude and vertical speed preselector KAS 297C with warning at ± 200 ft	HONEYWELL	1.124 (0.510)	155.51 (3.950)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		23 - COMMUNICATIONS			
S		Antenna 16-21B-P3	CHELTON	1.036 (0.470)	192.91 or 267.72 (4.900 or 6.800)
A		Audio control box KMA 24H-52 P/N 066-01055-0052	HONEYWELL	1.698 (0.770)	151.57 (3.850)
S		Cockpit loud-speaker 7202/01	AUTOSONIK	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker ARC 100	AUDAX	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker SXE-1010	ALPINE ELECTRONICS	0.772 (0.350)	181.10 (4.600)
S		Cockpit loud-speaker AB 100 SC	ALPINE ELECTRONICS	0.772 (0.350)	181.10 (4.600)
S		Radio headset H10-30	DAVID CLARK	/	/
S		Static dischargers Type 2-16SC-1	CHELTON	Negligible	/
A		VHF COM # 1 KY 196A-30 P/N 064-01054-0030 (with rack and wiring kit)	HONEYWELL	3.197 (1.450)	151.57 (3.850)
O		VHF COM-NAV # 2 KX 165-25 P/N 069-01025-0025	HONEYWELL	5.644 (2.560)	151.57 (3.850)
S		Warning loud-speaker AD 3071/Y8	RTC (PHILIPS)	0.110 (0.050)	181.10 (4.600)
S		Warning loud-speaker AD 2071/Z8	PHILIPS	0.110 (0.050)	181.10 (4.600)
A	23004A	HF COM KHF 950	KING	31.900 (14.470)	310.63 (7.890)
A	23004B	HF COM KHF 950 compatible with OPT70 21002	KING	31.460 (14.270)	311.46 (7.911)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	23005A	COM1-NAV # 1 KX 165-25 without EFIS	KING	Δ-3.440 (Δ-1.560)	151.73 (3.854)
O	23005B	COM1-NAV # 1 KX 165-25 with EFIS	KING	Δ-3.000 (Δ-1.360)	152.13 (3.864)
A	23006A	Passengers address system	SOCATA	0.992 (0.450)	230.31 (5.850)
A	23007A	COM1-COM2 KTR 908	KING	13.942 (6.324)	232.13 (5.896)
A	23008A	Audio control box KMA 24H-52 (R.H. instrument panel)	KING	1.984 (0.900)	150.00 (3.810)
A	23009A	Additional equipment for electrostatic dischargers	CHELTON	Negligible	/
A	23010A	Dual channel audio control box AMS 44 with option OPT70 01008 (for export only)	NAT	2.204 (1.000)	153.94 (3.910)
O	23011A	Radio headset H10-13.4	DAVID CLARK	/	/
O	23011B	Radio headset 7001	PELTOR	/	/
O	23011C	Radio headset HMEC 25-KA	SENNHEISER	/	/
O	23011D	Radio stereo-headset HMEC 25-KA-S	SENNHEISER	/	/
O	23011E	Radio stereo-headset HMEC 25-KAX	SENNHEISER	/	/
O	23011F	Radio stereo-headset Serie X	BOSE	/	/
O	23011G	Radio stereo-headset HMEC 25-6A	SENNHEISER	/	/
A	23012A	Audio-Marker PMA 7000-MS	PS ENGINEERING	- 1.190 (- 0.540)	155.59 (3.952)
A	23012B	Audio-Marker PMA 7000-MS (with EFIS equipment)	PS ENGINEERING	- 1.190 (- 0.540)	140.12 (3.559)
A	23013A	VHF COM antenna 16-21B-XX under fuselage	CHELTON	1.036 (0.470)	272.28 (6.916)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	23013B	VHF COM antenna under fuselage	16-41-XX	CHELTON	1.036 (0.470)	272.28 (6.916)
A	23013C	VHF COM antenna under fuselage	16-21B-XX	CHELTON	1.036 (0.470)	280.31 (7.120)
A	23014A	VHF COM # 1	KY 196B	KING	2.998 (1.360)	153.54 (3.900)
A	23015A	VHF COM # 2	KY 196B	KING	2.998 (1.360)	153.54 (3.900)
O	23017B	COM-NAV # 1 with EFIS (TBM700B)	KX 165A	HONEYWELL	Δ-3.000 (Δ-1.360)	151.73 (3.854)
O	23017C	COM-NAV # 1 with EFIS (with KN 40 converter)	KX 165A	HONEYWELL	Δ1.235 (Δ0.560)	123.31 (3.132)
O	23017Z	COM-NAV # 1 (retrofit 8.33 MHz)	KX 165A	HONEYWELL	/	152.36 (3.870)
A	23018B	COM/NAV - GPS # 2	GNS430			
		- with GPS # 1 and EFIS coupled		GARMIN	- 0.353 (- 0.160)	208.15 (5.287)
		- EFIS coupled		GARMIN	- 1.036 (- 0.470)	196.85 (5.000)
A	23018Z	COM/NAV - GPS # 2 EFIS coupled	GNS430	GARMIN	0.198 (0.090)	388.86 (9.877)
A	23019B	COM/NAV - GPS # 1 EFIS coupled	GNS430	GARMIN	- 4.056 (- 1.840)	160.67 (4.081)
A	23021A	VHF COM # 3	KY 196B	KING	2.998 (1.360)	153.54 (3.900)
O	23022B	COM-NAV # 2 with EFIS (TBM700B)	KX 165A	HONEYWELL	/	167.40 (4.252)
O	23022C	COM-NAV # 2 with EFIS	KX 165A	HONEYWELL	/	167.40 (4.252)
O	23022Z	COM-NAV # 2 (retrofit 8.33)	KX 165A	HONEYWELL	/	152.36 (3.870)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	23023	Audio selector and Marker GMA 340	GARMIN	1.609 (0.730)	129.05 (3.278)
A	23024A	COM/NAV/GPS # 1 (B-RNAV) GNS 530 system, interfaced with EFIS : (antenna forward of frame 7)			
		. Transceiver GNS 530	GARMIN	8.49 (3.850)	151.57 (3.850)
		. VHF antenna (under fuselage) 16-21B-P3	CHELTON	0.86 (0.390)	271.65 (6.900)
		. GPS antenna KA 92	HONEYWELL	0.26 (0.120)	196.85 (5.000)
		or GA 56	GARMIN	0.46 (0.210)	196.85 (5.000)
A	23025A	COM/NAV/GPS # 2 (B-RNAV) GNS 530 system, Interfaced with GI 106A CDI and EHSI : (antenna in aircraft centerline)			
		. Transceiver GNS 530	GARMIN	8.49 (3.850)	151.57 (3.850)
		. VHF antenna (upper fuselage) 16-21B-P3	CHELTON	0.86 (0.390)	271.65 (6.900)
		. GPS antenna KA 92	HONEYWELL	0.26 (0.120)	204.72 (5.200)
		or GA 56	GARMIN	0.46 (0.210)	204.72 (5.200)
		. CDI GI 106A	MID CONTINENT	1.46 (0.660)	155.51 (3.950)
A	23026A	VHF DATA LINK KDR 510 (with MFD KMD 850) (antenna under wing)	HONEYWELL	2.454 (1.113)	191.69 (4.869)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		24 - ELECTRICAL POWER			
		24-30 - DC generation			
R		Ammeter 12-1200-9L 28 or AM99-05	AID FALGAYRAS	0.309 (0.140)	175.20 (4.450)
R		Battery F20/40 H1CT (70) P/N 33490-40-920 (4)	VARTA	80.468 (36.500)	112.00 (2.845)
R		Electric power center 160GC02Y02	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02AY02 (Ignition priority + contact splitting)	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center (Freon) 160GC02Y03	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02Y04 (Freon + ignition priority)	ECE	11.023 (5.000)	127.95 (3.250)
R		Electric power center 160GC02Y05 (Freon + ignition priority + contact splitting) S/N 92-9999 and S/N 1-92 after SB 70-031-24	ECE	11.023 (5.000)	127.95 (3.250)
R		Stand-by generator T700A2430045900	SOCATA	12.125 (5.500)	102.36 (2.600)
R		Stand-by generator T700A2430080900	SOCATA	12.125 (5.500)	102.36 (2.600)
R		Starter generator 8012F	AUXILEC	24.471 (11.100)	110.24 (2.800)
R		Voltmeter 12-5000-6L 28 or VT99-04	AID FALGAYRAS	0.220 (0.100)	175.20 (4.450)
O	24001A	Battery 4076-1	SAFT	83.334 (37.800)	112.00 (2.845)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	24001B	Battery with temperature sensor 4076-10	SAFT	82.849 (37.580)	112.20 (2.850)
O	24002A	Lead-Acid battery RG-380E/44	CONCORDE	85.979 (39.000)	112.20 (2.850)
A	0303-24	Charger/Maintainer for lead acid battery (airplanes equipped with OPT70 24002)		0.220 (0.100)	114.17 (2.900)
		24-40 - External power supply			
S		Ground power receptacle MS 3506-1	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.794 (0.360)	114.17 (2.900)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		25 - EQUIPMENT AND FURNISHINGS			
A	25001A	Toilets	SOCATA	30.055 (13.633)	285.91 (7.262)
A	25003A	Pilot piddle pak (TBM700A)	SOCATA	0.220 (0.100)	174.01 (4.420)
A	25003B	Pilot piddle pak	SOCATA	0.220 (0.100)	174.01 (4.420)
A	25004A	Leather upholstering - version A "American L."	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004B	Leather upholstering - version B "Wentworth"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004C	Leather upholstering - version C "Design"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25004D	Leather upholstering - version D "Autolux"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	0386-25	Leather upholstering "Vulcain"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25005A	JEPPESEN filing cabinet (TBM700A)	SOCATA	12.302 (5.580)	201.06 (5.107)
A	25005B	JEPPESEN filing cabinet - PPI	SOCATA	18.739 (8.500)	202.76 (5.150)
A	25005C	JEPPESEN filing cabinet - Composite	SOCATA	14.991 (6.800)	202.76 (5.150)
A	25006A	Storage box (TBM700A)	SOCATA	11.155 (5.060)	201.06 (5.107)
A	25006B	Refreshment cabinet (TBM700A)	SOCATA	15.873 (7.200)	201.06 (5.107)
A	25006C	Storage box - PPI	SOCATA	20.282 (9.200)	202.76 (5.150)
A	25006D	Refreshment cabinet - PPI	SOCATA	23.589 (10.700)	202.76 (5.150)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	25006E	Storage box – Composite	SOCATA	16.314 (7.400)	202.76 (5.150)
A	25006F	Refreshment cabinet – Composite	SOCATA	18.960 (8.600)	202.76 (5.150)
A	25007A	Retractable table	SOCATA	4.123 (1.870)	244.25 (6.204)
A	25009A	Audio cabinet (TBM700A)	SOCATA	21.429 (9.720)	205.04 (5.208)
A	25009B	Audio cabinet – PPI	SOCATA	8.704 (13.020)	205.43 (5.218)
A	25009C	Audio cabinet – Composite	SOCATA	24.052 (10.910)	206.14 (5.236)
A	25009D	BECKER audio cabinet	SOCATA	29.916 (13.570)	224.57 (5.704)
A	25009E	BECKER audio cabinet (compatible with OPT70 23012 and OPT70 23023)	SOCATA	28.439 (12.900)	224.45 (5.701)
A	25009F	BECKER audio cabinet (compatible with OPT70 23012 and OPT70 23023)	SOCATA	28.439 (12.900)	224.45 (5.701)
O	25013A	Map holder on R.H. control wheel	SOCATA	0.463 (0.210)	167.72 (4.260)
O		LED lighted chart holder	MADELEC SYSTEM	0.595 (0.270)	/
O	25017A	Window panel blinds and upper door locking safety device (TBM700A)	SOCATA	ΔNegli-gible	/
A	25018A	Smoke goggles	PURITAN	0.573 (0.260)	200.00 (5.080)
S		Smoke goggles	INTER-TECHNIQUE	0.286 (0.130)	200.00 (5.080)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	25021A	Coat hanger	SOCATA	Negligible	/
O	25022A	Upholstery panels modifications - Version A	SOCATA	Δ 7.720 (Δ 3.500)	216.53 (5.500)
O	25022B	Upholstery panels modifications - Version B	SOCATA	Δ 5.510 (Δ 2.500)	216.53 (5.500)
O	25022C	Upholstery panels modifications - Version C	SOCATA	Δ 5.510 (Δ 2.500)	216.53 (5.500)
A	25024A	Carpet protecting mat - version A (TBM700A)	SOCATA	5.730 (2.600)	246.10 (6.250)
A	25024B	Carpet protecting mat - version B (TBM700B)	SOCATA	5.730 (2.600)	246.10 (6.250)
O	25025A	Cabin furnishings "LUXE" (TBM700B)	SOCATA	Δ 7.720 (Δ 3.500)	288.38 (7.325)
O	25025B	Cabin furnishings "VIP" (TBM700B)	SOCATA	Δ 7.720 (Δ 3.500)	288.38 (7.325)
A	25026A	Partition net between the cabin and the baggage compartment	SOCATA	2.756 (1.250)	289.53 (7.354)
A	25027A	Cargo transportation capability (with pilot door) (pilot alone on board) (TBM700B)	SOCATA	25.353 (11.500)	246.69 (6.266)
A	25027B	Cargo transportation capability (with pilot door) (1 pilot + 1 FWD passenger) (TBM700B)	SOCATA	30.864 (14.000)	246.10 (6.251)
A	25028A	28V plugs - Lighter	SOCATA	/	/
A	25031	Cargo transportation capability without pilot door (TBM700B)	SOCATA	20.393 (9.250)	289.53 (7.354)
A	25032	Front seats ease covers	SOCATA	2.756 (1.250)	183.78 (4.668)
A	0151-25	CD reader PCD 7100	PS ENGINEERING	2.20 (1.000)	205.04 (5.208)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	0174-25	Optional 12 V plugs	SOCATA	3.31 (1.500)	195.28 (4.960)
A	0246-25B	Potty seat (Chemical toilets cabinet) and its associated curtain (TBM700B)	DOMETIQUE/ CATHERINEAU	54.23 (24.600)	219.96 (5.587)
		Seats - Belts (Standard equipment)			
S		Seats (6 places without oxygen equipment) (TBM700A) :			
		- Pre-MOD70-019-25 Valid S/N 1 to 23, 25, 28, 33 and 35 :			
S		. Pilot's seat T700A2512000 (TBM700A)	SOCATA	24.250 (11.000)	180.31 (4.580)
S		. Front R.H. Seat T700A2512000 (TBM700A)	SOCATA	24.250 (11.000)	180.31 (4.580)
S		. Intermediate seat (R.H. or L.H.) (back to flight direction) (TBM700A) T700A2522000	SOCATA	23.148 (10.500)	217.72 (5.330)
S		. Rear L .H. Seat T700A2522001 (TBM700A)	SOCATA	24.250 (11.000)	257.09 (6.530)
S		. Rear R. H. seat T700A2522000 (TBM700A)	SOCATA	23.148 (10.500)	257.09 (6.530)
		or			
O		. Rear divan Model 3028 P/N 303437-3 T700A2522000990 as a retrofit	ERDA	74.956 (34.000)	271.30 (6.891)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Seats (6 places with or without oxygen equipment)			
		- Post-MOD70-019-25 Valid S/N 24, 26, 27, 29 to 32, 34, 36 to 9999 :			
S		. Pilot's seat T700A2512000 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Pilot's seat T700A2512002 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512002 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (S/N 128 only)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Front R.H. Seat T700A2512000 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Front R.H. Seat T700A2512002 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. Seat T700A2512002 (TBM700A)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. Seat T700A2512082 (S/N 128 only)	PPI	29.696 (13.470)	182.68 (4.640)
O		. Front R.H. seat T700A2512082 (TBM700B)	PPI	29.696 (13.470)	182.68 (4.640)
S		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700A) T700A2522000	PPI	25.507 (11.570)	218.31 (5.545)
S		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700B) T700A2522004	PPI	25.507 (11.570)	218.31 (5.545)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		. Intermediate seats (R.H. and L.H.) (back to flight direction) (TBM700A) T700A2522004	PPI	25.507 (11.570)	218.31 (5.545)
		or			
S		. Rear divan Model 3028 P/N 303437-3 T700A2522000 (TBM700A – Pre-MOD70-023)	ERDA	74.956 (34.000)	271.30 (6.891)
		or			
S		. Double chair T700A2521201 (TBM700A – Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair T700A2521230 (TBM700A – Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
S		. Rear divan T700B2520018 (TBM700B)	PPI	57.319 (26.000)	271.30 (6.891)
S		Belt and harness T700A2510007	ANJOU AERONAU–TIQUE	1.786 (0.810)	192.91 or 287.40 (4.900 or 7.300)
		Leather seats - Belts			
O		. Pilot's seat T700A2512000 (TBM700A)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Pilot's seat T700A2512082 (TBM700B)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512000 (TBM700A)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512002 (TBM700A – Post-MOD70-019)	SOCATA	27.56 (12.500)	182.68 (4.640)
O		. Front R.H. Seat T700A2512082 (TBM700B)	SOCATA	27.56 (12.500)	182.68 (4.640)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		. L.H. intermediate seat (back to flight direction) T700A2522000 (TBM700A)	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. L.H. intermediate seat (back to flight direction) T700A2522004	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. R.H. intermediate seat (back to flight direction) T700A2522000 (TBM700A)	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. R.H. intermediate seat (back to flight direction) T700A2522004	SOCATA	24.25 (11.000)	218.30 (5.545)
O		. Rear Divan T700A2522000 (TBM700A - Pre-MOD70-023)	SOCATA	50.71 (23.000)	271.30 (6.891)
O		. Double chair T700A2521201 (TBM700A - Post-MOD70-023)	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair T700A2521230 Post-MOD70-023	PPI	57.319 (26.000)	271.30 (6.891)
O		. Double chair, L.H. Seat (TBM700B) T700B2520018	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, L.H. Seat (TBM700B) T700B2520015	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, R.H. Seat (TBM700B) T700B2520018	SOCATA	25.35 (11.500)	271.30 (6.891)
O		. Double chair, R.H. Seat (TBM700B) T700B2520015	SOCATA	25.35 (11.500)	271.30 (6.891)
		Seats - Belts (Optional equipment)			
A	25002A	<u>TBM700A</u> 7-place accomodation	SOCATA	Δ 11.574 (Δ 5.250)	308.78 (7.843)
		- Valid S/N 7 :			
		. Pilot's seat	SOCATA	24.250 (11.000)	180.30 (4.580)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		. Front R.H. seat	SOCATA	24.250 (11.000)	180.30 (4.580)
		. L.H. intermediate seat (back to flight direction)	SOCATA	23.148 (10.500)	217.72 (5.330)
		. R.H. intermediate seat	SOCATA	23.148 (10.500)	220.47 (5.600)
		. Rear R .H. seat	SOCATA	23.148 (10.500)	254.45 (6.463)
	Cont'd	. Rear divan	ERDA	74.956 (34.000)	289.13 (7.344)
A	25002B	TBM700A 7-place accomodation :	PPI	Δ 30.137 (Δ 13.670)	237.76 (6.039)
		- Valid from S/N 68 to 128 except S/N 72 to 75 :			
		. Pilot's seat	PPI		182.68 (4.640)
		. Front R.H. seat	PPI		182.68 (4.640)
		. L.H. intermediate seat (back to flight direction)	PPI		218.31 (5.545)
		. R.H. intermediate seat	PPI		212.95 (5.409)
		. Rear R .H. seat	PPI		242.20 (6.152)
		. Rear divan	PPI		271.30 (6.891)
A	25002C	TBM700B 7-place accomodation :	PPI	Δ 30.137 (Δ 13.670)	237.76 (6.039)
		- Valid from S/N 129 :			
		. Pilot's seat	PPI		182.68 (4.640)
		. Front R.H. seat	PPI		182.68 (4.640)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		. L.H. intermediate seat (back to flight direction)	PPI		218.31 (5.545)
		. R.H. intermediate seat	PPI		212.95 (5.409)
		. Rear R .H. seat	PPI		242.20 (6.152)
		. Rear divan	PPI		271.30 (6.891)
		25-60 - Emergency equipment			
A	25019A	Axe	SOCATA	2.425 (1.100)	195.28 (4.960)
A	25020A	First aid kit	SOCATA	3.968 (1.800)	285.43 (7.250)
		25-61 - Emergency locator transmitter			
A		Emergency beacon JE2 or JE2NG (Not valid for U.K., Germany and Austria)	JOLLIET	3.086 (1.400)	311.02 (7.900)
O	25008A	Emergency beacon ELT 910 (For export only)	NARCO		
		- <u>TBM700A</u>		Δ 2.646 (Δ 1.200)	270.47 (6.870)
		- <u>TBM700B</u>		Δ 2.646 (Δ 1.200)	295.28 (7.500)
O	25012A	Emergency beacon ELT 90 (EUROCAE)	SOCATA	3.307 (1.500)	270.87 (6.880)
O	25012B	Emergency beacon ELT 91 (TSO)	SOCATA	3.307 (1.500)	270.87 (6.880)
O	25016A	Three-frequency emergency locator transmitter ELT 96 (EUROCAE)	SOCATA		
		- <u>TBM700A</u>		3.638 (1.650)	297.64 (7.560)
		- <u>TBM700B</u>		3.638 (1.650)	271.65 (6.900)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	25016B	Three-frequency emergency locator transmitter (TSO) ELT 97	SOCATA		
		- TBM700A		3.638 (1.650)	297.64 (7.560)
		- TBM700B		3.638 (1.650)	271.65 (6.900)
O	0153-25B	Emergency beacon KANNAD 406AF (installed under rear seat in cabin) (with support)	SERPE-IESM		
		Pre-MOD70-138-53, retrofit only to replace option OPT70 25016 :			
		- TBM700A		2.45 (1.110)	297.64 (7.560)
		- TBM700B		2.45 (1.110)	347.09 (8.816)
		. ELT/NAV interface box CS144A	SERPE-IESM	1.81 (0.823)	297.64 (7.560)
		. Antenna 21-41	CHELTON	0.31 (0.140)	339.37 (8.620)
O	0153-25D	Emergency beacon KANNAD 406 AF (installed under rear seat in cabin) (with support)	SERPE-IESM		
		Pre-MOD70-138-53, retrofit only to replace option OPT70 25016 :			
		- TBM700A		2.45 (1.110)	297.64 (7.560)
		- TBM700B		2.45 (1.110)	347.09 (8.816)
		. ELT/NAV interface box CS144A	SERPE-IESM	1.81 (0.823)	297.64 (7.560)
		. Antenna 1327-82	CHELTON	0.33 (0.150)	339.37 (8.620)
A	0273-25A	Emergency Locator Transmitter KANNAD 406 AF Compact - automatic fixed - (installed in cabin), of which:	SERPE-IESM	2.29 (1.040)	272.95 (6.933)
		. Antenna ANT300	SERPE-IESM	0.33 (0.150)	313.39 (7.960)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		26 - FIRE PROTECTION			
A	26001A	Portable fire extinguisher unit (TBM 700A) FH 15 N	AREOFEU	4.696 (2.130)	176.38 (4.480)
		or H1-10 AIR	MAIP	4.266 (1.935)	176.38 (4.480)
A	26001B	Portable fire extinguisher unit H1-10 AIR	MAIP	4.266 (1.935)	192.16 (4.881)
		or 863520-00	L'HOTELLIER	3.638 (1.650)	192.16 (4.881)
A	26002A	Engine fire detection system	L'HOTELLIER	1.455 (0.660)	96.06 (2.440)
A	0391-26	Portable fire extinguisher unit 74-00	AIR TOTAL		
		Version A	AIR TOTAL	4.89 (2.220)	170.11 (4.321)
		Version B	AIR TOTAL	4.89 (2.220)	192.16 or 194.16 (4.881 or 4.932)
		Version C	AIR TOTAL	4.96 (2.250)	193.80 (4.923)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		27 - FLIGHT CONTROLS			
		27-10 - Roll control			
R		Roll trim actuator 145700.01 or 145700.02	LPMI	1.543 (0.700)	212.60 (5.400)
		27-20 - Yaw control			
R		Rudder trim actuator 145700.01 or 145700.02	LPMI	1.543 (0.700)	395.27 (10.040)
R		Trim and flap indicator 4724	PEKLY S.A	1.102 (0.500)	159.45 (4.050)
A	27001A	AFC and electric trim control on R.H. control wheel	SOCATA	0.882 (0.400)	157.48 (4.000)
		27-30 - Pitch control			
S		Pitch trim actuator 145400-01 or 145400-02	LPMI	1.213 (0.550)	425.20 (10.800)
		27-50 - Wing flaps (control)			
R		Flap control including :	AVIAC	15.520 (7.040)	218.50 (5.550)
		- Flap motor 6157-1	AVIAC	2.866 (1.300)	216.54 (5.500)
		- Flap actuator 1-5295 / 2-5295	AVIAC	1.918 (0.870)	216.54 (5.500)
		or 1-5297 / 2-5297		1.830 (0.830)	220.47 (5.600)
O	27002A	Flap control	LPMI	17.438 (7.910)	218.50 (5.550)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		28 - FUEL SYSTEM			
		28-20 - Fuel supply			
R		Electric boost pump 2003-B	WELDON	3.483 (1.580)	129.92 (3.300)
R		Electric boost pump 2022-B	WELDON	3.483 (1.580)	129.92 (3.300)
R		Electric boost pump 1B9-5	AIRBORNE	4.409 (2.000)	129.92 (3.300)
R		Engine driven fuel pump 1127-01	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Engine driven fuel pump 1127-01 A	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Engine driven fuel pump 1127-02	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Fuel sequencer unit E3-003-00	STPI	1.764 (0.800)	125.98 (3.200)
R		Fuel unit 35001C14-1	LE BOZEC	5.512 (2.500)	133.07 (3.380)
R		Fuel unit L88A15-651	INTER-TECHNIQUE	4.586 (2.080)	133.07 (3.380)
O	28001A	A35 fuel sequencer unit	TFE	1.102 (0.500)	125.98 (3.200)
		28-40 - Fuel indication			
R		Amplifier indicator (in us gal) 748-758-1	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in us gal) 748-859-1	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in us gal) 748-859-2	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)
R		Amplifier indicator (in litres) 749-338	INTER-TECHNIQUE	1.477 (0.670)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
R		Fuel pressure indicator 19-3005 or PC99-06	AID FALGAYRAS	0.309 (0.140)	157.48 (4.000)
R		Inboard L.H. gage 768-403 or 762-438-1-0	INTER-TECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Inboard R.H. gage 768-404 or 762-439-1-0	INTER-TECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Intermediate gage 766-976-1 or 762-440-1-0	INTER-TECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Outboard gage 766-977-1 or 762-441-1-0	INTER-TECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Low level sensor 722-447	INTER-TECHNIQUE	0.100 (0.045)	183.07 (4.650)
O	0427-28A	Low level sensor 747-971-1-0	ZODIAC/INTER-TECHNIQUE	0.143 (0.065)	192.91 (4.900)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		30 - ICE AND RAIN PROTECTION			
S		Deicer, L.H. elevator horn T700A5520015006(920)	SOCATA	3.307 (1.500)	403.15 (10.240)
S		Deicer, R.H. elevator horn T700A5520015007(921)	SOCATA	3.307 (1.500)	403.15 (10.240)
S		Deicer, L.H. horizontal stabilizer T700A3013003000	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer, R.H. horizontal stabilizer T700A3013003001	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer, vertical stabilizer T700A3014003000	SOCATA	3.968 (1.800)	374.02 (9.500)
S		Deicer, inboard L.H. wing T700A3010001002	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer, inboard R.H. wing T700A3010001003	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer, middle L.H. wing T700A3010001004	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer, middle R.H. wing T700A3010001005	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer (Std), outboard L.H. wing T700A3010001006	SOCATA	3.307 (1.500)	173.23 (4.400)
S		Deicer, outboard R.H. wing T700A3010001007	SOCATA	3.307 (1.500)	173.23 (4.400)
S		Dual port distribution valve 1532-10C	LUCAS	2.425 (1.100)	125.98 (3.200)
S		Timer 42E25-2	LUCAS	0.772 (0.350)	177.17 (4.500)
S		Timer 42E25-2A	LUCAS	0.772 (0.350)	177.17 (4.500)
S		Water separator and filter 44E21-2A	LUCAS	1.102 (0.500)	125.98 (3.200)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O		Deicer, outboard L.H. wing T700A3010012000 (with radar OPT70 34007A)	SOCATA	2.646 (1.200)	173.23 (4.400)
		30-40 - Windshield deicing			
S		Windshield heater controller WH 89-10	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
S		Windshield heater controller WH 89-10A	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
S		Windshield heater controller TWH 93-01	AIR SYSTEMS	0.992 (0.450)	149.61 (3.800)
		30-60 - Propeller deicing			
S		Deicing kit 67-600-2	GOODRICH	1.764 (0.800)	48.43 (1.230)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		31 - INDICATING/RECORDING SYSTEMS			
		31-20 - Independent instruments			
S		Chronometer M800 (28V)	DAVTRON	0.154 (0.070)	157.48 (4.000)
S		Chronometer 420000	ASTROTECH	0.154 (0.070)	157.48 (4.000)
O	31001A	Stop watch Q18-945-22-28-1-LE	THOMMEN	0.419 (0.190)	157.48 (4.000)
O	31002A	Hourmeter 56457-3 (engine running time)	DATCON	0.551 (0.250)	156.30 (3.970)
O	31002B	Hourmeter 56457-3 (flying time)	DATCON	0.551 (0.250)	156.30 (3.970)
		31-50 - Aural warning			
R		Aural warning system T700A3155011000	SOCATA	0.661 (0.300)	183.07 (4.650)
		31-60 - Visual warning			
R		Advisory panel AP 89-11	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)
R		Advisory panel AP 00-06	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)
R		Advisory panel AP 00-08 (with option OPT70 26002)	AIR SYSTEMS	4.409 (2.000)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		32 - LANDING GEARS			
		32-10 - Main landing gear			
R		L.H. main landing gear 21135-001-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		L.H. main landing gear 21135-002-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		R.H. main landing gear 21136-001-00	ERAM	50.044 (22.700)	200.39 (5.090)
R		R.H. main landing gear 21136-002-00	ERAM	50.044 (22.700)	200.39 (5.090)
O	0141-32	L.H. main landing gear D23767000	MESSIER DOWTY	51.590 (23.400)	200.39 (5.090)
O	0141-32	R.H. main landing gear D23768000	MESSIER DOWTY	51.590 (23.400)	200.39 (5.090)
		32-20 - Nose landing gear			
R		Nose gear 21130-001-00	ERAM	52.910 (24.000)	93.70 (2.380)
O	0141-32	Nose gear D23766000	MESSIER DOWTY	53.570 (24.300)	93.70 (2.380)
		32-30 - Extension and retraction			
R		Door actuator EC 6230	HRL	1.345 (0.610)	192.91 (4.900)
R		Main locking actuator 08-1480	HRL	13.228 (6.000)	208.07 (5.285)
R		Nose locking actuator 08-1480	HRL	13.228 (6.000)	110.24 (2.800)
R		Hand pump 914-8D27	TELEDYNE	2.326 (1.055)	181.10 (4.600)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	0342-52	Lower main landing gear doors (R.H. and L.H.)	SOCATA	6.614 (3.000)	204.33 (5.190)
		32-35 - Hydraulic generation			
R		Hydraulic power pack :	LHC		
		- up to S/N 10 : 1118-02 or 03		6.548 (2.970)	84.65 (2.150)
		- from S/N 11 to S/N 227 : 1118-03		6.548 (2.970)	84.65 (2.150)
	060-32	- from S/N 1 (retrofit) and from S/N 228 : 1118-04		10.362 (4.700)	84.65 (2.150)
		32-40 - Wheels and brakes			
R		Brake assembly 030-19100	PARKER	14.991 (6.800)	204.33 (5.190)
R		Main tire 18x5.5-8PR TL	DUNLOP	13.228 (6.000)	204.33 (5.190)
R		Main tire 18x5.5-8/190T	MICHELIN	12.200 (5.534)	204.33 (5.190)
R		Main tire 18x5.5-8PR FLE	GOODYEAR	13.450 (6.101)	204.33 (5.190)
R		Master cylinder 010-07801	PARKER	0.882 (0.400)	145.67 (3.700)
R		Master cylinder 010-07802	PARKER	0.882 (0.400)	145.67 (3.700)
R		Nose tire 5.00x5-6PR	DUNLOP	6.400 (2.903)	89.57 (2.275)
R		Nose tire 5.00-5-10PR TL	MICHELIN	6.000 or 5.600 (2.722 or 2540)	89.57 (2.275)
R		Nose tire 5.00-5-10PR TL	GOODYEAR	6.300 (2.858)	89.57 (2.275)

S/R/A/O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
R	0408-32	Nose tire 5.00-5-10PR	GOODYEAR	6.834 (3.100)	89.57 (2.275)
R		Nose tire 5.00x5-10-120TL	AVIATOR	5.600 (2.540)	89.57 (2.275)
R		Nose wheel 40-262A	PARKER	2.976 (1.350)	89.57 (2.275)
R		Main wheel (Model 40-270) 040-27000	PARKER	11.023 (5.000)	204.33 (5.190)
R		Parking brake valve 060-01600	PARKER	0.331 (0.150)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		33 - LIGHTS			
		33-10 - Instrument panel lighting			
S		L.H. tube 67135 U290 C62S	SELA	Negligible	/
S		R.H. tube 67135 U290 C63S	SELA	Negligible	/
S		DC/AC inverter 18-916-226	SELA	0.331 (0.150)	153.54 (3.900)
S		Intensity control 419-12-22k-100k	SELA	0.220 (0.100)	157.48 (4.000)
S		Instruments emergency lighting 2240-3	WEMAC	0.110 (0.050)	181.10 (4.600)
A	33001A	PULSELITE unit (for landing lights) 1NC P/N 1220/2410-2	PRECISE FLIGHT	1.265 (0.574)	202.60 (5.146)
		33-40 - External lighting			
S		L.H. wing inspection light (icing detection) T700A3340012	SOCATA	0.198 (0.090)	151.57 (3.850)
S		Landing lights 4596	GE	0.794 (0.360)	179.13 (4.550)
S		Taxi light assembly A715-1 (4587)	WHELEN	1.102 (0.500)	93.70 (2.380)
S		NAV/Anticollision system :	WHELEN		
S		- Anticollision power supply A413A HDA-DF-28 or A413A HDA-DF-14/28 or A413A HDA-CF-14/28	WHELEN	2.998 (1.360)	204.72 (5.200)
S		- L.H. navigation light assy A600 PR 28 or R.H. navigation ligth assy A600 PG 28	WHELEN	0.507 (0.230)	185.04 (4.700)

S/ R/ A/ O	ITEM OPT70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S	Cont'd	– L.H. navigation light assy A600 PR D28 or R.H. navigation ligth assy A600 PG D28	WHELEN	0.507 (0.230)	185.04 (4.700)
O	33002	Halogen landing lights Q5596	WHELEN	0.794 (0.360)	179.13 (4.550)
		Halogen taxi light Q5587	WHELEN	1.102 (0.500)	93.70 (2.380)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION			
A	34036A	COM-NAV KX 165 - SINGLE	KING	1.301 (0.590)	151.57 (3.850)
A	34036B	COM-NAV KX 165 - SINGLE EFIS coupled	KING	1.301 (0.590)	151.57 (3.850)
		34-10 - Flight environment data			
		34-11 - Air data systems			
R		Airspeed indicator # 1 8040 Code B.617	UNITED INSTRUMENTS	0.716 (0.325)	157.48 (4.000)
R		Altimeter 5934 PAD-1 Code A.186 (R.H. Instrument panel)	UNITED INSTRUMENTS	0.904 (0.410)	157.48 (4.000)
R		Altimeter #1 5934 PAD-3 Code A.186	UNITED INSTRUMENTS	0.904 (0.410)	157.48 (4.000)
O		Encoding altimeter # 1 KEA 130A P/N 066-03064-0005 (L.H. Instrument panel)	KING	1.764 (0.800)	157.48 (4.000)
R		Lift transducer 799-5	SAFE FLIGHT INSTRUMENTS	0.882 (0.400)	173.23 (4.400)
R		Lift transducer 799-8	SAFE FLIGHT INSTRUMENTS	0.882 (0.400)	173.23 (4.400)
S		Pitot heated probe AN 5812-1	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.750 (0.340)	200.79 (5.100)
R		Static reference plug T700A3415017	SOCATA	Negli-gible	/
S		Static reference selector TB30 77010000	SOCATA	0.220 (0.100)	157.48 (4.000)
S		Vertical speed indicator 2" 7201 C.172 (L.H. instrument panel)	UNITED INSTRUMENTS	1.102 (0.500)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Vertical speed indicator 3" 7060 C.118 (L.H. instrument panel)	UNITED INSTRUMENTS	1.213 (0.550)	157.48 (4.000)
R		VMO νP switch 32202 or 32202-1	HYDRA ELECTRIC	0.220 (0.100)	141.73 (3.600)
O	34011A	Airspeed indicator # 1 8140 Code B.666	UNITED INSTRUMENTS	0.800 (0.363)	172.83 (4.390)
O	34012A	Servoed encoding altimeter # 1 KEA 346	KING	3.086 (1.400)	153.15 (3.890)
A	34018A	Vertical speed indicator 3" 7060 (R.H. instrument panel)	UNITED INSTRUMENTS	1.433 (0.650)	153.15 (3.890)
A	34019A	Airspeed indicator # 2 8040 Code B.617 (R.H. instrument panel)	UNITED INSTRUMENTS	0.926 (0.420)	154.96 (3.936)
A	34019B	TAS airspeed indicator # 2 8140 Code B.666 (R.H. instrument panel)	UNITED INSTRUMENTS	0.75 (0.340)	157.48 (4.000)
A	34022A	Vertical speed indicator 2" 7201 (R.H. instrument panel)	UNITED INSTRUMENTS	1.213 (0.550)	153.54 (3.900)
O	34053	Encoding altimeter # 2 KEA 130A (R.H. instrument panel)	KING	0.794 (0.360)	156.89 (3.985)
O	0159-34	Installation of two altimeters (provision for "RVSM") #1 and #2 AM250	AMETEK		
		- Version A (standard altimeter #2 replaced)		Δ +3.02 (Δ+1.37)	153.54 (3.900)
		- Version B (standard altimeter #2 kept)		Δ +4.10 (Δ+1.86)	153.54 (3.900)
O	0160-34A	Authorization to operate in "RVSM" area (Post SB70-120-34)		/	/

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-13 - Outside temperature			
S		Outside air temperature indicator 301C	DAVTRON	0.265 (0.120)	157.48 (4.000)
		34-20 - Attitude and direction			
		34-21 - Heading reference system			
S		Directional gyro KG 102A P/N 060-00015-0000	KING	4.299 (1.950)	192.91 (4.900)
S		Flux valve KMT 112 P/N 071-01052-0000	KING	0.309 (0.140)	181.10 (4.600)
S		HSI Slave KA 51B P/N 071-01242-0006	KING	0.198 (0.090)	153.54 (3.900)
S		HSI KI 525A P/N 066-03046-0001	KING	3.946 (1.790)	157.48 (4.000)
S		HSI KI 525A P/N 066-03046-0007	KING	3.946 (1.790)	157.48 (4.000)
A	34023A	HSI # 2 KCS 55A (R.H. instrument panel) (Incompatible with OPT70 21002) (TBM700A)	KING	12.787 (5.800)	212.83 (5.406)
A	34023B	HSI # 2 KCS 55A (R.H. instrument panel)	KING	12.787 (5.800)	206.14 (5.236)
		34-22 - Turn and bank indication			
O		Turn coordinator 9013 Code N.5	UNITED INSTRUMENTS	1.620 (0.735)	157.48 (4.000)
		34-23 - Magnetic compass			
R		Stand-by compass C2350 DL4CM	AIRPATH	0.551 (0.250)	163.39 (4.150)
R		Stand-by compass C2350 L4.M23	AIRPATH	0.551 (0.250)	163.39 (4.150)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-24 - ADI and standby horizon			
A		ADI flight director KI 256 P/N 060-00017-0001	KING	3.307 (1.500)	157.48 (4.000)
A	34002A	Additional horizon 505.2BS / 7° (Adjustable pointer) (R.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
O	34002B	Electric standby horizon 505.2BS / 7° (Adjustable pointer) (L.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
A	34002C	Additional horizon 505.2BSK / 7° (Fixed pointer) (R.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
O	34002D	Electric standby horizon 505.2BSK / 7° (Fixed pointer) (L.H. instrument panel)	AIM	3.086 (1.400)	153.54 (3.900)
A	34002E	Additional horizon 1100-28LS (7F) (Adjustable pointer) (R.H. instrument panel)	BFG	2.645 (1.200)	153.54 (3.900)
O	34002F	Electric standby horizon 1100-28LS (7F) (Adjustable pointer) (L.H. instrument panel)	BFG	2.645 (1.200)	153.54 (3.900)
O	34048A	Instantaneous vertical speed Indicator (IVSI) 7160 Code C.134 (L.H. instr. panel)	UNITED INSTRUMENT	0.187 (0.085)	145.91 (3.706)
A	34048B	Instantaneous vertical speed Indicator (IVSI) 7160 Code C.134 (R.H. instr. panel)	UNITED INSTRUMENT	1.433 (0.650)	145.91 (3.706)
A	34050A	ADI # 2 Model AI.330 AP	BFG	3.483 (1.580)	151.97 (3.860)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-25 - Radio magnetic indication			
S		RMI 1 KI 229 (See ATA 34-54)	KING		
A	34016A	RMI 2 KI 229 (R.H. instrument panel) coupled with RMI 1 KI 229	KING	6.173 (2.800)	172.83 (4.390)
A	34016B	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KI 229	KING	3.086 (1.400)	153.54 (3.900)
A	34016C	RMI 2 KI 229 (R.H. instrument panel) coupled with RMI 1 KNI 582	KING	6.173 (2.800)	172.83 (4.390)
A	34016D	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KNI 582	KING	3.086 (1.400)	153.54 (3.900)
A	34016E	RMI 2 KI 229 (R.H. instrument panel) coupled with EFIS and with RMI 1 KNI 582 (KCS 55A System # 2)	KING	3.086 (1.400)	153.54 (3.900)
O	34020A	RMI 1 KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	172.83 (4.390)
O	34020B	RMI 1 KNI 582 (L.H. instrument panel), EFIS coupled	KING	2.998 (1.360)	172.83 (4.390)
O	34020C	RMI 1 KNI 582 (L.H. instrument panel) with integrated KN 40 converter	KING	7.738 (3.510)	214.45 (5.447)
O	34020D	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled	HONEYWELL	2.998 (1.360)	172.83 (4.390)
		Converter KN 40	HONEYWELL	4.23 (1.920)	257.87 (6.550)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34020E	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled with integrated KN40 converter	HONEYWELL	7.738 (3.510)	214.45 (5.447)
O	34020F	RMI 1 KNI 582 (L.H. instrument panel) EFIS coupled	HONEYWELL	3.505 (1.590)	161.50 (4.102)
		Converter KN 40	HONEYWELL	4.23 (1.920)	257.87 (6.550)
A	34031A	RMI 2 KNI 582 (R.H. instrument panel) coupled with RMI 1 KNI 582	KING	3.527 (1.600)	172.83 (4.390)
A	34031B	RMI 2 KNI 582 (R.H. instrument panel) coupled with RMI 1 KNI 582 - EFIS	KING	3.527 (1.600)	172.83 (4.390)
A	34039A	Switching of RMI 1 KI 229 NAV1 KNS80 and NAV2 KN53	KING	0.441 (0.200)	157.48 (4.000)
A	34039B	Switching of RMI 1 KI 229 NAV1 KN53 and NAV2 KN53	KING	0.441 (0.200)	157.48 (4.000)
		34-28 - Electronic flight instrumentation system			
O	34001A	EFIS (EFS 40 + AP KFC 325) :	KING		
		- with standby horizon M32 RCA 22	RC ALLEN	71.716 (32.530)	133.19 (3.383)
		- with horizon 5000B	EDO AIRE / SIGMATEK	71.520 (32.440)	132.60 (3.368)
O	34001B	EFIS (EFS 40 + AP KFC 325) :	KING		
		- with standby horizon M32 RCA 22	RC ALLEN	71.716 (32.530)	133.19 (3.383)
		- with horizon 5000B	EDO AIRE / SIGMATEK	71.520 (32.440)	132.60 (3.368)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34001C	EFIS (EFS 40 + AP KFC 325) :	KING		
		– with DME KDI 574 (without KN 40 converter)	KING	67.813 (30.760)	125.63 (3.191)
		34-30 - Landing and taxiing aids			
		34-31 - Marker			
S		MARKER receiver KR 21 P/N 066-01021-0001	KING	0.562 (0.255)	157.48 (4.000)
S		MARKER antenna DM N27-3	DORNE & MARGOLIN	0.750 (0.340)	129.92 (3.300)
A	34046A	MARKER indicator repeater (EFIS) KA35A	KING	0.330 (0.150)	151.57 (3.850)
		34-40 - Independent position determining			
		34-41 - Stormscope			
A	34009A	Stormscope WX 1000+	BFG	16.535 (7.500)	228.35 (5.800)
A	34009B	Stormscope WX 1000	BFG	15.432 (7.000)	230.71 (5.860)
A	34009C	Stormscope WX 1000+ EFIS coupled	BFG	15.432 (7.000)	230.71 (5.860)
A	34009D	Stormscope WX 1000E EFIS coupled - Remote installed control	BFG	9.502 (4.310)	269.09 (6.835)
A	34009E	Stormscope WX 1000E EFIS coupled	BFG	15.939 (7.230)	230.94 (5.866)
A	34009F	Stormscope WX 1000E EFIS coupled, shared with the SKYWATCH (for export only)	BFG	15.939 (7.230)	230.94 (5.866)
A	34009G	Stormscope WX 1000+ shared with the SKYWATCH	BFG	16.535 (7.500)	228.35 (5.800)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34041A	Stormscope WX 950	BFG	4.700 (2.130)	191.85 (4.873)
A	34056A	Stormscope WX 500 EFIS coupled, with indicator on GNS 530 or MFD KMD 850 or GMX 200, of which :	BFG	4.938 (2.240)	232.28 (5.900)
		. Antenna NY163	BFG	0.84 (0.380)	311.02 (7.900)
		. Processor WX 500	BFG	2.27 (1.030)	255.91 (6.500)
		34-42 - Weather radar			
A	34007A	Weather radar RDS 81 (Not valid for Germany and Austria)	KING	27.778 (12.600)	165.75 (4.210)
A	34007B	Graphic weather radar RDS 81 (Not valid for Germany and Austria)	KING	33.289 (15.100)	162.99 (4.140)
A	34007E	Weather radar RDS 81 EFIS coupled (Not valid for Germany and Austria)	KING	27.998 (12.700)	164.17 (4.170)
A	34007F	Graphic weather radar RDS 81 EFIS coupled, with KNS 81 (Not valid for Germany and Austria)	KING	33.510 (15.200)	162.68 (4.132)
A	34007G	Graphic weather radar RDS 81 EFIS coupled, with GPS KLN 90 (Not valid for Germany and Austria)	KING	33.510 (15.200)	162.68 (4.132)
A	34007H	Weather radar RDS 81 without screen (Not valid for Germany and Austria)	KING	19.400 (8.800)	171.26 (4.350)
A	34008A	Weather radar RDS 82 VP	KING	27.778 (12.600)	165.75 (4.210)
A	34008B	Graphic weather radar RDS 82 VP	KING	33.289 (15.100)	162.99 (4.140)
A	34008E	Weather radar RDS 82 VP EFIS coupled	KING	27.998 (12.700)	164.17 (4.170)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34008F	Graphic weather radar RDS 82 VP EFIS coupled, with KNS 81	KING	33.510 (15.200)	162.68 (4.132)
A	34008G	Graphic weather radar RDS 82 VP EFIS coupled, with GPS KLN 90	KING	33.510 (15.200)	162.68 (4.132)
A	34025A	Weather radar RDS 82	KING	27.778 (12.600)	165.75 (4.210)
A	34025B	Graphic weather radar RDS 82	KING	33.289 (15.100)	162.99 (4.140)
A	34025E	Weather radar RDS 82 EFIS coupled	KING	27.998 (12.700)	164.17 (4.170)
A	34025F	Graphic weather radar RDS 82 EFIS coupled, with KNS 81	KING	33.510 (15.200)	162.68 (4.132)
A	34025G	Graphic weather radar RDS 82 EFIS coupled, with GPS KLN 90	KING	33.510 (15.200)	162.68 (4.132)
A	34025H	Weather radar RDS 82 EFIS coupled, with control box CP466A	KING	19.400 (8.800)	171.26 (4.350)
A	34040A	Weather radar RDR 2000	KING	21.054 (9.550)	163.70 (4.158)
A	34040B	Weather radar RDR 2000 with graphic generator	KING	25.150 (11.410)	161.22 (4.095)
A	34040E	Weather radar RDR 2000 EFIS coupled	KING	21.054 (9.550)	163.70 (4.158)
A	34040F	Weather radar RDR 2000 EFIS coupled, with indicator on MFD KMD 850 or GMX 200	HONEYWELL	11.530 (5.230)	173.46 (4.406)
A	34040G	Weather radar RDR 2000 with graphic generator, EFIS coupled	KING	25.150 (11.410)	161.22 (4.095)
A	34040H	Weather radar RDR 2000 EFIS coupled, with control box CP466A	KING	17.394 (7.890)	167.20 (4.247)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-43 - Radioaltimeter			
A	34010A	Radioaltimeter KRA 10A (Not valid for Germany and Austria)	KING	5.291 (2.400)	325.98 (8.280)
A	34010B	Radioaltimeter KRA 10A EFIS coupled (Not valid for Germany and Austria)	KING	5.291 (2.400)	325.98 (8.280)
A	34010C	Radioaltimeter KRA 10A EFIS coupled, without indicator (Not valid for Germany and Austria)	KING	4.409 (2.000)	361.65 (9.186)
A	34037A	Radioaltimeter KRA 405 (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
A	34037B	Radioaltimeter KRA 405B (TBM700A)	KING	9.943 (4.510)	202.44 (5.142)
A	34037F	Radioaltimeter, KRA 405B EFIS coupled - TBM700A - TBM700B of which :		 9.943 (4.510) 9.943 (4.510)	 202.44 (5.142) 192.48 (4.889)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	244.25 (6.204)
		. Indicator KNI 415	HONEYWELL	1.70 (0.770)	155.24 (3.943)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037F	Radioaltimeter KRA 405B (TBM700B new version with weight lowering of coaxial cables), EFIS coupled, of which :		8.179 (3.710)	195.82 (4.974)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)
		. Indicator KNI 415	HONEYWELL	1.70 (0.770)	155.24 (3.943)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	Cont'd	. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037H	Radioaltimeter, KRA 405B EFIS coupled, without KNI 415, with aural warning, of which :		7.50 (3.400)	201.57 (5.120)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037I	Radioaltimeter, KRA 405B EFIS coupled, without KNI 415 or aural warning - TBM700A - TBM700B of which :		 8.245 (3.740) 8.245 (3.740)	 211.93 (5.383) 201.22 (5.111)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	244.25 (6.204)
		. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037I	Radioaltimeter KRA 405B (TBM700B new version with weight lowering of coaxial cables), EFIS coupled, without KNI 415 and aural warning, of which :		5.622 (2.550)	209.96 (5.333)
		. Transceiver KRA 405B	HONEYWELL	2.80 (1.270)	231.18 (5.872)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	Cont'd	. Antennas (Qty 2) DM 19-2-1	DORNE & MARGOLIN	0.40 (0.180)	182.09 (4.625) and 205.83 (5.228)
A	34037J	Radioaltimeter KRA 405 EFIS coupled, with KNI 415 (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
A	34037K	Radioaltimeter KRA 405 EFIS coupled and with AMS 44 (refer to ATA 23) (for export only) (TBM700A)	KING	13.426 (6.090)	213.46 (5.422)
		34-44 - Traffic advisory system			
A	34047A	SKYWATCH Traffic advisory system SKY 497 (with indicator on stormscope)	BFG	15.785 (7.160)	145.91 (3.706)
A	34047B	SKYWATCH Traffic advisory system SKY 497 EFIS coupled (with indicator on stormscope)	BFG	13.139 (5.960)	150.12 (3.813)
A	34047E	SKYWATCH Traffic advisory system SKY 497 (with indicator) EFIS coupled	BFG	15.432 (7.000)	150.16 (3.814)
A	34059A	SKYWATCH HP Traffic advisory system SKY 899 (with indicator on MFD 850 or GNS 530), of which :	BFG	12.720 (5.770)	151.18 (3.840)
		. Antenna NY164	BFG	2.29 (1.040)	218.50 (5.550)
		. Processor TRC899	BFG	8.88 (4.030)	133.86 (3.400)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34059B	SKYWATCH HP Traffic advisory system SKY 899 EFIS and TAS coupled (with indicator on MFD 850 or GNS 530), of which :	BFG	12.720 (5.770)	151.18 (3.840)
		. Antenna NY164	BFG	2.29 (1.040)	218.50 (5.550)
		. Processor TRC899	BFG	8.88 (4.030)	133.86 (3.400)
A	34061A	TAS + TAWS system KMH 880 (not autonomous) (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.63 (7.09)	158.42 (4.024)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage) (under fuselage)	HONEYWELL	0.95 (0.430) 0.95 (0.430)	218.11 (5.540) 256.69 (6.520)
A	34061B	TAS + TAWS system KMH 880 (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.89 (7.21)	166.02 (4.217)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage) (under fuselage)	HONEYWELL	0.95 (0.430) 0.95 (0.430)	218.11 (5.540) 256.69 (6.520)
		. Antenna KA 92	HONEYWELL	0.26 (0.120)	196.85 (5.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34061C	TAS + TAWS system KMH 880 (with indicator on MFD KMD 850 or GMX 200), of which :	HONEYWELL	15.65 (7.10)	158.42 (4.024)
		. Processor KMH 880	HONEYWELL	9.68 (4.390)	133.07 (3.380)
		. Control box MD41-1208	MID CONTINENT	5.00 (2.270)	157.08 (3.990)
		. Antenna KA 815 (upper fuselage)	HONEYWELL	0.95 (0.430)	218.11 (5.540)
		(under fuselage)		0.95 (0.430)	256.69 (6.520)
		34-45 - Enhanced Ground Proximity Warning System (EGPWS)			
A	34060A	EGPWS, of which :	HONEYWELL	2.535 (1.150)	185.39 (4.709)
		. Antenna KA 92	HONEYWELL	0.26 (0.120)	244.09 (6.200)
		. Computer KGP 560	HONEYWELL	1.37 (0.620)	192.91 (4.900)
		. Control box MD41-1208	MID CONTINENT	0.24 (0.110)	155.51 (3.950)
		34-50 - Dependent position determining			
		34-51 - NAV 1 installation			
S		VHF NAV # 1 KNS 80 P/N 066-04008-0000 (Not valid for Germany and Austria)	KING	5.952 (2.700)	151.57 (3.850)
S		VHF GS-NAV antenna DM N4-17	DORNE & MARGOLIN	3.307 (1.500)	401.57 (10.200)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		VHF GS-NAV antenna DM N4-17N	DORNE & MARGOLIN	3.307 (1.500)	401.57 (10.200)
O	34013A	KNS 81 (without graphic output)	KING	5.291 (2.400)	151.57 (3.850)
O	34013B	KNS 81 (with graphic output)	KING	5.291 (2.400)	151.57 (3.850)
		34-52 - NAV 2 installation			
S		VHF NAV # 2 KI 206 P/N 066-03034-0004	KING	1.301 (0.590)	151.57 (3.850)
S		VHF NAV # 2 KI 206 P/N 066-03034-0005	KING	1.301 (0.590)	151.57 (3.850)
A	34024A	VHF # 2 KN 53	KING	4.321 (1.960)	149.61 (3.800)
		34-53 - Transponder			
S		Transponder # 1 KT 79 P/N 066-01053-0000	KING	6.614 (3.000)	157.48 (4.000)
A	34021A	Transponder # 2 KT 79 (interfaced with encoding altimeter # 1)	KING	4.189 (1.900)	149.61 (3.800)
A	34021B	Transponder # 2 KT 70 (interfaced with encoding altimeter # 1)	KING	7.319 (3.320)	149.61 (3.800)
A	34021C	Transponder # 2 KT 71 (interfaced with encoding altimeter # 1)	KING	7.319 (3.320)	149.61 (3.800)
A	34021D	Transponder # 2 KT 76C (interfaced with encoding altimeter # 1)	HONEYWELL	3.175 (1.440)	150.59 (3.825)
A	34021E	Transponder # 2 KT 70 (interfaced with encoding altimeter # 2)	KING	7.319 (3.320)	149.61 (3.800)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	34021G	Transponder # 2 KT 76C+ (interfaced with encoding altimeter # 2)	HONEYWELL	3.175 (1.440)	150.59 (3.825)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
O	34026A	Transponder # 1 KT 70	KING	7.319 (3.320)	149.61 (3.800)
O	34026B	Transponder # 1 KT 71	KING	7.319 (3.320)	149.61 (3.800)
O	34026C	Transponder # 1 KT 76C of which	HONEYWELL	3.175 (1.440)	150.59 (3.825)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
O	34057A	Transponder # 1 GTX 327 of which	GARMIN	5.600 (2.540)	148.66 (3.776)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
A	34058A	Transponder # 2 GTX 327 of which	GARMIN	5.600 (2.540)	148.66 (3.776)
		Antenna KA 60		0.198 (0.090)	157.48 (4.000)
A	34062A	Transponder # 1 GTX 330 Mode S (without antenna diversity)	GARMIN	7.496 (3.400)	153.54 (3.900)
		Antenna KA 60		0.198 (0.090)	150.08 (3.812)
O	0152-34	Transponder # 1 GTX330D Mode S (European countries only)	GARMIN	7.496 (3.400)	152.60 (3.876)
		- Without version Antenna KA 60 (under fuselage) (above fuselage - on frame 5)	HONEYWELL	0.198 (0.090) 0.198 (0.090)	150.08 (3.812) 176.57 (4.485)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-54 - Automatic Direction Finder (ADF)			
A		ADF (basic) :			
A		- Receiver KR 87 P/N 066-01072-0000 or 0004	KING	3.197 (1.450)	152.64 (3.877)
A		- Antenna KA 44B	KING	2.800 (1.270)	195.28 (4.960)
A		- RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel)	KING	2.866 (1.300)	153.86 (3.908)
A	34017A	ADF indicator KI 227-01 (R.H. instrument panel) with HSI 1 heading reference	KING	0.882 (0.400)	151.97 (3.860)
A	34017B	ADF indicator KI 227-01 (R.H. instrument panel) with HSI 2 heading reference	KING	0.882 (0.400)	151.97 (3.860)
O	34028A	ADF (dual) :		16.314 (7.400)	174.61 (4.435)
		- 2 receivers KR 87 P/N 066-01072-0000	KING	6.394 (2.900)	152.64 (3.877)
		- 2 antennas KA 44B	KING	5.600 (2.540)	213.03 (5.411)
		- RMI KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	153.90 (3.909)
O	34028B	ADF (dual), EFIS coupled :		16.314 (7.400)	174.61 (4.435)
		- 2 receivers KR 87 P/N 066-01072-0000	KING	6.394 (2.900)	152.64 (3.877)
		- 2 antennas KA 44B	KING	5.600 (2.540)	213.03 (5.411)
		- RMI KNI 582 (L.H. instrument panel)	KING	2.998 (1.360)	153.90 (3.909)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
O	34055A	ADF SC+ :			
		- Receiver KR87/Indicator KI227 P/N 066-01072-0014	HONEYWELL	3.902 (1.770)	157.48 (4.000)
		- Antennas KA 44B	HONEYWELL	2.800 (1.270)	195.28 (4.960)
		- RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel) (European countries only)	KING	2.866 (1.300)	153.86 (3.908)
O	34055B	ADF SC+, EFIS coupled :			
		- Receiver KR87/Indicator KI227 P/N 066-01072-0014	HONEYWELL	3.902 (1.770)	157.48 (4.000)
		- Antenna KA 44B	HONEYWELL	2.800 (1.270)	195.28 (4.960)
		- RMI 1 KI 229 P/N 066-03038-0000 (L.H. instrument panel) (European countries only)	KING	2.866 (1.300)	153.86 (3.908)
		34-55 - DME installation			
A	34014A	DME KN63 with NAV1 KNS81 and NAV2 KX165	KING	4.321 (1.960)	209.84 (5.330)
A	34014C	DME KN63 system, of which : (through NAV1 KN53 and NAV2 KN53 channels)	HONEYWELL	4.321 (1.960)	209.84 (5.330)
		- Indicator in radio rack KDI 572	HONEYWELL	0.800 (0.363)	151.57 (3.850)
		- Receiver KN 63	HONEYWELL	2.800 (1.270)	232.28 (5.900)
		- Antenna KA 60	HONEYWELL	0.20 (0.090)	230.31 (5.850)
A	34038A	DME KN62A	KING	2.600 (1.180)	151.57 (3.850)
A	34045A	DME KDI 574 (with EFIS)	KING	0.770 (0.350)	151.57 (3.850)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-56 - LORAN-C				
A	34005A	LORAN-C	KLN 88	KING	12.566 (5.700)	168.11 (4.270)
A	34005B	LORAN-C EFIS coupled	KLN 88	KING	12.125 (5.500)	168.90 (4.290)
A	34006A	LORAN-C	604	APOLLO	4.850 (2.200)	170.47 (4.330)
		34-57 - Global Positioning System (GPS)				
A	34027B	GPS EFIS coupled	KLN 90	KING	8.576 (3.890)	160.28 (4.071)
A	34027C	GPS	KLN 90	KING	8.576 (3.890)	160.28 (4.071)
A	34030A	GPS	KLN 90A	KING	9.921 (4.500)	153.94 (3.910)
A	34030B	GPS EFIS coupled	KLN 90A	KING	8.774 (3.980)	155.20 (3.942)
A	34033A	GPS	KLN 90B	HONEYWELL	9.921 (4.500)	153.94 (3.910)
A	34033B	GPS EFIS coupled	KLN 90B	HONEYWELL	8.774 (3.980)	155.20 (3.942)
A	34033C	GPS (B-RNAV)	KLN 90B	HONEYWELL	9.921 (4.500)	153.94 (3.910)
A	34033D	GPS (B-RNAV), EFIS coupled, of which :	KLN 90B	HONEYWELL	8.774 (3.980)	155.20 (3.942)
		. Receiver	KLN 90B	HONEYWELL	6.19 (2.810)	155.20 (3.942)
		. Antenna	KA 92	HONEYWELL	0.26 (0.120)	240.16 (6.100)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		34-60 - Flight management computing			
		34-61 - Moving map display system			
A	34042B	Moving map display ARGUS 7000CE	EVENTIDE	3.461 (1.570)	145.98 (3.708)
A	34042G	Moving map display ARGUS (with EFIS) 7000CE	EVENTIDE	3.461 (1.570)	145.98 (3.708)
		34-62 - Multifunction display			
A	34054A	MFD KMD 850 (TBM700B)	HONEYWELL	6.415 (2.910)	153.54 (3.900)
O	0210-34A	MFD GMX 200	GARMIN	5.42 (2.460)	153.54 (3.900)
O	0210-34B	MFD GMX 200 (with chart view)	GARMIN	5.42 (2.460)	153.54 (3.900)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		35 - OXYGEN			
S		Generator 117024-02	PURITAN	0.948 (0.430)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
S		Mask 174554 / 174555	PURITAN	0.441 (0.200)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
S	0244-35	Mask 174095-87 (as spares for Mask 174554) (Airplanes not equipped with OPT70 35001)	PURITAN	0.441 (0.200)	180.31 (4.580) 209.84 (5.330) 257.09 (6.530)
O	35001A	Gaseous oxygen system (30000 ft)	EROS/INTER TECHNIQUE	22.930 (10.400)	178.19 (4.526)
O	35001B	Gaseous oxygen system (31000 ft)	EROS/INTER TECHNIQUE	24.692 (11.200)	178.19 (4.526)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		37 - VACUUM			
S		Air ejector valve 19E17-5A	LUCAS	0.661 (0.300)	116.14 (2.950)
S		Gyro suction gage 3-310-5	UMA	0.143 (0.065)	157.48 (4.000)
S		Gyro vacuum air filter 1J7-2	AIRBORNE	0.375 (0.170)	139.76 (3.550)
S		Regulator and relief valve 38E-96-2D	LUCAS	1.323 (0.600)	116.14 (2.950)
S		Vacuum relief valve 691-21A	LUCAS	0.331 (0.150)	139.76 (3.550)
S		Valve 557-18 E	LUCAS	0.353 (0.160)	118.11 (3.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		52 - DOORS			
A	52002A	"Pilot" door (TBM700B)	SOCATA	44.092 (20.000)	171.26 (4.350)
A	0342-52	Additional landing gear doors	SOCATA	6.613 (3.000)	204.33 (5.190)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		56 - WINDOWS			
O	56001A	Deiced R.H. windshield	SPS	Δ 1.764 (Δ 0.800)	158.27 (4.020)
A		Window and capability of camera/observation :			
A	56002A	– 6 Pax standard	SOCATA	143.299 (65.000)	242.36 (6.156)
A	56002B	– Camera capability	SOCATA	89.132 (40.430)	239.96 (6.095)
A	56002C	– Observation	SOCATA	83.333 (37.800)	240.51 (6.109)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		57 - WINGS			
O	57001A	Utilization on runways covered with melting snow (TBM700A, from S/N 1 to 110)	SOCATA	Δ-7.716 (Δ-3.500)	200.00 (5.080)
S	57001A	Utilization on runways covered with melting snow (From S/N 111)	SOCATA	Δ-7.716 (Δ-3.500)	200.00 (5.080)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		61 - PROPELLER			
		61-10 - Propeller assembly			
S		Propeller (4-blade) HC-E4N.3 / E 9083 S (K)	HARTZELL	153.220 (69.500)	43.11 (1.095)
		61-20 - Controls			
R		Overspeed governor A210632	WOODWARD	2.734 (1.240)	59.06 (1.500)
S		Propeller governor 8210.007	WOODWARD	2.646 (1.200)	59.06 (1.500)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		71 - POWER PLANT			
R		Turboprop engine PT6 A-64	P & W CANADA	496.30 (225.000)	79.72 (2.025)
S		Silentblocks (Qty 4) 95007-16	BARRY	2.921 (1.325)	79.72 (2.025)
		71-60 - Air inlet			
R		Inertia ice separator actuator 148600-09	LPMI	1.720 (0.780)	62.99 (1.600)
R		Inertia ice separator actuator 148600-09A	LPMI	1.720 (0.780)	62.99 (1.600)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		77 - ENGINE INDICATING			
R		Compressor turbine tacho-generator (Ng) MIL-G-26611C GEU-7/A	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.981 (0.445)	108.27 (2.750)
R		Gas generator speed indicator (Ng) 523278	AMETEK	0.705 (0.320)	157.48 (4.000)
R		Gas generator speed indicator (Ng) 5428-703-91-03	SEXTANT	1.290 (0.585)	151.57 (3.850)
R		Propeller speed indicator 523277	AMETEK	0.705 (0.320)	157.48 (4.000)
R		Propeller speed indicator 5428-704-91-03	SEXTANT	1.290 (0.585)	151.57 (3.850)
R		Propeller tacho-generator (Np) P/N 32005-007 MIL-G-26611 GEU-7/A	QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)	0.981 (0.445)	55.12 (1.400)
R		Torquemeter 523276	AMETEK	0.705 (0.320)	157.48 (4.000)
		or 5428-750-91-03	SEXTANT	1.257 (0.570)	151.57 (3.850)
R		Torque transducer CZ 52E8-G	AUXITROL/ SAGEM	0.452 (0.205)	55.12 (1.400)
R		or 8107.200.00.10	MORS/ SEXTANT	0.463 (0.210)	53.54 (1.360)
		77-12 - Fuel management			
S		Flowmeter 90 12 00 :			
S		- Indicator 455-6110	ARNAV	0.331 (0.150)	157.48 (4.000)
S		- Transmitter 455-2069-02	ARNAV	0.661 (0.300)	106.30 (2.700)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S		Flowmeter 90 12 00 :			
S		– Indicator 912080-38 or 912080-38A or 912080-38B	SHADIN	0.930 (0.422)	143.70 (3.650)
S		– Transmitter 660 526A or 660 526AS	SHADIN	1.000 (0.454)	110.20 (2.799)
		77-20 - Engine temperature indicating			
R		ITT indicator 523279	AMETEK	0.937 (0.425)	157.48 (4.000)
O		ITT indicator 5428-554-91-03	SEXTANT	1.389 (0.630)	151.57 (3.850)
		77-40 - Engine Trend Monitor (ETM)			
O	77003A	ETM (Engine Trend Monitor)	SHADIN	4.034 (1.830)	154.92 (3.935)
O	77003B	ETM (Engine Trend Monitor)	SHADIN	4.034 (1.830)	154.92 (3.935)

S/R/A/O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		79 - LUBRICATION			
		79-20 - Distribution			
R		Oil cooler L8538233	LORI	10.472 (4.750)	90.55 (2.300)
		79-30 - Indicating			
R		Oil dual indicator 523280	AMETEK	1.102 (0.500)	157.48 (4.000)
O		Oil dual indicator 5427-350-91-03	SEXTANT	1.179 (0.535)	151.57 (3.850)
R		Oil pressure transmitter CZ 55E5.3	SAGEM	0.342 (0.155)	102.17 (2.595)
O	79001A	Oil pressure transmitter 8107-400-00-10	THALES	0.441 (0.200)	106.30 (2.700)
A	0169-79A	Chip detection system (2 detectors)	P & W CANADA	Neglig.	/
A	0169-79B	Chip detection system (1 detector)	P & W CANADA	Neglig.	/

SECTION 7

DESCRIPTION

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7.1 - GENERAL

This Section provides description and operation of the TBM 700 airplane and its systems. Some of the equipment described herein is optional and may not be installed in the airplane.

Details of other optional systems and equipment are presented in Section 9 "Supplements" of the pilot's operating handbook.

NOTE :
Description and operation of communication and radio-navigation equipment are detailed in manufacturer technical handbooks.

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7.2 - AIRFRAME

The TBM 700 is a six / seven-place, low wing airplane. The structure is a semi-monocoque all-metal construction and is equipped with a retractable tricycle landing gear.

TBM700A :

The pressurized cabin is equipped, on the left side of fuselage, with a two-piece door comprising integrated stairs allowing pilot and passengers boarding. The occupants have access to cockpit and to rear seats through a central aisle.

TBM700B :

The pressurized cabin is equipped, on the left side of fuselage, with a "wide" one-piece door and folding stairs comprising a hand rail allowing pilot and passengers boarding. The occupants have access to cockpit and to rear seats through a central aisle.

A "pilot" door (if installed) located forward of the cabin on the left side allows to gain access to the cockpit by means of folding stairs.

TBM700A & B :

The cabin rear part is a baggage compartment.

The non-pressurized section located between the firewall and pressure bulkhead is a secondary baggage compartment ; it is accessible through a door located on the left side of fuselage.

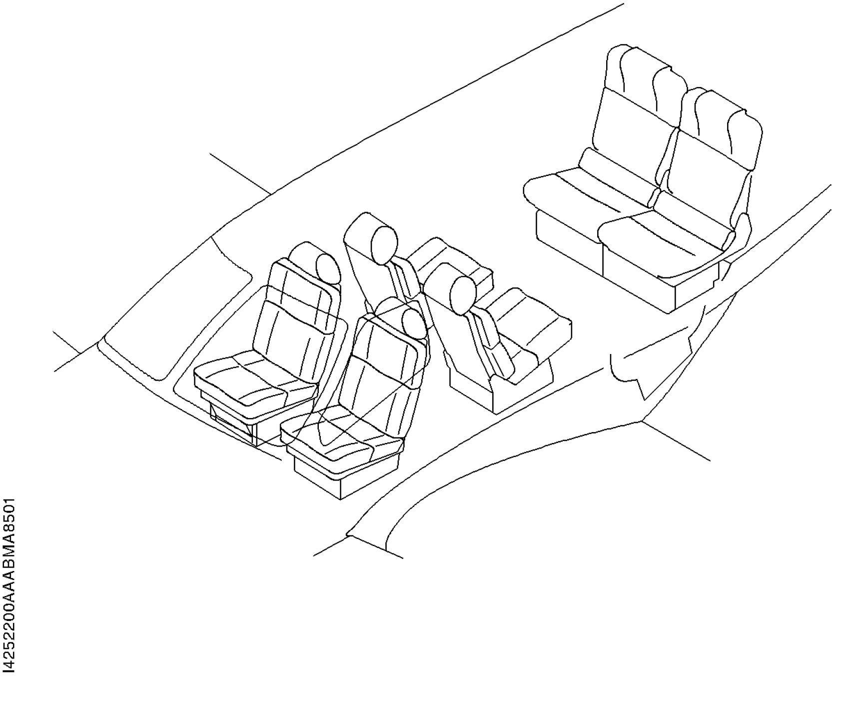

Figure 7.2.1 - CABIN ARRANGEMENT

WINGS

The wings are monocoque, bi-spar structures. Main spars of each wing are linked to the fuselage by two integral attach fittings. Each wing contains a main landing gear well and sealed casings forming the fuel tank. The wing leading edge is equipped with a deicing system.

AILERONS, SPOILERS AND PITCH TRIM TAB

The ailerons located on external trailing edge of each wing are hinged on two attach fittings fixed on the rear spar. They allow airplane lateral control and are controlled mechanically through control wheel rotation.

The spoilers located in front of flaps, on top skin side, are mechanically linked to the ailerons.

Trim tab knob attached on the trailing edge of L.H. aileron is electrically activated by a trim knob, through an actuator.

WING FLAPS (Figure 7.2.2)

The wing flaps are large span slotted flaps with a single rotation point. They are activated by actuating rod-controlled screw jacks linked to an electric motor located under the floor, inside the fuselage.

A preselection control located on the right side of pedestal console allows the pilot to select one of the three positions (UP - TO - LDG). For each control position, a deflection angle is defined (0°, 10°, 34°).

The flap control knob is protected by a casing to avoid accidental operation.

A monitoring device interrupts flaps movement as soon as a deflection dissymmetry is detected.

Wings characteristics :

Area	193.75 sq. ft (18 m^2)
Wing loading	34 lb/sq.ft (165.8 kg / m^2)
Root chord at y = 2.13 ft (0.650 m)	5.79 ft (1.765 m)
Tip chord	3.67 ft (1.120 m)
Mean aerodynamic chord at y = 9.16 ft (2.793 m)	4.95 ft (1.510 m)
Rigging angle to fuselage horizontal datum	2°
Sweep-angle (at 25 % chord)	0°
Dihedral (at datum plane)	6.5°
Aspect ratio (platform reference)	8.216
Taper ratio	0.608
Airfoil section (at wing root)	RA 16-43
Airfoil section (at wing tip)	RA 13.3-43
Twist	0°

Aileron - spoilers characteristics :

Global aileron area (including trim tab)	9.65 sq.ft (0.897 m^2)
Aileron trim tab area	0.78 sq.ft (0.072 m^2)
Spoiler area	1.80 sq.ft (0.167 m^2)

Flaps characteristics :

Type	Single-slotted, rotational
Global flap area	40.68 sq.ft (3.780 m^2)

1) Geared motor
2) Internal actuator
3) Intermediate bearings
4) Wing flap
5) External actuator
6) Rods
7) Position indicator
8) Control selector

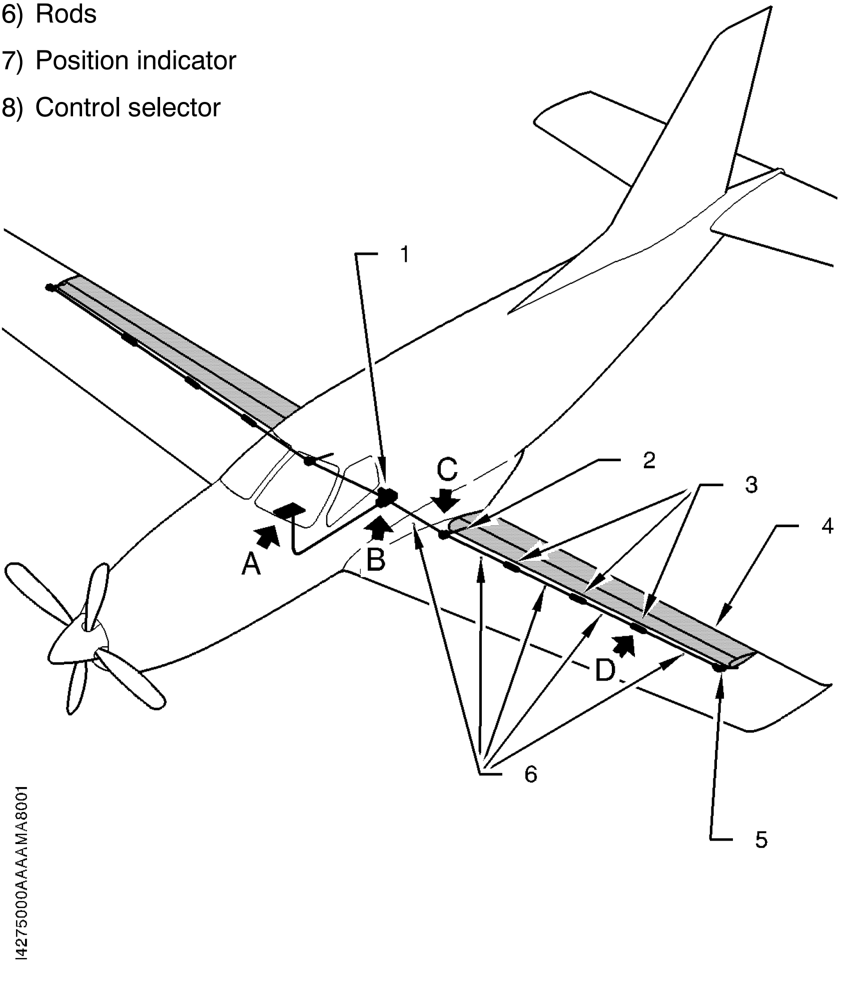

Figure 7.2.2 (1/2) – WING FLAPS

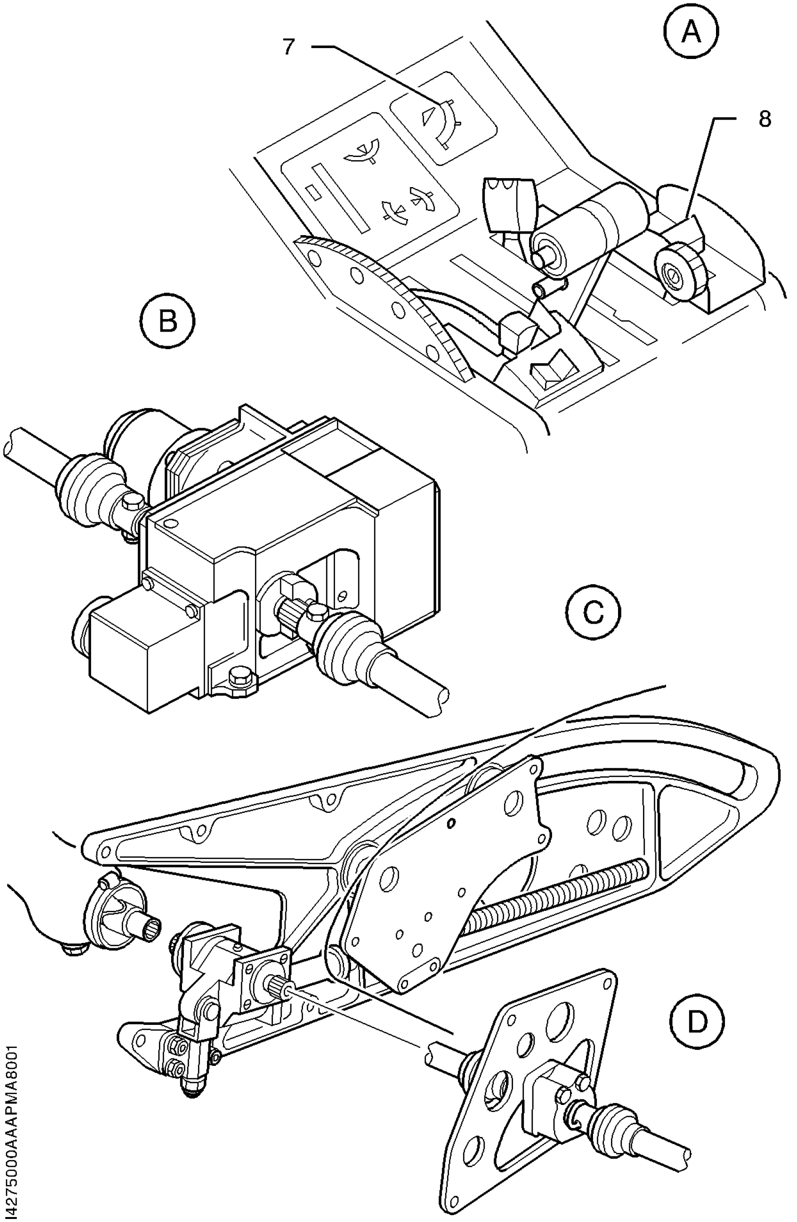

Figure 7.2.2 (2/2) – WING FLAPS

EMPENNAGES

Empennages are composite structures. The horizontal empennage consists of a horizontal stabilizer (PHF), control surfaces and elevator trim tabs ; the vertical empennage consists of a vertical stabilizer, the rudder and the rudder trim tab. The empennage leading edge is equipped with a deicing system.

Horizontal stabilizer characteristics :

Overall span	16.36 ft (4.988 m)
Global area	52.52 sq.ft (4.879 m^2)
Chord	3.89 ft (1.186 m)
Tip chord	2.60 ft (0.795 m)
Mean aerodynamic chord at y = 3.76 ft (1.147 m)	3.26 ft (0.995 m)
Airfoil section	NACA 64_2-A415 modified
Dihedral	6.5°
Rigging angle (leading edge up)	0.5°
Aspect ratio	5.034
Elevator global area (including trim tabs)	21.76 sq.ft (2.022 m^2)
Elevator trim tab area (right datum plane)	3.47 sq.ft (0.322 m^2)

Vertical stabilizer characteristics :

Global area	33.28 sq.ft (3.092 m^2)
Construction root chord	6.95 ft (2.120 m)
Reference tip chord	2.54 ft (0.775 m)
Mean aerodynamic chord	5.08 ft (1.551 m)
Construction airfoil section	NACA 63_1-A012 modified
Sweep angle (at leading edge)	45°
Aspect ratio	1.481
Rudder area (including trim tab)	11.87 sq.ft (1.103 m^2)
Rudder trim tab area	1.36 sq.ft (0.126 m^2)

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7.3 - ACCOMODATIONS

INSTRUMENT PANEL (Figure 7.3.1)

The instrument panel contains instruments and controls necessary for flight monitoring. The typical instrument panel consists of all standard equipment, as well as additional optional equipment.

Upper panel (Figure 7.3.2)

The upper panel located at the top part of the windshield, contains electrical generation control panels, engine starting and ancillary electrical systems.

Rearwards of upper panel, the central part of cockpit overhead panel provides loud-speakers, warning buzzers and cockpit floodlights and postlights (instrument panel emergency lighting).

Instrument panel

The instrument panel consists of three parts : left, central and right.

Left instrument panel (Figure 7.3.3) includes :

- general alarms, flight indicators and instruments, engine controls, deicing controls and indicators, landing gear control panel, parking brake control and left station control wheel.

Central instrument panel (Figure 7.3.4), surmounted by the stand-by compass, includes :

- control and AP computer boxes, advisory panel box, the radionavigation equipment box, "AP / TRIMS MASTER", "RADIO MASTER" and internal lighting switches.

Right instrument panel (Figure 7.3.5) comprises :

- "FUEL" and "ECS" control and check panels, flight indicators and instruments, the right section control wheel, alternate static source selector and locations for optional equipment.
- Emergency air control is located under the right instrument panel.

An adjustable air outlet and reception-micro jacks are located on both sides of instrument panel lower part.

Central pedestal (Figure 7.3.6)

The central pedestal under the radio rack, comprises position indicators and trim tabs controls, flaps, engine controls and fuel tank selector.

Circuit breakers panel (Figures 7.3.7 and 7.8.2)

Circuit breakers for all electrical equipment supplied by bus bars are located on a separate panel installed on the left side of cockpit, near the pilot or on right side when the airplane is equipped with a "pilot" door.

Advisory panel (Figure 7.3.8)

The advisory panel is attached on the upper central part of the instrument panel. This panel provides warning lights which alert the pilot when one of the monitored systems indicates a discrepancy.

A "MASTER WARNING" red flashing indicator and a "MASTER CAUTION" amber flashing indicator located on instrument panel in front of the pilot, illuminate as soon as one or several indicators of same color illuminate on the advisory panel.

To cancel and reset a general alarm, press on the red or amber indicator.

A "TEST" push-button and a "BRIGHT DIM" switch, located on the right side of the advisory panel, allows testing warning lights (double check) and dimming of their lighting (day / night position).

Aural warnings (Figures 7.3.2 and 7.3.2A)

The aural warnings are intended to alert the pilot during some configurations. The aural signals are heard through the loud-speakers or the buzzers installed in upper panel, and for the KRA 405 radar altimeter (if installed) through the buzzer located on the R.H. instrument panel. Aural warnings concerning the landing gear and the autopilot are also heard in the head-sets.

The aural warnings consist of :

- the aural warning box,
- the buzzers and loud-speakers,
- the amplifier.

The system uses :

- the stall warning horn,
- the VMO alarm,
- AP alarms,
- the landing gear control unit,
- the flap geared motor,
- (if installed) the radar altimeter aural warning.

Aural warning box

The aural warning box consists of a box including logic circuits, which create the signals heard in the aural warning loud-speaker.

According to the airplane configuration, different signals are produced by the logic circuits :

- gear up and idle → high-pitched sound
- gear up and extended flaps → high-pitched sound
- stall → low-pitched sound
- gear up, idle and stall → alternate high-pitched and low-pitched sounds
- gear up, extended flaps and stall → alternate high-pitched and low-pitched sounds

The aural warning box is fixed under cabin floor, on L.H. side, between frames C5 and C6.

It is electrically supplied by "ESS BUS 1" bar and protected by "AUDIO WARN" circuit breaker.

Upper panel (Figures 7.3.2 and 7.3.2A)

The upper panel includes following elements :

- the alarm loud-speaker (landing gear up with flaps extended and / or idle, stall),
- the altitude preselection indicating buzzer,
- the autopilot disconnection indicating buzzer,
- the VMO alarm buzzer,
- the "HORN TEST" knob,
- the emergency lighting rheostat.

It is attached to the cabin upper part between frames C6 and C7.

The alarm loud-speaker is electrically supplied by the aural warning box, the VMO alarm buzzer is electrically supplied by "ESS BUS 1" bar and protected by "AUDIO WARN" circuit breaker, the altitude preselection indicating buzzer is protected by "AP / ALT SEL" circuit breaker, the autopilot disconnection indicating buzzer is electrically supplied by "BUS 3" bar and protected by "AP / ALERT" circuit breaker and the emergency lighting rheostat is electrically supplied by "BUS BAT" bar and protected by "PANEL EMER" circuit breaker.

Amplifier

The amplifier allows to fit alarm signals heard in head-set to radio loud-speaker.

It is fixed under cabin floor, on L.H. side, between frames C6 and C7.

It is electrically supplied by "BUS 1" bar and protected by "SPKR" circuit breaker.

Aural warning operation

The alarm loud-speaker receives signals from the aural warning box. According to the airplane configuration, these signals are low-pitched and / or high-pitched. Buzzers receive their signal directly from the concerned circuit.

All warning signals go through the amplifier before being heard in head-sets and in the radio loud-speaker.

The "HORN TEST" knob allows to test the correct operation of aural warnings :

- Set the "SOURCE" selector to "BAT" or to "GPU".
- Push and hold the "HORN TEST" knob :
  . the VMO buzzer emits three "bips",
  . the alarm loud-speaker emits alternate low-pitched and high-pitched sounds.
- Release the knob to stop the alarms.

NOTE :
The test is effective for head equipment when "AP / TRIMS MASTER" switch is set to "ON".

Operation of the radar altimeter aural warning (if installed)

The radar altimeter aural warning (momentary) is coupled with the "DH" warning light (permanent illumination) on the radar altimeter indicator or the EADI.

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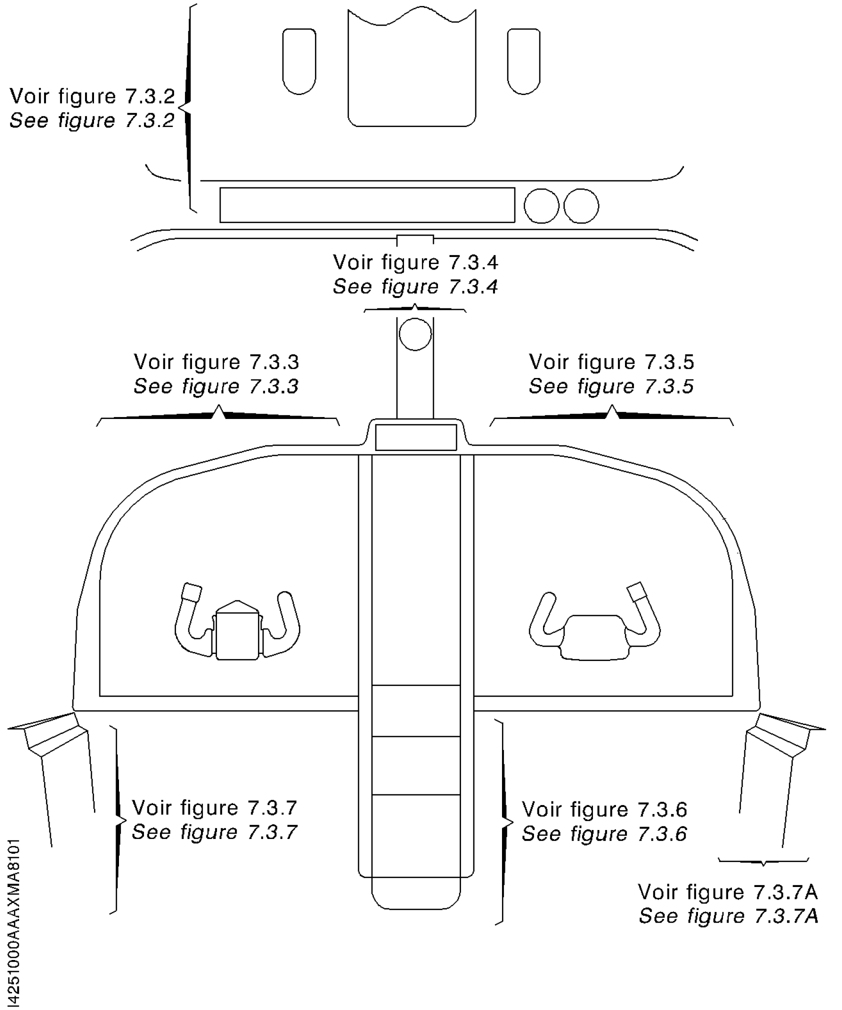
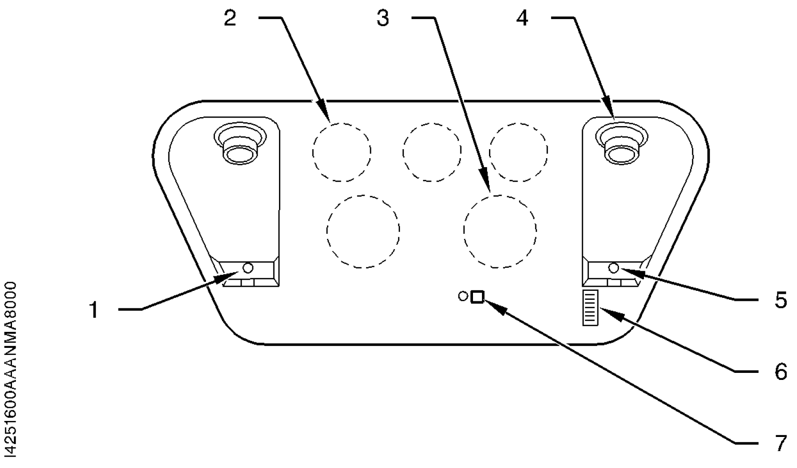


Figure 7.3.1 – INSTRUMENT PANEL ASSEMBLY
(Typical arrangement)

1) L. H. side upper panel postlight
2) Buzzers (AP, landing gear not extended and V_{MO} alarms)
3) Loud-speakers (radio and stall warning horn)
4) Cockpit floodlights (instrument panel emergency lighting)
5) R. H. side upper panel postlight
6) Cockpit floodlights switches (rheostats)
7) "HORN TEST" aural warning test
8) Ammeter
9) Voltmeter
10) "ENGINE START" switches (Figure 7.6.4)
11) "ELECTRIC POWER" switches (Figure 7.8.5)
12) "GYRO INST" gyroscopic instruments switches (Figure 7.12.2)
13) "EXT LIGHTS" external lighting switches (Figure 7.8.6)

Figure 7.3.2 (1/2) - UPPER PANEL AND COCKPIT OVERHEAD PANEL
Valid S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification Nr MOD 70-019-25



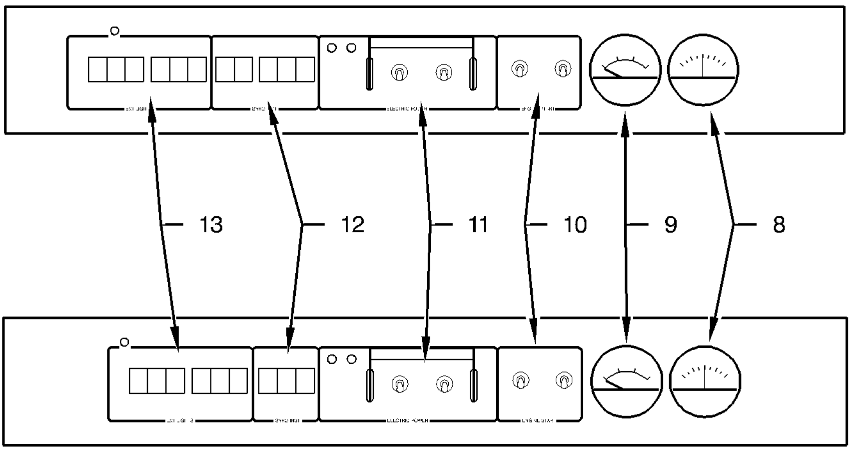
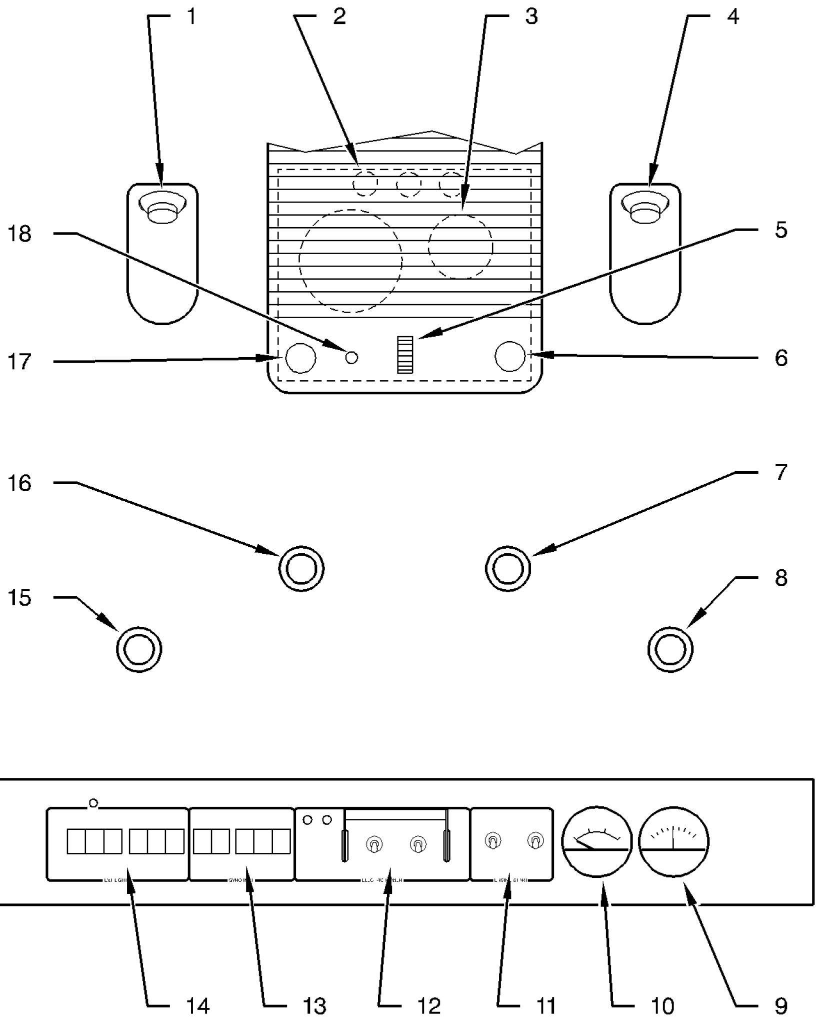


Figure 7.3.2 (2/2) - UPPER PANEL AND COCKPIT OVERHEAD PANEL
Typical arrangement - Valid S / N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification Nr MOD 70-019-25

1) L.H. instrument panel emergency lighting
2) Buzzers (AP, landing gear not extended and V_{MO} alarms)
3) Loud-speakers (radio and stall warning horn)
4) R.H. instrument panel emergency lighting
5) Cockpit floodlight switches (rheostats)
6) R. H. side upper panel postlight
7) R.H. air outlet (up to S/N 87)
8) R.H. cockpit floodlight
9) Ammeter
10) Voltmeter
11) "ENGINE START" switches (Figure 7.6.4)
12) "ELECTRIC POWER" switches (Figure 7.8.5)
13) "GYRO INST" gyroscopic instrument switches (Figure 7.12.2)
14) "EXT LIGHTS" external lighting switches (Figure 7.8.6)
15) L.H. cockpit floodlight
16) L.H. air outlet (up to S/N 87)
17) L. H. side upper panel postlight
18) "HORN TEST" aural warning test

Figure 7.3.2A (1/2) - UPPER PANEL AND COCKPIT OVERHEAD PANEL
Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25



I4251600AAANMA8100

Figure 7.3.2A (2/2) – UPPER PANEL AND COCKPIT OVERHEAD PANEL
Typical arrangement – Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

1) "DE ICE SYSTEM" panel postlight
2) OAT indicator
3) Turn coordinator
4) VOR / ILS 2
5) Suction indicator
6) Airspeed indicator
7) General alarm red and amber indicators
8) ADI indicator
9) AP mode indicator
10) Marker
11) Registration (radio call)
12) Altitude preselection indicator
13) Encoding altimeter
14) Torquemeter
15) Propeller RPM indicator
16) "PROP O'SPEED TEST" knob
17) ITT indicator
18) ITT test knob
19) Gas generator speed indicator (Ng)
20) Oil pressure and temperature indicator
21) Fuel flow totalizer
22) Vertical speed indicator
23) Landing gear configuration and control panel (Figure 7.5.1)
24) Chronometer
25) Oxygen mask microphone switch (Figure 7.10.1)
26) Parking brake control
27) Left station control wheel tube
28) HSI indicator
29) RMI indicator
30) Deicing control and check panel (Figure 7.13.1)
31) Circuit breakers panel postlight
32) L.H. station rudder pedals adjusting handle
33) Left station reception-micro jacks
34) Adjustable air outlet
34a) L.H. cockpit floodlight switch
35) "Flight conditions" placards
36) Instruction placard
37) Electric pitch trim control
38) "AP / DISC TRM INT" red push-button
39) Electric rudder trim control
40) Maps reading tablet

Figure 7.3.3 (1/2) - LEFT INSTRUMENT PANEL

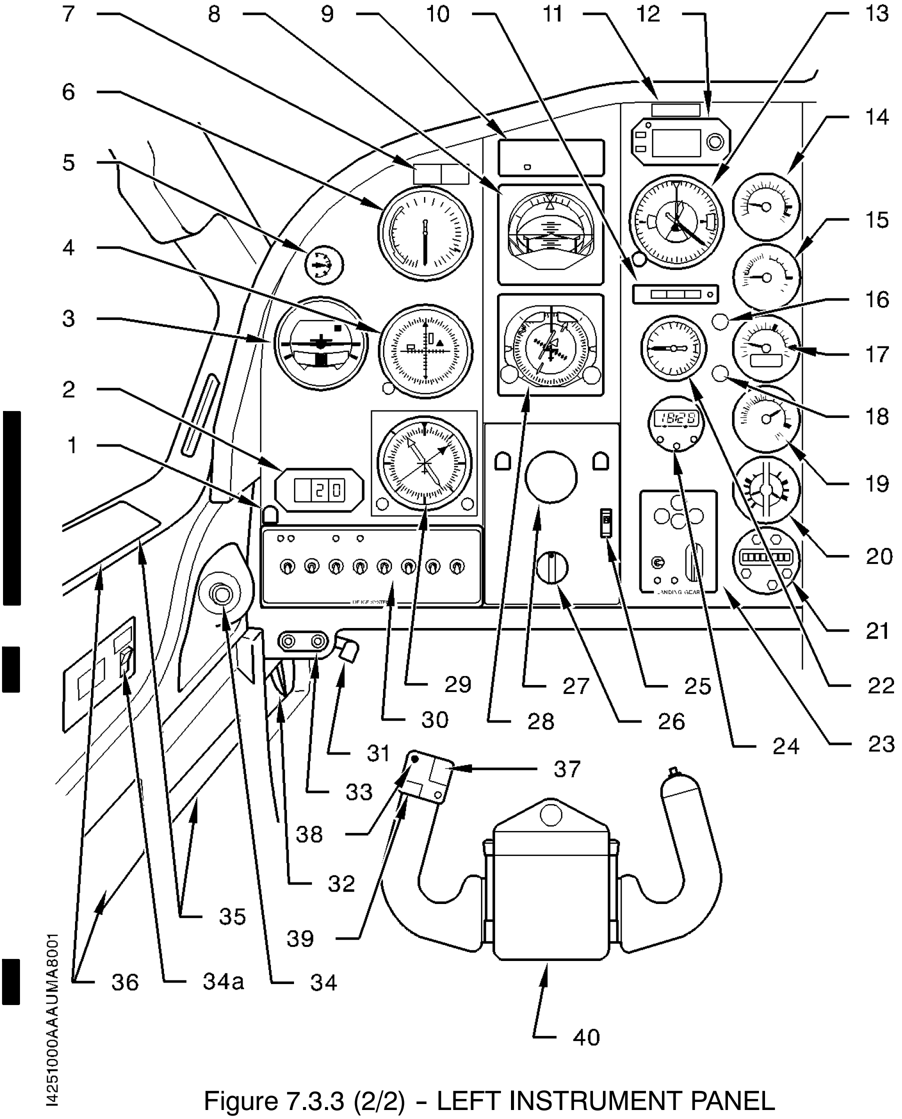


Figure 7.3.3 (2/2) - LEFT INSTRUMENT PANEL
(Typical arrangement)

1) Stand-by compass
2) AP mode controller (see Section 9)
3) Advisory panel (Figure 7.3.8)
4) KMA selection box
5) VHF 1
6) RNAV
7) VHF 2 / VOR 2
8) ADF
9) ATC
10) DME
11) Cabin interior lighting rheostats and switches (Figure 7.8.7)
12) "AP / TRIMS MASTER" switch (see Section 9)
13) "RADIO MASTER" switch (Figure 7.14.1)
14) "GND CLR" ground communication indicating light (Figure 7.14.1)

NOTE :
For "EFIS MASTER" switches, refer to Section 9 "Supplements".

Figure 7.3.4 (1/2) - CENTRAL INSTRUMENT PANEL

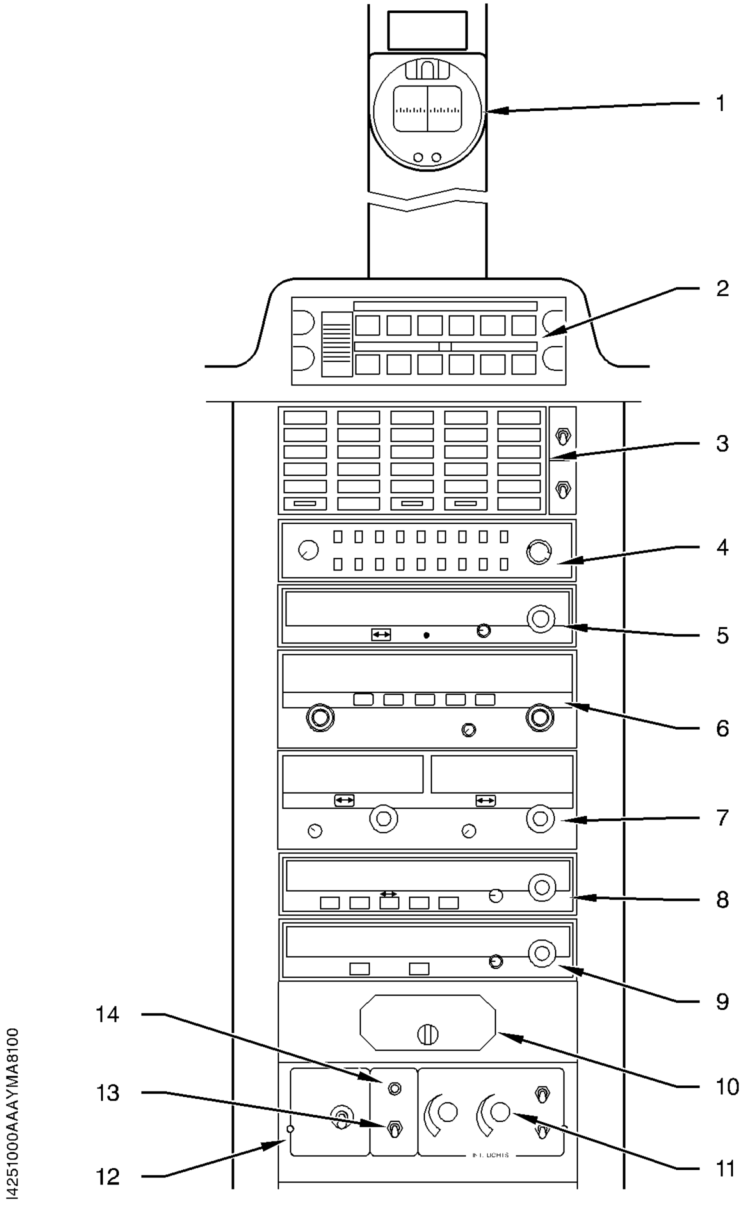


Figure 7.3.4 (2/2) – CENTRAL INSTRUMENT PANEL
(Typical arrangement)

1) "FUEL" check and control panel (fuel pressure and quantity indicators, "FUEL SEL" and "AUX BP" switches) (Figure 7.7.3)
2) "GYRO mode" indicator
3) Emergency beacon switch (not valid for UK)
4) Altimeter 2
5) Battery temperature indicator (if installed) (Figure 7.8.4)
6) Adjustable air outlet
7) R. H. station rudder pedals adjusting handle
8) Right station reception-micro jacks
9) Static source selector
10) Cabin emergency air control ("RAM AIR" control knob)
11) Right station control wheel tube
12) "ECS" air conditioning and pressurization panel (Figure 7.9.3)

Figure 7.3.5 (1/2) - RIGHT INSTRUMENT PANEL

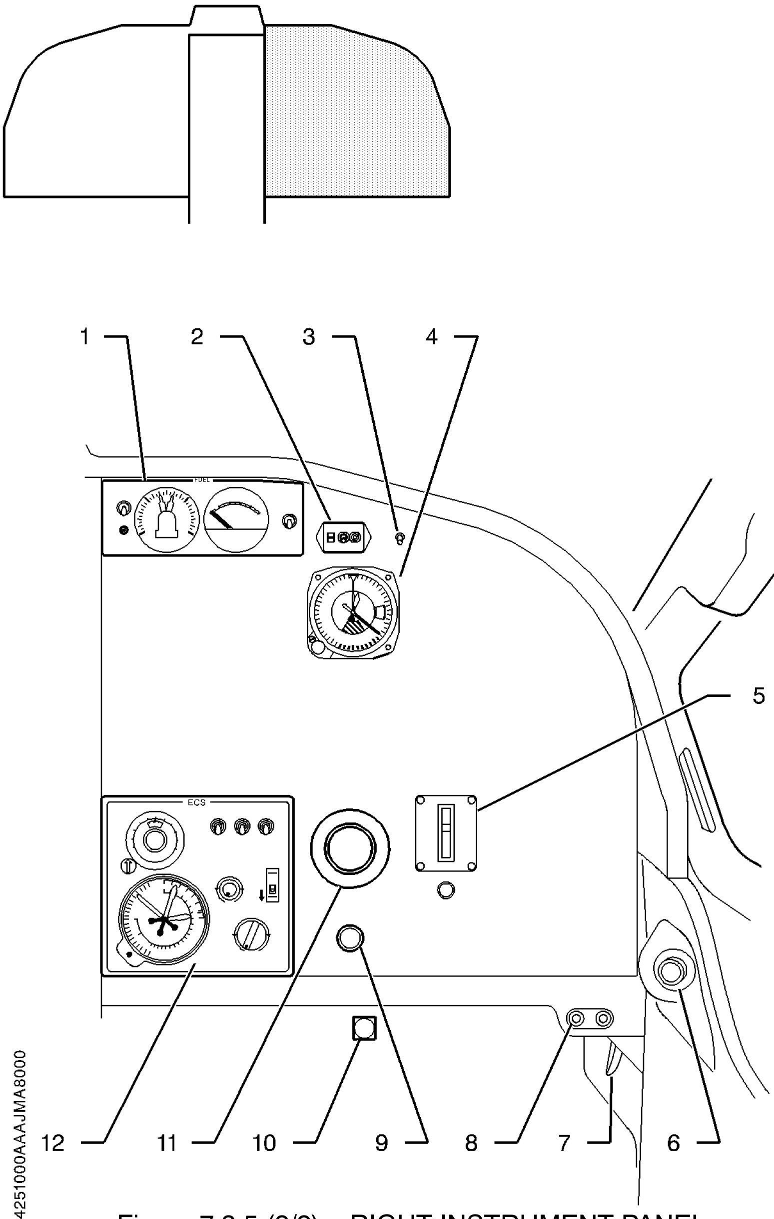


Figure 7.3.5 (2/2) – RIGHT INSTRUMENT PANEL
(Typical arrangement)

1) Trim tabs indicators
2) Flaps position indicator
3) Propeller governor lever
4) Power lever
5) Flaps control
6) Condition lever
7) Levers friction adjustment
8) Emergency fuel control
9) Manual fuel tank selector (Figure 7.7.2)
10) Roll trim tab control
11) Pitch trim tab control
12) Lock for access door to landing gear emergency pump (Figure 7.5.2)

Figure 7.3.6 (1/2) - PEDESTAL CONSOLE

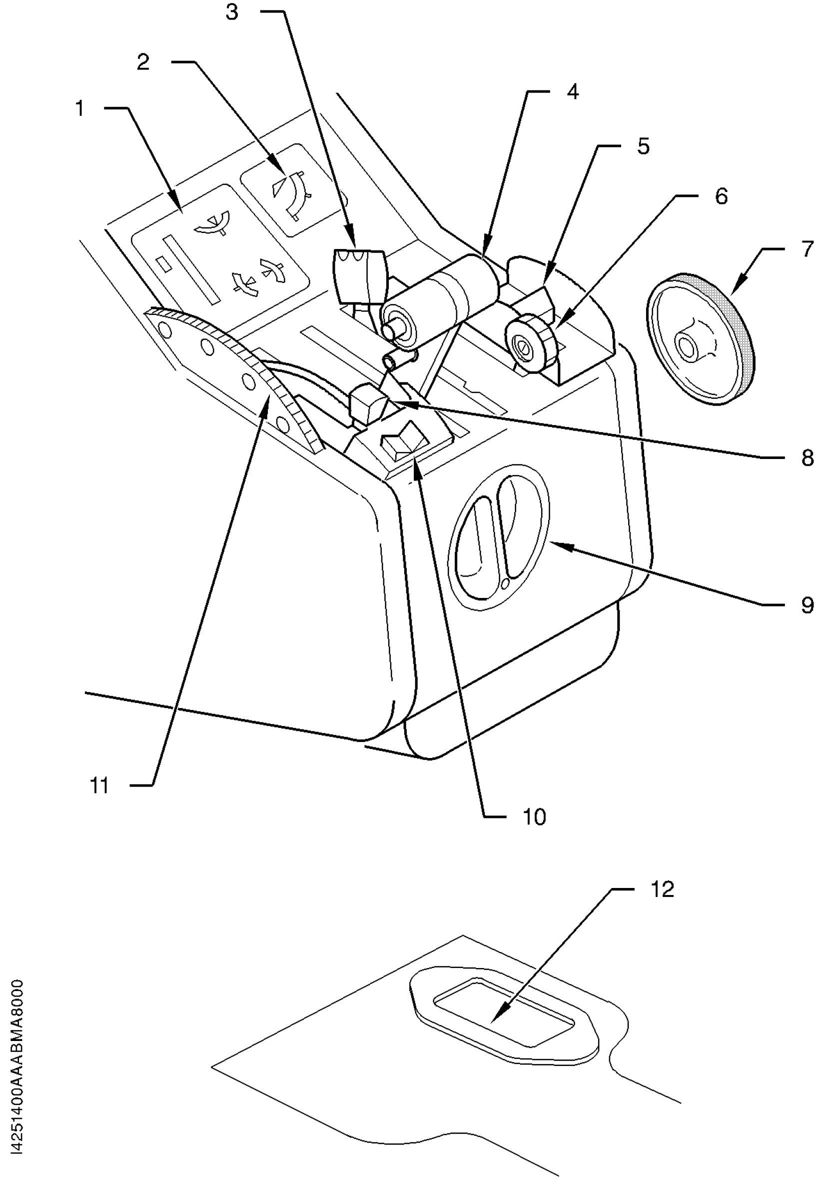


Figure 7.3.6 (2/2) – PEDESTAL CONSOLE
(Typical arrangement)

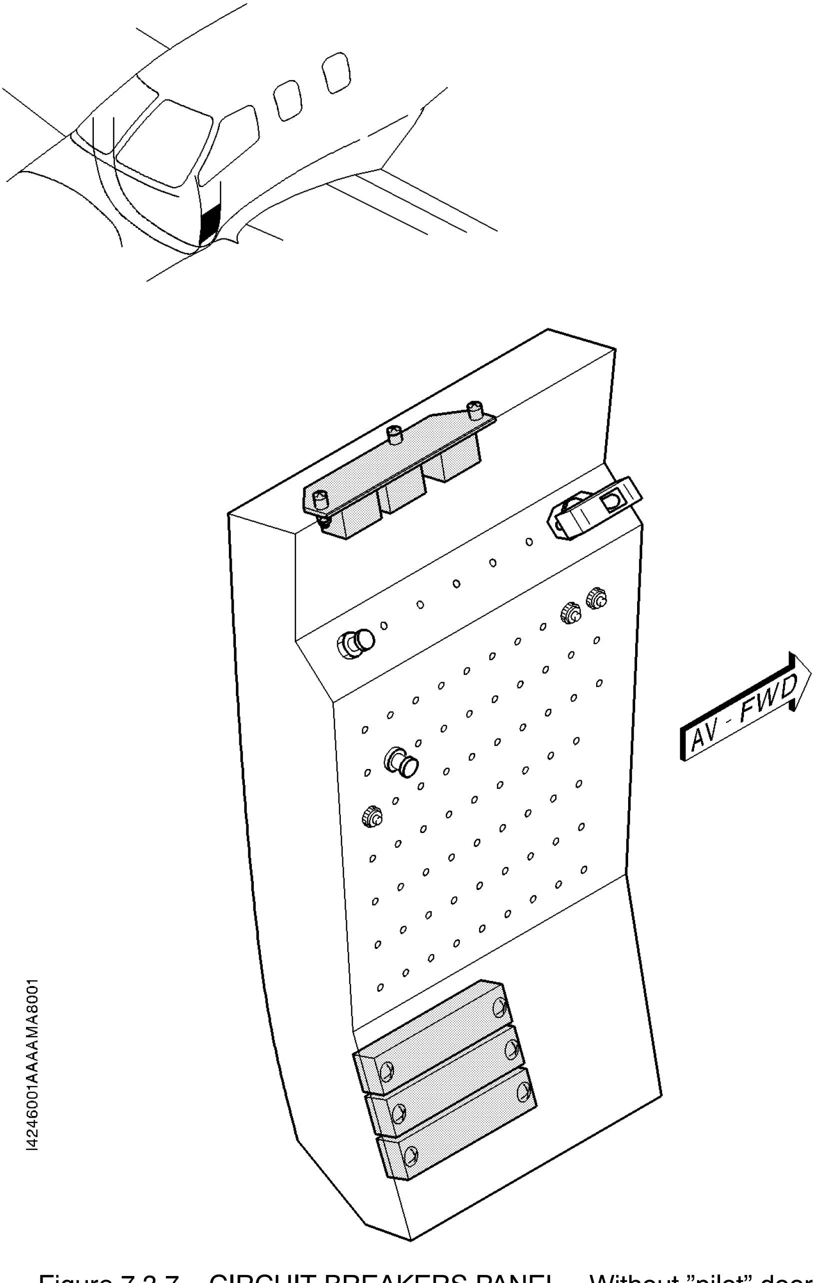


Figure 7.3.7 – CIRCUIT BREAKERS PANEL – Without "pilot" door

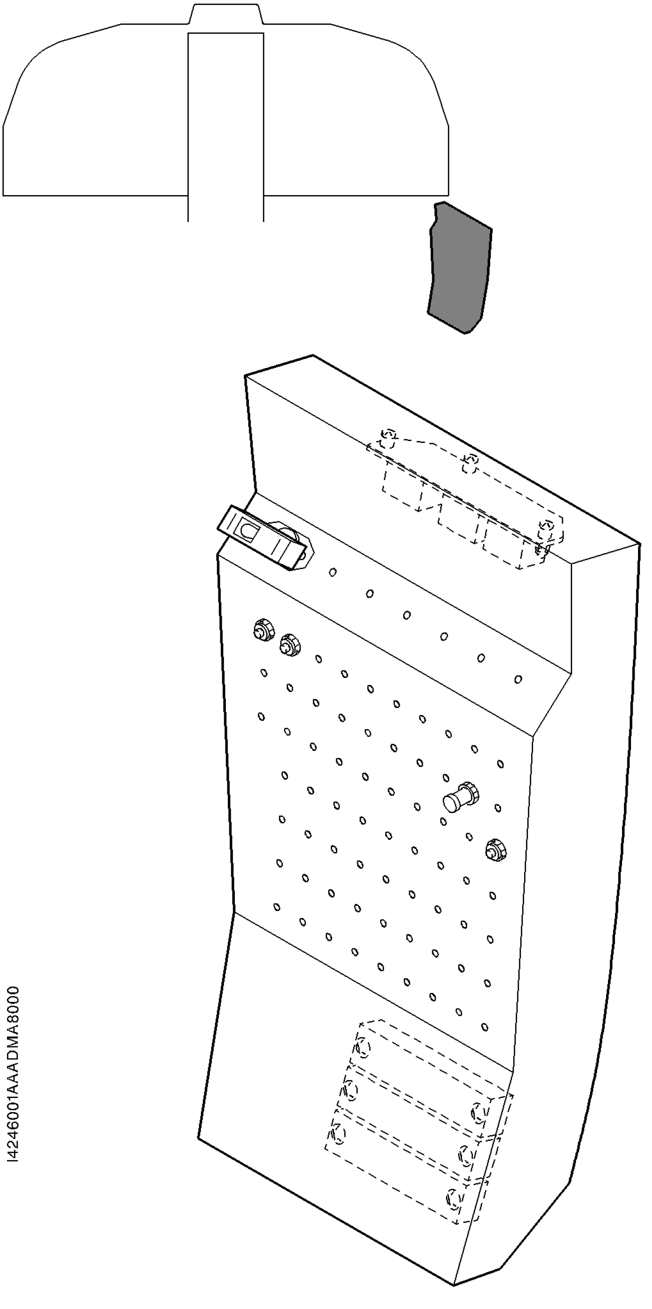


Figure 7.3.7A – CIRCUIT BREAKERS PANEL – With "pilot" door

MASTER WARNING	General warning upon illumination of red warning light
MASTER CAUTION	General warning upon illumination of amber warning light
ITT	Inter turbine temperature ≥ 800°C
OIL PRESS	Engine oil low pressure ≤ 4.1 bar (60 psi)
STARTER	Starter generator running (flashing)
IGNITION	Ignition exciter running
PARK BRAKE	Parking brake applied
FIRE	Engine compartment fire (temperature greater than 200°C) (if installed)
BLEED TEMP	Conditioned air temperature at outlet cooling turbine compressor ≥ 232°C
BLEED OFF	Pressure regulator / shut-off closed
CAB PRESS	Cabin altitude ≥ 10000 ft or ΔP ≥ 423 mbar (6.2 psi)
DOOR	Passenger's door, not closed and locked
FLAPS	Dissymmetry between L.H. and R.H. flaps
OXYGEN	One oxygen generator has been activated
PITOT 1	Pitot tube Nr 1 not heated
PITOT 2	Pitot tube Nr 2 not heated
STALL HTR	Stall warning not heated
INERT SEP	Inertial separator "INERT SEP" control switch set to "ON"
VACUUM LO	Vacuum generator, vacuum ≤ 3.75 in.Hg
BAT OVHT	Battery abnormal temperature (if Cadmium-Nickel battery installed)
BAT OFF	Battery unconnected and main distribution bar supplied by another generator
MAIN GEN	Starter generator unconnected
LO VOLT	Battery, voltage ≤ 26 Volts
G P U	GPU receptacle door not closed
FUEL OFF	Fuel tank selectors set to "OFF"
FUEL PRESS	Fuel pressure ≤10 psi (± 2 psi)
AUX BP ON	Electric fuel pump, running (manual or automatic mode)
FUEL L. LO	L.H. fuel tank low level, fuel quantity ≤ 34.6 l (9.1 us gal)
FUEL R. LO	R.H. fuel tank low level, fuel quantity ≤ 34.6 l (9.1 us gal)
AUTO SEL	Fuel timer OFF or out of service
BRIGHT	Indicator lights brightness selector, day position
DIM	Indicator lights brightness selector, night position
TEST 1 & 2	Lights test switch (double check)

Figure 7.3.8 (1/2) - ADVISORY PANEL AND GENERAL ALARMS WARNING LIGHTS

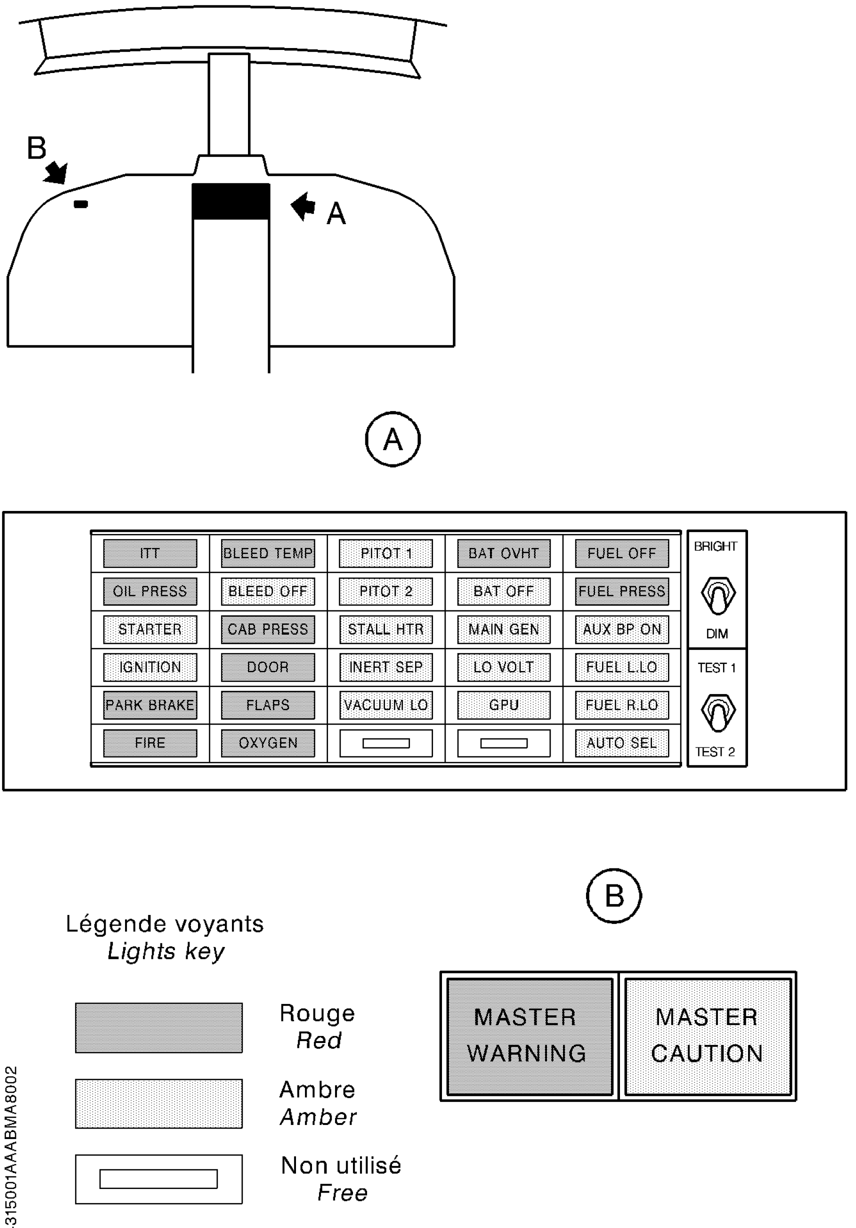


Figure 7.3.8 (2/2) – ADVISORY PANEL AND GENERAL ALARMS WARNING LIGHTS

DOORS, WINDOWS AND EMERGENCY EXIT

Cabin access door (Figure 7.3.9)

The cabin two-piece access door (crew and passengers), located on the left side of fuselage aft of the wings, opens outside. Stairs are incorporated in the lower door.

It is necessary to open the upper door to access the lower door handle.

To open the door from outside the airplane (make sure the door is not locked), press on front end of the handle embeded in upper door (this pressure disengages the handle from its recess), then turn the handle downwards. Raise the door helping it to open. A compensation actuator brings and maintains the door at its maximum opening position. Once the upper door is open, lift up the handle of lower door (this handle is located on door upper edge) and move it forward to free the latch pin. Lower the door carefully until it is sustained by the cable.

To close the door from inside the airplane, raise lower door by pulling on the cable until upper edge is accessible. Pull the door by the middle until it aligns with fuselage. Tilt handle rearwards to lock. Check that each latch pin is correctly engaged in its recess (visible green marks). Pull upper door, making it align firmly in fuselage door frame, and lock the door by displacing the handle downward, then bring it down in its recess. Check that each latch pin is correctly engaged in its recess (visible green marks).

The "DOOR" warning light located on advisory panel remains illuminated as long as doors are not correctly locked.

To open door from inside the cabin, unlock the handle by pressing on knob or lifting up the lug located under the window, pull the handle toward inside and move it upwards. Open the upper door, unlock lower door and let it drop supporting it with the cable.

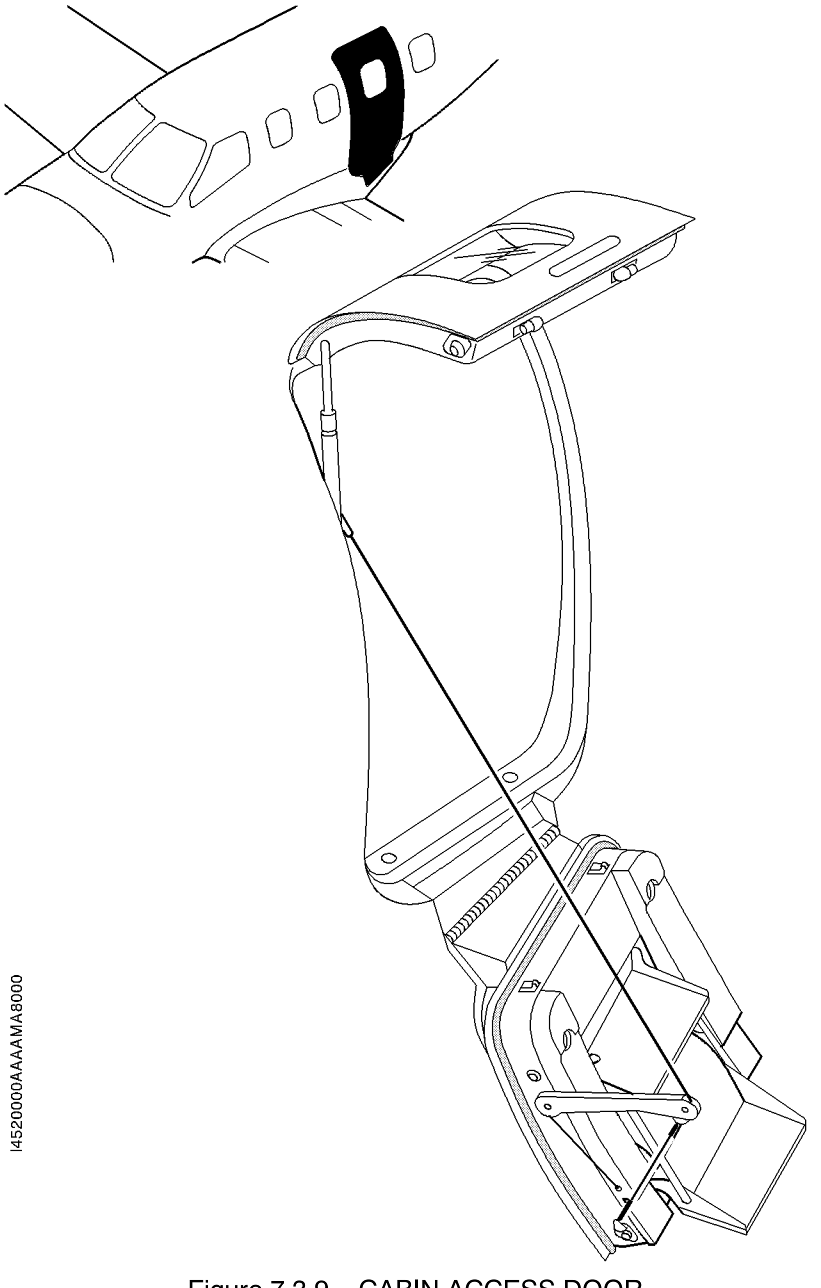


Figure 7.3.9 – CABIN ACCESS DOOR

DOORS, WINDOWS AND EMERGENCY EXIT

Cabin access door (Figure 7.3.9A)

The cabin two-piece access door (crew and passengers), located on the left side of fuselage aft of the wings, opens outside. Stairs are incorporated in the lower door.

It is necessary to open the upper door to access the lower door handle.

To open the door from outside the airplane (make sure the door is not locked), press on front end of the handle embeded in upper door (this pressure disengages the handle from its recess), then turn the handle downwards. Raise the door helping it to open. A compensation actuator brings and maintains the door at its maximum opening position. Once the upper door is open, lift up the handle of lower door (this handle is located on door upper edge) and move it forward to free the latch pins. Lower the door carefully until it is sustained by the cables.

To close the door from inside the airplane, raise lower door by pulling on the handle (see detail "A" or "B") until upper edge is accessible. Pull the door by the middle until it aligns with fuselage. Tilt handle rearwards to lock. Check that each latch pin is correctly engaged in its recess (visible green marks). Pull upper door, making it align firmly in fuselage door frame, and lock the door by displacing the handle downward, then bring it down in its recess. Check that each latch pin is correctly engaged in its recess (visible green marks).

The "DOOR" warning light located on advisory panel remains illuminated as long as doors are not correctly locked.

To open door from inside the cabin, unlock the handle by pressing on knob or lug located under the window, pull the handle toward inside and move it upwards. Open the upper door, unlock lower door and let it drop supporting it with the cable handle (see detail "A" or "B").

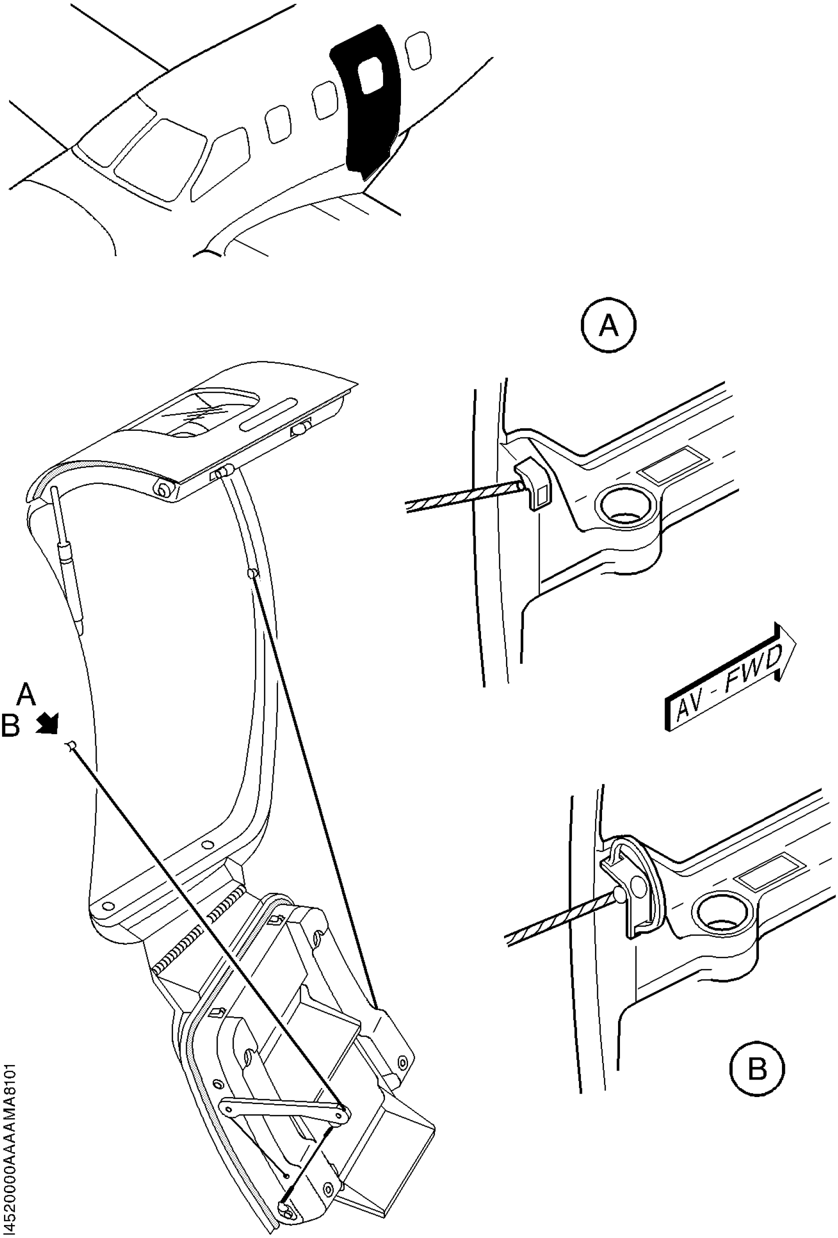


Figure 7.3.9A – CABIN ACCESS DOOR

DOORS, WINDOWS AND EMERGENCY EXIT

Cabin access door (Figure 7.3.9B)

The cabin one-piece access door, located on the left side of fuselage aft of the wings, opens outside. The retractable stairs and hand rail make boarding easier.

To open the door from outside the airplane (make sure the door is not locked), press on front end of the handle embeded in door (this pressure disengages the handle from its recess), then turn the handle upwards. Raise the door helping it to open. Two compensation actuators bring and maintain the door at its maximum opening position.

After door opening, tilt stairs downwards. Stairs down movement is damped by means of two gas struts and leads the hand rail to extend.

CAUTION

RETRACT STAIRS BEFORE CLOSING ACCESS DOOR AND MAKE SURE DOOR DEFLECTION AREA IS CLEAR

To retract stairs, press on locking pin located on stairs front string board (see detail "1"), raise retractable handle (see detail "2") and pull stairs inside cabin. While stairs are retracted, the hand rail folds up.

To close the door from inside the airplane, press on knob inside cabin forward of the door. The door driven by a geared motor tilts downwards up to a position near the complete closing. Pull the door until it aligns with fuselage and lock it by moving inside handle downwards. Check that all latch pins and hooks are correctly engaged (visible green marks).

The "DOOR" warning light located on advisory panel remains illuminated as long as the door is not correctly locked.

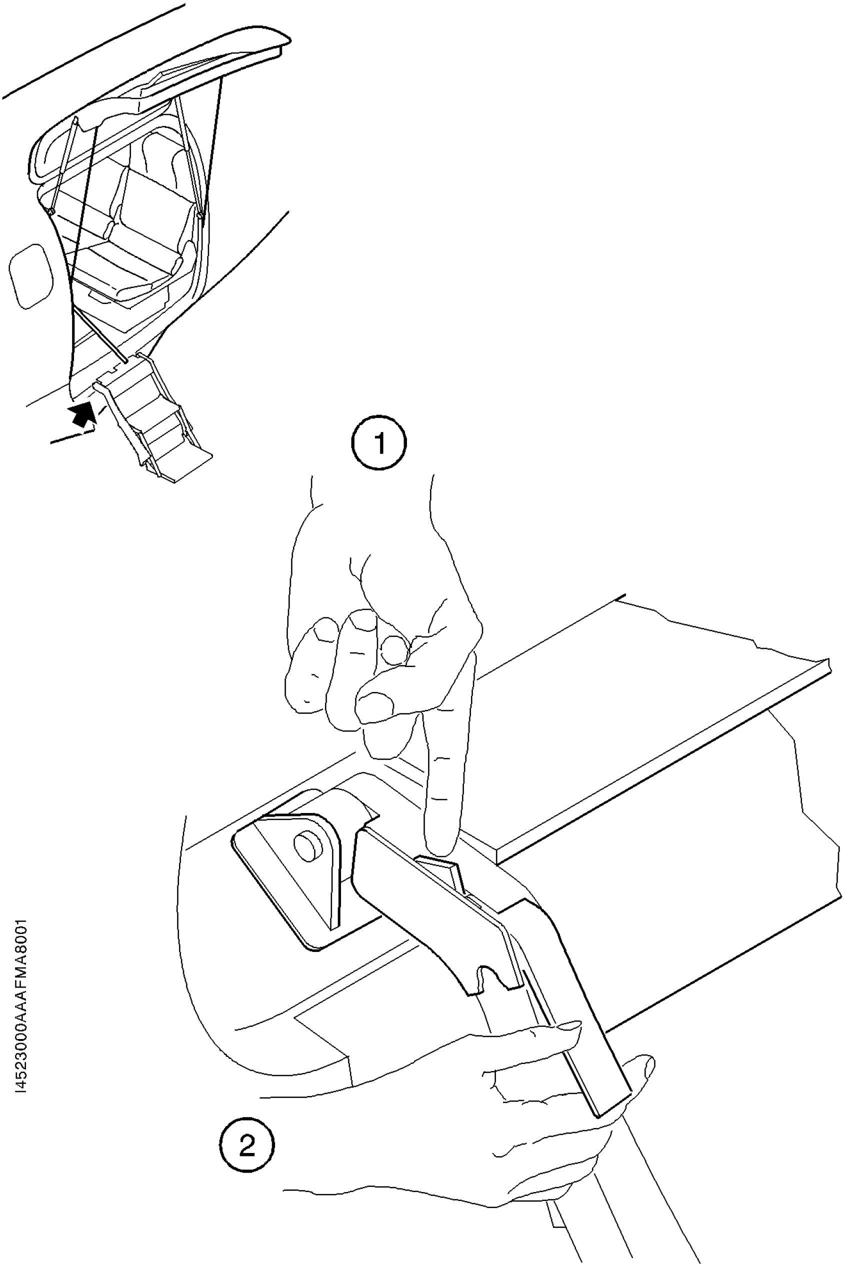


Figure 7.3.9B – CABIN ACCESS DOOR

CAUTION

BEFORE OPENING ACCESS DOOR, MAKE SURE DOOR DEFLECTION AREA IS CLEAR

To open door from inside the cabin, unlock the handle by pressing on knob located on its left side, pull the handle toward inside and move it upwards. Open the door by pushing it upwards.

After door opening, tilt stairs downwards which leads the hand rail to extend.

CAUTION

RETRACT STAIRS BEFORE CLOSING ACCESS DOOR AND MAKE SURE DOOR DEFLECTION AREA IS CLEAR

To retract stairs from outside the airplane, raise stairs by pushing them upwards from the lower part and fold them inside cabin. While stairs are retracted, the hand rail folds up.

To close the door from outside the airplane, press on knob on outside fuselage at the right side of the door. The door driven by a geared motor tilts downwards up to a position near the complete closing. Push the door until it aligns with fuselage and lock it by moving outside handle downwards, then fold handle in its recess.

Check that all latch pins and hooks are correctly engaged (visible green marks).

In case of geared motor failure, the door can be manually tilted downwards by pulling sufficiently to override action of compensating struts.

Cockpit access door (Figure 7.3.9C)

The cockpit access door, so-called "pilot" door, (if installed) located on the left side of fuselage forward of the wings, opens outside. Retractable footstep makes boarding easier.

WARNING

AS THE "PILOT" DOOR IS LOCATED IN A DANGEROUS AREA, WAIT FOR COMPLETE ENGINE STOP BEFORE OPERATING THIS DOOR

To open the door from outside the airplane (make sure the door is not locked), press on front end of the handle embeded in door (this pressure disengages the handle from its recess), then turn the handle downwards. Pull the door helping it to open until it reaches its maximum opening position.

After door opening, tilt and unfold footstep.

CAUTION

RETRACT FOOTSTEP BEFORE CLOSING ACCESS DOOR

Fold and tilt footstep upwards.

To close the door from inside the airplane, pull the door until it aligns with fuselage and lock it by moving inside handle downwards. Check that each latch is correctly engaged in its recess (visible green marks).

The "DOOR" warning light located on advisory panel remains illuminated as long as cabin access door and / or "pilot" access door is (are) not correctly locked.

To open door from inside the cockpit, unlock the handle by pressing on knob located on its right side, pull the handle inwards and move it upwards. Open the door helping it to open until it reaches its maximum opening position.

After door opening, tilt and unfold footstep.

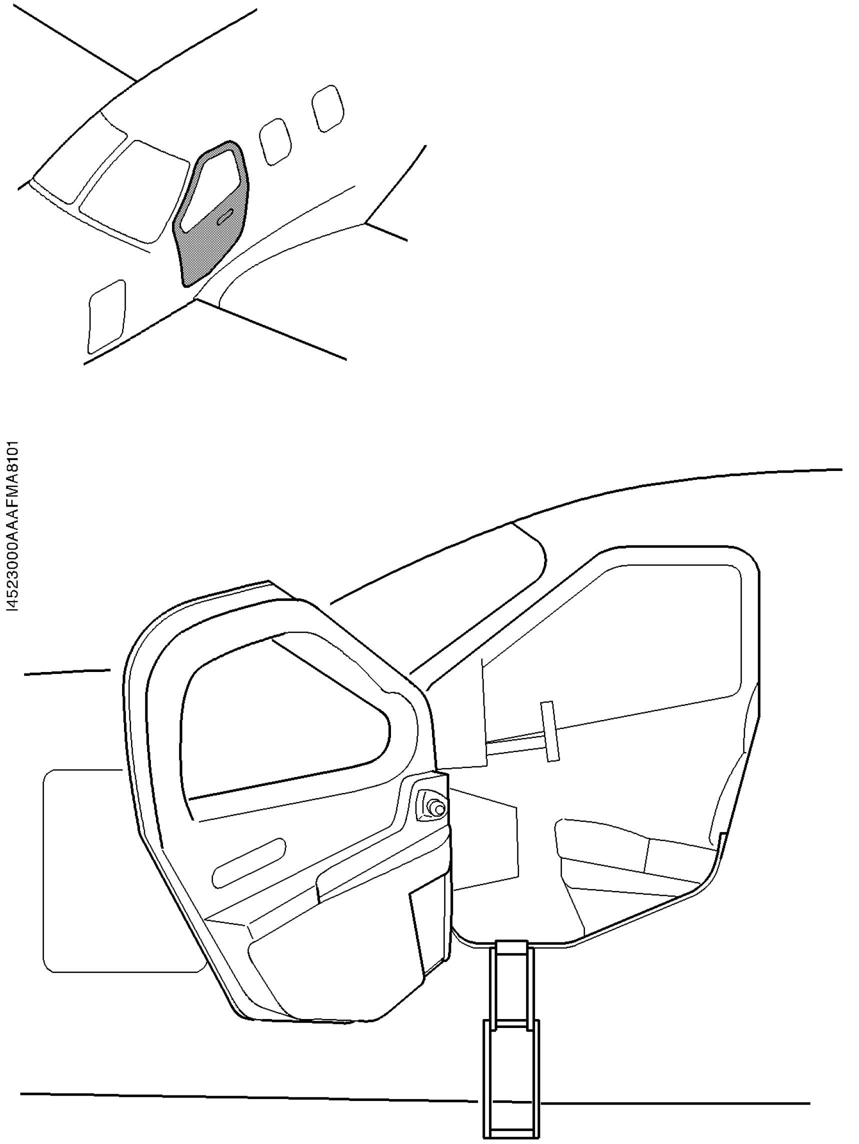


Figure 7.3.9C - COCKPIT ACCESS DOOR ("PILOT" DOOR)

CAUTION

RETRACT FOOTSTEP BEFORE CLOSING ACCESS DOOR

Fold and tilt footstep upwards.

To close the door from outside the airplane, push the door until it aligns with fuselage and lock it by moving outside handle upwards, then fold handle in its recess.

FWD baggage compartment door

The FWD baggage compartment door is located on the airplane left side between the firewall and the front pressure bulkhead. It is hinged at the top. It is maintained in the up position by a compensation rod. Two interlocking-type latches ensure its closing and it may be equipped with a lock (same key as for the access door). When the door is closed, latches are flush with the fuselage profile.

Windows

Windows do not open. The windshield consists of two parts, the pilot's one being electrically deiced. The R. H. one may be optionally deiced.

Emergency exit (Figure 7.3.10)

The emergency exit is installed on the right side of the fuselage and opens towards the inside. It is equipped with two handles, one inside and the other outside, each located on the upper frame.

When the airplane is parked, the closing system may be locked by a safety pin provided with a flag marker. The handle is then inoperable.

WARNING

TAXIING AND FLYING WITH THIEF-PROOF SAFETY PIN INSTALLED IS FORBIDDEN.

To open the emergency exit, pull one of the two handles and tilt the emergency exit from top to bottom towards inside of airplane.

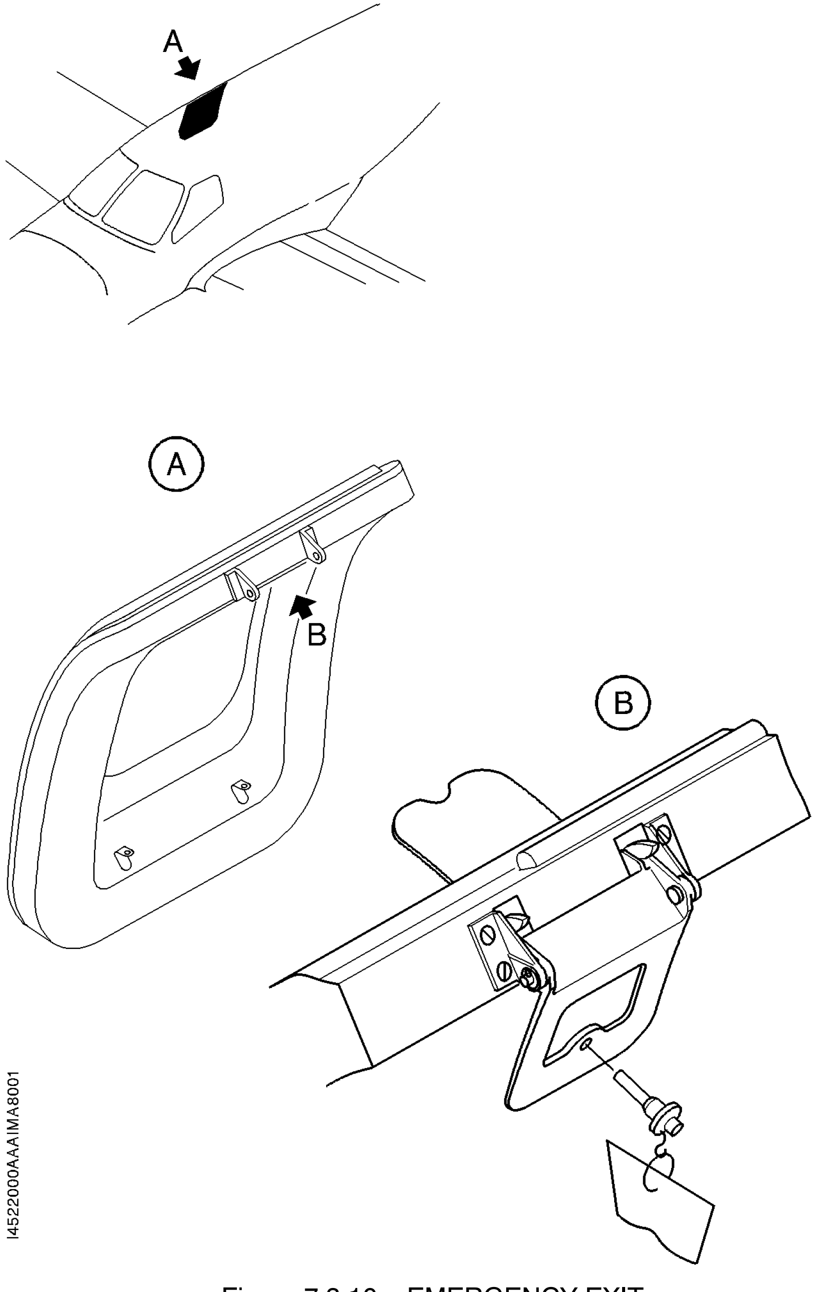


Figure 7.3.10 – EMERGENCY EXIT

SEATS, BELTS AND HARNESSES

Cockpit seats (Figure 7.3.11)

L.H. and R.H. front seats are mounted on rails attached to the structure. Longitudinal position, height and back-rest tilting of each seat can be adjusted and the arm-rest is hinged.

Pull up the handle located forwards (Item 7) for longitudinal setting.

The seat height is adjusted by pulling up side handle (Item 9) while relieving the seat from the body weight.

The seat back angle is adjusted by pulling up side handle (Item 10).

Passengers' seats (Figure 7.3.11)

The standard accommodation consists of four individual seats mounted on the same rails as the front seats.

The back-rest tilting of the seats can be modified.

The L.H. rear seat back tilts forward, to ease baggage loading in aft baggage compartment.

Belts and harnesses (Figure 7.3.12)

WARNING

INCORRECT CLOSURE OF THE SAFETY BELT MAY INTRODUCE A RISK. MAKE SURE IT IS TIGHTENED WHEN BUCKLED. TO BE MOST EFFICIENT, THE BELT MUST NOT BE TWISTED. CHECK THAT THERE IS NO CONSTRAINT WHEN OPERATED. AFTER A SERIOUS ACCIDENT, REPLACE ALL BELTS

Safety belts consist of three parts : two adjustable half-belts attached to the seat and one harness installed on an inertial reel attached to the structure. The inertial reel allows lengthwise movements as long as they are not sudden, otherwise the reel jams and hinders the displacement of the occupant forward. Harness is linked to belt with its buckle and a pin.

SEATS, BELTS AND HARNESSES

Cockpit seats (Figure 7.3.11A)

L.H. and R.H. front seats are mounted on rails attached to the structure. Longitudinal position, height and back-rest tilting of each seat can be adjusted and the arm-rest is hinged.

Pull up the handle located forwards (Item 7) for longitudinal setting.

The seat height is adjusted by pulling up side handle (Item 9) while relieving the seat from the body weight.

The seat back angle is adjusted by pulling up side handle (Item 10).

Passengers' seats (Figure 7.3.11A)

The standard accommodation consists of two individual seats, installed back to the flight direction, mounted on the same rails as the front seats and two rear seats arranged as a bench.

The back-rest tilting of these seats can be modified.

The rear seat back-rests tilt forward, to ease baggage loading in aft baggage compartment.

Belts and harnesses (Figure 7.3.12)

WARNING

INCORRECT CLOSURE OF THE SAFETY BELT MAY INTRODUCE A RISK. MAKE SURE IT IS TIGHTENED WHEN BUCKLED. TO BE MOST EFFICIENT, THE BELT MUST NOT BE TWISTED. CHECK THAT THERE IS NO CONSTRAINT WHEN OPERATED. AFTER A SERIOUS ACCIDENT, REPLACE ALL BELTS

Safety belts consist of three parts : two adjustable half-belts attached to the seat and one harness installed on an inertial reel attached to the structure. The inertial reel allows lengthwise movements as long as they are not sudden, otherwise the reel jams and hinders the displacement of the occupant forward. Harness is linked to belt with its buckle and a pin.

SEATS, BELTS AND HARNESSES

Cockpit seats (Figure 7.3.11B)

L.H. and R.H. front seats are mounted on rails attached to the structure. Longitudinal position, height and back-rest tilting of each seat can be adjusted and the arm-rest is hinged.

Pull up the handle located forwards (Item 7) for longitudinal setting.

The seat height is adjusted by pulling up side handle (Item 9) while relieving the seat from the body weight.

The seat back angle is adjusted by pulling up side handle (Item 10).

Passengers' seats (Figure 7.3.11B)

The standard accommodation consists of two individual seats, installed back to the flight direction, mounted on the same rails as the front seats and two rear seats arranged as a bench.

The back-rest tilting of these seats can be modified.

The rear seat back-rests tilt forward and the rear L.H. seat may tilt forwards to ease baggage loading in aft baggage compartment.

Belts and harnesses (Figure 7.3.12)

WARNING

INCORRECT CLOSURE OF THE SAFETY BELT MAY INTRODUCE A RISK. MAKE SURE IT IS TIGHTENED WHEN BUCKLED. TO BE MOST EFFICIENT, THE BELT MUST NOT BE TWISTED. CHECK THAT THERE IS NO CONSTRAINT WHEN OPERATED. AFTER A SERIOUS ACCIDENT, REPLACE ALL BELTS

Safety belts consist of three parts : two adjustable half-belts attached to the seat and one harness installed on an inertial reel attached to the structure. The inertial reel allows lengthwise movements as long as they are not sudden, otherwise the reel jams and hinders the displacement of the occupant forward. Harness is linked to belt with its buckle and a pin.

BAGGAGE COMPARTMENTS

There are two baggage compartments :
An AFT compartment located in the pressurized cabin between rear passenger seats and rear pressure bulkhead.
A FWD compartment (non-pressurized) located between firewall and fwd pressure bulkhead.

The AFT compartment is accessible through the cabin by tilting forward the L.H. rear seat and / or L.H. or R.H. rear seat back-rests.

The FWD compartment is accessible by opening the external door located on the left side of the airplane.

The floor of the AFT compartment is equipped with rings fitted with lashing straps provided for securing parcels and baggage on compartment floor.

These locations are designed for the carrying of low density loads ; loading and unloading must be carried out with caution to avoid any damage to airplane.

The cabin may be separated from the rear baggage compartment by a partition net (if installed) intended to protect the passengers from injuries that could be caused by improper tie-down of a content.

The partition net is mounted at frame C14, it is secured at the bottom to 4 points of the floor and on the sides to 6 points of the structure.

Maximum loads allowable in baggage compartments depend on airplane equipment, refer to Section 6 "Weight and balance".

WARNING

ANY PARCEL OR BAGGAGE MUST BE STOWED BY STRAPS

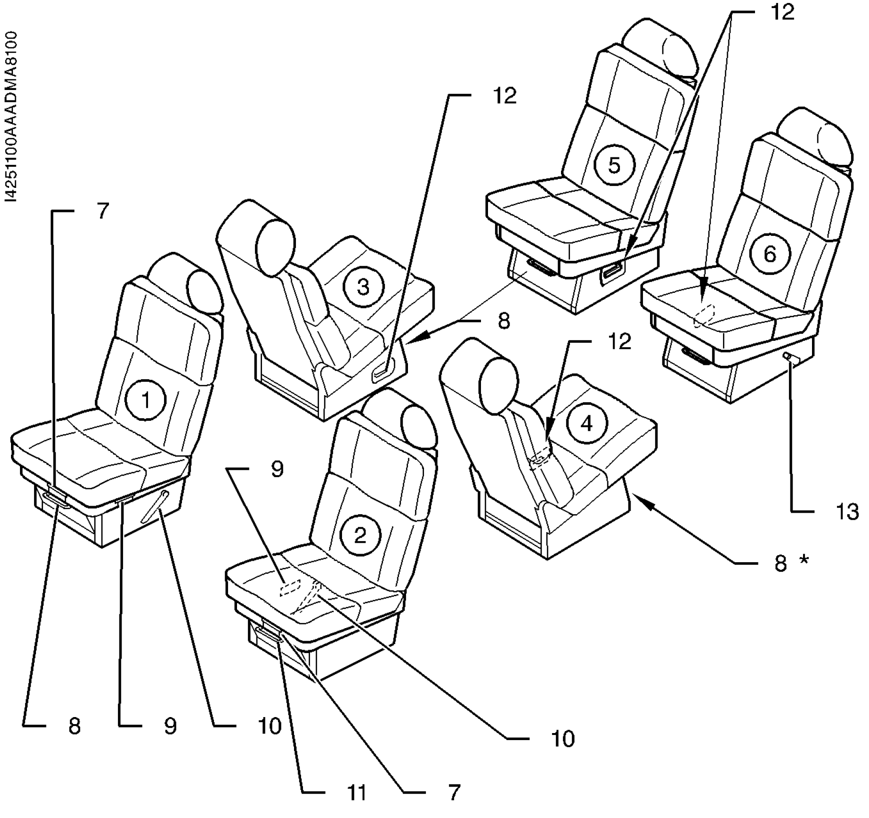
TRANSPORT OF DANGEROUS MATERIALS IS NORMALLY FORBIDDEN. HOWEVER, IF TRANSPORT OF SUCH MATERIALS IS NECESSARY, RESPECT THE LAW CONCERNING TRANSPORT OF DANGEROUS MATERIALS AND ANY OTHER APPLICABLE REGULATION

DO NOT ALLOW ANY LIVE ANIMALS, FULL BOTTLES, CLOSED CONTAINERS AND / OR AEROSOLS IN FORWARD NON-PRESSURIZED COMPARTMENT

IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE PARCELS AND BAGGAGE ARE PROPERLY SECURED IN THE CABIN

1) Front passenger's seat
2) L. H. pilot's seat
3) R. H. intermediate passenger's seat (back to flight direction)
4) L. H. intermediate passenger's seat (back to flight direction)
5) R. H. rear passenger's seat
6) L. H. rear passenger's seat
7) Front seat(s) longitudinal shift control
8) Oxygen masks (2) drawer [R. H. front seat, R.H. intermediate seat and R.H. rear seat or L.H. intermediate seat (variant)]
9) Front seat(s) height control
10) Front seat(s) back-rest tilt control
11) Drawer for pilot's piddle pak (if installed) (front side : new bags, rear side : used bags)
12) Rear seat(s) back-rest tilt control
13) L. H. rear seat tilt control (access to baggage compartment)

Figure 7.3.11 (1/2) - SEATS
Valid S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25



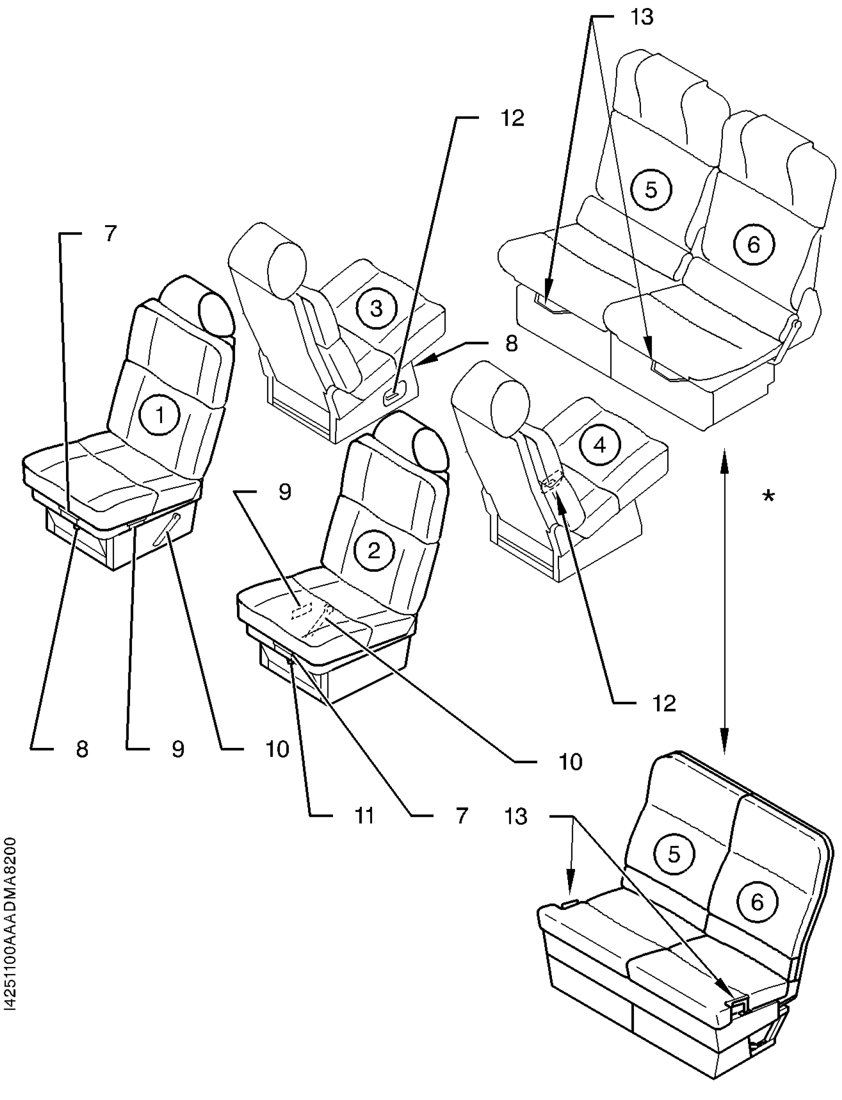
(*) Oxygen masks (2) drawer in variant of R.H. rear seat

Figure 7.3.11 (2/2) - SEATS
Valid S / N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification Nr MOD 70-019-25

1) Front passenger's seat
2) L. H. pilot's seat
3) R. H. intermediate passenger's seat (back to flight direction)
4) L. H. intermediate passenger's seat (back to flight direction)
5) R. H. rear passenger's seat } Rear bench
6) L. H. rear passenger's seat } Rear bench
7) Front seat(s) longitudinal shift control
8) Oxygen masks (2) drawer (intermediate seats)
9) Front seat(s) height control
10) Front seat(s) back-rest tilt control
11) Drawer for pilot's piddle pak (if installed)
(front side : new bags, rear side : used bags)
12) Intermediate seat(s) back-rest tilt control
13) Rear bench seat(s) back-rest tilt control

NOTE :
To have access to the aft baggage compartment, pull forwards the back-rest of rear bench seat(s).

Figure 7.3.11A (1/2) - SEATS
Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25



(*) Variant from S / N 68 except S / N 72, 73, 74 and 75

Figure 7.3.11A (2/2) - SEATS
Valid S / N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

1) Front passenger's seat
2) L. H. pilot's seat
3) R. H. intermediate passenger's seat (back to flight direction)
4) L. H. intermediate passenger's seat (back to flight direction)
5) R. H. rear passenger's seat } Rear bench
6) L. H. rear passenger's seat } Rear bench
7) Front seat(s) longitudinal shift control
8) Oxygen masks (2) drawer (intermediate seats)
9) Front seat(s) height control
10) Front seat(s) back-rest tilt control
11) Drawer for pilot's piddle pak (if installed)
(front side : new bags, rear side : used bags)
12) Intermediate seat(s) back-rest tilt control
13) Rear bench seat(s) back-rest tilt control
14) Rear bench L.H. seat tilt control

NOTE :
To have access to the aft baggage compartment, pull forwards the back-rest of rear bench L.H. seat, then pull forwards control (Item 14) to tilt L.H. seat assembly forwards.
If necessary, pull forwards the back-rest of rear bench R.H. seat.

Figure 7.3.11B (1/2) - SEATS

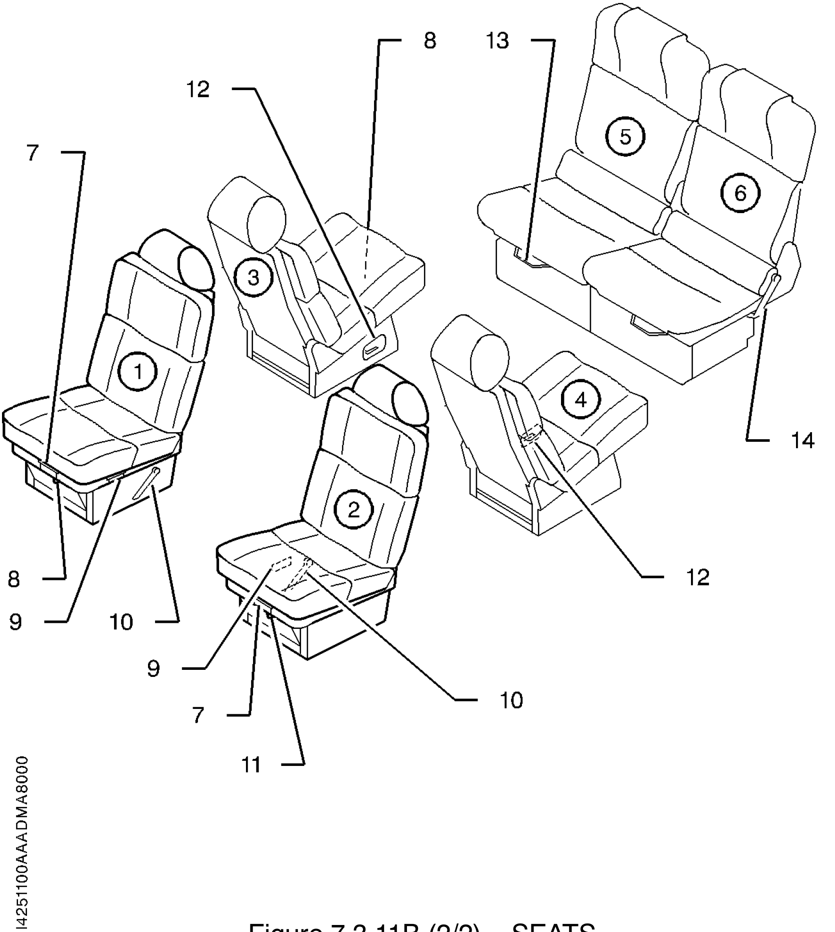


Figure 7.3.11B (2/2) – SEATS

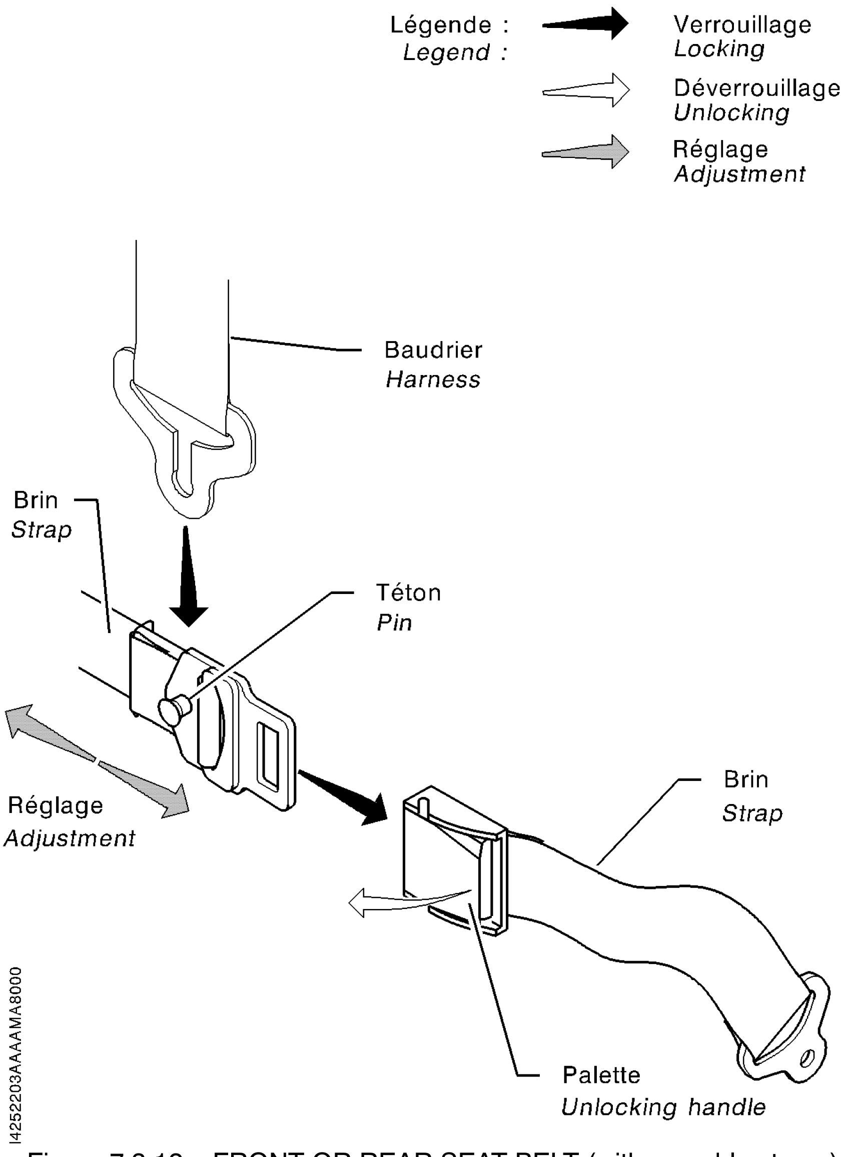


Figure 7.3.12 – FRONT OR REAR SEAT BELT (with movable straps) AND HARNESSES

7.4 - FLIGHT CONTROLS

Flight controls consist of roll, pitch and rudder controls, as well as roll trim tab, pitch trim tab and rudder trim tab controls.

NOTE :
During airplane parking, it is recommended to lock flight controls (see Figure 8.6.2)

ROLL (Figure 7.4.1)

The roll control is activated by an assembly of rods and cables which links control wheels with the ailerons and the spoilers.

Aileron displacement is combined with that of spoilers, located at upper surface of each wing forward of flaps.

The spoiler rises from wing upper surface profile, when the aileron is deflected upwards and remains in wing profile, when the aileron is deflected downwards.

Control wheel movement is transmitted through rods to fuselage roll lever located under the floor. The movement is then transmitted through cables to the spoiler mechanism and from the spoiler mechanism to wing roll lever which activates the aileron through a rod.

A rudder / roll combination spring-type system induces roll deflection at the time of pedals movement and vice versa.

ROLL TRIM (Figure 7.4.2)

The roll trim is controlled by a trim tab attached at trailing edge of the L.H. aileron. The trim tab is connected through two links to an electric actuator located in the aileron. A trim switch located on pedestal controls the roll trim tab maneuver.

Roll trim tab electrical circuit is protected by the "AIL-TRIM" circuit breaker.

1) Pedestal assembly
2) Control wheels
3) Fuselage roll lever
4) Spoiler
5) Aileron
6) Aileron control in wing
7) Spoiler control

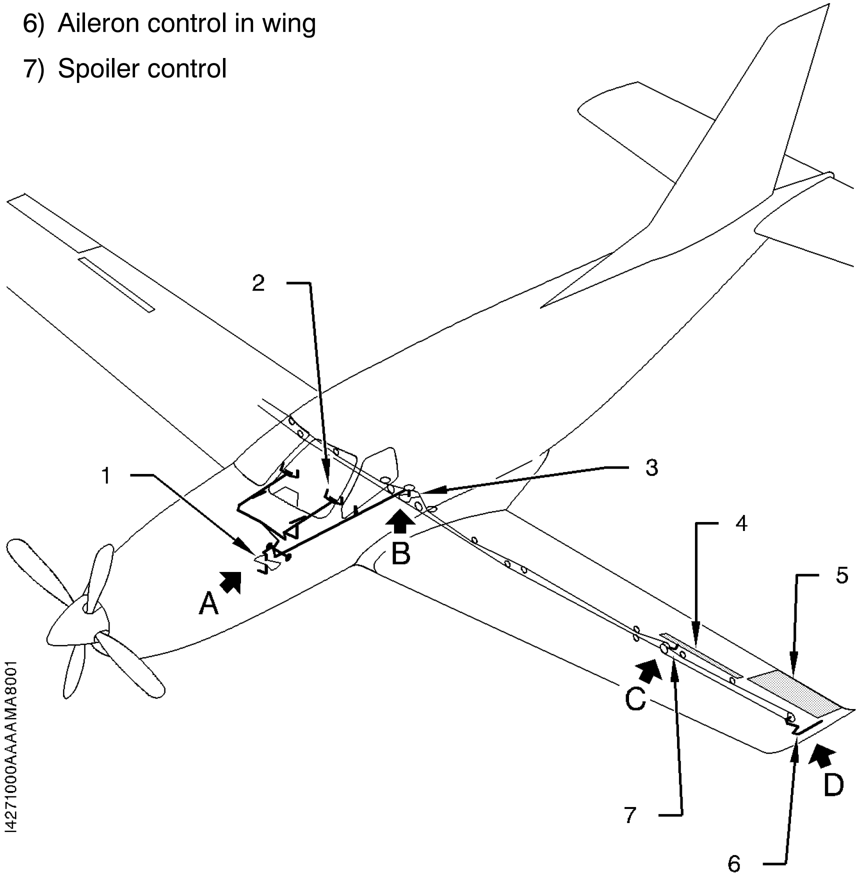


Figure 7.4.1 (1/2) – ROLL

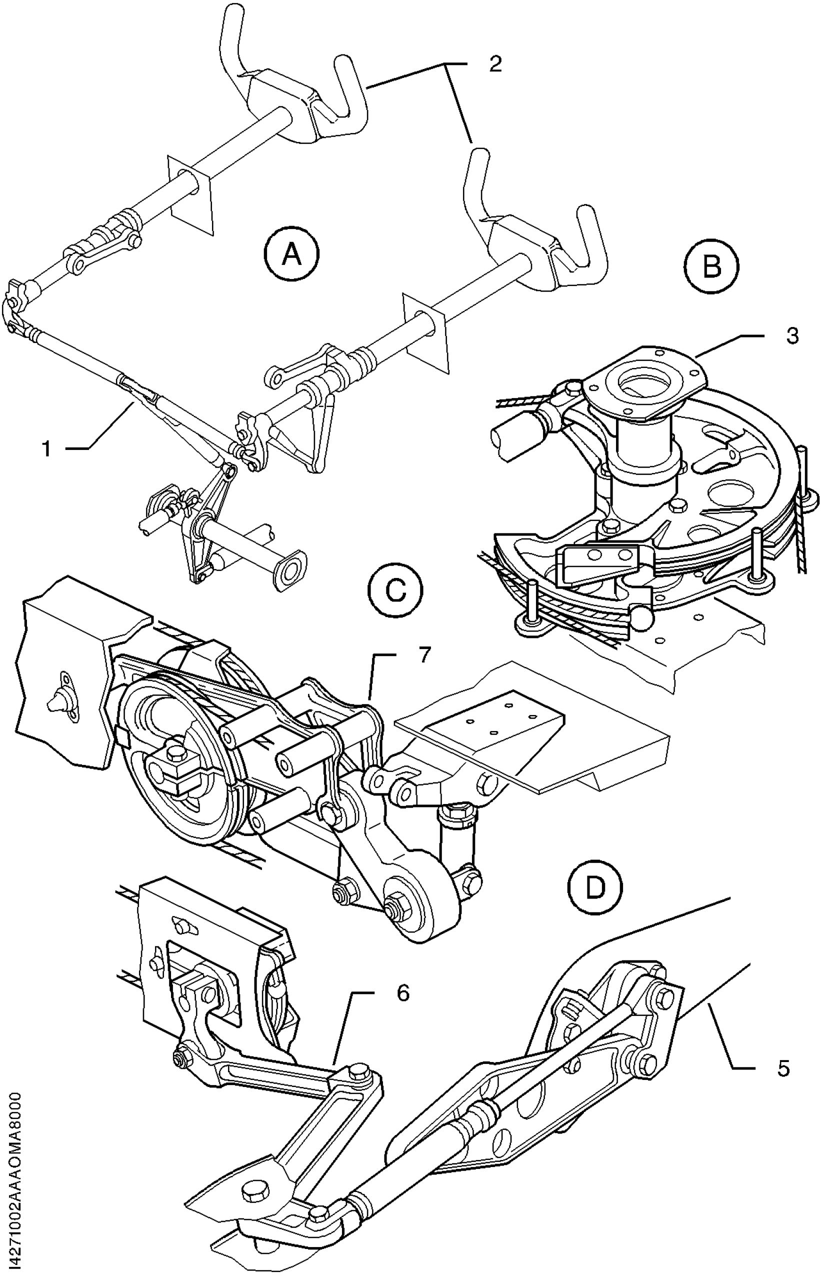


Figure 7.4.1 (2/2) – ROLL

1) Roll trim tab
2) Aileron
3) Adjustable rods
4) Actuator
5) Trim tab control wiring
6) Aileron trim tab position indicator
7) Trim switch on pedestal console

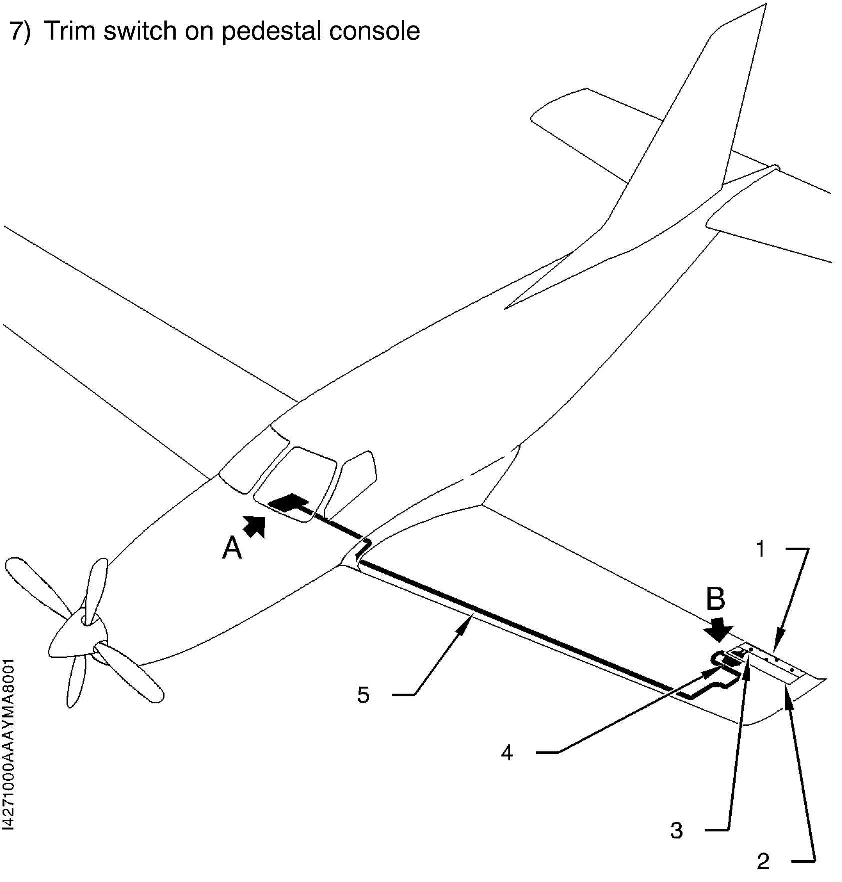


Figure 7.4.2 (1/2) - LATERAL TRIM

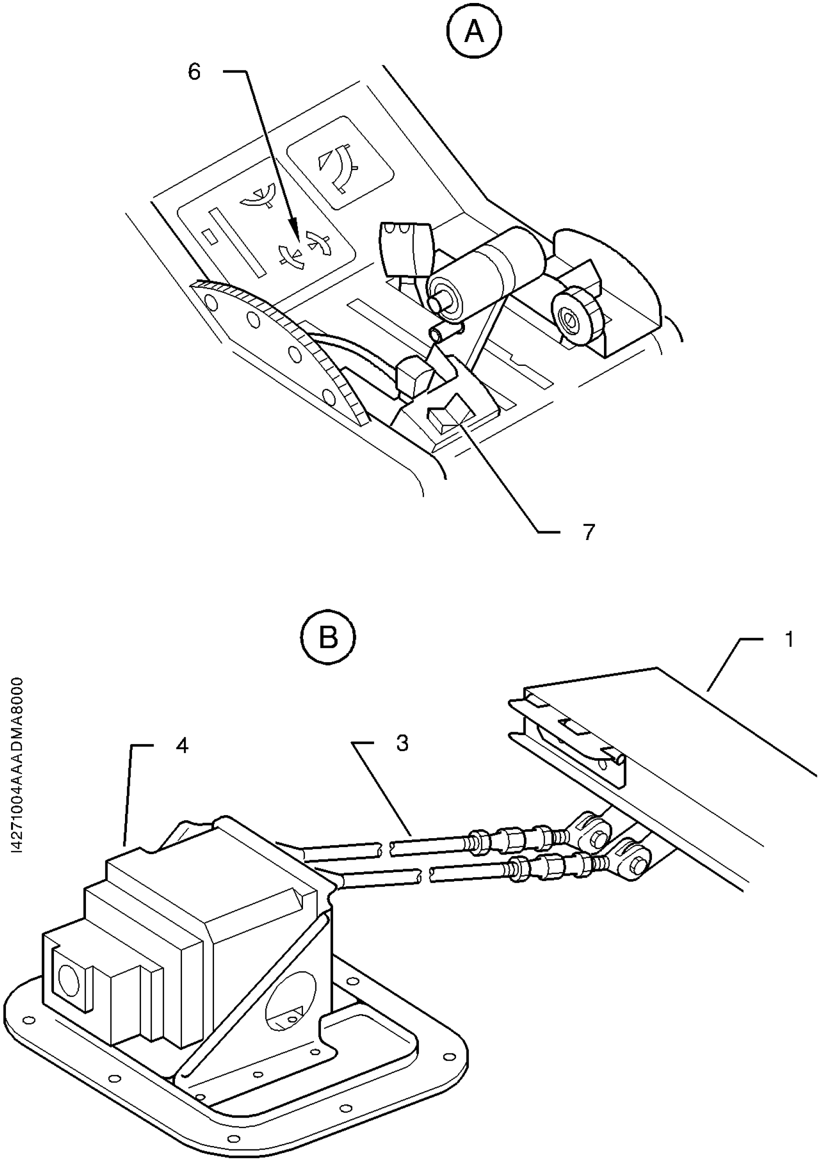


Figure 7.4.2 (2/2) - LATERAL TRIM

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ELEVATOR (Figure 7.4.3)

Both elevators are activated simultaneously by the same control. Each control surface is hinged at three points to the rear part of horizontal stabilizer.

The control wheel controls the two elevators through rods, bearings and bellcranks.

A spring actuator creates a "nose-down" artificial force which allows a better static stability.

Each control surface is provided with an automatic anti-tab (automaticity about 0.3), which is also used as trim tab.

PITCH TRIM (Figure 7.4.4)

The pitch trim is accomplished through the two anti-tabs located on left and right elevators.

The trim tab can be controlled electrically or manually. It is activated through cables and a chain on two screw actuators attached to the horizontal empennage.

The electrical control consists of a switch located on the pilot control wheel and a servo-motor attached under the pedestal.

The electrical circuit for pitch trims is protected by the "PITCH TRIM" circuit breaker.

Manual control wheel is installed vertically on left side of pedestal console.

1) Control wheel assembly
2) Elevators
3) Lever assembly, fuselage rear part
4) Elevator bellcrank
5) Rod with presseal connection
6) Lever assembly under floor
7) Pedestal assembly
8) Actuator

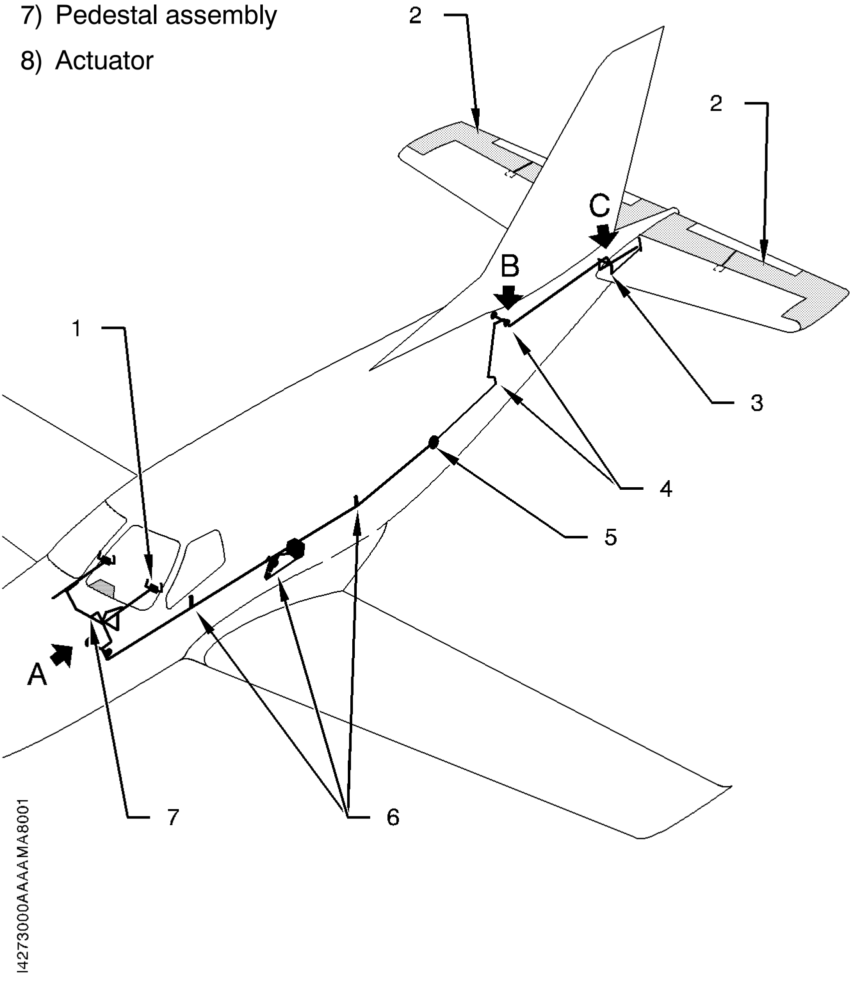

Figure 7.4.3 (1/2) – ELEVATOR

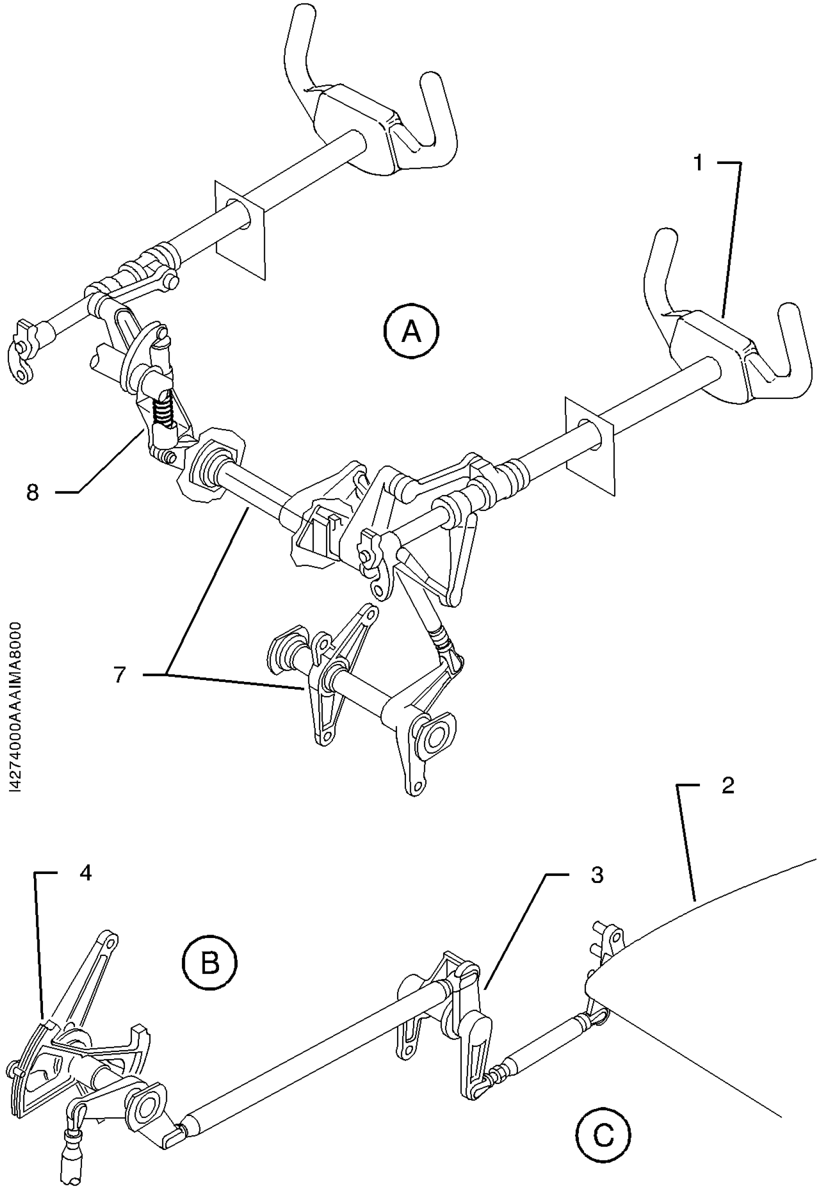

Figure 7.4.3 (2/2) - ELEVATOR

1) Cables
2) Pulleys
3) Pitch trim tabs
4) Actuating rods
5) Actuator
6) Pitch trim tab position indicator
7) Pitch trim manual control wheel
8) Pitch trim electrical control

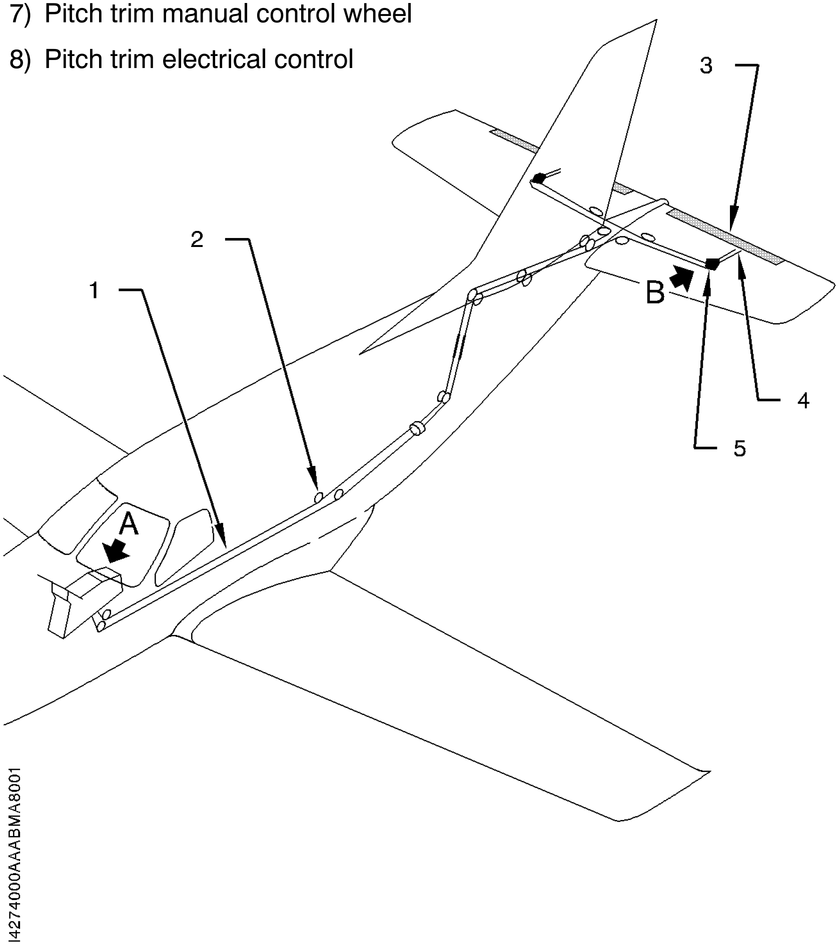

Figure 7.4.4 (1/2) - PITCH TRIM

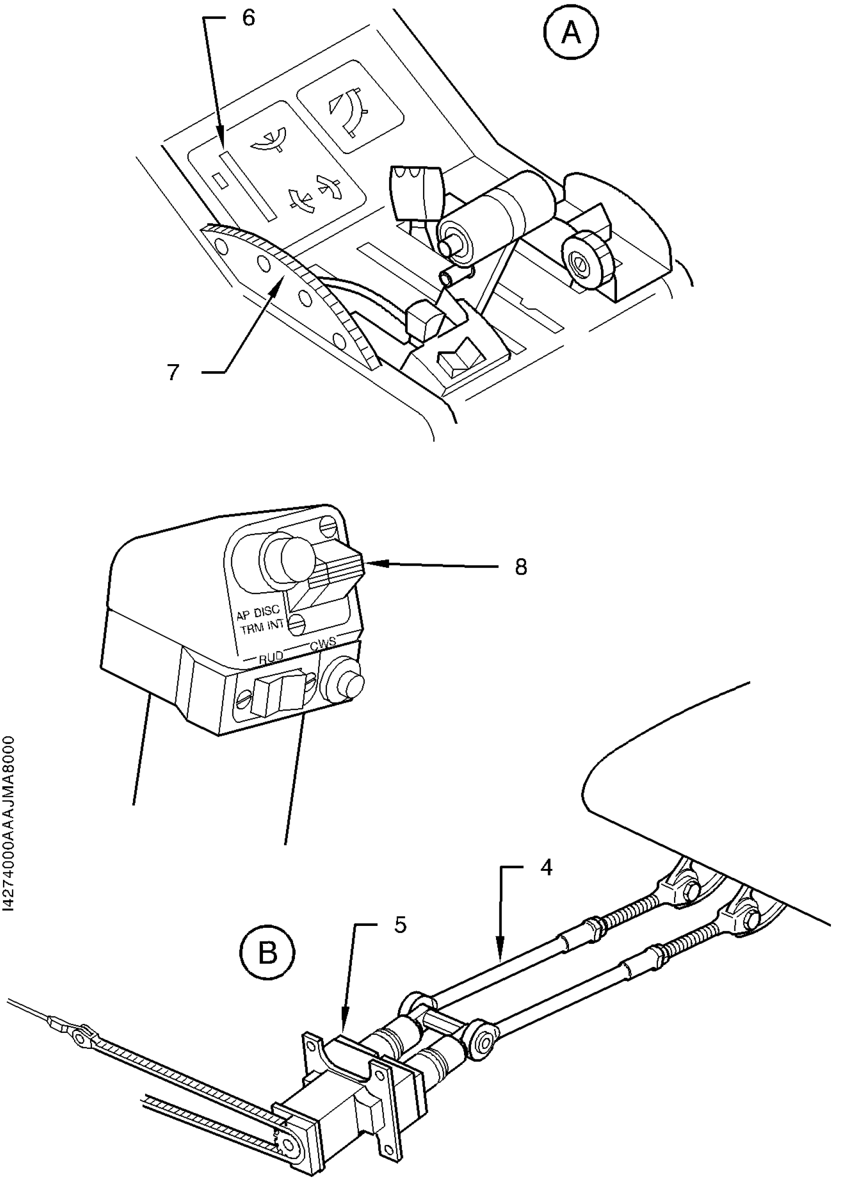

Figure 7.4.4 (2/2) - PITCH TRIM

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RUDDER (Figure 7.4.5)

The rudder is hinged on three fittings attached to the vertical stabilizer rear spar.

The rudder pedals / rudder linkage is ensured through cables and a rod.

Pilot and R.H. station rudder pedal positions are adjustable at each station. The rudder pedal adjustment mechanism (for piloting comfort purposes) includes a manual control located against the external bulkhead beneath the instrument panel and a locking device on the rudder pedals. This ball locking device allows selecting six different positions.

When landing gear is down, rudder pedals are linked to nose gear steering system.

Spring system of rudder / roll combination induces aileron deflection at the time of pedal displacement and vice versa.

RUDDER TRIM (Figure 7.4.6)

A trim tab hinged at two points located at rudder trailing edge provides rudder trim.

Trim tab is linked by two rods to an electric actuator attached to rudder. It is controlled by "RUD" switch (L / R) located on pilot control wheel.

Electrical circuit of rudder trim tab is protected by "RUD TRIM" circuit breaker.

1) Roll / rudder combination bellcrank installation
2) Rudder pedals assembly
3) Control cables
4) Pulleys
5) Rudder lever assembly
6) Rod
7) Rudder
8) Nose gear steering rod

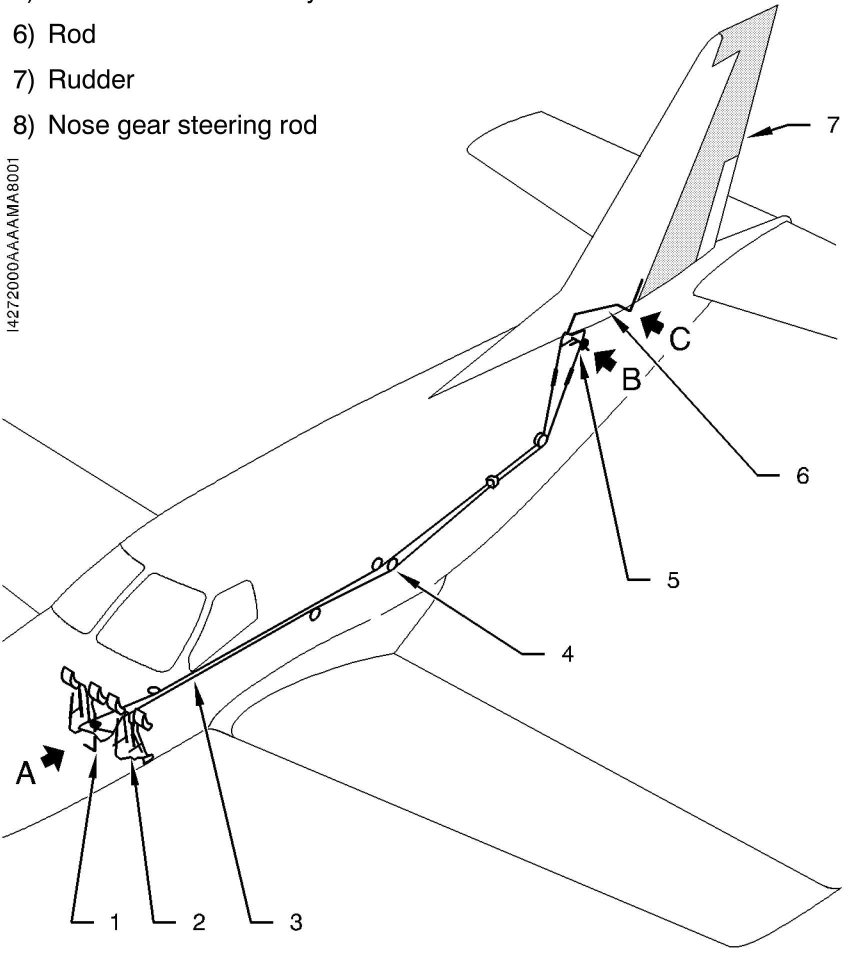

Figure 7.4.5 (1/2) – RUDDER

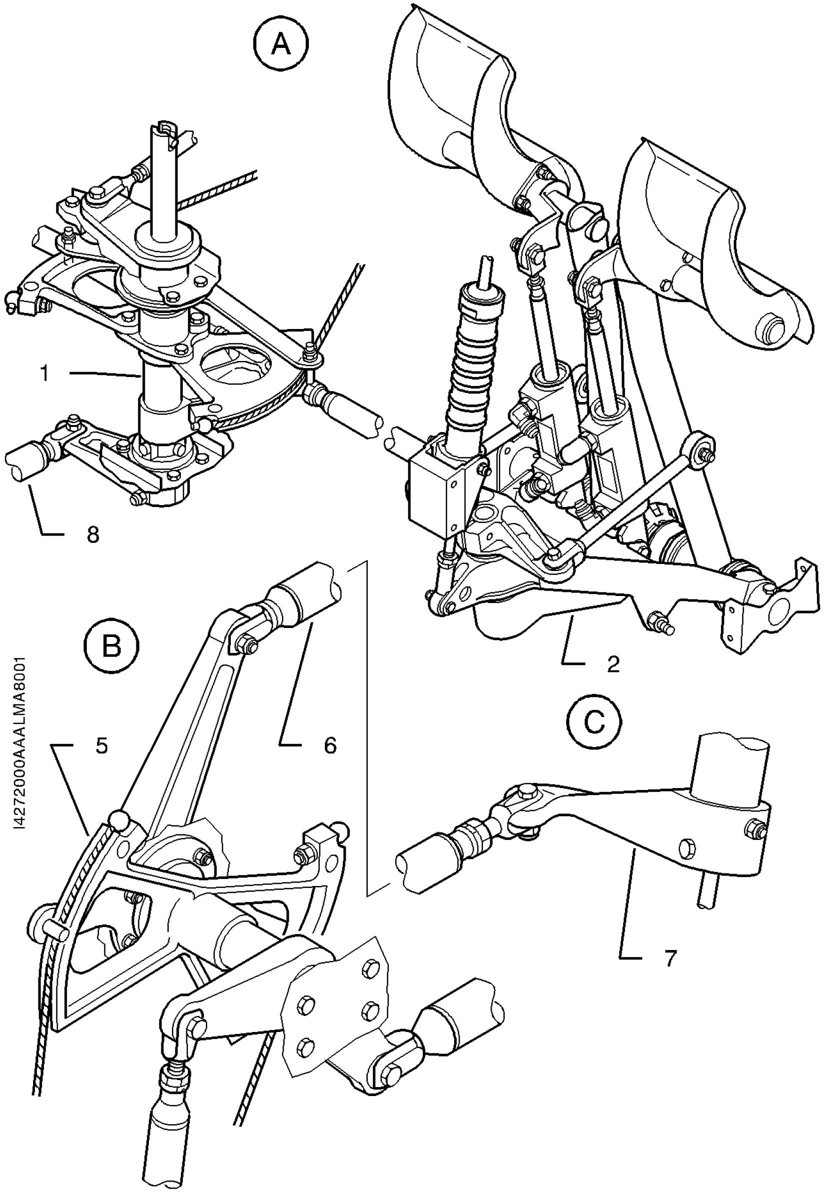

Figure 7.4.5 (2/2) - RUDDER

1) Trim switch on control wheel
2) Actuator
3) Rudder trim tab
4) Rods
5) Rudder trim control wiring
6) Rudder trim tab position indicator

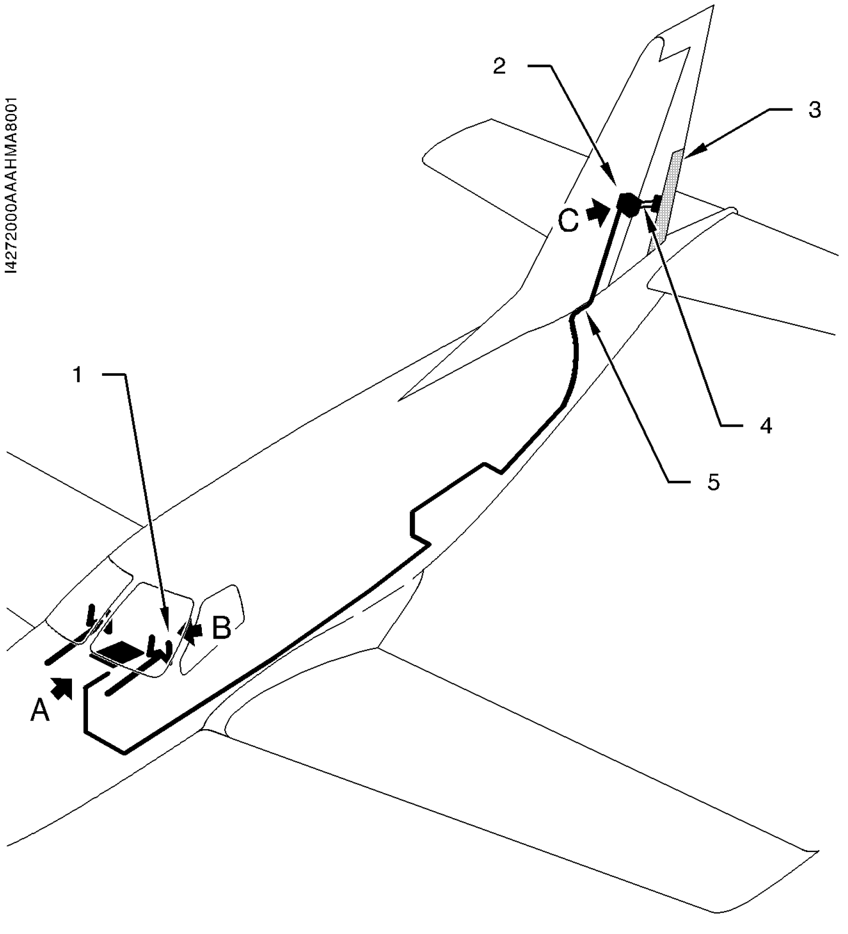

Figure 7.4.6 (1/2) - RUDDER TRIM

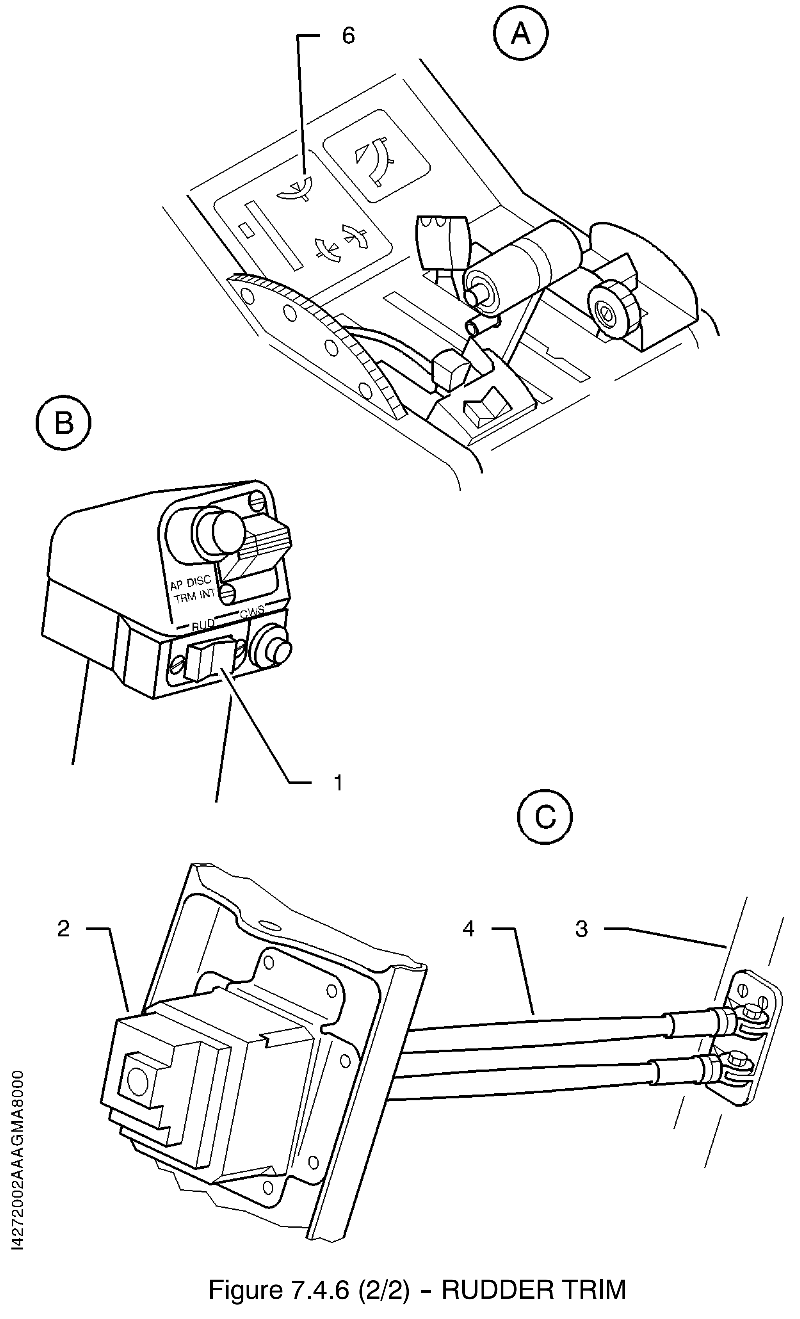

Figure 7.4.6 (2/2) - RUDDER TRIM

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7.5 - LANDING GEAR

The TBM 700 is equipped with electro-hydraulically actuated, fully retractable tricycle landing gear.

Each landing gear is equipped with one wheel and an oil-air shock absorber integrated in the strut.

Main landing gears swivel on two ball joints installed on wing spars. Each landing gear retracts toward airplane centerline. The operation is accomplished by a hydraulic actuating cylinder which also provides up and down locking.

Nose gear swivels on two ball joints installed on a tubular steel mount frame. Its operation is accomplished by a hydraulic actuating cylinder which also provides up and down locking. The nose wheel is steerable. It is connected to pedals through a spring rod and is provided with a shimmy damper. In UP position, nose wheel is automatically disconnected.

Actuating cylinders have a locking device integrated at both ends. This device maintains landing gear in up or down position.

<u>Pre-MOD70-0342-52</u>

Landing gear doors, two on the nose gear, one on each main landing gear, are driven and kept in UP position by the landing gear itself.

<u>Post-MOD70-0342-52</u>

Landing gear doors, two on the nose gear, two on each main landing gear, are driven and kept in UP position by the landing gear itself.

<u>All</u>

All doors are mechanically kept in down position.

HYDRAULIC PRESSURE

Hydraulic pressure required for landing gear operation is accomplished :

- during normal operation, by an electro-hydraulic generator with integrated reservoir,
- during emergency extension operation by a hand pump supplied with an auxiliary reservoir.

LANDING GEAR CONTROL (Figure 7.5.1)

Landing gear control, located on "LANDING GEAR" panel at the bottom of instrument panel left part, is accomplished by an electric selector actuated through a lever ending with a knob representing a wheel. Operation is carried out by pulling on lever and by putting it in the desired "UP" (retracted) or "DN" (extended) position. This selector controls hydraulic generator.

LANDING GEAR INDICATOR (Figure 7.5.1)

Landing gear position indication is accomplished by 4 warning lights :

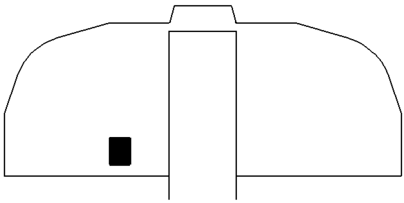
- 3 green indicator lights (one per landing gear),
- 1 red warning light.

NOTE :
For airplanes equipped with modification No. MOD70-021-32 or MOD70-0640-32, the red warning light flashes as soon as landing gears are operating and remains continuously on in case of locking problem.

When landing gear is correctly retracted, all warning lights are OFF.

Down-locked correct indication is when there are 3 green indicator lights ON and 1 red warning light OFF on the landing gear indicator. All other cases mean the gear is not down-locked.
In case of doubt about "landing gear down-locked" position, an independant electrical circuit provides a countercheck capability of the indication system. Pressing the "CHECK DN" switch located on the same panel as the warning lights allows testing of the control circuit.

Indication panel is provided with two tests which allow checking green indicator lights and red warning light bulbs through two distinct electric power supplies.



1) Red warning light (LDG GR)
2) Green indicator light (LDG GR)
3) Landing gear control selector
4) Test switch
5) Test knobs

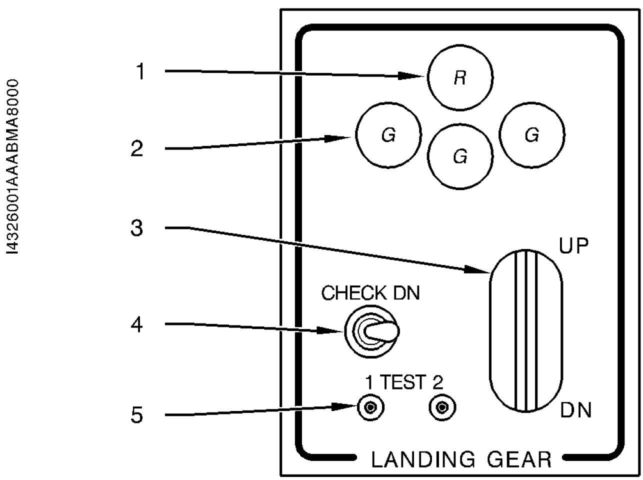


Figure 7.5.1 – CONTROL PANEL AND LANDING GEAR INDICATING

SAFETY

Safety switch (landing gear retraction) :

A safety switch installed on each main landing gear prevents, by detecting shock strut compression, landing gear accidental retraction when airplane is on ground.

Landing gear horn :

Landing gear horn is controlled by power lever and / or flaps. It sounds (continuous high-pitched sound) when :

- power lever is on IDLE position and landing gear is not down-locked,
- flaps are beyond "TO" position (Takeoff) and landing gear is not down-locked.

NOTE :
If one of above conditions exists and airplane is in stall configuration, the audio-warning signal becomes alternated (high-pitched sound / low-pitched sound).

Emergency landing gear extension control (Figure 7.5.2) :

Emergency landing gear extension control consists of a hand pump and a by-pass selector.

This control is accessible by removing the floor panel located aft of the pedestal.

After bypass selector closing, hand pump operation sends hydraulic fluid directly into landing gear actuators ; landing gear full extension and locking requires up to 110 cycles.

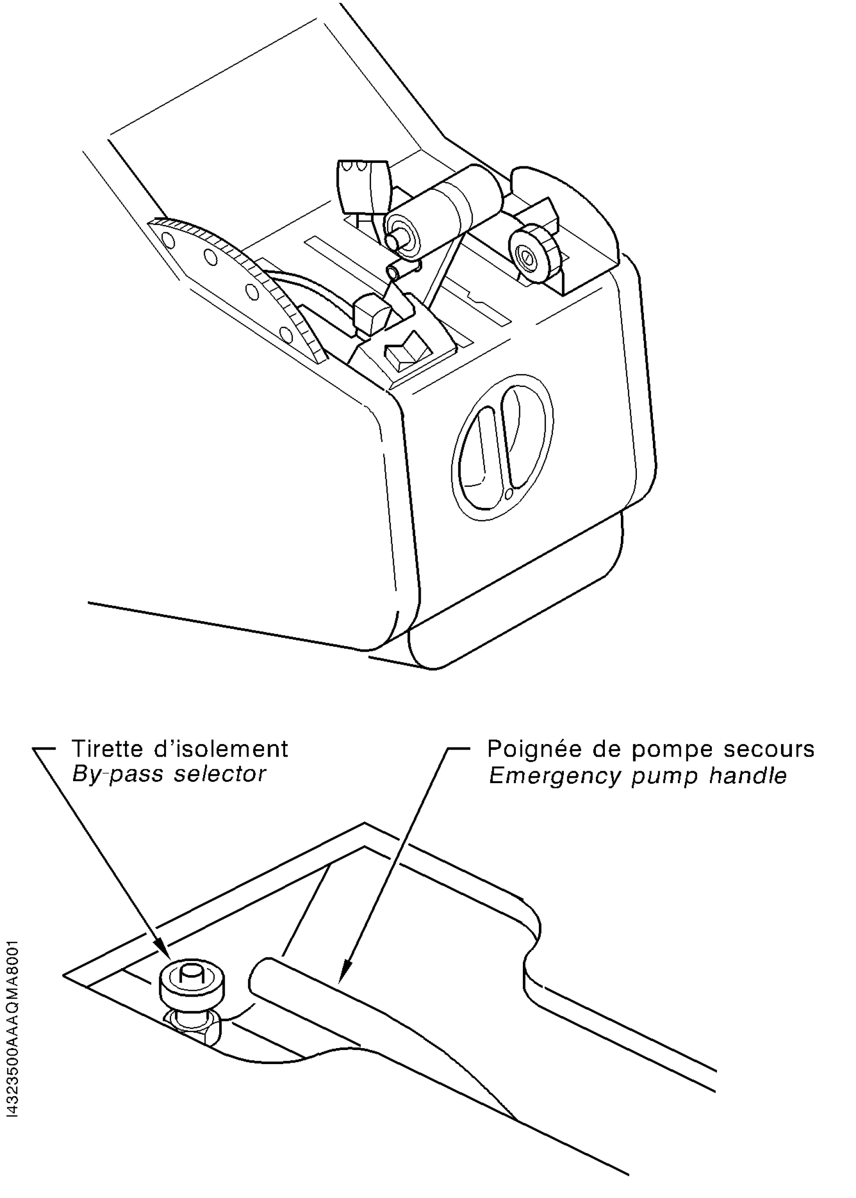


Figure 7.5.2 - EMERGENCY LANDING GEAR EXTENSION CONTROL

GROUND MANEUVERS

Nose gear steering control (Figures 7.5.3 and 7.5.4)

Nose gear steering control is combined with rudder pedals and is fitted with a shimmy damper. When one of rudder pedals is fully pushed, nose wheel swivels about 20°. Steering may be increased up to 28° by applying differential braking to each side.

Airplane may be towed by attaching a steering or towing bar on nose gear (Refer to Chapter 8.6 for operation). In that case nose wheel steering angle is limited to ± 28°.

Minimum turn diameter

Minimum turn diameter, Figure 7.5.4, is obtained by using nose gear steering and differential braking. Since tight turns lead to untimely tire wear, turns should be made using the largest possible turning radius.

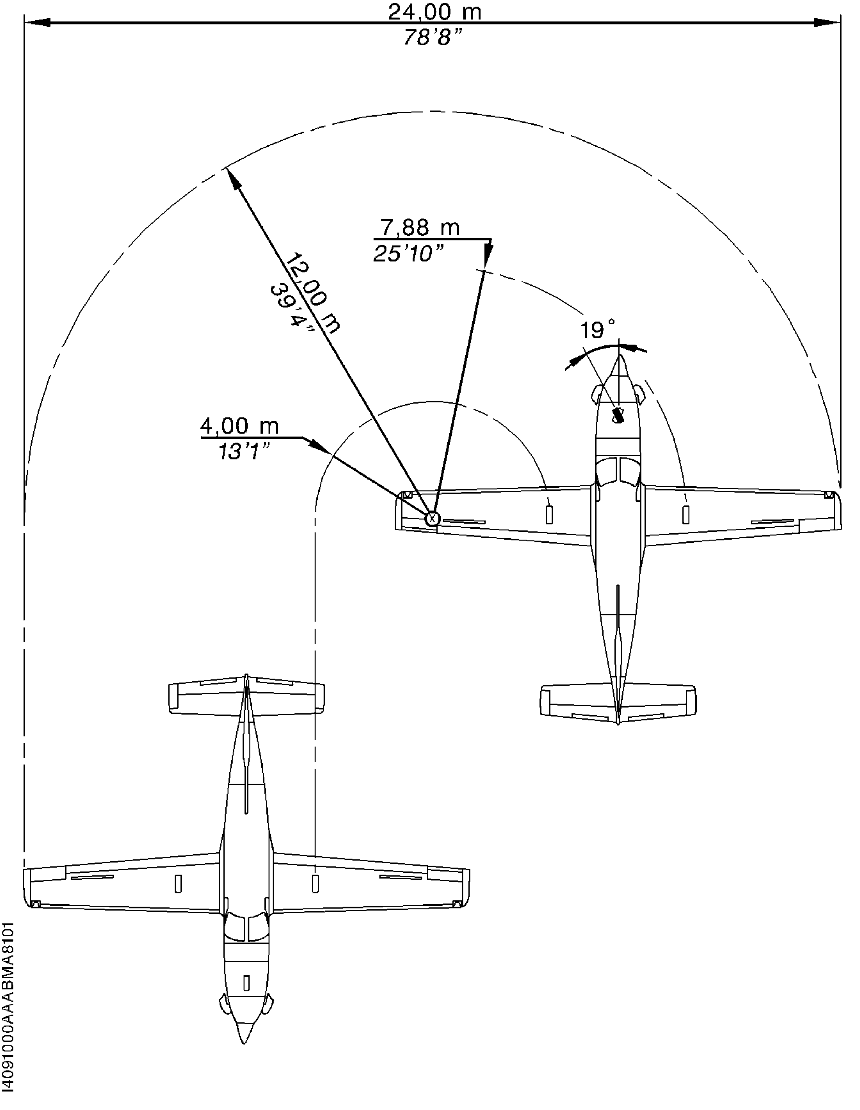


Figure 7.5.3 – MINIMUM TURN DIAMETER
(Full rudder pedals travel without
using differential braking)

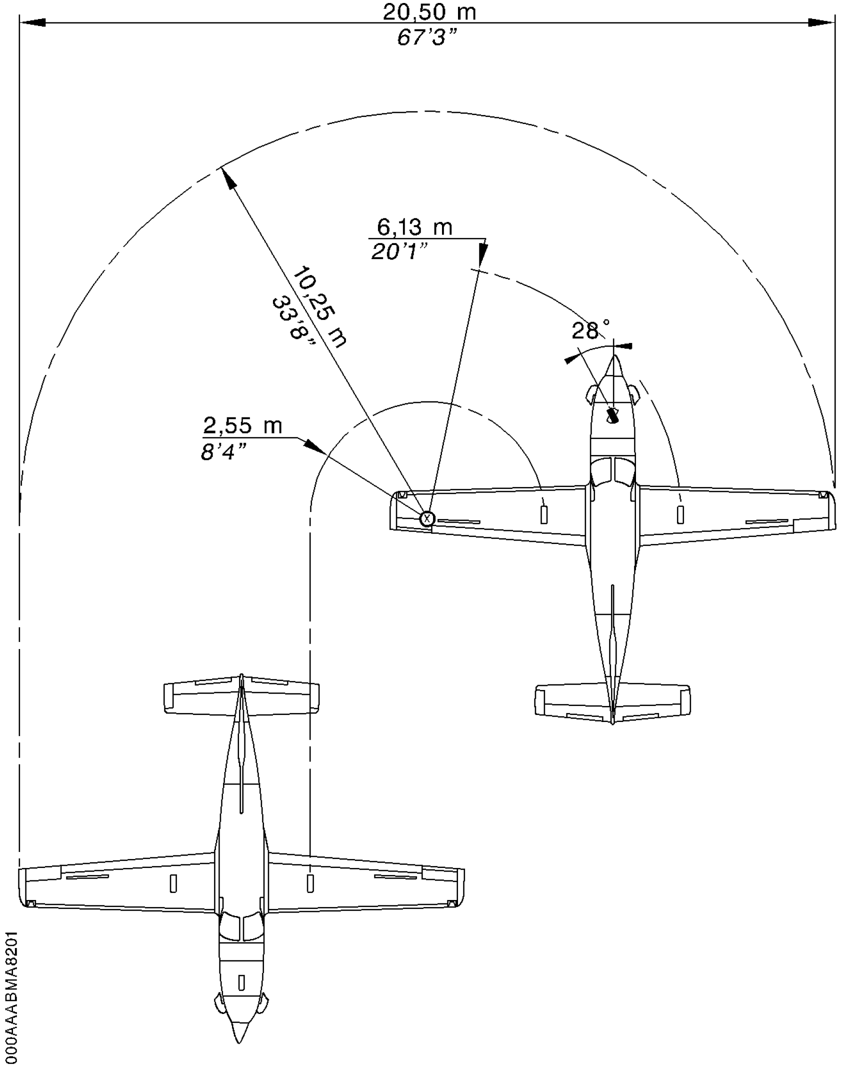


Figure 7.5.4 - MINIMUM TURN DIAMETER
(Full rudder pedals travel **by**
using differential braking)

BRAKE SYSTEM (Figure 7.5.5)

Airplane is equipped with a hydraulically actuated disc braking system installed on the main landing gear wheels.

Each toe brake at L.H. and R.H. stations is equipped with a master cylinder which sends hydraulic pressure to the corresponding disc brake : L.H. pedals L.H. brake ; R.H. pedals R.H. brake. This differential braking helps maneuvering during taxiing.

PARKING BRAKE (Figures 7.5.5 and 7.5.6)

Parking brake control consists of a control knob located on pilot's side lower instrument panel, a valve which regulates brake pressure and a "PARK BRAKE" warning light located on advisory panel.

To apply parking brake, press on toe brake of rudder pedals and position control knob on "ON"

"PARK BRAKE" warning light illuminates when control knob is positioned on "ON".

NOTE :
Operating the parking brake knob without applying pressure on rudder pedals does not cause the wheels to be braked.

To release the parking brake, turn the selector to the left in order to set the index upwards to "OFF" position and check at the same time that the "PARK BRAKE" warning light is OFF.

1) Reservoir
2) Vent
3) R.H. station master cylinders
4) Parking brake control knob
5) Parking brake valve
6) Drain
7) Pilot's station master cylinders
8) L.H. brake assembly
9) R.H. brake assembly

Figure 7.5.5 (1/2) - BRAKE SYSTEM

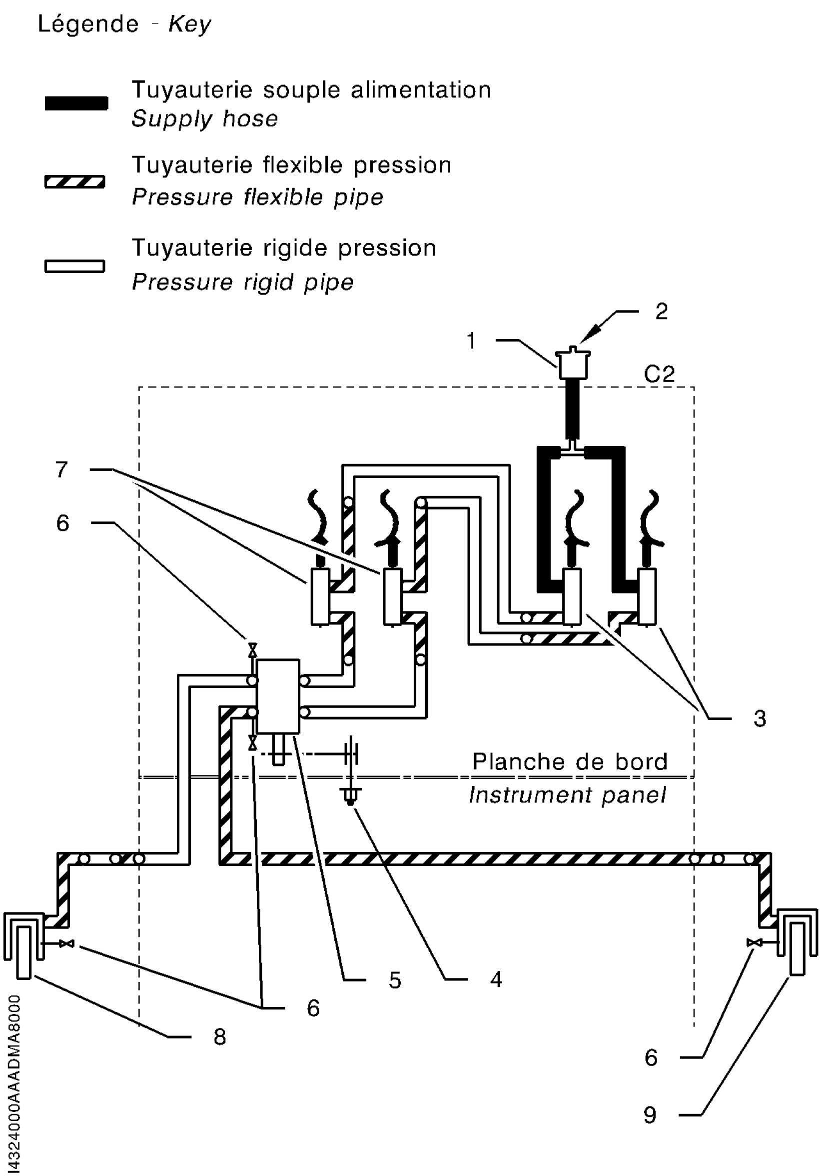


Figure 7.5.5 (2/2) – BRAKE SYSTEM

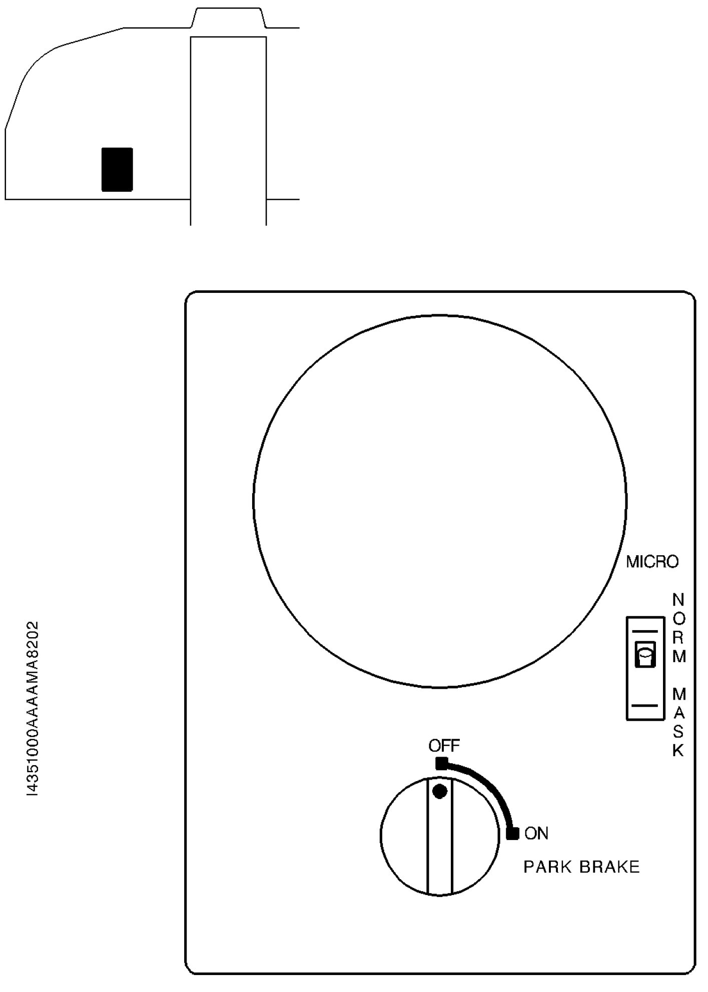


Figure 7.5.6 - PARKING BRAKE

7.6 - POWERPLANT

TURBOPROP ENGINE OPERATION (Figure 7.6.1)

The PRATT & WHITNEY CANADA turboprop engine (PT6A-64 type) is a free turbine engine developing thermodynamic power of 1580 SHP, derated to 700 SHP.

Intake air enters engine through an annular casing and is then ducted toward compressor. The latter consists of four axial stages and one single centrifugal stage assembly to form a whole assembly. Compressed air and fuel are mixed and sprayed into combustion chamber by fuel nozzles. The mixture is first ignited by two spark igniter plugs, then combustion continues as a result of air-fuel mixture flow. Gases resulting from combustion expand through a series of turbines. The first one (gas generator turbine) drives compressor assembly and accessories, the two other ones (power turbines), independant from the first one, drive propeller shaft through a reduction gear box. Hot gases are evacuated through two exhaust stubs located laterally on both sides forward of engine cowling.

All engine driven accessories, except power turbine tachometer and propeller governor, are installed on accessory gearbox located rearward of engine.

PRATT & WHITNEY CANADA PT6A-64 turboprop engines do not require any specific running-in procedure. They can be safety used in all normal ranges allowed by the manufacturer at the time of delivery of the airplane or a new engine or an engine having undergone an overhaul or a reconditioning.

1) Propeller governor
2) Exhaust stub
3) Axial compressors
4) Accessory gearbox
5) FCU Fuel control unit
6) Oil to fuel heater
7) Compressor stubshaft
8) Air intake
9) Centrifugal impeller
10) Combustion chamber
11) Compressor turbine
12) Power turbine 1st stage
13) Power turbine 2nd stage
14) Power turbineshaft

Figure 7.6.1 (1/2) - POWER PLANT

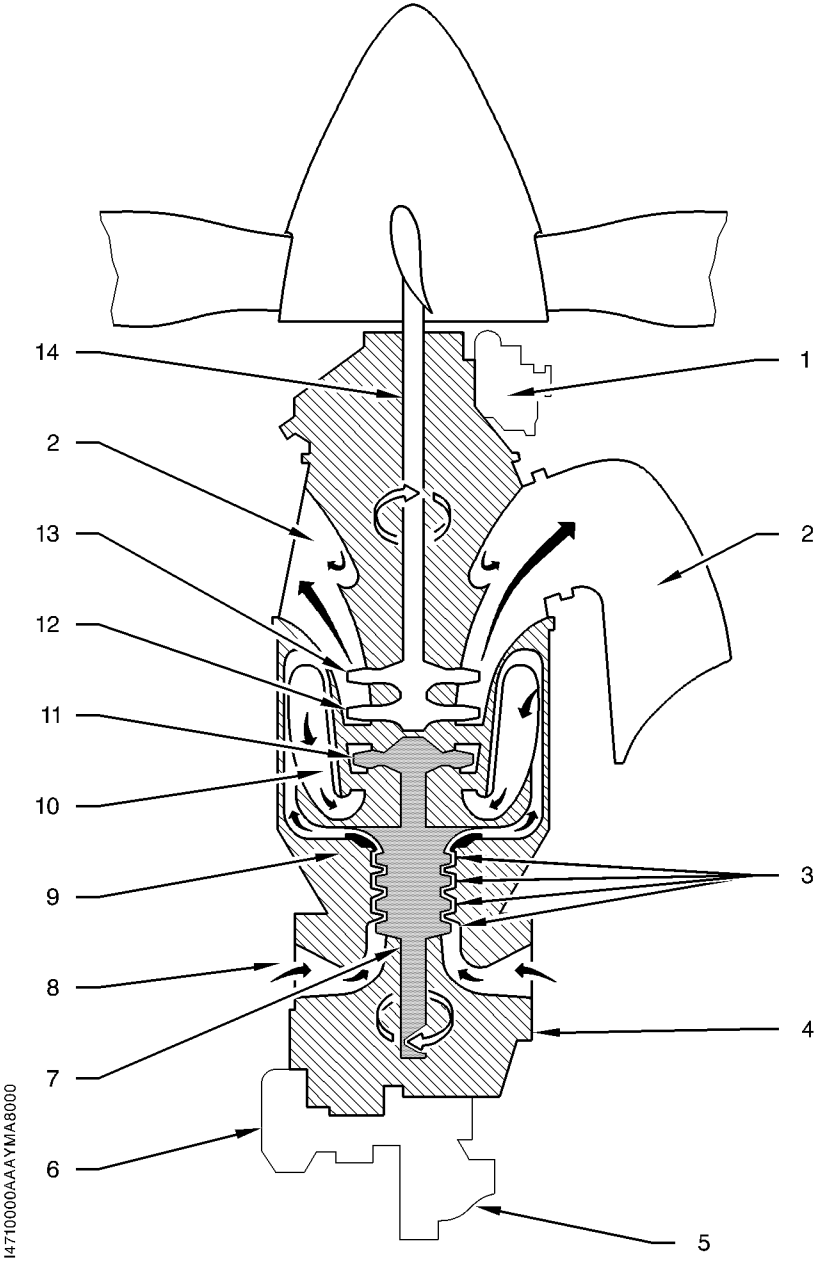


Figure 7.6.1 (2/2) - POWER PLANT

ENGINE CONTROLS (LEVERS) (Figure 7.6.2)

Engine operation requires use of four levers located on pedestal console in cabin :

- power lever (Item 2), and its detent for reverse (Item 6)
- propeller governor lever (Item 1),
- condition lever (Item 3),
- ”MAN OVRD” emergency fuel regulation lever (Item 5),

NOTE :
Thumbwheel for lever friction (Item 4)

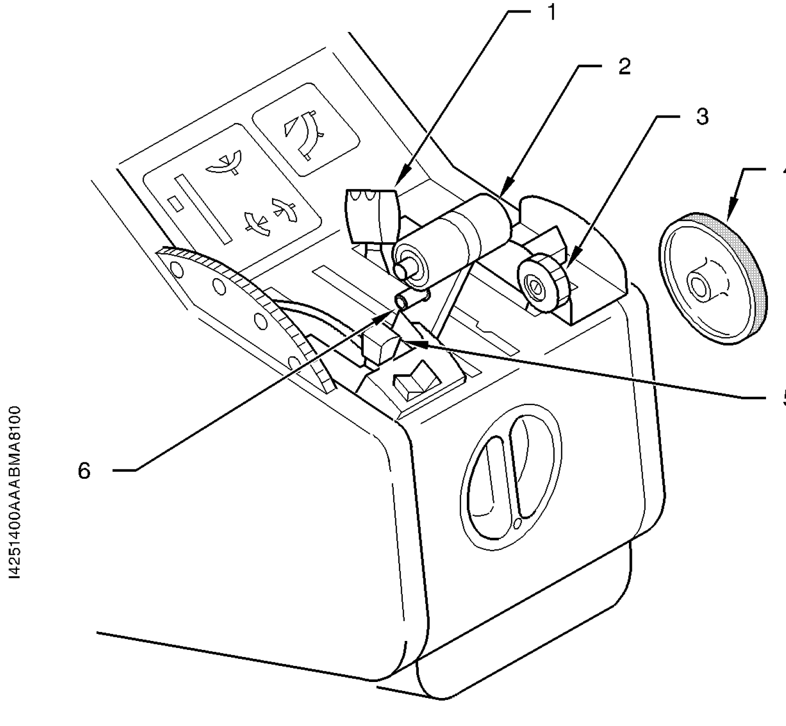


Figure 7.6.2 - ENGINE CONTROLS (LEVERS)

Power control lever

The power control lever is linked to fuel control unit. It modulates engine power from full reverse to takeoff.

Engine running, the power control lever rearward displacement, past the lock using the detent, allows to control :

- the engine power in the Beta range from idle to maximum reverse,
- the Beta valve to select the propeller pitch in reverse.

Return to idle position is accomplished by pushing the power control lever forward.

CAUTION

DO NOT MOVE THE COCKPIT POWER CONTROL LEVER INTO THE PROPELLER REVERSE POSITION OR DAMAGE TO THE LINKAGE WILL RESULT.

REVERSE MAY ONLY BE SELECTED WITH ENGINE RUNNING AND PROPELLER TURNING

When engine is shutdown, there is no oil pressure in the propeller and the feathering spring locks the Beta ring and the propeller reversing interconnect linkage on the engine.

All rearward effort on the power control lever, past the idle stop, may damage or break the flexible control cable.

Propeller governor lever

The propeller governor lever activates the propeller governor located forward of the engine to select and maintain any propeller speed between 1600 and 2000 RPM. This lever allows propeller feather. Changing from normal range to feather position requires "FEATH" stop by moving lever toward left side and back. The lever being locked in feather position, unlocking requires moving the lever toward left side and forward.

Condition lever

The fuel condition lever is linked to FCU. It can be positioned to cutoff, idle LO / IDLE or idle HI / IDLE. Change from idle LO / IDLE to cutoff position is only possible after having overridden the idle gate. To override idle gate, raise lever and move it rearwards. If the lever is locked in cutoff position, unlocking is performed by raising lever and moving it forward.

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The fuel condition lever has a ”HI / IDLE” locked position.
Change from idle ”HI / IDLE” to ”LO / IDLE” position is only possible after having overridden the idle gate. To override idle gate, raise lever and move it rearwards.

”MAN OVRD” emergency fuel regulation lever

Emergency fuel regulation lever is normally in locked position. In case of FCU or power lever failure, it allows setting engine power manually. Unlocking and locking are performed by pulling lever knob up.

NOTE :
The power available if the power lever fails will be limited by the position of the lever.

Lever friction (Figure 7.6.2)

A thumbwheel (Item 4) located on right side of pedestal console increases friction to avoid control slip after setting.

ENGINE INSTRUMENTS (Figure 7.6.3)

Engine indicating panel consists of the following instruments :
a torquemeter, a propeller speed indicator, an ITT indicator, a gas generator speed indicator, an oil pressure and temperature indicator, a fuel flow totalizer.

Torquemeter (TRQ) indicates engine torque expressed in percent (%).

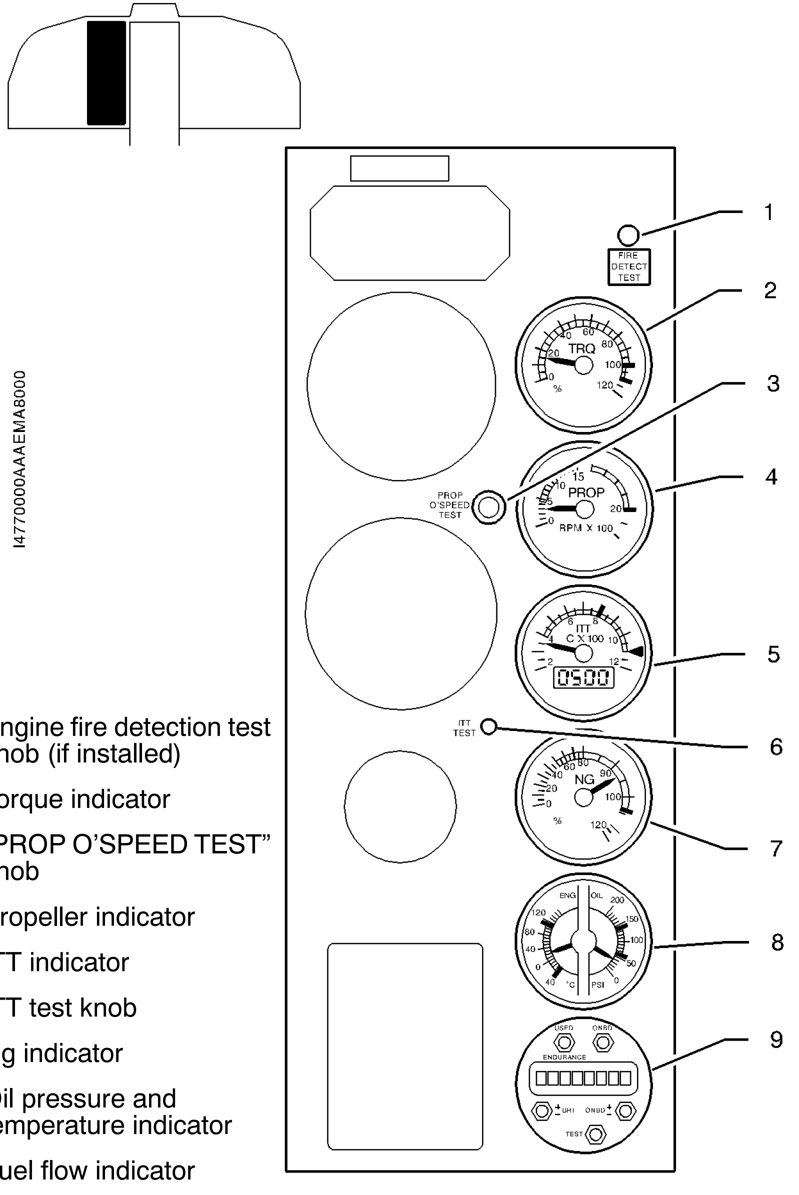
Propeller speed indicator (PROP) indicates propeller speed in RPM.

ITT indicator indicates gas temperature between generator turbine and power turbine by a dual display (pointer and digital indication). Gages are graduated in ”°C”.

NOTE :
Interturbine temperature check is also assured by the ”ITT” red warning light that illuminates on advisory panel when interturbine temperature exceeds 800 °C.

Gas generator speed indicator (Ng) indicates generator rotation speed expressed in percent (%).

Oil pressure and temperature indicator (ENG OIL) is a dual indicator graduated in ”°C” and in PSI.



1) Engine fire detection test knob (if installed)
2) Torque indicator
3) "PROP O'SPEED TEST" knob
4) Propeller indicator
5) ITT indicator
6) ITT test knob
7) Ng indicator
8) Oil pressure and temperature indicator
9) Fuel flow indicator

Figure 7.6.3 – ENGINE INSTRUMENTS

Fuel flow totalizer (FLOW) is a digital display instrument which indicates :

- quantity of fuel consumed since beginning of flight,
- instantaneous consumption,
- remaining flight time depending on fuel quantity.

NOTE :
Each instrument is provided with marks indicating utilization limits. Lubrication system monitoring is ensured by "OIL PRESS" warning light, which illuminates on advisory panel when engine oil pressure is too low.

"PROP O' SPEED TEST" button allows checking the overspeed valve for correct operation.

"ITT TEST" button allows checking the ITT indicator for correct operation :

- "AMETEK" indicator
  . Digital display **"I888"**
- "MORS" indicator
  . digital display **"I888"**
  . the pointer abuts against maximum limit
  . the "ITT" indicator light illuminates on the advisory panel.

ENGINE LUBRICATION

Engine oil is in a tank incorporated into the power plant. It ensures lubrication and engine cooling. A cooler located on left side in engine compartment maintains oil temperature within limits. Oil flow into the cooler is metered by a thermostatic valve. Engine oil also supplies propeller governor and engine torquemeter.

Lubrication system content, cooler included, is 12.7 quarts (12 litres). A graduated dipstick allows checking oil quantity in system. A visual oil sight glass, located on engine left side, allows a rapid checking of oil level.

NOTE :
For checking and oil filling-up, refer to Section 8.

ENGINE STARTING (Figure 7.6.4)

Ignition function

Ignition system consists of an ignition unit and two spark igniter plugs in power plant, a three-position "IGNITION" switch "OFF - AUTO - ON" located on "ENGINE START" panel at upper panel and "IGNITION" warning light located on advisory panel.

Ignition unit supplies, from 28-Volt source, high voltage current necessary to spark igniter plugs. When "IGNITION" switch is positioned to "AUTO", ignition unit supply is ensured as long as "STARTER" switch located on left side of "IGNITION" switch is maintained "ON" : this is normal procedure for ground starting or flight air start with starter.

"ON" position for "IGNITION" switch is used in case of flight air start without starter. In this configuration, ignition unit is supplied permanently. In any case, "IGNITION" warning light illuminates as long as ignition unit is supplied.

Starter function

Starting system consists of "STARTER" switch located on "ENGINE START" panel, starter generator, "STARTER" warning light in advisory panel and ignition circuit (Refer to Paragraph "Ignition function").

Starting procedure is manual. Setting "STARTER" switch to "ON" connects the starter generator which drives power plant . "STARTER" warning light illuminates indicating that the starter generator is operating.

WARNING

ENGINE STARTING MUST BE PERFORMED BY QUALIFIED PERSONNEL AND BY FOLLOWING PROCEDURES AND PARAMETERS DESCRIBED IN SECTION 4 "NORMAL PROCEDURES"

ENGINE AIR INLET

Engine air inlet is located at front lower section of engine cowling. Air inlet port is protected against icing by a hot air flux provided by engine. Air is driven throughout a duct in engine casing before entering engine through a protective screen. An inertial separator system inside the air duct protects the engine from ingesting dense particles (water, ice, fine gravels, sand).

Separator consists of two movable vanes. During normal operation, air is channelled directly towards engine air inlet. To separate particles suspended in the air, vanes are positioned to force engine induction air to execute a sharp turn : under the effect of centrifugal force denser particles separate from the air and are discharged overboard through two apertures located under engine cowling.

Operation of inertial separator vanes is electrically controlled by "INERT SEP" inverter located on "DE-ICE SYSTEM" panel. When inverter is set to ON, an electric actuator activates vanes ; "INERT SEP" warning light on advisory panel illuminates when vanes have reached their maximum deflection and remains illuminated as long as switch remains ON. Full deflection takes about 30 seconds.

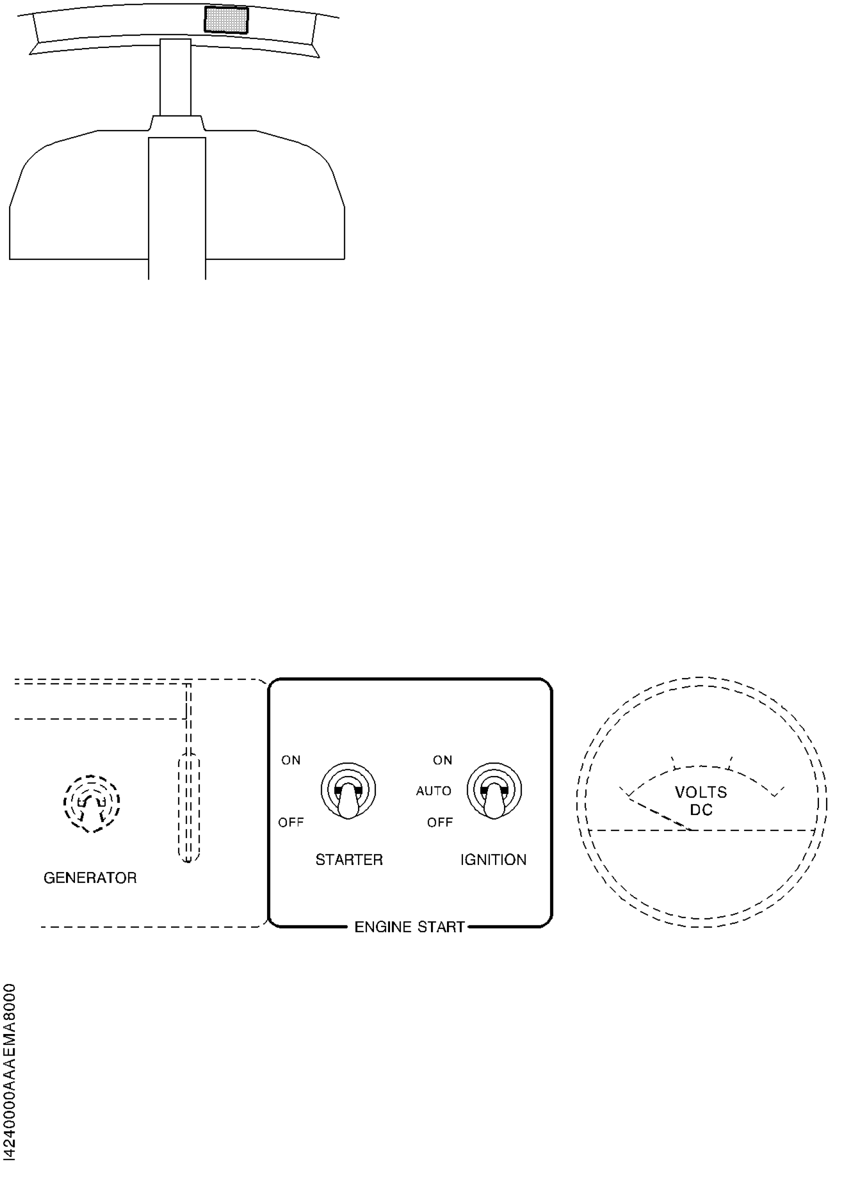


Figure 7.6.4 – ENGINE STARTING

EXHAUST SYSTEM

Exhaust gases are evacuated through exhaust stubs located on sides of engine cowlings.

ENGINE ACCESSORIES

All engine driven accessories [except power turbine tacho-generator (Np) and propeller governor] are installed on accessory gearbox located rearwards of engine.

Oil pump

Oil pump is a self-controlled gear pump located at the bottom of oil casing.

Fuel high pressure pump (HP)

Fuel high pressure pump is installed on accessory gearbox. It supplies fuel nozzles, flow being controlled by fuel regulator (FCU). Fuel provided by engine driven main pump (mechanical) enters high pressure pump through a filter, then it is discharged under pressure into fuel regulator (FCU) through a second filter. In case of contamination of this second filter, a by-pass valve allows fuel to go directly from high pressure pump to the regulator.

Compressor turbine tacho-generator (Ng)

Compressor turbine tacho-generator (Ng) is attached on accessory gearbox. It supplies a voltage which feeds gas generator speed indicator.

Power turbine tacho-generator (Np)

Power turbine tacho-generator is attached on the right side of the reduction gearbox. It supplies a voltage which feeds propeller speed indicator.

Torque transmitter

Torque transmitter is attached on the torque limiter, it measures torque produced by the power turbine by comparing oil pressures (reduction gear and power turbine) and converts pressure difference into a voltage which is applied to torquemeter.

Propeller overspeed limiter

Propeller overspeed limiter is installed on left side of the reduction gear box. It prevents a propeller overspeed in case of main propeller governor failure.

Propeller overspeed limiter is equipped with a test solenoïd which allows performing ground tests by arming limiter under normal overspeed power.

”PROP O’SPEED TEST” propeller test push-button (Figure 7.6.3) of overspeed limiter is located on instrument panel near propeller speed indicator.

Torque limiter

Torque limiter is located on right side of the reduction gear box. It is rated to limit engine torque to 110 %.

PROPELLER

Airplane is equipped with an all-metal, four-bladed, constant-speed and full-feathering propeller.

Regulation

Propeller governor located on engine maintains rotation speed selected by pilot with propeller governor lever. Regulation is obtained through propeller blade pitch variation : counterweights drive propeller blades toward high pitch (low RPM) whereas oil pressure delivered by governor drives back blades toward low pitch (high RPM).

Propeller governor allows feathering either by voluntary pilot action via the propeller governor lever or automatically in case of engine failure or shutdown.

Propeller reverse pitch allows reduced taxiing speed or landing roll. Change from idle to reverse position is performed with power lever (Refer to Paragraph "ENGINE CONTROLS").

Propeller overspeed regulator tests (Figure 7.6.3)

"PROP O'SPEED TEST" push-button located on instrument panel near propeller speed indicator is used on ground to check proper operation of propeller overspeed regulator. This push-button activates a solenoïd, attached on propeller overspeed regulator, which limits propeller rotation speed when power lever is positioned forwards.

7.7 - FUEL SYSTEM (Figure 7.7.1)

The fuel system comprises fuel tanks, fuel unit, selectors (manual and automatic), electric and mechanical boost pumps, engine fuel system, gaging installation, monitoring installation and drains.

FUEL TANKS

Fuel tanks are formed by sealed casings in each wing. Each fuel tank comprises a filling port located at the end of wing upper surface, two drain valves located at the lower surface (one near main landing gear, at trailing edge side, the second one near wing root side, at leading edge), a vent valve located on the lower surface, a suction strainer and three level gages.

FUEL UNIT

The fuel unit combines shut-off valve, tank selector and filter functions. It is connected to the manual selector through a mechanical control. The fuel filter is located in a bowl at the lower part of the unit. It is fitted with a by-pass valve, a clogging indicator and a drain valve.

TANK MANUAL SELECTOR (Figure 7.7.2)

The tank manual selector is located on the pedestal rear face. It allows selecting the tank ("R" or "L") to be used and setting unit to "OFF". To change from "L" position to "OFF" position, turn the selector clockwise ("L" → "R" → "OFF") ; change from "R" position to "OFF" position requires a voluntary action from the pilot (pull and turn). The "pull and turn" maneuver prevents involuntary operation. When the unit is set to "OFF", the "FUEL OFF" warning light on advisory panel remains illuminated.

1) Flow divider
2) Flowmeter
3) Collector tank
4) Fuel regulator
5) High pressure pump (HP)
6) Oil to fuel heater
7) Low pressure switch
8) Pressure transmitter
9) Fuel jet
10) Main mechanical boost pump
11) Electric boost pump
12) Fuel filter
13) Filter clogging by-pass valve
14) Filter clogging indicator
15) Fuel unit
16) Filter drain
17) Fuel return pipe
18) Filling port
19) NACA scoop
20) Tank vent valve
21) Fuel level gages
22) Tank drain valve
23) Check-valve
24) Low level detector
25) Suction strainer
26) Fuel pressure indicator
27) Fuel gage indicator
28) Sequencer
29) Advisory panel
30) Fuel flow indicator

Figure 7.7.1 (1/2) - FUEL SYSTEM

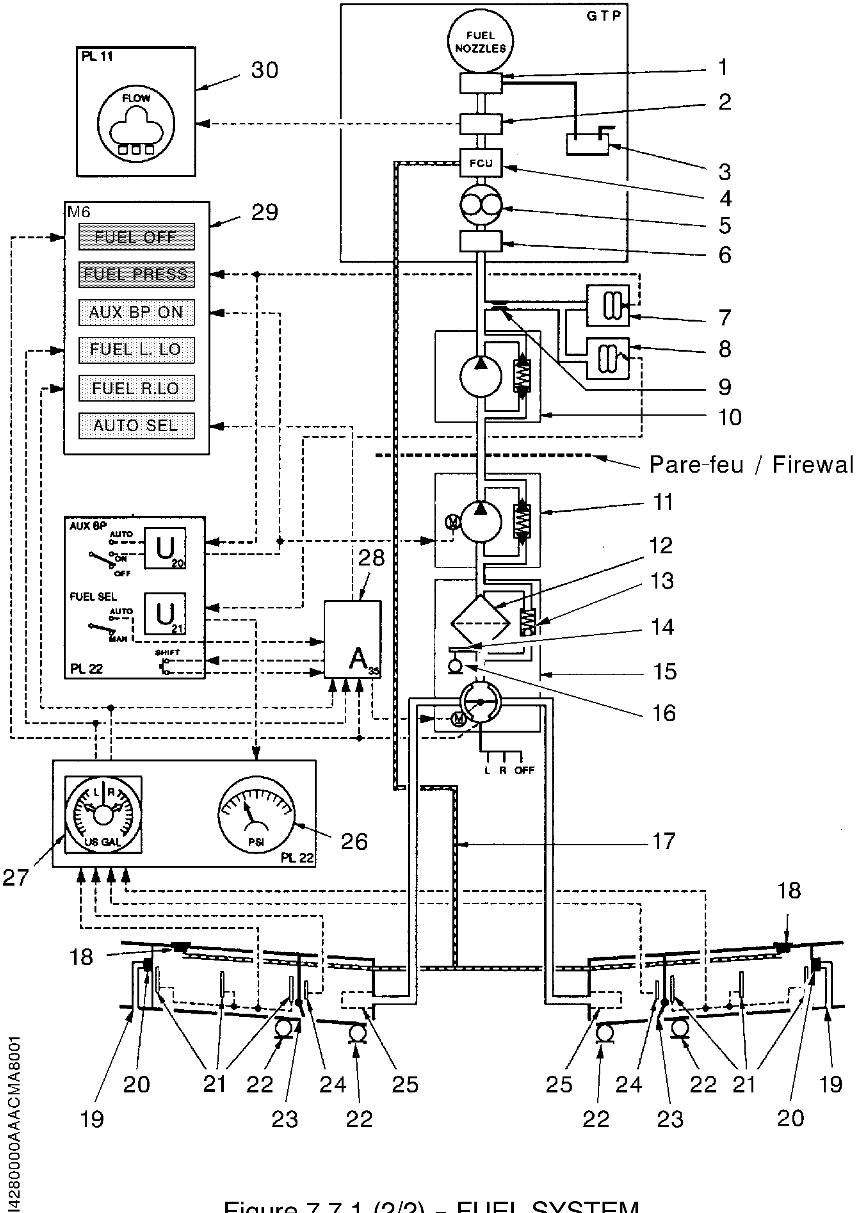


Figure 7.7.1 (2/2) – FUEL SYSTEM

AUTOMATIC TANK SELECTOR (Figures 7.7.2 and 7.7.3)

Automatic tank selection allows, without pilot's intervention, feeding the engine from one tank to the other in predetermined sequences. These sequences depend on airplane configuration (ground, in-flight, fuel low level warning lights illuminated).

Automatic tank selection system comprises an electronic box (sequencer), an actuator attached on fuel unit, "FUEL SEL" two-position selector ("AUTO", "MAN") and "SHIFT" knob located on "FUEL" panel as well as "AUTO SEL" warning light located on advisory panel.

To operate the automatic selector, set "FUEL SEL" switch to "AUTO" position and manual selector to R. or L.

Selector operation

When the system is operated, "AUTO SEL" warning light goes out ; the sequencer chooses a tank ("R" or "L") and through the actuator, positions the fuel unit selector on the selected tank. The sequencer controls the time during which the selected tank will operate. This time varies, depending on airplane conditions.

Airplane on ground : tank is changed every minute and 15 seconds.

Pre-MOD70-402-28

Airplane in flight : tank is changed every ten minutes, as long as "FUEL L. LO" or "FUEL R. LO" low level warning light is not illuminated. When the first low level warning light illuminates, the sequencer immediately selects the other tank. The selected tank will operate until the second low level warning light illuminates. When both low level warning lights are illuminated, the sequencer changes tanks every minute and 15 seconds.

Post-MOD70-402-28

Airplane in flight : tank is changed every five minutes, as long as "FUEL L. LO" or "FUEL R. LO" low level warning light is not illuminated. When the first low level warning light illuminates, the sequencer immediately selects the other tank. The selected tank will operate until the second low level warning light illuminates. When both low level warning lights are illuminated, the sequencer changes tanks every minute and 15 seconds.

All

NOTE :
The manual selector is driven by the fuel unit and is positioned on "R " or "L" mark corresponding to the tank selected by the sequencer. Therefore, the pilot continuously knows the tank which is operating.

Test for system proper operation

"SHIFT" push-knob allows the pilot to test system proper operation anytime.

When the system operates, the fuel tank is changed when "SHIFT" push-knob is pressed once.

If airplane is on ground or in flight, low level warning lights not illuminated, the new selected tank remains operating and a new sequence is initiated.

NOTE :
This procedure allows the pilot to preferably choose the tank from which he wants to take fuel.

In all cases, proper system operation is indicated by rotation of the manual selector.

Setting "FUEL SEL" switch to "MAN" position or setting manual selector to "OFF" position leads to system de-activating and illumination of "AUTO SEL" warning light on advisory panel. "AUTO SEL" warning light also illuminates when order given by the sequencer has not been executed after 12 seconds.

ELECTRIC BOOST PUMP (AUX BP)

Electric boost pump is an auxiliary pump located between fuel unit and main mechanical boost pump. It is controlled through "AUX BP" switch located on "FUEL" panel. This switch allows stopping or selecting the two pump operating modes :

- when set to "ON", electric boost pump operates permanently
- when set to "AUTO", electric boost pump is automatically operated in case of fuel pressure drop at the mechanical boost pump outlet.

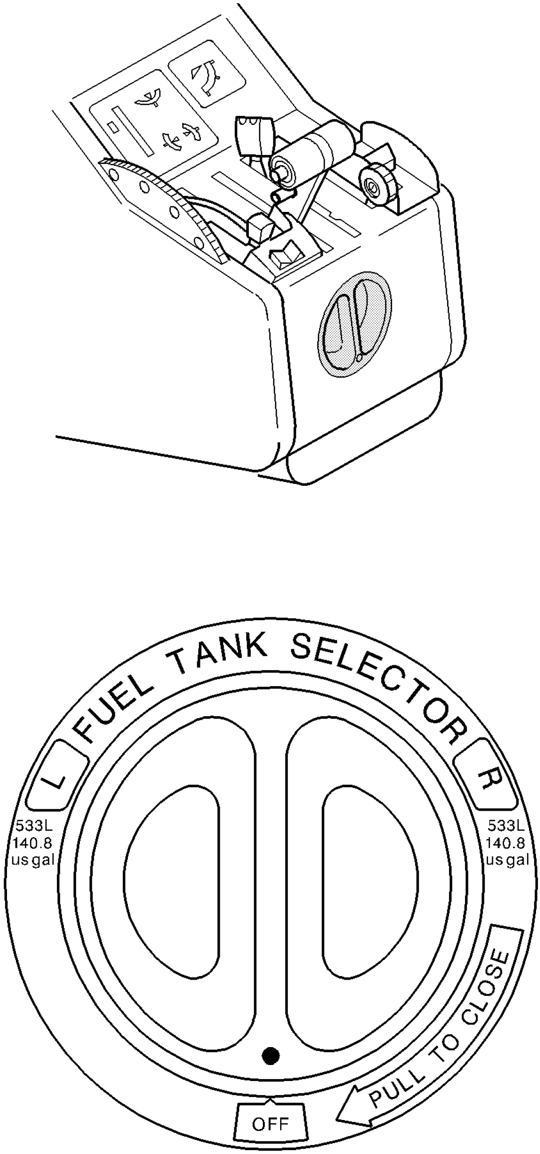


Figure 7.7.2 – MANUAL SELECTOR OF FUEL TANKS

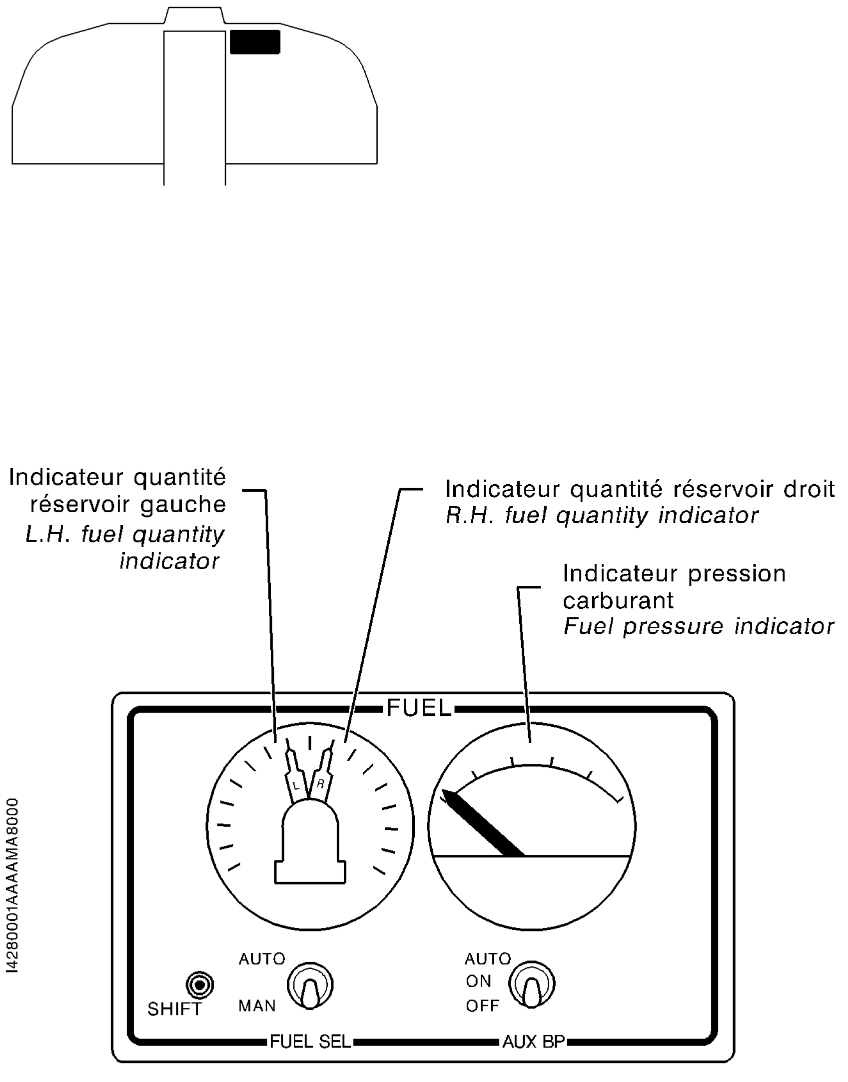


Figure 7.7.3 - FUEL CONTROL PANEL
Valid from S / N 1 to 5

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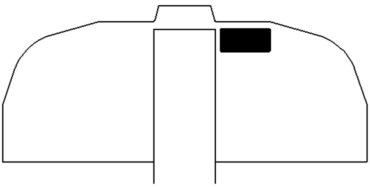

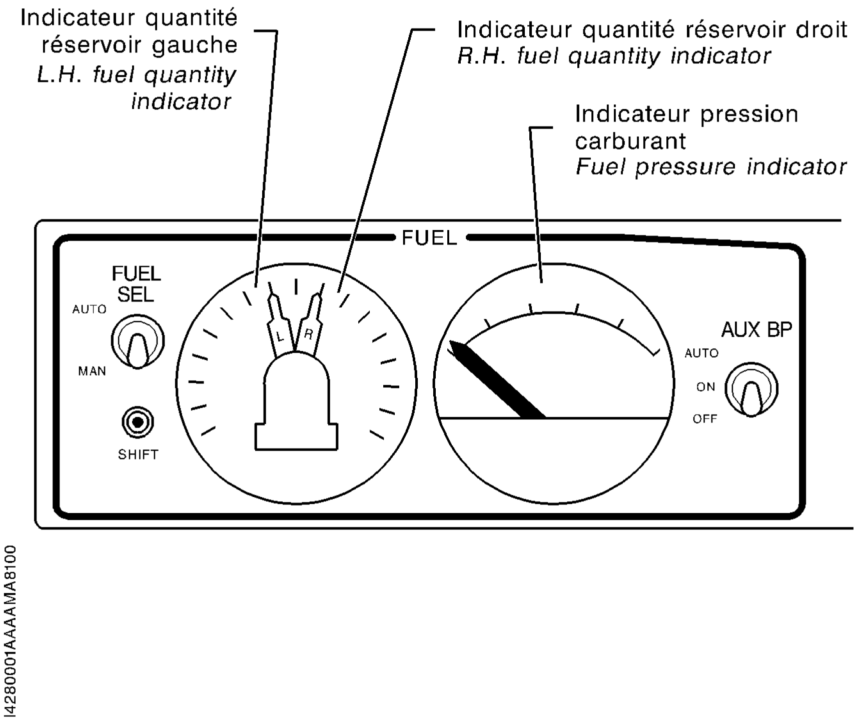

Figure 7.7.3A - FUEL CONTROL PANEL
Valid from S / N 6

MAIN MECHANICAL BOOST PUMP

The mechanical boost pump is attached to accessory gearbox and supplies fuel necessary for engine operation.

ENGINE FUEL SYSTEM

The engine fuel system consists of a fuel regulator, pumps, filters, a fuel divider and fuel nozzles. The system provides the fuel flow necessary to satisfy the engine power and rating needs.

The fuel coming from airplane system goes through a heater which is automatically controlled by a thermostatic valve.

FUEL GAGING INSTALLATION

Fuel gaging installation is a capacitive type and consists of a dual indicator graduated in us gallons (Figure 7.7.3) and fuel level gages. Three fuel level gages are installed in each tank. The wing root side fuel level gage is equipped with a low level detector which leads to "FUEL L. LO" or "FUEL R. LO" warning light illumination when usable fuel quantity remaining in the concerned fuel tank is under about 9.1 us gal (34.6 Litres).

FUEL FLOW TOTALIZER

Located at the lower part of L.H. instrument panel, the fuel flow totalizer helps the pilot to control fuel during one or several flights. Fuel flow totalizer operation is described in manufacturer technical data.

CAUTION

THE FUEL FLOW TOTALIZER NEITHER REPLACES FUEL GAGES NOR FUEL PRESSURE INDICATOR. THESE INSTRUMENTS SHALL BE CONSULTED FIRST FOR FLIGHT MANAGEMENT.

FUEL MONITORING INSTALLATION (Figure 7.7.3)

Monitoring installation comprises pressure indicator and warning lights grouped on advisory panel.

Pressure indicator is attached on "FUEL" panel ; it indicates fuel pressure at main booster pump outlet.

Indications provided by illumination of warning lights on advisory panel :

- "FUEL OFF" : Fuel tank selector set to "OFF"
- "FUEL PRESS" : Fuel pressure at mechanic pump outlet under 10 psi (± 2 psi)
- "AUX BP ON" : Electric boost pump operating
- "FUEL L. LO" : Fuel quantity in L.H. fuel tank under about 9.1 us gal (34.6 Litres) of usable fuel
- "FUEL R. LO" : Fuel quantity in R.H. fuel tank under about 9.1 us gal (34.6 Litres) of usable fuel
- "AUTO SEL" : Sequencer inactive or operating defect

FUEL SYSTEM DRAINING AND CLOGGING INDICATOR (Figure 7.7.4)

The fuel system comprises five drain points, a drain on the filter bowl, two drain valves on each tank, located on wing lower surface, on wing root side.

These drains allow draining water or sediments contained in fuel.

Fuel tank drain valves are provided with a slot which allows opening them with a screwdriver.

Fuel system draining shall be performed prior to the first flight of the day and after each tank refueling, using a sampler to pick off fuel at the two drain valves of each tank and at the filter vent valve.

A red filter bypass flag on the fuel unit and visible from outside through a lens located on L.H. side under front baggage compartment indicates filter clogging. This indicator shall be observed during preflight inspection.

NOTE :
When filter gets clogged in flight, the filter is by-passed in order not to deprive power plant from fuel. The power plant is then supplied with non-filtered fuel.

1) Clogging indicator
2) Lens
3) Central access door
4) Filter drain
5) Tank drain
6) Drain bowl

Figure 7.7.4 (1/2) – FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

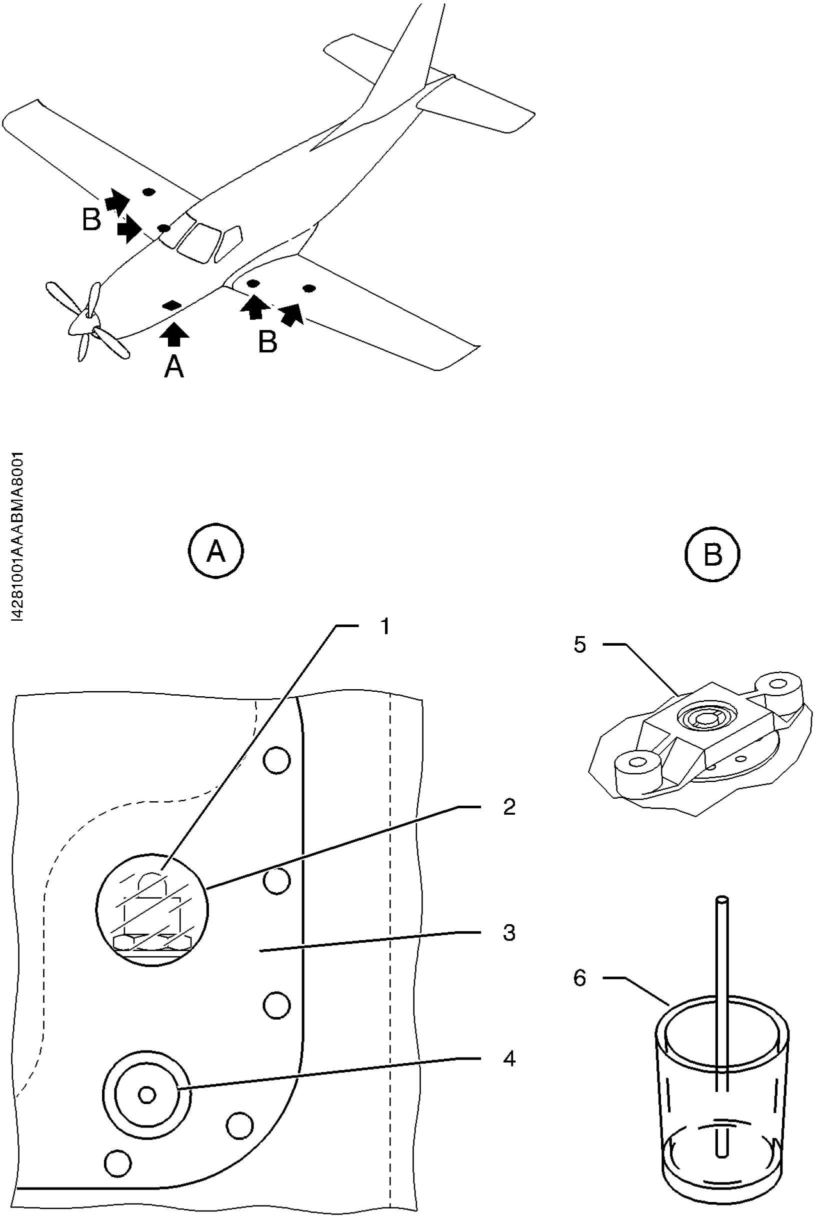

Figure 7.7.4 (2/2) – FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

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FUEL SYSTEM DRAINING AND CLOGGING INDICATOR (Figure 7.7.4A)

The fuel system comprises five drain points, a drain on the filter bowl, two drain valves on each tank, located on wing lower surface, one at wing root and the other past main landing gear well.

These drains allow draining water or sediments contained in fuel.

Fuel tank drain valves are provided with a slot which allows opening them with a screwdriver.

Fuel system draining shall be performed prior to the first flight of the day and after each tank refueling, using a sampler to pick off fuel at the two drain valves of each tank and at the filter vent valve.

A red filter bypass flag on the fuel unit and visible from outside, when an inspection door located on L.H. side under front baggage compartment is open, indicates filter clogging. A push-button, adjacent to the inspection door, controls the illumination of a light provided to improve visibility of the clogging indicator. This indicator shall be observed during preflight inspection.

NOTE :
When filter gets clogged in flight, the filter is by-passed in order not to deprive power plant from fuel. The power plant is then supplied with non-filtered fuel.

1) Lighting switch
2) Mirror door
3) Clogging indicator
4) Central access door
5) Filter drain
6) Tank drain
7) Drain bowl

Figure 7.7.4A (1/2) – FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

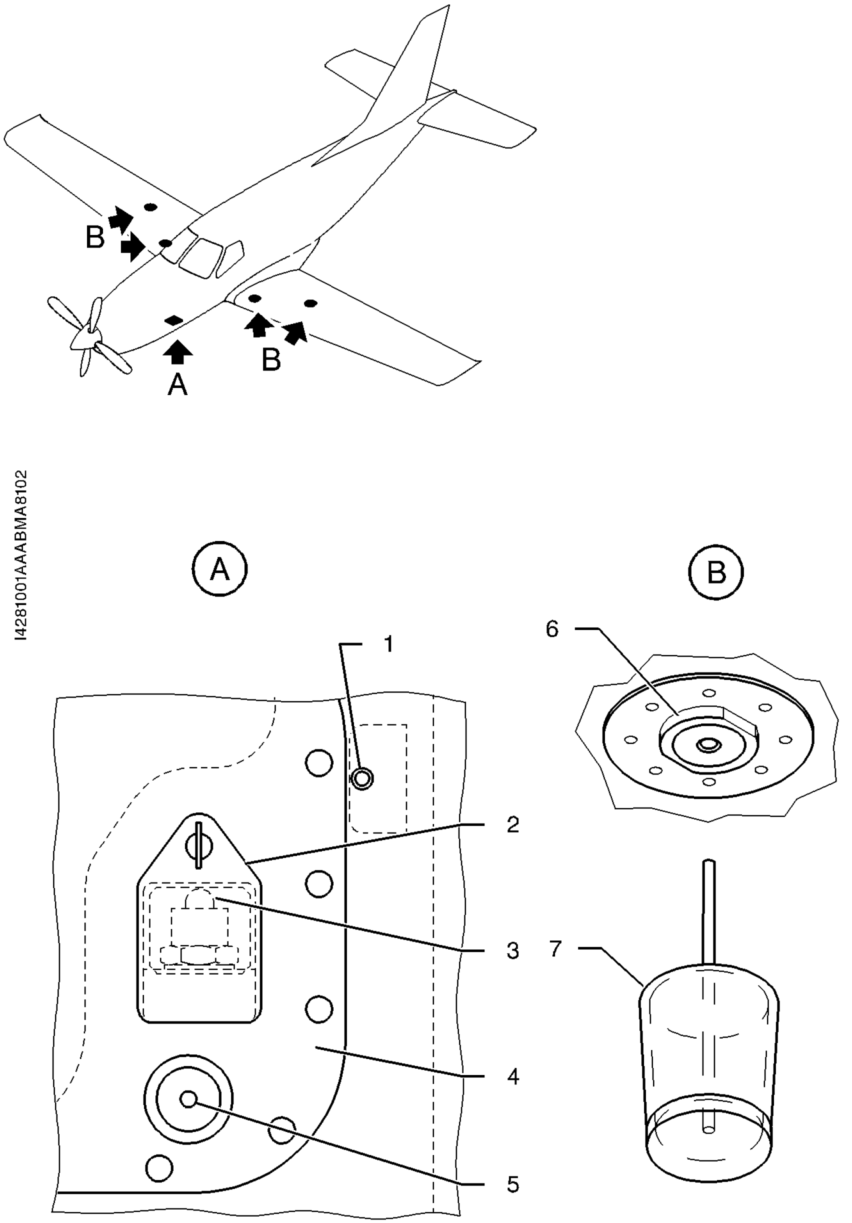

Figure 7.7.4A (2/2) – FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

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7.8 - ELECTRICAL SYSTEM (Figures 7.8.1 and 7.8.5)

The airplane is fitted with a direct-current electrical system rated to 28 volts with negative pole at ground.

Airplane mains supply is obtained from various power supplies :

- an engine driven starter generator
- a stand-by generator driven by the engine through a belt
- a battery located in engine compartment
- a ground power receptacle located in engine compartment, on L.H. side. It is accessible from outside through a door.

Connection relays, main bus bar, generator regulation and protection systems and control logic systems are grouped in electrical power center attached to front baggage compartment upper section.

Indicating and checking warning lights are grouped on advisory panel.

STARTER GENERATOR

The starter generator is the main electrical power source. It only performs its generator function when starting sequence is completed.

Generator connection with main bus bar is controlled through "GENERATOR" selector set to "MAIN" position. It will be effective when connection conditions are met. Generator connection is indicated by "MAIN GEN" warning light extinguishing.

STAND-BY GENERATOR

Stand-by generator supplies a 28-volt stand-by direct current which may be used in case of main generator failure.

Generator connection with main bus bar is controlled through "GENERATOR" selector set to "ST-BY", it will be effective when connection conditions are met.

NOTE :
In order to prevent possible errors during flight, access to "ST-BY" position requires a double action from the pilot (pull to unlock).

BATTERY

The battery provides the power required for starting when no ground power unit is available and is a power supply source when engine driven generators are stopped.

The battery is always connected to "BAT BUS" bus bar except when CRASH lever is pulled down.

Battery connection to main bus bar is controlled through "SOURCE" selector set to "BAT" position.

"BAT OFF" warning light is illuminated when battery is isolated from the main bus and when main bus is supplied through another source.

GROUND POWER RECEPTACLE

The ground power receptacle allows connection to a ground power unit. Ground power receptacle connection with main bus bar is controlled through "SOURCE" selector when set to "GPU" position, it will be effective when connection conditions are met.

NOTE :
Ground power receptacle has priority on other generators.

Ground power receptacle door opening is indicated by "GPU" warning light illumination.

DISTRIBUTION

Airplane electrical systems are connected to "BUS" bars and protected by circuit breakers located on L.H. side panel, near the pilot (See Figures 7.8.3, 7.8.3A and 7.8.3B) or on R.H. side panel, if "pilot" door installed (See Figure 7.8.3C). In case of overload of a system, the circuit breaker triggers and switches the system off. Allow it to cool for about three minutes, then the circuit breaker may be reengaged (pressed down). Some systems are equipped with "pull off" type circuit breakers which allow the pilot to insulate, if necessary, the corresponding equipment.

"BUS 1", "BUS 2", "BUS 3" and (if installed) "BUS 4" bus bars are directly connected to main bus bar and protected by fuses located in electrical power center.

"ESS 1" and "ESS 2" essential bus bars are connected to main bus bar through "ESS BUS TIE" selector set to "NORM" position. "ESS BUS TIE" selector is attached to circuit breaker panel, "NORM" position is protected and locked by a cover. Common power supply to both essential bus bars is protected by a fuse, each bar being individually protected by a circuit breaker.

"BUS BAT" bar is directly connected to the battery, it is protected by a fuse located in electrical power center.

NOTE :
The electrical distribution of bus bars is described in Figure 7.8.2.

EMERGENCY USE

With both generators de-activated in flight, it is still possible to use battery power to supply all airplane systems maintaining "SOURCE" selector on "BAT" position.

In order to save battery power, it is possible to shed the charges which are not essential for flight safety, for that set :

- "ESS BUS TIE" selector to "EMER" position

In this configuration, only "ESS 1", "ESS 2" and "BAT BUS" bars are supplied.

NOTE :
Supplying "BUS 1", "BUS 2", "BUS 3" and (if installed) "BUS 4" bars is always possible, resetting temporarily "ESS BUS TIE" selector to "NORM" position.

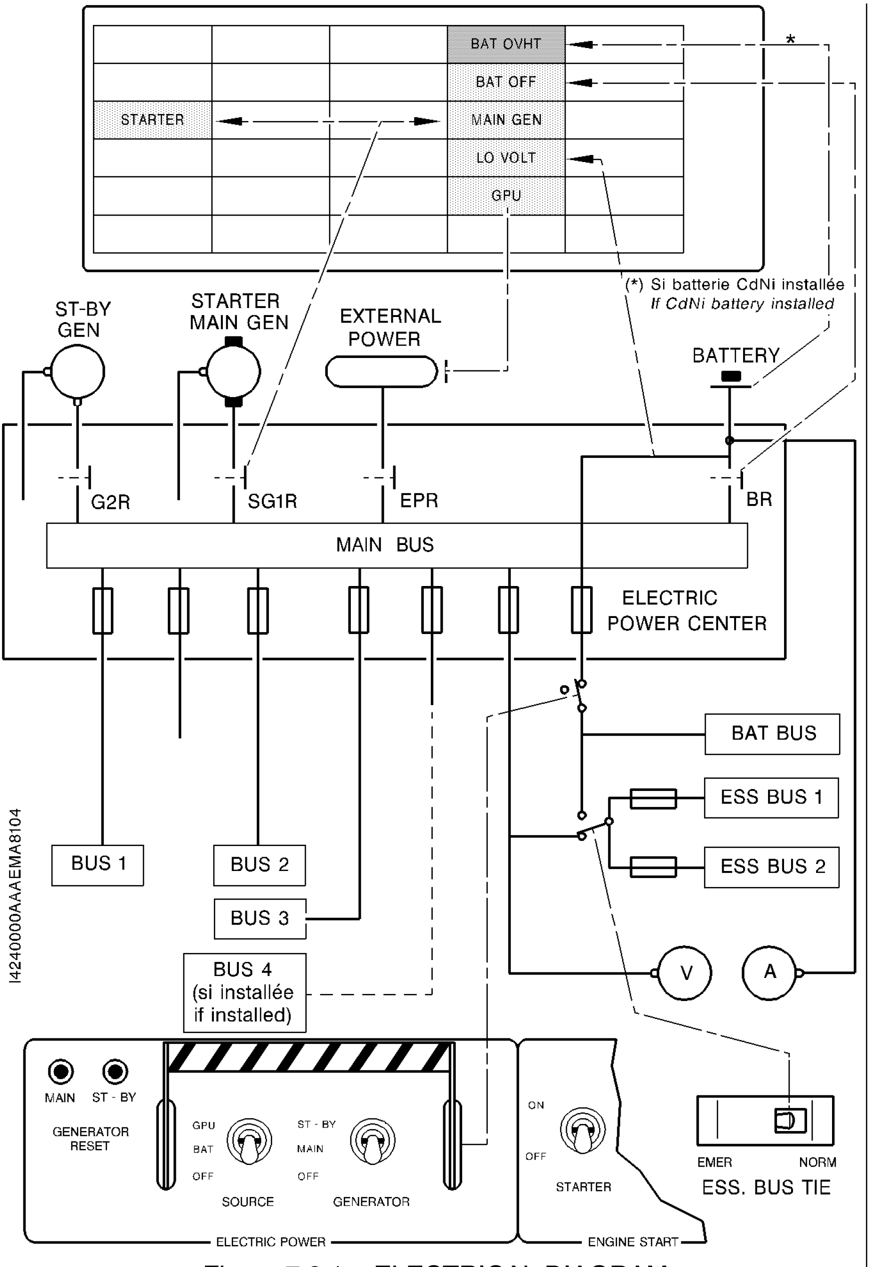


Figure 7.8.1 - ELECTRICAL DIAGRAM

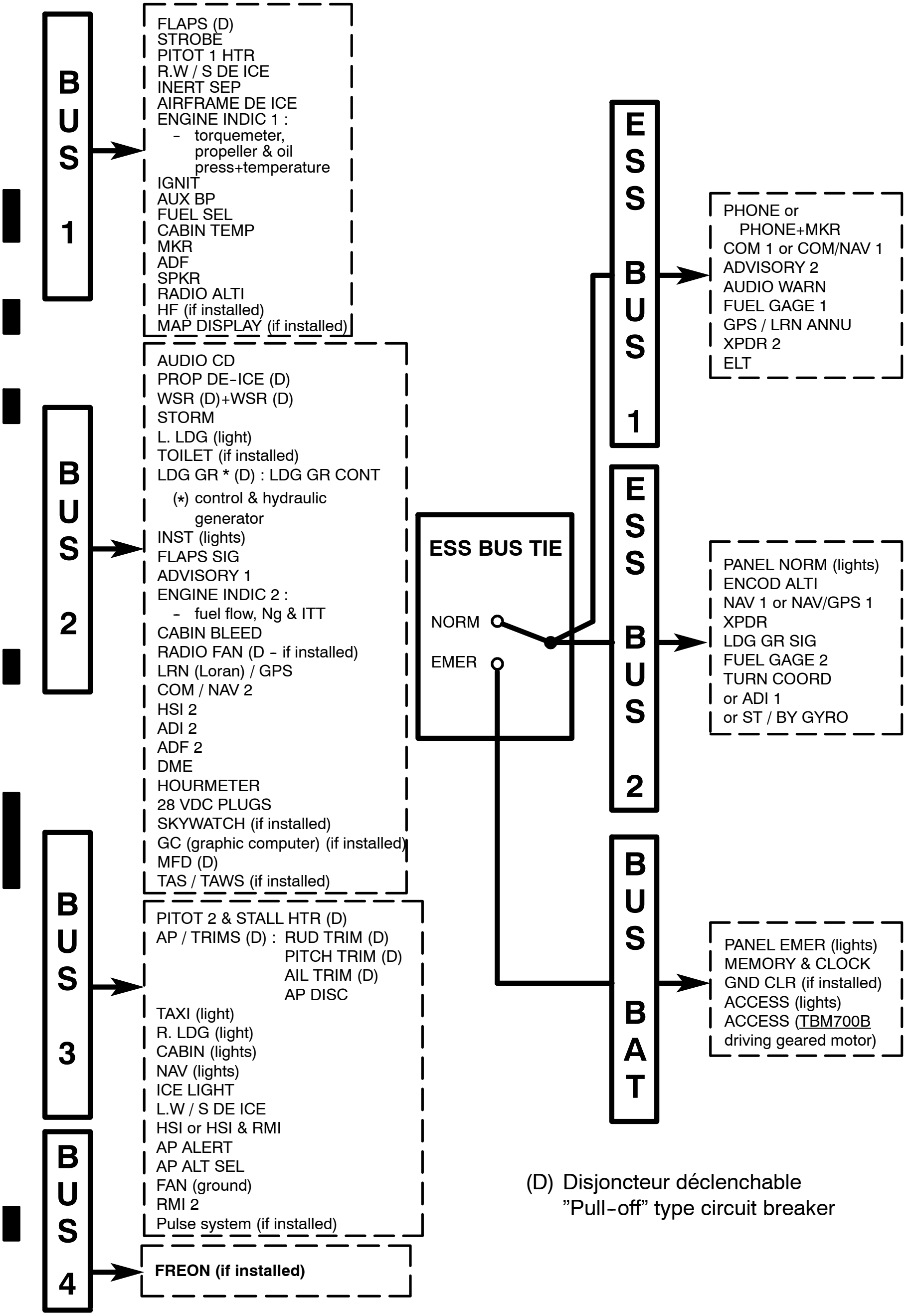
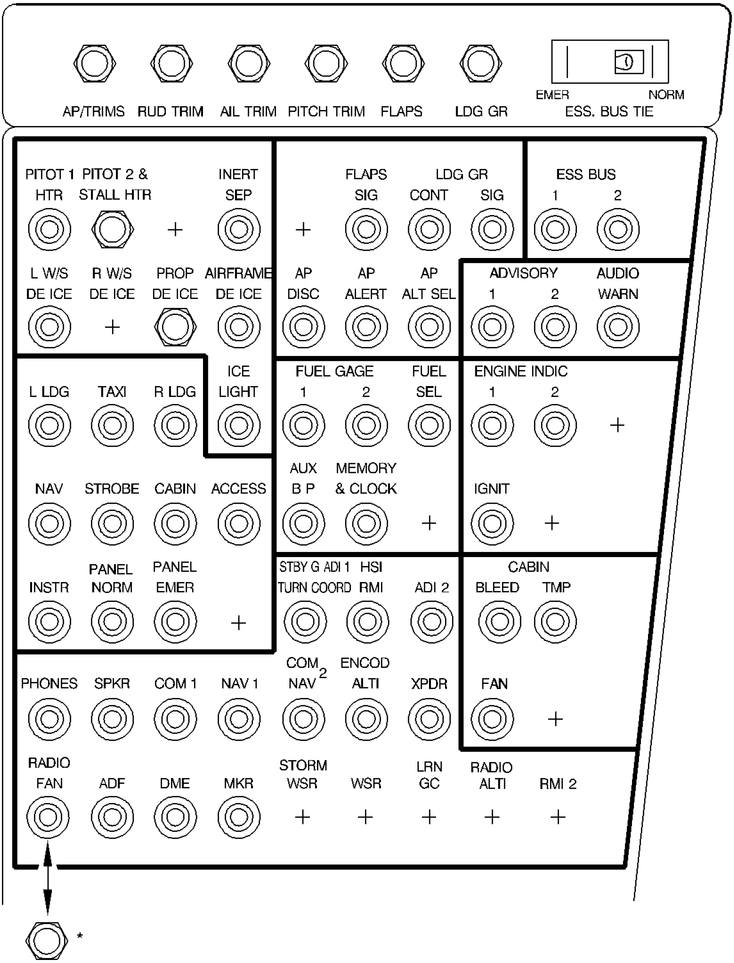


Figure 7.8.2 – ELECTRICAL DISTRIBUTION OF BUS BARS

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM & EMER switch
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing Leading edges deicing protec.
ICE LIGHT	L.H. wing leading edge lighting protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
CABIN	Passenger's reading lamps protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom & access door lighting protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emergency lighting protec.
FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.

ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circuit protec.
ESS BUS 2	Essential bus 2 circuit protec.
ST/BY G	Standby gyro protec.
ADI 1	ADI Nr 1 protec.
TURN COORD	Turn coordinator protec.
HSI RMI	HSI & RMI protec.
ADI 2	ADI Nr 2 protec.
PHONES	Reception line protec.
SPKR	Loudspeaker ligne protec.
COM 1	VHF 1 protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
RADIO FAN	Radio fan protec. + radio master (if installed)
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM WSR	Radar+Stormscope protec.
WSR	Weather radar protec.
LRN GC	LORAN long range navigation protec.
RADIO ALTI	RADIO ALTI protec.
RMI 2	RMI 2 protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.

Figure 7.8.3 (1/2) – CIRCUIT BREAKER PANEL (Typical arrangement)



I4255004AAADMA8100

Disjoncteur déclenchable
"PULL-OFF" type circuit breaker

Disjoncteur non déclenchable
Circuit breaker which cannot be pulled off

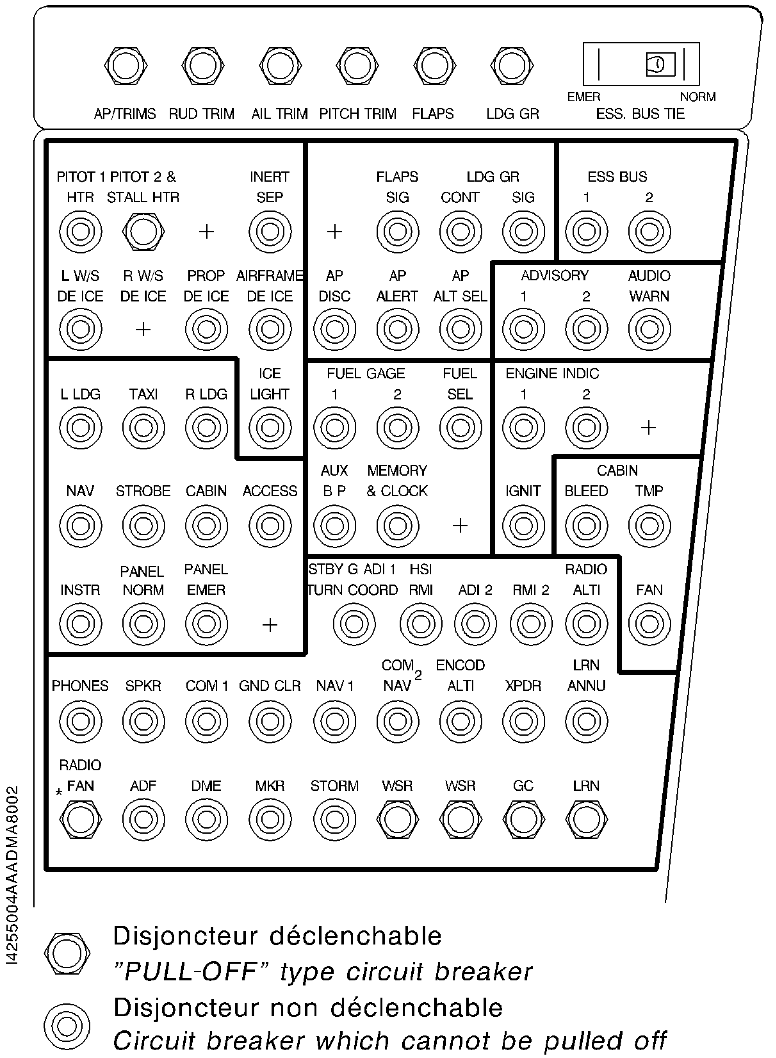
(*) "Pull-off" type circuit breaker in variant

Figure 7.8.3 (2/2) - CIRCUIT BREAKER PANEL (Typical arrangement)

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM & EMER switch
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec.
ICE LIGHT	L.H. wing leading edge lighting protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
CABIN	Passenger's reading lamps protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom & access door lighting protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emer-gency lighting protec.
FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.

ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circ. protec.
ESS BUS 2	Essential bus 2 circ. protec.
ST/BY G	Standby gyro protec.
ADI 1	ADI Nr 1 protec.
TURN COORD	Turn coordinator protec.
HSI RMI	HSI & RMI protec. (NOTE 1)
HSI	HSI protec. (NOTE 1)
ADI 2	ADI Nr 2 protec.
RMI 2	RMI 2 protec.
RADIO ALTI	RADIO ALTI protec.
PHONES	Reception line protec.
SPKR	Loudspeaker ligne protec.
COM 1	VHF 1 protec.
GND CLR	Ground communic. protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
LRN ANNU	LORAN annunciat. protec.
RADIO FAN	Radio fan protec. + radio master
ADF	ADF protec. (NOTE 1)
ADF 1 RMI	ADF1 & RMI protec. (NOTE 1)
ADF 2	ADF 2 protec. (NOTE 1)
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protect.
LRN	LORAN long range navigation protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.

Figure 7.8.3A (1/2) – CIRCUIT BREAKER PANEL (Typical arrangement)



(*) Circuit breaker which cannot be pulled off up to S / N 17

NOTE 1 :

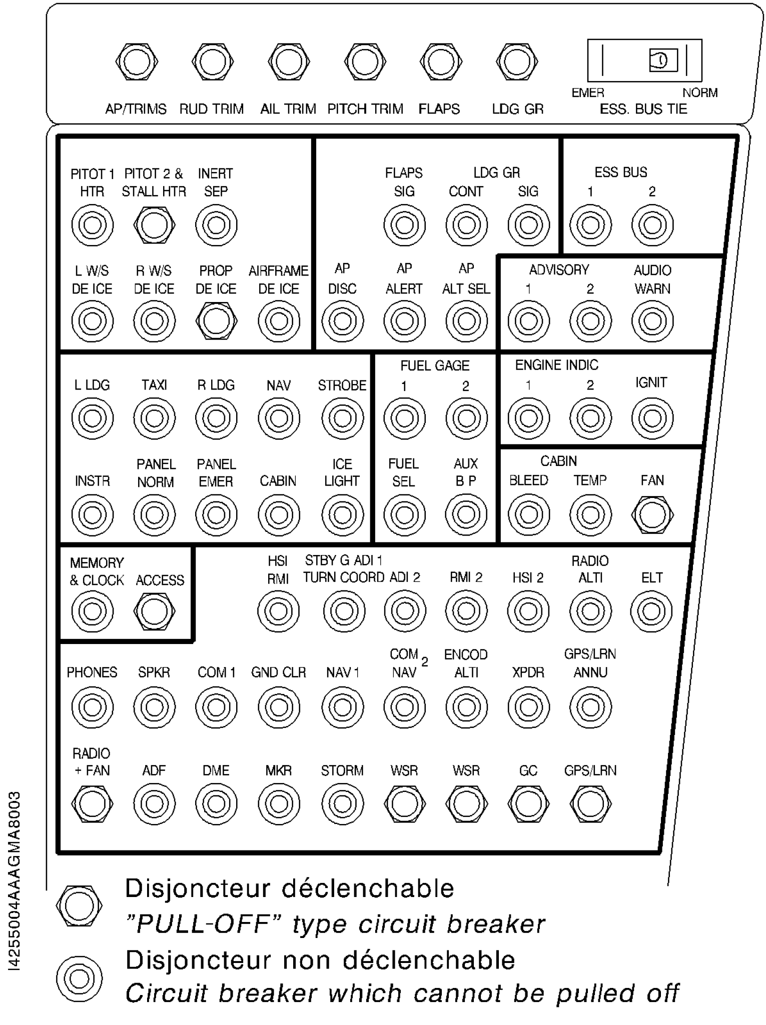
If ADF 2 is installed, its circuit breaker is installed on a free location, HSI RMI becomes HSI and ADF becomes ADF 1 RMI.

Figure 7.8.3A (2/2) - CIRCUIT BREAKER PANEL (Typical arrangement)

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM & EMER switch
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signaliza- tion protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circ. protec.
ESS BUS 2	Essential bus 2 circ. protec.
ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emer gency lighting protec.
CABIN	Passenger's reading lamps protec.
ICE LIGHT	L.H. wing leading edge lighting protec.

FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom, access door lighting & access door closing geared motor protec.
HSI RMI	HSI & RMI protec.
ST/BY G	Standby gyro protec.
ADI 1	ADI No. 1 protec.
TURN COORD	Turn coordinator protec.
ADI 2	ADI No. 2 protec.
RMI 2	RMI 2 protec.
HSI 2	HSI 2 protec.
RADIO ALTI	RADIO ALTI protec.
ELT	Emergency locator trans- mitter (ELT 90) protec.
PHONES	Reception line protec.
SPKR	Loudspeaker ligne protec.
COM 1	VHF 1 protec.
GND CLR	Ground communic. protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
GPS / LRN ANNU	GPS or LORAN annunciator protec.
RADIO + FAN	Radio fan protec. + radio master
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protect.
GPS / LRN	GPS or LORAN long range navigation protec.

Figure 7.8.3B (1/2) – CIRCUIT BREAKER PANEL (Typical arrangement)



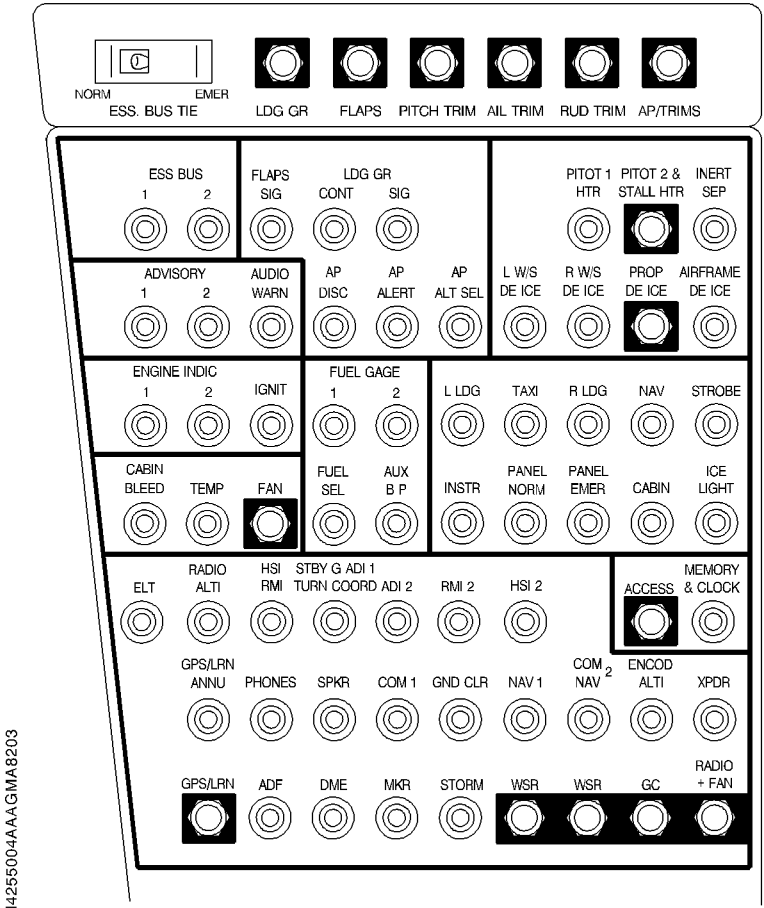
NOTE 1 :
If an additional equipment is installed, its circuit breaker is installed on a free location.

Figure 7.8.3B (2/2) – CIRCUIT BREAKER PANEL (Typical arrangement)

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM & EMER switch
ESS BUS 1	Essential bus 1 circ. protec.
ESS BUS 2	Essential bus 2 circ. protec.
ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.
FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.

L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emergency lighting protec.
CABIN	Passenger's reading lamps protec.
ICE LIGHT	L.H. wing leading edge lighting protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom, access door lighting & access door closing geared motor protec.
ELT	Emergency locator transmitter (ELT 90) protec.
RADIO ALTI	RADIO ALTI protec.
HSI RMI	HSI & RMI protec.
ST/BY G	Standby gyro protec.
ADI 1	ADI No. 1 protec.
TURN COORD	Turn coordinator protec.
ADI 2	ADI No. 2 protec.
RMI 2	RMI 2 protec.
HSI 2	HSI 2 protec.
GPS / LRN ANNU	GPS or LORAN annunciator protec.
PHONES	Reception line protec.
SPKR	Loudspeaker ligne protec.
COM 1	VHF 1 protec.
GND CLR	Ground communic. protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
GPS / LRN	GPS or LORAN long range navigation protec.
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protect.
RADIO + FAN	Radio fan protec. + radio master

Figure 7.8.3C (1/2) - CIRCUIT BREAKER PANEL (Typical arrangement)



Disjoncteur déclenchable
"PULL-OFF" type circuit breaker

Disjoncteur non déclenchable
Circuit breaker which cannot be pulled off

NOTE 1 :
If an additional equipment is installed, its circuit breaker is installed on a free location.

Figure 7.8.3C (2/2) – CIRCUIT BREAKER PANEL (Typical arrangement)

INDICATING (Figure 7.8.4)

Electrical system indicating consists of a voltmeter and an ammeter located on the upper panel, as well as warning lights grouped on advisory panel.

The **voltmeter** indicates the voltage with generator connected to main bus bar. When the starter generator or stand-by generator are operating normally, the voltmeter needle will be in green sector.

The **ammeter**, graduated from - 200 to + 200 amperes, indicates the battery charge and discharge. The needle indicates a positive value when battery and starter generator (or stand-by generator) are connected to main bus bar.

Indications provided by warning light illumination are as follows :

"BAT OVHT"	: Overheat inside the battery (if Cadmium-Nickel battery installed)
"BAT OFF"	: Battery is not connected to main bus bar and the latter is supplied by another power source
"MAIN GEN"	: Starter generator is not connected to main bus bar
"LO VOLT"	: Battery voltage is below the minimum value and main bus bar is supplied
"GPU"	: Ground power receptacle access door is not closed

Moreover, the indicating system may be completed by a battery temperature indicator located on the R.H. lower part of the R.H. instrument panel. This indicator is connected to a probe installed on the battery. A "BAT TEMP TEST" push-button located near the indicator allows to test the illumination of the "BAT OVHT" warning light and to check simultaneously, on the indicator, the increase of the indicated temperature.

PROTECTION - SAFETY (Figure 7.8.5)

The electrical power center provides systems protection in case of :

- overvoltage coming from the starter generator, the stand-by generator or the ground power receptacle
- short-circuit in starter generator feeder
- starter generator undervoltage

In case of disconnection of starter generator or stand-by generator following a failure, it is possible to re-activate the system by pressing on "MAIN" or "ST-BY" knob of "GENERATOR RESET".

A **crash lever** located on upper panel center part allows isolating simultaneously "BUS BAT" bar and setting to "OFF", "SOURCE" and "GENERATOR" selectors when lowered. All bus bars are isolated from generators.

1) Ammeter
2) Voltmeter
3) General flashing red and amber warning lights
4) Electric system warning lights on the "ADVISORY PANEL"
5) Battery temperature indicator (if installed)
6) "BAT TEMP TEST" push-button (if installed)

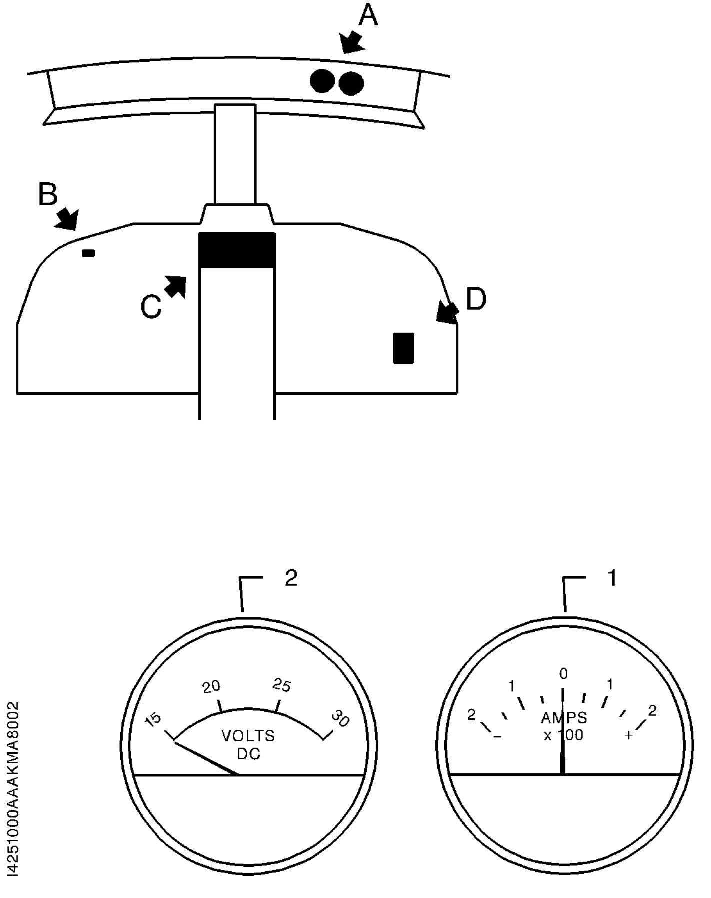


Figure 7.8.4 (1/2) - INDICATING

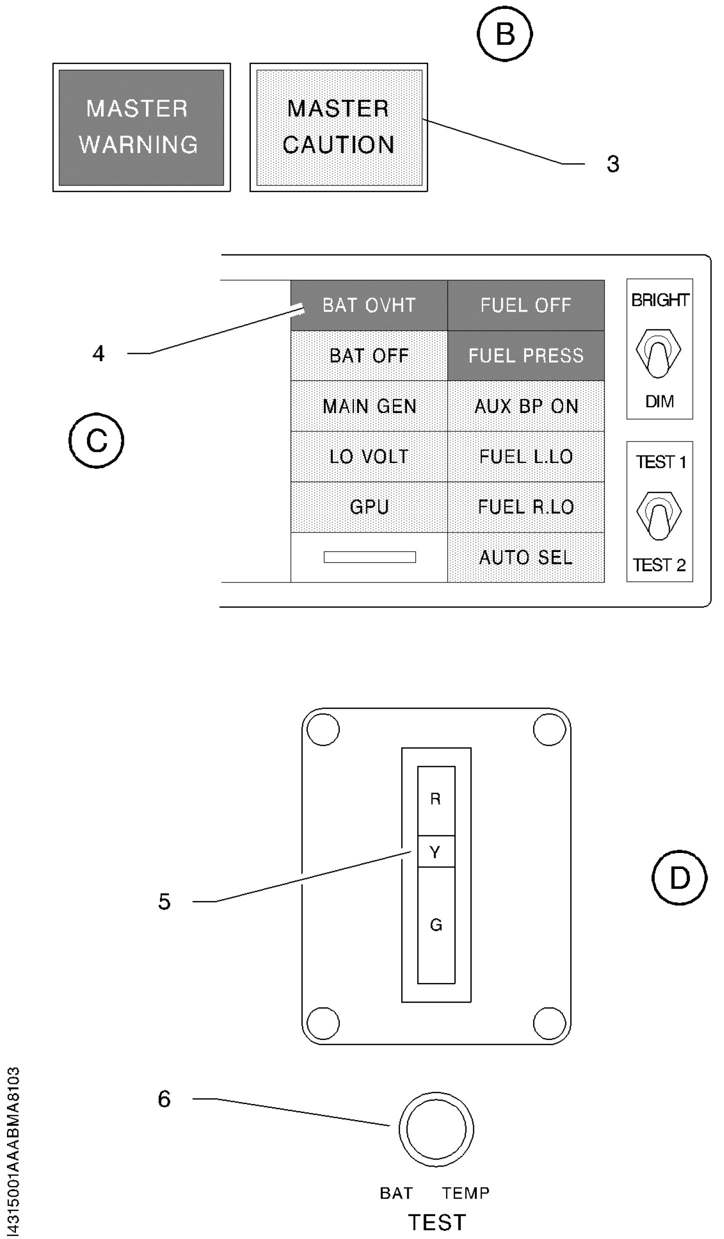
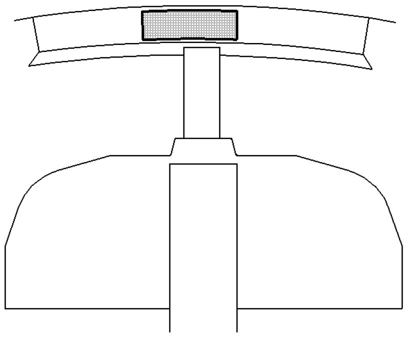


Figure 7.8.4 (2/2) - INDICATING

1) "MAIN" reset knob
2) "ST-BY" reset knob
3) Crash lever
4) "SOURCE" selector
5) "GENERATOR" selector

Figure 7.8.5 (1/2) - ELECTRICAL CONTROL



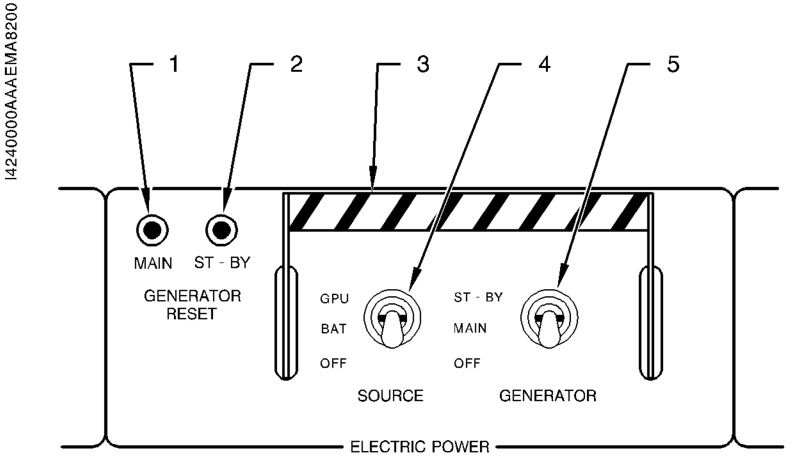


Figure 7.8.5 (2/2) – ELECTRICAL CONTROL

EXTERIOR LIGHTING (Figure 7.8.6)

The airplane is equipped with two navigation lights, two strobe lights, two landing lights, a taxi light, a wing leading edge icing inspection light.

A "LTS TEST" test-knob located above lights switches allows checking proper operation of warning lights ; their brightness may be dimmed by main "DIM" switch on advisory panel.

Landing lights

Landing lights are located at each wing tip and located in leading edges. Lights illumination is controlled by "L. LDG" and "R. LDG" switches located on upper panel. A warning light is incorporated in each switch to indicate proper operation of used landing light.

Taxi light

The taxi light is attached to the nose gear, it is controlled by "TAXI" switch located on upper panel. A warning light is incorporated in this switch to indicate proper operation of used light.

Navigation lights and strobe lights

Navigation lights and strobe lights are installed on wing tips. They are controlled by "NAV" and "STROBE" switches located on upper panel.

NOTE :
By night, do not use anticollision lights in fog, clouds or mist as light beam reflexion may lead to dizziness and loss of sense of orientation.

Leading edge icing inspection light

The leading edge icing inspection light is installed on fuselage L.H. side, its beam illuminates the wing leading edge. It is controlled by the "ICE LIGHT" switch installed on "DE-ICE SYSTEM" panel (Figure 7.13.1).

Front baggage compartment light (if installed)

The dome light of the front baggage compartment has two positions :

- the first allows automatic illumination via the switch located in the upper section of the door frame,
- the second maintains the dome light permanently off regardless of the door position.

Fuel unit compartment light (if installed)

The lighting of the fuel unit compartment allows improving the visibility of the clogging indicator by pressing the push-button located besides the inspection door.

1) L.H. landing light switch
2) Test knob (test light integrated to switches)
3) Taxi light switch
4) R.H. landing light switch
5) Navigation lights switch
6) Strobe lights switch
7) (Free)

Figure 7.8.6 (1/2) – EXTERNAL LIGHTING CONTROLS

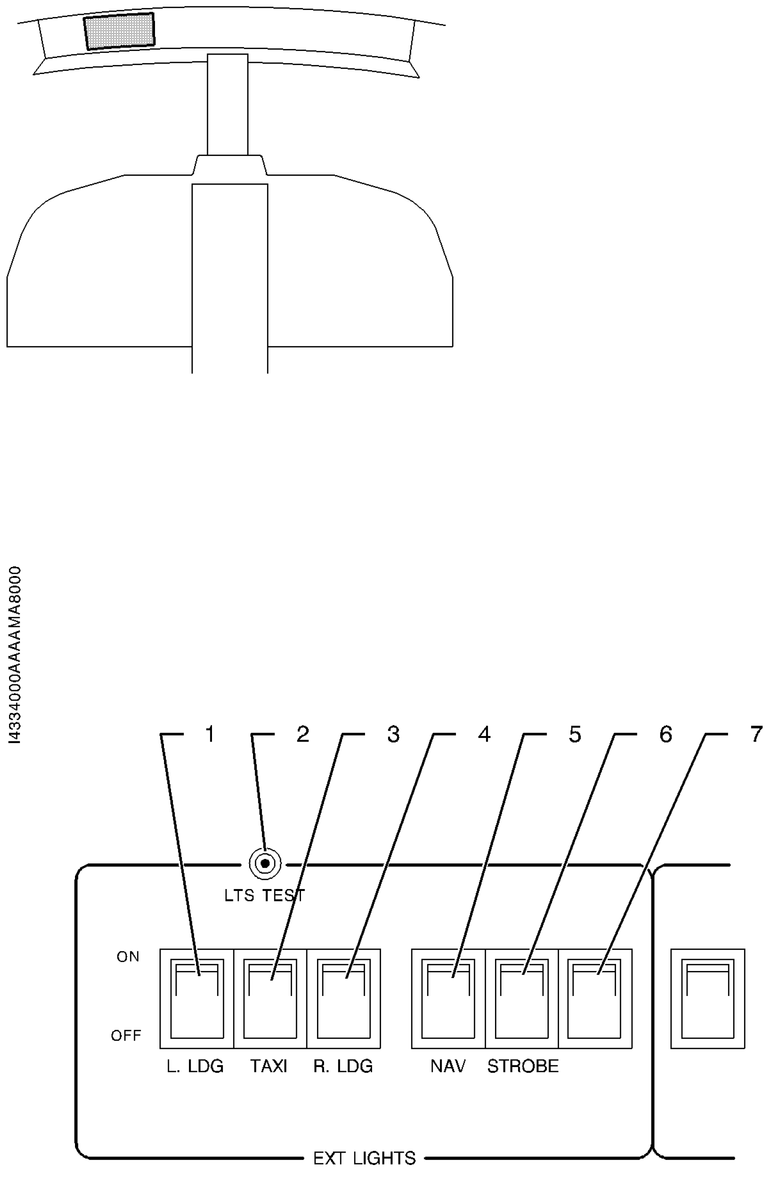


Figure 7.8.6 (2/2) – EXTERNAL LIGHTING CONTROLS

INTERIOR LIGHTING (Figure 7.8.7)

Interior lighting consists of access, cabin, instrument panel, instruments, baggage compartments and emergency lighting.

Access lighting

Access lighting consists of FWD dome light, rear baggage compartment, R.H. rear light and access door. "ACCESS" switch on "INT LIGHTS" panel and the switch located near access door are two-way switches type and control these 3 lights.

Cabin lighting

Cabin lighting consists of individual floodlights (reading lights) for rear passenger seats. Each floodlight is controlled by a switch located on side near air outlets and ash-trays. At any time, the pilot can energize or de-energize these lights with "CABIN" switch.

Instrument panel lighting

Instrument panel lighting is controlled by the "PANEL" rheostat located on "INT. LIGHTS" panel. This lighting consists of visor lighting and the two postlights located on the upper duct (forward of emergency floodlights).

Instruments and radio equipment lighting

The lighting, controlled by the "INSTR" rheostat located on "INT. LIGHTS" panel is integrated in instruments and radio equipment.

NOTE :
"PANEL" and "INSTR" rheostats control lighting operation and intensity. Clockwise rotation of control knob allows from "OFF" position, to modulate lighting from maximum to minimum brightness.

Emergency lighting

Emergency lighting consists of two floodlights located on the upper duct above front seats. It illuminates instrument panel assembly in case of visor lighting and / or instrument integrated lighting failure.

The rheostat located near R.H. floodlight controls emergency lighting operation and intensity. Forward rotation of control knob allows changing from "OFF" position to minimum lighting then increasing lighting to maximum brightness.

Map reading light illumination

The illumination of the map reading light located on L.H. station control wheel is controlled by the switch (rheostat) located on this light.

INTERIOR LIGHTING (Figure 7.8.7)

Interior lighting consists of access, cabin, instrument panel, instruments, baggage compartments and emergency lighting.

Access lighting

Access lighting consists of two floodlights located on the ceiling upholstering (one at the level of the access door, the other at the level of the storage cabinet) and the L.H. dome light of rear baggage compartment. "ACCESS" switch on "INT LIGHTS" panel and the switch located on access door rear frame are two-way switches type and control these 3 lights.

Cabin lighting

Cabin lighting consists of two swiveling floodlights for front seats, six individual floodlights for rear passenger seats and the R.H. dome light of rear baggage compartment. Each floodlight is controlled by a switch located on side upholstering strip. The floodlight above the table is controlled by two switches which are two-way switches type. The pilot can switch off the cabin floodlights and the dome light of rear baggage compartment with the "CABIN" switch.

Instrument panel lighting

Instrument panel lighting is controlled by the "PANEL" rheostat located on "INT. LIGHTS" panel. This lighting consists of visor lighting and the two postlights located on the upper duct (forward of emergency floodlights).

Instruments and radio equipment lighting

The lighting, controlled by the "INSTR" rheostat located on "INT. LIGHTS" panel is integrated in instruments and radio equipment.

NOTE :
"PANEL" and "INSTR" rheostats control lighting operation and intensity. Clockwise rotation of control knob allows changing from "OFF" position to maximum lighting. Counterclockwise rotation reduces lighting to minimum brightness.

Emergency lighting

Emergency lighting consists of two swiveling floodlights located on the upper duct above front seats. It illuminates instrument panel assembly in case of visor lighting and / or instrument integrated lighting failure.

The rheostat located near R.H. floodlight controls emergency lighting operation and intensity. Forward rotation of control knob allows changing from "OFF" position to minimum lighting then increasing lighting to maximum brightness.

Map reading light illumination

The illumination of the map reading light located on L.H. station control wheel is controlled by the switch (rheostat) located on this light.

1) Instrument lighting switch (rheostat)
2) Instrument panel lighting switch (rheostat)
3) Cabin lighting switch (rear seats reading light)
4) Access door, rear baggage compartment and FWD dome light (two-way switch with access door switch) lighting controls
5) Emergency lighting switch (rheostat)

Figure 7.8.7 (1/2) - INTERNAL LIGHTING CONTROLS

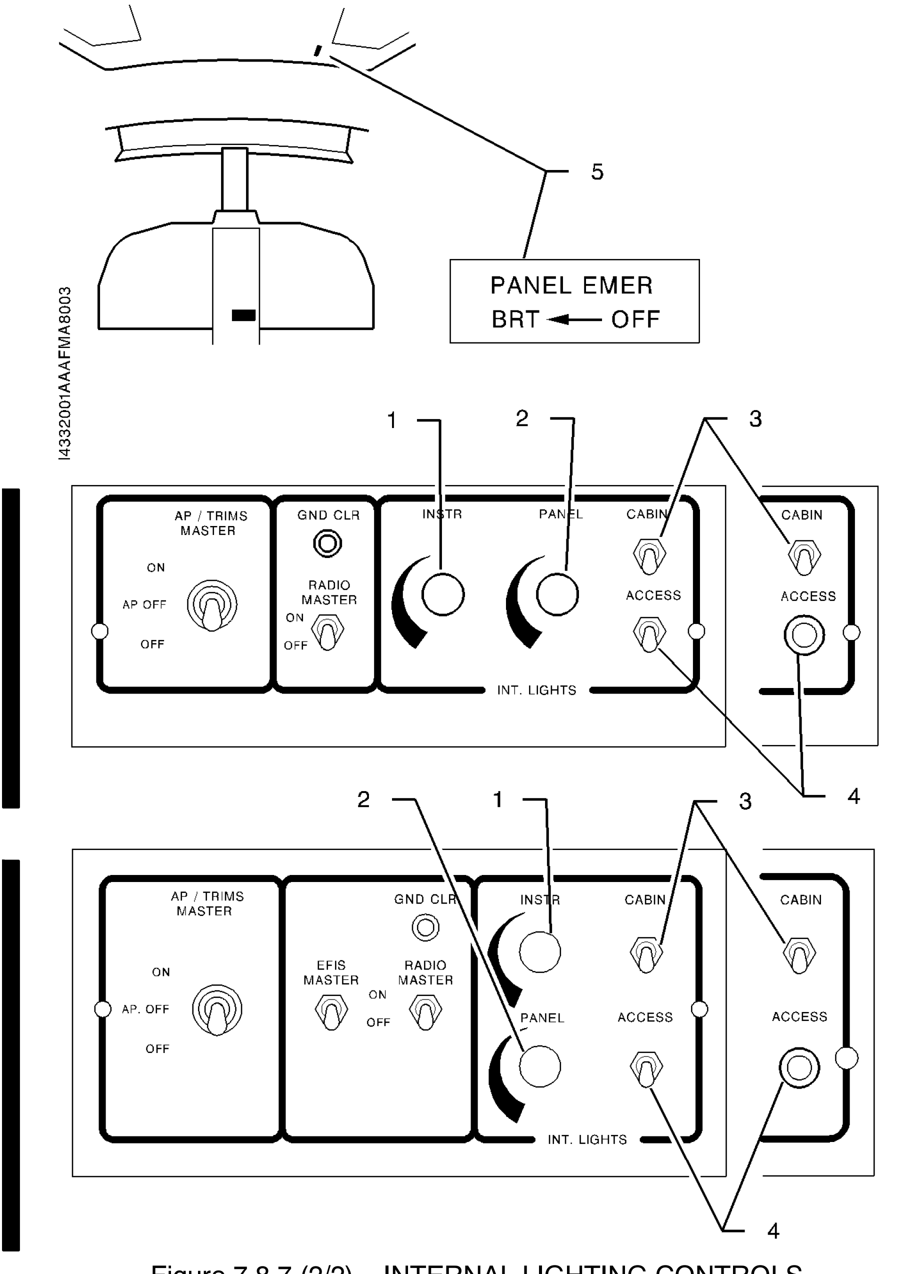


Figure 7.8.7 (2/2) – INTERNAL LIGHTING CONTROLS

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7.9 - AIR CONDITIONING AND PRESSURIZATION

AIR CONDITIONING (Figure 7.9.1)

Air conditioning system includes a flow-pressure regulation system, temperature regulation and cooling system, control and check systems and distribution.

Air necessary for conditioning is picked up from the engine. A two-setting level valve regulates pressure and bleed hot air flow and may be also used as shutoff valve. This valve is controlled by "BLEED VALVE" switch. Hot air is cooled by going through a temperature exchanger and a cooling turbine, then it reduces the humidity through the water separator before entering the cabin through a check-valve.

Temperature exchanger is located in a duct which directs cooling air. This air is picked up outside by the NACA scoop located on L.H FWD engine cowling. When the airplane is on ground, air flow is created by a fan which, (if "BLEED VALVE" switch is set to "ON"), starts automatically.

Temperature regulation

Temperature regulation is accomplished by adding hot air to the air coming from cooling turbine. A probe measures the temperature of conditioning air as it enters the cabin and acts on a temperature regulation valve which determines hot air quantity to be added for maintaining requested temperature in the cabin.

Distribution

Conditioned air enters the distribution box from where it is dispatched into the cabin through a row of ports located on the lower section of the L.H. and R.H. side upholstery and through defogging outlets. Each seat is also provided with a swivelling and adjustable air outlet, supplied with fresh air assisted by a fan located in pressurized area under the floor and controlled by "CABIN FAN" switch on "ECS" panel.

1) Overheat switch
2) Cooling turbine
3) Hot air - cold air mixer
4) Water separator
5) Temperature control valve
6) Pressure regulator of temperature control valve
7) Check-valve
8) Temperature control sensor
9) Cabin emergency air inlet
10) Defogging outlets
11) Adjustable air outlets
12) Air conditioning fan
13) Distribution box
14) Warning lights box
15) Microswitch (airplane on ground)
16) Pressure regulator and shutoff valve
17) Flow limiting venturi
18) Ground cooling fan
19) Spray nozzle aspirator
20) Heat exchanger

Figure 7.9.1 (1/2) - AIR CONDITIONING

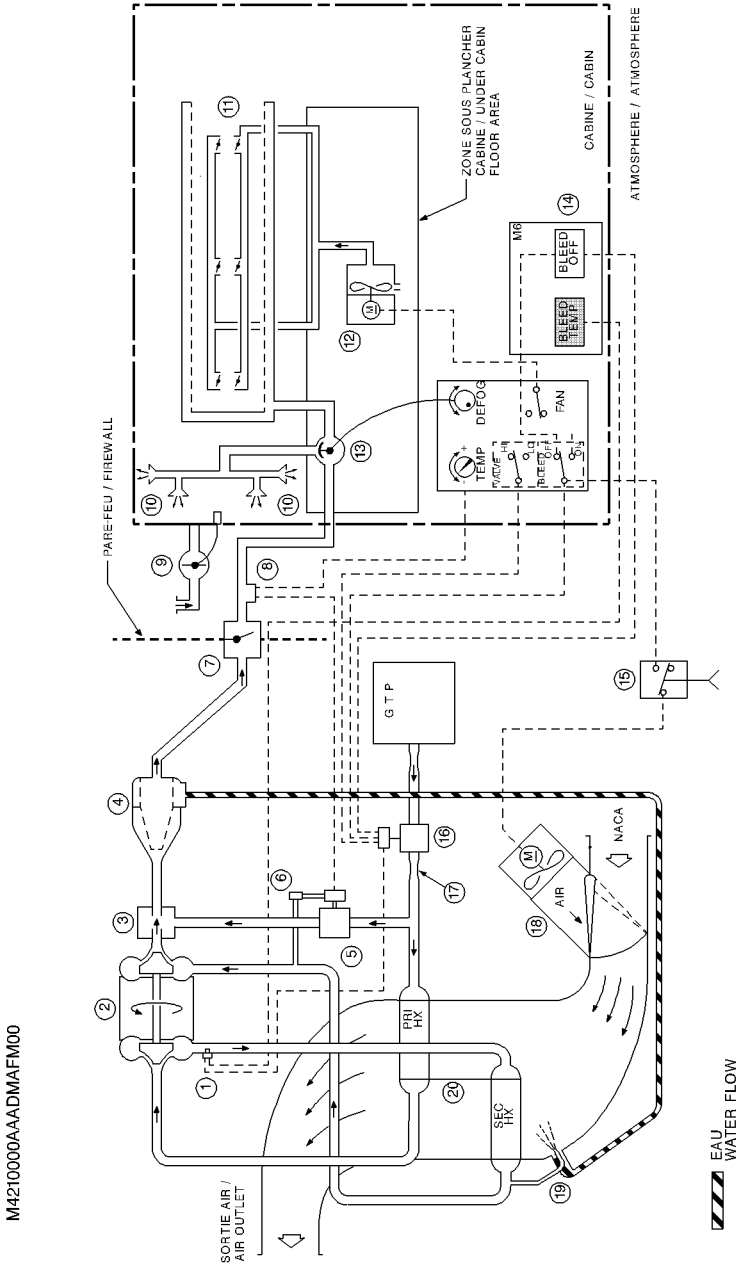

Figure 7.9.1 (2/2) – AIR CONDITIONING

Control and check (Figure 7.9.3)

Air conditioning system controls are located on "ECS" panel, warning lights are grouped on advisory panel. Conditioning occurs when "BLEED VALVE" switch is set to "ON" ; this leads to opening of pressure regulation valve and switches off "BLEED OFF" warning light, requested pressure level is obtained by "HI LO" switch position.

An overheating detector switches on the "BLEED TEMP" warning light located on advisory panel and simultaneously shuts off the pressure regulation valve if temperature increases abnormally at cooling turbine compressor outlet. System cannot be reactivated as long as "BLEED TEMP" warning light is set to "ON". After "BLEED TEMP" warning light has gone out, set "BLEED VALVE" switch to "OFF", then to "ON" to reactivate the system.

"CABIN FAN" switch controls the operation of the fan for the fresh air distribution system. The requested temperature in the cabin may be modified by the "CABIN TEMP" control.

The quantity of conditioning air used for windshield defogging may be modified by the "DEFOG-NORMAL" control.

Emergency ventilation control "EMERGENCY RAM AIR", located under R.H. instrument panel facing control wheel, allows outside air to enter the cabin through a valve. In "NORMAL" position, the valve is shut off and the control is locked. To open emergency ventilation valve, press on locking knob and move control rearwards.

7.9 - AIR CONDITIONING AND PRESSURIZATION

AIR CONDITIONING (Figure 7.9.1A)

Air conditioning system includes a flow-pressure regulation system, temperature regulation and cooling system, control and check systems and distribution.

Air necessary for conditioning is picked up from the engine. A two-setting level valve regulates pressure and bleed hot air flow and may be also used as shutoff valve. This valve is controlled by "BLEED VALVE" switch. Hot air is cooled by going through a temperature exchanger and a cooling turbine, then it reduces the humidity through the water separator before entering the cabin through a check-valve.

Temperature exchanger is located in a duct which directs cooling air. This air is picked up outside by the NACA scoop located on L.H FWD engine cowling. When the airplane is on ground, air flow is created by a fan which, (if "BLEED VALVE" switch is set to "ON"), starts automatically.

Temperature regulation

Temperature regulation is accomplished by adding hot air to the air coming from cooling turbine. A probe measures the temperature of conditioning air as it enters the cabin, and acts on a temperature regulation valve which determines hot air quantity to be added for maintaining requested temperature in the cabin.

Distribution

Conditioned air enters the distribution box from where it is dispatched into the cabin through two outlets located at the level of rudder pedals, a row of ports located on the lower section of the L.H. and R.H. side upholstery and through defogging outlets. The air outlets of the passenger seats and of the cockpit canopy are supplied with fresher air by two fans located on the upper section of the rear pressurized bulkhead. The air outlets of the cockpit arm-rests are supplied by two fans integrated into the upholstery. The four fans are controlled by the "CABIN FAN" switch on "ECS" panel.

1) Overheat switch
2) Cooling turbine
3) Hot air - cold air mixer
4) Water separator
5) Temperature control valve
6) Pressure regulator of temperature control valve
7) Check-valve
8) Temperature control sensor
9) Cabin emergency air inlet
10) Defogging outlets
11) Adjustable air outlets
12) Air conditioning fans
13) Distribution box
14) Warning lights box
15) Microswitch (airplane on ground)
16) Pressure regulator and shutoff valve
17) Flow limiting venturi
18) Ground cooling fan
19) Spray nozzle aspirator
20) Heat exchanger
21) Pilot's and front passenger's feet heating

Figure 7.9.1A (1/2) - AIR CONDITIONING

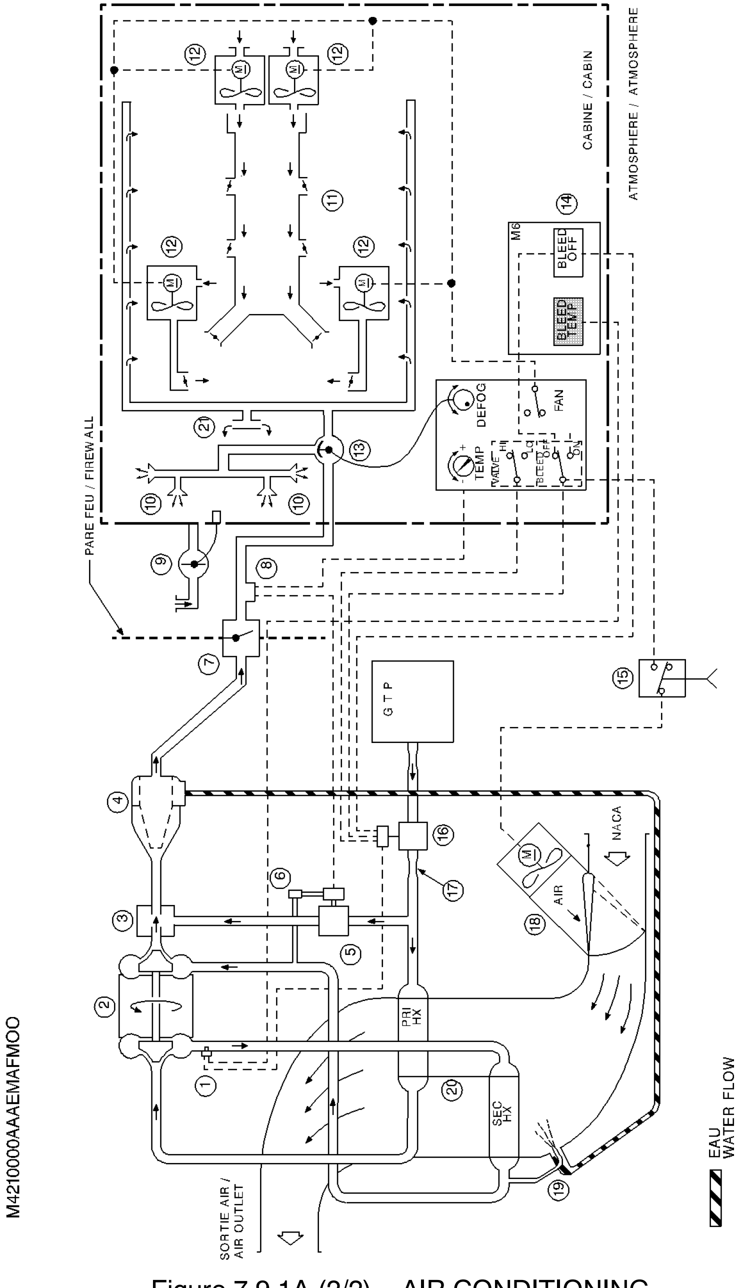

Figure 7.9.1A (2/2) – AIR CONDITIONING

Control and check (Figure 7.9.3)

Air conditioning system controls are located on "ECS" panel, warning lights are grouped on advisory panel. Conditioning occurs when "BLEED VALVE" switch is set to "ON" ; this leads to opening of pressure regulation valve and switches off "BLEED OFF" warning light, requested pressure level is obtained by "HI LO" switch position.

An overheating detector switches on the "BLEED TEMP" warning light located on advisory panel and simultaneously shuts off the pressure regulation valve if temperature increases abnormally at cooling turbine compressor outlet. System cannot be reactivated as long as "BLEED TEMP" warning light is set to "ON". After "BLEED TEMP" warning light has gone out, set "BLEED VALVE" switch to "OFF", then to "ON" to reactivate the system.

"CABIN FAN" switch controls the operation of four fans for the fresh air distribution system. The requested temperature in the cabin may be modified by the "CABIN TEMP" control.

The quantity of conditioning air used for windshield defogging may be modified by the "DEFOG-NORMAL" control.

Emergency ventilation control "EMERGENCY RAM AIR", located under R.H. instrument panel facing control wheel, allows outside air to enter the cabin through a valve. In "NORMAL" position, the valve is shut off and the control is locked. To open emergency ventilation valve, press on locking knob and move control rearwards.

7.9 - AIR CONDITIONING AND PRESSURIZATION

AIR CONDITIONING (Figure 7.9.1B)

Air conditioning system includes a flow-pressure regulation system, temperature regulation and cooling system, control and check systems and distribution.

Air necessary for conditioning is picked up from the engine. A two-setting level valve regulates pressure and bleed hot air flow and may be also used as shutoff valve. This valve is controlled by "BLEED VALVE" switch. Hot air is cooled by going through a temperature exchanger and a cooling turbine, then it reduces the humidity through the water separator before entering the cabin through a check-valve.

Temperature exchanger is located in a duct which directs cooling air. This air is picked up outside by the NACA scoop located on L.H FWD engine cowling. When the airplane is on ground, air flow is created by a fan which, (if "BLEED VALVE" switch is set to "ON"), starts automatically.

Temperature regulation

Temperature regulation is accomplished by adding hot air to the air coming from cooling turbine. A probe measures the temperature of conditioning air as it enters the cabin, and acts on a temperature regulation valve which determines hot air quantity to be added for maintaining requested temperature in the cabin.

Distribution

Conditioned air enters the distribution box from where it is dispatched into the cabin through two outlets located at the level of rudder pedals, a row of ports located on the lower section of the L.H. and R.H. side upholstery and through defogging outlets. Each seat is also provided with a swivelling and adjustable air outlet, supplied with fresh air assisted by a fan located in pressurized area under the floor and controlled by "CABIN FAN" switch on "ECS" panel.

1) Overheat switch
2) Cooling turbine
3) Hot air – cold air mixer
4) Water separator
5) Temperature control valve
6) Pressure regulator of temperature control valve
7) Check-valve
8) Temperature control sensor
9) Cabin emergency air inlet
10) Defogging outlets
11) Adjustable air outlets
12) Air conditioning fan
13) Distribution box
14) Warning lights box
15) Microswitch (airplane on ground)
16) Pressure regulator and shutoff valve
17) Flow limiting venturi
18) Ground cooling fan
19) Spray nozzle aspirator
20) Heat exchanger
21) Pilot's and front passenger's feet heating

Figure 7.9.1B (1/2) – AIR CONDITIONING

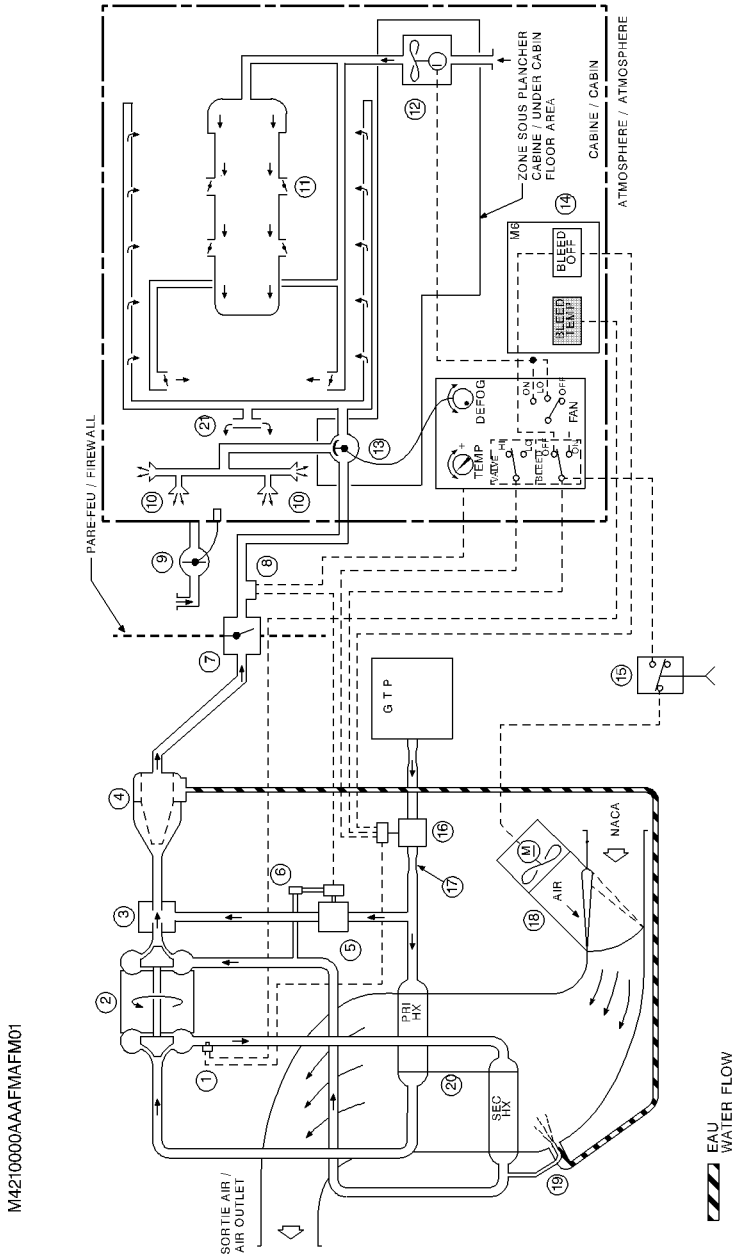

Figure 7.9.1B (2/2) – AIR CONDITIONING

Control and check (Figure 7.9.3)

Air conditioning system controls are located on "ECS" panel, warning lights are grouped on advisory panel. Conditioning occurs when "BLEED VALVE" switch is set to "ON" ; this leads to opening of pressure regulation valve and switches off "BLEED OFF" warning light, requested pressure level is obtained by "HI LO" switch position.

An overheating detector switches on the "BLEED TEMP" warning light located on advisory panel and simultaneously shuts off the pressure regulation valve if temperature increases abnormally at cooling turbine compressor outlet. System cannot be reactivated as long as "BLEED TEMP" warning light is set to "ON". After "BLEED TEMP" warning light has gone out, set "BLEED VALVE" switch to "OFF", then to "ON" to reactivate the system.

"CABIN FAN" switch controls the operation of the fan for the fresh air distribution system and allows selecting two ventilation speeds. The requested temperature in the cabin may be modified by the "CABIN TEMP" control.

The quantity of conditioning air used for windshield defogging may be modified by the "DEFOG-NORMAL" control.

Emergency ventilation control "EMERGENCY RAM AIR", located under R.H. instrument panel facing control wheel, allows outside air to enter the cabin through a valve. In "NORMAL" position, the valve is shut off and the control is locked. To open emergency ventilation valve, press on locking knob and move control rearwards.

PRESSURIZATION (Figures 7.9.2 and 7.9.3)

Pressurization system maintains the pressure corresponding to an altitude compatible with passengers' safety and comfort inside the cabin.

The system uses the air conditioning system to pressurize the cabin and the vacuum generation system for check and safety. Pressure controller, located on "ECS" panel allows pilot selecting :

- a cabin altitude between sea level and 8900 ft,
- the cabin climb speed.

A three position indicator shows cabin altitude, cabin climb speed and cabin-atmosphere differential pressure. Cabin altitude is maintained by an outflow valve and a safety valve limits differential pressure between cabin and atmosphere at 6.2 psi (427 mb).

These valves are attached to rear pressure bulkhead and each one is connected to a static port located on rear cone for the outflow valve and under rear baggage compartment for safety valve.

Cabin is automatically depressurized as soon as the airplane is on ground through landing gear switch (airplane on ground) or, if necessary, by actuating "DUMP" switch located on "ECS" panel (in normal operation, this switch is protected and locked by a cover).

Indicating

In addition to the three purpose indicator, the system consists of the "CAB PRESS" warning light which illuminates when cabin altitude reaches 10000 ft or if cabin-atmosphere differential pressure exceeds 6.2 psi (427 mb).

NOTE :
"CAB PRESS" warning light illumination has no effect on system functioning - Refer to Section 3 "Emergency procedures".

1) Check valve
2) Cabin-atmosphere ΔP microswitch
3) Advisory panel
4) Outflow valve
5) Safety valve
6) Depressurization valve
7) Landing gear switch (airplane on ground)
8) Pressure controller
9) Cabin altitude warn switch
10) Compensation tank

Figure 7.9.2 (1/2) - PRESSURIZATION

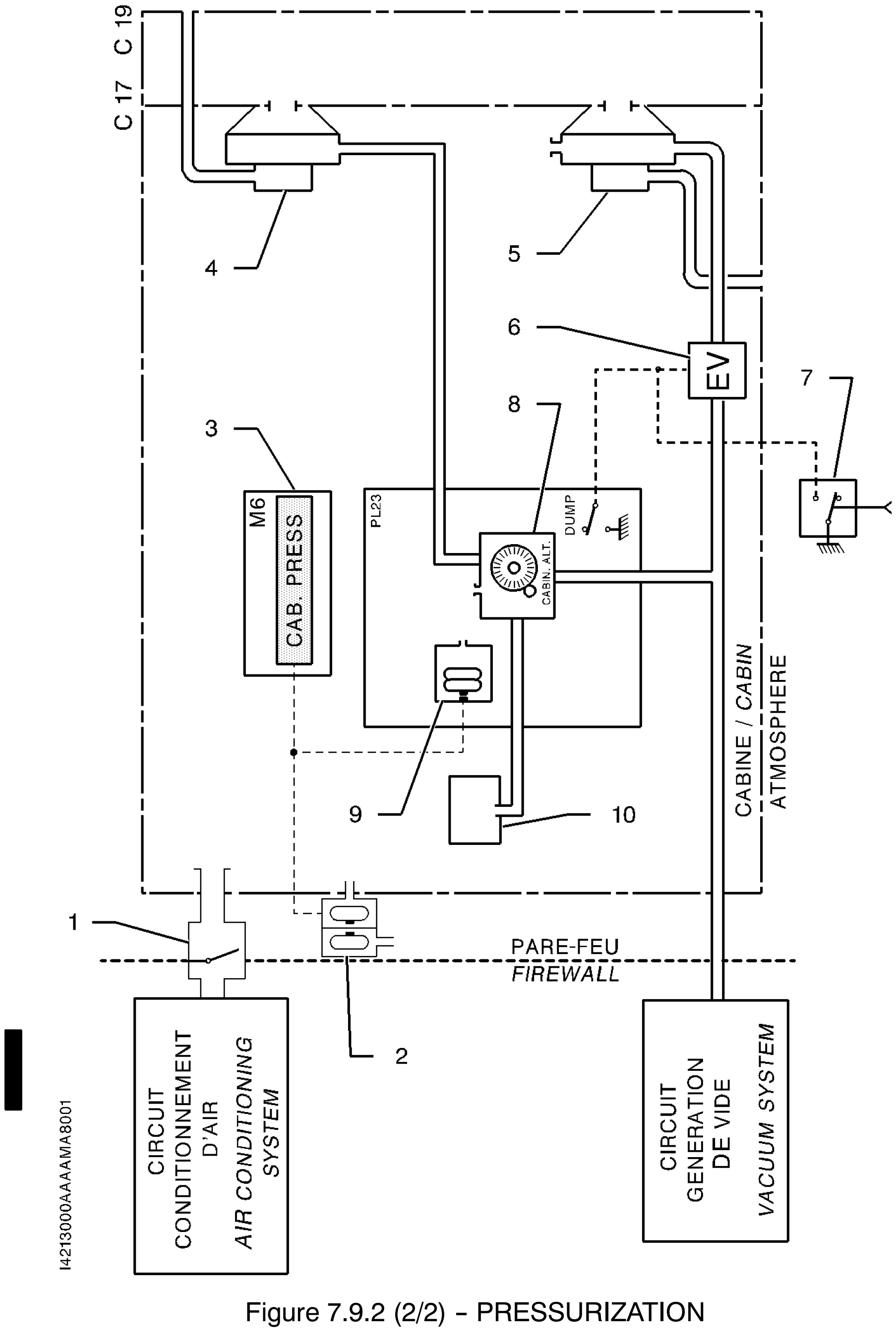

Figure 7.9.2 (2/2) – PRESSURIZATION

1) ”BLEED VALVE” switch – ON/OFF
2) ”BLEED VALVE” switch – HI/LO
3) ”CABIN FAN” switch
4) ”DUMP” switch
5) ”CABIN TEMP” selector
6) ”DEFOG / NORMAL” distributor
7) Cabin rate selector
8) Cabin altitude selector
9) Three-position indicator (cabin altitude, cabin climb speed and differential pressure)

Figure 7.9.3 (1/2) – ”ECS” CONTROL AND CHECK PANEL

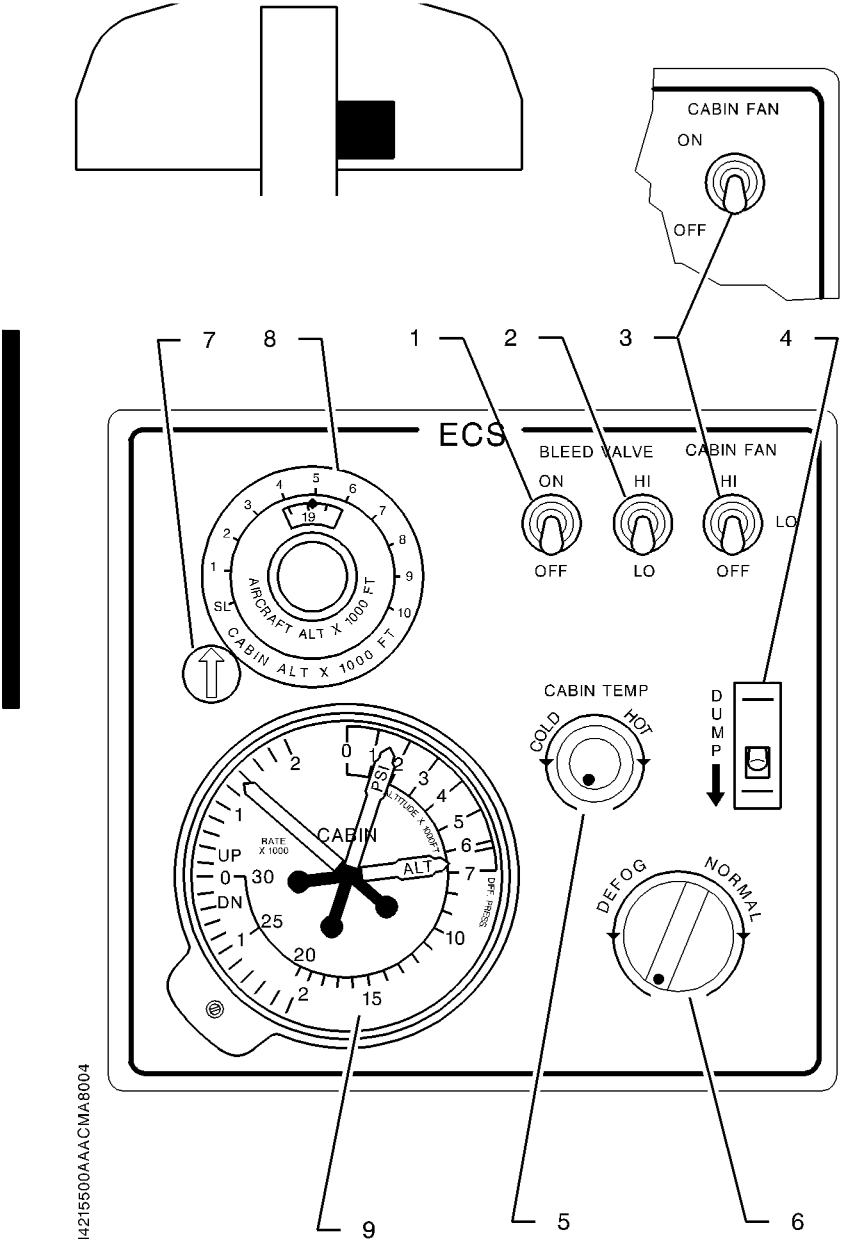

Figure 7.9.3 (2/2) – "ECS" CONTROL AND CHECK PANEL

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7.10 - EMERGENCY OXYGEN SYSTEM (Figure 7.10.1)

Emergency oxygen system must be used following a pressurization system failure at an altitude between 12000 and 30000 ft. The three emergency oxygen systems provide enough chemical oxygen for six persons during a descent from 30000 to 12000 ft and below. These three systems, accessible from central aisle, are located in a drawer under front passenger seat and under the R.H. intermediate seat and either L.H. intermediate seat or R.H. rear seat for rear passengers.

Each system consists of two masks (equipped with microphone for front places)

NOTE :
The pilot must imperatively use a mask equipped with a microphone.

A transparent flexible tube and a lanyard connect both masks to a generator. When one of the lanyards is pulled, priming mechanism leads to a chemical reaction inside the generator. When activated, the generator supplies oxygen simultaneously to both corresponding masks for about 12 minutes until it becomes empty.

NOTE :
It is not possible to interrupt flow during operation.

Each generator has two pressure relief valves which avoid an excessive pressure in case of system malfunction or blocking in supply tube.

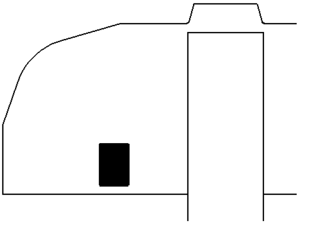
WARNING

SMOKING IS STRICTLY PROHIBITED ANY TIME OXYGEN IS IN USE.

OILY, FATTY OR GREASY SUBSTANCES, INCLUDING SOAPS, LIPSTICK, AFTER SHAVE LOTION AND MAKE UP ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN.

GENERATOR CHEMICAL REACTION LEADS TO A SENSITIVE INCREASE OF ITS EXTERNAL TEMPERATURE, FOR THAT REASON DO NOT OBSTRUCT ITS PROTECTIVE SHIELD.

1) Generator
2) Supply tubes
3) Masks
4) Drawer
5) Microswitch
6) Dimpled support
7) Microphone switch



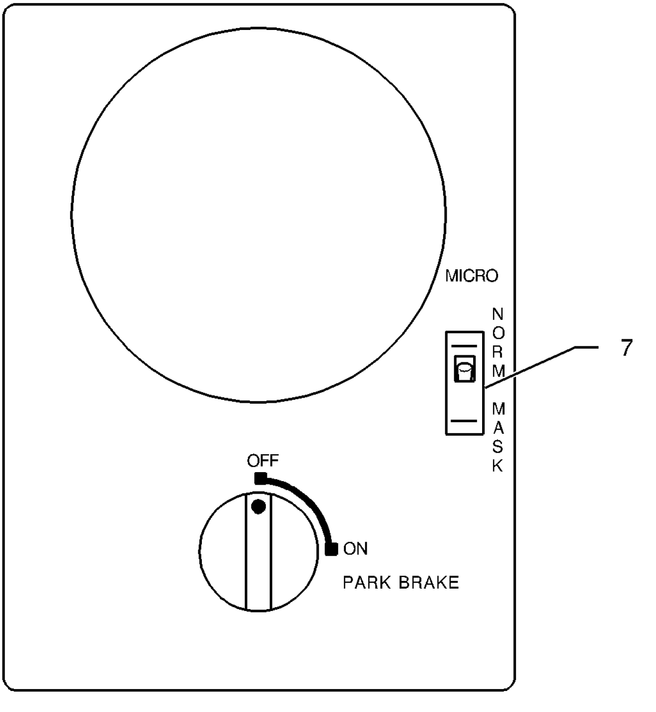


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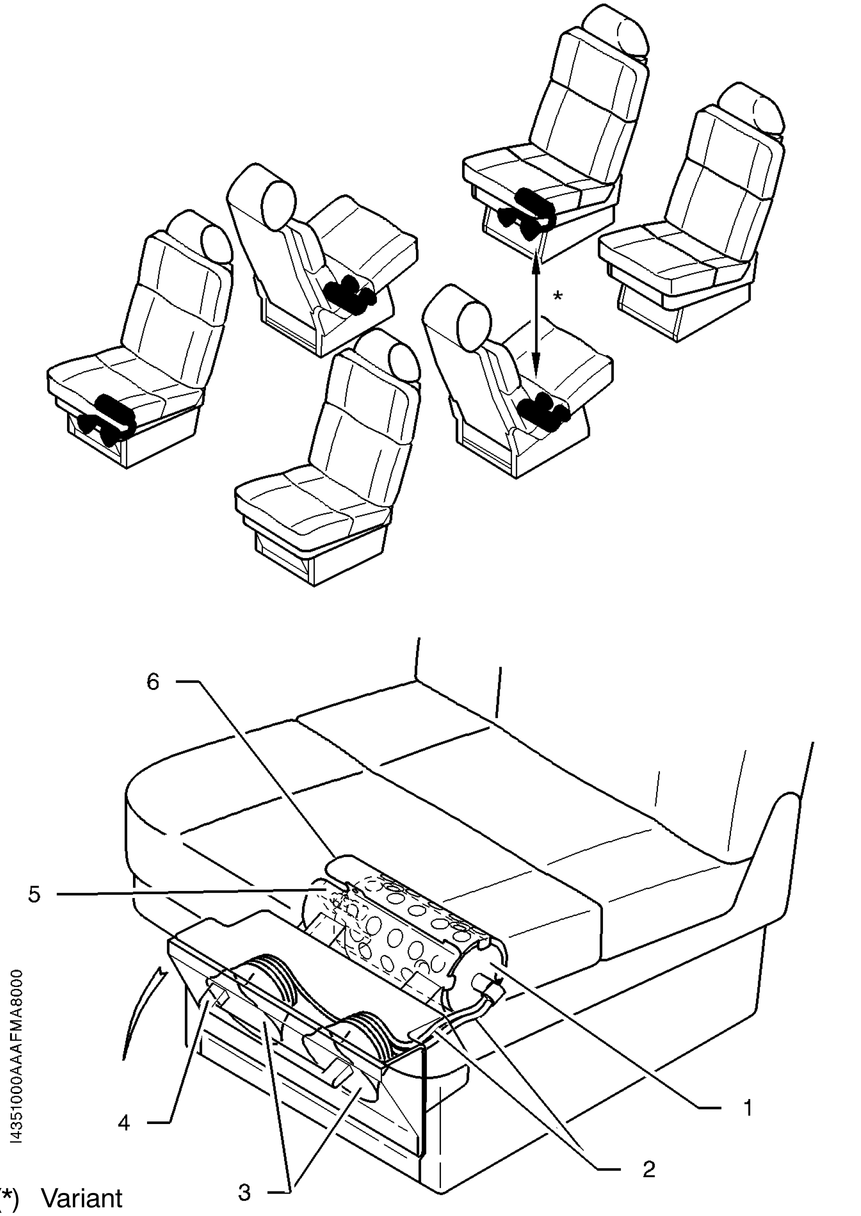
Figure 7.10.1 (1/2) – EMERGENCY OXYGEN SYSTEM



(*) Variant

Figure 7.10.1 (2/2) - EMERGENCY OXYGEN SYSTEM

INDICATING

When the "SOURCE" selector is set to "BAT" or "GPU", as soon as an oxygen generator is activated, the "OXYGEN" warning light located on the advisory panel illuminates.

The warning light remains illuminated as long as used generator is not replaced. Condition of the coloured band located around the generators provides activated generator identification. Originally amber turning to black indicates a used generator which will require removal and replacement with a new one.

"MICRO" SWITCH

A guarded switch, located on R.H. side of pilot's control wheel column, allows to select oxygen mask microphone. In order to do this, lift up the cover and set the switch to "MASK" position.

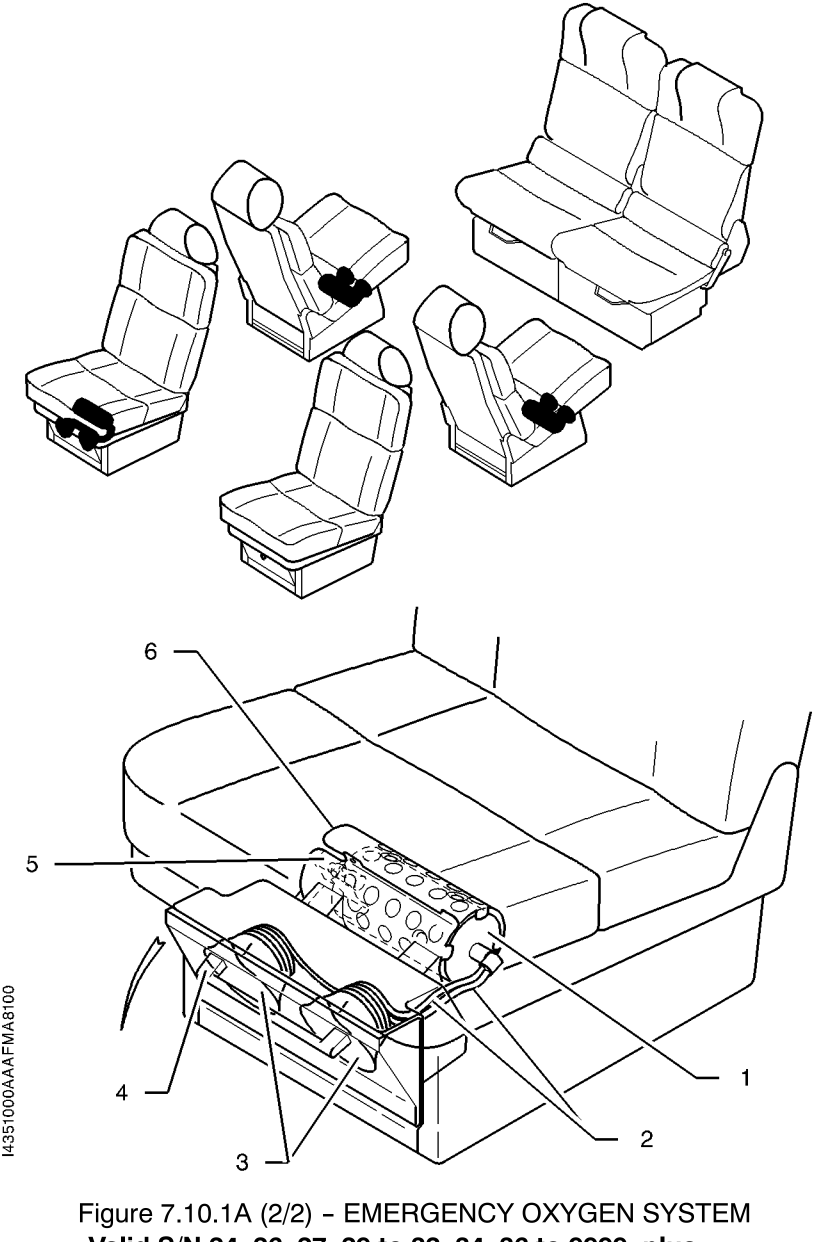


Figure 7.10.1A (2/2) – EMERGENCY OXYGEN SYSTEM

Valid S/N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification Nr MOD 70-019-25

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7.11 - AIR DATA SYSTEM AND INSTRUMENTS (Figure 7.11.1)

Airplane air data system consists of :

- two separate static pressure systems supplying the altimeters, airspeed and vertical speed indicators. They also provide a static pressure reference to the ΔP cabin and to the Autopilot system Air Data Computer (ADC).

  System 1 is backed up by an alternate system which operation is controlled by a switching valve (normal / alternate) attached to instrument panel under R.H. control wheel. In case of obstruction or icing of ports, this selector isolates airplane normal static system. When selector is on alternate position (pulled rearwards), static pressure is picked from a port located in airplane rear fuselage.

- two separate dynamic pressure systems supplying the airspeed indicators systems, V_{MO} audio warning detector and the Autopilot system Air Data Computer (ADC).

STATIC PRESSURE SYSTEMS

Primary systems

Two dual static ports (one on either side of the fuselage tail part) supply a dual system routed towards the cockpit.

System 1 is connected to the switching valve (normal / alternate) which supplies the encoding altimeter, the ΔP cabin, vertical speed 1 and airspeed 1 indicators and the Autopilot system Air Data Computer (ADC).

System 2 is directly connected to the second altimeter and optional equipment.

Both systems feature a drain valve located under the instrument panel on R.H. side. On static system 1, an additional drain is installed on ADC system. It is attached under floor and attainable through emergency landing gear door.

1) Pitot Nr 1
2) Pitot Nr 2
3) Pitot Nr 2 dynamic drain
4) Pitot Nr 1 dynamic drain
5) V_{MO} detector
6) Static drain
7) Emergency static drain
8) Static drain
9) FWD pressure bulkhead
10) Airspeed indicator Nr 1
11) Encoding altimeter Nr 1
12) Vertical speed indicator Nr 1
13) ΔP cabin
14) Altimeter Nr 2
15) Airspeed indicator Nr 2 (Option)
16) Vertical speed indicator Nr 2 (Option)
17) ADC dynamic drain
18) Autopilot system Air Data Computer (ADC)
19) Static source (Normal / Alternate)
20) Instrument panel
21) ADC static drain
22) Rear pressure bulkhead
23) R.H. static ports
24) Emergency bleed on frame Nr 19
25) L.H. static ports

Figure 7.11.1 (1/2) – AIR DATA SYSTEM

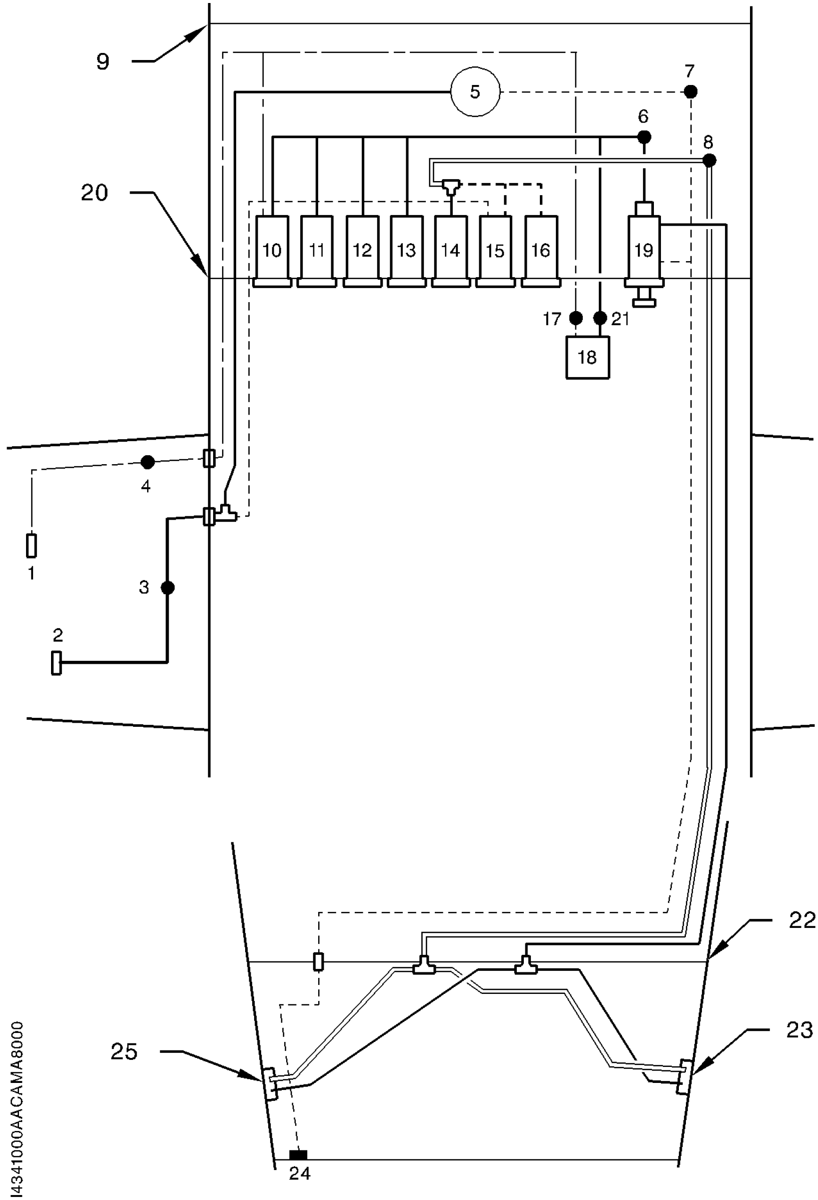


Figure 7.11.1 (2/2) – AIR DATA SYSTEM

Alternate static source

The alternate static port located in the rear fuselage supplies a system routed to the switching valve (normal / alternate) in order to replace static system 1 and also supplies the V_{MO} warning.

The alternate line incorporates a drain plug located under the instrument panel on R.H. side.

DYNAMIC PRESSURE SYSTEM

Two heated pitot probes are installed under the L.H. wing. The first one supplies the airspeed indicator 1 and the Autopilot system Air Data Computer (ADC).

The second one supplies the V_{MO} audio warning and optional equipment.

Both lines incorporate a drain plug located in the L.H. wing root. On dynamic system 1, an additional drain is installed on ADC system. It is located under the floor and is accessible from emergency landing gear door.

Pitot heating

Pitot heating is controlled by "PITOT 1 HTR" and "PITOT 2 & STALL HTR" switches, installed on "DE-ICE SYSTEM" panel.

"PITOT 1", "PITOT 2" and / or "STALL HTR" warning lights, located on the advisory panel are illuminated when corresponding switch is set to "OFF" or if heating system does not operate when the switch is set to "ON".

NOTE :
Do not use heating during prolonged periods on ground to avoid pitot overheat.

OPTIONAL EQUIPMENT

Available options are :

- a second vertical speed indicator
- a second airspeed indicator
- a slaved encoding altimeter KEA 346 instead of a basic encoding altimeter KEA 130 A.

7.12 - VACUUM SYSTEM AND INSTRUMENTS (Figure 7.12.1)

The airplane is fitted with a vacuum system providing the suction necessary to operate the stand-by attitude indicator, the cabin pressurization and the leading edge deicing.

Vacuum system includes :

- A pressure regulator
- An ejector
- A regulating and relief valve
- A signalization microswitch
- A suction gage indicator

Compressed air necessary for the ejector to create decompressed air is taken from the power plant. The air flow is regulated before going into the ejector which creates necessary vacuum by venturi effect.

A relief valve fixed in cabin to frame C2, maintains the vacuum for pressurization and instrument systems. In case of pressure drop, a microswitch, installed in the system, indicates the failure by illuminating "VACUUM LO" warning light on the advisory panel.

ATTITUDE INDICATOR

The attitude indicator provides a visual reference of actual airplane flight attitude. An index at the top of the indicator shows bank attitude relative to the bank scale which has index marks at 10°, 20°, 30°, 60° and 90° either side of the center mark.

Pitch and roll attitudes are shown by a miniature airplane superimposed over a symbolic horizon area divided into two sections by a white horizon bar. The upper "sky blue" area and the lower "ground" area have arbitrary pitch reference lines useful for pitch attitude control.

1) Pressure regulator
2) Ejector
3) Valve
4) Regulating and relief valve
5) Pressure switch
6) Failure warning light (Figure 7.3.8)

Figure 7.12.1 (1/2) – VACUUM SYSTEM

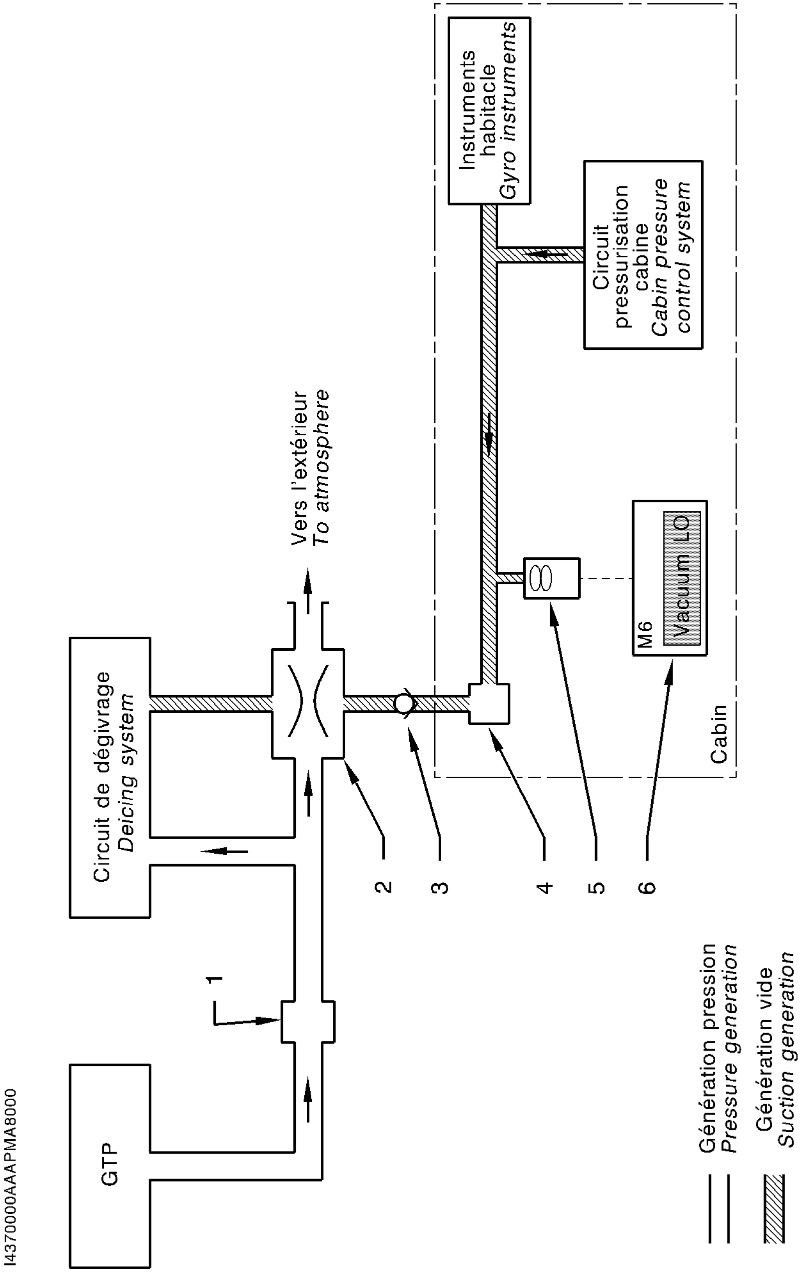


Figure 7.12.1 (2/2) - VACUUM SYSTEM

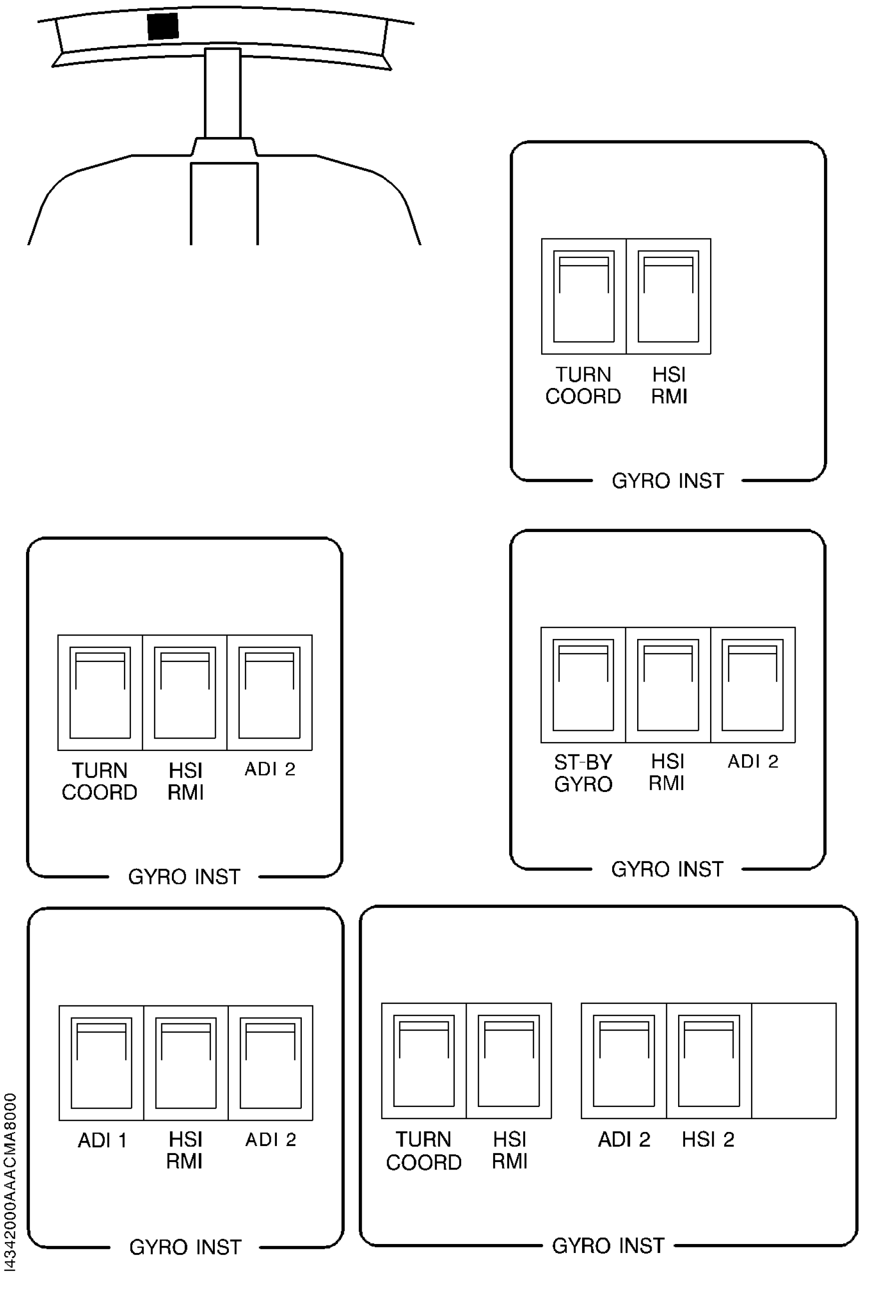


Figure 7.12.2 (1/2) – GYROSCOPIC INSTRUMENTS CONTROL
(Variants according to the type of installation)

GYROSCOPIC INSTRUMENTS CONTROL (Figure 7.12.2)

Gyroscopic instruments : electrical attitude gyros, HSI, RMI, ADI, etc... are controlled by switches located on instrument panel upper strip.

SUCTION GAGE

The suction gage is calibrated in inches of mercury and indicates the suction available for operation of the attitude indicator. The desired vacuum range is 4.4 to 5.2 in.Hg.

A vacuum reading out of this range may indicate a system malfunction or improper adjustment. In this case, all pneumatic instruments should be considered unreliable.

The suction gage is located on L.H. panel of pilot's instrument panel.

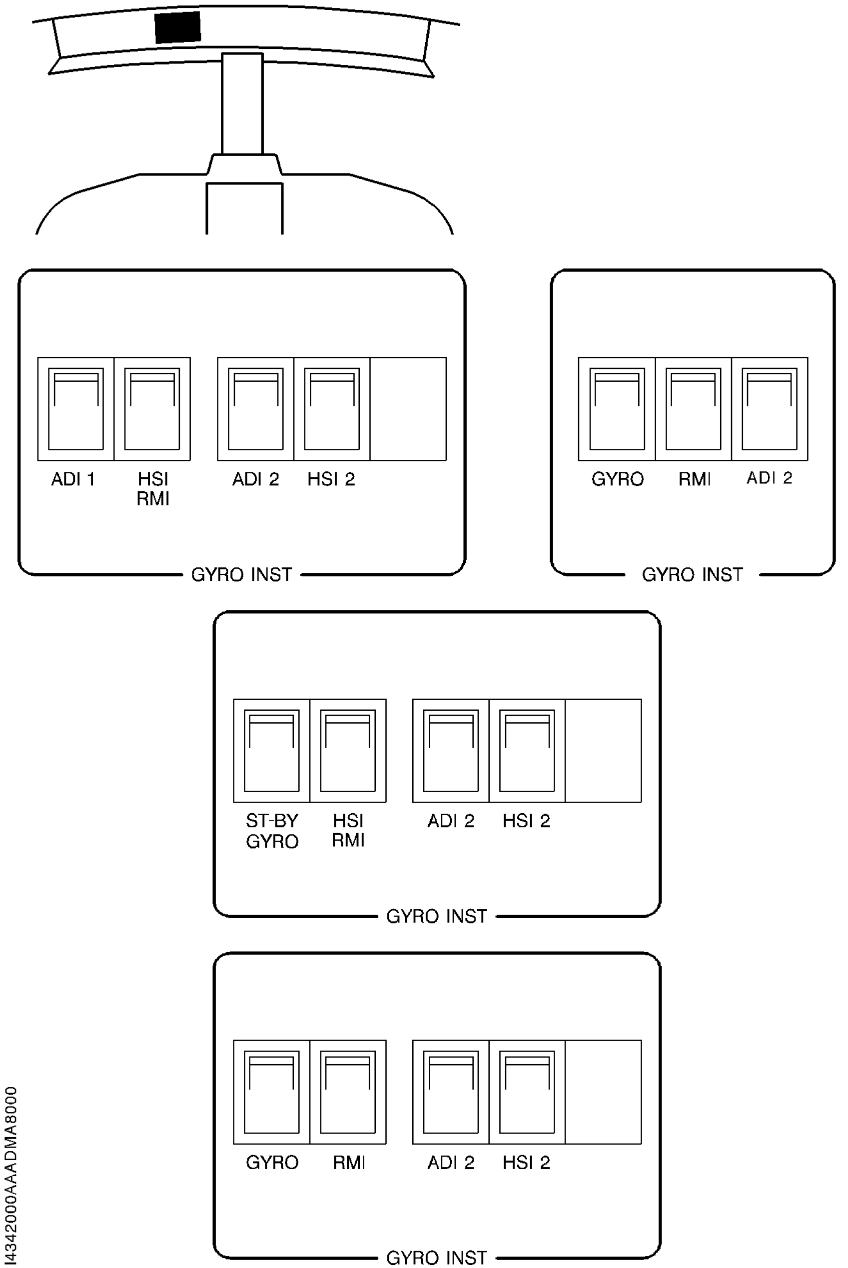


Figure 7.12.2 (2/2) – GYROSCOPIC INSTRUMENTS CONTROL
(Variants according to the type of installation)

7.13 – ICE PROTECTION EQUIPMENT (Figure 7.13.1)

Ice protection equipment is as follows :

- Pneumatic deice system for inboard, central and outboard wing and for stabilizers : "AIRFRAME DE-ICE"
- Propeller electrical deice system : "PROP DE-ICE"
- Windshield electrical deice system : "L.WINDSHIELD" and (if installed) "R.WINDSHIELD"
- Electrical heating system for both pitots and for the stall warning sensor : "PITOT 1 HTR" and "PITOT 2 & STALL HTR"
- Turbine air inlet deice systems : "INERT SEP"

Deicing check and control panel is located on the lower L.H. side of the instrument panel.

WING AND EMPENNAGE DEICING

A pneumatic deice system assures protection of wing leading edges, horizontal stabilizer, elevator horns and vertical stabilizer. The system automatically cycles when "AIRFRAME DE-ICE" switch is set to "ON". The 67-second cycle breaks down in two inflation cycles :

- a first cycle induces inflation of leading edges deicer boots in wing central and outboard sections,
- the second cycle induces inflation of leading edges deicer boots in horizontal stabilizer, elevator horns, vertical stabilizer and wing inboard section.

During each inflation cycle, one of the two corresponding warning lights located above "AIRFRAME DE-ICE" switch, remains illuminated.

Wing leading edge icing inspection light - see Chapter 7.8 Paragraph "EXTERIOR LIGHTING".

PROPELLER DEICING

Propeller deicing is accomplished through electrical heating of blade roots. This system operates cyclically and alternately on two opposite blades at the same time. Each cycle is 180 seconds long. The system operation is correct when green warning light located above ”PROP DE ICE” switch illuminates. The cycles continue as long as the switch remains set to ”ON”.

WINDSHIELD DEICING

The left windshield is deiced electrically by embedded heating resistors. The system includes a controller and two heat probes embedded in the windshield. It is operated by switch ”L.WINDSHIELD”.

When the switch is positioned to ”ON”, the controller supplies the heating resistors, the windshield temperature is monitored by probe # 1. When the temperature reaches 45°C (113°F), the controller cuts the electrical supply to the heating resistors and resumes supply when the temperature falls below 30°C (86°F). The cycle continues as long as the switch remains set to ”ON”.

In the event of failure by probe # 1, the controller receives the temperature data from probe # 2. The electrical supply to the heating resistors is cut when the windshield temperature reaches 56°C (133°F). In that case, the windshield is no longer heated, the pilot can reset the system by setting the switch to ”OFF”, then to ”ON”.

A green light located above switch ”L.WINDSHIELD” goes on when the heating resistors are being supplied.

NOTE :
The right windshield may also be deiced (optional), the system is operated through ”R.WINDSHIELD” switch in the same fashion as with ”L.WINDSHIELD” switch.

HEATING OF PITOTS AND STALL WARNING SENSOR (”PITOT 1 HTR” AND ”PITOT 2 & STALL HTR”)

The two pitots, which supply airspeed indicators and the stall warning sensor are electrically heated. This deice equipment must be used even during flight into non-icing conditions ; in that case (”PITOT 1 HTR”, ”PITOT 2 & STALL HTR” switches set to ”ON”) when ”PITOT 1”, ”PITOT 2” or ”STALL HTR” are lit, corresponding probe heating has failed.

NOTE :
Correct operation of the audible stall warning may be altered by severe or prolonged icing.

TURBINE AIR INLET PROTECTION

Operation and description are set forth in Paragraph ”ENGINE AIR INLET” Chapter 7.6.

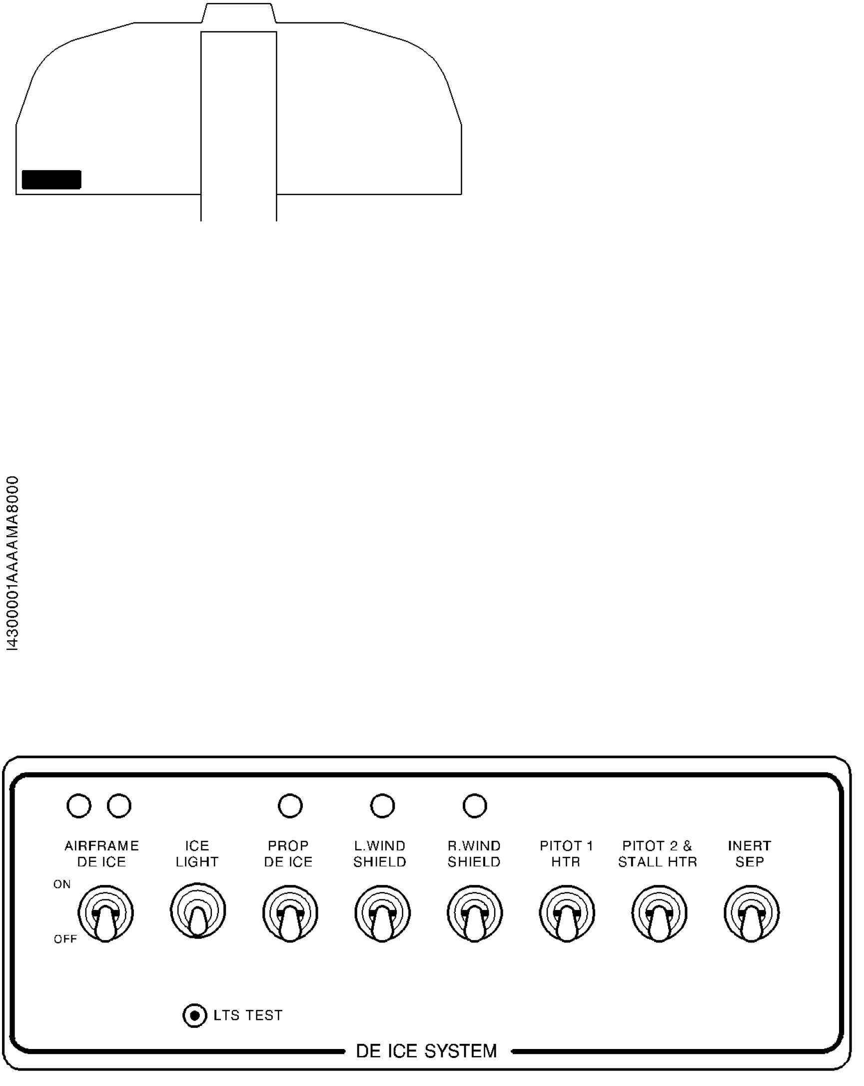


Figure 7.13.1 – DEICING CONTROL AND CHECK PANEL

7.14 - RADIO MASTER AND GROUND COMMUNICATION

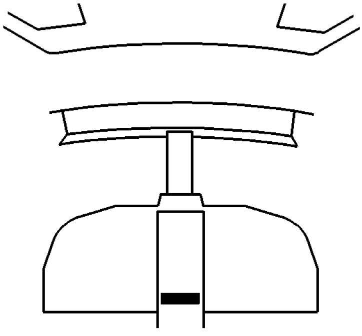
(Figure 7.14.1)

The electrical supply of radio communication and radio navigation equipment assembly is controlled by the "RADIO MASTER" switch located on the "INT LIGHTS" panel.

From the S / N 11 plus the S / N 7, airplanes are equipped with the ground clearance function which enables to use the COM 1 installation from the BUS BAT when the "SOURCE" selector is "OFF". The ground clearance function is operating as soon as the "RADIO MASTER" switch is set to "ON" and the "SOURCE" selector is "OFF". The "GND CLR" green indicator light located near the "RADIO MASTER" switch is ON when the function is activated.

The "SOURCE" selector setting to the "BAT" or "GPU" positions de-activates the ground clearance function.

NOTE :
The electrical supply of radio communication and radio navigation equipment is automatically cut-off during the starting phase and is operating after the starter stop.



1) "RADIO MASTER" switch
2) "GND CLR" (ground clearance) ground communication indicator

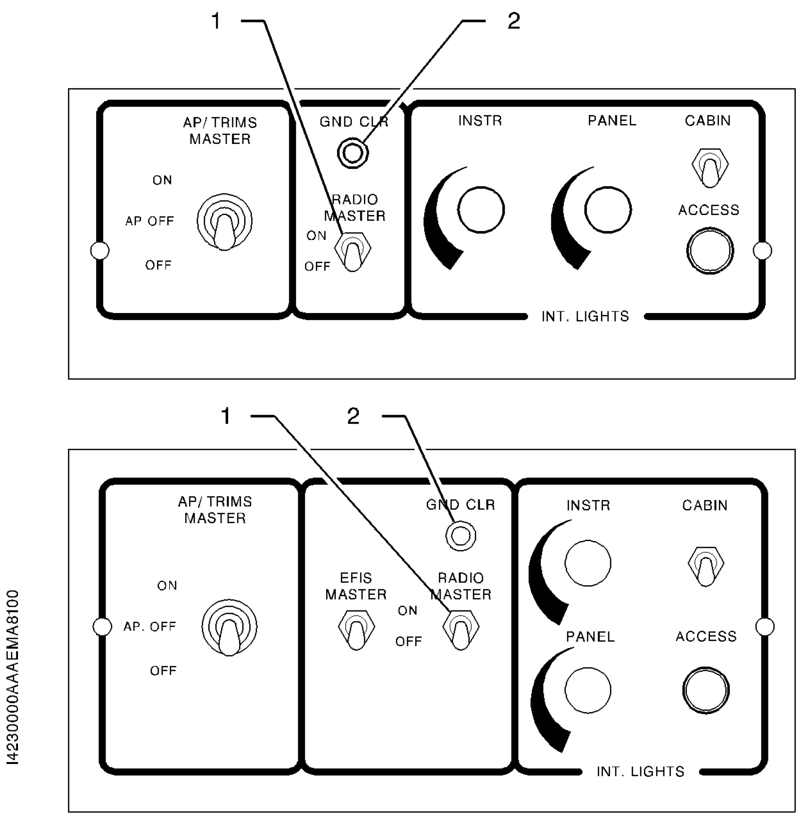


Figure 7.14.1 – RADIO MASTER AND GROUND COMMUNICATION

7.15 - MISCELLANEOUS EQUIPMENT

STALL WARNING SYSTEM

The airplane is equipped with an electrically deiced stall sensor in the leading edge of the right wing. This sensor fitted with a vane is electrically connected to an audible warning. The vane senses the change in airflow over the wing and operates the warning unit, which produces a tone over the alarm speaker. This warning tone begins between 5 and 10 knots above the stall in all configurations.

The stall warning system should be checked during the preflight inspection by momentarily turning on the "SOURCE" selector and by manipulating the vane in the wing. The system is operational if a continuous tone (low-pitched sound) is heard on the alarms speaker.

NOTE :
The audible stall warning may be altered by severe or prolonged icing.

STATIC DISCHARGERS

As an aid in flight, static dischargers are installed to improve radio communications during flight by reducing interference from dust or various forms of precipitations (rain, snow or ice crystals).

Under these conditions, the build-up and discharge of static electricity from the trailing edges of the wings (flaps and ailerons), rudder, stabilator, propeller tips and radio antennas can result in loss of usable radio signals on all communications and navigation radio equipment. Usually, the ADF is first and VHF communication equipment is the last to be affected.

Installation of static dischargers reduces interference from precipitation static, but it is possible to encounter severe precipitation static conditions which might cause the loss of radio signals, even with static dischargers installed. Whenever possible, avoid known severe precipitation areas to prevent loss of dependable radio signals. If avoidance is impractical, minimize airspeed and anticipate temporary loss of radio signals while in these areas.

CABIN FIRE EXTINGUISHER (if installed)

The fire extinguisher is located on the pilot's seat L.H. side. It is attached on the floor by means of a quick-disconnect support. A pressure gage allows checking the fire extinguisher condition. Follow the recommendations indicated on the extinguisher.

Pre-MOD70-0391-26D

If there is a R.H. cabinet, the fire extinguisher is fixed on the cabinet or on the floor, between FWD R.H. seat and R.H. cabinet.

Post-MOD70-0391-26D

The fire extinguisher is located in the lower drawer of the R.H. cabinet, inserted in foam.

AUTOPILOTS

Refer to Section 9 "Supplements".

VAPOR CYCLE COOLING SYSTEM (if installed)

Refer to Section 9 "Supplements".

EMERGENCY LOCATOR TRANSMITTER

The airplane is equipped with an emergency locator transmitter which enables to locate it in case of distress. It is located under seat pan of rear seat bench or attached on the L.H. side of fuselage in aft baggage compartment.

The emergency locator transmitter assembly is constituted of a transmitter supplied by a battery, of a retractable antenna integrated in the locator transmitter and allowing use of the latter outside the airplane and of a remote control located on R.H. instrument panel.

NOTE :
For test sequences, refer to manufacturer manual.

ELT 90, 91, 96, 97, JE2, JE2NG

Operation of the emergency locator transmitter is obtained as follows :

- from the instrument panel by setting "ELT" remote control switch to ON or MAN position (locator transmitter "MANU-OFF-AUTO" or "MAN/RESET-OFF-AUTO" switch in stand-by on AUTO position),
- from the locator transmitter by setting its "MANU-OFF-AUTO" or "MAN/RESET-OFF-AUTO" control switch to MANU or MAN/RESET position,
- automatically in case of shock, when both switches are set to AUTO.

When locator transmitter "MANU-OFF-AUTO" or "MAN/RESET-OFF-AUTO" switch is set to OFF, transmission is impossible.

"XMIT ALERT" indicator light (if installed) located above "ELT" remote control switch indicates to the pilot the emergency locator transmitter is transmitting.

ELT KANNAD 406 AF

Operation of the emergency locator transmitter is obtained as follows :

- from the instrument panel by setting "ON/ARMED/RESET-TEST" remote control switch to "ON" (locator transmitter "ARM/ON/OFF" switch set to "ARM"),
- from the locator transmitter by setting its "ARM/ON/OFF" control switch to "ON",
- automatically in case of shock, when remote control switch is set to "ARMED" and locator transmitter switch is set to "ARM".

A red indicator light located on "ELT" remote control switch in the cockpit indicates to the pilot the emergency locator transmitter is transmitting.

A red indicator light located above locator transmitter switch and a buzzer located in the fuselage rear section indicate the emergency locator transmitter is transmitting.

Reset after an inadvertent activation

ELT 90 (EUROCAE) - ELT 91 (TSO)

1) Set ELT switch to ”MAN/RESET” or remote control switch to ”MAN”.	a) The ELT keeps on transmitting emergency signal. b) On remote control, the ”XMIT ALERT” red warning light remains on. c) On ELT, the red warning light remains on.
2) Set again ELT switch or remote control switch to ”AUTO”.	a) The ELT does not transmit emergency signal any longer. b) On remote control, the ”XMIT ALERT” red warning light goes off. c) On ELT, the red warning light goes off.

ELT 96 (EUROCAE) - ELT 97 (TSO)

1) Set ELT switch to ”MAN/RESET”, then to ”AUTO” or press push button ”AUTO TEST/RESET” on the remote control.	a) The ELT does not transmit emergency signal any longer. b) On remote control and on ELT switch, the ”XMIT ALERT” red warning light flashes during 2 seconds, then goes off.

JE2 or JE2NG

On ELT, press on button ”RESET”.

ELT 910 (export only)

Set remote control switch to ”ON” position, wait 2 seconds. Set ”ON-OFF-ARM” switch to ”OFF” position, then back to ”ARM” position.

ELT KANNAD 406 AF

On "ON/ARMED/RESET-TEST" remote control switch, press on "RESET-TEST" or set locator transmitter switch to "OFF", then to "ARM".

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SECTION 8

HANDLING, SERVICING AND MAINTENANCE

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TABLE OF CONTENTS
(Continued)

8.1 - GENERAL

This section contains the procedures recommended by the manufacturer for the proper ground handling and routine care and servicing of TBM 700 airplane. Also included in this section are the inspection and maintenance requirements which must be followed if your airplane is to retain its performance and dependability.

It is recommended that a planned schedule of lubrication and preventive maintenance be followed, and that this schedule be tailored to the climatic or flying conditions to which the airplane is subjected.

For this, see Manufacturer's Maintenance Manual.

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8.2 - IDENTIFICATION PLATE

Any correspondence regarding your airplane should include its serial number. This number together with the model number, type certificate number and production certificate number are stamped on the identification plate attached to the left side of the fuselage beneath the horizontal stabilizer.

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8.3 - PUBLICATIONS

When the airplane is delivered from the factory, it is supplied with a Pilot's Operating Handbook and supplemental data covering optional equipment installed in the airplane (refer to Section 9 "Supplements" and to pilot's guides).

In addition, the owner may purchase the following :

- Maintenance Manual
- Wiring Manual
- Illustrated Parts Catalog (Bilingual)
- Illustrated Tool and Equipment Manual
- Catalog of Service Bulletins, Service Letters and Service Information Letters

CAUTION

PILOT'S OPERATING HANDBOOK MUST ALWAYS BE IN THE AIRPLANE

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8.4 - INSPECTION PERIODS

Refer to regulations in force in the certification country for information concerning preventive maintenance to be carried out.

A maintenance Manual must be obtained prior to performing any preventive maintenance to make sure that proper procedures are followed. Maintenance must be accomplished by licensed personnel.

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8.5 - ALTERATIONS OR REPAIRS

It is essential that the Airworthiness authorities be contacted prior to any alterations or repairs on the airplane to make sure that airworthiness of the airplane is not violated. Alterations or repairs must be accomplished by licensed personnel.

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8.6 - GROUND HANDLING

CAUTION

ONLY MOVE OR TOW THE AIRPLANE WITH SOMEONE IN THE COCKPIT

TOWING

CAUTION

USING THE PROPELLER FOR GROUND HANDLING COULD RESULT IN SERIOUS DAMAGE, ESPECIALLY IF PRESSURE OR PULL IS EXERTED ON BLADE TIPS

The airplane should be moved on the ground with a towing bar and a suitable vehicle in order not to damage the nose gear steering mechanism. Nose gear fork is equipped with an integrated towing fitting.

CAUTION

DO NOT TOW THE AIRPLANE WHEN CONTROLS ARE SECURED

WHEN TOWING WITH A VEHICLE, DO NOT EXCEED THE NOSE GEAR TURNING ANGLE, AS THIS MAY RESULT IN DAMAGE TO THE GEAR AND STEERING MECHANISM

(see Figure 8.6.1)

PARKING

When parking the airplane, head it into the wind. Do not set the parking brake when brakes are overheated or during cold weather when accumulated moisture may freeze the brakes. Care should be taken when using the parking brake for an extended period of time during which an air temperature rise or drop could cause difficulty in releasing the parking brake or damage the brake system.

Make sure fuel selector is set to OFF.

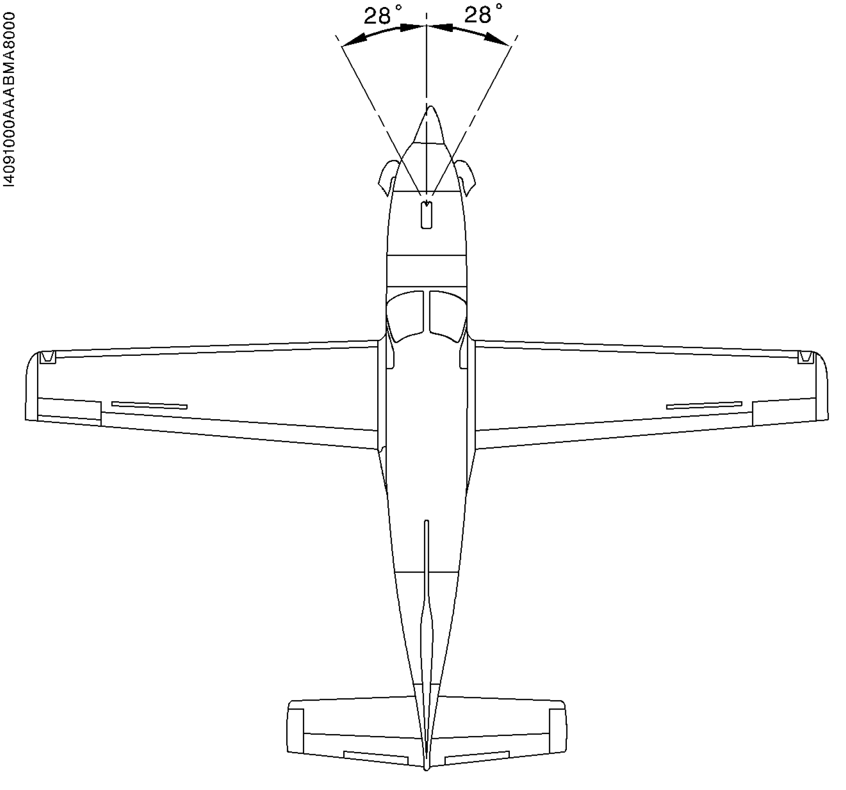


Figure 8.6.1 – TURNING ANGLE LIMITS

NOTE :
Do not use solar screens or shields installed on the aircraft inside, or leave sun visors down against windshield when aircraft on ground. The reflected heat from these items causes a temperature increase which accelerates the crack growth or crazing and may cause the formation of bubbles in the inner layer of multilayer windshields.

Beyond 24 hours parking, use windshield protection screen provided with lateral and underside straps.

For long term parking, blanking covers (static ports, pitot, engine air inlet), cockpit cover, tie-downs, wheel chocks and control lock are recommended.

In severe weather and high wind conditions, tie the airplane down as outlined in the following paragraph.

TIE-DOWN

Proper tie-down procedure is the best protection against damage to the airplane by gusty or strong winds. To tiedown the airplane securely, proceed as follows :

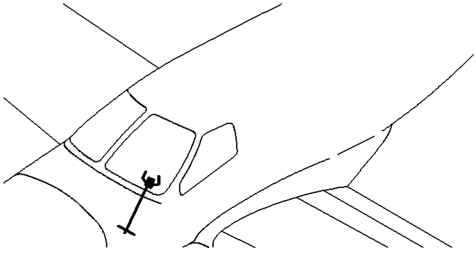
- Install control lock (see Figure 8.6.2).
- Chock all wheels.
- Tie sufficiently strong ropes or chains to hold airplane down ; insert a rope in each tie-down hole located on flap hinge arm ; secure each rope to a ramp tie-down or to mooring rod.
- Check that doors are closed and locked.

JACKING

When it is necessary to jack the airplane off the ground, refer to Maintenance Manual for specific procedures and equipment required.

LEVELING

Level the airplane as described in Maintenance Manual.



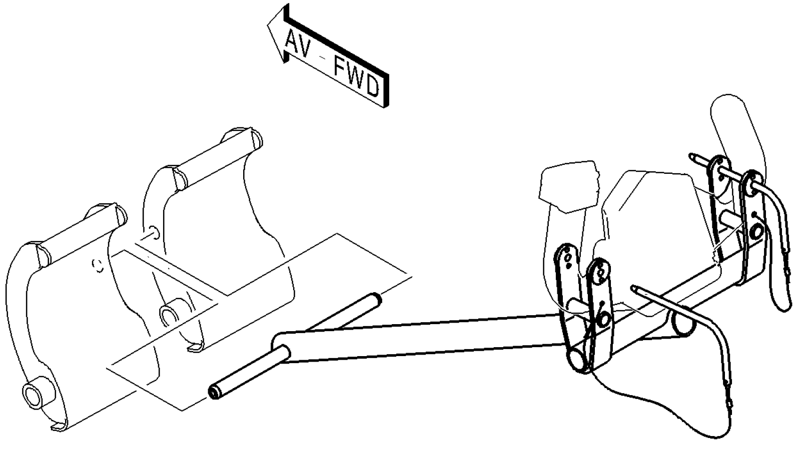


Figure 8.6.2 - CONTROL LOCK DEVICE

FLYABLE STORAGE

Airplanes placed in storage for a maximum of 28 days are considered in flyable storage.

Storage from 0 to 7 days :

- Engine : according to Maintenance Manual P & W – C

Airplane fueling :

- Keep fuel tanks full to minimize condensation in the tanks. Keep the battery fully charged to prevent the electrolyte from freezing in cold weather.

Storage from 8 to 28 days :

- Engine : according to Maintenance Manual P & W – C.

Airplane fueling :

- Keep fuel tanks full to minimize condensation in the tanks. Keep the battery fully charged to prevent the electrolyte from freezing in cold weather.

Battery (remaining in the airplane or removed) :

- Disconnect battery and check its charge level at regular intervals.

LONG TERM STORAGE WITHOUT FLYING

Refer to Maintenance Manual for the procedures to follow.

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8.7 - SERVICING

MAINTENANCE

In addition to the preflight inspection (refer to Section 4, "Normal Procedures"), servicing, inspection and test requirements for the airplane are detailed in the Maintenance Manual.

Maintenance Manual outlines all items which require servicing, inspection or testing or overhaul.

ENGINE OIL

Oil type :

CAUTION

DO NOT MIX DIFFERENT VISCOSITIES OR SPECIFICATIONS OF OIL AS THEIR DIFFERENT CHEMICAL STRUCTURE CAN MAKE THEM INCOMPATIBLE

Specification

Nominal Viscosity	Specification	NATO Code
5cSt	MIL-PRF-23699G	O.156 (STD) O.154 (HTS)

Figure 8.7.1 - RECOMMENDED ENGINE OIL TYPES
(Reference : Service Bulletin P & W - C. No. 14001 at the latest revision)

Oil capacity :

System total capacity :
12.7 Quarts (12 Litres) (oil cooler included)

Usable capacity :
6 Quarts (5.7 Litres)

Servicing :

The engine oil should be changed and the oil filter cleaned/replaced at intervals recommended in Pratt & Whitney Canada Engine Maintenance Manual (EMM) (Ref. Chapter 72-00-00, Table 601, Periodic Inspections).

Oil level check :

To avoid overfilling of oil tank, and high oil consumption, an oil level check is recommended within 30 minutes after engine shutdown. Ideal interval is 15 to 20 minutes. If more than 30 minutes have passed and the dipstick indicates that oil is needed, start the engine and run at LO-IDLE for five minutes, and recheck oil level.

Check oil level against marking on dipstick and top-up as required. Normal oil level is between MAX HOT and one US quart (0.83 Imp. Quart, 0.95 litres) below MAX HOT, with engine in horizontal attitude.

NOTE :
Filling the oil to the maximum level may result in high consumption rate, with the oil exiting through the accessory gearbox breather.

CAUTION

WHEN FILLER CAP ASSEMBLY IS INSTALLED AND LOCKED, NO MOVEMENT IS ALLOWED

FUEL

Total capacity each tank : 145.3 us gal (550 l).

NOTE :
To minimize condensation, it is recommended that airplane be refueled after each flight, respecting weight and balance limits.

CAUTION

NEVER FLY THE AIRPLANE WITH CONTAMINATED (WATER, SAND, RUST, DUST...) OR UNAPPROVED FUEL

Before each flight and after each fueling, use a sampler to bleed off some fuel through each tank and fuel filter drain to detect possible contamination and be sure that fuel used is the proper quality. If contamination is present, continue draining through all draining points until fuel is free of contamination. If quality of fuel used is not correct, defuel airplane completely and refuel with proper quality fuel.

CAUTION

DURING FUELING OPERATIONS, TAKE CARE NOT TO DAMAGE PNEUMATIC DEICER BOOTS LOCATED ON WING LEADING EDGE.

THE USE OF AVIATION GASOLINE (AVGAS) MUST BE RESTRICTED TO EMERGENCIES ONLY. AVGAS WILL NOT BE USED FOR MORE THAN 150 CUMULATIVE HOURS DURING ANY PERIOD BETWEEN ENGINE OVERHAUL

WARNING

DURING ALL FUELING OPERATIONS, FIRE FIGHTING EQUIPMENT MUST BE AVAILABLE ; ATTACH GROUNDING WIRE TO AN UNPAINTED METALLIC PART OF THE AIRPLANE.

DO NOT OPERATE ANY AVIONICS OR ELECTRICAL EQUIPMENT ON THE AIRPLANE DURING FUELING. DO NOT ALLOW OPEN FLAME OR SMOKING IN THE VICINITY OF THE AIRPLANE WHILE FUELING

NOTE :
Use of AVGAS must be recorded in engine module logbook

US Specification (US)	French Specification (FR)	English Specification (UK)	NATO Code
ASTM-D1655 JET A ASTM-D1655 JET A1 ASTM-D1655 JET B	AIR 3405C Grade F35	DERD 2494 Issue 9	F35 without additive
MIL-DTL-5624 Grade JP-4	AIR 3407B	DERD 2454 Issue 4 Amdt 1	F40 with additive
MIL-DTL-5624 Grade JP-5	AIR 3404C Grade F44	DERD 2452 Issue 2 Amdt 1	F44 with additive when utilization
MIL-DTL-83133 Grade JP-8	AIR 3405C Grade F34	DERD 2453 Issue 4 Amdt 1	F34 with additive S748
	AIR 3404C Grade F43	DERD 2498 Issue 7	F43 without additive

Figure 8.7.2 - RECOMMENDED FUEL TYPES
(Reference : Service Bulletin P & W - C. No. 14004)

Fuel additives

Fuel used must contain an anti-ice additive conforming to MIL-I-27686 or MIL-I-85470 specification.

Strict adherence to recommended preflight draining instructions as called for in Section 4 will eliminate any free water accumulations from the tank sumps. While small amounts of water may still remain emulsified in the gasoline, it will normally be consumed and go unnoticed in the operation of the engine.

One exception to this can be encountered when operating under the combined effect of use of certain fuels, with high humidity conditions on the ground followed by flight at high altitude and low temperature. Under these unusual conditions, small amounts of water emulsified can precipitate from the fuel stream and freeze in sufficient quantities to induce partial icing of the engine fuel system.

While these conditions are quite rare and will not normally be a problem to owners and operators, they do exist in certain areas of the world and consequently must be dealt with, when encountered.

Therefore, to alleviate the possibility of fuel icing occurring under these unusual conditions, it is required to add an ethylene glycol monomethyl ether (EGME or DIEGME) compound to the fuel supply.

The introduction of an EGME or DIEGME compound into the fuel provides two distinct effects :

- it absorbs the dissolved water from the fuel
- alcohol has a freezing temperature depressant effect.

EGME or DIEGME must be carefully mixed with the fuel in concentration, it must be between a minimum of 0.06 % and a maximum of 0.15 % by volume. Figure 8.7.3 provides EGME or DIEGME / fuel mixing ratio information.

CAUTION

DO NOT PERMIT THE CONCENTRATE OF EGME OR DIEGME TO COME IN CONTACT WITH THE AIRPLANE FINISH OR FUEL TANK

MIXING OF THE EGME OR DIEGME WITH THE FUEL IS EXTREMELY IMPORTANT. AN EXCESSIVE CONCENTRATION (GREATER THAN 0.15 % BY VOLUME MAXIMUM) WILL RESULT IN DETRIMENTAL EFFECTS TO THE FUEL TANKS BY DETERIORATION OF PROTECTIVE PRIMER, SEALANTS AND SEALS OF SYSTEM AND ENGINE COMPONENTS. USE ONLY BLENDING EQUIPMENT RECOMMENDED BY THE MANUFACTURER TO OBTAIN PROPER PROPORTIONING.

Prolonged storage of the airplane will result in a water buildup in the fuel which ”leeches out” the additive. An indication of this is when an excessive amount of water accumulates in the fuel tank sumps. The concentration can be checked using a differential refractometer. It is imperative that the technical manual for the differential refractometer be followed explicitly when checking the additive concentration.

Fuel and fuel additives in Ukraine and CIS countries

It is possible to use kerosene GOST 10227 RT with addition of anti-icing liquid :

- "ДНК" - GOST 13302-77 or
- liquid "И" - GOST 8313-88 or
- "ТГФ" M – TU-6-10-1457

with antistatic additives "СИГБ 01" – TU 38.101741-78.

Above-mentioned liquids are added in the quantity equal to 0.1 percent (up to 0.3 percent with regard to anti-icing liquid used) per volume.

CAUTION

REFER TO SERVICE BULLETIN P & WC No. 14004 AT ITS LATEST REVISION FOR APPROPRIATE QUANTITIES

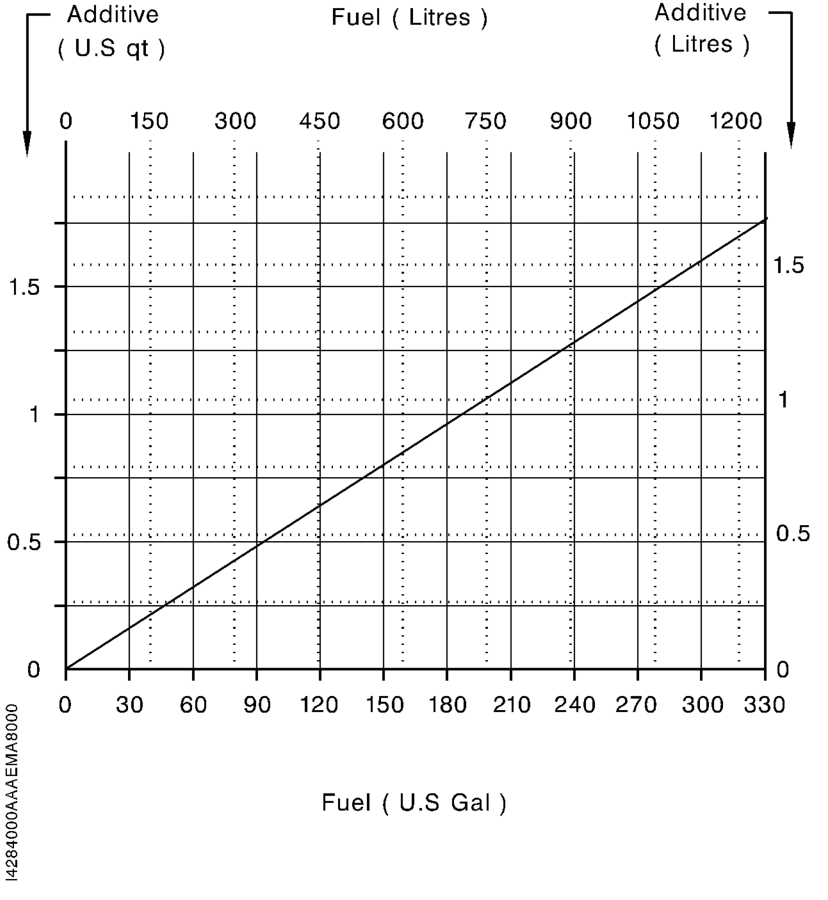

Figure 8.7.3 – ADDITIVE MIXING RATIO (EGME or DIEGME)

LANDING GEAR

Nose gear tire :

5.00-5 6 PR - Inflating pressure : 98 psi (6.7 bars) *

Main gear tires :

18 5.5 8 PR - Inflating pressure : 125 psi (8.6 bars) *

Nose gear shock absorber :

Fill with hydraulic fluid AIR 3520 B (MIL.H5606E) ; inflate with nitrogen to 87 psi (6 bar).

Main gear shock absorbers :

Fill with hydraulic fluid AIR 3520 B (MIL.H5606E) ; inflate with nitrogen to 160 psi (11 bar).

Hydraulic system :

Check every 100 hours and service with AIR 3520 B (MIL.H5606E) hydraulic fluid.

Brakes :

Service as required with AIR 3520 B (MIL.H5606E) hydraulic fluid.

NOTE :
A higher inflation pressure has to be applied to tires and shock absorbers when in very cold conditions (refer to Chapter 8.9).

(*) Tire inflation pressures are given for an airplane on ground at 21° C. An ambient temperature change of 3° C produces approximately 1 % pressure change.

OXYGEN

Indicating

When the "SOURCE" selector is set to "BAT" or "GPU", as soon as an oxygen generator is activated, the "OXYGEN" warning light located on the advisory panel illuminates.

The warning light remains illuminated as long as used generator is not replaced. Condition of the coloured band located around the generators provides activated generator identification. Amber turning to black indicates an used generator which will require removal according maintenance manual instructions in order to replace it with a new one.

WARNING

GENERATOR CHEMICAL REACTION LEADS TO AN INCREASE OF ITS EXTERNAL TEMPERATURE. FOR THAT REASON, KEEP ITS PROTECTIVE SHIELD CLEAR

NOTE :
During inspection do not pull generator lanyard as it is not possible to stop flow when activated.

Clean and inspect oxygen system at least once a year.
Pipe must be flexible. When mask is actuated, diaphragms must operate freely. Using a clean cloth previously soaked with alcohol, clean and remove all foreign material which may have accumulated.

8.8 - AIRPLANE CLEANING AND CARE

WINDSHIELD AND WINDOWS

The windshield and windows should be cleaned with an airplane windshield cleaner.

NOTE :
Refer to the Maintenance Manual for products and procedures to apply.

Apply the cleaner sparingly with soft cloths and rub with moderate pressure until all dirt, oil scum and bug stains are removed. Allow the cleaner to dry, then wipe it off with soft flannel cloth.

CAUTION

DO NOT USE ANY OF THE FOLLOWING PRODUCTS ON, OR FOR CLEANING WINDOWS : METHANOL, METHYLATED ALCOHOL, GASOLINE, BENZENE, XYLENE, METHYL-ETHYL-KETONE, ACETONE, CARBON TETRACHLORIDE, LACQUER PAINT THINNERS, COMMERCIAL OR HOUSEHOLD WINDOW CLEANING SPRAYS. IN CASE OF DOUBT CONCERNING A PRODUCT, DO NOT USE IT.

DURING CLEANING OPERATION, AVOID WEARING OBJECTS SUCH AS RING, WATCH, BRACELET AND EXERCISE CARE TO PREVENT BUTTONS, BUCKLES AND ANY HARD OBJECTS FROM TOUCHING THE WINDSHIELD AND THE WINDOWS.

ADHESIVE TAPES OTHER THAN MINNESOTA 3M TYPE 670 SHALL NOT BE USED ON ACRYLIC SURFACES.

NEVER USE BUFFING MACHINES AS EXCESSIVE FORCES OR SPEEDS MIGHT PRODUCE REDHIBITORY DEFECTS

Follow by carefully washing with a mild detergent and plenty of water. Rinse thoroughly, then dry with a clean moist chamois. Do not rub the plastic with a dry cloth since this builds up an electrostatic charge which attracts dust. Waxing will finish the cleaning operation. A thin, even coat of wax polished out by hand with clean soft flannel cloth will fill in minor scratches and help prevent further scratching.

Do not use a canvas cover on the windshield unless freezing rain or sleet is anticipated since the cover may scratch the plastic surface.

PAINTED SURFACES

Refer to Maintenance Manual for the products and procedures to apply.

PROPELLER CARE

Preflight inspection of propeller blades for nicks and cleaning them occasionally with a cloth soaked with soapy water to clean off grass and bug stains will assure long blade life. Small nicks on the propeller, particularly near the tips and on the leading edges, should be dressed out as soon as possible since these nicks produce stress concentrations, and if not removed, may result in cracks. Never use an alkaline cleaner on the blades ; remove grease and dirt.

ENGINE CARE

Refer to Maintenance Manual for the procedures to follow.

INTERIOR CARE

To remove dust and loose dirt from the upholstery and carpet, clean the interior regularly with a vacuum cleaner.

For additional information, refer to Maintenance Manual.

8.9 - UTILIZATION BY COLD WEATHER (- 0°C TO - 25°C) OR VERY COLD WEATHER (- 25°C TO - 40°C)

If a landing is foreseen by cold or very cold weather or in case of airplane prolonged operation in such conditions, it is recommended to prepare the airplane as follows :

1 - Smear with silicone grease the seals of the door and engine cowlings, as well as the leading edge deicers.

2 - Apply engine oil on the engine cowling latches.

3 - Inflate tires and shock-absorbers according to following table 1.

NOTE :
Check pressure values in a hangar heated at about 15°C with control equipment at room temperature.

	OAT (°C)	- 40°	- 30°	- 20°	- 10°	+ 15°
PRESSURES psi (bars)	Main landing gear shock-absorber	232 (16)	218 (15)	189 (13)	160 (11)	160 (11)
	Nose gear shock-absorber	145 (10)	131 (9)	116 (8)	102 (7)	102 (7)
	Main landing gear tire	134 (9.25)	134 (9.25)	120 (8.25)	120 (8.25)	120 (8.25)
	Nose gear tire	108 (7.5)	108 (7.5)	94 (6.5)	94 (6.5)	94 (6.5)

Table 1

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SUPPLEMENT

"BENDIX / KING" AUTOPILOT
TYPE KFC 275

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is provided to acquaint the pilot with the limitations as well as normal and emergency operating procedures of the BENDIX / KING KFC 275 Digital Autopilot. The limitations presented are pertinent to the operation of the KFC 275 System as installed in the TBM 700 airplane. The Autopilot must be operated within the limitations herein specified.

The KFC 275 Autopilot is certified in this airplane with 3 axis control, pitch, roll and yaw damper. The various instruments and the controls for the operation of the KFC 275 System are described in the following pages.

The KFC 275 Autopilot has an electric pitch trim system which provides autotrim during autopilot operation and manual electric trim for the pilot when the autopilot is not engaged. The trim system is designed to withstand any single inflight malfunction.

A lockout device prevents autopilot engagement until the system has been successfully preflight tested.

The following conditions will cause the Autopilot to automatically disconnect :

A - Power failure.

B - Internal Flight Control System failure.

C - Roll rates in excess of 10° / sec. except when the "CWS" push-button is held depressed.

D - Pitch rates in excess of 5° / sec. except when the "CWS" push-button is held depressed.

E - Accelerations outside of a 0.3 g to 1.6 g envelope (1.0 g's being normal for straight and level flight).

F - The presence of "GYRO" flag.

G - Any movement of the roll trim except when the "CWS" push-button is held depressed.

H - Any movement of the pitch trim.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

A - During autopilot operation, a pilot with seat belt fastened must be seated at the left pilot position.

B - The autopilot and yaw damper must be OFF during takeoff and landing.

C - Do not engage autopilot below 1000 ft (300 m) above ground level in cruise or climb.

D - Do not use autopilot in approach under 200 ft (60 m).

E - Autopilot engagement is prohibited with the "PITCH TRIM" circuit-breaker pulled.

F - IAS for localizer interception is limited to 160 kt.

G - In "APR" mode - "GS" coupled, flaps must be fully extended in landing position before crossing the OM.

H - Do not use the KI 254 for an attitude reference when the GYRO flag is in view

I - Do not use the KI 254 command bars when the FD and / or GYRO flag(s) is (are) in view.

NOTE 1 :
Use of basic pitch attitude hold mode is recommended during operation in severe turbulence.

NOTE 2 :
It is recommended not to use the autopilot with a too high rate of descent below 2000 ft (600 m) above ground level.

SECTION 3
EMERGENCY PROCEDURES

These procedures supplement those of standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

AUTOPILOT OR ELECTRIC PITCH TRIM MALFUNCTION

1 - "AP / TRIMS DISC INT" push-button .... **PRESSED and HELD**

2 - "AP / TRIMS MASTER" switch .... **OFF**

3 - "AP / TRIMS DISC INT" push-button .... **RELEASED**

4 - If necessary, control wheel .... **RETRIM**

CAUTION

WHEN DISCONNECTING THE AUTOPILOT AFTER A PITCH TRIM MALFUNCTION, HOLD THE CONTROL WHEEL FIRMLY ; UP TO 30 POUNDS OF FORCE ON THE CONTROL WHEEL MAY BE NECESSARY TO HOLD THE AIRPLANE LEVEL

NOTE :
Maximum altitude losses due to autopilot malfunction :

Configuration	*Altitude loss*
Cruise, climb	*200 ft*
Maneuver, descent	*800 ft*
Approach	*90 ft*

ENGINE FAILURE (AUTOPILOT COUPLED)
1 - "AP / TRIMS DISC INT" push-button .... **PRESSED**
2 - In case of engine failure, apply the basic airplane Pilot's Operating Handbook procedures.

SECTION 4
NORMAL PROCEDURES

4.1 - GENERAL

These procedures supplement those of standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

4.2 - LIST OF GROUND CHECKS

BEFORE TAXIING

AUTOPILOT AUTOTEST

1 - Check no "GYRO" and "HDG" flags

2 - "TEST" button .... **PRESS**

3 - Check :

- All annunciator lights of control box ON ("TRIM" annunciator flashing).
- After approximately 5 seconds, all annunciator lights of control box OFF except "AP" which will flash approximately 12 times prior to extinguishing and be accompanied by the autopilot audible disconnect tone.

NOTE :
If "TRIM" warning light on the mode controller stays ON, the autotrim did not pass preflight test. The "AP / TRIMS MASTER" switch must be turned to "AP OFF" position. The flight director may be used but the electric pitch trim will be inoperative and the autopilot should not be engaged.

BEFORE TAXIING (Cont'd)

MANUAL ELECTRIC TRIM TEST

1 - Actuate left side of split switch unit to the fore and aft positions. The trim wheel should not move on its own. Rotate the trim wheel manually against the engaged clutch to check the pilot's trim overpower capability.

2 - Actuate right side of split switch unit to the fore and aft positions. Trim wheel should not move on its own and normal trim wheel force is required to move it manually.

3 - Press the "AP / TRIMS DISC INT" push-button down and hold.
Manual electric trim should not operate either nose up or nose down when both halves of the split switch are actuated to the fore and aft positions.

AUTOMATIC ELECTRIC TRIM TEST

1 - "AP" button .... **PRESS**
to engage autopilot

2 - Control wheel .... **MOVE**
aft, fore, left and right to verify that the autopilot can be overpowered

3 - "AP / TRIMS DISC INT" push-button .... **PRESS**
Verify that the autopilot disconnects and all flight director modes are cancelled

4 - Trim .... **SET**
to takeoff position

BEFORE TAKEOFF

1 - "AP / TRIMS DISC INT" push-button .... **PRESS**

4.3 - LIST OF INFLIGHT CHECKS

AUTOPILOT ENGAGEMENT

"AP" button .... **PRESS**

Note "AP", "FD" and "YD" annunciators ON. If no other flight director modes are selected at the time of autopilot engagement the mode of operation will be flight director wings level and pitch attitude hold.

CAUTION

DO NOT EXERT ANY PRESSURE ON THE PITCH CONTROL AS THE AUTOPILOT WILL RUN THE PITCH TRIM TO OPPOSE YOUR ACTION

NOTE :
Significant balance changes can occur with speed / power changes or fuel imbalance. With AP engaged it is therefore necessary to check regularly that the plane is trimmed in the roll axis by pressing the "CWS" push-button and if needed retrimming the plane. In case of action on the roll trim, the "CWS" push-button must be kept depressed, otherwise the AP will disconnect.

BASIC MODES

USING CWS

1 - "CWS" push-button .... **PRESS and MOVE airplane nose to the desired attitude**

2 - "CWS" push-button .... **RELEASE**

The autopilot will maintain airplane pitch attitude up to the pitch limits of + 15° or - 10°.

USING VERTICAL TRIM

1 - Vertical trim control .... **PRESS either "UP" or "DOWN" to modify airplane attitude at a rate of 0.7 deg / sec. up to the pitch limits of + 15° or - 10°**

2 - Vertical trim control .... **RELEASE when desired airplane attitude is reached**

The autopilot will maintain the desired pitch attitude.

ALTITUDE MODES

ALTITUDE HOLD

1 - "ALT" mode selector button .... **PRESS**
Note ALT mode annunciator ON

The autopilot will maintain the selected pressure attitude.

ALTITUDE CHANGE

1 - Using "CWS" (recommended for altitude changes greater than 100 ft).

- "CWS" push-button .... **PRESS**
and fly airplane to desired pressure altitude

- "CWS" push-button .... **RELEASE**
when desired pressure altitude is reached

The autopilot will maintain the desired pressure altitude.

2 - Using Vertical Trim (recommended for altitude changes less than 100 ft).

- Vertical trim control .... **PRESS**
either "UP" or "DOWN"

Vertical Trim will seek an altitude rate of change of about 500 ft / min.

- Vertical trim control .... **RELEASE**
when desired pressure altitude is reached

The autopilot will maintain the desired pressure altitude.

SPEED MODES

INDICATED AIRSPEED HOLD

1 - "IAS" mode selector button .... **PRESS**
Note the IAS mode annunciator ON

The autopilot will maintain the current indicated airspeed.

SELECTED INDICATED AIRSPEED CHANGE

1 - Using "CWS" (recommended for airspeed changes of 10 KIAS or greater)

- "CWS" push-button .... **PRESS**
and fly airplane to desired airspeed

- "CWS" push-button .... **RELEASE**
when desired airspeed is reached

The autopilot will maintain the desired airspeed.

2 - Using Vertical Trim (recommended for airspeed changes less than 10 KIAS).

- Vertical trim control .... **PRESS**
either "UP" or "DOWN"

Vertical Trim will seek a new airspeed at a rate of about 0.75 knots per second.

- Vertical trim control .... **RELEASE**
when desired time in seconds has past
i.e. 10 KIAS change desired hold V / T
for approximately 13 seconds

The autopilot will maintain the desired airspeed.

HEADING MODES

HEADING HOLD

1 - Heading selector knob .... **SET bug to desired heading**

2 - "HDG" mode selector button .... **PRESS**
Note HDG mode annunciator ON

The autopilot will automatically turn the airplane to the selected heading

MANUAL HEADING CHANGE (basic mode)

1 - "CWS" push-button .... **PRESS and TURN airplane to the desired heading**

2 - "CWS" push-button .... **RELEASE**

The autopilot will maintain airplane in wings level attitude.

NOTE :
Airplane heading may change in the wings level mode due to an airplane out of trim condition.

HEADING CHANGE ("HDG" mode)

1 - Heading selector knob .... **SET bug to desired heading**

The autopilot will automatically turn the airplane to the new selected heading.

NAVIGATION MODE

1 - Course bearing pointer .... **SET to desired course**

2 - Establish intercept angle using wings level or "HDG" modes.

3 - "NAV" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with the "NAV-ARM" annunciators illuminated. When the computed capture point is reached, the "HDG" will disengage, the "ARM" annunciator will turn off and the selected course will be automatically captured and tracked.
- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "NAV" mode ; the "NAV" annunciator will illuminate and the capture / track sequence will automatically begin.

NOTE :
When making relatively small course changes with "NAV" mode engaged, it may be necessary to reinitiate the "NAV" coupling procedures described in the previous paragraph. This will force the autopilot back into a capture mode, allowing the system to establish tracking the new course more rapidly.

APPROACH MODE

1 - Course bearing pointer .... **SET to desired course**

2 - Establish intercept angle using wings level or "HDG" modes.

3 - "APR" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with the "APR-ARM" annunciators illuminated. When the computed capture point is reached the "HDG" will disengage, the "ARM" annunciators will turn off and the selected course will be automatically captured and tracked.

- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "APR" mode ; the "APR" annunciator will illuminate steady and the capture / track sequence will automatically begin.

BC APPROACH MODE

1 - Course bearing pointer .... **SET**
to the ILS front course inbound heading

2 - Establish intercept angle using wings level or "HDG" mode.

3 - "BC" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with "APR-ARM", "BC" annunciated. When the computed capture point is reached the "HDG" will disengage, the ARM annunciators will turn off and the selected course will be automatically captured and tracked.

- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "BC" mode ; the "APR" and "BC" annunciators will illuminate and the capture / track sequence will automatically begin.

GLIDE SLOPE MODE

NOTE :
"Glide Slope" coupling is inhibited when operating in "NAV" or "APR" + "BC" modes. "Glide Slope" coupling occurs automatically in the "APR" mode.

1 - "APR" mode .... **ENGAGED**

2 - At Glide Slope centering .... **CHECK**
"GS" annunciator ON

NOTE :
The autopilot can capture "Glide Slope" from above or below the beam while operating in either pitch attitude hold, IAS hold, VS hold or ALT hold modes.

NOTE :
If after "Glide Slope" coupling the "Glide Slope" signal becomes inadequate ("GS" flag in view), the "Glide Slope" annunciator will flash at least six times before extinguishing and the system will transfer to pitch attitude hold.
If a valid "Glide Slope" signal returns within six seconds the system will automatically recouple.
If a valid "Glide Slope" signal does not return within six seconds, the airplane must once again pass through the "Glide Slope" beam to achieve "Glide Slope" coupling.

GO-AROUND MODE

1 - Power lever "GA" push-button .... **PRESS**
to disengage the autopilot (if engaged) and engage the flight director (if not engaged) in a wings level, pitch up command to + 7.5° attitude. Note GA mode annunciator ON

2 - MISSED APPROACH .... **EXECUTE**

3 - Airplane .... **TRIM**

4 - Lateral guidance (Select one mode)

- "HDG" mode .... **SET bug and PRESS "HDG" push-button**
- "NAV" mode .... **PRESS "NAV" push-button**
- "APR" mode .... **PRESS "APR" push-button**

Glide Slope coupling will be inhibited so that the LOC can be tracked outbound (the autopilot will not couple to false Glide Slope signals as long as "GA" is engaged.

"GA" is disconnected whenever a vertical mode is engaged.

HALF-BANK ANGLE MODE

"HALF-BANK" mode button .... **PRESS**

The commanded bank angle will be reduced to $\frac{1}{2}$ the normal value. This mode is functional during "HDG" and "NAV" mode operations but will be automatically deselected and inhibited during "APR" (normal or BC) coupled operations.

SOFT RIDE MODE

"SOFT RIDE" mode button .... **PRESS**

This mode softens the autopilot's commands to provide a smoother ride during operations in turbulence. The normal autopilot performance (maintaining heading, maintaining wings level, maintaining attitude, maintaining airspeed and / or maintaining altitude) will be degraded by use of the Soft Ride mode.

BEFORE LANDING

"AP / TRIMS DISC INT" push-button .... **PRESS to disengage autopilot and yaw damper**

4.4 - FLIGHT DIRECTOR OPERATION

The flight director modes of operation are the same as those used for autopilot operations except the autopilot is not engaged and the pilot must maneuver the airplane to satisfy the flight director commands.

SECTION 5
PERFORMANCE

The installation and the operation of the autopilot do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to KFC 275 "BENDIX KING" autopilot are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

7.1 - KMC 321 CONTROLLER

This mode controller consists of nine Flight Director mode select push-buttons (Push On - Push Off), mode annunciators, the vertical trim control, the yaw damper engage / disengage push-button, the autopilot engage / disengage push-button and the preflight test push-button.

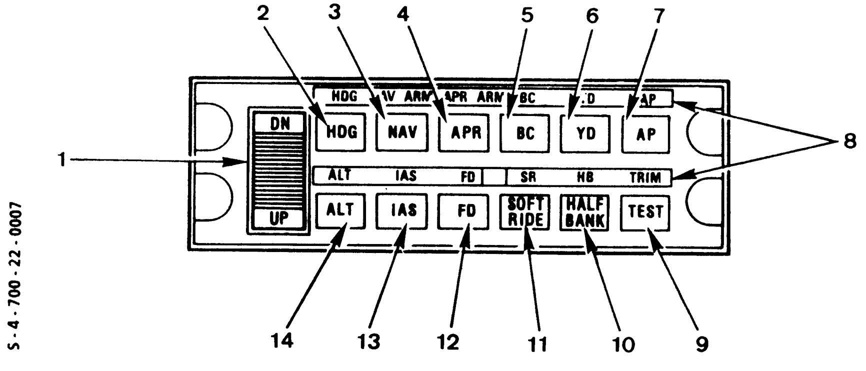

Figure 9.1.1 - KMC 321 AUTOPILOT MODE CONTROLLER

Item 1 - VERTICAL TRIM CONTROL

A spring loaded to center rocker switch which will provide up or down pitch command changes :

- While in Pitch Attitude Hold mode will adjust the pitch attitude at a rate of 0.7° / sec.
- While in Altitude Hold mode will adjust the altitude at a rate of 500 ft / min.
- While in Indicated Airspeed Hold mode will adjust the airspeed at a rate of 0.75 kt / sec.
- While in the Vertical Speed Hold mode will adjust the vertical speed at a rate of 100 ft / min / sec.

Item 2 - HEADING (HDG) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Heading mode which commands the airplane to turn to and maintain the heading selected by the heading bug on the HSI. A new heading may be selected at any time and will result in the airplane turning to the new heading with a maximum bank angle of about 25°. Selecting "HDG" mode will cancel "NAV", "APR" or "BC" track modes.

Item 3 - NAVIGATION (NAV) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Navigation mode. The mode provides all angle intercepts, automatic beam capture and tracking of "VOR", "RNAV" or LOC signals. The "NAV-ARM" annunciators located above this push-button will illuminate until the automatic capture sequence is initiated, then "ARM" will extinguish. The KA 185A mode annunciator will annunciate the same sequence. A loss of radionavigation signal during more than 7.5 sec. will turn autopilot to wings level attitude basic mode. In that case, "NAV" mode flashes on the mode annunciator.

Item 4 - APPROACH (APR) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Approach mode. This mode provides all angle intercepts, automatic beam capture and tracking of "VOR", "RNAV" or "LOC" signals plus glideslope coupling in the case of an ILS. The tracking gain of the "APR" mode is greater than the gain in the "NAV" mode. The "APR-ARM" annunciators located above this button will illuminate until the automatic capture sequence is initiated, then "ARM" will extinguish. The KA 185A mode annunciator will annunciate the same sequence.

Item 5 - BACK COURSE APPROACH (BC) MODE SELECTOR PUSH-BUTTON
When pushed will select the Back Course Approach mode. This mode functions identically to the Approach mode except that response to LOC signals is reversed. Glideslope coupling is inhibited in the Back Course Approach mode. The "BC" annunciators (both the KMC 321 and the KA 185A) will illuminate when this mode is activated plus the Approach Mode annunciators will function as described in Item 4.

Item 6 - YAW DAMPER ENGAGE (YD) PUSH-BUTTON
When pushed, engages the yaw damper independent of the autopilot. When pushed with the yaw damper engaged, disengages the yaw damper.

Item 7 - AUTOPILOT ENGAGE (AP ENG) PUSH-BUTTON
When pushed, engages autopilot and yaw damper if all logic conditions are met. When pushed again, disengages autopilot but does not disengage the yaw damper.

Item 8 - MODE ANNUNCIATORS
The mode symbol located above each mode push-button will illuminate when the mode is engaged except for the "NAV" and "APR" modes. When either the "NAV", "APR" or "BC" mode push-button is pressed, the appropriate "ARM" annunciator above either the "NAV" or "APR" mode push-button will illuminate until the automatic beam capture sequence is initiated. At beam capture "NAV" or "APR" will be annunciated above either the "NAV" or "APR" mode push-button. Normally, the "NAV" or "APR" coupled conditions follow an "ARM" condition but the coupled condition may be entered into directly if the beam capture criteria are met when "NAV", "APR" or "BC" is selected.

Item 9 - PREFLIGHT TEST (TEST) PUSH-BUTTON
When momentarily pushed, initiates preflight test sequence which automatically turns on all annunciator lights, tests the roll and pitch rate monitors, tests the autotrim fault monitor, checks the manual trim drive voltage and tests all autopilot valid and disengage logic. If the preflight test is successfully passed, the "AP" annunciator light will flash for approximately 6 seconds (an audible tone will also sound simultaneously with the annunciator flashes).
The autopilot cannot be engaged until the autopilot preflight tests are successfully passed.

Item 10 - HALF BANK (HB) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Half Bank mode which reduces the certified autopilot commanded maximum bank angle to one half the normal value. This mode is automatically disengaged when the "APR" or "BC" mode is activated.

Item 11 - SOFT RIDE (SR) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Soft Ride mode which reduces the autopilot commands. This command reduces the autopilot aggressivenesss which results in a more comfortable ride in turbulent air conditions. This mode is only intended to be used during turbulent air conditions. Routine use of this mode during all flight conditions will result in less than optimum autopilot performance. This mode is automatically disengaged when the "APR" or "BC" mode is activated.

Item 12 - FLIGHT DIRECTOR (FD) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Flight Director mode bringing the Command Bar in view on the Attitude and Flight command display indicator KI 254 or KI 256 and will command wings level and pitch attitude hold.

Item 13 - INDICATED AIRSPEED HOLD (IAS) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Indicated Airpseed Hold mode. The autopilot varies the airplane pitch attitude in order to maintain the selected airspeed during changing air conditions, power changes and / or airplane configuration changes.

Item 14 - ALTITUDE HOLD (ALT) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Altitude Hold mode, which commands the airplane to maintain the pressure altitude existing at the moment of selection.
Engagement may be accomplished in climb, descent, or level flight. In the "APR" mode, altitude hold will automatically disengage when the Glideslope is captured.

7.2 - GO-AROUND PUSH-BUTTON

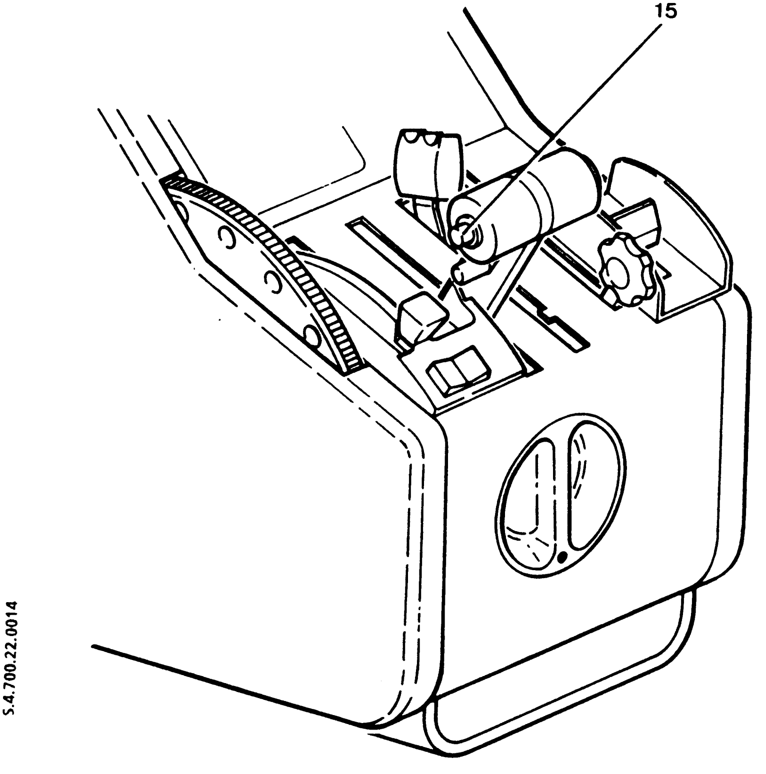

Figure 9.1.2 - GO-AROUND PUSH-BUTTON

Item 15 - GO AROUND (GA) MODE SELECTOR PUSH-BUTTON
The button located on the left side of the throttle lever, when pressed, disengages the autopilot and "NAV" or "APR" modes, if engaged. Flight director gives order which allows keeping a fixed pitch up attitude of 8 degrees. GA will annunciate on the EADI mode annunciator. The autopilot and any lateral mode may be re-engaged after the GO AROUND attitude has been manually established. Initiation of any other vertical mode cancels GO AROUND. If GO AROUND is active, Glideslope mode is inhibited.

7.3 - KA 185A MODE ANNUNCIATOR

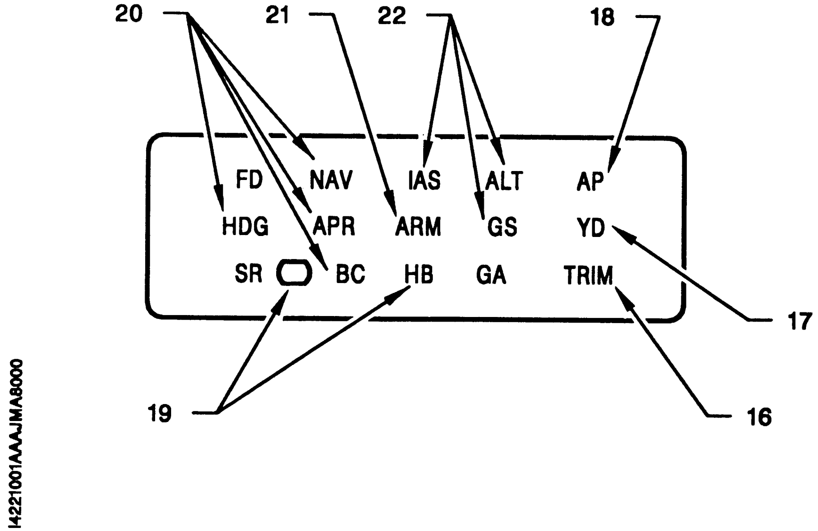

Figure 9.1.3 - KA 185A MODE ANNUNCIATOR

Item 16 - AUTOPILOT ANNUNCIATOR (red TRIM)
Flashes for a short time whenever the autopilot is disengaged (an audible tone operates too during 2 seconds).

Item 17 - YAW DAMPER (YD) ANNUNCIATOR
Illuminates continuously whenever the yaw damper is engaged. Flashes for a short time whenever the yaw damper is disengaged.

Item 18 - AUTOPILOT (green AP) ANNUNCIATOR
Illuminates whenever the autopilot is engaged.

Item 19 - MODE ANNUNCIATORS
SR (soft ride) : indicates that mode, which softens autopilot commands, is engaged.

HB (half-bank) : indicates that mode, reducing bank angle by a half, is engaged. This mode is automatically disengaged when approach mode is engaged.

Item 20 - ENGAGED LATERAL MODE (green)
Possible modes are "HDG", "NAV", "APR" or "BC".

Item 21 - ARMED LATERAL MODE (white)
Possible modes are "NAV", "APR" or "BC".

Item 22 - ENGAGED LONGITUDINAL MODE (green)
Possible modes are "ALT", "ALTC", "IAS", "VS" or "GS". "ALTC" and "VS" modes appear on the KAS 297C indicator described in Supplement 2.

7.4 - DIRECTIONAL GYRO SLAVING CONTROL

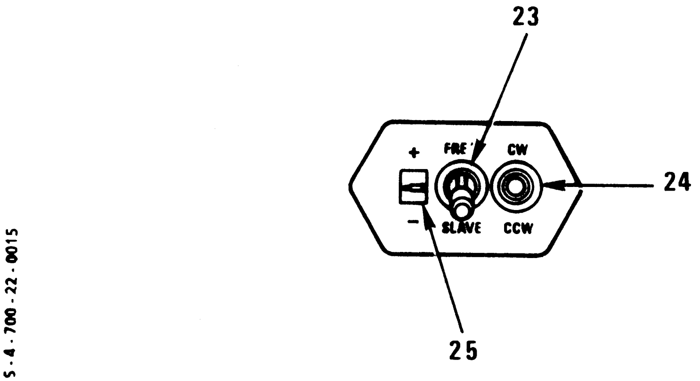

Figure 9.1.4 - KA 51B SLAVING CONTROL AND COMPENSATOR UNIT

Item 23 - FREE / SLAVE COMPASS SLAVE SWITCH
Selects either the manual (FREE) or automatic slaving (SLAVE) mode for the compass system.

Item 24 - CW / CCW COMPASS MANUAL SLAVE SWITCH
With the FREE / SLAVE compass slave switch in the FREE position, allows manual compass card to rotate either clockwise or counterclockwise. The switch is spring loaded to the center position.

Item 25 - SLAVING METER
Indicates the difference between the displayed heading and the magnetic heading. Deflection upwards indicates a clockwise error of the compass card. Deflection downwards indicates a counterclockwise error of the compass card.

7.5 - AUTOPILOT CONTROL WHEEL SWITCH CAP

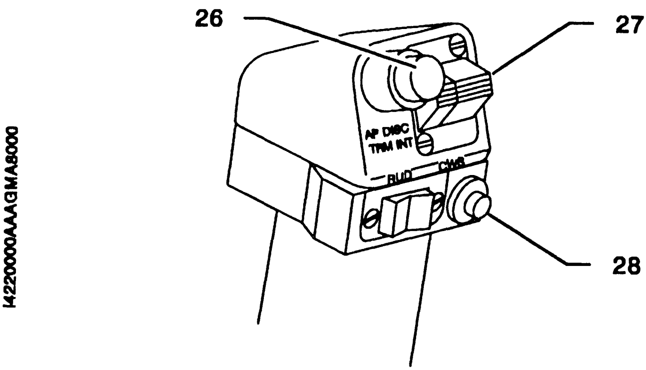

Figure 9.1.5 - AUTOPILOT CONTROL WHEEL SWITCH CAP

Item 26 - AUTOPILOT DISCONNECT / TRIM INTERRUPT (AP / TRIMS DISC INT) PUSH-BUTTON
When shortly depressed, will disengage the autopilot and cancel all operating flight director modes. When depressed and held will interrupt all electric trims power (stop trims motion).

Item 27 - MANUAL ELECTRIC PITCH TRIM CONTROL SWITCHES
A split switch unit in which the left half provides power to engage the trim servo clutch and the right half to control the direction of motion of the trim servo motor. Both halves of the split trim switch must be actuated in order for the manual electric trim to operate in the desired direction. When the autopilot is engaged, operation of the manual electric trim will automatically disconnect the autopilot. (The flight director will remain engaged and the yaw damper will remain engaged if already engaged).

Item 28 - CONTROL WHEEL STEERING (CWS) PUSH-BUTTON
When depressed, allows pilot to manually control the airplane (disengages the pitch, roll and pitch trim servos) without cancellation of any of the selected modes. Will engage the flight director mode if not previously engaged. Automatically synchronizes the flight director / autopilot to the pitch attitude present when the CWS switch is released, to the present pressure altitude when operating in the Altitude hold mode, to the present Vertical Speed when operating in the vertical speed hold mode or to the present Indicated Airspeed when operating in the indicated airspeed hold mode.

7.6 - "AP / TRIMS MASTER" SWITCH

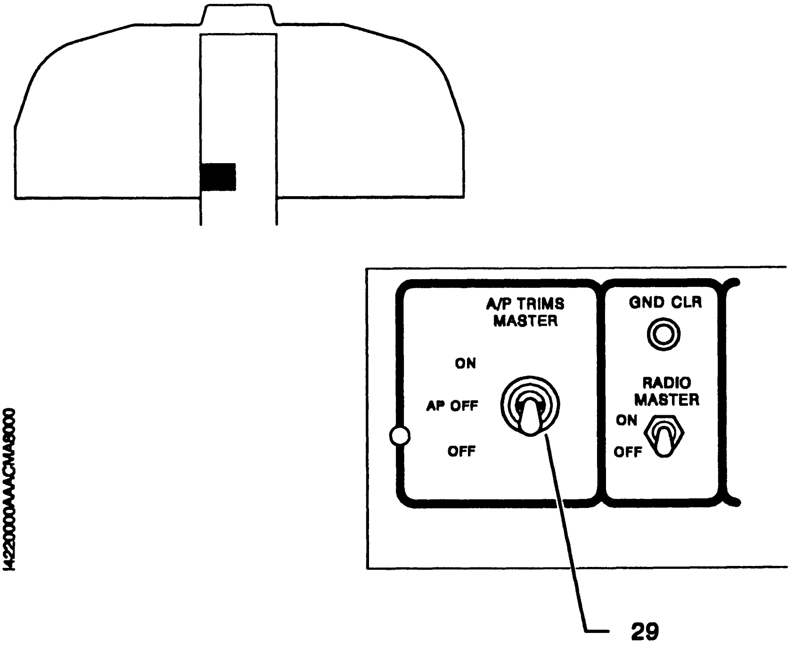

Figure 9.1.6 - "AP / TRIMS MASTER" SWITCH

Item 29 - "AP / TRIMS MASTER" SWITCH
Controls power to all autopilot components and to all electric trims. When set to AP OFF position, autopilot and electric pitch trim are inoperative. When set to OFF position, autopilot and electric trims are inoperative.

7.7 - CIRCUIT-BREAKERS

Autopilot components are supplied through following circuit-breakers :

LABEL	FUNCTION
AP / TRIMS	Supplies power to KCP 220 autopilot computer, to KS 270A pitch servo, to KS 271A roll servo, to KS 271A yaw servo and to "PITCH TRIM", "AIL TRIM", "RUD TRIM", "AP DISC" and "AP ALT SEL" circuit-breakers.
AP ALERT	Supplies power to the KAA 15 alarm unit.
AP ALT SEL	Supplies power to the KAS 297C vertical speed and altitude selector.
GYRO	Supplies power to the KSG 105 directional compass, to the KVG 350 vertical unit and to the KRG 332 yaw rate gyro.
PITCH TRIM	Supplies power to the KS 272A electric pitch trim.
AP DISC	Delivers a control signal (28 VDC switched by "AP DISC TRM INT" switch) to the KCP 220 autopilot computer and to the KAA 15 alarm unit.

7.8- KI 256 ATTITUDE AND FLIGHT COMMAND DISPLAY INDICATOR (ADI)

KI 256 Attitude and Flight Command Display Indicator (ADI) displays airplane attitude as a conventional attitude gyro and displays commands for flight director operation. The gyro is air driven. (Not used when optional BENDIX / KING EFS-40 is installed).

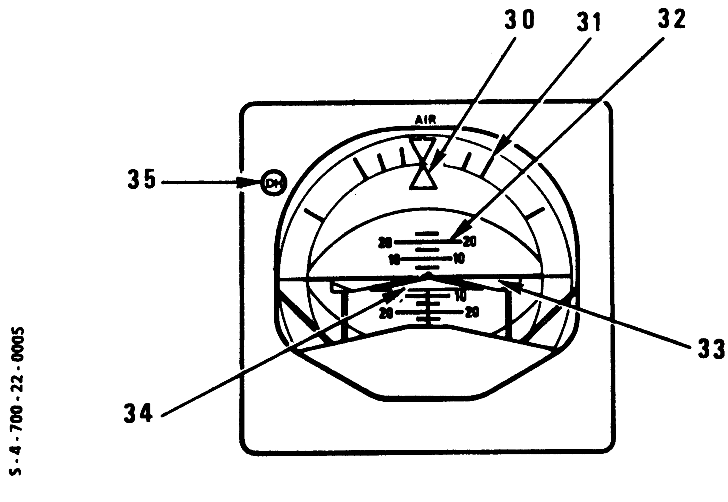

Figure 9.1.7 - KI 256 PNEUMATIC ATTITUDE AND FLIGHT COMMAND DISPLAY INDICATOR

Item 30 - ROLL ATTITUDE INDEX
Displays airplane roll attitude with respect to the roll attitude scale.

Item 31 - ROLL ATTITUDE SCALE
Scale marked at 0, ± 10, 20, 30, 60 and 90 degrees.

Item 32 - PITCH ATTITUDE SCALE
Moves with respect to the symbolic airplane to present pitch attitude. Scale graduated at 0, ± 5, 10, 15, 20 and 25 degrees.

Item 33 - COMMAND BAR
Displays computed steering commands referenced to the symbolic airplane. The command bar is visible only when FD mode is selected. The command bar will be biased out of view whenever the system is invalid or a Flight Director mode is not engaged.

Item 34 - SYMBOLIC AIRPLANE
Airplane pitch and roll attitudes are displayed by the relationship between the fixed symbolic airplane and the movable background.
During flight director operation, the symbolic airplane is flown to align it with the command bar to satisfy the flight director commands.

Item 35 - DECISION HEIGHT (DH) ANNUNCIATOR
Optional light for use with the airplane optional radar altimeter.

7.9 - KI 254 ATTITUDE AND FLIGHT COMMAND DISPLAY INDICATOR (ADI)

KI 254 Attitude and Flight Command Display Indicator (ADI) displays airplane attitude as a conventional attitude gyro and displays commands for flight director operation. The vertical gyro is electrically driven and not integrated to the horizon. (Not used when optional BENDIX / KING EFS-40 is installed).

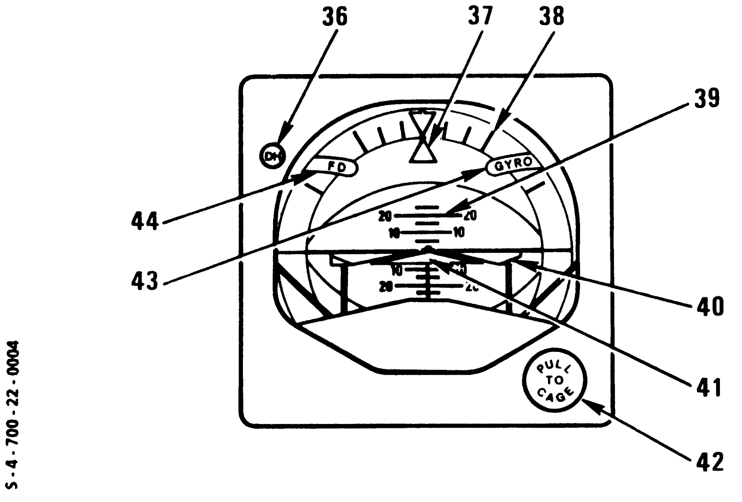

Figure 9.1.8 - KI 254 ELECTRIC ATTITUDE AND FLIGHT COMMAND DISPLAY INDICATOR

Item 36 - DECISION HEIGHT (DH) ANNUNCIATOR LIGHT
Optional light for use with the airplane optional radar altimeter.

Item 37 - ROLL ATTITUDE INDEX
Displays airplane roll attitude with respect to the roll attitude scale.

Item 38 - ROLL ATTITUDE SCALE
Scale marked at 0, ± 10, 20, 30, 60 and 90 degrees.

Item 39 - PITCH ATTITUDE SCALE
Moves with respect to the symbolic airplane to present pitch attitude. Scale graduated at 0, ± 5, 10, 15, 20 and 25 degrees.

Item 40 - COMMAND BAR
Displays computed steering commands referenced to the symbolic airplane. The command bar is visible only when FD mode is selected. The command bar will be biased out of view whenever the system is invalid or a Flight Director mode is not engaged.

Item 41 - ADI SYMBOLIC AIRPLANE
Airplane pitch and roll attitude is displayed by the relationship between the fixed symbolic airplane and the movable background.
During Flight Director operation, the symbolic airplane is flown to satisfy the flight director commands.

Item 42 - GYRO CAGING KNOB
Pull to cage the gyro.

NOTE :
The gyro should be caged only while the aircraft is in level flight or a relatively level attitude on the ground.

Item 43 - GYRO FLAG
Indicates an attitude gyro malfunction.

Item 44 - FD FLAG
Indicates a flight director malfunction.

7.10 - KI 525A HORIZONTAL SITUATION INDICATOR (HSI)

KI 525A Horizontal Situation Indicator (HSI) provides a pictorial presentation of airplane deviation relative to VOR radials or localizer beams. It also displays Glide Slope deviations and gives heading reference with respect to magnetic north. (Not used when optional BENDIX / KING EFS-40 is installed).

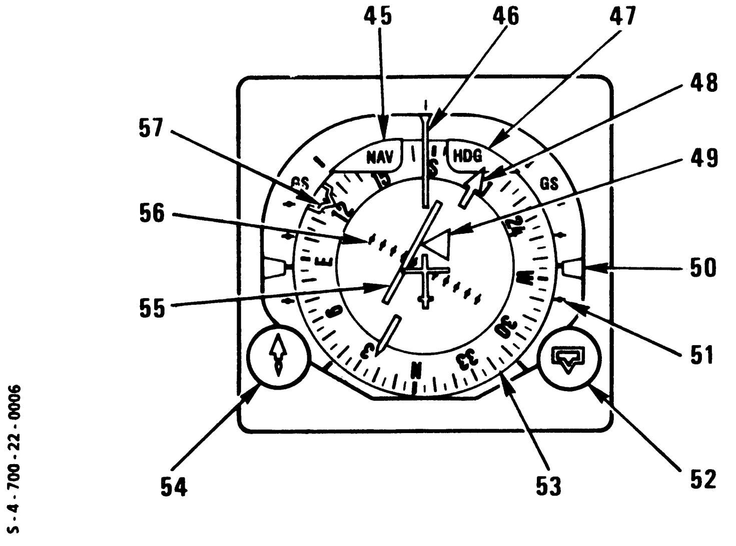

Figure 9.1.9 - KI 525A HORIZONTAL SITUATION INDICATOR

Item 45 - NAV FLAG
Flag is in view when the NAV receiver signal is inadequate. When a NAV flag is present in the navigation indicator (CDI or KI 525A) the autopilot operation is not affected.
The pilot must monitor the navigation indicators for NAV flag to insure that the Autopilot and / or Flight Director are tracking valid navigation information.

Item 46 - LUBBER LINE
Indicates airplane magnetic heading on compass card (Item 53).

Item 47 - HEADING WARNING FLAG (HDG)
When flag is in view, the heading display is invalid.
If a HGD flag appears and a lateral mode (HDG, NAV, APR or APR BC) is selected, the Autopilot will revert to the wings level mode and the lamp for the disengaged mode will flash on the annunciator.
Pressing the button for the disengaged mode will extinguish the flashing lamp.
The flight director and autopilot may be re-engaged in the basic wings level mode along with any vertical mode.
The CWS switch would be used to manually maneuver the airplane laterally.

Item 48 - COURSE BEARING POINTER
Indicates selected VOR course or localizer course on compass card (Item 53).
The selected VOR radial or localizer heading remains set on the compass card when the compass card (Item 53) rotates.

Item 49 - TO / FROM INDICATOR FLAG
Indicates direction of VOR station relative to selected course.

Item 50 - DUAL GLIDE SLOPE POINTERS
Indicate on Glide Slope scale (Item 51) airplane displacement from Glide Slope beam center. Glide Slope pointers in view indicate a usable Glide Slope signal is being received.

Item 51 - GLIDE SLOPE SCALES
Indicate displacement from Glide Slope beam center. A Glide Slope deviation bar displacement of 2 dots, represents full scale (0.7°) deviation above or below Glide Slope beam centerline.

Item 52 - HEADING SELECTOR KNOB ( )
Positions heading bug (Item 57) on compass card (Item 53) by rotating the heading selector knob. The bug rotates with the compass card.

Item 53 - COMPASS CARD
Rotates to display heading of airplane with reference to lubber line (Item 46) on HSI or DG.

Item 54 - COURSE SELECTOR KNOB
Positions course bearing pointer (Item 48) on the compass card (Item 53) by rotating the course selector knob.

Item 55 - COURSE DEVIATION BAR (D-BAR)
The center portion of omni bearing pointer moves laterally to pictorially indicate the relationship of airplane to the selected course. It indicates degrees of angular displacement from VOR radials and localizer beams, or displacement in nautical miles from RNAV courses.

Item 56 - COURSE DEVIATION SCALE
A course deviation bar dis-placement of 5 dots represents full scale (VOR = ± 10°, LOC = ± 2.5°, RNAV = 5 NM, RNAV APR = 1.25 NM) deviation from beam centerline.

Item 57 - HEADING BUG
Moved by knob (Item 52) to select desired heading.

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SUPPLEMENT

"BENDIX / KING" VERTICAL SPEED AND ALTITUDE SELECTOR TYPE KAS 297C

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is provided to acquaint the pilot with the limitations as well as the normal and emergency operating procedures of the BENDIX / KING KAS 297C Vertical Speed and Altitude Selector when added to a KFC 275 or KFC 325 Flight Control System.

The KAS 297C provides the pilot with the following features : ability to select vertical speed hold ; ability to select, arm and, upon approaching the selected altitude, automatically transfer into Altitude Hold ; altitude alerting as specified by the regulation.

SECTION 2
LIMITATIONS

When the airplane is equipped with the KAS 297C, in addition to the autopilot, limitations are identical to those of the standard airplane plus those of the autopilot.
Refer to Section 2 "Limitations" of the basic Pilot's Operating Handbook and of the Autopilot Supplement.

SECTION 3
EMERGENCY PROCEDURES

No change in the basic emergency procedures of the airplane described in Section 3 "Emergency Procedures" of the basic Pilot's Operating Handbook and of the Autopilot Supplement.

SECTION 4
NORMAL PROCEDURES

These procedures supplement those of standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook and of the Autopilot Supplement.

BEFORE TAXIING

KAS 297C TEST

1 - "TEST" knob of KMC 321 .... **PRESS**

2 - Check :

- All legends and digits are displayed on the KAS 297C.

VERTICAL SPEED MODES

MODE ENGAGEMENT

1 - Select knob .... **PULL, then ROTATE to display the desired vertical speed**

2 - "ENG" push-button .... **PRESS**

VERTICAL SPEED CHANGE

1 - Using "CWS"

- "CWS" push-button .... **PRESS until the desired vertical speed is displayed**
- "CWS" push-button .... **RELEASE when the desired vertical speed is reached**

The autopilot will maintain the desired vertical speed.

VERTICAL SPEED MODES (Cont'd)

2 - Using Vertical Trim Control

- Vertical Trim Control .... **PRESS either "UP" or "DN"**

The search of the new vertical speed will be performed at the rate of 100 ft/min per second.

- Vertical Trim Control .... **RELEASE when desired time in seconds has passed (for example : press 5 seconds for a change of 500 ft/min)**

The autopilot will maintain the desired vertical speed.

CAUTION

VERTICAL SPEED HOLD MODE USE REQUIRES MONITORING OF THE INDICATED SPEED ESPECIALLY WHEN INDICATED SPEEDS ARE LOW (CLIMB) OR HIGH (DESCENT).

CAUTION

WHEN NEARING A PRESELECTED ALTITUDE. VERTICAL TRIM USE OR PRESELECTED ALTITUDE CHANGES WHILE THE SYSTEM IS IN CAPT MODE, WILL CANCEL THE MODE AND THE PRESELECTED ALTITUDE WILL BE DISREGARDED. THE SYSTEM MUST BE RE-ARMED BY THE PILOT. IF THE AIRPLANE HAS PASSED BEYOND THE SELECTED ALTITUDE, THE PILOT MUST ALSO RE-ESTABLISH THE NECESSARY INTERCEPT ATTITUDE

ALTITUDE PRESELECT MODES

MODE ENGAGEMENT

1 - Select knob .... **PRESS, then ROTATE to display the desired altitude**

2 - "ARM" push-button .... **PRESS**

3 - Display an airplane attitude or a longitudinal mode ("IAS" or "VS") necessary to intercept the selected altitude.

SECTION 5

PERFORMANCE

No change in the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Weight and balance corresponding to the KAS 297C "BENDIX KING" autopilot are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

7.1 - KAS 297C CONTROLS AND DISPLAYS

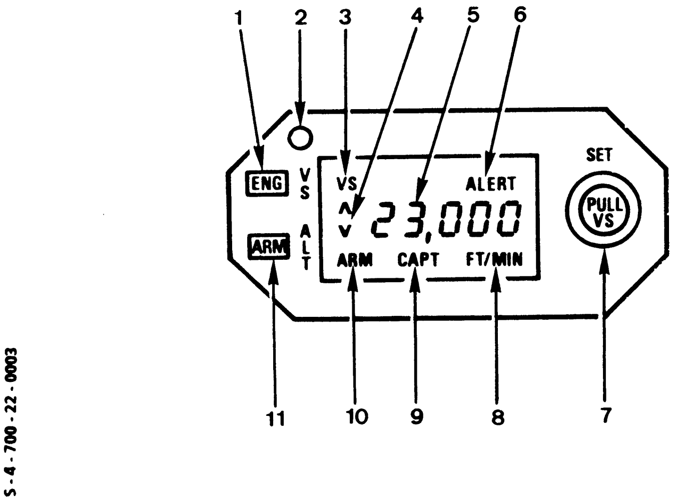

Figure 9.2.1 - KAS 297C CONTROLS AND DISPLAYS

Item 1 - VERTICAL SPEED MODE (ENG) BUTTON
When pressed will engage the Vertical Speed Hold mode. When pressed a second time will disengage the Vertical Speed Hold mode. When pressed with altitude displayed, will engage the Vertical Speed Hold mode and re-sync the Vertical speed Hold mode to the current vertical speed of the airplane.

Item 2 - PHOTOCELL
Automatically dims display according to the cockpit ambient light.

Item 3 - VERTICAL SPEED (VS) ANNUNCIATOR
Illuminates when the Vertical Speed Hold mode is engaged.

Item 4 - VERTICAL SPEED UP / DOWN CARETS (^ or v)
Indicates whether the selected vertical speed is up or down.

Item 5 - GAS DISCHARGE DISPLAY
Displays selected altitude from 100 to 35000 feet or the selected vertical speed from 0 to 3000 ft per minute up or down.

Item 6 - ALTITUDE ALERT (ALERT) ANNUNCIATOR
The ALERT annunciator is illuminated 1000 ft prior to the selected altitude, goes out 300 ft prior to the selected altitude and illuminates momentarily when the selected altitude is reached. Once the selected altitude is reached, the light signifies that the 300 ft "safe band" has been exceeded and will remain on until 1000 ft from the selected altitude. The alert light is accompanied by a 2 second, pulsating aural tone anytime the light initially comes on.

Item 7 - VERTICAL SPEED / ALTITUDE SELECT KNOB
Concentric knobs which allow easy setting of altitude or vertical speed. The small knob (inner) has an IN and OUT position.
Altitude is displayed and selected when the small knob is in the IN position. When rotated the small knob selects altitude in 100 foot increments with roll over into the 1000 digits. The larger knob (outer) selects altitude in 1000 foot increments with roll over into the 10000 digits.
Vertical speed is displayed and selected when the small knob is in the OUT position. When rotated the small knob selects vertical speed in 100 ft / min increments.
The larger knob selects vertical speed in 1000 ft / min increments up to a maximum of 3000 ft / min.

Item 8 - MODE (FT or FT / MIN) ANNUNCIATOR
Indicates FT / MIN when in the Vertical Speed Hold mode and FT when in the Altitude Select mode.

Item 9 - ALTITUDE CAPTURE (CAPT) ANNUNCIATOR
Indicates the KAS 297C has switched the autopilot from Pitch Attitude Hold or Vertical Speed Hold mode into the pitch roundout mode (CAPT). The point, just prior to transfer into Altitude Hold, at which the CAPT mode becomes active varies with the vertical speed, i.e. the higher the rate of climb, the sooner the CAPT mode becomes active ; at low rates of climb the activation of the CAPT mode and transfer to altitude hold occur almost simultaneously. Engagement of any vertical mode or use of vertical trim, when in CAPT mode, will cancel this mode.

Item 10 - ALTITUDE SELECT MODE (ARM) ANNUNCIATOR
Indicates that the Altitude Select mode is armed to capture the selected altitude.

Item 11 - ALTITUDE SELECT MODE (ARM) BUTTON
When pressed and the selected altitude is displayed, will arm the Altitude Select mode. The Altitude Select (ARM) mode will cancel altitude hold (ALT) if ALT is already engaged. If Altitude Select (ARM) mode is present when GS couple occurs, the GS mode will cancel Altitude Select (ARM) mode. The engagement of ALT by the pilot's use of the ALT switch will cancel the altitude Select (ARM) mode.

Item 12 - CONTROL WHEEL STEERING (CWS) BUTTON (Not shown) - When pressed, in addition to the normal autopilot functions, the CWS also interfaces with the KAS 297C. When operating in the Vertical Speed Hold mode, the CWS will re-sync the vertical Speed Hold mode to the current vertical speed of the airplane. If altitude is displayed when the CWS is pressed, the display will automatically display vertical speed as long as the CWS is depressed. CWS does not affect the Altitude Select mode.

TBM 700

7.2 - KMC 321 CONTROL BOX

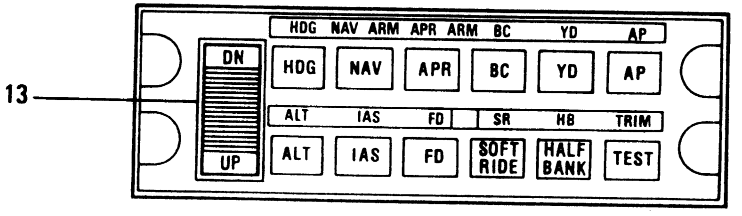

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Figure 9.2.2 - KMC 321 CONTROL BOX

Item 13 - VERTICAL TRIM CONTROL
When in the Vertical Speed Hold mode this control can be used to slew the vertical speed up or down at 100 ft / min for every second the rocker switch is held down. If altitude is being displayed at the time the rocker switch is depressed, vertical speed will be displayed until 1 - 2 seconds after the rocker switch is released.

7.3 - CIRCUIT-BREAKERS

Autopilot components are supplied through following circuit-breakers :

LABEL	FUNCTION
AP / TRIMS	Supplies power to the KCP 220, the autopilot pitch, roll and yaw servos and the "PITCH TRIM", "AIL TRIM", "RUD TRIM" and "AP DISC" circuit-breakers.
AP ALERT	Supplies power to the KAA 15 audible alarm.
AP ALT SEL	Supplies power to the KAS 297C.
HSI RMI	Supplies the compass system.
PITCH TRIM	Supplies power to the manual electric pitch trim.
AP DISC	Delivers a control signal (28 VDC switched by "AP DISC TRM INT" switch) to the KCP 220 autopilot computer and to the KAA 15 alarm unit.

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SUPPLEMENT

"BENDIX / KING" RDS 81 WEATHER RADAR

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX / KING" RDS 81 color weather radar system is installed in the TBM 700 airplane.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.

Do not allow personnel within 15 feet of area being scanned by antenna when system is transmitting.

The "BENDIX / KING Pilot's Guide RDS 81/82" P/N 8/87 006-8421-00 2.5K at its latest revision shall be readily available to the pilot whenever the operation of the color radar system is predicted.

SECTION 3
EMERGENCY PROCEDURES

Installation and operation of "BENDIX / KING" RDS 81 color weather radar system do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

CAUTION

IN CASE OF AP COMPUTER FAILURE, THE ANTENNA STABILIZATION WILL NOT BE OPERATIVE

SECTION 4
NORMAL PROCEDURES

Normal operating procedures concerning "BENDIX / KING" RDS 81 color weather radar system are outlined in the "BENDIX / KING Pilot's Guide RDS 81 / 82" P / N 8 / 87 006-8421-00 2.5K, latest revision.

SECTION 5
PERFORMANCE

Installation of "BENDIX / KING" RDS 81 color weather radar system results in a 5 KIAS decrease in maximum cruise performance and a 3 KIAS decrease in Long Range cruise performance described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to "BENDIX / KING" RDS 81 color weather radar system are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

1) Manual gain control knob
2) Ground Mapping mode selector button
3) Weather-Alert mode selector button
4) Weather mode selector button
5) Screen brightness control knob
6) Anti-reflective polarized optical filter enhances screen contrast while reducing glare
7) Antenna tilt setting readout (± 15°)
8) Radar function selection switch
9) Range selector buttons
10) Stabilization ON / OFF button
11) Antenna tilt control

Figure 9.3.1 (1 / 2) - Indicator

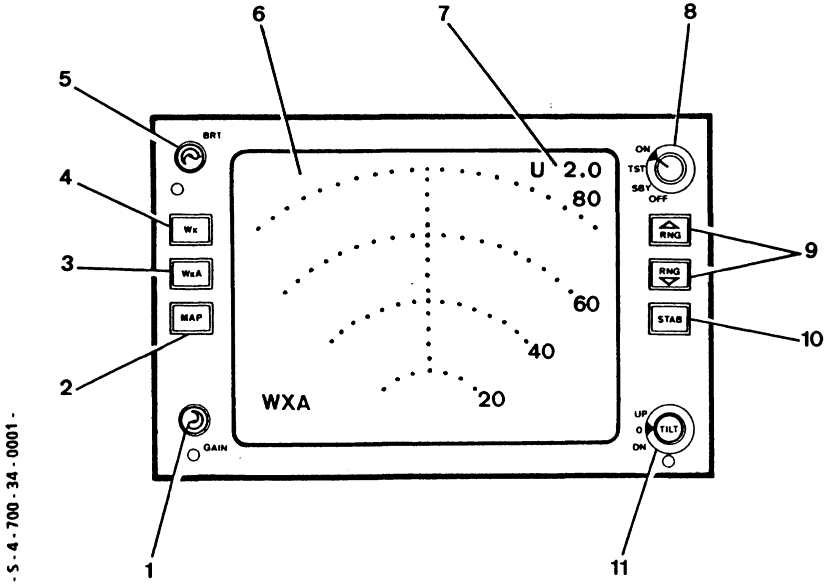

Figure 9 3 1 (2 / 2) - Indicator

OPERATIONAL CONTROLS

BRT	Controls brightness of the indicator display.
Wx	Selects the weather mode (Wx) when pressed. "Wx" will appear on the lower left of the display. Areas of high rainfall appear in magenta color.
WxA	Selects the weather-alert mode when pressed. "WxA" will appear in the lower left of the display. Magenta areas of storm flash between magenta and black.
GND MAP	Places indicator in ground-mapping mode ; disables weather-alert feature and activates gain control. (The magenta is not activated in the GND MAP mode).
GAIN	Manual gain control becomes active when GND MAP is selected. In all other modes, gain is internally set.
ON	Selects the condition of normal operation, allowing for weather detection or other modes of operation.

Figure 9.3.2 (1 / 4) - Operational controls

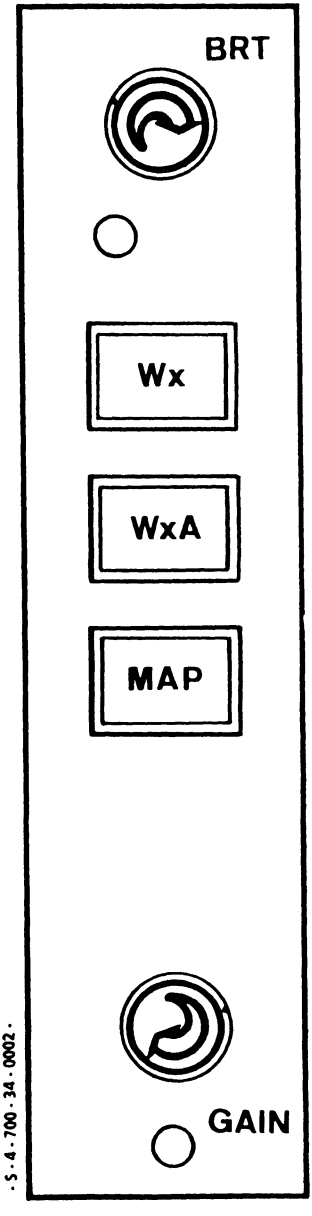

Figure 9.3.2 (2 / 4) - Operational controls

TST	The test pattern is displayed on the indicator, no transmission occurs. Depending on mod status of the ART (Antenna Receiver Transmitter), the antenna may scan in TEST.
SBY	After 30 seconds in this mode, the system is in a state of readiness. No radar transmission occurs, and the antenna is parked in the down position. "STBY" is displayed in the lower left of the display.
OFF	Removes primary power from the radar indicator and the sensor. The antenna is parked down.
RNG	When pressed clears the display and advances the indicator to the next range. Upper button increases range, lower button decreases it. Selected range is displayed in upper right corner on the last range mark and distance to other range rings is displayed along the right edge.
STAB	When pressed selects "STAB ON" or "STAB OFF" operation. "STAB OFF" will be displayed in the upper left corner when "STAB OFF" is selected.
TILT	Permits manual adjustment of antenna tilt 15° up or down for best indicator presentation. The tilt angle is displayed in the upper right corner of the display. Depending upon mode status of the indicator tilt readout may display in tenths of degree.

Figure 9.3.2 (3 / 4) - Operational controls

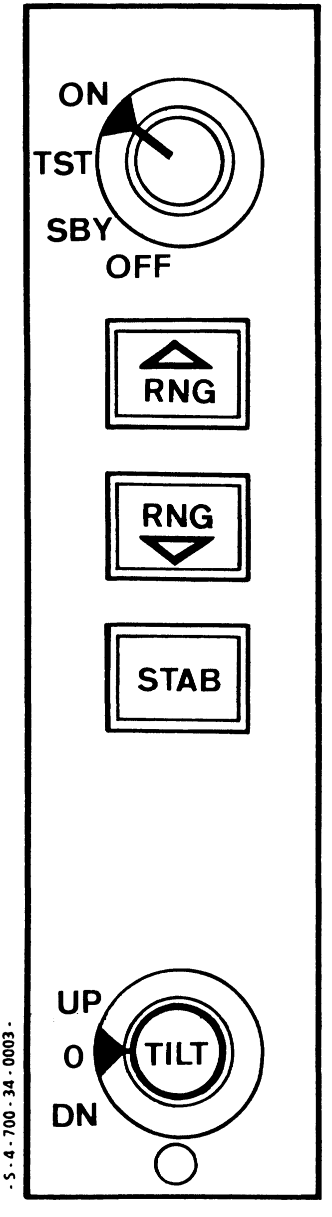

Figure 9.3.2 (4 / 4) - Operational controls

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SUPPLEMENT

"BENDIX / KING" RDS 82 WEATHER RADAR

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX / KING" RDS 82 color weather radar system is installed in the TBM 700 airplane.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.

Do not allow personnel within 15 feet of area being scanned by antenna when system is transmitting.

The "BENDIX / KING Pilot's Guide RDS 81 / 82" P / N 8 / 87 006-8421-00 2.5K at its latest revision shall be readily available to the pilot whenever the operation of the color radar system is predicted.

SECTION 3
EMERGENCY PROCEDURES

Installation and operation of "BENDIX / KING" RDS 82 color weather radar system do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

CAUTION

IN CASE OF AP COMPUTER FAILURE, THE ANTENNA STABILIZATION WILL NOT BE OPERATIVE

SECTION 4
NORMAL PROCEDURES

Normal operating procedures for the "BENDIX / KING" RDS 82 color weather radar system are outlined in the "BENDIX / KING Pilot's Guide RDS 81/82" P/N 8/87 006-8421-00 2.5K, latest revision.

SECTION 5
PERFORMANCE

Installation of "BENDIX / KING" RDS 82 color weather radar system results in a 5 KIAS decrease in maximum cruise performance and a 3 KIAS decrease in Long Range cruise performance described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to "BENDIX / KING" RDS 82 color weather radar system are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

1) Manual gain control knob
2) NAV plus Weather selector button
3) Ground Mapping mode selector button
4) Weather-Alert mode selector button
5) Weather mode selector button
6) Screen brightness control knob
7) Anti-reflective polarized optical filter enhances screen contrast while reducing glare
8) Antenna tilt setting readout (± 15°)
9) Radar function selection switch
10) Range selector buttons
11) Track cursor buttons
12) Antenna tilt control

Figure 9.4.1 (1 / 2) - Indicator

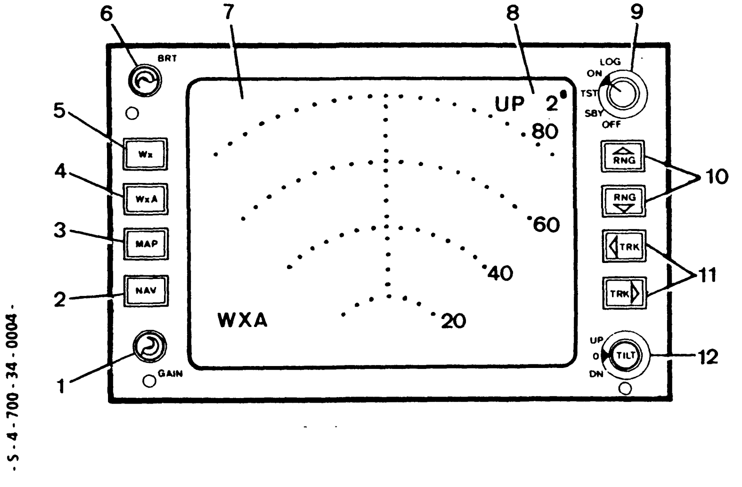

Figure 9.4.1 (2 / 2) - Indicator

OPERATIONAL CONTROLS

BRT	Controls brightness of the indicator display.
Wx	Selects the weather mode (Wx) when pressed. "Wx" will appear on the lower left of the display. Areas of high rainfall appear in magenta color.
WxA	Selects the weather-alert mode when pressed. "WxA" will appear in the lower left of the display. Magenta areas of storm flash between magenta and black.
GND MAP	Places indicator in ground-mapping mode ; disables weather alert feature and activates gain control. (The magenta is not activated in the GND MAP mode).
NAV MAP	Places indicator in navigation mode so that preprogrammed waypoints may be displayed. If other modes are also selected, the nav display will be superimposed on them. This button is effective only if an optional radar graphics unit and Flight Management System is installed. If actuated without these units, it will cause NO NAV to appear at lower left of screen. The radar is still capable of displaying weather.
GAIN	Manual gain control becomes active when GND MAP is selected. In all other modes, gain is internally set.

Figure 9.4.2 (1 / 4) - Operational controls

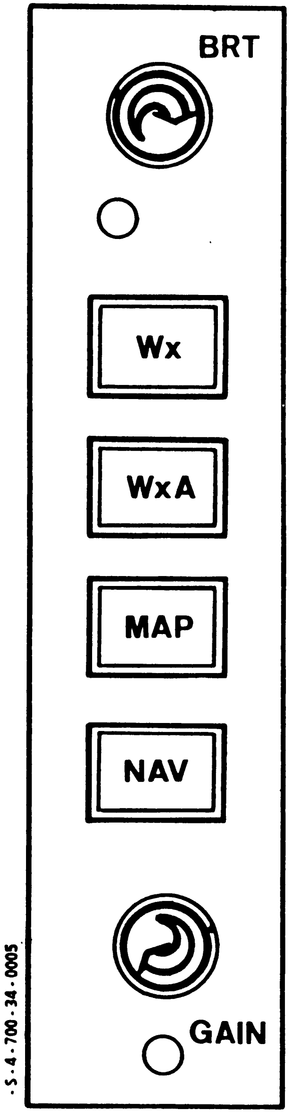

Figure 9.4.2 (2 / 4) - Operational controls

LOG	Used only when the "BENDIX / KING" IU 2023 series radar graphics unit is installed along with a compatible long range navigation system, a listing of the latitudes and longitudes of selected waypoints will be displayed. If a compatible RNAV is installed, selected VOR frequencies, along with bearings and distances to waypoints, will be presented. No radar transmission occurs in this mode.
ON	Selects the condition of normal operation, allowing for weather detection or other modes of operation.
TST	The test pattern is displayed on the indicator, no transmission occurs.
SBY	After 30 seconds in this mode, the system is in a state of readiness. No radar transmission occurs, and the antenna is parked in the down position. "STBY" is displayed in the lower left of the display.
OFF	Removes primary power from the radar indicator and the sensor. The antenna is parked down.
RNG	When pressed clears the display and advances the indicator to the next range. Upper button increases range, lower button decreases it. Selected range is displayed in upper right corner on the last range mark and distance to other range rings is displayed along the right edge.
TRK	When pressed provides a yellow azimuth line and a digital display of the azimuth line displacement left or right from the nose of the airplane. The trackline is displayed for approximately 15 seconds and then removed.
TILT	Permits manual adjustment of antenna tilt 15° up or down for best indicator presentation. The tilt angle is displayed in the upper right corner of the display. Depending on mode status of the indicator the readout may be in tenths of degree. Pull the Tilt selector knob out for "STAB OFF" operations. "STAB OFF" will appear in the upper left corner of the display.

Figure 9.4.2 (3 / 4) - Operational controls

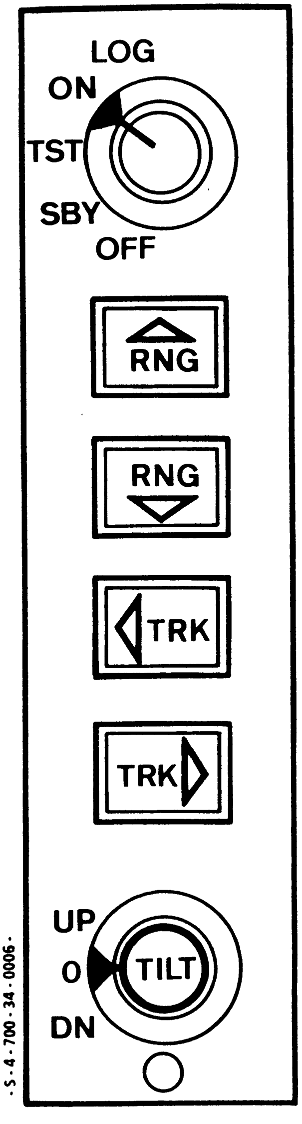

Figure 9.4.2 (4 / 4) - Operational controls

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SUPPLEMENT

"BENDIX / KING" RDS 82 VP VERTICAL PROFILE WEATHER RADAR

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX / KING" RDS 82 VP vertical profile color weather radar system is installed in the TBM 700 airplane.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.

Do not allow personnel within 15 feet of area being scanned by antenna when system is transmitting.

The "BENDIX / KING Pilot's Guide RDS 81/82" P/N 5/89 006-8461-0000 3K at its latest revision shall be readily available to the pilot whenever the operation of the color radar system is predicted.

SECTION 3
EMERGENCY PROCEDURES

Installation and operation of "BENDIX / KING" RDS 82 VP vertical profile color weather radar system do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

CAUTION

IN CASE OF AP COMPUTER FAILURE, THE ANTENNA STABILIZATION WILL NOT BE OPERATIVE

SECTION 4
NORMAL PROCEDURES

Normal operating procedures for the "BENDIX / KING" RDS 82 VP vertical profile color weather radar system are outlined in the "BENDIX / KING Pilot's Guide RDS 81 / 82" P / N 5 / 89 006-08461-0000 3K, latest revision.

SECTION 5
PERFORMANCE

Installation of "BENDIX / KING" RDS 82 VP vertical profile color weather radar system results in a 5 KIAS decrease in maximum cruise performance and a 3 KIAS decrease in Long Range cruise performance described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to "BENDIX / KING" RDS 82 VP vertical profile color weather radar system are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

1) Manual gain control knob
2) NAV mode selector button
3) Ground Mapping mode selector button
4) Vertical Profile mode selector button
5) Weather and Weather-Alert toggle selector button
6) Screen brightness control knob
7) Left or right Track mode annunciation
8) Degrees of Track left or right of airplane nose
9) Vertical Profile mode annunciation
10) Relative altitude reference line
11) Plus & minus thousands of feet from relative altitude
12) Radar function selection switch
13) Range selector buttons
14) Left or right Track mode selector buttons
15) Antenna tilt control
16) Range rings
17) Weather or Weather-Alert mode annunciation
18) VP scan angle

Figure 9.5.1 (1 / 2) - Indicator

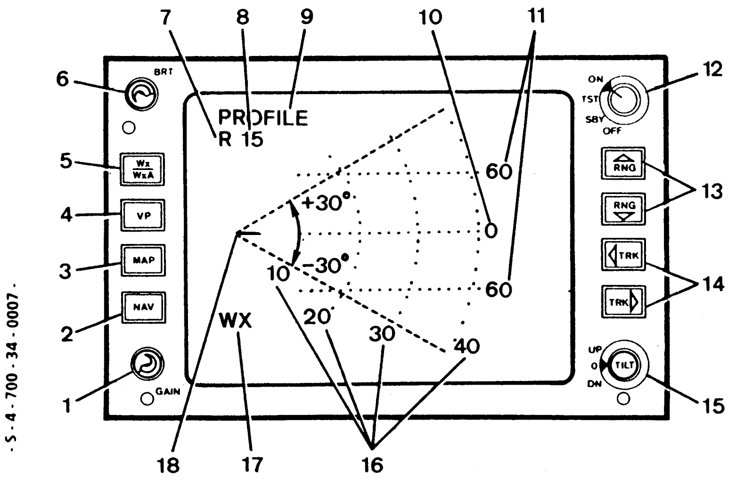

Figure 9.5.1 (2 / 2) - Indicator

OPERATIONAL CONTROLS

BRT	Controls brightness of the indicator display.
Wx / WxA	Alternately selects between the weather (Wx) and weather-alert (WxA) modes of operation. "Wx" or "WxA" will appear on the lower left of the display. Areas of high rainfall appear in magenta color. When the WxA mode is selected, magenta areas of storms flash between magenta and black.
VP	Selects and deselects the Vertical Profile mode of operation. Selecting the VP mode of operation will not change the selected mode of operation : TST, Wx, WxA or GND MAP. Once in VP, these modes may be changed as desired. VP will engage from the NAV MAP mode, but NAV will be disabled during VP operation.
GND MAP	Places indicator in ground-mapping mode ; disables weather-alert feature and activates gain control. (The magenta is not activated in the GND MAP mode).
NAV MAP	Places indicator in navigation mode so that preprogrammed waypoints may be displayed. If other modes are also selected, the NAV display will be superimposed on them. This button is effective only if an optional radar graphics unit and Flight Management System is installed. If actuated without these units, it will cause NO NAV to appear at lower left of screen. The radar is still capable of displaying weather.
GAIN	Manual gain control becomes active when GND MAP is selected. In all other modes, gain is internally set.
LOG	Used only when the "BENDIX / KING" IU 2023 series radar graphics unit is installed along with a compatible long range navigation system, a listing of the latitudes and longitudes of selected waypoints will be displayed. If a compatible RNAV is installed, selected VOR frequencies, along with bearings and distances to waypoints, will be presented. No radar transmission occurs in this mode.

Figure 9.5.2 (1 / 4) - Operational controls

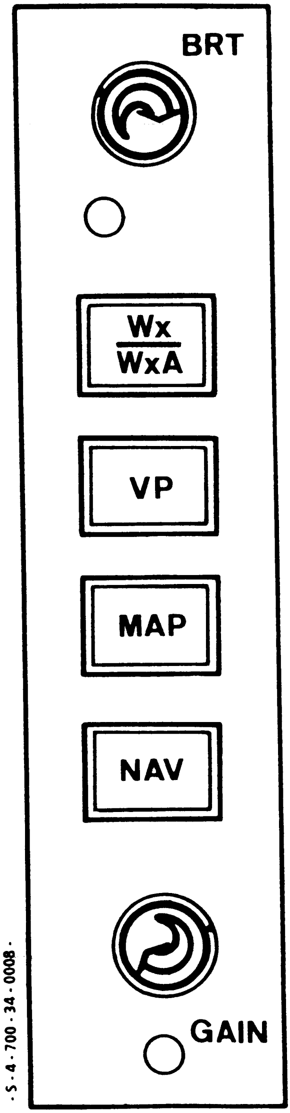

Figure 9.5.2 (2 / 4) - Operational controls

ON Selects the condition of normal operation, allowing for weather detection or other modes of operation.

TST The test pattern is displayed on the indicator, no transmission occurs.

SBY After 30 seconds in this mode, the system is in a state of readiness. No radar transmission occurs, and the antenna is parked in the down position. "STBY" is displayed in the lower left of the display.

OFF Removes primary power from the radar indicator and the sensor. The antenna is parked down.

RNG When pressed clears the display and advances the indicator to the next range. Upper button increases range, lower button decreases it. Selected range is displayed in lower right corner on the last range mark and distance to other range rings is displayed along the lower edge.

TRK When pressed provides a yellow azimuth line and a digital display of the azimuth line placement left or right from the nose of the airplane. For VP operations, the TRK button performs two functions.

1- Prior to engaging VP, the appropriate button (left or right) is used to place the track line at the desired azimuth angle to be vertically scanned (sliced). When VP is engaged, the slice will be taken at the last position of the track line, whether it is visible or not. If the track line has not been selected after power has been applied to system and VP is engaged, the slice will be taken at 0° (directly in front of the airplane).
2- Continuously holding the TRK button will result in the system "slicing" in two-degree increments.

TILT Permits manual adjustment of antenna tilt 15° up or down for best indicator presentation. The tilt angle is displayed in the upper right corner of the display. Depending on mode status of the indicator the readout may be in tenths of degree.
Pull the Tilt selector knob out for "STAB OFF" operations. "STAB OFF" will appear in the upper left corner of the display. Tilt functions are disabled in VP mode.

Figure 9.5.2 (3 / 4) - Operational controls

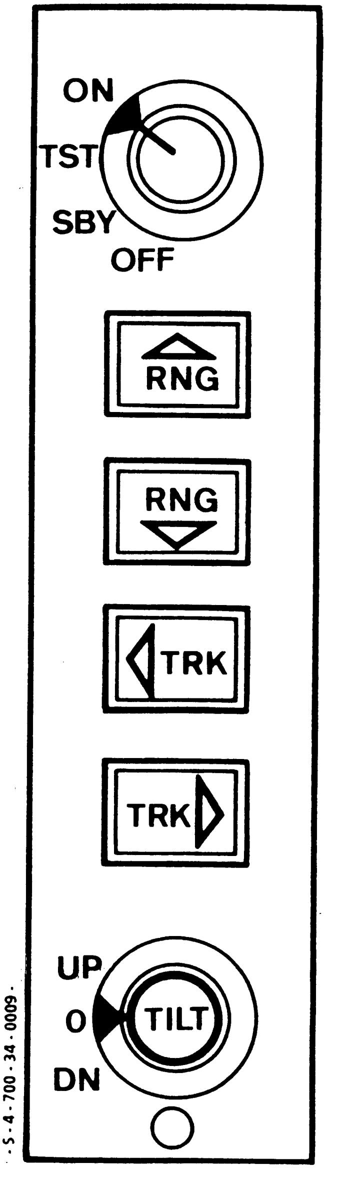

Figure 9.5.2 (4 / 4) - Operational controls

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SUPPLEMENT

”BFG” WX-500 OR WX-950 OR WX-1000 OR 1000+ OR 1000E STORMSCOPE

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information to the pilot about limitations, normal and emergency procedures when the optional "BFG" WX-500 or WX-950 or WX-1000 or 1000+ or 1000E stormscope is installed on the TBM airplane. The stormscope must be used within limits of this supplement.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

The "BFG" stormscope systems signal displays are not intended for the purpose of penetrating thunderstorm areas or areas of severe turbulence ; such intentional use is prohibited.

NOTE :
Range selection determines receiver sensitivity and therefore relative range. Displayed range is based on signal strength and is not to be used for accurate determination of thunderstorm location.

WX-1000 or 1000+ or 1000E

The "BFG" stormscope checklist functions are for reference only.

All

CAUTION

THE STORMSCOPE MUST NOT BE USED FOR THUNDERSTORM PENETRATION

- The Stormscope "BFG" Pilot's Handbook, Series II, No. 75-0299-7690-1 (WX-1000 or 1000+ or 1000E),
  or
- The WX-950 Pilot's guide, Series II, No. 009-10951-001,
  or
- The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the "GARMIN" GNS 530 Pilot's Guide, No. 190-00181-00,
  or
- The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the "HONEYWELL" KMD 550/850 Pilot's Guide P/N 006-18222-0000,
  or
- The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the "GARMIN" GMX 200 Pilot's Guide, No. 190-00607-02,
  or

  Airplane equipped with GARMIN G1000 flight deck (MOD70-0176-00)
- The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the TBM 850, P/N 190-00708-00,
  or

  Airplane retrofited with GARMIN G1000 NXi flight deck (MOD70-0539-00)
- The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the "GARMIN" G1000 Nxi Integrated Flight Deck Cockpit Reference Guide for the TBM 850/900, P/N 190-02349-00,

at their last revision, shall be readily available to the pilot, each time the "BFG" stormscope operation is foreseen.

SECTION 3

EMERGENCY PROCEDURES

Installation and operation of "BFG" stormscope do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4

NORMAL PROCEDURES

Normal operating procedures of the ”BFG” stormscope are outlined in :

- the Pilot’s Handbook, Series II, No. 75-0299-7690-1 at its last revision for ”BFG” stormscope model WX-1000 or 1000+ or 1000E
  or
- the WX-950 Pilot’s Guide, Series II, No. 009-10951-001 at its last revision for ”BFG” stormscope model WX-950
  or
- the WX-500 Pilot’s Guide, Series II, No. 009-11501-001 at its last revision for ”BFG” stormscope model WX-500.

SECTION 5

PERFORMANCE

Installation and operation of ”BFG” stormscope do not change the basic emergency procedures of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Informations hereafter supplement the ones given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION				
A	Stormscope (OPT 70 34009A)	WX-1000+	BFG	16.535 (7.500)	228.35 (5.800)
A	Stormscope (OPT 70 34009B)	WX-1000	BFG	15.432 (7.000)	230.71 (5.860)
A	Stormscope EFIS coupled (OPT 70 34009C)	WX-1000+	BFG	15.432 (7.000)	230.71 (5.860)
A	Stormscope EFIS coupled - Remote installed control (OPT 70 34009D)	WX-1000E	BFG	9.502 (4.310)	269.09 (6.835)
A	Stormscope EFIS coupled (OPT 70 34009E)	WX-1000E	BFG	15.939 (7.230)	230.94 (5.866)
A	Stormscope shared with the SKYWATCH (OPT 70 34009F)	WX-1000E	BFG	15.939 (7.230)	230.94 (5.866)
A	Stormscope shared with the SKYWATCH (OPT 70 34009G)	WX-1000+	BFG	16.535 (7.500)	228.35 (5.800)
A	Stormscope (OPT 70 34041)	WX-950	BFG	4.696 (2.130)	191.85 (4.873)

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	Stormscope WX-500 – shared with the GNS 530 GPS or with the KMD 850 or GMX 200 MFD (OPT 70 34056A)	BFG	4.94 (2.240)	232.28 (5.900)
A	Stormscope WX-500 – shared with the GARMIN flight deck system (OPT 70 34056B)	BFG	4.94 (2.240)	232.28 (5.900)

SECTION 7

DESCRIPTION

The "BFG" (Series II) stormscope, weather mapping system provides a visual screen readout of the electrical discharges associated with thunderstorms. This information with proper interpretation, will allow the pilot to detect severe thunderstorm activity. A series of green dots or of strike points will be displayed on the screen to indicate the electrical discharge areas.

Dots or strike points may be displayed on two selectable wiews : 360° view of surrounding airspace and 120° view of forward airspace only.

The display scope provides full scale selectable ranges of 200, 100, 50 and 25 NM.

Post-MOD70-125-23 and without GARMIN G1000 or G1000 NXi flight deck

Stormscope setting to ON or OFF is performed by using the "RADIO MASTER" switch.

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SUPPLEMENT

7-PLACE ACCOMMODATION

TABLE OF CONTENTS

SUPPLEMENT

7-PLACE ACCOMMODATION

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to 7-place accommodation when this option is installed on TBM 700 airplane. The 7-place accommodation must be used within the limits of this supplement.
The general hereafter replace the corresponding ones of standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

Baggage weight in aft baggage compartment (pressurized) : 77 lbs (35 kg).

SECTION 2
LIMITATIONS

The limitations provided hereafter supplement or replace the corresponding ones of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the airplane is used in "7-place accommodation".

WEIGHT LIMITS

Maximum baggage weight in aft baggage compartment (pressurized) : 77 lbs (35 kg)

SEATS LIMITATIONS

From 1 to 7 seats

- L.H. and R.H. front seats .... at 180.5 inches (4.585 m)
  (identical to 6-place configuration)
- L.H. and R.H. intermediate seats .... at 216.8 inches (5.507 m)
- R.H. rear seat .... at 249.0 inches (6.324 m)
- two-place rear divan .... at 283.6 inches (7.204 m)

BAGGAGE LIMITATIONS

- Rear baggage .... at 309.0 inches (7.850 m)

SECTION 2
LIMITATIONS

The limitations provided hereafter supplement or replace the corresponding ones of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the airplane is used in "7-place accommodation".

WEIGHT LIMITS

Maximum baggage weight in aft baggage compartment (pressurized) : 77 lbs (35 kg)

SEATS LIMITATIONS

From 1 to 7 seats

- L.H. and R.H. front seats .... at 180.5 inches (4.585 m) (identical to 6-place configuration)
- L.H. intermediate seat .... at 223.1 inches (5.666 m)
- R.H. intermediate seat .... at 209.5 inches (5.322 m)
- R.H. rear seat .... at 239.5 inches (6.083 m)
- L.H. and R.H. rear divans .... at 272.3 inches (6.916 m) (identical to 6-place configuration)

BAGGAGE LIMITATIONS

- Rear baggage .... at 303.0 inches (7.695 m)

PLACARDS

- On R.H. side, at front seat level and under intermediate and R.H. rear seats equipped with oxygen

EMERGENCY OXYGEN **IN DRAWER UNDER SEAT, PULL MASK** **OUT OF DRAWER FULLY AT FULL** **EXTENSION. GIVE CORD A TUG.** **MAXIMUM DURATION - 12 min** **SEE POH** **NO SMOKING WHILE IN USE**

Figure 9.7.1 - Oxygen placard (seats)

- On FWD side of the rear divan seating

EMERGENCY OXYGEN **MAXIMUM DURATION - 12 min** **SEE POH** **NO SMOKING WHILE IN USE**

Figure 9.7.2 - Oxygen placard (rear divan)

PLACARD

- On R.H. side, at front seat level and under L.H. intermediate seat, R.H. rear seat and rear divan

EMERGENCY OXYGEN
IN DRAWER UNDER SEAT ; PULL FULLY THE MASK OUT OF DRAWER ; AT FULL EXTENSION GIVE CORD A TUG.
MAXIMUM DURATION - 12 min
SEE POH
NO SMOKING WHILE IN USE

Figure 9.7.3 - Oxygen placard

PLACARD

- On rear baggage compartment bottom bulkhead (pressurized)

. 6-place version 100 kg - 220 lbs MAXIMUM . 7-place version 35 kg - 77 lbs MAXIMUM
IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE BAGGAGES ARE PROPERLY SECURED
FOR LOADING INSTRUCTIONS SEE " WEIGHT AND BALANCE DATA" IN PILOT'S OPERATING HANDBOOK

Figure 9.7.4 - Rear baggage placard

SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter replace the corresponding ones of standard airplane described in Section 3 "Emergency procedures" of the Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

EMERGENCY EXIT USE
1 - Leave the R.H. intermediate seat (located in front of emergency exit) 2 - Fully tilt this R.H. intermediate seat back-rest toward the seating (forwards) 3 - Check that the anti-theft safety pin of the emergency exit has been removed 4 - Lift up the opening handle 5 - Pull the emergency exit assembly toward oneself to release it from its recess 6 - Put the emergency exit inside fuselage or throw it away from the fuselage through the opening 7 - EVACUATE airplane

OXYGEN USE

WARNING

SMOKING IS STRICTLY PROHIBITED ANY TIME OXYGEN IS IN USE.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE UP, ETC...)

Passengers

1 - Open drawers located in the base of seats equipped with oxygen (marked with a tag)

2 - Take a mask

3 - Fully pull the lanyard

4 - Tug to activate the generator ; when the oxygen flow is felt, adjust the mask on the face

NOTE :
Whenever an oxygen generator is activated, **OXYGEN** *warning light located on the advisory panel illuminates.*

The warning light will remain ON as long as the used generator is not replaced

SECTION 4
NORMAL PROCEDURES

Installation and operation of "7-place accommodation" equipment do not change the basic normal procedures of the airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

SECTION 5
PERFORMANCE

Installation and operation of "7-place accommodation" equipment do not change the basic performance of the airplane described in Section 3 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

The data hereafter replace the corresponding ones of the standard airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

BAGGAGE LOADING

The baggage compartment loading behind the pressurized cabin is limited to 77 lbs (35 kg).

LEVER ARM (Figure 9.7.5)

- L.H. and R.H. front seats .... at 180.5 inches (4.585 m)
  (identical to 6-place configuration)
- L.H. and R.H. intermediate seats .... at 216.8 inches (5.507 m)
- R.H. rear seat .... at 249.0 inches (6.324 m)
- two-place rear divan .... at 283.6 inches (7.204 m)
- aft baggage compartment .... at 309.0 inches (7.850 m)

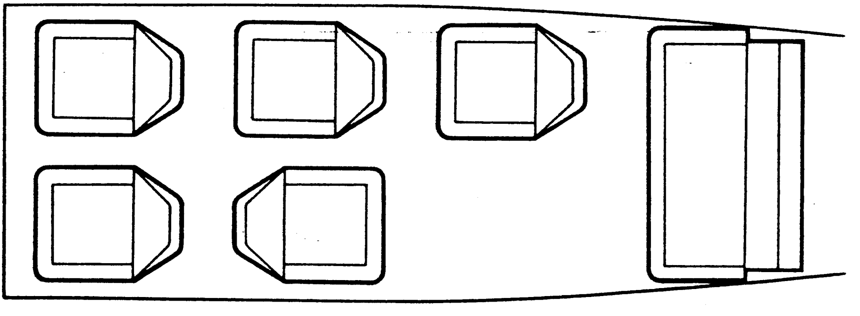

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Figure 9.7.5 - LEVER ARM

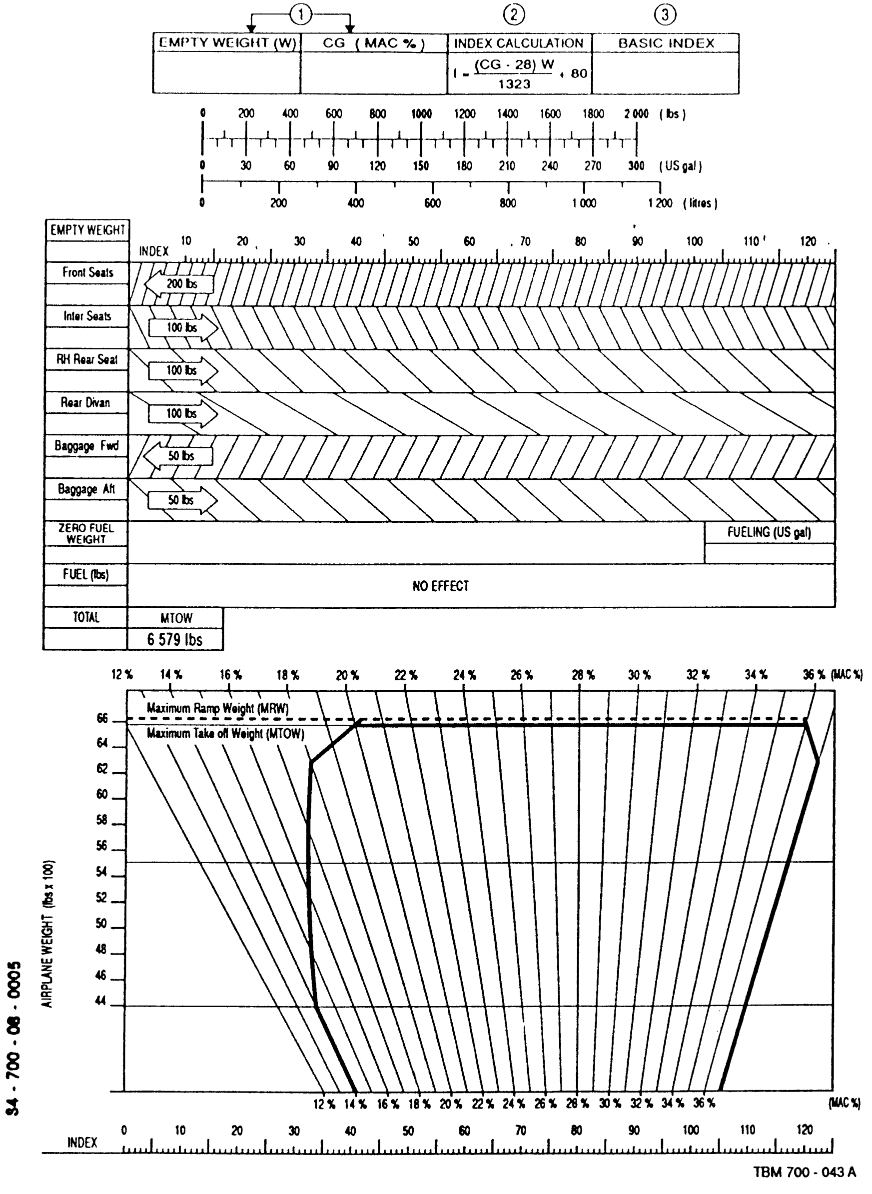

Figure 9.7.6 - WEIGHT AND BALANCE GRAPH

SECTION 6
WEIGHT AND BALANCE

The data hereafter replace the corresponding ones of the standard airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

BAGGAGE LOADING

The baggage compartment loading behind the pressurized cabin is limited to 77 lbs (35 kg).

LEVER ARM (Figure 9.7.7)

- L.H. and R.H. front seats .... at 180.5 inches (4.585 m) (identical to 6-place configuration)
- L.H. intermediate seat .... at 223.1 inches (5.666 m)
- R.H. intermediate seat .... at 209.5 inches (5.322 m)
- R.H. rear seat .... at 239.5 inches (6.083 m)
- L.H. and R.H. rear divans .... at 272.3 inches (6.916 m) (identical to 6-place configuration)
- aft baggage compartment .... at 303.0 inches (7.695 m)

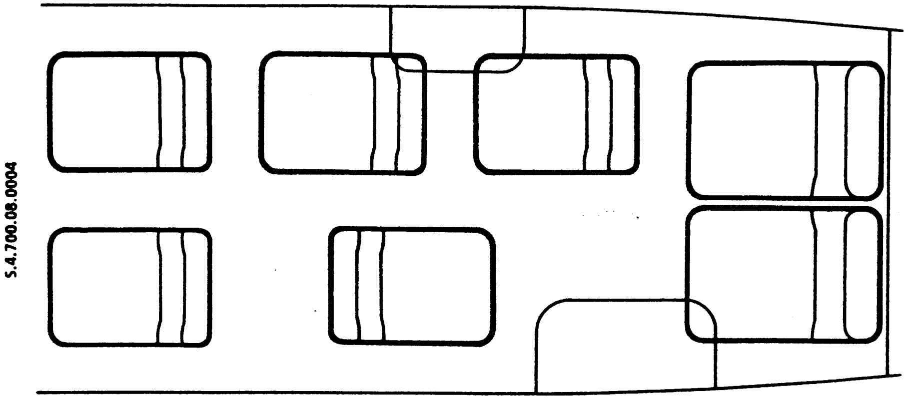

Figure 9.7.7 - LEVER ARM

① Empty weight (W)	① CG (MAC %)	② Index calculation	③ Basic Index
		$I = \frac{(CG - 28)\,W}{1323} + 80$	

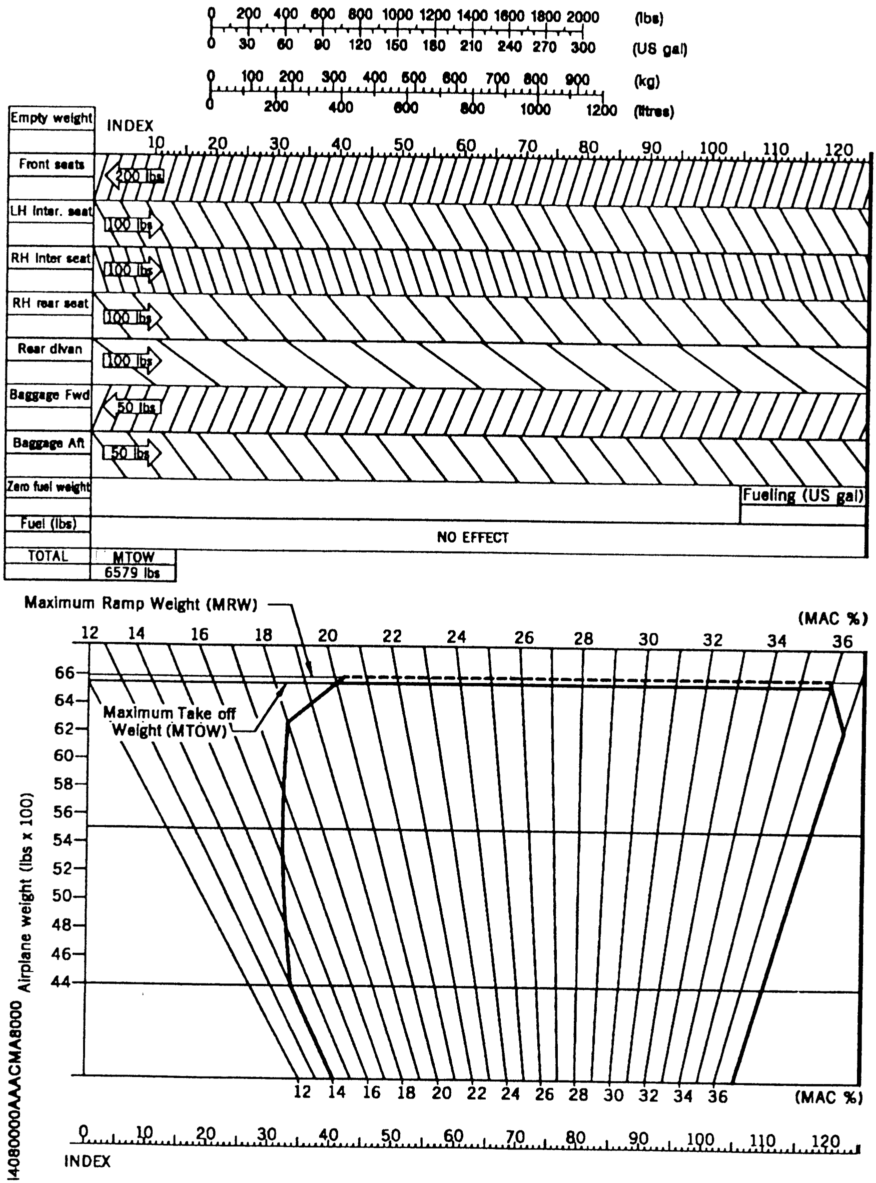

Figure 9.7.8 - WEIGHT AND BALANCE GRAPH

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SECTION 7
DESCRIPTION

The data hereafter replace the corresponding ones of the standard airplane described in Section 7 "Description" of the basic Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

SEATS

Cockpit seats (Figure 9.7.9)

The L.H. and R.H. front seats are unchanged with regard to the basic version (6-place accommodation).

Passenger seats (Figure 9.7.9)

The optional accommodation comprises three individual seats attached on the same rails as front seats and a rear two-place divan.
The individual seats are fitted with a setting mechanism which allows modification of the back-rest tilting.
The R.H. intermediate seat can be tilted toward the seating (forwards), in order to facilitate access to emergency exit.
The rear divan back-rest can be tilted toward the seating (forwards) to ease baggage loading and securing in aft baggage compartment. In order to fold down the back-rest, press simultaneously on the two lock hooks located on both sides of the back-rest upper part and pull it toward oneself.

1) Front passenger's seat
2) Pilot's seat
3) R.H. intermediate passenger's seat
4) L.H. intermediate passenger's seat (back to flight direction)
5) R.H. rear passenger's seat
6) Two-place rear divan
7) Front seat(s) longitudinal shift control
8) Oxygen masks drawers, on seats Items 1 and 4 (2 masks), on seat Item 5 (one single mask)
9) Front seat(s) height control
10) Front seat(s) back-rest tilt control
11) Drawer for piddle pak (if installed)
    (front part : new bags, rear part : used bags)
12) Rear seat(s) back-rest tilt control
13) Rear divan back-rest tilt controls (access to baggage compartment)
14) Access to the 2-mask location on rear divan

Figure 9.7.9 (1 / 2) - SEATS

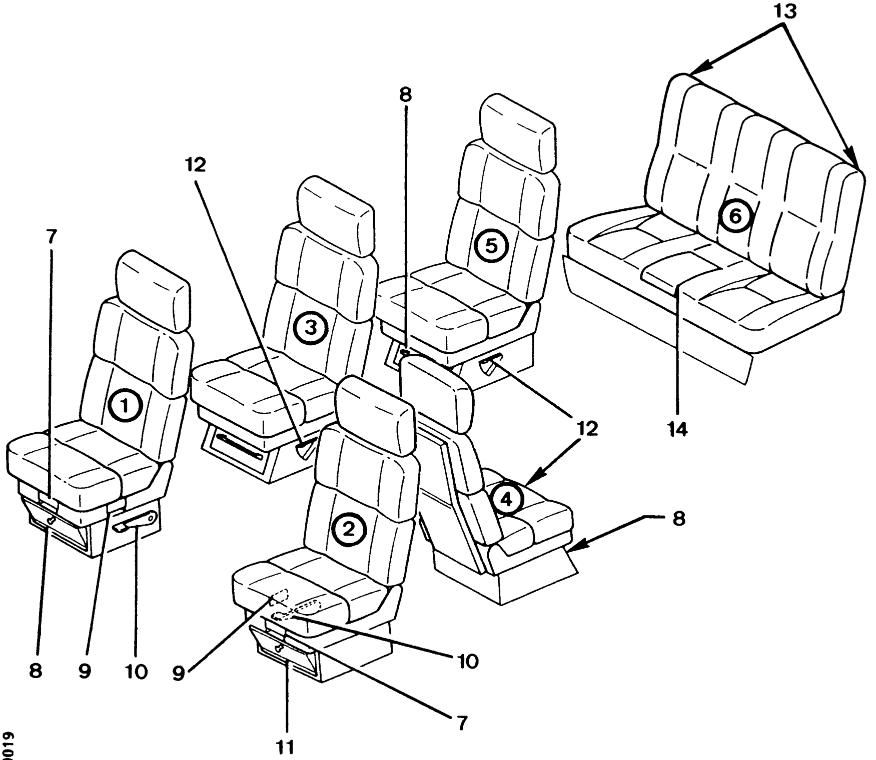

Figure 9.7.9 (2 / 2) - SEATS

EMERGENCY OXYGEN

Four emergency oxygen systems provide enough chemical oxygen for seven persons during a descent from 30000 ft to 12000 ft and below. These four systems accessible from central aisle, are located in :

- a drawer under passenger's seat for front seats (two masks fitted with a microphone)
- a drawer under L.H. intermediate seat (two masks)
- a drawer under R.H. rear seat (one single mask)
- central part of the two-place rear divan seating (two masks).

1) Generator
2) Supply tubes
3) Masks
4) Drawer
5) Microswitch
6) Dimpled support
7) Rear divan cover

Figure 9.7.10 (1 / 2) - EMERGENCY OXYGEN

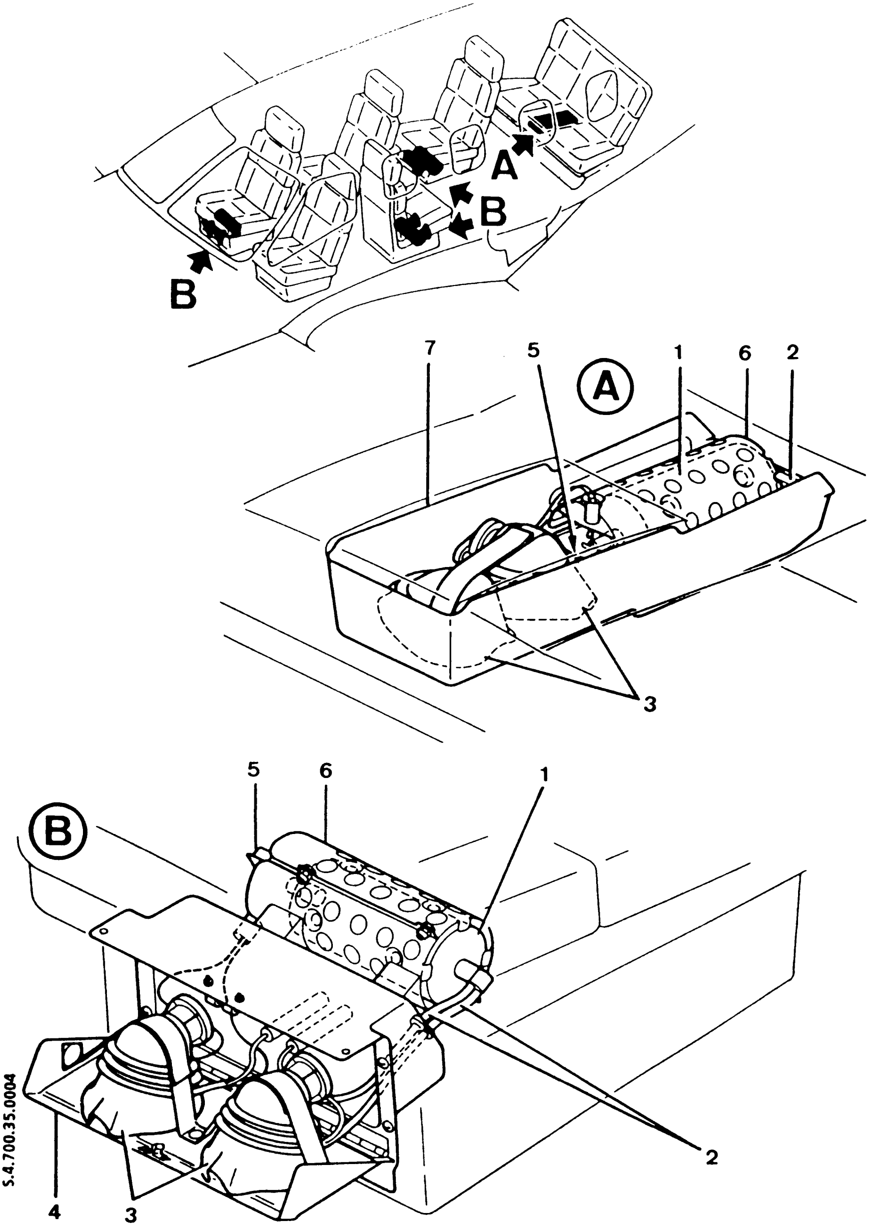

Figure 9.7.10 (2 / 2) - EMERGENCY OXYGEN

SECTION 7
DESCRIPTION

The data hereafter replace the corresponding ones of the standard airplane described in Section 7 "Description" of the basic Pilot's Operating Handbook, when using the airplane in "7-place accommodation".

SEATS

Cockpit seats (Figure 9.7.13)

The L.H. and R.H. front seats are unchanged with regard to the basic version (6-place accommodation).

Passenger seats (Figure 9.7.13)

The optional accommodation comprises three individual seats attached on the same rails as front seats and a rear two-place divan (the latter is unchanged with regard to 6-place accommodation).
The individual seats are fitted with a setting mechanism which allows modification of the back-rest tilting.
The R.H. intermediate seat can be tilted toward the seating (forwards), in order to facilitate access to emergency exit.

TBM700A
The rear divan back-rests can be tilted through pulling toward the seating (forwards) to ease baggage loading and securing in aft baggage compartment. A pedal, located under each seating of the rear divan, allows to tilt the back-rest backwards and to advance the seating by 5.9 in. (15 cm).

TBM700B
The rear double chair back-rests tilt forward and the rear L.H. seat may tilt forwards to ease baggage loading in aft baggage compartment. A pedal, located under each seating of the rear divan, allows to tilt the back-rest backwards and to advance the seating by 5.9 in. (15 cm).

1) Front passenger's seat
2) Pilot's seat
3) R.H. intermediate passenger's seat
4) L.H. intermediate passenger's seat (back to flight direction)
5) R.H. rear passenger's seat
6) Two-place rear divan
7) Front seat(s) longitudinal shift control
8) Oxygen mask drawer, on seats Items 1 and 4 (2 masks), on seat Item 5 (one single mask)
9) Front seat(s) height control
10) Front seat(s) back-rest tilt control
11) Drawer for piddle pak (if installed)
(front part : new bags, rear part : used bags)
12) Rear seat(s) back-rest tilt control
13) Rear divan back-rest tilt pedals
14) Access to the 2-mask location on rear divan

Figure 9.7.13 (1 / 2) - SEATS

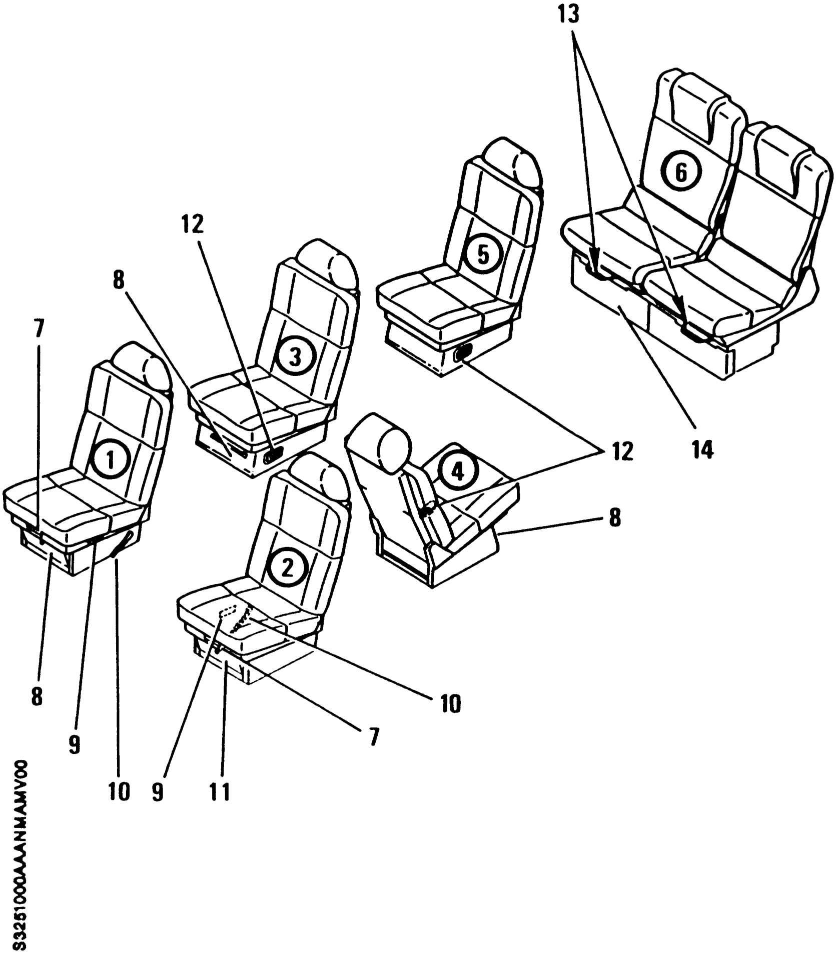

Figure 9.7.13 (2 / 2) - SEATS

EMERGENCY OXYGEN

Four emergency oxygen systems provide enough chemical oxygen for seven persons during a descent from 30000 ft to 12000 ft and below. These four systems accessible from central aisle, are located in :

- a drawer under passenger's seat for front seats (two masks fitted with a microphone)
- a drawer under L.H. intermediate seat (two masks)
- a drawer under R.H. intermediate seat (one single mask)
- a drawer under the two-place rear divan R.H. seating (two masks).

1) Generator
2) Supply tubes
3) Masks
4) Drawer
5) Microswitch
6) Dimpled support

Figure 9.7.14 (1 / 2) - EMERGENCY OXYGEN

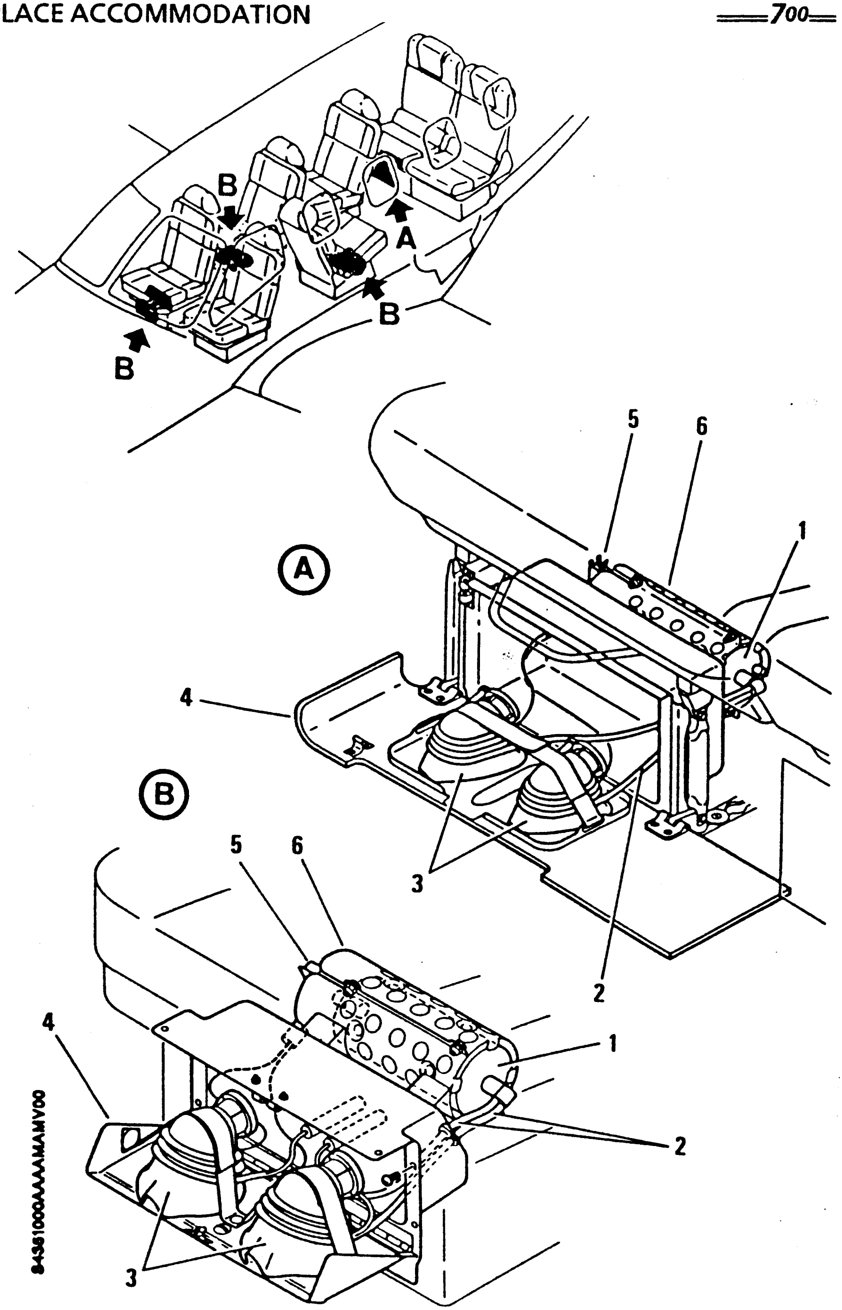

Figure 9.7.14 (2 / 2) - EMERGENCY OXYGEN

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

The data hereafter supplement the corresponding ones of the standard airplane described in Section 8 "Handling, servicing and maintenance" of the basic Pilot's Operating Handbook.

NOTE :
The conversion of 6-place accommodation into 7-place accommodation should only be performed, if the airplane has been previously designed to be modified into the optional 7-place accommodation. That is to say, it has been manufactured with the structural equipment defined in the optional 7-place accommodation.

A - CONVERSION OF 6-PLACE ACCOMMODATION INTO 7-PLACE ACCOMMODATION (Figures 9.7.11 and 9.7.12)

1) Remove the L.H. rear seat P / N T700A2522001000 (Item 4), to do this :
   - remove both front hinge bolts (Item 5), retain the washers, discard the locknuts
   - lift up the L.H. side control of the seat in order to release it from the rails
2) Remove the R.H. intermediate seat P / N T700A2522000000 (Item 2), to do this :
   - pull upward the lock pin strap located under the rear part of the seat on central aisle side and disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails
3) If installed, remove the R.H. cabinet (Item 1)
4) Install (following the flight direction) the R.H. intermediate seat P / N T700A2522002000 (Item 6), to do this :
   - position the seat on the rails, the lock pin (fitted with a strap which is accessible from the rear) being engaged in line with the green marking [X = 221.8 in. (5633.8 mm)] located at the bottom of the internal rail

- move the seat by $\frac{1}{2}$ inch (12.7 mm) toward the forward section of the airplane up to proper locking of both lock pins on rails
- check locking
- put in place, under the seat, the lock system strap ("velcro" tape)
- check the back-rest tilting which allows to gain access to the emergency exit

5) Move the R.H. rear seat (Item 3) forward in X = 255.8 in. (6497.4 mm) (procedure given in Paragraph 4)

6) Install rear divan seating (Item 17) fitted with both side ventral half-belts, correctly position both lower pins in the floor. Connect the oxygen warning power supply wire located under seating, to the plug in stand-by under upholstering

7) Attach (according to Paragraph 8) to the floor, the pin / trunnion (Item 16) fitted with both ventral half-belts

8) Typical attachment of quick-release pins :
   - remove and retain the stop gap
   - depress pin end to release retaining balls
   - on the upper harness pins (Items 7, 10 and 12) check presence of the harness waiting system and on back-rest upper pins (Items 9 and 13), check presence of spacer
   - introduce the pin into the hole, if necessary, previously introduce the pin into the part to be fixed (upper harness or rear divan lower back-rest)
   - release pressure on pin end to lock it (balls in place)
   - check that pin is correctly locked

9) Position (according to Paragraph 8) both upper pins (Items 9 and 13) of the rear divan back-rest (Item 14) on fuselage sides

   Check locking

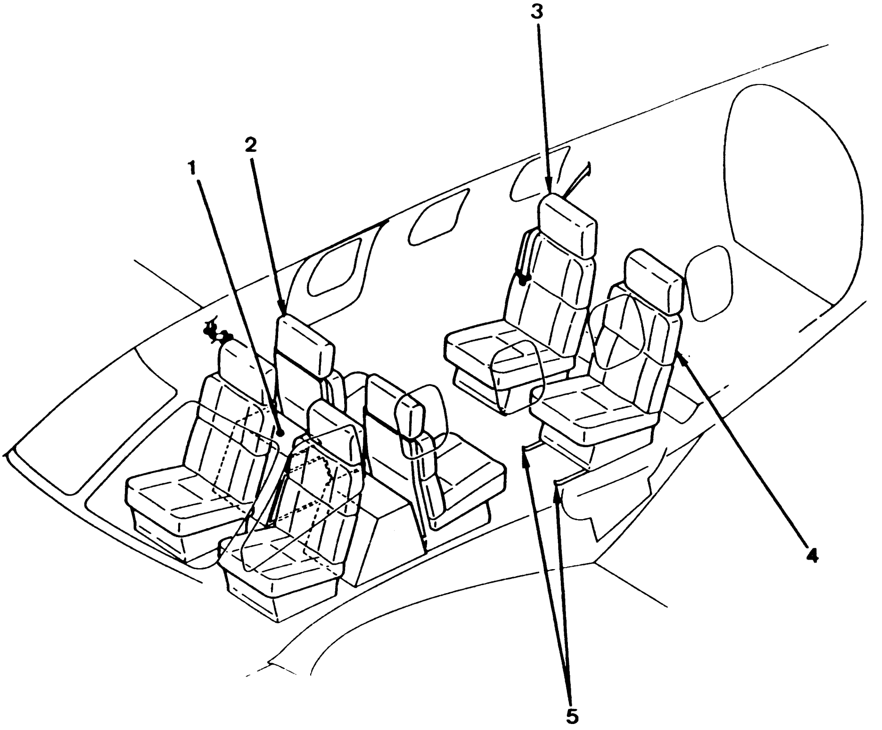

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Figure 9.7.11 - 6-PLACE ACCOMMODATION

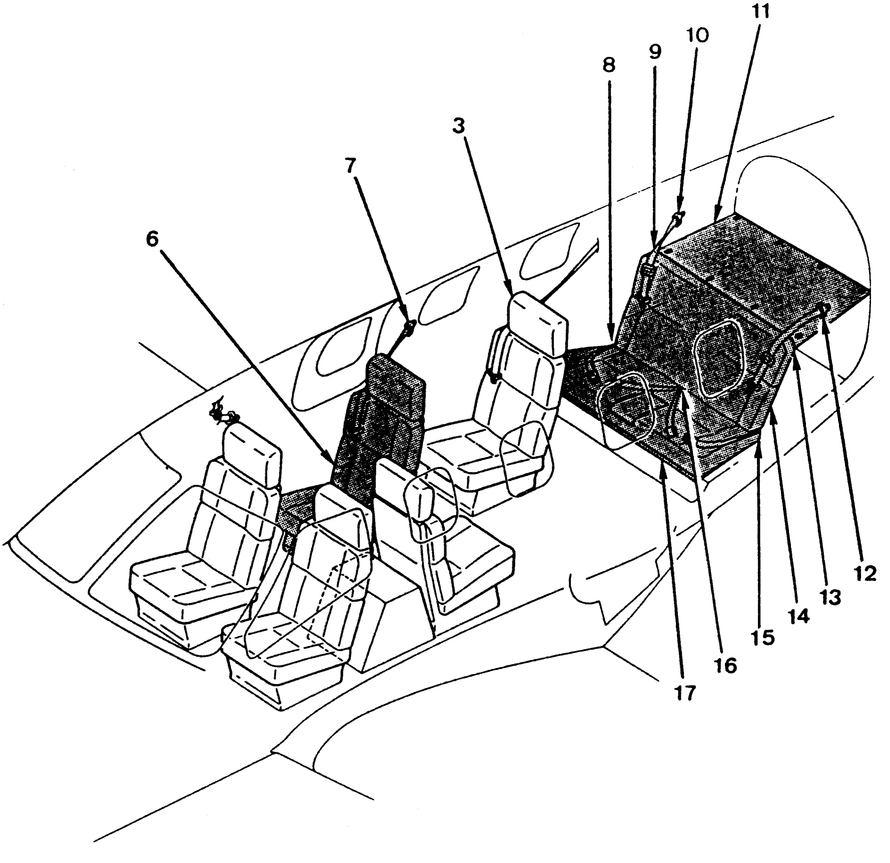

Figure 9.7.12 - 7-PLACE ACCOMMODATION

10) Position rear divan back-rest (Item 14) on both upper pins (simultaneously depress both locking levers located on both sides of the back-rest upper part and engage both locking hooks)

    Check locking

11) Install the four lower half-belts on rear divan seating

12) Moderately lift up lower angle of back-rest upholstering in order to remove it from its structure, position (according to Paragraph 8) both lower pins (Items 8 and 15)

    Check locking

13) Clip the four rear attachments (snap hooks) of the cargo net (Item 11) on the rings located on the compartment bottom

14) Clip the four front attachments (hooks) of the cargo net (Item 11) : under cross-bar of rear divan back-rest for both central attachments, on both pins (Items 9 and 13) for both side attachments.

15) Position the three upper harnesses (Items 7, 10 and 12) using three pins (according to Paragraph 8)

    Engage the harness end on the waiting system located on the pin

    Check locking

B - CONVERSION OF 7-PLACE ACCOMMODATION INTO 6-PLACE ACCOMMODATION (Figures 9.7.11 and 9.7.12)

1) Remove the three upper harnesses (Items 7, 10 and 12) after having removed the three pins (according to Paragraph 2)

2) Removal of a quick-release pin :

    - hold pin body between the index and the second finger
    - depress pin end with the thumb and release the pin, pulling it rearwards
    - check presence of the harness waiting system on upper harness pins (Items 7, 10 and 12) and of spacer on back-rest upper pins (Items 9 and 13)

3) Remove the cargo net (Item 11)

4) Moderately lift up lower angle of back-rest upholstering in order to remove it from its structure, remove (according to Paragraph 2) the two lower pins (Items 8 and 15), nevertheless keep them integral with the back-rest. Simultaneously depress both locking levers located on both sides of the back-rest upper part, slightly lift the back-rest to remove it

5) Remove (according to Paragraph 2) both upper pins (Items 9 and 13)

6) Disconnect oxygen warning power supply wire located under the seat seating, coil wire (airplane side) under upholstering

7) Remove (according to Paragraph 2), the pin / trunnion (Item 16) fitted with both ventral half-belts

8) Lift up and remove rear divan seating (Item 17) fitted with both side ventral half-belts, take care to oxygen warning power supply wire

9) Move R.H. rear seat (Item 3) backwards in X = 267.8 in. (6802.2 mm), to do this :

   - position the seat on the rails, the lock pin (fitted with a strap which is accessible form the rear) being engaged in line with yellow marking located at the bottom of the internal rail

   - move the seat by $\frac{1}{2}$ inch (12.7 mm) toward the forward section of the airplane up to proper locking of both lock pins on rails

   - put in place, under the seat, the lock system strap ("velcro" tape)

   - check locking

10) Remove R.H. intermediate seat P / N T700A2522002000 (Item 6), to do this :

- pull upward the lock pin strap located under the rear part of the seat on central aisle side

- disengage the seat, moving it backward by ½ inch (12.7 mm) to release it from the rails

11) If necessary, install R.H. cabinet (Item 1)

12) Install (back to the flight direction) R.H. intermediate seat P / N T700A2522000000 (Item 2) in X = 211.8 (5379.8 mm) (procedure identical to Paragraph 9)

13) Install L.H. rear seat P / N T700A2522001000 (Item 4) following the flight direction, to do this :

- position the seat on the rails ; attach on the two FWD stops both FWD hinge pins (Item 5) using both new washers and two new locknuts

- tilt seat rear part and lock it using L.H. lateral control

14) Install stop gaps at pins location (Items 7, 9, 10, 12 and 16)

15) Retain removed components.

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SECTION 8

HANDLING, SERVICING AND MAINTENANCE

The data hereafter supplement the corresponding ones of the standard airplane described in Section 8 "Handling, servicing and maintenance" of the basic Pilot's Operating Handbook.

NOTE :
The conversion of 6-place accommodation into 7-place accommodation should only be performed, if the airplane has been previously designed to be modified into the optional 7-place accommodation. That is to say, it has been manufactured with the structural equipment defined in the optional 7-place accommodation.

A - CONVERSION OF 6-PLACE ACCOMMODATION INTO 7-PLACE ACCOMMODATION (Figures 9.7.15 and 9.7.16)

1) Remove the R.H. P / N T700A2522004000 (Item 2) and L.H. P / N T700A2522004001 or 007 (Item 3) intermediate seats, to do this :
   - disconnect oxygen warning power supply wire located under the seating and put it (in stand-by) under the carpet
   - pull upward the lock pin strap located under the rear part of the seat on central aisle side and disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails
2) If installed, remove R.H. and L.H. cabinets (Items 1 and 4)
3) Remove the 6-place carpet and replace it with the 7-place carpet
4) Install (following the flight direction), the R.H. intermediate seat with reclining back-rest P / N T700A2522002000 or 002 (Item 5), to do this :
   - position the seat on the rails, the lock pin (fitted with a strap which is accessible from the rear) being engaged in line with the green marking [X = 209.5 in. (5322 mm)] located at the bottom of the internal rail
   - move the seat by $\frac{1}{2}$ inch (12.7 mm) toward the forward section of the airplane up to proper locking of both lock pins on rails

- check locking
- connect the oxygen warning power supply wire, located under the seating, to the stand-by plug located under the carpet
- put in place, under the seat, the lock system strap ("velcro" tape)
- check the back-rest tilting which allows to gain access to the emergency exit

5) Install (following the flight direction) the R.H. rear seat P / N T700A2522000001 or T700A2522004001 or 007 (Item 8) in X = 239.5 in. (6083 mm) (procedure given in Paragraph 3, except the absence of the oxygen warning system)

6) If necessary, install the L.H. cabinet

7) Install (back to the flight direction) the L.H. intermediate seat P / N T700A2522004001 or 007 (Item 3) in X = 223.1 in. (5666 mm) (procedure given in Paragraph 3)

8) Position both upper harnesses (Items 6 and 7) using two ball pins

   - remove and retain the stop gap
   - depress pin end to release retaining balls
   - on the upper harness pins (Items 6 and 7) check presence of the harness waiting system
   - introduce the pin into the hole, if necessary, previously introduce the pin into the part to be fixed (upper harness or rear divan lower back-rest)
   - release pressure on pin end to lock it (balls in place)
   - check that pin is correctly locked
   - engage the harness end on the waiting system located on the pin

9) Retain removed components

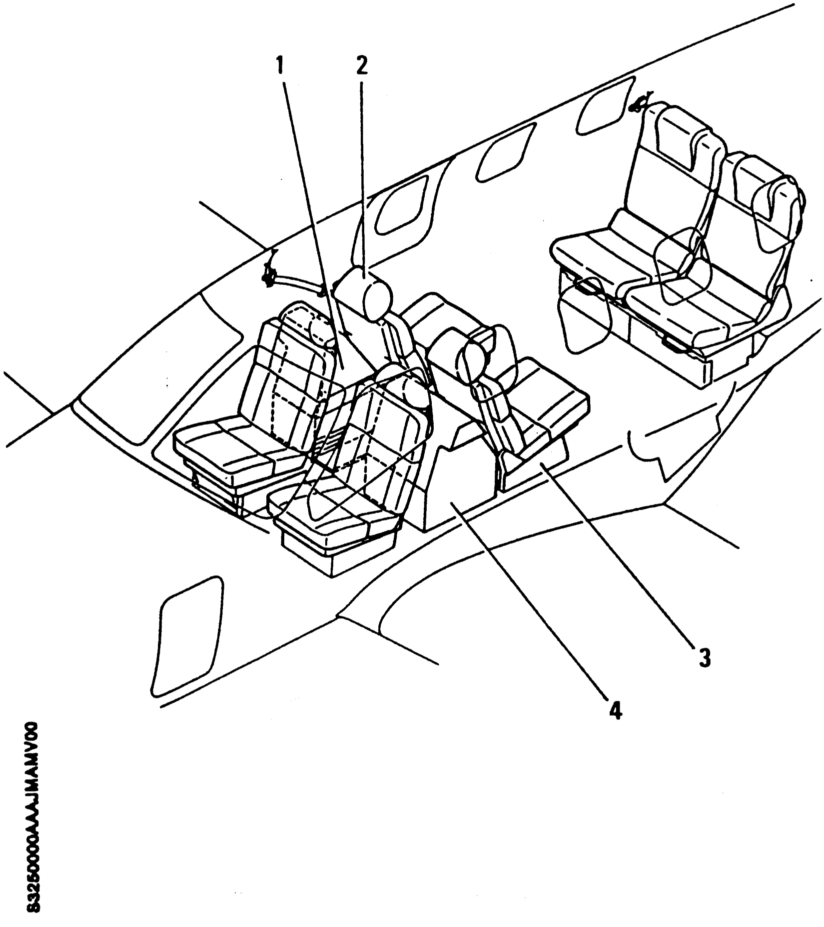


Figure 9.7.15 - 6-PLACE ACCOMMODATION

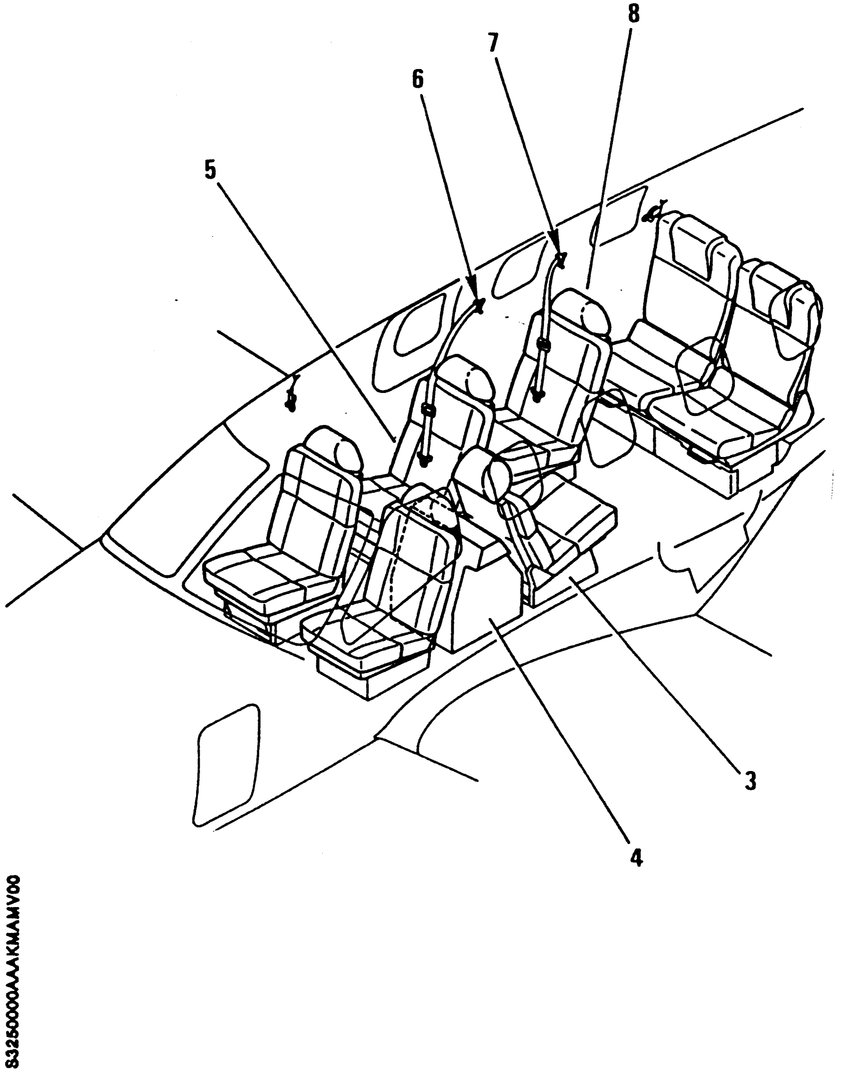


Figure 9.7.16 - 7-PLACE ACCOMMODATION

B - CONVERSION OF 7-PLACE ACCOMMODATION INTO 6-PLACE ACCOMMODATION (Figures 9.7.15 and 9.7.16)

1) Remove both upper harnesses (Items 6 and 7) after having removed the two ball pins

   - hold pin body between the index and the second finger
   - depress pin end with the thumb and release the pin, pulling it rearwards
   - check presence of the harness waiting system on upper harness pins (Items 6 and 7)
   - install the stop gaps at location of the pins (Items 6 and 7)

2) Remove the R.H. rear seat P / N T700A2522000001 or T700A2522004001 or 007 (Item 8), to do this :

   - pull upward the lock pin strap located under the rear part of the seat on central aisle side
   - disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails

3) Remove R.H. intermediate seat P / N T700A2522002000 or 002 (Item 5), to do this :

   - disconnect oxygen warning power supply wire, coil wire (airplane side) under the carpet
   - pull upward the lock pin strap located under the rear part of the seat on central aisle side
   - disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails

4) Remove the L.H. intermediate seat P / N T700A2522004001 or 007 (Item 3) (according to Paragraph 3)

5) If installed, remove the L.H. cabinet (Item 4)

6) Remove the 7-place carpet and replace it with the 6-place carpet

7) If necessary, install L.H. and R.H. cabinets (Items 1 and 4)

8) Install (back to the flight direction) the R.H. intermediate seat P / N T700A2522004000 (Item 2), to do this :

- position the seat on the rails, the lock pin (fitted with a strap which is accessible from the rear) being engaged in line with yellow marking [X = 223.1 in. (5666 mm)] located at the bottom of the internal rail
- move the seat by $\frac{1}{2}$ inch (12.7 mm) toward the forward section of the airplane until proper locking of both lock pins on rails
- check locking
- put in place, under the seat, the lock system strap ("velcro" tape)
- connect oxygen warning power supply wire located under the seating, to the stand-by plug located under the carpet

9) Install (back to the flight direction), the L.H. intermediate seat P / N T700A2522004001 or 007 (Item 3) in X = 223.1 in. (5666 mm) (according to Paragraph 8)

10) Retain removed components.

SUPPLEMENT

"BENDIX / KING" GC 381A RADAR GRAPHICS INTERFACE

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX / KING" GC 381A Radar Graphics Interface in addition to the RNAV KNS 81 and to the weather radar RDS 81 or RDS 82 or RDS 82 VP is installed in the TBM 700.

SECTION 2
LIMITATIONS

When the airplane is equipped with the GC 381A, the limitations are those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, plus those of the weather radar RDS 81 or RDS 82 or RDS 82 VP.

The "BENDIX / KING Pilot's Guide GC 381A" P/N 6/86 006-8413-00 5K at its latest revision shall be readily available to the pilot whenever the operation of the radar graph interface system is predicted.

The system checklist functions are for reference only.

SECTION 3
EMERGENCY PROCEDURES

Installation and operation of "BENDIX / KING" GC 381A Radar Graphics Interface do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4
NORMAL PROCEDURES

Normal operating procedures concerning "BENDIX / KING" GC 381A Radar Graphics Interface are outlined in the "BENDIX / KING Pilot's Guide GC 381A" P/N 6/86 006-8413-00 5K at last revision.

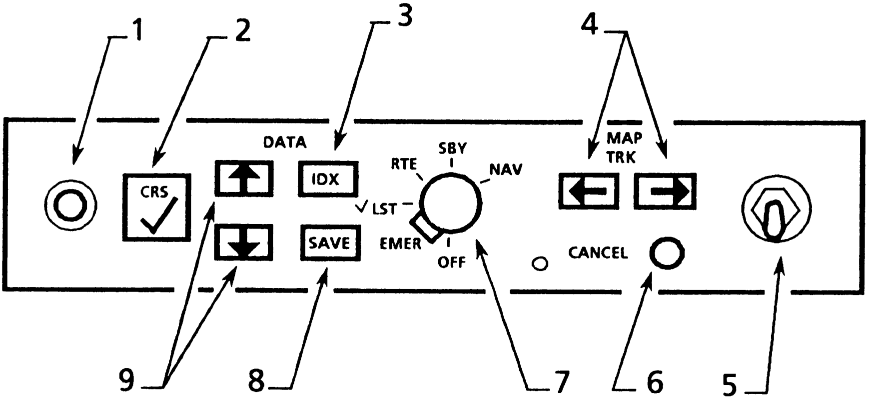
SECTION 5
PERFORMANCE

No change to the performance described in Section 5 "Performance" of the Supplement 3 "BENDIX / KING" RDS 81 weather radar or Supplement 4 "BENDIX / KING" RDS 82 weather radar or Supplement 5 "BENDIX / KING" RDS 82 VP weather radar.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to "BENDIX / KING" GC 381A Radar Graphics Interface are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION



1 - KA 68 phone plug receptacle
2 - "Check-off" key
3 - "Index" key
4 - "Map Track" keys
5 - Joystick control
6 - Cancel pushbutton
7 - Mode selector
8 - "Save" key
9 - Cursor position keys

MODE SELECTOR activates the 5 modes of the GC 381A :

- In EMER and √LST modes runs aircraft checklists programmed with the Pocket Terminal
- RTE must be selected either to load the KNS 81 with data stored with the GC 381A or to transfer waypoints from the KNS 81 to the GC 381A for storage
- SBY mode removes radar graphics
- NAV generates a moving map display of navigation information on the radar indicator.

KA 68 PHONE PLUG used for checklist programming or naming routes.

CHECK-OFF KEY

- In NAV mode :
  - in normal plotting removes and replaces the course line
  - if the joystick controls the waypoint 0, it allows to load the KNS 81's waypoint 0 with the cursor data
- In RTE mode :
  - with a "flight plan page" displayed instructs the GC 381A to load the KNS 81
  - with an "Index page" displayed calls the corresponding highlighted checklist or route contents
  - with a "checklist page" displayed moves the cursor highlight.

CURSOR POSITION KEYS

- In EMER, √LST and RTE modes moves the yellow cursor
- In NAV mode extends the displayed range from 240 to 320 NM for navigation purposes only

INDEX KEY

- In EMER, √LST and RTE modes displays the appropriate index page on the radar indicator

SAVE KEY

Transfers waypoint data from the KNS 81 to the GC 381 A's memory during route storage operations. The save key is inoperative in any mode other than RTE.

MAP TRACK KEYS

Creates a white deviation line on the indicator, canted 10° left or right of the current heading. Continue pressing the appropriate Map Track Key to slew the line either left or right to a maximum of 45°. The Map Track line disappears about 10 seconds after the last command.

CANCEL PUSHBUTTON

- Removes disclaimer message from the radar indicator
- Erases graphics related to the Map Track line or waypoint 0

JOYSTICK CONTROL

Creates a movable waypoint (Waypoint 0).

SUPPLEMENT

"BENDIX / KING"

EFS 40

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement provides information necessary for airplane utilization when the system EFIS "BENDIX / KING" EFS 40 type is installed on TBM 700 airplane.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

The installation of EFS 40 EFIS is subordinated to the installation of the modification Nr MOD 70-010-24 "Alternator Ventilation".

The using of COMPOSITE MODE is only authorized when one of both displays is out of order or when ventilation of one of both displays is out of order.

To undertake an IFR-flight :
- The EADI and EHSI must be available.
- The stand-by horizon must be available.
- No red or yellow "SG" or "DU" warning must be present.
- The "CHECK CONFIG" warning must not be present.
- ATTITUDE FAIL and HDG warnings must not be present.

CAUTION

EFS 40 CONFIGURATION OF THE TBM 700 AIRPLANE IS MENTIONED ON FIGURE 9.9.1. MODIFICATION OF THIS CONFIGURATION IS PROHIBITED

1	VIEW / EDIT OPERATING CHAR			
2	ITEM	SG	RK1	RK2
4	DCLTR GS ON BC	1	1	1
6	DISPLAY WIND VEC	1	1	1
7	DISPLAY DRIFT	1	1	1
9	DME DIST ONLY	1	1	1
1	VIEW / EDIT OPERATING			
2	ITEM	SG	RK1	RK2
6	DCLTR UNUS ATT	1	1	1
1	VIEW / EDIT OPERATING			
2	ITEM	SG	RK1	RK2
4	VERT PTR TYPE	2	2	2
5	DISPLAY FMS MSG	1	1	1
9	RISING RUNWAY	1	1	1
11	CMD BAR FILTER	1	1	1

NOTE :
Confirm all missing lines above mentioned as follows :

SG	*RK1*	*RK2*
0	*0*	*0*

Figure 9.9.1 - TABLE OF OPERATING CONFIGURATIONS CERTIFIED FOR TBM 700 AIRPLANE

The "BENDIX / KING Pilot's Guide EFS 40 system" P/N 006-08701-00001K at its latest revision shall be readily available for the operation of the EFIS.

SECTION 3

EMERGENCY PROCEDURES

These procedures supplement those of standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Manual.

TABLE OF CONTENTS OF EMERGENCY PROCEDURES

TRANSITION TO COMPOSITE MODE

CAUTION

THE USE OF COMPOSITE MODE IS ONLY AUTHORIZED WHEN ONE OF BOTH DISPLAYS IS OUT OF ORDER OR WHEN VENTILATION OF ONE OF BOTH DISPLAYS IS OUT OF ORDER

1 - Control the attitudes referring to stand-by horizon

2 - Select COMPOSITE MODE by pressing CMPST push-button

When COMPOSITE figuration appears :

3 - Fully reduce brightness of the faulty display

4 - Control referring to the remaining display

CAUTION

THE AUTOPILOT DISENGAGES AS SOON AS COMPOSITE MODE IS SELECTED. AS SOON AS COMPOSITE FIGURATION APPEARS, THE AUTOPILOT CAN BE REENGAGED

RED WARNING ATTITUDE FAIL
This warning, displayed on EADI center, indicates a vertical gyro failure. It causes pitch and roll attitudes scales removal and involves autopilot disconnection. - Control the attitude referring to stand-by horizon.

RED WARNING HDG
This warning, displayed on EHSI lubber line indicator location, indicates a directional gyro failure. It involves autopilot transition to wings level basic mode. - Control the heading referring to emergency compass. *NOTE :* . *Only bearing information remains valid for ADF.* . *Only QDM and course deviation information remain valid for the VOR.*

EADI FAILURE

If EADI symbols partially or completely disappear, the display is out of order.

In order to reconfigure the system, apply transition to COMPOSITE MODE procedure.

EHSI FAILURE

If EHSI symbols partially or completely disappear, the display is out of order.

In order to reconfigure the system, apply transition to COMPOSITE MODE procedure.

YELLOW WARNING DU

This warning, displayed on the lower left corner of the EADI or EHSI, indicates a loss of airflow of the concerned display.

- If the failure occurs BEFORE FINAL APPROACH PHASE, apply transition to COMPOSITE MODE procedure.
- If the failure occurs DURING FINAL APPROACH, continue without changing anything.

NOTE :
In the worst ambient temperature conditions, the display correctly operates during at least 30 minutes after annunciation.

YELLOW WARNING SG

This warning, displayed on the lower left corner of the EADI and at the lower right corner of the EHSI, indicates a loss of airflow of the symbol generator.

1 - Reduce, if possible, displays brightness

2 - Lighten the display information if possible (radar image, navigation secondary information)

NOTE :
In the worst ambient temperature conditions, the symbol generator correctly operates during at least 30 minutes after annunciation.

RED WARNING CP

This warning, displayed on the L.H. of the EHSI and at the lower left corner of the EADI, indicates that a control panel switch of the EHSI has become stuck.

In this case, ALL CURRENTLY SELECTED CONDITIONS ARE FROZEN.

SELF-TEST DISPLAY

A self-test display during the flight indicates :

- that the pilot pressed the TST / REF push-button during more than 3 seconds,
- or that the TST / REF push-button remained stuck after having been briefly depressed.

In the case of a stuck button, the EADI and the EHSI return to normal display after 6 seconds.

RED CROSS DISPLAY ON HEADING BUG

A red cross, displayed on the HEADING BUG, indicates a HDG rotactor failure.

In this case, THE HEADING SELECTION IS FROZEN.

RED CROSS DISPLAY ON COURSE POINTER

A red cross, displayed on head and tail of the COURSE pointer, indicates a CRS rotactor failure.

In this case, THE COURSE SELECTION IS FROZEN.

RED WARNING $\boxed{\text{RCP}}$

This warning, displayed on the lower left corner of the EHSI, indicates a radar control panel failure.

NOTE :
In case of absence of specific radar screen, the radar goes automatically into ST-BY mode, regardless of radar control panel setting, whenever a weather radar mode is not selected for EHSI.

RED WARNINGS ATTITUDE FAIL AND HDG
These warnings indicate a failure of directional and vertical gyros power supply converter. It involves autopilot disconnection as well as the removal of ADF information. - Control referring to emergency instruments. - Set "EFIS MASTER" switch to OFF.

SMALL RED WARNING SG
This warning, displayed on EHSI upper part or on EADI lower part, indicates that information present on the concerned display are no longer valid. - Use these information, particularly the attitudes, only after validation with emergency instruments and only as additional information.

BIG RED WARNING SG
This warning, displayed on the entire EADI or EHSI screen, indicates that the symbols generator of the concerned display is unusable. It involves the autopilot disconnection. - Control referring to corresponding emergency instruments. - Fully reduce brightness of the concerned display.

OPTION OPT70–01–018 (if installed)

YELLOW WARNING ⟷ HDG
This warning displayed on the L.H. side of the heading bug, indicates a heading difference greater than 6° between the EHSI and HSI#2 directional gyros. – Determine the wrong heading source by referring to a 3rd heading source.

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SECTION 4
NORMAL PROCEDURES

4.1 - GENERAL

These procedures supplement those of standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

4.2 - LIST OF GROUND CHECKS

BEFORE TAXIING

1 - Check no flags
"DU", "SG", "CP"

EFS 40 SYSTEM AUTOTEST (if desired)

1 - "TST / REF" button .... **PRESS and HOLD for 3 seconds**

2 - Check :

- the EHSI and EADI test images appear
- the "SELF TEST PASS" or "SELF TEST FAIL" message is annunciated in the center of each test pattern

If the "SELF TEST FAIL" message appears, the EFS 40 system must be serviced.

4.3 - LIST OF INFLIGHT CHECKS

SELECTION OF NAVIGATION SYSTEM

1 - Push-button [1/2] .... **PRESS**

NOTE :
If only one navigation sensor is installed, the display will not cycle and the sensor annunciation will not show a system number.

SELECTION OF THE PRIMARY NAVIGATION SENSOR

1 - Push-button [NAV] .... **PRESS**

A press of the NAV push-button sequentially selects the primary navigation sensor. The sequence movement is :

- VOR, LOR (if installed), ADF then VOR, etc...

NOTE :
When the VOR navigation sensor is selected and an ILS frequence displayed, or if the KNS 81 is in RNAV mode, the VOR annunciation is respectively replaced by LOC or RNAV.

SELECTION OF THE 360-DEGREE HSI MODE

1 - Push-button [HSI] .... **PRESS**

A press of the HSI push-button, sequentially selects the 360-degree display formats. The movement sequence is :

- COMPASS ROSE
- COMPASS ROSE AND NAVIGATION MAP
- COMPASS ROSE AND NAVIGATION MAP AND RADAR IMAGE (if radar installed)

SELECTION OF BEARING POINTERS

1 - Push-button [→] or [⇒] .... **PRESS**

The button [→] is paired with the white single bar pointer.

The button [⇒] is paired with the magenta double bar pointer.

A press of the bearing pointer buttons, sequentially selects the navigation sensors which are interfaced with the pointers.

The movement sequence is :

- no pointer (declutter function)
- VOR
- LOR (if installed)
- ADF
- no pointer, etc...

⬇

SELECTION OF BEARING POINTERS (Cont'd)

NOTE :
- *The pointers are displayed only if a valid radio-electric information exists.*
- *The VOR position is withdrawn from the sequence if an ILS frequence is selected.*
- *The DME information is displayed below the sensor annunciation - in VOR function, if a VOR-DME frequence is selected - in ADF function, if a VOR-DME frequence is selected and the DME positioned to "HOLD".*
- *The distance indication is displayed only if a valid DME signal is really received.*

SELECTION OF THE "ARC" DISPLAY MODE

1 - Push-button [ARC] .... **PRESS**

A press of the ARC push-button, sequentially selects the ARC display formats. An approximate 85-degree sector display of the compass is presented. The movement sequence is :

ARC - ARC + NAV - ARC + NAV + RADAR (if installed) - ARC + RADAR (if installed) - ARC...

RANGE SELECTION

1 - Push-button $\boxed{\Delta}$ or $\boxed{\nabla}$ .... **PRESS**

A press of the buttons $\boxed{\Delta}$ or $\boxed{\nabla}$ respectively selects the next higher or lower range to be displayed while in the NAV MAP or RADAR modes of operation. The selectable ranges are :

5 NM - 10 NM - 20 NM - 40 NM - 80 NM - 160 NM - 240 NM - 320 NM - 1000 NM.

COURSE SELECTION

1 - CRS knob .... **ROTATE**

Pushing the center of the CRS knob will cause the course pointer to slew to the direct course to the selected NAVAID or active waypoint.

HEADING SELECTION

1 - HDG knob .... **ROTATE**

Pushing the center of the HDG knob will cause the heading bug to slew to the present aircraft heading.

SETTING OF GROUND SPEED OR TIME TO THE STATION

1 - TST / REF button .... **PRESS**

When the EFIS system is coupled with the KLN 90A or KLN 90B GPS, a press of the TST / REF button displays one after the other in NAVIGATION MAP mode the following items on the screen background :

- FPL ID
- AIRPORT
- NAVAIDS.

CAUTION

WHEN THE TST / REF BUTTON IS PRESSED AND HELD FOR 3 SECONDS, IT INITIATES THE EFS 40 SYSTEM TEST AND DISENGAGES THE AUTOPILOT

SECTION 5
PERFORMANCES

The installation and the operation of "BENDIX/KING" EFS 40 system do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	01 – SPECIFIC OPTIONAL EQUIPMENT			
A	Heading#1/Heading#2 EHSI miscompare (OPT70 3401018)	KING	0.033 (0.015)	125.98 (3.200)
	34 – NAVIGATION			
O	EFIS (EFS 40 + AP) KFC 325 (OPT 70 34001)	KING		
	– with standby horizon M32 RC ALLEN RCA 22		71.716 (32.530)	133.19 (3.383)
	– with horizon M32 EDO AIRE /SIGMATEK 5000B		71.520 (32.440)	132.60 (3.368)

SECTION 7
DESCRIPTION

7.1 - EFS 40 CONTROLS

1) EADI
2) EHSI
3) Push-button of EFS 40 self-test or of DME ground speed or time-to-station alternate display
4) Scale setting push-button in MAP or WEATHER mode
5) ARC symbologic mode selecting push-button
6) Selected heading bug knob
7) ERMI dual pointer selecting push-button
8) EHSI brightness setting knob
9) ERMI single pointer selecting push-button
10) Navigation course selecting knob
11) EHSI figuration modes selecting push-button
12) Navigation source selecting push-button
13) Navigation system selecting push-button
14) MARKER test and level selecting toggle switch
15) EADI brightness setting knob
16) COMPOSITE MODE selecting push-button
17) CMPST push-button light test
18) DME frequence tuning selecting rotary switch
19) EFIS MASTER switch - see Figure 9.9.4

Figure 9.9.2 (1 / 2) - CONTROLS AND DISPLAY

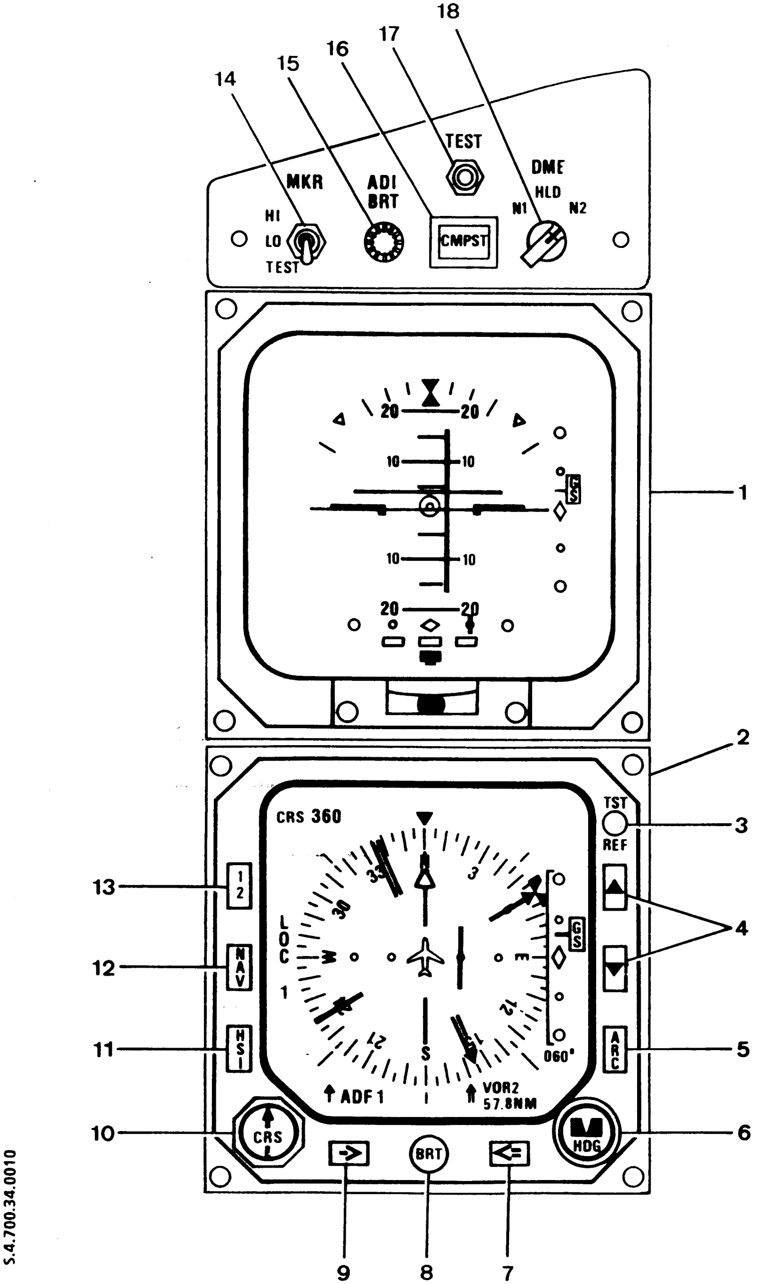


Figure 9.9.2 (2 / 2) - CONTROLS AND DISPLAY

Item 3 - TST / REF button - It allows to self-test the EFS 40 system by pressing at least 3 seconds. A brief switching allows to alternately display DME ground speed or time-to-station.

Item 4 - PUSH-BUTTONS Δ and ∇ - They allow to modify the range scale either in NAV MAP or WEATHER mode.

Item 5 - ARC PUSH-BUTTON - It allows to select the desired ARC figuration :
by switching:
. ARC COMPASS ROSE
. ARC NAV MAP
. ARC NAV MAP WITH WEATHER
. ARC COMPASS ROSE WITH WEATHER

Item 6 - HDG KNOB - It allows to set the bug to the desired heading. Depress to synchronise with the present heading.

Item 7 - PUSH-BUTTON < = - It allows to allocate the ERMI dual pointer to the different navigation sensors.

Item 8 - BRT KNOB - It allows to set the EHSI brightness.

Item 9 - PUSH-BUTTON —> - It allows to allocate the ERMI single pointer to the different navigation sensors.

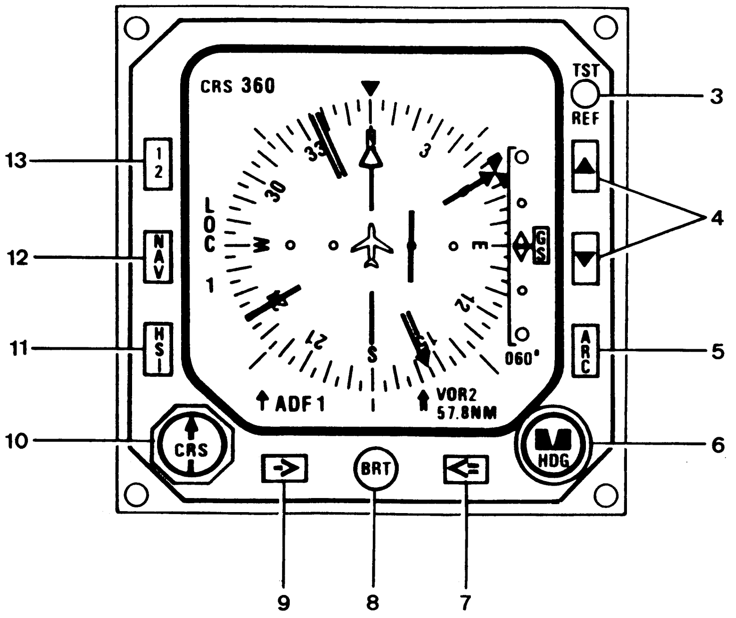
Item 10 - CRS KNOB - It allows to display the desired radial. Depress to select the present QDM.

Item 11 - HSI PUSH-BUTTON - It allows to select the EHSI desired figuration :
by switching :
. HSI COMPASS ROSE
. HSI NAV MAP
. HSI NAV MAP WITH WEATHER

Item 12 - NAV PUSH-BUTTON - It allows to select the primary navigation source.

Item 13 - NAVIGATION SYSTEM SELECTING PUSH-BUTTON - It allows to select the navigation system used (system 1 or 2).

Figure 9.9.3 (1 / 2) - EHSI CONTROLS



S.4.700.34.0011

Figure 9.9.3 (2 / 2) - EHSI CONTROLS

Item 14 - MKR TOGGLE - It allows to test the Marker system (TEST) and select the receiver sensitivity (LO, HI).

Item 15 - ADI BRT KNOB - EADI display brightness setting knob.

Item 16 - CMPST PUSH-BUTTON - Push-button allowing to select COMPOSITE MODE figuration, which is an image uniting EADI display information with some navigation information including a heading scale along the horizon line.

Item 17 - TEST PUSH-BUTTON - It allows to test the CMPST push-button lamp.

Item 18 - DME ROTARY SWITCH - It allows to tune DME receiver frequency to the navigation system 1 or 2 (N_1 and N_2 positions). Furthermore, when tuning is performed, the rotator allows to memorize the selected frequency in the DME receiver (HLD position).

Item 19 - EFIS MASTER SWITCH - It controls the power to all EFIS system components.

Figure 9.9.4 (1 / 2) - EADI CONTROLS

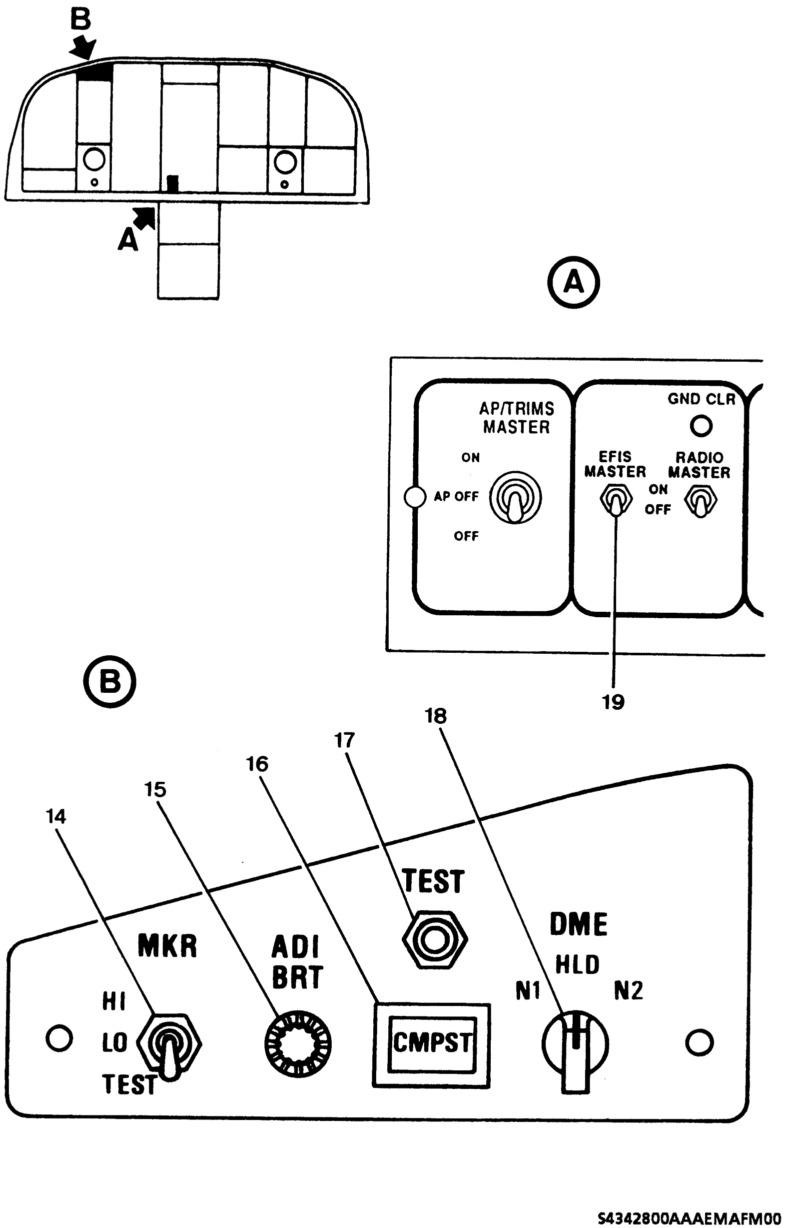


Figure 9.9.4 (2 / 2) - EADI CONTROLS

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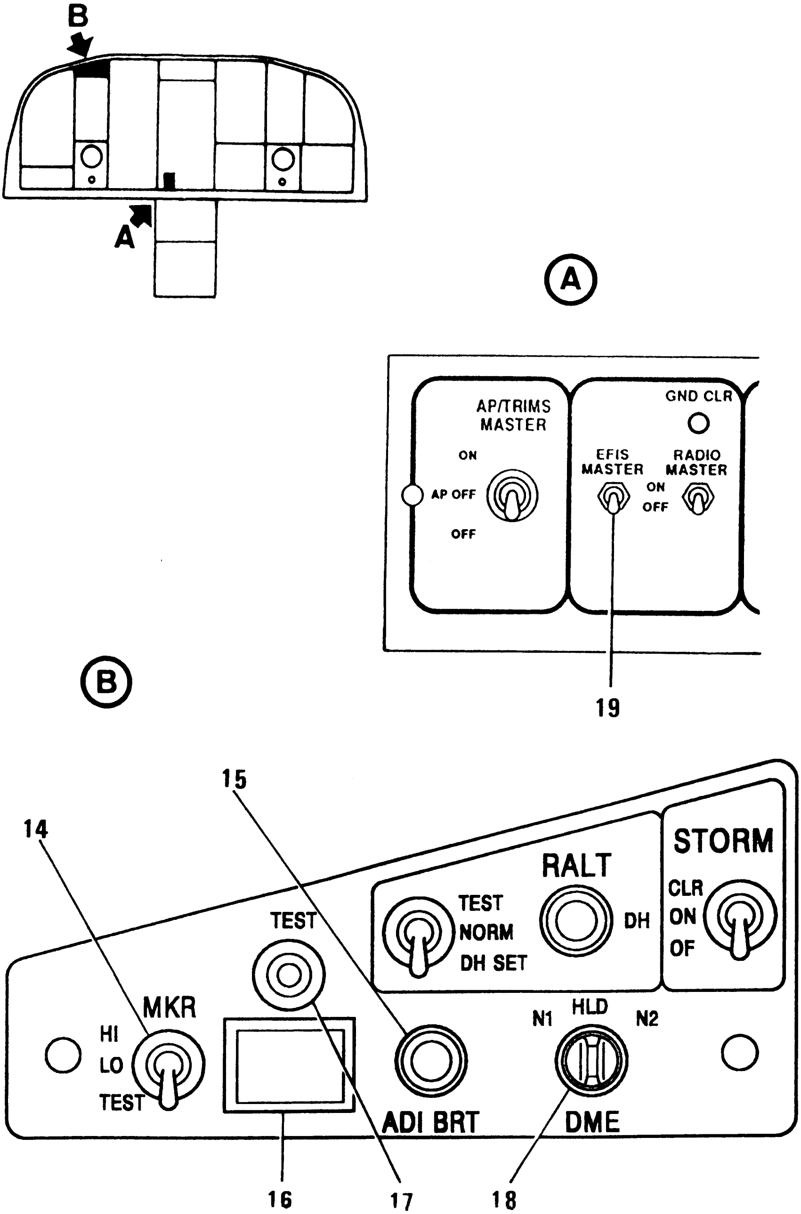


S4342800AAAFMAFM00

Figure 9.9.4A (2 / 2) - EADI CONTROLS

7.2 - EADI SYMBOLOGY

1) Roll scale
2) Pitch scale
3) Airplane symbol (for split-cue FD command bars)
4) Side-slip indicator
5) Radar altimeter display
6) Glide Slope scale
7) Decision height alert
8) Airplane symbol (for single-cue FD command bars)
9) Localizer scale
10) Selected decision height display
11) Rate of turn display
12) FD command bars (split-cue)
13) Autopilot modes annunciator
14) FD command bars (single-cue)

Figure 9.9.5 (1 / 2) - EADI

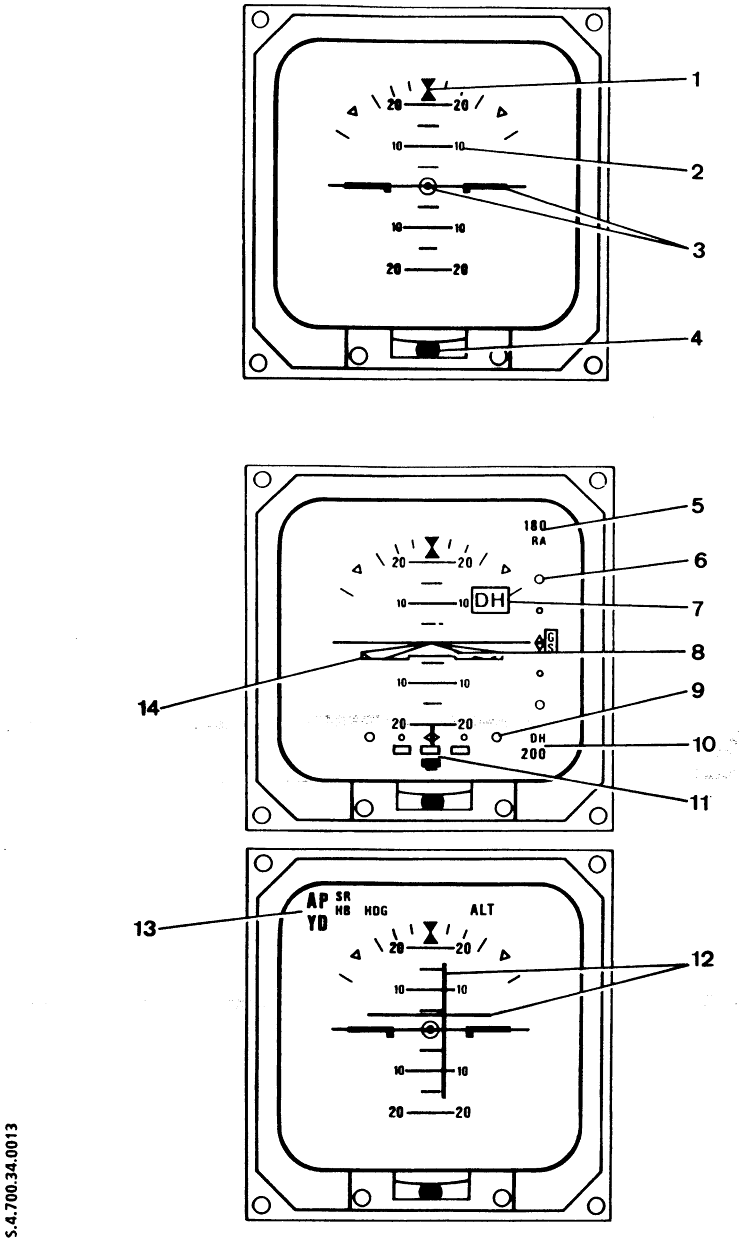


Figure 9.9.5 (2 / 2) - EADI

7.3 - EHSI SYMBOLOGY

1) Selected course
2) Lubber line
3) Selected heading bug
4) Distance bound to the primary navigation source (or other navigation system when in HLD function)
5) Ground speed or time-to-station or navigation source frequency when in HLD function
6) Glide Slope scale
7) Glide Slope pointer
8) Selected heading value
9) Heading rose
10) ERMI dual pointer
11) DME 2 distance
12) Navigation system allocated to ERMI dual pointer
13) DME 1 distance
14) Navigation system allocated to ERMI single pointer
15) ERMI single pointer
16) Deviation bar
17) Navigation system Nr 1 or Nr 2 used
18) Primary navigation source selected
19) Airplane symbol
20) Selected radial pointer

Figure 9.9.6 (1 / 2) - STANDARD EHSI SYMBOLOGY

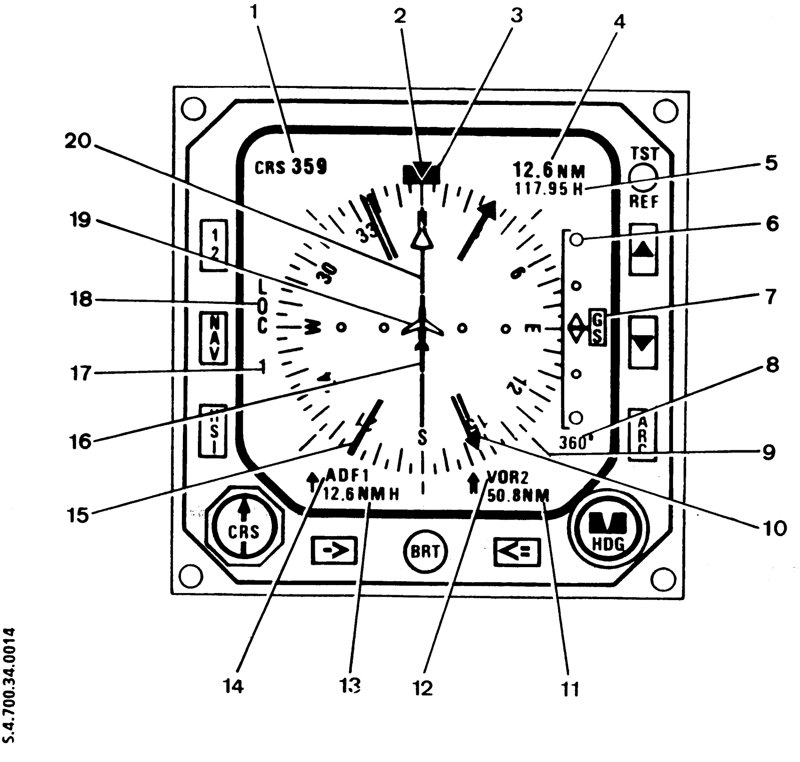
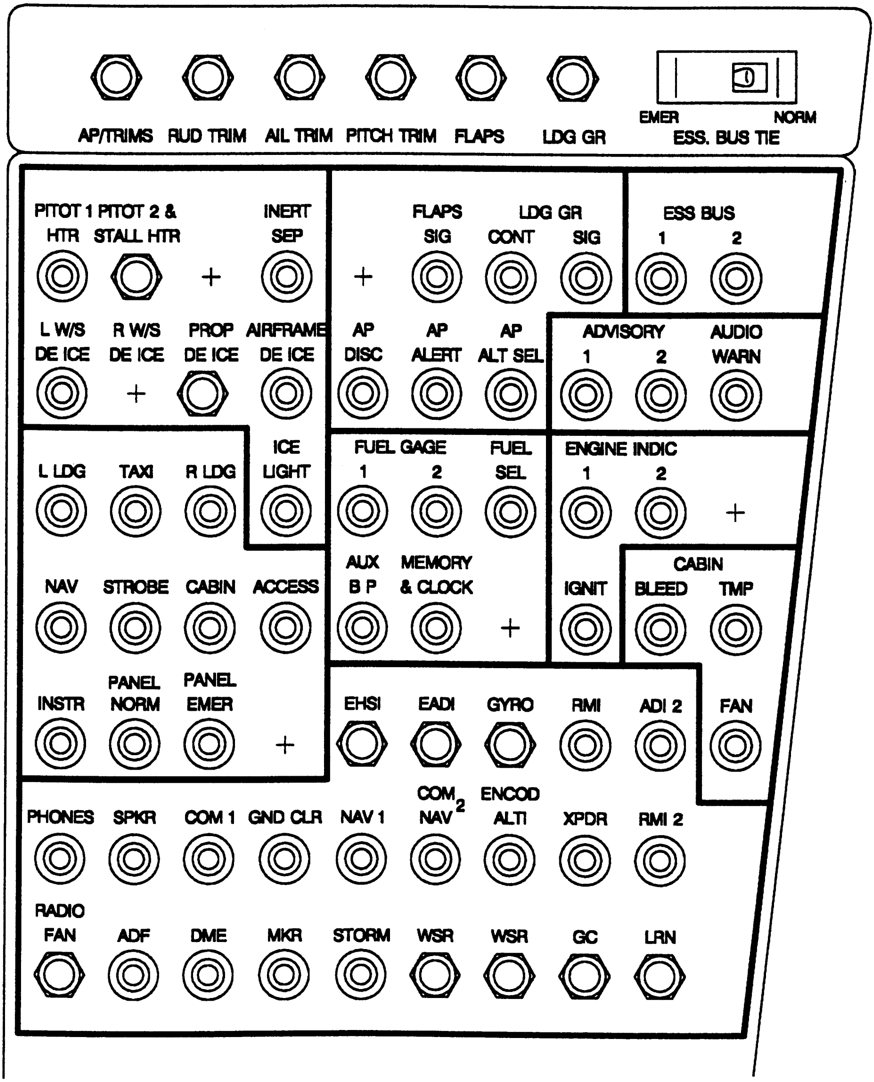


Figure 9.9.6 (2 / 2) - STANDARD EHSI SYMBOLOGY

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM & EMER switch
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec
ICE LIGHT	L.H. wing leading edge lighting protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
CABIN	Passenger's reading lamps protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom & access door lighting protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emergency lighting protec.
FUEL GAGE 1	L.H. gage protec.
FUEL GAGE 2	R.H. gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.

ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circuit protec.
ESS BUS 2	Essential bus 2 circuit protec.
EHSI	EHSI protec.
EADI	EADI protec.
GYRO	Gyros protec.
RMI	RMI protec.
ADI 2	ADI Nr 2 protec.
PHONES	Reception line protec.
SPKR	Loudspeaker line protec.
COM 1	VHF 1 protec.
GND CLR	Ground communication protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
RMI 2	RMI 2 protec.
RADIO FAN	Radio fan protec. + radio master
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protec.
LRN	LORAN long range navigation protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.

Figure 9.9.7 (1 / 2) - EFIS CIRCUIT BREAKERS PANEL



I4255004AAAHMA8201

Disjoncteur déclenchable
"PULL-OFF" type circuit breaker

Disjoncteur non déclenchable
Circuit breaker which cannot be pulled off

Figure 9.9.7 (2 / 2) - EFIS CIRCUIT BREAKERS PANEL

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM &
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circ. protec.
ESS BUS 2	Essential bus 2 circ. protec.
ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emergency lighting protec.
CABIN	Passenger's reading lamps protec.
ICE LIGHT	L.H. wing leading edge lighting protec.

FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom, access door lighting & access door closing geared motor protec.
EHSI	EHSI protec.
EADI	EADI protec.
GYRO	Gyros protec.
RMI	RMI protec.
ADI 2	ADI Nr 2 protec.
RMI 2	RMI 2 protec.
HSI 2	HSI 2 protec.
ELT	ELT 90 protec.
PHONES	Reception line protec.
SPKR	Loudspeaker line protec.
COM 1	VHF 1 protec.
GND CLR	Ground communication protec.
NAV 1	NAV 1 radio protec.
COM 2 NAV	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
RADIO ALTI	RADIO ALTI protec.
RADIO + FAN	Radio fan protec. + radio master
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protec.
LRN	LORAN long range navigation protec.

Figure 9.9.7A (1 / 2) - EFIS CIRCUIT BREAKERS PANEL

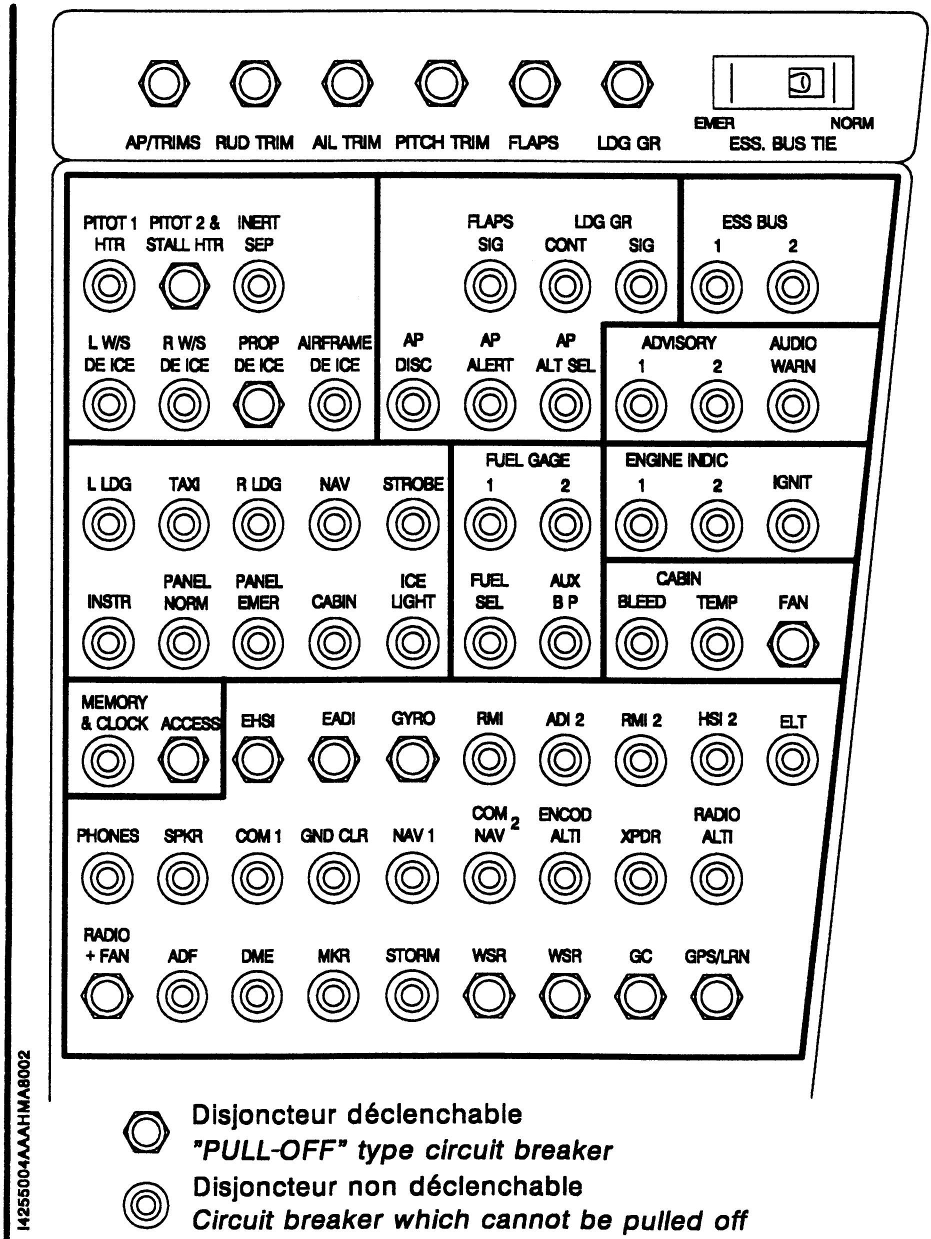
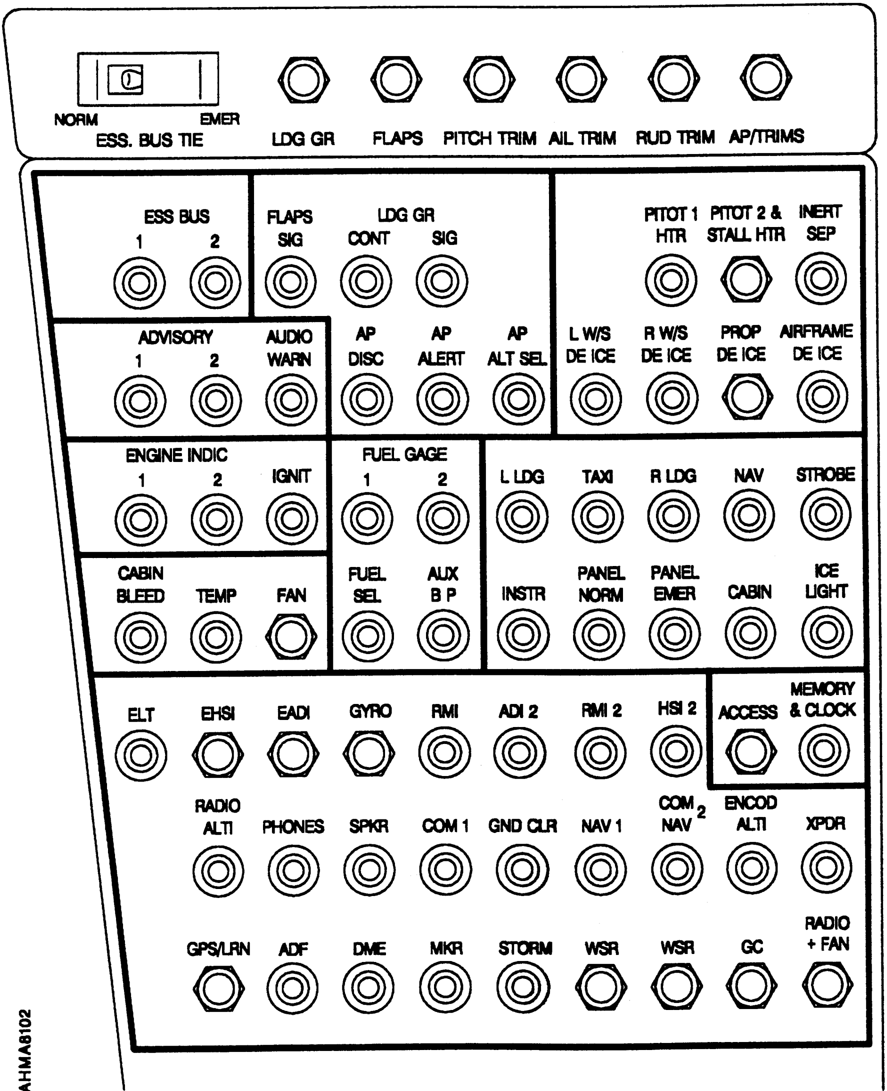


Figure 9.9.7A (2 / 2) - EFIS CIRCUIT BREAKERS PANEL

AP / TRIMS	AP & trims general protec.
RUD TRIM	Rudder trim protec.
AIL TRIM	Aileron trim protec.
PITCH TRIM	Pitch trim protec.
FLAPS	Flaps protec.
LDG GR	Landing gear general protec.
ESS BUS TIE	Essential bus NORM &
PITOT 1 HTR	Pitot 1 deicing protec.
PITOT 2 & STALL HTR	Pitot 2 and stall warning deicing protec.
INERT SEP	Inertial separator protec.
LW/S DE ICE	L.H. windshield deicing protec.
RW/S DE ICE	R.H. windshield deicing protec.
PROP DE ICE	Propeller deicing protec.
AIRFRAME DE ICE	Empennage and wing leading edges deicing protec.
FLAPS SIG	Flaps signalization protec.
LDG GR CONT	Landing gear control protec.
LDG GR SIG	Landing gear signalization protec.
AP DISC	Trim and AP cont. protec.
AP ALERT	Trim and AP audio signalization protec.
AP ALT SEL	Altitude selector protec.
ESS BUS 1	Essential bus 1 circ. protec.
ESS BUS 2	Essential bus 2 circ. protec.
ADVISORY 1	Visual warn. protec.
ADVISORY 2	Visual warn. protec.
AUDIO WARN	Audio warnings protec.
L LDG	L.H. landing light protec.
TAXI	Taxi light protec.
R LDG	R.H. landing light protec.
NAV	Navigation lights protec.
STROBE	Strobe lights protec.
INSTR	Instruments light. protec.
PANEL NORM	Instrument panel normal lighting protec.
PANEL EMER	Instrument panel emergency lighting protec.
CABIN	Passenger's reading lamps protec.
ICE LIGHT	L.H. wing leading edge lighting protec.

FUEL GAGE 1	L.H gage protec.
FUEL GAGE 2	R.H gage protec.
FUEL SEL	Timer protec.
AUX BP	Fuel pump protec.
ENGINE INDIC 1	Power plant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE INDIC 2	Power plant cont. protec. : Ng, flowmeter & ITT
IGNIT	Power plant ignit. protec.
CABIN BLEED	Cabin air bleed valve protec.
CABIN TEMP	Cabin temperature valve protec.
FAN	Ground fan protec.
MEMORY & CLOCK	Stop watch and flowmeter protec.
ACCESS	FWD dome light, cabin, baggage compartment bottom, access door lighting & access door closing geared motor protec.
ELT	ELT 90 protec.
EHSI	EHSI protec.
EADI	EADI protec.
GYRO	Gyros protec.
RMI	RMI protec.
ADI 2	ADI Nr 2 protec.
RMI 2	RMI 2 protec.
HSI 2	HSI 2 protec.
RADIO ALTI	RADIO ALTI protec.
PHONES	Reception line protec.
SPKR	Loudspeaker line protec.
COM 1	VHF 1 protec.
GND CLR	Ground communication protec.
NAV 1	NAV 1 radio protec.
COM NAV 2	VHF 2 & NAV 2 radio protec.
ENCOD ALTI	Encoding altimeter protec.
XPDR	Transponder protec.
LRN	LORAN long range navigation protec.
ADF	ADF protec.
DME	DME protec.
MKR	MKR protec.
STORM	Stormscope protec.
WSR	Weather radar protec.
GC	Radar graphic protec.
RADIO + FAN	Radio fan protec. + radio master

Figure 9.9.7B (1 / 2) - EFIS CIRCUIT BREAKERS PANEL



Disjoncteur déclenchable
"PULL-OFF" type circuit breaker

Disjoncteur non déclenchable
Circuit breaker which cannot be pulled off

Figure 9.9.7B (2 / 2) - EFIS CIRCUIT BREAKERS PANEL

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SUPPLEMENT

"BENDIX / KING" AUTOPILOT

TYPE KFC 325

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is provided to acquaint the pilot with the limitations as well as normal and emergency operating procedures of the BENDIX / KING KFC 325 Digital Autopilot. The limitations presented are pertinent to the operation of the KFC 325 System as installed in the TBM 700 airplane. The Autopilot must be operated within the limitations herein specified.

The KFC 325 Autopilot is certified in this airplane with 3 axis control, pitch, roll and yaw damper. The various instruments and the controls for the operation of the KFC 325 System are described in the following pages.

The KFC 325 Autopilot has an electric pitch trim system which provides autotrim during autopilot operation and manual electric trim for the pilot when the autopilot is not engaged. The trim system is designed to withstand any single inflight malfunction.

A lockout device prevents autopilot engagement until the system has been successfully preflight tested.

The following conditions will cause the Autopilot to automatically disconnect :

A - Power failure.

B - Internal Flight Control System failure.

C - Roll rates in excess of 10° / sec. except when the "CWS" push-button is held depressed.

D - Pitch rates in excess of 5° / sec. except when the "CWS" push-button is held depressed.

E - Accelerations outside of a 0.3 g to 1.6 g envelope (1.0 g's being normal for straight and level flight).

F - The presence of "ATTITUDE FAIL" and big "SG" flags.

G - A movement of the roll trim except when the "CWS" push-button is held depressed.

H - A movement of the pitch trim.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

A - During autopilot operation, a pilot with seat belt fastened must be seated at the left pilot position.

B - The autopilot and yaw damper must be OFF during takeoff and landing.

C - Do not engage autopilot below 1000 ft (300 m) above ground level in cruise or climb.

D - Do not use autopilot in approach under 200 ft (60 m).

E - Autopilot engagement is prohibited with the "PITCH TRIM" circuit-breaker pulled.

F - IAS for localizer interception is limited to 160 kt.

G - In "APR" mode - "GS" coupled, flaps must be fully extended in landing position before crossing the OM.

NOTE 1 :
Use of basic pitch attitude hold mode is recommended during operation in severe turbulence.

NOTE 2 :
It is recommended not to use the autopilot with a too high rate of descent below 2000 ft (600 m) above ground level.

SECTION 3
EMERGENCY PROCEDURES

These procedures supplement those of standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

AUTOPILOT OR ELECTRIC PITCH TRIM MALFUNCTION

1 - "AP / TRIMS DISC INT" push-button .... **PRESSED and HELD**

2 - "AP / TRIMS MASTER" switch .... **OFF**

3 - "AP / TRIMS DISC INT" push-button .... **RELEASED**

4 - If necessary, control wheel .... **RETRIM**

CAUTION

WHEN DISCONNECTING THE AUTOPILOT AFTER A PITCH TRIM MALFUNCTION, HOLD THE CONTROL WHEEL FIRMLY ; UP TO 30 POUNDS OF FORCE ON THE CONTROL WHEEL MAY BE NECESSARY TO HOLD THE AIRPLANE LEVEL

NOTE :
Maximum altitude losses due to autopilot malfunction :

Configuration	*Altitude loss*
Cruise, climb	*200 ft*
Maneuver, descent	*800 ft*
Approach	*90 ft*

ENGINE FAILURE
(AUTOPILOT COUPLED)

1 - "AP / TRIMS DISC INT" push-button .... **PRESSED**

2 - In case of engine failure, apply the basic airplane Pilot's Operating Handbook procedures.

SECTION 4
NORMAL PROCEDURES

4.1 - GENERAL

These procedures supplement those of standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

4.2 - LIST OF GROUND CHECKS

BEFORE TAXIING

AUTOPILOT AUTOTEST

1 - Check no flags "ATTITUDE FAIL", "HDG", "SG", "DU"

2 - "TEST" button .... **PRESS**

3 - Check :

- All annunciator lights of control box ON ("TRIM" annunciator flashing).
- After approximately 5 seconds, all annunciator lights of control box OFF except "AP" which will flash approximately 12 times prior to extinguishing and red "AP" of EADI which will flash approximately 5 times prior to extinguishing and be accompanied by the autopilot audible disconnect tone.

NOTE :
If "TRIM" warning light on the mode controller or if the "PTRM" annunciator on the EADI stays ON, the autotrim did not pass preflight test. The "AP / TRIMS MASTER" switch must be turned to "AP OFF" position. The flight director may be used but the electric pitch trim will be inoperative and the autopilot should not be engaged.

MANUAL ELECTRIC TRIM TEST

1 - Actuate left side of split switch unit to the fore and aft positions. The trim wheel should not move on its own. Rotate the trim wheel manually against the engaged clutch to check the pilot's trim overpower capability.

2 - Actuate right side of split switch unit to the fore and aft positions. Trim wheel should not move on its own and normal trim wheel force is required to move it manually.

3 - Press the "AP / TRIMS DISC INT" push-button down and hold.
Manual electric trim should not operate either nose up or nose down when both halves of the split switch are actuated to the fore and aft positions.

AUTOMATIC ELECTRIC TRIM TEST

1 - "AP" button .... **PRESS**
to engage autopilot

2 - Control wheel .... **MOVE**
aft, fore, left and right to verify that the autopilot can be overpowered

3 - "AP / TRIMS DISC INT" push-button .... **PRESS**
Verify that the autopilot disconnects and all flight director modes are cancelled

4 - Trim .... **SET**
to takeoff position

BEFORE TAKEOFF

1 - "AP / TRIMS DISC INT" push-button .... **PRESS**

4.3 - LIST OF INFLIGHT CHECKS

AUTOPILOT ENGAGEMENT

"AP" button .... **PRESS**

Note "AP", "FD" and "YD" annunciators ON. If no other flight director modes are selected at the time of autopilot engagement the mode of operation will be flight director wings level and pitch attitude hold.

CAUTION

DO NOT EXERT ANY PRESSURE ON THE PITCH CONTROL AS THE AUTOPILOT WILL RUN THE PITCH TRIM TO OPPOSE YOUR ACTION

NOTE :
Significant balance changes can occur with speed / power changes or fuel imbalance. With AP engaged it is therefore necessary to check regularly that the plane is trimmed in the roll axis by pressing the "CWS" push-button and if needed retrimming the plane. In case of action on the roll trim, the "CWS" push-button must be kept depressed, otherwise the AP will disconnect.

BASIC MODES

USING CWS

1 - "CWS" push-button .... **PRESS and MOVE airplane nose to the desired attitude**

2 - "CWS" push-button .... **RELEASE**

The autopilot will maintain airplane pitch attitude up to the pitch limits of + 15° or - 10°.

USING VERTICAL TRIM

1 - Vertical trim control .... **PRESS either "UP" or "DOWN" to modify airplane attitude at a rate of 0.7 deg / sec. up to the pitch limits of + 15° or - 10°**

2 - Vertical trim control .... **RELEASE when desired airplane attitude is reached**

The autopilot will maintain the desired pitch attitude.

ALTITUDE MODES

ALTITUDE HOLD

1 - "ALT" mode selector button .... **PRESS**
Note ALT mode annunciator ON

The autopilot will maintain the selected pressure attitude.

ALTITUDE CHANGE

1 - Using "CWS" (recommended for altitude changes greater than 100 ft).

- "CWS" push-button .... **PRESS**
and fly airplane to desired pressure altitude

- "CWS" push-button .... **RELEASE**
when desired pressure altitude is reached

The autopilot will maintain the desired pressure altitude.

2 - Using Vertical Trim (recommended for altitude changes less than 100 ft).

- Vertical trim control .... **PRESS**
either "UP" or "DOWN"

Vertical Trim will seek an altitude rate of change of about 500 ft / min.

- Vertical trim control .... **RELEASE**
when desired pressure altitude is reached

The autopilot will maintain the desired pressure altitude.

SPEED MODES

INDICATED AIRSPEED HOLD

1 - "IAS" mode selector button .... **PRESS**
Note the IAS mode annunciator ON

The autopilot will maintain the current indicated airspeed.

SELECTED INDICATED AIRSPEED CHANGE

1 - Using "CWS" (recommended for airspeed changes of 10 KIAS or greater)

- "CWS" push-button .... **PRESS**
and fly airplane to desired airspeed

- "CWS" push-button .... **RELEASE**
when desired airspeed is reached

The autopilot will maintain the desired airspeed.

2 - Using Vertical Trim (recommended for airspeed changes less than 10 KIAS).

- Vertical trim control .... **PRESS**
either "UP" or "DOWN"

Vertical Trim will seek a new airspeed at a rate of about 0.75 knots per second.

- Vertical trim control .... **RELEASE**
when desired time in seconds has past
i.e. 10 KIAS change desired hold V / T
for approximately 13 seconds

The autopilot will maintain the desired airspeed.

HEADING MODES

HEADING HOLD

1 - Heading selector knob .... **SET**
bug to desired heading

2 - "HDG" mode selector button .... **PRESS**
Note HDG mode annunciator ON

The autopilot will automatically turn the airplane to the selected heading

MANUAL HEADING CHANGE (basic mode)

1 - "CWS" push-button .... **PRESS and TURN**
airplane to the desired heading

2 - "CWS" push-button .... **RELEASE**

The autopilot will maintain airplane in wings level attitude.

NOTE :
Airplane heading may change in the wings level mode due to an airplane out of trim condition.

HEADING CHANGE ("HDG" mode)

1 - Heading selector knob .... **SET**
bug to desired heading

The autopilot will automatically turn the airplane to the new selected heading.

NAVIGATION MODE

1 - Course bearing pointer .... **SET to desired course**

2 - Establish intercept angle using wings level or "HDG" modes.

3 - "NAV" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with the "NAV-ARM" annunciators illuminated. When the computed capture point is reached, the "HDG" will disengage, the "ARM" annunciator will turn off and the selected course will be automatically captured and tracked.
- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "NAV" mode ; the "NAV" annunciator will illuminate and the capture / track sequence will automatically begin.

NOTE :
When making relatively small course changes with "NAV" mode engaged, it may be necessary to reinitiate the "NAV" coupling procedures described in the previous paragraph. This will force the autopilot back into a capture mode, allowing the system to establish tracking the new course more rapidly.

CAUTION

IT IS BETTER NOT TO PERFORM AUTOMATIC CAPTURE OF AN "ADF" HEADING.

IT IS RECOMMENDED TO ENGAGE "NAV" MODE WHEN ADF CAPTURE IS PERFORMED.

APPROACH MODE

1 - Course bearing pointer .... **SET to desired course**

2 - Establish intercept angle using wings level or "HDG" modes.

3 - "APR" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with the "APR-ARM" annunciators illuminated. When the computed capture point is reached the "HDG" will disengage, the "ARM" annunciators will turn off and the selected course will be automatically captured and tracked.

- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "APR" mode ; the "APR" annunciator will illuminate steady and the capture / track sequence will automatically begin.

BC APPROACH MODE

1 - Course bearing pointer .... **SET**
to the ILS front course inbound heading

2 - Establish intercept angle using wings level or "HDG" mode.

3 - "BC" mode selector button .... **PRESS**

- If the Course Deviation Bar is greater than 2 to 3 dots : the airplane will continue in "HDG" mode (or wings level if "HDG" not selected) with "APR-ARM", "BC" annunciated. When the computed capture point is reached the "HDG" will disengage, the ARM annunciators will turn off and the selected course will be automatically captured and tracked.

- If the D-Bar is less than 2 to 3 dots : the "HDG" mode will disengage upon selecting "BC" mode ; the "APR" and "BC" annunciators will illuminate and the capture / track sequence will automatically begin.

CAUTION

WHENEVER THE AIRPLANE IS EQUIPPED WITH "BENDIX / KING" EFS 40, AND THE EHSI FIGURATION IS ON HSI NAV MAP,THE LOCALIZER CDI LEFT-RIGHT DEVIATION IS AUTOMATICALLY CORRECTED BY THE EFS 40 TO ELIMINATE THE NEED TO FLY REVERSE SENSING ON THE BACK COURSE. BC IS ANNUNCIATED AND THE CDI IS CORRECTED FOR PROPER STEERING COMMANDS WHEN THE AIRPLANE HEADING DEVIATES MORE THAN 105° FROM THE COURSE POINTER. THE COURSE POINTER SHOULD BE SET TO THE LOCALIZER FRONT COURSE INBOUND HEADING.

GLIDE SLOPE MODE

NOTE :
"Glide Slope" coupling is inhibited when operating in "NAV" or "APR" + "BC" modes. "Glide Slope" coupling occurs automatically in the "APR" mode.

1 - "APR" mode .... **ENGAGED**

2 - At Glide Slope centering .... **CHECK**
"GS" annunciator ON

NOTE :
The autopilot can capture "Glide Slope" from above or below the beam while operating in either pitch attitude hold, IAS hold, VS hold or ALT hold modes.

NOTE :
If after "Glide Slope" coupling the "Glide Slope" signal becomes inadequate ("GS" flag in view), the "Glide Slope" annunciator will flash at least six times before extinguishing and the system will transfer to pitch attitude hold.
If a valid "Glide Slope" signal returns within six seconds the system will automatically recouple.
If a valid "Glide Slope" signal does not return within six seconds, the airplane must once again pass through the "Glide Slope" beam to achieve "Glide Slope" coupling.

GO-AROUND MODE

1 - Power lever "GA" push-button ..... **PRESS**
to disengage the autopilot (if engaged) and engage the flight director (if not engaged) in a wings level, pitch up command.
Note GA mode annunciator ON

2 - MISSED APPROACH ..... **EXECUTE**

3 - Airplane ..... **TRIM**

4 - Lateral guidance (Select one mode)

- "HDG" mode ..... **SET bug and PRESS "HDG" push-button**
- "NAV" mode ..... **PRESS "NAV" push-button**
- "APR" mode ..... **PRESS "APR" push-button**

Glide Slope coupling will be inhibited so that the LOC can be tracked outbound (the autopilot will not couple to false Glide Slope signals as long as "GA" is engaged.

"GA" is disconnected whenever a vertical mode is engaged.

HALF-BANK ANGLE MODE

"HALF-BANK" mode button .... **PRESS**

The commanded bank angle will be reduced to $\frac{1}{2}$ the normal value. This mode is functional during "HDG" and "NAV" mode operations but will be automatically deselected and inhibited during "APR" (normal or BC) coupled operations.

SOFT RIDE MODE

"SOFT RIDE" mode button .... **PRESS**

This mode softens the autopilot's commands to provide a smoother ride during operations in turbulence. The normal autopilot performance (maintaining heading, maintaining wings level, maintaining attitude, maintaining airspeed and / or maintaining altitude) will be degraded by use of the Soft Ride mode.

BEFORE LANDING

"AP / TRIMS DISC INT" push-button .... **PRESS**
to disengage autopilot
and yaw damper

4.4 - FLIGHT DIRECTOR OPERATION

The flight director modes of operation are the same as those used for autopilot operations except the autopilot is not engaged and the pilot must maneuver the airplane to satisfy the flight director commands.

SECTION 5
PERFORMANCE

The installation and the operation of the autopilot do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to KFC 325 "BENDIX KING" autopilot are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

7.1 - KMC 321 CONTROLLER

This mode controller consists of nine Flight Director mode select push-buttons (Push On - Push Off), mode annunciators, the vertical trim control, the yaw damper engage / disengage push-button, the autopilot engage / disengage push-button and the preflight test push-button.

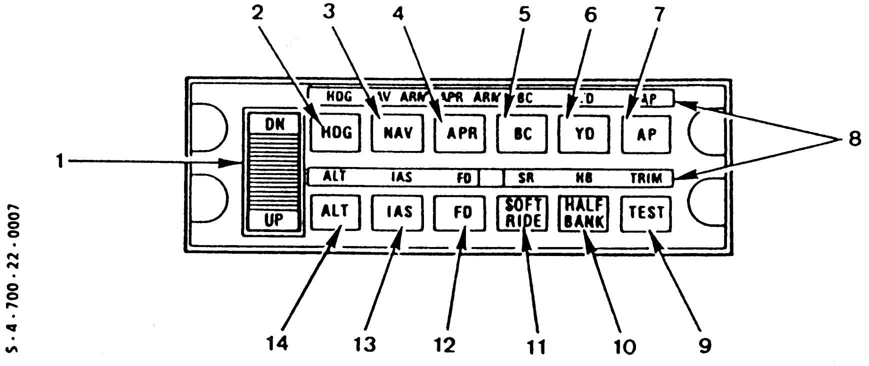

Figure 9.10.1 - KMC 321 AUTOPILOT MODE CONTROLLER

Item 1 - VERTICAL TRIM CONTROL
A spring loaded to center rocker switch which will provide up or down pitch command changes :

- While in Pitch Attitude Hold mode will adjust the pitch attitude at a rate of 0.7° / sec.
- While in Altitude Hold mode will adjust the altitude at a rate of 500 ft / min.
- While in Indicated Airspeed Hold mode will adjust the airspeed at a rate of 0.75 kt / sec.
- While in the Vertical Speed Hold mode will adjust the vertical speed at a rate of 100 ft / min / sec.

Item 2 - HEADING (HDG) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Heading mode which commands the airplane to turn to and maintain the heading selected by the heading bug on the EHSI. A new heading may be selected at any time and will result in the airplane turning to the new heading with a maximum bank angle of about 25°. Selecting "HDG" mode will cancel "NAV", "APR" or "BC" track modes.

Item 3 - NAVIGATION (NAV) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Navigation mode. The mode provides all angle intercepts, automatic beam capture and tracking of "VOR", "RNAV", "ADF" or LOC signals. The "NAV-ARM" annunciators located above this push-button will illuminate until the automatic capture sequence is initiated, then "ARM" will extinguish. The EADI mode annunciator will annunciate the same sequence. A loss of radionavigation signal during more than 7.5 sec. will turn autopilot to wings level attitude basic mode. In that case, "NAV" mode flashes on the EADI mode annunciator.

Item 4 - APPROACH (APR) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Approach mode. This mode provides all angle intercepts, automatic beam capture and tracking of "VOR", "RNAV" or "LOC" signals plus glideslope coupling in the case of an ILS. The tracking gain of the "APR" mode is greater than the gain in the "NAV" mode. The "APR-ARM" annunciators located above this button will illuminate until the automatic capture sequence is initiated, then "ARM" will extinguish. The EADI mode annunciator will annunciate the same sequence.

Item 5 - BACK COURSE APPROACH (BC) MODE SELECTOR PUSH-BUTTON
When pushed will select the Back Course Approach mode. This mode functions identically to the Approach mode except that response to LOC signals is reversed. Glideslope coupling is inhibited in the Back Course Approach mode. The "BC" annunciators (both the KMC 321 and the EADI) will illuminate when this mode is activated plus the Approach Mode annunciators will function as described in Item 4.

Item 6 - YAW DAMPER ENGAGE (YD) PUSH-BUTTON
When pushed, engages the yaw damper independent of the autopilot. When pushed with the yaw damper engaged, disengages the yaw damper.

Item 7 - AUTOPILOT ENGAGE (AP ENG) PUSH-BUTTON
When pushed, engages autopilot and yaw damper if all logic conditions are met. When pushed again, disengages autopilot but does not disengage the yaw damper.

Item 8 - MODE ANNUNCIATORS
The mode symbol located above each mode push-button will illuminate when the mode is engaged except for the "NAV" and "APR" modes. When either the "NAV", "APR" or "BC" mode push-button is pressed, the appropriate "ARM" annunciator above either the "NAV" or "APR" mode push-button will illuminate until the automatic beam capture sequence is initiated. At beam capture "NAV" or "APR" will be annunciated above either the "NAV" or "APR" mode push-button. Normally, the "NAV" or "APR" coupled conditions follow an "ARM" condition but the coupled condition may be entered into directly if the beam capture criteria are met when "NAV", "APR" or "BC" is selected.

Item 9 - PREFLIGHT TEST (TEST) PUSH-BUTTON
When momentarily pushed, initiates preflight test sequence which automatically turns on all annunciator lights, tests the roll and pitch rate monitors, tests the autotrim fault monitor, checks the manual trim drive voltage and tests all autopilot valid and disengage logic. If the preflight test is successfully passed, the "AP" annunciator light will flash for approximately 6 seconds (an audible tone will also sound simultaneously with the annunciator flashes).
The autopilot cannot be engaged until the autopilot preflight tests are successfully passed.

Item 10 - HALF BANK (HB) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Half Bank mode which reduces the certified autopilot commanded maximum bank angle to one half the normal value. This mode is automatically disengaged when the "APR" or "BC" mode is activated.

Item 11 - SOFT RIDE (SR) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Soft Ride mode which reduces the autopilot commands. This command reduces the autopilot aggressivenesss which results in a more comfortable ride in turbulent air conditions. This mode is only intended to be used during turbulent air conditions. Routine use of this mode during all flight conditions will result in less than optimum autopilot performance. This mode is automatically disengaged when the "APR" or "BC" mode is activated.

Item 12 - FLIGHT DIRECTOR (FD) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Flight Director mode bringing the Command Bar in view on the EADI and will command wings level and pitch attitude hold.

Item 13 - INDICATED AIRSPEED HOLD (IAS) MODE SELECTOR PUSH-BUTTON
When pushed, engages the Indicated Airpseed Hold mode. The autopilot varies the airplane pitch attitude in order to maintain the selected airspeed during changing air conditions, power changes and / or airplane configuration changes.

Item 14 - ALTITUDE HOLD (ALT) MODE SELECTOR PUSH-BUTTON
When pushed, will select the Altitude Hold mode, which commands the airplane to maintain the pressure altitude existing at the moment of selection.
Engagement may be accomplished in climb, descent, or level flight. In the "APR" mode, altitude hold will automatically disengage when the Glideslope is captured.

7.2 - GO-AROUND PUSH-BUTTON

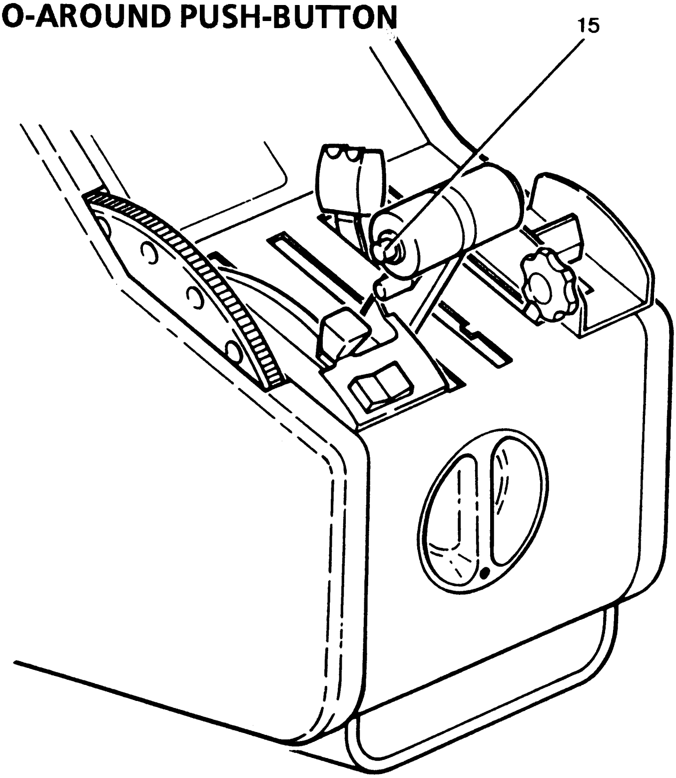

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Figure 9.10.2 - GO-AROUND PUSH-BUTTON

Item 15 - GO AROUND (GA) MODE SELECTOR PUSH-BUTTON
The button located on the left side of the throttle lever, when pressed, disengages the autopilot and "NAV" or "APR" modes, if engaged. Flight director gives order which allows keeping a fixed pitch up attitude of 8 degrees. GA will annunciate on the EADI mode annunciator. The autopilot and any lateral mode may be re-engaged after the GO AROUND attitude has been manually established. Initiation of any other vertical mode cancels GO AROUND. If GO AROUND is active, Glideslope mode is inhibited.

7.3 - MODE ANNUNCIATOR ON EADI

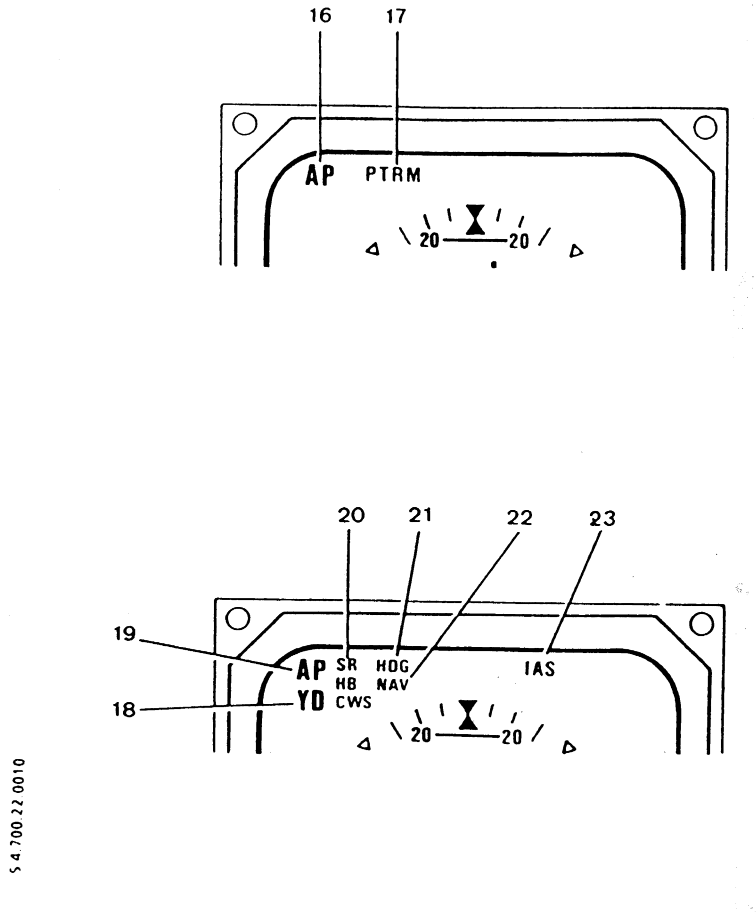

Figure 9.10.3 - MODE ANNUNCIATOR ON EADI

Item 16 - AUTOPILOT (red AP) ANNUNCIATOR
Flashes for a short time whenever the autopilot is disengaged (an audible tone operates too during 2 seconds).

Item 17 - TRIM WARNING LIGHT (red PTRM)
Illuminates continuously whenever trim power is not on or the system has not been preflight tested. The "PTRM" warning light illuminates and is accompanied by an audible warning whenever a manual trim fault is detected. The Manual Trim System is monitored for the Trim Servo running without a command. The "PTRM" warning light will illuminate and be accompanied by an audible warning tone whenever an autotrim failure occurs. The autotrim system is monitored for the following failures : trim servo running without a command ; trim servo not running when commanded to run ; trim servo running in the wrong direction.

Item 18 - YAW DAMPER (YD) ANNUNCIATOR
Illuminates continuously whenever the yaw damper is engaged. Flashes for a short time whenever the yaw damper is disengaged.

Item 19 - AUTOPILOT (green AP) ANNUNCIATOR
Illuminates whenever the autopilot is engaged.

Item 20 - MODE ANNUNCIATORS
SR (soft ride) : indicates that mode, which softens autopilot commands, is engaged.

HB (half-bank) : indicates that mode, reducing bank angle by a half, is engaged. This mode is automatically disengaged when approach mode is engaged.

CWS : indicates that pilot is pressing "CWS" push-button, which activates the flight director in attitude and wings level hold mode. If autopilot is engaged, it allows to activate control wheel steering.

Item 21 - ENGAGED LATERAL MODE (green)
Possible modes are "HDG", "NAV", "APR", "LOC" or "BC".

Item 22 - ARMED LATERAL MODE (white)
Possible modes are "NAV", "APR", "LOC" or "BC".

Item 23 - ENGAGED LONGITUDINAL MODE (green)
Possible modes are "ALT", "ALTC", "IAS", "VS" or "GS".

7.4 - DIRECTIONAL GYRO SLAVING CONTROL

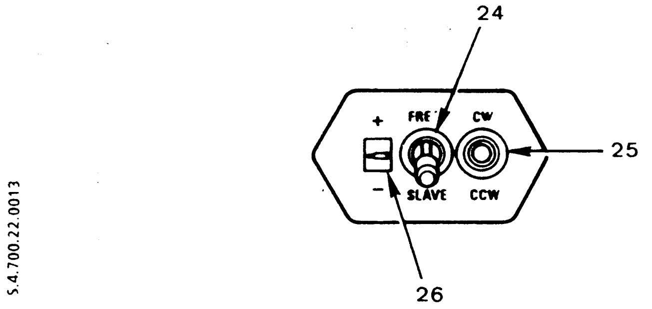

Figure 9.10.4 - KA 51B SLAVING CONTROL AND COMPENSATOR UNIT

Item 24 - FREE / SLAVE COMPASS SLAVE SWITCH
Selects either the manual (FREE) or automatic slaving (SLAVE) mode for the compass system.

Item 25 - CW / CCW COMPASS MANUAL SLAVE SWITCH
With the FREE / SLAVE compass slave switch in the FREE position, allows manual compass card to rotate either clockwise or counterclockwise. The switch is spring loaded to the center position.

Item 26 - SLAVING METER
Indicates the difference between the displayed heading and the magnetic heading. Deflection upwards indicates a clockwise error of the compass card. Deflection downwards indicates a counterclockwise error of the compass card.

7.5 - AUTOPILOT CONTROL WHEEL SWITCH CAP

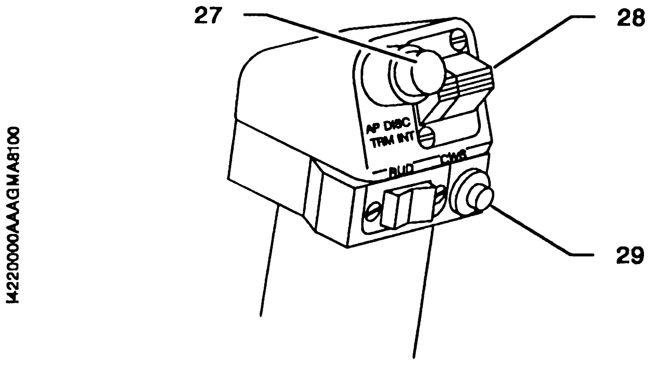

Figure 9.10.5 - AUTOPILOT CONTROL WHEEL SWITCH CAP

Item 27 - AUTOPILOT DISCONNECT / TRIM INTERRUPT (AP / TRIMS DISC INT) PUSH-BUTTON
When shortly depressed, will disengage the autopilot and cancel all operating flight director modes. When depressed and held will interrupt all electric trims power (stop trims motion).

Item 28 - MANUAL ELECTRIC PITCH TRIM CONTROL SWITCHES
A split switch unit in which the left half provides power to engage the trim servo clutch and the right half to control the direction of motion of the trim servo motor. Both halves of the split trim switch must be actuated in order for the manual electric trim to operate in the desired direction. When the autopilot is engaged, operation of the manual electric trim will automatically disconnect the autopilot. (The flight director will remain engaged and the yaw damper will remain engaged if already engaged).

Item 29 - CONTROL WHEEL STEERING (CWS) PUSH-BUTTON

When depressed, allows pilot to manually control the airplane (disengages the pitch, roll and pitch trim servos) without cancellation of any of the selected modes. Will engage the flight director mode if not previously engaged. Automatically synchronizes the flight director / autopilot to the pitch attitude present when the CWS switch is released, to the present pressure altitude when operating in the Altitude hold mode, to the present Vertical Speed when operating in the vertical speed hold mode or to the present Indicated Airspeed when operating in the indicated airspeed hold mode.

7.6 - "AP / TRIMS MASTER" AND "EFIS MASTER" SWITCHES

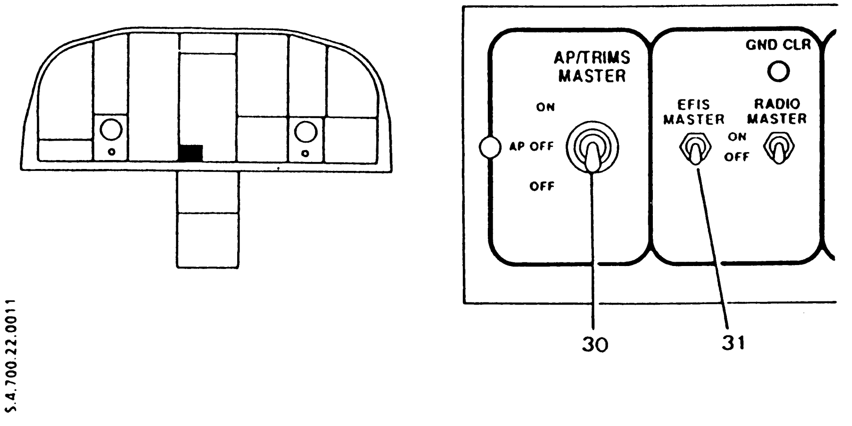

Figure 9.10.6 - "AP / TRIMS MASTER" AND "EFIS MASTER" SWITCHES

Item 30 - "AP / TRIMS MASTER" SWITCH
Controls power to all autopilot components and to all electric trims. When set to AP OFF position, autopilot and electric pitch trim are inoperative. When set to OFF position, autopilot and electric trims are inoperative.

Item 31 - "EFIS MASTER" SWITCH
Supplies all components of EFIS system including vertical and directional gyros.

7.7 - CIRCUIT-BREAKERS

Autopilot components are supplied through following circuit-breakers :

LABEL	FUNCTION
AP / TRIMS	Supplies power to KCP 220 autopilot computer, to KS 270A pitch servo, to KS 271A roll servo, to KS 271A yaw servo and to "PITCH TRIM", "AIL TRIM", "RUD TRIM", "AP DISC" and "AP ALT SEL" circuit-breakers.
AP ALERT	Supplies power to the KAA 15 alarm unit.
AP ALT SEL	Supplies power to the KAS 297C vertical speed and altitude selector.
GYRO	Supplies power to the KSG 105 directional compass, to the KVG 350 vertical unit and to the KRG 332 yaw rate gyro.
PITCH TRIM	Supplies power to the KS 272A electric pitch trim.
AP DISC	Delivers a control signal (28 VDC switched by "AP DISC TRM INT" switch) to the KCP 220 autopilot computer and to the KAA 15 alarm unit.
EADI	Supplies power to the SG 465 symbols generator, EADI section
EHSI	Supplies power to the SG 465 symbols generator, EHSI section, to the navigation computer and to the KN 40 navigation converter.

SUPPLEMENT

"CASEY COPTER"

FREON AIR CONDITIONING SYSTEM

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement provides information necessary for airplane utilization when the "CASEY COPTER" freon air conditioning system is installed on TBM 700 airplane.

SECTION 2
LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

The installation of the "CASEY COPTER" freon air conditioning system is subordinated to the installation of the modification Nr MOD 70-015-24 concerning the electrical power center.

The freon air conditioning system must be OFF :

- when starting the engine,
- when there is a generator failure,
- when outside temperatures are lower than 32°F (0°C).

SECTION 3
EMERGENCY PROCEDURES

The instructions specific to the use of the "CASEY COPTER" freon air conditioning system in connection with the emergency procedures are described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4
NORMAL PROCEDURES

The operation of the "CASEY COPTER" freon air conditioning system is started thanks to the "FREON" control integrated to the "ECS" panel.

The operation instructions are described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

SECTION 5
PERFORMANCE

The installation and the use of the "CASEY COPTER" freon air conditioning system do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to the "CASEY COPTER" freon air conditioning system are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

The "CASEY COPTER" freon air conditioning system improves the passengers and crew comfort in warm and / or humid atmospheric conditions.

The installation (Figure 9.11.1) includes :

- a compressor (1) located in the power plant compartment driven by an engine drive shaft through an electrical clutch,
- an outside air / freon exchanger (9) or condenser fitted with an electric fan (11) located in the fuselage tail cone,
- a cabin air / freon exchanger (4) or evaporator fitted with a second electric fan (5) located in the rear baggage compartment,
- a cool-air supply duct (3) located in the cabin upper duct distributing the air to the pilot and to the passengers,
- a distributor (16) located under the cabin floor incorporating two safety pressure switches (high and low pressures) (14), as also two unions / gas filling valves (13),
- two circuit-breakers protecting the electric system located under the floor,
- a circuit-breaker located near the electrical power center in the front baggage compartment.

The freon air conditioning system is controlled by the "FREON" control switch of the "ECS" panel (Figure 9.11.2) located at the lower part of the R.H. instrument panel.

The control switch has three positions :

- "ON" (starting of the freon system and cabin air flow)
- "FAN ONLY" (cabin air flow only)
- "OFF".

The evaporator fan is controlled by a two-position switch :

- "HI"
- "LO".

A "LT TEST" push-button is also located on the "ECS" panel enabling to test the "FREON" green indicator light, which indicates the compressor clutch activation when the system is operating.

The compressor ensures the pressurization (lower than 250 psi) and the boosting of the heated gas through the distributor box and the overpressure relief valve to the condenser, in which it is reduced to the liquid state under the action of the fan which ensures a cooling air flow.

The air is sucked across the exchanger through an aperture in the fuselage and discharged outside through an output.

Then the liquid freon goes through the filter / drier, then the pressure reducer. So the freon is gaseous and cold and enters the evaporator. The reducing rate is regulated by the thermostatic valve controlled by the temperature sensor located at the evaporator outlet.

After having gone through the evaporator, the freon is again at low pressure (above 10 psi) and goes to the compressor through the distributor box.

The low and high pressure switches cut the electrical supply of the compressor clutch via the relay when the pressure is respectively lower than 10 psi and above 275 psi.

If the high pressure switch does not operate, the overpressure relief valve calibrated at 300 psi discharges the freon in the atmosphere.

The evaporator output duct is connected to the distribution main duct (louver) incorporated to the cabin upper duct. The air is distributed in the cabin through calibrated apertures installed in the upper duct and in the cockpit through two vents also installed in the upper duct.

1) Compressor
2) Control panel
3) Cabin distribution
4) Exchanger / evaporator
5) Evaporator fan
6) Thermostatic sensor
7) Thermostatic valve / pressure reducer
8) Outside air
9) Exchanger / condenser
10) Overpressure relief valve
11) Condenser fan
12) Overboard
13) Filling valves
14) Safety pressure switches
15) Filter
16) Distributor

Figure 9.11.1 (1 / 2) - Schematic diagram

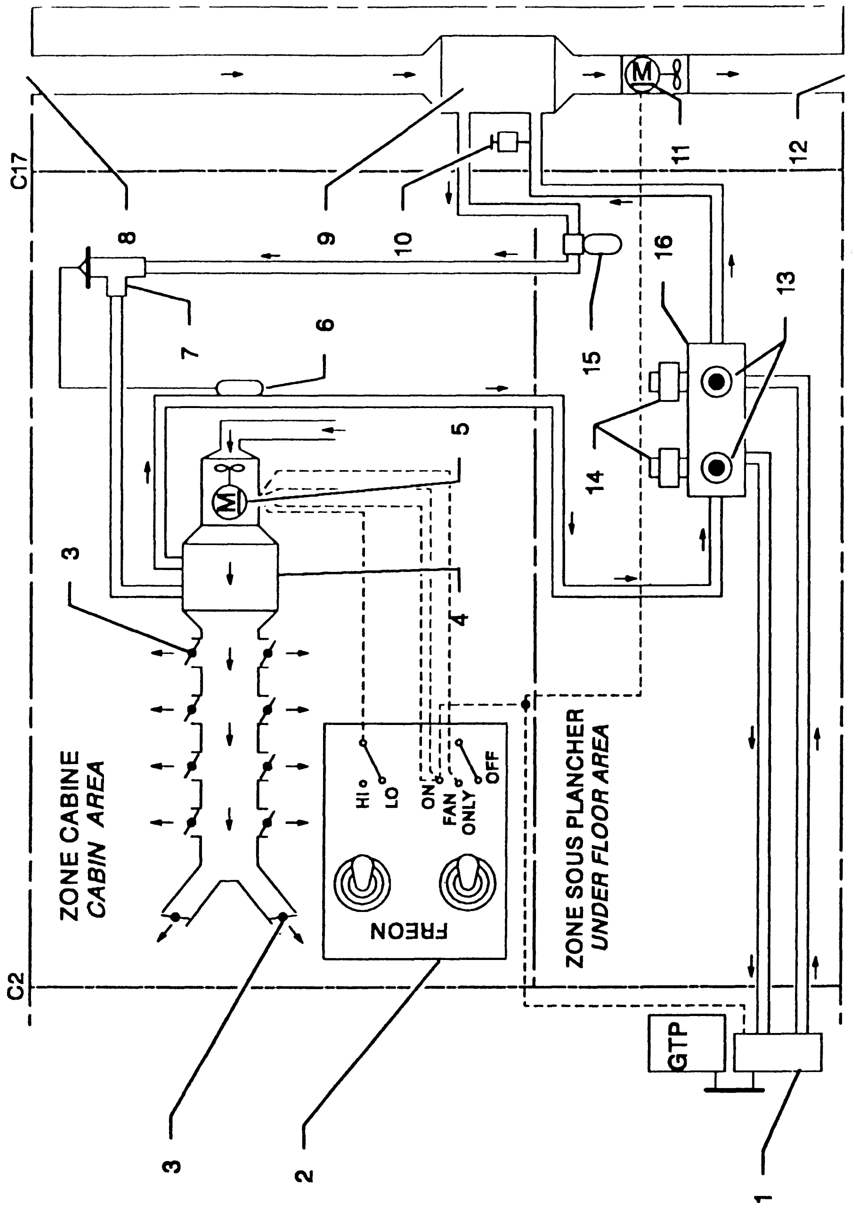

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Figure 9.11.1 (2 / 2) - Schematic diagram

1) Green indicator light (compressor clutch)
2) Operation switch
3) Indicator light test
4) Fan speed selector

Figure 9.11.2 (1 / 2) - "ECS" panel

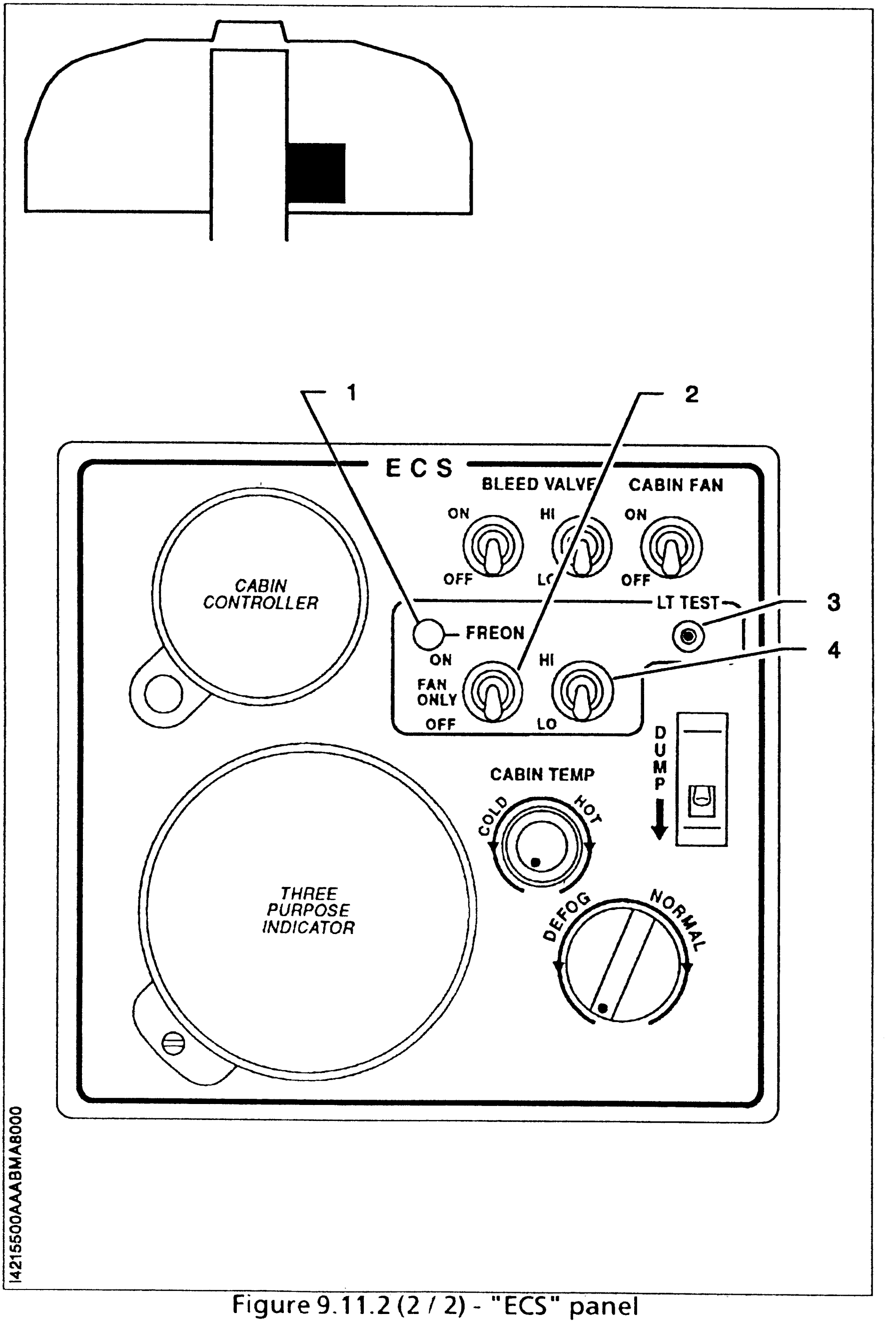

Figure 9.11.2 (2 / 2) - "ECS" panel

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SUPPLEMENT

WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION".

The generalities hereafter replace those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 is equipped with the option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION".

AIRPLANE WEIGHT

Version A (6 Pax standard) :

- Empty weight : .... 4193.15 lbs (1902 kg)
- Maximum useful load: .... 2420.65 lbs (1098 kg)

Version B (camera capability) :

- Empty weight : .... 4138.99 lbs (1877.43 kg)
- Maximum useful load : .... 2474.82 lbs (1122.57 kg)

Version C (observation) :

- Empty weight : .... 4133.18 lbs (1874.8 kg)
- Maximum useful load : .... 2480.62 lbs (1125.2 kg)

SECTION 2
LIMITATIONS

The limitations hereafter replace those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION"

SPEED LIMITS

V_{MO} Maximum operating speed of the camera / observation open door : .... Vc 243 KCAS
.... Vi 240 KIAS

Remark : During a normal flight, do not exceed this speed deliberately when the camera / observation door is open.

SEAT LIMITATIONS

From 1 to 6 seats, version A (6 Pax standard) :

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
- L.H. intermediate seat .... at 223.07 in. (5.666 m)
- R.H. intermediate seat .... at 220.07 in. (5.590 m)
- L.H. and R.H. double chair .... at 272.28 in. (6.916 m)

From 1 to 4 seats, version B (camera capability) or version C (observation) :

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
  (identical to 6-place configuration)
- L.H. intermediate seat .... at 223.07 in. (5.666 m)
- R.H. intermediate seat .... at 220.07 in. (5.590 m)
- 1 / 2 L.H. double chair .... at 272.28 in. (6.916 m)

USE OF THE WINDOW DOOR OF CAMERA / OBSERVATION

In order not to damage the window, the taxiing, takeoff and landing phases must be performed with the sliding door (under fuselage) closed.

SECTION 3

EMERGENCY PROCEDURES

The option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION" does not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook. However, in order not to damage the window, close the sliding door (under fuselage) and clear the top of the tablet during the taxiing, takeoff and landing phases :

Switch "PHOTO DOOR" .... CLOSED

Green indicator light "CLOSED" .... ON

NOTE :
In case of an electrical failure, pull the circuit-breaker "PHOTO" and close the door with the crank handle located under the tablet. To do this, put the crank handle in the hole in front of the camera or the observation well, turn the crank handle counter-clockwise (about 33 turns) and store the crank handle.

EMERGENCY DESCENT

PROCEDURE IN SMOOTH ATMOSPHERE		
1 -	Power lever	**IDLE**
2 -	Oxygen	**If required**
3 -	Propeller governor lever	**MAX. RPM**
4 -	Flaps	**UP**
5 -	Landing gear	**RETRACTED**
6 -	Speed .... V_{MO} =	**266 kt door closed 240 kt door open or in movement**

SECTION 4
NORMAL PROCEDURES

The option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION" does not change the basic normal procedures of the airplane described in Section 3 "Normal procedures" of the basic Pilot's Operating Handbook. However, in order not to damage the window, close the sliding door (under fuselage) and clear the top of the tablet during the taxiing, takeoff and landing phases :

Switch "PHOTO DOOR" .... CLOSED

Green indicator light "CLOSED" .... ON

NOTE :
In case of an electrical failure, pull the circuit-breaker "PHOTO" and close the door with the crank handle located under the tablet. To do this, put the crank handle in the hole in front of the camera or the observation well, turn the crank handle counter-clockwise (about 33 turns) and store the crank handle.

PREFLIGHT INSPECTION

Make sure that the sliding door is correctly closed.

NOTE :
If the telescope is adjustable or retractable, the lens will be respectively steered at the rear of the airplane or retracted during the taxiing, takeoff and landing phases.

SECTION 5
PERFORMANCE

The performance described in Section 5 "Performance" of the Pilot's Operating Handbook are modified when the TBM 700 airplane is equipped with the option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION".

INFLUENCE OF THE INSTALLATION OF THE OPTION "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION" ON THE PERFORMANCE.

The performance are affected as follows :

- the cruise speeds are reduced by 12 KIAS,
- the climb performance in landing gear and flaps up configuration are reduced by 10 %,
- the climb performance in overshoot procedures are reduced by 5 %,
- the climb performance of takeoff flaps are reduced by 5 %.

SECTION 6

WEIGHT AND BALANCE

The data hereafter replace those of the standard airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option "WINDOW AND CAPABILITY OF CAMERA / OBSERVATION".

LEVER ARM

Version A (6 Pax standard) :

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
- L.H. intermediate seat .... at 223.07 in. (5.666 m)
- R.H. intermediate seat .... at 220.07 in. (5.590 m)
- L.H. and R.H. double chair .... at 272.28 in. (6.916 m)

Version B (camera capability) or version C (observation) :

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m) (identical to 6-place configuration)
- L.H. intermediate seat .... at 223.07 in. (5.666 m)
- R.H. intermediate seat .... at 220.07 in. (5.590 m)
- 1 / 2 L.H. double chair .... at 272.28 in. (6.916 m)

R S A or O	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM LEVER in. (m)
	56 - WINDOWS			
A	Window and capability of camera / observation (OPT70 56002)			
	. Version A (6 Pax standard)	SOCATA	143.299 (65,000)	242.362 (6,156)
	. Version B (camera capability)	SOCATA	89.132 (40,430)	239.960 (6,095)
	. Version C (observation)	SOCATA	83.333 (37,800)	240.511 (6,109)

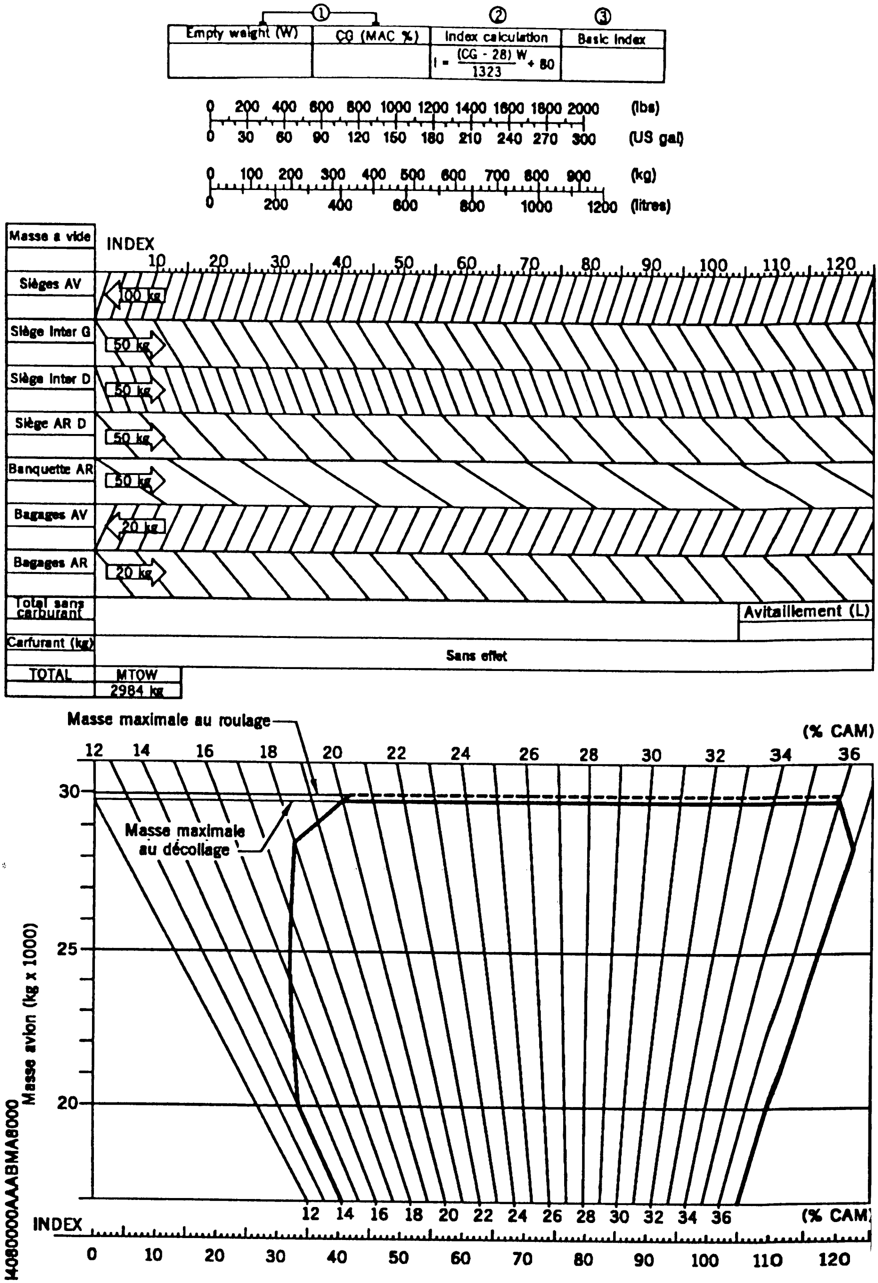

Figure 9.12.1 - WEIGHT AND BALANCE GRAPH

SECTION 7
DESCRIPTION

The airplane, equipped with the camera capability is supplied with the standard 6-place configuration, with a conversion kit.

In the photographic mission or observation version, the installation only includes 4 places after the removal of the R.H. rear and intermediate seats. The crew includes a pilot, an observer located on the R.H. front seat, an observer on the L.H. intermediate seat and a navigator / observer on the L.H. rear seat - see Figure 9.12.2.

A 1.57 in. (40 mm) thick optical glass window, protected by a ventral fairing and a sliding door, is installed at the R.H. lower part of the fuselage, and allows the light to pass towards the camera lens. Its sizes allow to use "wide angle" lens.

A second opening, located in the front of the navigator / operator seat allows to install the telescope associated with the camera.

The navigator / operator has an orientable and rotating tablet, which is attached on the R.H. rear floor rail, as well as on a fitting / support of the rear seat. This equipment allows him to write or put his work equipment (computer).

A control box, placed on the lower part of the frame C13 at the R.H. side of the navigator / operator includes on its front face :

- a two position "OPEN" and "CLOSED" switch "PHOTO DOOR",
- a green indicator light "OPEN",
- a green indicator light "CLOSED",
- a fuseholder equipped with a 2 AMP fuse,
- a headset jack ,
- a microphone jack,
- an electric connector equipped with a protective cap for the supply of the camera / telescope system .

1) Control box
2) Telescope
3) Window
4) Sliding door
5) Camera
6) Ventral fairing
7) Emergency crank handle
8) Navigator / operator seat
9) Blanking plate of telescope well
10) Observer intermediate seat
11) Pilot seat
12) Observer front seat
13) Emergency manual control interface
14) Camera door floor panel
15) Tablet
16) "Velcro" tape
17) Microphone jack
18) Headset jack
19) Green indicator light "CLOSED"
20) Switch "PHOTO DOOR"
21) Green indicator light "OPEN"
22) Connector
23) Protective cap
24) Fuseholder

Figure 9.12.2 (1/3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

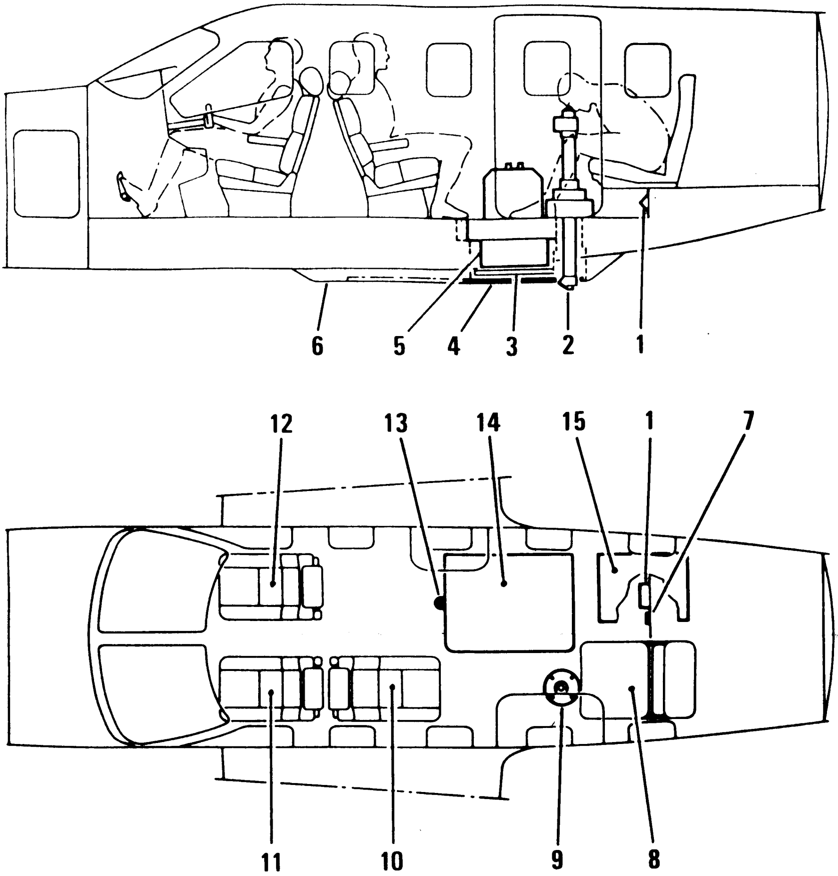

Figure 9.12.2 (2/3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

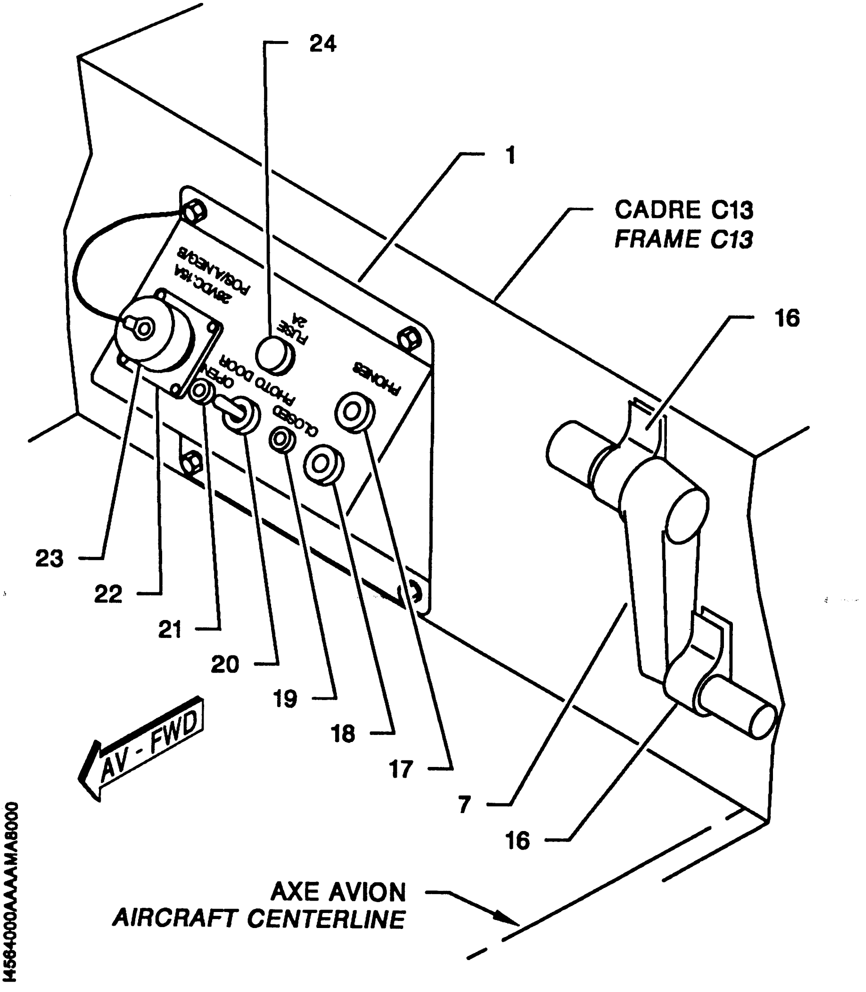

Figure 9.12.2 (3/3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

At taxiing and landing, the sliding door is in the closed position, switch "PHOTO DOOR" "CLOSED" and green indicator light "CLOSED" illuminated, in order to protect the window against the possible projections of stones or other elements.

In the photographic version, in order to avoid the possible projections at taxiing, takeoff and landing :

- if the telescope is adjustable, the lens will be steered toward the rear of the airplane,
- if the telescope is retractable, retract it.

The sliding door mechanism includes a geared motor which drives the flap through a gear and a rack.

The geared motor is supplied by the bar BUS 1 and controlled by the switch "PHOTO DOOR" through the two end-of-travel microswitches "open" and "closed". It is protected by a 2 AMP fuse.

In case of an electrical failure or a blocking of the geared motor, the door can be drived manually by a crank handle which is stored between the rear seat and the control box, and attached by "velcro" tapes.

The camera / telescope system is supplied by the bar BUS 1. It is protected by the circuit-breaker "PHOTO". An interface connector is supplied in the conversion kit in order to be connected to the camera / telescope harness by the user during the first installation.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

A - CONVERSION OF 6-PLACE ACCOMMODATION INTO CAMERA CAPABILITY VERSION OR OBSERVATION MISSION (Figures 9.12.3 and 9.12.4)

NOTE :
The installation of the tablet and the cushions replacement are not planned in the observation version.

1) Remove the R.H. intermediate seat (Item 5), to do this :

   a) Disconnect the oxygen alarm supply wire, located under the seat, from the connector located under the carpet.

   b) Pull upwards the belt of the lock pin located under the rear of the seat, on the central aisle side and disengage the seat by moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails.

2) Remove the R.H. rear seat and its support structure (Item 1), to do this :

   a) Remove the seat cushion (Item 7) attached with "velcro" tape straps.

   b) By accessing through the door (Item 38), remove the cotter pin (Item 36), nut (Item 35), washer (Item 34) and attaching bolt (Item 33) of the connecting lever (Item 31).

   c) Actuate the displacement control (Item 3) and position the seat to align the front access holes (Item 17) with the attaching screws (Item 16).

   d) Unscrew the two attaching screws (Item 16).

   e) Fold the seat back.

   f) Repeat the operation c) in order to unscrew the rear attaching screws.

   g) Remove the seat (Item 1).

h) Remove the nut (Item 49), the washer (Item 48) and the screw (Item 45).

i) Remove the four bolts (Item 26) and the washers (Item 27).

j) Remove the web assembly (Item 50).

k) Remove the screws (Item 47) and the door (Item 38).

l) Remove the screw (Item 43), the washer (Item 42) and the pad assembly (Item 46).

m) Remove the screw (Item 41), the washer (Item 40) and the pad / rod assembly (Item 39).

3) Modify the L.H. rear seat (Item 2), to do this :

a) Remove the seat cushion (Item 7), the kidney cushion (Item 20) and the back cushion (Item 21) fixed by "velcro" tape straps.

b) Do the operations 2) c) to 2) f).

c) Remove the reinforcement plate (Item 29).

d) Lift the seat (Item 2) and install the reinforcement plate P / N T700A2590013105 (Item 11) on the support structure of the seat (Item 2).

e) Attach the seat (Item 2) with the screws (Item 16). To do this, do the operations 2) f) to 2) c).

f) Install the seat cushion (Item 18) and the back cushion (Item 19).

4) Install the tablet (Item 61), to do this :

a) Engage the two stops (Items 69 and 72) into the R.H. external rail (Item 44).

b) Align the strut hole (Item 62) with the fitting hole (Item 30). Then engage the bolt (Item 63).

c) Align the tablet leg holes (Item 61) in the holes of the rail (Item 44).

1) R.H. rear seat
2) L.H. rear seat
3) Displacement control
4) Blanking plate
5) R.H. intermediate seat
6) Floor panel of camera well
7) Seat cushion
11) Reinforcement plate
12) Telescope well
13) Sealing gasket
14) Washer
15) Bolt
16) Screw
17) Access hole
18) Seat cushion
19) Back cushion
20) Kidney cushion
21) Back cushion

Figure 9.12.3 (1 / 3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

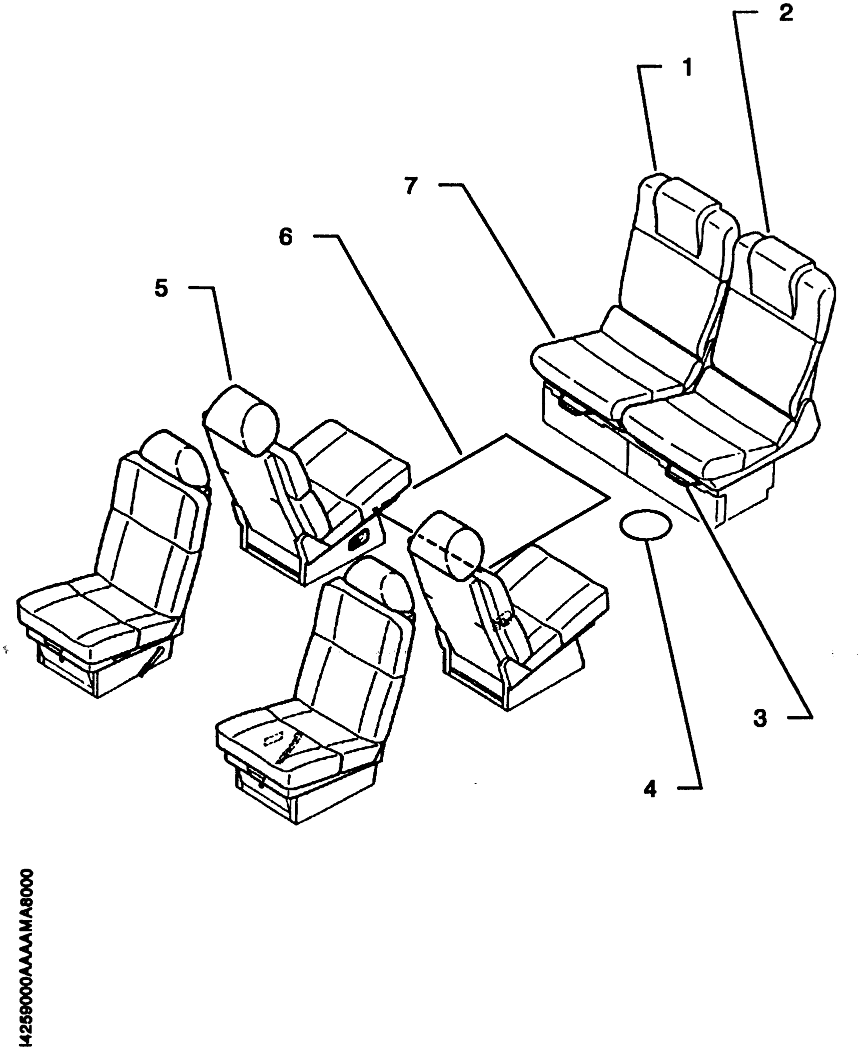

Figure 9.12.3 (2 / 3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

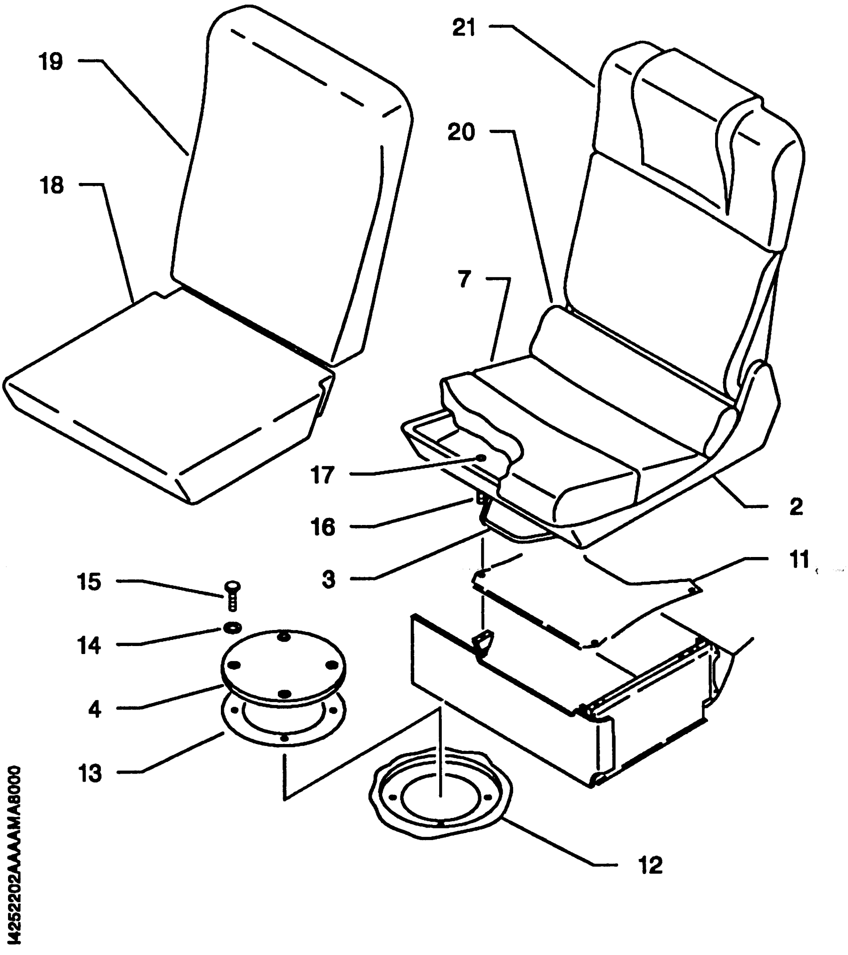

Figure 9.12.3 (3 / 3) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

d) Install the washers (Items 68 and 73) in the rail holes (Item 44).

e) Attach the tablet legs (Item 61) with the bolts (Items 66 and 70) and the washers (Items 67 and 71).

f) Install the washer (Item 65) and the nut (Item 64) on the attaching bolt (Item 63) of the strut (Item 62).

5) Remove the floor panel of the camera well (Item 6) fixed with the "velcro" tape straps.

6) Remove the window foam protector.

7) To carry out a photographic mission, remove the blanking plate of the telescope well (Item 4), do this :

a) Remove the carpet.

b) Remove the bolts (Item 15) and the washers (Item 14).

c) Remove the blanking plate (Item 4).

8) Attach the emergency crank handle (Item 82) on the frame C13 with the "velcro" tape straps (Item 83).

9) If a red tag "CAUTION" is attached on the control box (Item 28), reinstall the fuse, to do this :

a) Unscrew the fuseholder cap (Item 81).

b) Remove the red tag "CAUTION".

c) Insert a fuse P / N Z00.N7298150265 in the fuseholder (Item 81).

d) Screw the cap.

e) Unscrew the protective cap (Item 85).

10) Retain all the removed elements.

26) Bolt
27) Washer
28) Control box
29) Reinforcement plate
30) Fitting
31) Connecting lever
32) Fitting
33) Bolt
34) Washer
35) Nut
36) Cotter pin
37) R.H. internal rail
38) Door
39) Rod / pad assembly
40) Washer
41) Screw
42) Washer
43) Screw
44) R.H. external rail
45) Bolt
46) Pad assembly
47) Screw
48) Washer
49) Nut
50) Web assembly
61) Tablet
62) Strut
63) Bolt
64) Nut
65) Washer
66) Bolt
67) Washer
68) Washer
69) Stop
70) Bolt
71) Washer
72) Stop
73) Washer
81) Fuseholder
82) Crank handle
83) "Velcro" tape straps
84) Connector
85) Protective cap

Figure 9.12.4 (1 / 4) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

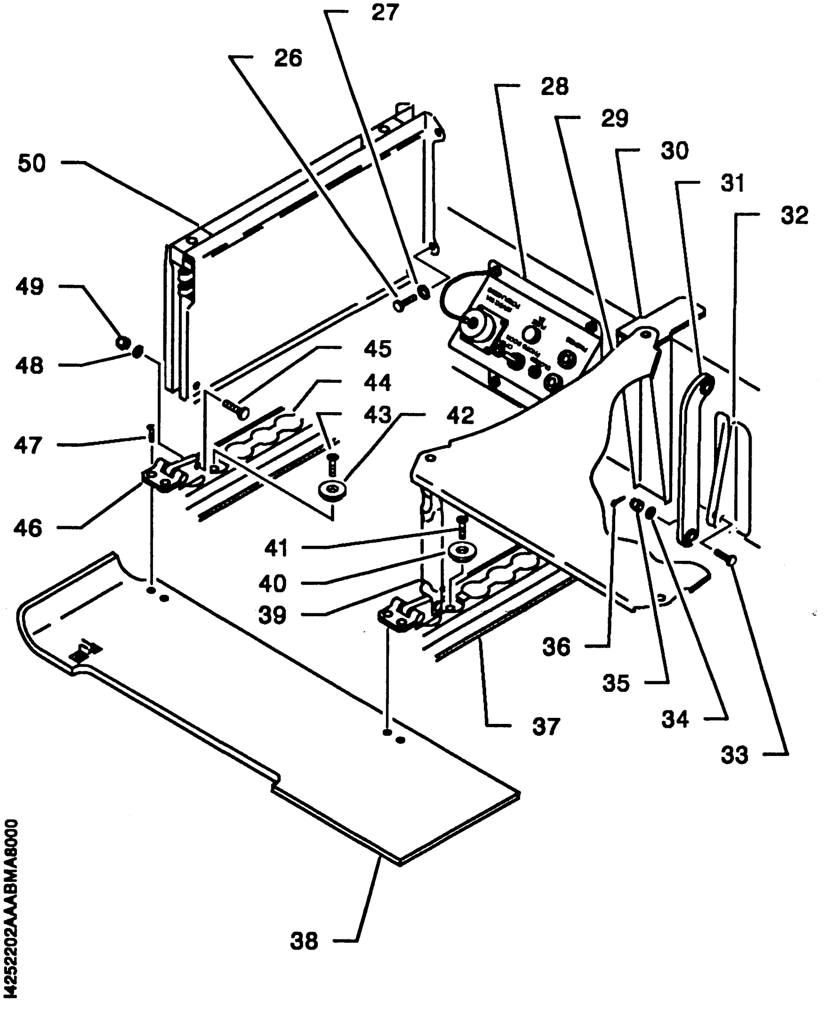

Figure 9.12.4 (2 / 4) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

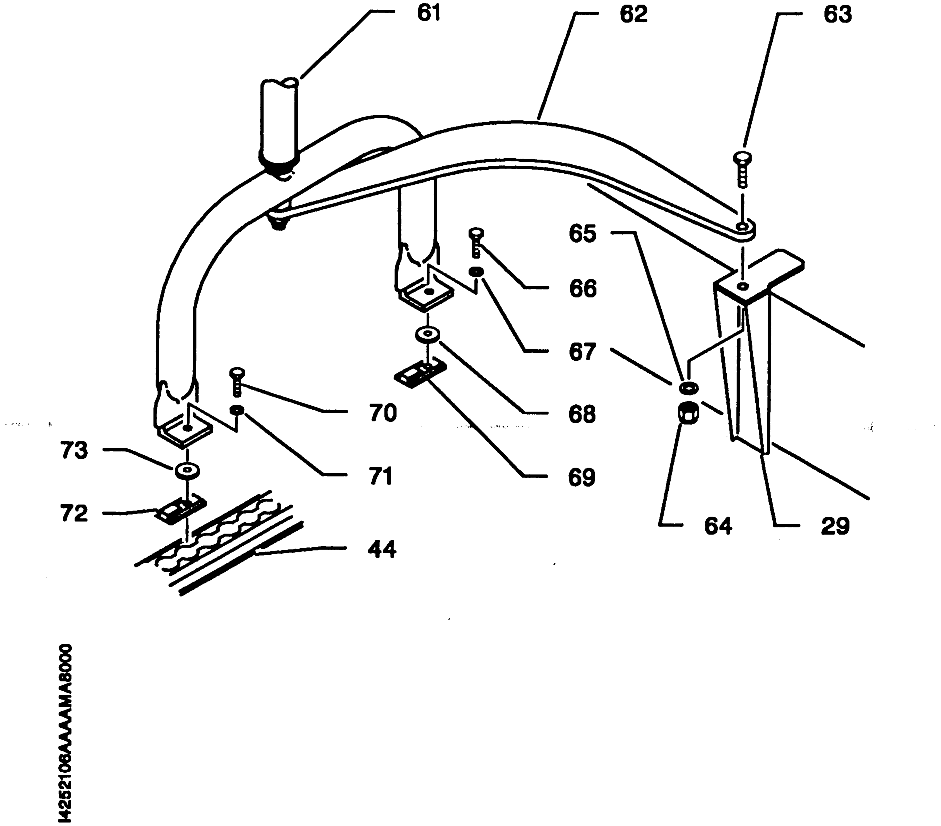

Figure 9.12.4 (3 / 4) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

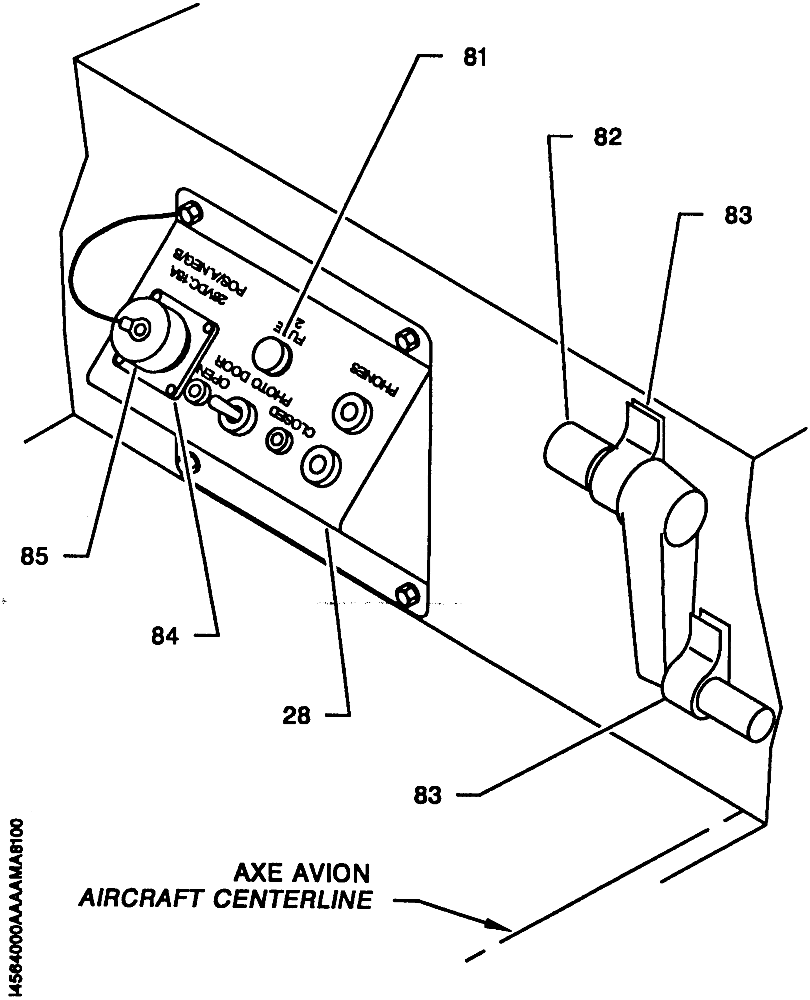

Figure 9.12.4 (4 / 4) - WINDOW AND CAPABILITY OF CAMERA / OBSERVATION

B - CONVERSION OF CAMERA CAPABILITY OR OBSERVATION MISSION IN THE 6-PLACE ACCOMMODATION (Figures 9.12.3 and 9.12.4)

1) Install the window foam protector in the camera well.

2) Install the floor panel of camera well (Item 6).

3) If removed, install the blanking plate of the telescope well (Item 4), to do this :

   a) Make sure that the sealing gasket (Item 13) is in a good condition and clean.

   b) Make sure that the bearing face of the blanking plate (Item 4) is clean.

   c) Install the blanking plate and attach it with the retained bolts (Item 15) and the washers (Item 14).

4) Remove the emergency crank handle (Item 82).

5) Make sure that the sliding door is correctly closed, switch "PHOTO DOOR" "CLOSED".

6) Remove the fuse on the control box (Item 28), to do this :

   a) Unscrew the fuseholder cap (Item 81).

   b) Remove the fuse P/N Z00.N7298150265.

   c) Screw the cap.

   d) Install a red tag "CAUTION fuse removed".

   e) Install the protective cap (Item 85) on the connector (Item 84).

7) Remove the tablet (Item 61), to do this :

   a) Remove the bolts (Items 66 and 70) and the washers (Items 67 and 71).

   b) Remove the nut (Item 64), the washer (Item 65) and the bolt (Item 63).

c) Remove the tablet (Item 61).

d) Remove the washers (Items 68 and 73) and the stops (Items 69 and 72).

8) Install the support structure of the R.H. rear seat (Item 1), to do this :

a) Engage the pad assembly (Item 46) in the R.H. external rail (Item 44).

b) Install and attach with the washer (Item 42) and the screw (Item 43).

c) Install the web assembly (Item 50) and attach with the bolts (Items 26 and 45), the washers (Items 27 and 48) and the nut (Item 49).

d) Engage the pad / rod assembly (Item 39) in the R.H. internal rail (Item 37).

e) Install and attach with the washer (Item 40) and the screw (Item 41).

f) Install the door (Item 38) and attach it with the screws (Item 47).

9) Convert the L.H. rear seat (Item 2), to do this :

a) Remove the seat cushion (Item 18) and the back cushion (Item 19).

b) Actuate the displacement control (Item 3). Position the seat to align the front access holes (Item 17) with the attaching screws (Item 16).

c) Unscrew the two attaching screws (Item 16).

d) Fold the seat back.

e) Repeat the operation b) in order to unscrew the rear attaching screws.

f) Lift the seat (Item 2) and remove the reinforcement plate (Item 11).

g) Install the reinforcement plate (Item 29) on the support structures.

h) Install the seat (Item 2) in accordance with the operations b) and c).

i) Install the seat cushion (Item 7), the kidney cushion (Item 20) and the back cushion (Item 21).

10) Install the R.H. rear seat (Item 1), to do this :

a) Remove the seat cushion (Item 7).

b) Fold the back and install the seat (Item 1) on the support structure.

c) Install the rear attaching screws.

d) Lift the back and actuate the displacement control (Item 3) in order to align the access holes (Item 17) with the front scew heads (Item 16).

e) Install the front attaching screws (16).

f) Install the seat cushion (Item 7).

g) Access by the door (Item 38) and install the connecting lever (Item 31) in the fitting (Item 32) and install the bolt (Item 33), the washer (Item 34), the nut (Item 35) and a new cotter pin (Item 36).

h) Close the door (Item 38).

11) Install the R.H. intermediate seat (Item 5), to do this :

a) Install the seat on the rails, the lock pin (equipped with a belt which is accessible at the rear part) is engaged at the yellow marking [X = 223.07 in. (5666 mm)] located at the bottom of the internal rail.

b) Displace the seat of 0.50 in. (12.7 mm) to the front of the airplane up to the correct locking of the lock pins on the rails.

c) Check the locking.

d) Reinstall the locking sytem belt ("velcro" tape) under the seat.

e) Connect the oxygen alarm supply wire under the seat, to the connector located under the carpet.

12) Retain all the removed elements.

C - CHECK / INSPECTION

Do a visual inspection of the window every 100 hours in order to make sure that there is no scratches, cracks, chips or microcrazing.

If a defect is detected, please contact SOCATA Customer Support in order to know the procedures to apply before the next flight.

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SUPPLEMENT

"BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A".

Using information provided by satellites ("BENDIX / KING" KLN90A is able to track up to 8 satellites at a time), GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means. It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90A and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90A with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, flight service stations ...

There is also room for up to 250 user defined waypoints and 26 different flight plans.

The KLN90A can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A".

GPS "BENDIX / KING" KLN90A is installed in accordance with FAA notice 8110.47 dated 23 April 93.

This equipment is approved for use as a VFR and IFR supplemental navigation system for en route and terminal area only. Therefore, GPS navigation must be crosschecked with usual means.

Data base updating must be verified before each flight.

GPS "BENDIX / KING" KLN90A is not approved for navigation as a primary source.

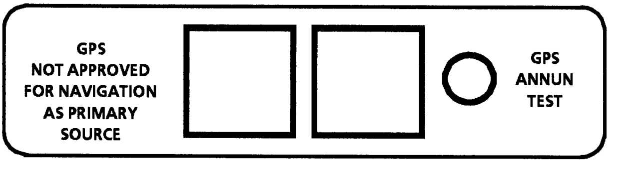

Figure 9.13.1 - GPS limitation placard

The KLN90A fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX / KING" KLN90A Pilot's Guide at its latest revision shall be readily available to the pilot whenever the operation of the GPS navigation system is predicted.

SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A".

If KLN90A GPS information is flagged (Flag "NAV" on HSI) or GPS integrity (RAIM) capability is lost, revert to remaining operational navigation equipment. Press the NAV/GPS button-switch to select the NAV 1 navigation source.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A".

Normal operating procedures of the KLN90A GPS are outlined in the "BENDIX / KING" KLN90A Pilot's Guide at the latest revision.

However, it is important to precise the following points :

SET UP CONDITIONS

- Verify if the data base is current.
- Verify the baro setting.
- Set turn anticipation mode (SET / 6) to :
  . ENABLE (turn anticipation ENABLED) : recommended mode,
  . DISABLE (turn anticipation DISABLED) : not recommended mode.
- Check that the proper criteria are used for nearest airport selection.

COURSE DEVIATION INDICATOR

In any mode, the course deviation indicator sensitivity is plus or minus 5 Nm full scale.

SYSTEM ANNUNCIATORS

The system annunciators are located below the HSI.

1) WAYPOINT (WPT) - Prior to reaching a waypoint in the active flight plan, the KLN90A GPS will provide navigation along a curved path segment to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of turn anticipation the WPT annunciator will flash, going solid upon initialization of the turn, and extinguishing upon turn completion.

WARNING

TURN ANTICIPATION IS AUTOMATICALLY DISABLED FOR WAYPOINTS USED EXCLUSIVELY IN SID / STARS WHERE OVERFLIGHT IS REQUIRED. FOR WAYPOINTS SHARED BETWEEN SID / STARS AND PUBLISHED EN ROUTE SEGMENTS (REQUIRING OVERFLIGHT IN THE SID / STARS) PROPER SELECTION ON THE PRESENTED WAYPOINT PAGE IS NECESSARY TO PROVIDE ADEQUATE ROUTE PROTECTION ON THE SID / STARS.

2) MESSAGE (MSG) - Will flash to alert the pilot of a situation that requires attention. Press the MSG button on the KLN90A GPS to view the message (Appendix B of the KLN90A Pilot's Guide contains a list of all of the message page messages and their meanings).

3) WARN (WRN) - Annunciates that GPS integrity (RAIM) capability is lost.

   NOTE :
   The warning annunciator may be tested by pressing on "GPS ANNUN TEST" knob.

SYSTEM SWITCHES

NAV / GPS - This button-switch is used for selecting data to be presented on the pilot's HSI, either NAV data from the number one navigation receiver or GPS data from the KLN90A GPS.

The **NAV / GPS** button-switch is located below the HSI.

PILOT'S DISPLAY

Left / right steering information is provided via the course deviation indicator on the pilot's HSI as a function of the source selected with the NAV/GPS button-switch position.

EN ROUTE-LEG mode

When using the en route-leg mode, it is necessary to adjust manually the course indicator at the value of the desired track between two waypoints.

When the KLN90A is used with the TURN ANTICIPATION ENABLED, at the beginning of turn anticipation, WPT alert annunciator goes on steady, MSG annunciator begins flashing. At this time, the KLN90A will notify the pilot with a message on the Message Page of the new desired track to select on the HSI. This message will not be given if the course change is less than 5°.

CAUTION

IT IS RECOMMENDED TO USE KLN90A WITH TURN ANTICIPATION ENABLED

WHEN TURN ANTICIPATION IS DISABLED, waypoint alerting occurs approximately 35 seconds prior to actually reaching the waypoint. MSG annunciator remains OFF. There is no course change message displayed by the KLN90A.

When the KLN90A is used WITH TURN ANTICIPATION DISABLED, the "Super NAV 5" page allows a rapid visualisation of the aircraft position in horizontal navigation with regards to the route and the waypoints. It is strongly recommended to use this page.

EN ROUTE-OBS mode

When using the en route-OBS mode, it is also necessary to adjust manually the course indicator at the value of the OBS selected on the KLN90A. The desired track selection is made only from the KLN90A control box.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

Whether the **NAV / GPS** button-switch is selected on GPS data or NAV data engaging the NAV mode on the autopilot mode controller will make the FD appear, using selected course and left / right steering information presented on the HSI.

The autopilot is coupled to the HSI when AP is engaged on the mode controller.

WARNING

WHEN CROSSING A WAYPOINT, WITH THE AUTOPILOT ENGAGED ON NAV MODE AND USING GPS DATA, IF THE COURSE POINTER IS NOT ADJUSTED AT THE VALUE OF THE NEW DESIRED TRACK AND IF THE COURSE CHANGE IS MORE THAN 5°, THE FLIGHT DIRECTOR AND AUTOPILOT WILL STEER A DIVERGENT ROUTE AFTER THE WAYPOINT (EN ROUTE-LEG MODE SELECTED ON THE KLN90A).

NOTE :
When the HSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

SECTION 5

PERFORMANCE

Installation and operation of the "BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Weight and balance corresponding to the "BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH HSI KI 525A are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7

DESCRIPTION

Normal operating procedures are described in the "BENDIX / KING" KLN90A Pilot's Guide at the latest revision.

CONTROLS - see Figure 9.13.2

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90A can present a variety of information in a number of different page formats.

The various display types can be considered as chapters in a book, each chapter having as many as 26 numbered pages at once. With a few exceptions, each of these pages can be changed independently.

Generally the 2 concentric knobs and the cursor button to the left of the screen are used to select data on L.H. page, just as the right knobs and cursor on the right control the R.H. page.

The large outer knobs control the chapters and the small inner knobs turn the pages.

To change data in a page use the cursor function. This function is an area of inverse video on the screen brought up by depressing the cursor buttons.

Then rotate the outer knob to position the cursor and the inner knob to select the desired characters. Repeat this operation as many times as necessary and valid (ENT button).

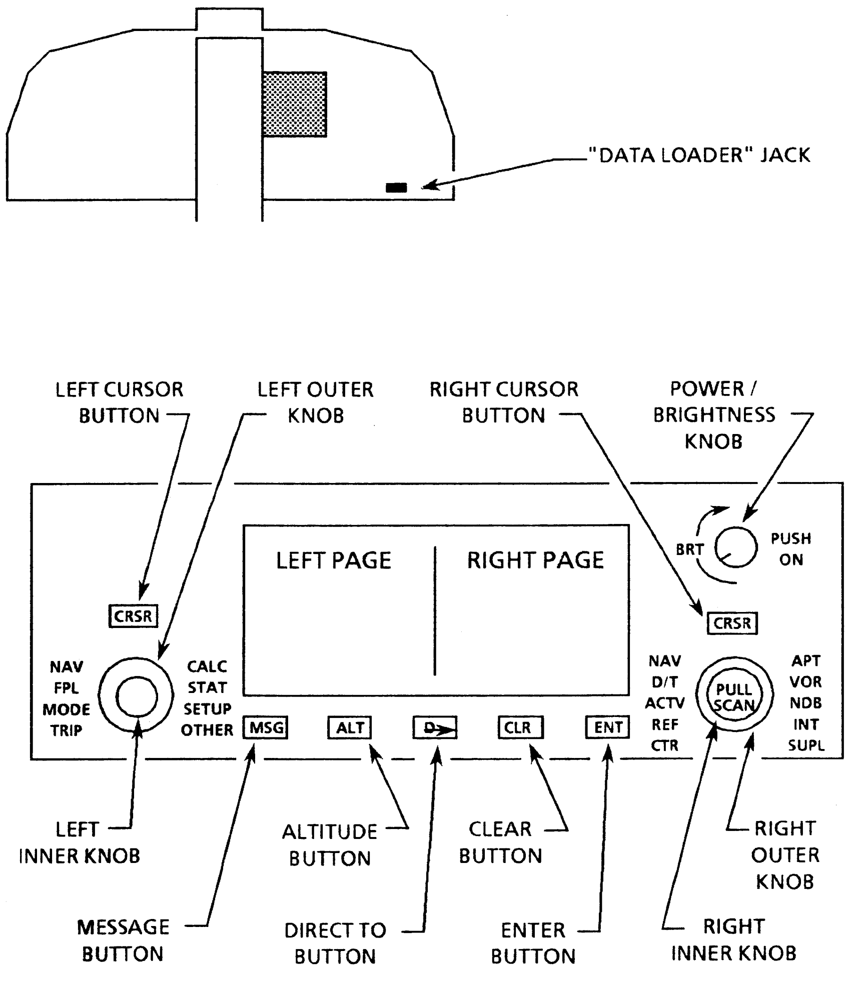

Figure 9.13.2 - Controls

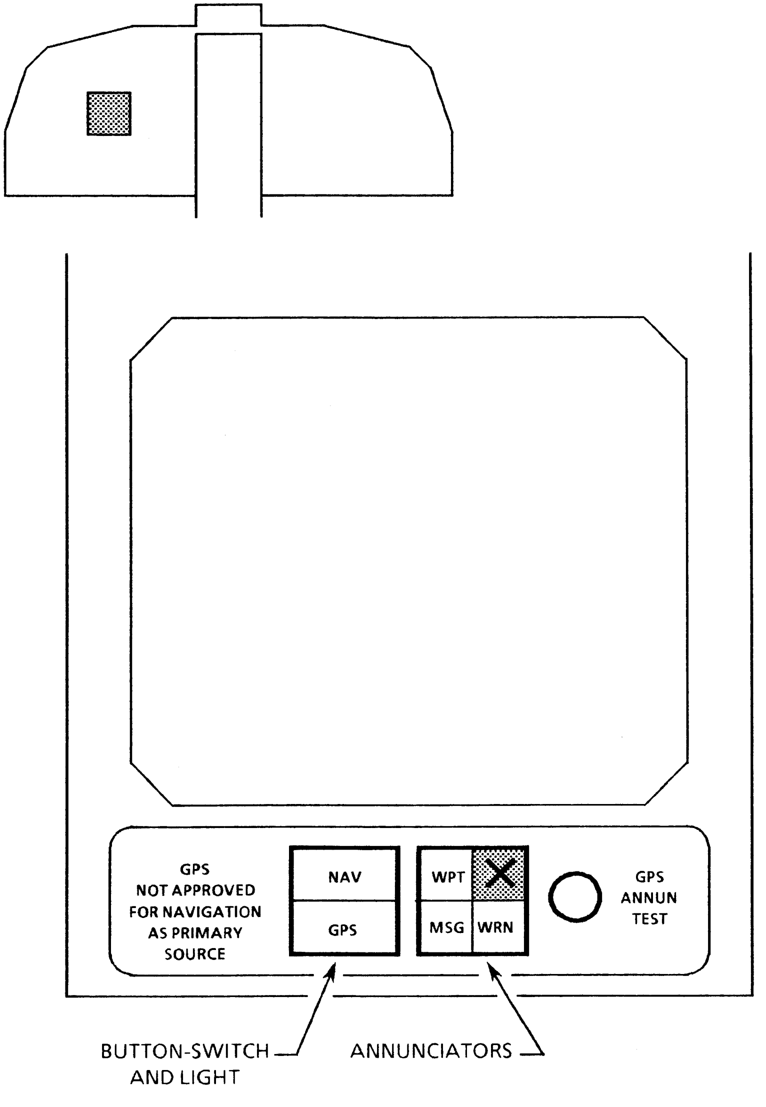

Figure 9.13.3 - GPS placard and annunciators

SUPPLEMENT

"BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Using information provided by satellites ("BENDIX / KING" KLN90A is able to track up to 8 satellites at a time), GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means. It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90A and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90A with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, flight service stations ...

There is also room for up to 250 user defined waypoints and 26 different flight plans.

The KLN90A can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

GPS "BENDIX / KING" KLN90A is installed in accordance with FAA notice 8110.47 dated 23 April 93.

This equipment is approved for use as a VFR and IFR supplemental navigation system for en route and terminal area only. Therefore, GPS navigation must be crosschecked with usual means.

Data base updating must be verified before each flight.

GPS "BENDIX / KING" KLN90A is not approved for navigation as a primary source.

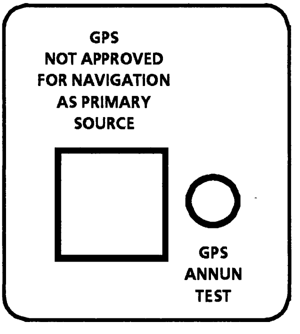

Figure 9.14.1 - GPS limitation placard

The KLN90A fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX / KING" KLN90A Pilot's Guide at its latest revision shall be readily available to the pilot whenever the operation of the GPS navigation system is predicted.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

If KLN90A GPS information is flagged or GPS integrity (RAIM) capability is lost, revert to remaining operational navigation equipment. Press the EHSI push-button "NAV" to obtain the ADF or VOR sources.

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Normal operating procedures of the KLN90A GPS are outlined in the "BENDIX / KING" KLN90A Pilot's Guide at the latest revision.

However, it is important to precise the following points :

SET UP CONDITIONS

- Verify if the data base is current.
- Verify the baro setting.
- Set turn anticipation mode (SET / 6) to :
  . ENABLE (turn anticipation ENABLED) : recommended mode,
  . DISABLE (turn anticipation DISABLED) : not recommended mode.
- Check that the proper criteria are used for nearest airport selection.

COURSE DEVIATION INDICATOR

In any mode, the course deviation indicator sensitivity is plus or minus 5 Nm full scale.

SYSTEM ANNUNCIATORS

The system annunciators are located on the top R.H. side of the pilot instrument panel.

1) WAYPOINT (WPT) - Prior to reaching a waypoint in the active flight plan, the KLN90A GPS will provide navigation along a curved path segment to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of turn anticipation the WPT annunciator will flash, going solid upon initialization of the turn, and extinguishing upon turn completion.

WARNING

TURN ANTICIPATION IS AUTOMATICALLY DISABLED FOR WAYPOINTS USED EXCLUSIVELY IN SID / STARS WHERE OVERFLIGHT IS REQUIRED. FOR WAYPOINTS SHARED BETWEEN SID / STARS AND PUBLISHED EN ROUTE SEGMENTS (REQUIRING OVERFLIGHT IN THE SID / STARS) PROPER SELECTION ON THE PRESENTED WAYPOINT PAGE IS NECESSARY TO PROVIDE ADEQUATE ROUTE PROTECTION ON THE SID / STARS.

2) MESSAGE (MSG) - Will flash to alert the pilot of a situation that requires attention. Press the MSG button on the KLN90A GPS to view the message (Appendix B of the KLN90A Pilot's Guide contains a list of all of the message page messages and their meanings).

3) WARN (WRN) - Annunciates that GPS integrity (RAIM) capability is lost.

NOTE 1 :
The warning annunciator may be tested by pressing on "GPS ANNUN TEST" knob.

NOTE 2 :
The annunciators WPT and MSG are repeated on the EHSI L.H. side above GPS identification.

NAVIGATION SOURCE SELECTION

The push-button "NAV" located on the EHSI L.H. instrument panel strip enables to select the navigation source. The movement sequence is VOR, GPS and ADF.

PILOT'S DISPLAY

EN ROUTE-LEG mode

When using the en route-leg mode, GPS navigation data are differently presented according to the selected mode :

- display equivalent to an electromechanical HSI (track, deviation course, TO / FROM) in ARC or HSI modes,
- trace of the navigation in MAP mode. The active leg is blue, the following legs are white.

When crossing a waypoint, the track resetting on following navigation leg automatically occurs.

When turn anticipation is ENABLED, the WPT annunciator will flash, going solid upon initialization of the turn, and extinguishing upon turn completion.

When turn anticipation is DISABLED, the WPT annunciator will flash, until waypoint vertical line is crossed, then extinguishes.

The navigation course selecting knob (CRS) is inactive.

With the autopilot engaged on NAV mode, the EHSI automatic resetting, when crossing a waypoint, allows to the aircraft an automatic transition from leg to leg without pilot action.

EN ROUTE-OBS mode

When using the en route-OBS mode, the desired radial selection on the waypoint is made equally from the course selecting knob (CRS) on EHSI or from the KLN90A control box. The recopy is quasi instantaneous.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

Engaging the NAV mode on the autopilot mode controller will make the FD appear on the EADI, which uses selected course and left / right steering information presented on the EHSI.

This information is related to the navigation source (VOR, GPS or ADF) selected by the push-button "NAV" on the EHSI.

When AP is engaged on the mode controller, the autopilot is then coupled to the EHSI and uses displayed information (track and deviation course).

NOTE :
When the EHSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

SECTION 5

PERFORMANCE

Installation and operation of the "BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40 do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Weight and balance corresponding to the "BENDIX / KING" KLN90A GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40 are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION

Normal operating procedures are described in the "BENDIX / KING" KLN90A Pilot's Guide at the latest revision.

CONTROLS - see Figure 9.14.2

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90A can present a variety of information in a number of different page formats.

The various display types can be considered as chapters in a book, each chapter having as many as 26 numbered pages at once. With a few exceptions, each of these pages can be changed independently.

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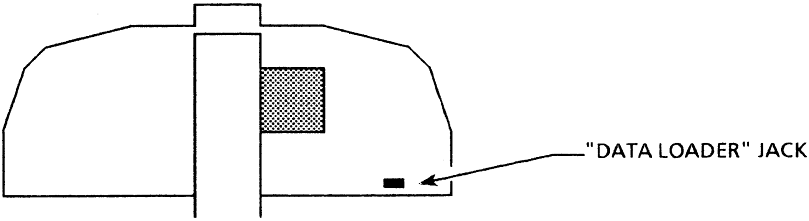

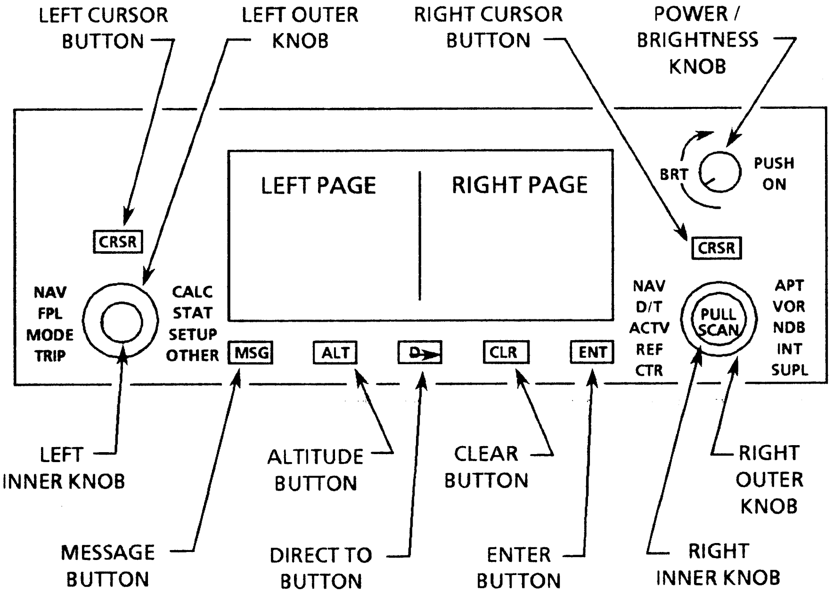

Figure 9.14.2 - Controls

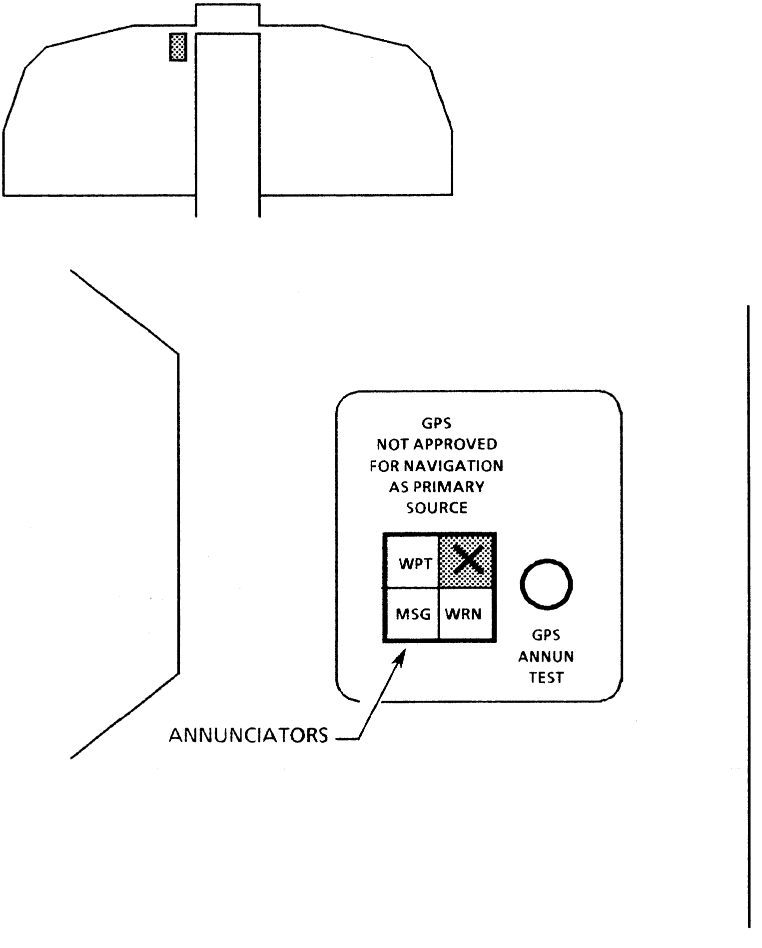

Figure 9.14.3 - GPS placard and annunciators

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SUPPLEMENT

"KEITH" VAPOR CYCLE COOLING SYSTEM

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement provides information necessary for airplane utilization when the ”KEITH” vapor cycle cooling system is installed on TBM 700 airplane.

SECTION 2

LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook.

The vapor cycle cooling system can be operated with :

- a Ground Power Unit,
- engine running with ”GENERATOR” selector on MAIN.

The system must be OFF :

- when engine is started,
- when ”AIRFRAME DE-ICE” switch is ON,
- when ”PROP DE-ICE” switch is ON,
- when ”GENERATOR” selector is on ST-BY.

SECTION 3

EMERGENCY PROCEDURES

The instructions specific to the use of the ”KEITH” vapor cycle cooling system in connection with the emergency procedures are described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4

NORMAL PROCEDURES

The operation of the ”KEITH” vapor cycle cooling system is started thanks to the ”AIR COND” control switch integrated to the ”ECS” panel.

The operation instructions are described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook.

NOTE 1 :
On ground, in order to obtain a best efficiency of the vapor cycle cooling system, it is advised to set temporarily the “BLEED VALVE” switch to “OFF”, open all overhead duct air outlets and do not obstruct the evaporator lattice orifice located according to the evaporator installation either above the cabin floor or in the baggage compartment.

NOTE 2 :
The standby compass may be disturbed when the vapor cycle cooling system is set to ”ON”. If the standby compass use is necessary, the vapor cycle cooling system must be set to ”OFF”.

SECTION 5

PERFORMANCE

The installation and the use of the ”KEITH” vapor cycle cooling system do not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Weight and balance corresponding to the ”KEITH” vapor cycle cooling system are given in the optional equipment list attached to Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

SECTION 7

DESCRIPTION

The "KEITH" vapor cycle cooling system improves the passengers and crew comfort in warm and / or humid atmospheric conditions. The refrigerant used is called R134A.

The installation (Figure 9.15.1) comprises :

- A compressor/condenser assembly located in the fuselage rear section between frames C 17 and C 18 and consisting of :
  - . a compressor,
  - . a condenser heat exchanger,
  - . an electric motor driving the condenser impeller fan and the compressor through pulley and belt,
  - . a receiver drier with a built-in overpressure relief valve rated to open at 425 psi (29 bars),
  - . a binary pressure switch monitoring low and high pressures [$30 \leq P \leq 300$ psi ($2 \leq P \leq 20$ bars)],
  - . a relay.

  The components are installed on a pallet and enclosed in a housing connected through flexible ducts to a screened air inlet and outlet located symmetrically on the rear fuselage lower section skin above the ventral fins.

  The electric motor is supplied by the BUS 4 bar through the power relay and controlled by the "AIR COND" switch.

- An evaporator heat exchanger, made of copper tube and pure aluminium fins, features a foam filter on its air intake face.

  <u>TBM700A</u>

  The evaporator is installed on the frame C 13 on L.H. side and is open to cabin air through a lattice orifice above the floor.

  <u>TBM700B</u>

  The evaporator is installed between frames C 16 and C 17 on L.H. side on rear baggage compartment floor.

All

- An evaporator fan that also provides the air circulation in the cabin as the standard ventilation system.

  TBM700A

  It is installed at the same location as for the ventilation system between frames C 13 and C 14 on R.H. side under the floor.

  TBM700B

  It is installed at the same location as for the ventilation system between frames C 14 and C 15 on R.H. side under the floor.

  All

  The fan is supplied by the BUS 3 bar and protected by the CB 111 "FAN" circuit breaker.

- A thermal expansion valve controlled by a temperature control/sensor which is installed on the evaporator outlet.

  The thermal expansion valve is screwed on the evaporator inlet.

- Two service valves for the refrigerant.

  The low pressure (LP) service valve and the high pressure (HP) service valve are installed on a Tee bulkhead union.

  The unions are screwed on a bracket riveted to the L.H. lower part of the frame C 18.

  The two valves fool-proofing is ensured by their different diameters, LP service valve diameter is more important than HP one.

- A sight glass, used to observe the flow of refrigerant and to determine if the system is undercharged, is located near the HP service valve.

The controls and indicators are located on the "ECS" PL23 panel in the area identified "AIR COND" (see Figure 9.15.2).

The control switch has three positions :

- OFF : System inoperative.
- FAN ONLY : Controls evaporator fan in cabin ventilation mode.
- ON : Controls electric motor of the compressor/condenser assy and fan in cabin vapor cycle cooling mode.

A second switch "FAN FLOW" controls the cabin air HI or LO flow in either FAN ONLY or ON operating positions.

A green light located next to the switches illuminates to indicate the operation of the compressor/condenser fan motor.

A "LT TEST" push-button enables to test the AIR COND green light.

When the "AIR COND" switch is set to ON, the compressor pressurizes the refrigerant and discharges it to the condenser heat exchanger through the binary pressure switch.

The condenser is cooled by ambient air drawn through an air intake by the condenser fan and expelled overboard through an air outlet.

The refrigerant flows through the receiver drier to the thermal expansion valve located at the evaporator inlet.

A temperature control/sensor monitoring the refrigerant temperature at the evaporator heat exchanger outlet, pilots the thermal expansion valve which controls the refrigerant flow through the evaporator.

The expansion of the high pressure liquid refrigerant to a low pressure liquid extracts heat from the cabin air flowing through the evaporator and blown into the cabin overhead duct equipped with air outlets for distribution in the cabin.

The low pressure refrigerant gas flows back to the compressor.

The system operates under two modes :

- engine running with "GENERATOR" selector on MAIN,
- engine off with "SOURCE" selector on GPU.

The system includes an automatic load shedding feature which eliminates the compressor/condenser fan electrical motor load when :

- "AIRFRAME DE-ICE" switch is ON,
- "PROP DE-ICE" switch is ON,
- engine is started with system fed by a GPU,
- "GENERATOR" selector is on ST-BY.

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1) Overhead distribution duct
2) Thermal expansion valve
3) HP service valve
4) Sight glass
5) Binary pressure switch
6) Receiver drier
7) Condenser air outlet
8) Condenser heat exchanger
9) Compressor/condenser fan motor
10) Compressor/condenser assembly
11) Condenser air inlet
12) Compressor
13) LP service valve
14) Temperature control/sensor
15) Evaporator heat exchanger
16) Evaporator fan
17) Control panel PL 23
18) "WEMAC" air outlet

Figure 9.15.1 (1/2) – Schematic diagram

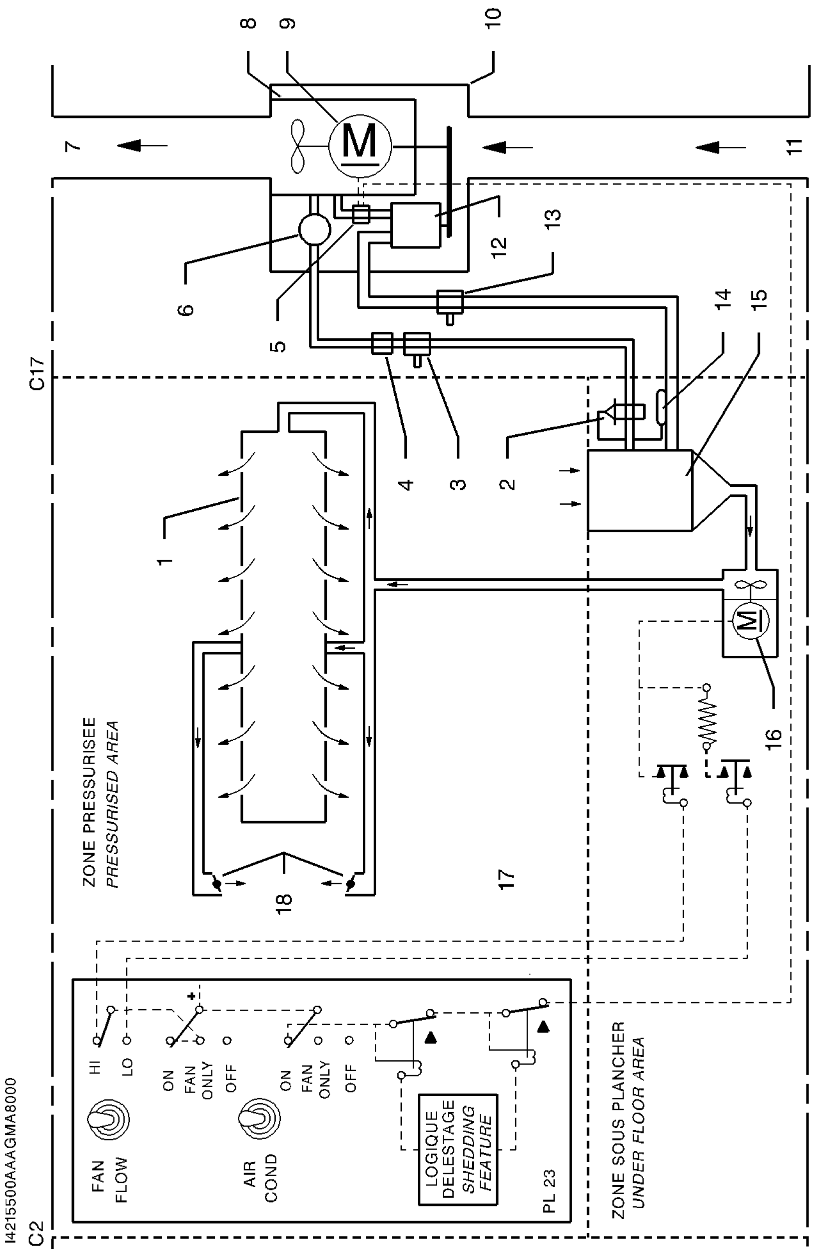

Figure 9.15.1 (2/2) – Schematic diagram

1) Green light
2) Operation switch
3) Light test
4) Fan speed selector

Figure 9.15.2 (1/2) – "ECS" panel

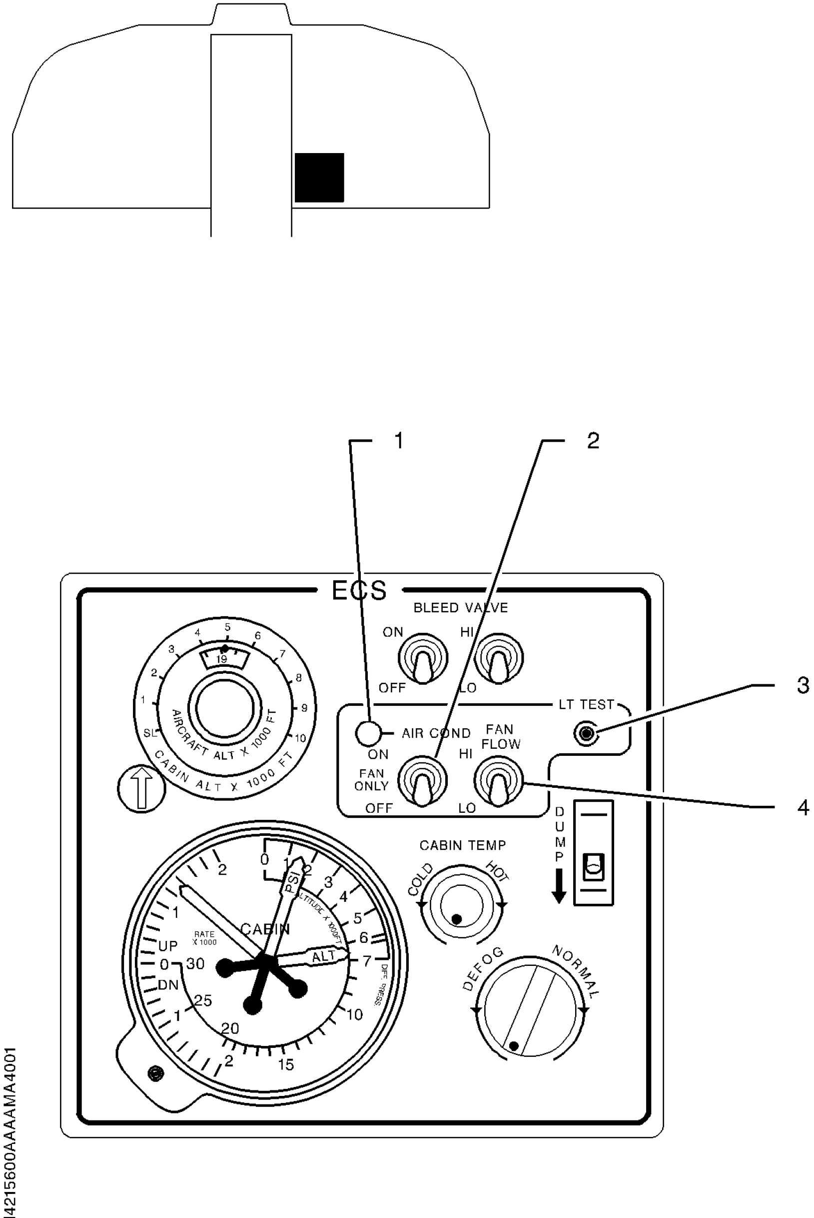

Figure 9.15.2 (2/2) – "ECS" panel

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SUPPLEMENT

”BENDIX / KING” KRA 405
RADAR ALTIMETER

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement provides information necessary for airplane utilization when the "BENDIX / KING" KRA 405 radar altimeter is installed on TBM airplane not equipped with "GARMIN" G1000 system.

The radar altimeter provides the pilot with altitude information within −20 ft and 2500 ft.

SECTION 2

LIMITATIONS

These limitations complete those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

The radio altimeter is not approved as an additional accurate approach aid.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures given hereafter complete those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

- During the test, if the radio altimeter does not indicate 50 ft ± 5 ft, the information provided by the radio altimeter must not be used.
- If the DH annunciator (EFIS) or the DH lamp (KNI 415) does not illuminate when the TEST button is depressed, the approach decision height will not be annunciated.
- If the flag comes into view, the information provided by the radar altimeter must not be used.

SECTION 4

NORMAL PROCEDURES

The normal procedures given hereafter complete those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

After engine starting :

1. Adjust the DH (Decision Height) to 25 ft.
2. Depress the TEST button. The indicated altitude should be 50 ft ± 5 ft. The DH annunciator or the DH lamp should be out.
   When releasing the TEST button, the DH lamp must come on and, if the KNI 415 indicator is installed, the warning tone must sound when the adjusted altitude is reached.
3. With the TEST button depressed, slowly increase the adjusted DH. When the DH annunciator or the DH lamp comes on, the adjusted altitude should be 50 ft ± 5 ft. The DH annunciator or the DH lamp should also be illuminated at all altitudes above 50 feet.
4. Release the TEST button. The indicated altitude should be 0 ft ± 5 ft.

Prior to landing :

1. Select the decision height.
2. Depress the TEST button. The indicated altitude should be 50 ft ± 5 ft and, if the KNI 415 indicator is installed, the warning tone must sound. The DH annunciator or the DH lamp must come on and the warning tone must sound if the adjusted DH is greater than 50 ft.
3. Check that the radar altimeter pointer (KNI 415) or the DH annunciator (EFIS) indicates approximately 2500 ft by using the altimeter as a reference.

SECTION 5

PERFORMANCE

The installation of the "BENDIX / KING" KRA 405 radar altimeter does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Weight and balance corresponding to the "BENDIX / KING" KRA 405 radar altimeter are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

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SECTION 7

DESCRIPTION

STANDARD VERSION : KNI 415 INDICATOR (Figure 9.16.1)

The DH lamp can be disabled by depressing it and rearmed by depressing it once again.

1) DH lamp
2) Flag
3) Indicator pointer
4) Altitude scale
5) DH bug
6) DH knob
7) Self-test button

Figure 9.16.1 (1 / 2) - KNI 415 INDICATOR

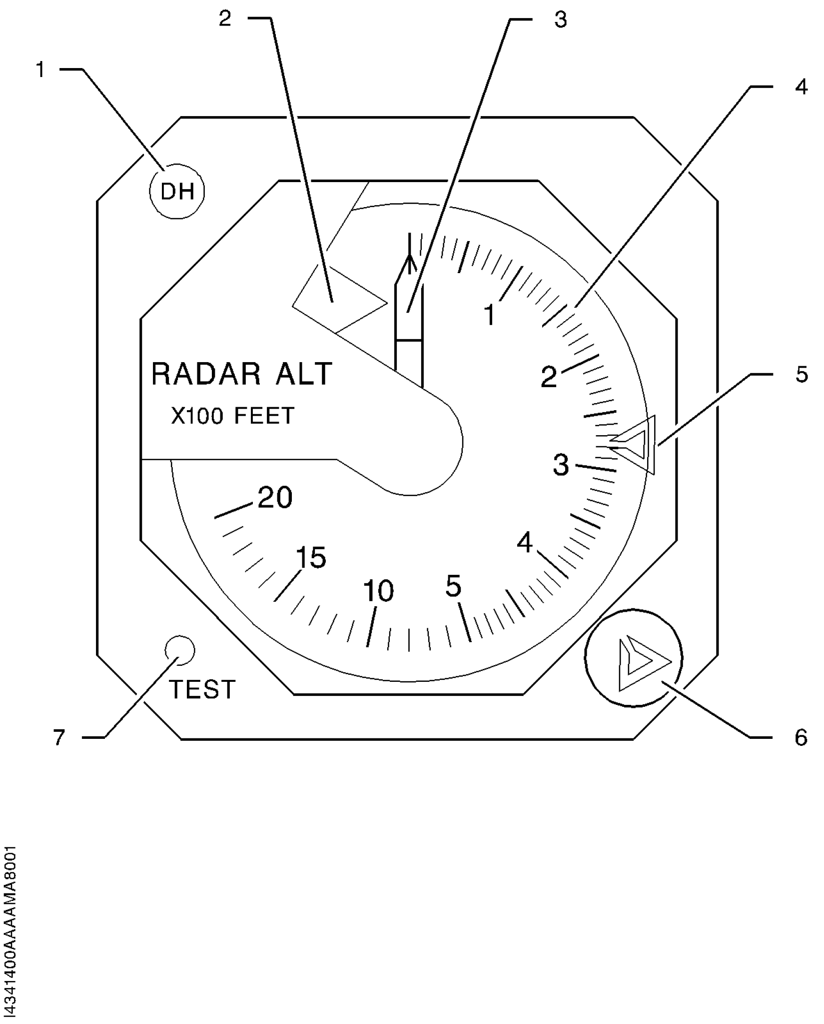


Figure 9.16.1 (2 / 2) – KNI 415 INDICATOR

EFIS VERSION (Figure 9.16.2)

1) Radar altimeter altitude display
2) DH annunciator
3) Selected decision height
4) DH selection pull-knob
5) TEST button

Figure 9.16.2 (1 / 2) - RADAR ALTIMETER : EFIS VERSION
WITHOUT KNI 415 INDICATOR

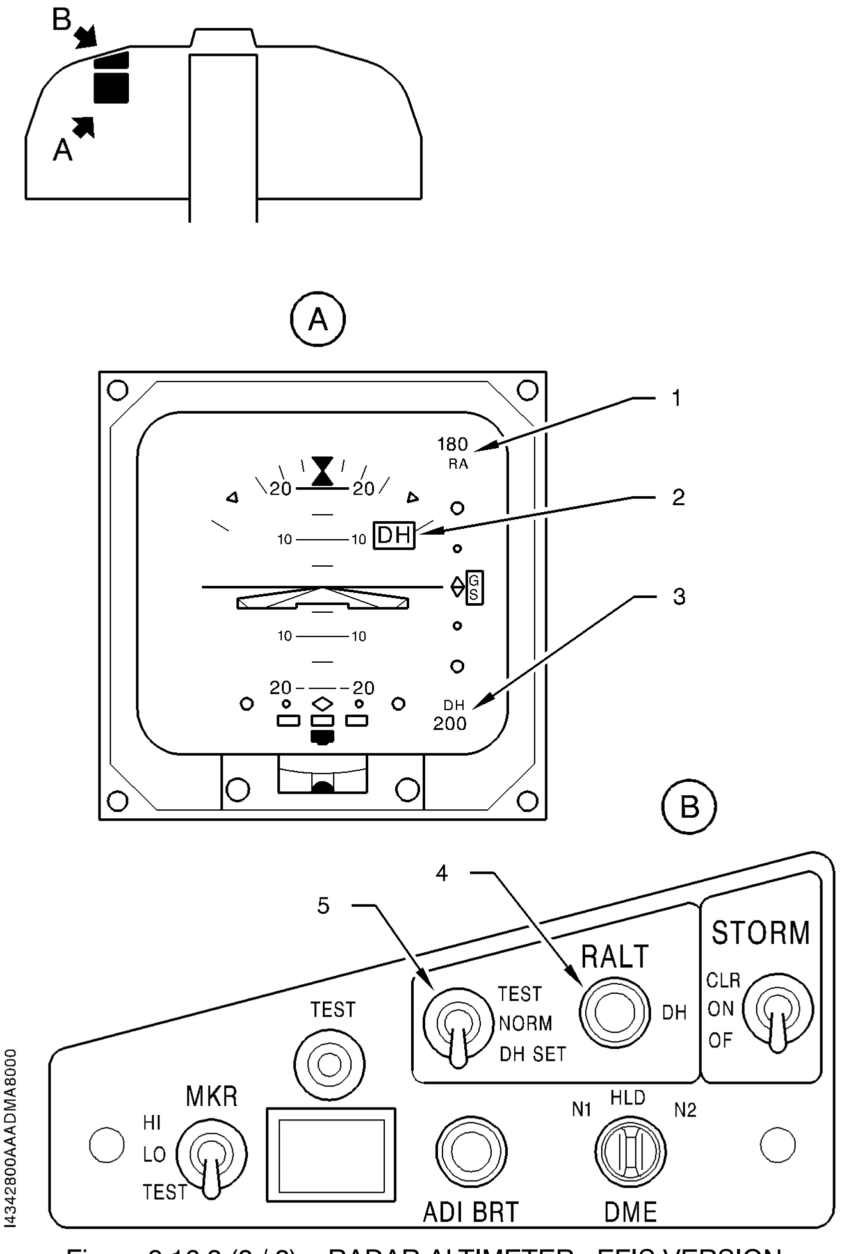


Figure 9.16.2 (2 / 2) – RADAR ALTIMETER : EFIS VERSION WITHOUT KNI 415 INDICATOR

COMBINED VERSION

The radar altimeter information given in the EADI system are a recopy of the indications and selections made on the KNI 415 indicator.

SUPPLEMENT

"BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Using information provided by satellites ("BENDIX / KING" KLN90B is able to track up to 8 satellites at a time), GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means. It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90B and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90B with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 250 user defined waypoints and 26 different flight plans.

CAUTION

IT IS STRONGLY ADVISED NOT TO LOAD USER WAYPOINTS IN DATA BASE IN TERMINAL AREA NAVIGATION DUE TO THE INCREASE OF WORK LOAD FOR THE PILOT

The KLN90B can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Data base updating must be verified before each flight.

NOTE :
The original KLN90B data base is in accordance with the WGS84 geodetic model

If the data base or the cartridge are not in accordance with WGS84 or NAD 83 geodetic model, and as there is no means of operation published, GPS navigation system must be disengaged in terminal area.

GPS "BENDIX / KING" KLN90B is not approved for navigation as a primary source.

GPS NOT APPROVED FOR NAV AS PRIMARY SOURCE

Figure 9.17.1 - GPS limitation placard

Navigation must be conducted with primary sources. In any case, GPS use is limited to the En route or terminal area of the flight.

The KLN90B fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX / KING" KLN90B Pilot's Guide at its latest revision shall be readily available to the pilot.

The use of GPS approach mode is prohibited.

USE OF GPS APPROACH MODE IS PROHIBITED

Figure 9.17.2 - GPS limitation placard

IFR navigation is restricted as follows :

- The system must utilize ORS level 20 or later.
- IFR en route and terminal area navigation is prohibited unless the pilot verifies the currency of the data base and verifies each selected waypoint for accuracy by reference to current approved data.

CAUTION

USE OF GPS APPROACH MODE IS PROHIBITED

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

NAV FLAG

If the NAV flag appears on the EHSI when it is interfaced with GPS KLN90B, this means that the GPS signal integrity has been lost.

1 - "NAV" push-knob of EHSI .... **PRESS ONCE or TWICE**

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

"MSG" ANNUNCIATOR ILLUMINATION

1 - "MSG" push-knob of KLN90B .... **PRESS**

Check the message.

If the message mentions the loss of GPS system integrity (RAIM NOT AVAILABLE) or detects a too important position error (RAIM POSITION ERROR) :

2 - "NAV" push-knob of EHSI .... **PRESS ONCE or TWICE**

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Normal operating procedures of the KLN90B GPS recommended by "BENDIX / KING" manufacturer are outlined in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision and KLN90B Memory Jogger at the latest revision.

However, it is important to precise the following points for the use of KLN90B on TBM700 :

SET UP CONDITIONS

- The system must utilize ORS level 20 or later in compliance with the Pilot's Guide.
- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid to the KLN90B prior to flight.
- Set turn anticipation mode (SET / 6) to :
  - . ENABLE (turn anticipation ENABLED) : recommended mode,
  - . DISABLE (turn anticipation DISABLED) : not recommended mode.
- Check that the proper criteria are used for nearest airport selection (SET / 3).

The course deviation indicator sensitivity is adjustable with a maximum value which is the default value selected by the KLN90B. It is recommended not to change the default value which is ± 5 NM full scale.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

EHSI presentation "NAV" push-knob

It may be used to select data for presentation on the pilot's EHSI ; either NAV data from NAV 1 or NAV 2 navigation receiver or GPS data from the KLN90B GPS or ADF data
"NAV" symbol is green, **"GPS"** symbol is blue, **"ADF"** symbol is yellow.

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR ONLY FLASHES. IN THIS CASE, RETURN TO NAVIGATION PRIMARY MEANS BY PRESSING ON "NAV" PUSH-KNOB

It will flash to alert the pilot of a situation that requires his attention. Press the "MSG" button on the KLN 90B GPS to view the message. (Appendix B of the KLN90B Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings).
"MSG" annunciator is amber, **"MSG"** symbol is also displayed white on L.H. side of the EHSI.

"WPT" Waypoint annunciator

WARNING

TURN ANTICIPATION IS AUTOMATICALLY DISABLED FOR WAYPOINTS USED IN "SID / STARS" WHERE OVERFLIGHT IS MANDATORY. FOR WAYPOINTS SHARED BETWEEN "SID / STARS" AND PUBLISHED ENROUTE SEGMENTS (REQUIRING OVERFLIGHT IN THE "SID / STARS"), PROPER SELECTION ON THE PRESENTED "WAYPOINT" PAGE IS NECESSARY TO PROVIDE ADEQUATE ROUTE PROTECTION ON THE "SID / STARS".

Prior to reaching a waypoint in the active flight plan, the KLN90B GPS will provide navigation along a curved path segment to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of the turn anticipation, the "WPT" annunciator will flash, going solid upon initiation of the turn, and extinguishing upon turn completion.
"WPT" annunciator is amber. **"WPT"** symbol is also displayed white on L.H. side of the EHSI.

GPS approach "GPS APR, ARM, ACTV" switch / annunciator

CAUTION
THE USE OF GPS KLN90B APPROACH MODE IS PROHIBITED

This switch / annunciator is used to select or deselect approach mode of the KLN90B. This operation mode is not certified.

GPS course "GPS CRS, OBS, LEG" switch / annunciator

This switch / annunciator is used to select the basic operation modes of the KLN90B, either a single waypoint with omnibearing course (OBS) selection through the waypoint (like a VOR) or automatic leg sequencing (LEG) between waypoints.
"GPS CRS" annunciator is white. **"OBS"** annunciator is amber. **"LEG"** annunciator is green.

NOTE :
Either LEG or OBS will illuminate during system self-test depending on switch position.

EN ROUTE-LEG mode

When using the en route-leg mode, GPS navigation data are differently presented on the EHSI according to the selected mode :

- display equivalent to an electromechanical HSI (track, deviation course, TO / FROM) in ARC or HSI modes,
- trace of the navigation in "MAP" mode. The active leg is blue, the following legs are white.

When crossing a waypoint, the track resetting on following navigation leg automatically occurs.

When turn anticipation is ENABLED, the "WPT" annunciator will flash, going solid upon initialization of the turn, and extinguishing upon turn completion.

When turn anticipation is DISABLED, the "WPT" annunciator will flash, until waypoint vertical line is crossed, then extinguishes.

The navigation course selecting knob "CRS" is inactive.

With the autopilot engaged on NAV mode, the EHSI automatic resetting, when crossing a waypoint, allows to the aircraft an automatic transition from leg to leg without pilot action.

EN ROUTE-OBS mode

When using the "ENROUTE-OBS" mode, the desired radial selection on the waypoint is made equally from the course selecting knob "CRS" of the EHSI or from the KLN90B control box. The recopy is quasi instantaneous.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

The EHSI may be coupled with KFC 325 autopilot.

Engaging the "NAV" mode on the autopilot mode controller will make the FD appear on the EADI, which uses selected course and left / right steering information presented on the EHSI.

This information is related to the navigation source (VOR, GPS or ADF) selected by the push-button "NAV" on the EHSI.

When AP is engaged on the mode controller, the autopilot is then coupled to the EHSI and uses displayed information (track and deviation course).

NOTE :
When the EHSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

"SID" PROCEDURE

NOTE :
"SID" procedure can only be loaded in the Active Flight Plan (FPL 0).

Prior to take-off - Select an appropriate "SID" from the **ACT 7** page. If necessary, select runway and transition point.

NOTE 1 :
*Using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. Pull right hand inner knob out and scroll to the departure airport then push the inner knob in and select the **ACT 7** page.*
*To delete or replace a "SID", select **FPL 0** page. Place the cursor over the name of the procedure, press **ENT** to change it, or **CLR** then **ENT** to delete it.*

NOTE 2 :
*After "SID" loading in the Active Flight Plan, using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. To check position of the "SID" waypoints, pull this knob and scroll each waypoint of the departure procedure.*

"STAR" PROCEDURE

NOTE :
"STAR" procedure can only be loaded in the Active Flight Plan (FPL 0).

Prior to arrival - Select an appropriate "STAR" from the **ACT 7** page.

NOTE 1 :
*Using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. Pull right hand inner knob out and scroll to the destination airport, then push the inner knob in and select the **ACT 7** page.*
*To delete or replace a STAR, select **FPL 0** page. Place the cursor over the name of the procedure, press **ENT** to change it, or **CLR** then **ENT** to delete it.*

NOTE 2 :
*After "STAR" loading in the Active Flight Plan, using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) page. To check position of the "STAR" waypoints, pull this knob and scroll each waypoint of the arrival procedure.*

SECTION 5
PERFORMANCE

Installation and operation of the "BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40" do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Informations hereafter supplement the ones given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

R S A or O	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION				
	Attitude and direction				
A	GPS, EFIS coupled (OPT70 34033B0MC)	KLN90B	KING	8.774 (3.980)	155.20 (3.942)

SECTION 7

DESCRIPTION

Normal operating procedures of the "BENDIX / KING" KLN90B GPS navigation system interfaced with EHSI of EFS 40 are described in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision.

CONTROLS - see Figure 9.17.3

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90B can present a variety of information in a number of different page formats.

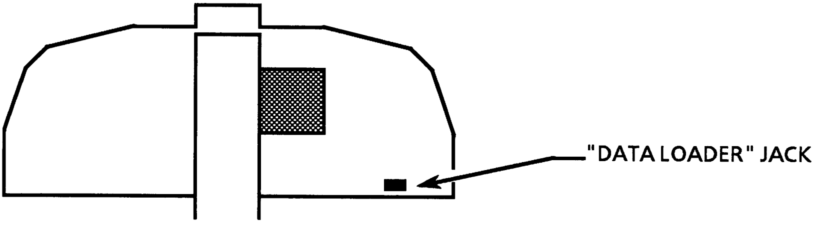
The various display types can be considered as chapters in a book, each chapter having 26 pages. With a few exceptions, each of these pages can be changed independently.

Generally the 2 concentric knobs and the cursor button to the left of the screen are used to select data on L.H. page, the knobs and cursor on the right control the R.H. page.

The large outer knobs control the chapters and the small inner knobs turn the pages.

To change data in a page use the cursor function. This function is an area of inverse video on the screen brought up by depressing the cursor button.

Then rotate the outer knob to position the cursor and the inner knob to select the desired characters. Repeat this operation as many times as necessary and valid (ENT button).



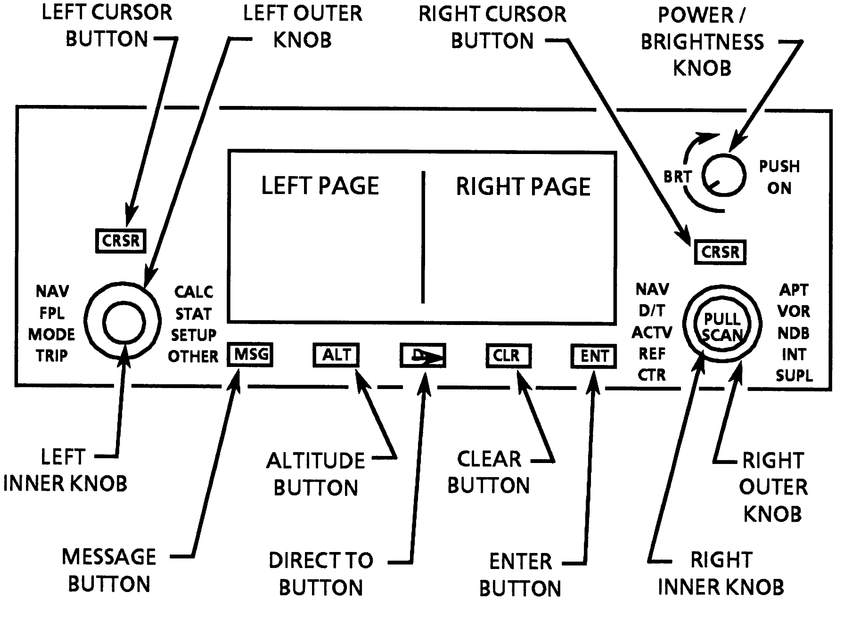
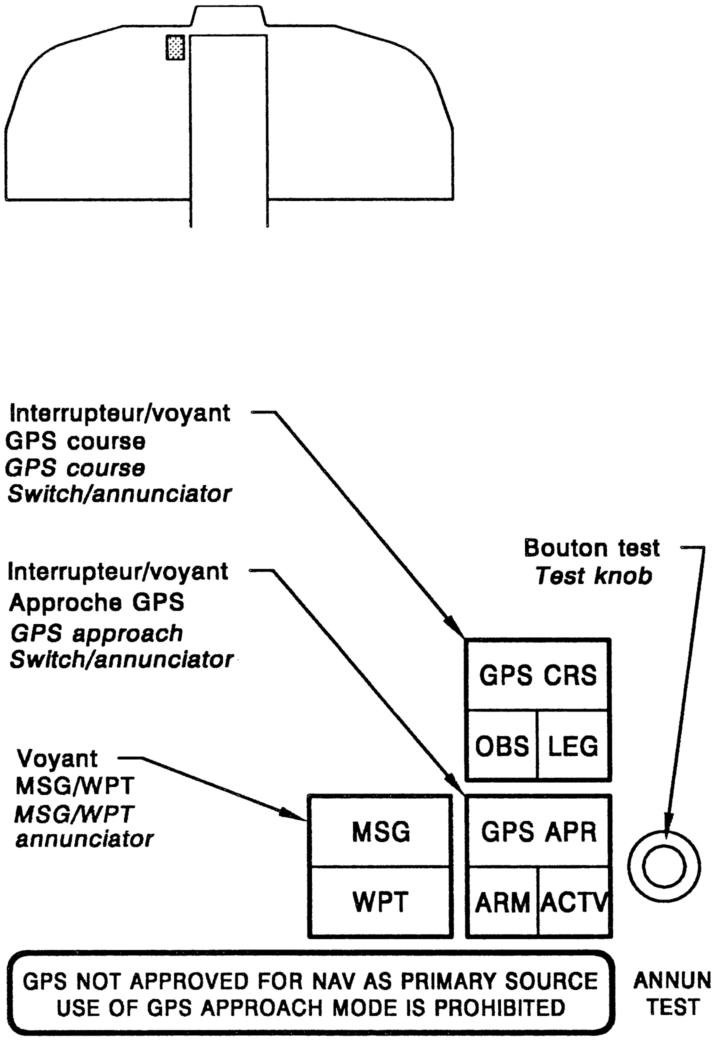


Figure 9.17.3 - Controls



I411300GAAAMMA8000

Figure 9.17.4 - GPS placard and annunciators

SUPPLEMENT

ENGINE FIRE DETECTION SYSTEM

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to operation when the TBM airplane is equipped with the option ”ENGINE FIRE DETECTION SYSTEM”.

The generalities hereafter supplement those of the standard airplane described in Section 1 ”General” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the option ”ENGINE FIRE DETECTION SYSTEM”.

The fire detection system allows engine fire monitoring and indicating.

SECTION 2

LIMITATIONS

The limitations of the TBM airplane equipped with the engine fire detection system are those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the option ”ENGINE FIRE DETECTION SYSTEM”.

ENGINE FIRE ON GROUND

Indications : ITT increasing, red warning **”ITT”** ON or **”ITT”** CAS message, red warning **”FIRE”** ON or **”FIRE”** CAS message, smoke, ...

1 – Power lever . . . . **IDLE**

2 – Condition lever . . . . **CUT OFF**

3 – ”BLEED VALVE” or “BLEED” switch . . . . **OFF**

4 – ”FREON” or “AIR COND” switch (if installed) . . . . **OFF**

5 – Brakes . . . . **AS REQUIRED**

6 – Tank selector . . . . **OFF**

7 – Ask for ground assistance, if necessary

8 – CRASH lever . . . . **PULL DOWN**

9 – EVACUATE as soon as possible

ENGINE FIRE IN FLIGHT

Indications : **"FIRE"** red warning ON or **"FIRE"** CAS message
Try to confirm the fire warning by looking for other indications such as ITT increase, **"ITT"** red warning ON or **"ITT"** CAS message, smoke from engine cowls or air conditioning system.

If the fire alarm is not confirmed :

1 – Monitor the engine parameters, ITT in particular
2 – Look for smoke coming through engine cowls or from air conditioning system
3 – Land as soon as possible.

If the fire alarm is confirmed :

1 – Power lever . . . . **IDLE**
2 – Propeller governer lever . . . . **FEATHER**
3 – Condition lever . . . . **CUT OFF**
4 – "AUX BP" fuel switch . . . . **OFF**
5 – Tank selector . . . . **OFF**
6 – "BLEED VALVE" or "BLEED" switch . . . . **OFF**
7 – "FREON" or "AIR COND" switch (if installed) . . . . **OFF**
8 – At high altitude (above 12000 ft), undertake an EMERGENCY DESCENT (Refer to Chapter 3.6 of basic Pilot's Operating Handbook).
9 – Perform a FORCED LANDING (ENGINE SHUT DOWN) (Refer to Chapter 3.7 of basic Pilot's Operating Handbook).

WARNING

AFTER AN ENGINE FIRE, DO NOT ATTEMPT AN AIR START

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the option ”ENGINE FIRE DETECTION SYSTEM”.

- Before starting the engine

  ”FIRE DETECT TEST” push-button . . . . DEPRESS

  The ”FIRE” red warning goes on or the ”FIRE” CAS message lights on and causes the illumination of the ”MASTER WARNING” light.

SECTION 5
PERFORMANCE

Installation and operation of the engine fire detection system do not modify the performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - FIRE PROTECTION			
A	Engine fire detection system (OPT70 26002A) TBM 700A & TBM 700B (without GARMIN flight deck system)	L’HOTELLIER	1.455 (0.66)	96.06 (2.440)
A	Engine fire detection system (OPT70 26002D) TBM 700A & TBM 700B (with GARMIN flight deck system)	L’HOTELLIER	1.455 (0.66)	96.06 (2.440)
A	Engine fire detection system (OPT70 26002B) TBM 700C & TBM 850 (without GARMIN flight deck system)	L’HOTELLIER	1.455 (0.66)	96.06 (2.440)
A	Engine fire detection system (OPT70 26002C) TBM 850 (with GARMIN flight deck system)	L’HOTELLIER	1.455 (0.66)	96.06 (2.440)

SECTION 7

DESCRIPTION

Airplane without GARMIN flight deck

The engine fire detection system enables the monitoring and indication of a fire in the engine area.

The system includes :

- 7 detectors
- the control relay
- the test push-button

The system also uses the advisory panel. The system is electrically supplied by ”ESS BUS 1” bus bar and is protected by ”ADVISORY2” circuit breaker.

DETECTORS

The 7 detectors are secured on supports positioned in the most sensitive engine areas. They consist of thermal switches detecting a temperature greater than 200°C.

RELAY

The relay controls the illumination of the ”FIRE” warning light located on the advisory panel. It is positioned on a base plate secured under the floorboard.

PUSH-BUTTON

The push-button enables the pilot to test the detection system by opening the grounding circuit supplying the relay. It is connected in series with the 7 detectors. The push-button is located on the instrument panel on the L.H. side of the advisory panel near the ”FIRE DETECT TEST” placard.

DISPLAY

The pilot is informed of the engine fire detection by the illumination of the “FIRE” warning light on the advisory panel, located in the upper central portion of the instrument panel.

Airplane with GARMIN flight deck

The engine fire detection system enables the monitoring and indication of a fire in the engine area.

The system includes :

- 7 detectors
- the test push-button
- the G1000 or G1000 NXi system.

DETECTORS

The 7 detectors are secured on supports positioned in the most sensitive engine areas. They consist of thermal switches detecting a temperature greater than 200°C.

PUSH-BUTTON

The push-button enables the pilot to test the detection system by opening the grounding circuit. It is connected in series with the 7 detectors. The push-button is located on the L.H. side instrument panel the "FIRE DETECT TEST" placard.

DISPLAY

Airplane equipped with GARMIN G1000 flight deck (MOD70-0176-00)

Refer to the "GARMIN G1000 Integrated Flight Deck Cockpit Reference Guide for TBM 850", P/N 190-00708-00, at its latest revision.

Airplane retrofited with GARMIN G1000 flight deck (MOD70-0276-00)

Refer to the "GARMIN G1000 Integrated Flight Deck Cockpit Reference Guide for TBM 700", P/N 190-01247-00, at its latest revision.

Airplane retrofited with GARMIN G1000 NXi flight deck (MOD70-0539-00)

Refer to the "GARMIN G1000 NXi Integrated Flight Deck Cockpit Reference Guide for TBM 850/900", P/N 190-02349-00, at its latest revision.

SUPPLEMENT

SHADIN ENGINE TREND MONITOR

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is provided to acquaint the pilot with the limitations as well as the description and the operations necessary for operating a TBM airplane equipped with the SHADIN ETM Option.

The generals hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook when the TBM airplane is equipped with the SHADIN ETM Option.

The SHADIN Engine Trend Monitor (referred to as ETM) provides the pilot with a complete, accurate and detailed record of the aircraft's operation, pertaining to both the engine and the airframe.

Furthermore, the ETM provides parameters which will assist the pilot in the conduct of the flight.

The most important information can be recorded anytime in the ETM system. Once analyzed, these records make it possible to immediately detect any deviations of the operating parameters and thus schedule appropriate maintenance operations.

Any exceedance in operating parameters is automatically recorded.

The SHADIN ETM can be connected to a navigation system (LORAN, GPS).

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the SHADIN ETM Option.

The information related to navigation and flight parameters are a recopy of the airplane instruments and must not be used as primary means of flight control.

The ETM Operation Manual, at its latest revision, must be easily accessible to the pilot each time the ETM system is used.

SECTION 3

EMERGENCY PROCEDURES

The installation and the operation of the ETM system do not involve any emergency procedure modification described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4

NORMAL PROCEDURES

The procedures hereafter supplement those of standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the SHADIN ETM Option.

The SHADIN ETM operation normal procedures are described in the ”Operation Manual”, at the latest revision.

Nevertheless, it is important to note the following points :

BEFORE STARTING THE ENGINE

17 - SHADIN ETM

Fuel remaining . . . . Check
Added fuel . . . . Insert
Fuel flow page . . . . Select

CRUISE

4 - SHADIN ETM

When the cruise parameters are fully established :

RECORD . . . . Push

SECTION 5
PERFORMANCE

Installation and operation of the SHADIN ETM system do not modify the performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to the SHADIN ETM system are given in the optional equipment list attached to Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

SECTION 7
DESCRIPTION

7.1 - DESCRIPTION

The ETM is designed to monitor, display and record all engine operation parameters as well as aerodynamic airdata. The system provides the pilot with a centralized source of information for engine monitoring, fuel management, navigation and airdata parameters.

The system consists of three major components :

- the panel-mounted indicator / computer
- the various engine and environment transducers
- the external data recorder with the datakey, located under the L.H. back seat

7.2 - CONTROLS

The different controls are described hereafter – see Figure 9.19.1.

1 – DISPLAY
The window display of the ETM. It contains two lines, with 12 characters per line.

2 – RECORD BUTTON
This button is used to manually generate an output report.

3 – STOPWATCH START / STOP SWITCH
When the stopwatch is activated, this switch starts and stops it.

4 – STOPWATCH RESET BUTTON
Press this button to activate the stopwatch. Resets the stopwatch once it has been stopped.

5 – PAGE UP / DOWN SWITCH
Used for scrolling through the pages of each file.

6 – INCREMENT / DECREMENT SWITCH
This switch is used to scroll through subpages and increment or decrement an input value such as gross weight or fuel added.

7 – ROTARY SWITCH
Selects from four files : ETM, NAV, FUEL, AIRDATA.

8 – ENTER / TEST BUTTON
Used to activate the self test.

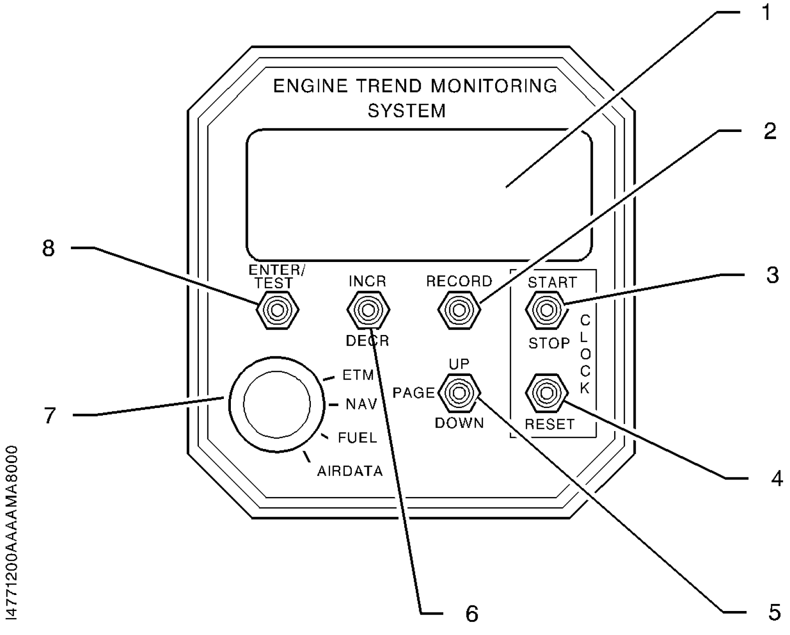


Figure 9.19.1 – ETM SHADIN

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

DATAKEY OPERATION

The key is inserted into its receptacle in the airplane prior to turning power on and removed after power is turned off. While inserted the reports which are recorded during the flight are electronically written to a memory chip in the key. When the key is removed from the airplane it can then be carried to a personal computer with a receptacle attached for the key and downloaded.

Operating using the Datakey

a – Insert initialized key into airplane receptacle prior to power up (turn 90°).

b – Conduct flight.

c – Remove key after power down.

NOTE :
The key will hold several flights of data depending of the number of events per flight. The key should be downloaded as soon as practical after removal. Exposure to electrostatic charges can cause permanent damage.

SUPPLEMENT

"BENDIX / KING" GC 360A RADAR GRAPHICS INTERFACE

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX / KING" GC 360A Radar Graphics Interface in addition to a GPS type KLN 90 and to the weather radar RDS 81 or RDS 82 or RDS 82 VP or RDR 2000 is installed in the TBM 700.

SECTION 2
LIMITATIONS

When the airplane is equipped with the GC 360A, the limitations are those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, plus those of the weather radar RDS 81 or RDS 82 or RDS 82 VP or RDR 2000.

The "BENDIX / KING Pilot's Guide GC 360A" at its latest revision shall be readily available to the pilot whenever the operation of the radar graph interface system is predicted.

The system checklist functions are for reference only.

SECTION 3
EMERGENCY PROCEDURES

Installation and operation of "BENDIX / KING" GC 360A Radar Graphics Interface do not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4
NORMAL PROCEDURES

Normal operating procedures concerning "BENDIX / KING" GC 360A Radar Graphics Interface are outlined in the "BENDIX / KING Pilot's Guide GC 360A" at last revision.

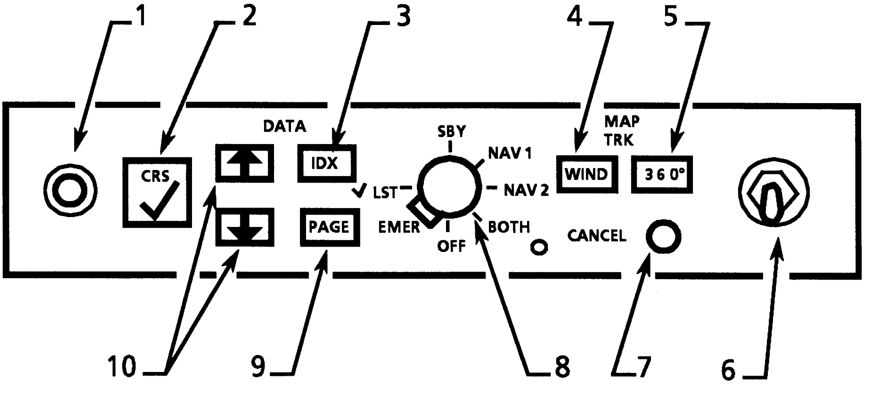
SECTION 5
PERFORMANCE

No change to the performance described in Section 5 "Performance" of the Supplement 3 "BENDIX / KING" RDS 81 weather radar or Supplement 4 "BENDIX / KING" RDS 82 weather radar or Supplement 5 "BENDIX / KING" RDS 82 VP weather radar or Supplement 22 "BENDIX / KING" RDR 2000 weather radar.

SECTION 6
WEIGHT AND BALANCE

Weight and balance corresponding to "BENDIX / KING" GC 360A Radar Graphics Interface are given in the optional equipment list attached to Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7
DESCRIPTION



1 - KA 68 phone plug receptacle
2 - "Check-off" key
3 - "Index" key
4 - "Wind" key
5 - "360°" key
6 - Joystick control
7 - Cancel pushbutton
8 - Mode selector
9 - "Page" key
10 - Cursor position keys

Figure 9.20.1 - GC 360A RADAR GRAPHICS INTERFACE

MODE SELECTOR activates the 6 modes of the GC 360A :

. "EMER" and "√LST" modes run aircraft checklists programmed with the Pocket Terminal

. "SBY" mode removes radar graphics

. "NAV1" generates a moving map display of GPS navigation information on the radar indicator

. "NAV2" is inoperative

. "BOTH" is equivalent to "NAV1".

KA 68 PHONE PLUG used for checklist programming or naming routes.

"CHECK-OFF" KEY

. In "NAV" mode - removes and replaces the course line.

. In "EMER" mode or "√LST" mode
  - with an "Index page" displayed calls the corresponding highlighted checklist or route contents,
  - with a "checklist page" displayed moves the cursor highlight.

CURSOR POSITION KEYS

. In "EMER" and " √LST" modes move the cursor.

. In "NAV1" mode display radio-navigation means close to the route.

"IDX" KEY

. In "EMER" and "√LST" modes displays the appropriate index page on the radar indicator.

. In "NAV1" mode displays / removes the waypoint name on the radar indicator.

"PAGE" KEY

Enables to move rapidly from a page to another to display the cheklist and index pages.

"WIND" KEY

The key is inoperative.

"360°" KEY

Displays navigation on a 360° area. Meteorological information can only be displayed within a ± 45° forward area.

CANCEL PUSHBUTTON

- Removes disclaimer message from the radar indicator.
- Erases graphics related to the waypoint 0.

JOYSTICK CONTROL

Creates a movable waypoint (Waypoint 0) and displays its co-ordinates (LAT/LON).

SUPPLEMENT

"BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A".

Using information provided by satellites ("BENDIX / KING" KLN90B is able to track up to 8 satellites at a time), GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means. It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90B and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90B with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 250 user defined waypoints and 26 different flight plans.

CAUTION

IT IS STRONGLY ADVISED NOT TO LOAD USER WAYPOINTS IN DATA BASE IN TERMINAL AREA NAVIGATION DUE TO THE INCREASE OF WORK LOAD FOR THE PILOT

The KLN90B can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A".

Data base updating must be verified before each flight.

NOTE :
The original KLN90B data base is in accordance with the WGS84 geodetic model

If the data base or the cartridge are not in accordance with WGS84 or NAD 83 geodetic model, and as there is no means of operation published, GPS navigation system must be disengaged in terminal area.

GPS "BENDIX / KING" KLN90B is not approved for navigation as a primary source.

GPS NOT APPROVED FOR NAV AS PRIMARY SOURCE

Figure 9.21.1 - GPS limitation placard

Navigation must be conducted with primary sources. In any case, GPS use is limited to the En route or terminal area of the flight.

The KLN90B fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX / KING" KLN90B Pilot's Guide at its latest revision shall be readily available to the pilot.

The use of GPS approach mode is prohibited.

USE OF GPS APPROACH MODE IS PROHIBITED

Figure 9.21.2 - GPS limitation placard

IFR navigation is restricted as follows :

- The system must utilize ORS level 20 or later.
- IFR en route and terminal area navigation is prohibited unless the pilot verifies the currency of the data base and verifies each selected waypoint for accuracy by reference to current approved data.

CAUTION

USE OF GPS APPROACH MODE IS PROHIBITED

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A".

"NAV GPS" FLAG

If the NAV flag appears on the HSI when it is interfaced with GPS KLN90B, this means that the GPS signal integrity has been lost.

1 - "NAV / GPS" inverter .... **PRESS**

Return to the NAV1 navigation source and to remaining operational navigation equipment.

"MSG" ANNUNCIATOR ILLUMINATION

1 - "MSG" push-knob of KLN90B .... **PRESS**

Check the message.

If the message mentions the loss of GPS system integrity (RAIM NOT AVAILABLE) or detects a too important position error (RAIM POSITION ERROR) :

2 - "NAV / GPS" inverter .... **PRESS**

Return to the NAV1 navigation source and to remaining operational navigation equipment.

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A".

Normal operating procedures of the KLN90B GPS recommended by "BENDIX / KING" manufacturer are outlined in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision and KLN90B Memory Jogger at the latest revision.

However, it is important to precise the following points for the use of KLN90B on TBM700 :

SET UP CONDITIONS

- The system must utilize ORS level 20 or later in compliance with the Pilot's Guide.
- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid to the KLN90B prior to flight.
- Set turn anticipation mode (SET / 6) to :
  - . ENABLE (turn anticipation ENABLED) : recommended mode,
  - . DISABLE (turn anticipation DISABLED) : not recommended mode.
- Check that the proper criteria are used for nearest airport selection (SET / 3).

The course deviation indicator sensitivity is adjustable with a maximum value which is the default value selected by the KLN90B. It is recommended not to change the default value which is ± 5 NM full scale.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

"NAV/GPS" inverter

It may be used to select data for presentation on the pilot's HSI (L.H. instrument panel) ; either NAV data from NAV 1 navigation receiver or GPS data from the KLN90B GPS. The presentation on the HSI is also required for the autopilot connection.

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR ONLY FLASHES. IN THIS CASE, RETURN TO NAVIGATION PRIMARY MEANS BY PRESSING ON "NAV/GPS" INVERTER

It will flash to alert the pilot of a situation that requires his attention. Press the "MSG" button on the KLN 90B GPS to view the message. (Appendix B of the KLN90B Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings). **"MSG"** annunciator is amber.

"WPT" Waypoint annunciator

WARNING

TURN ANTICIPATION IS AUTOMATICALLY DISABLED FOR WAYPOINTS USED IN "SID / STARS" WHERE OVERFLIGHT IS MANDATORY. FOR WAYPOINTS SHARED BETWEEN "SID / STARS" AND PUBLISHED ENROUTE SEGMENTS (REQUIRING OVERFLIGHT IN THE "SID / STARS"), PROPER SELECTION ON THE PRESENTED "WAYPOINT" PAGE IS NECESSARY TO PROVIDE ADEQUATE ROUTE PROTECTION ON THE "SID / STARS".

Prior to reaching a waypoint in the active flight plan, the KLN90B GPS will provide navigation along a curved path segment to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of the turn anticipation, the "WPT" annunciator will flash, going solid upon initiation of the turn, and extinguishing upon turn completion.
"WPT" annunciator is amber.

GPS approach "GPS APR, ARM, ACTV" switch / annunciator

CAUTION
THE USE OF GPS KLN90B APPROACH MODE IS PROHIBITED

This switch / annunciator is used to select or deselect approach mode of the KLN90B. This operation mode is not certified.

GPS course "GPS CRS, OBS, LEG" switch / annunciator

This switch / annunciator is used to select the basic operation modes of the KLN90B, either a single waypoint with omnibearing course (OBS) selection through the waypoint (like a VOR) or automatic leg sequencing (LEG) between waypoints.
"GPS CRS" annunciator is white. **"OBS"** annunciator is amber. **"LEG"** annunciator is green.

NOTE :
Either LEG or OBS will illuminate during system self-test depending on switch position.

EN ROUTE-LEG mode

When using the "EN ROUTE-LEG" mode, it is necessary to adjust manually the course indicator at the value of the desired track between two waypoints.

When the KLN90B is used with the TURN ANTICIPATION ENABLED, at the beginning of turn anticipation, WPT alert annunciator goes on steady, MSG annunciator begins flashing. At this time, the KLN90B will notify the pilot with a message on the Message Page of the new desired track to select on the HSI. This message will not be given if the course change is less than 5°.

CAUTION

IT IS RECOMMENDED TO USE KLN90B WITH TURN ANTICIPATION ENABLED

WHEN TURN ANTICIPATION IS DISABLED, WAYPOINT ALERTING OCCURS APPROXIMATELY 35 SECONDS PRIOR TO ACTUALLY REACHING THE WAYPOINT. MSG ANNUNCIATOR REMAINS OFF. THERE IS NO COURSE CHANGE MESSAGE DISPLAYED BY THE KLN90B.

When the KLN90B is used WITH TURN ANTICIPATION DISABLED, the "Super NAV 5" page allows a rapid visualisation of the airplane position in horizontal navigation with regards to the route and the waypoints. It is strongly recommended to use this page.

EN ROUTE-OBS mode

The "OBS" mode has to be selected as follow :

- press the "OBS / LEG" inverter to select the "OBS" mode,
- adjust the course indicator at the value of the desired track. When selecting the "OBS" mode, the active "WPT" of the "LEG" mode is chosen as reference "WPT" for the "OBS" mode,
- check the desired track from **MOD 2** page of the KLN90B control box.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

The HSI may be coupled with KFC 275 autopilot.

Engaging the "NAV" mode on the autopilot mode controller engages the autopilot in navigation mode using the selected course and left / right steering information presented on the HSI. It makes FD appear.

When AP is engaged on the mode controller, the autopilot is coupled to the HSI.

WARNING

WHEN CROSSING A WAYPOINT, WITH THE AUTOPILOT ENGAGED ON NAV MODE AND USING GPS DATA, IF THE COURSE POINTER IS NOT ADJUSTED AT THE VALUE OF THE NEW DESIRED TRACK AND IF THE COURSE CHANGE IS MORE THAN 5°, THE FLIGHT DIRECTOR AND AUTOPILOT WILL STEER A DIVERGENT ROUTE AFTER THE WAYPOINT (EN ROUTE-LEG MODE SELECTED).

NOTE :
When the HSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

"SID" PROCEDURE

NOTE :
"SID" procedure can only be loaded in the Active Flight Plan (FPL 0).

Prior to take-off - Select an appropriate "SID" from the **ACT 7** page. If necessary, select runway and transition point.

NOTE 1 :
*Using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. Pull right hand inner knob out and scroll to the departure airport then push the inner knob in and select the **ACT 7** page.*
*To delete or replace a "SID", select **FPL 0** page. Place the cursor over the name of the procedure, press **ENT** to change it, or **CLR** then **ENT** to delete it.*

NOTE 2 :
*After "SID" loading in the Active Flight Plan, using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. To check position of the "SID" waypoints, pull this knob and scroll each waypoint of the departure procedure.*

"STAR" PROCEDURE

NOTE :
"STAR" procedure can only be loaded in the Active Flight Plan (FPL 0).

Prior to arrival - Select an appropriate "STAR" from the **ACT 7** page.

NOTE 1 :
*Using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) pages. Pull right hand inner knob out and scroll to the destination airport, then push the inner knob in and select the **ACT 7** page.*
*To delete or replace a STAR, select **FPL 0** page. Place the cursor over the name of the procedure, press **ENT** to change it, or **CLR** then **ENT** to delete it.*

NOTE 2 :
*After "STAR" loading in the Active Flight Plan, using right hand outer knob, select the **ACT** (Active Flight Plan waypoints) page. To check position of the "STAR" waypoints, pull this knob and scroll each waypoint of the arrival procedure.*

SECTION 5

PERFORMANCE

Installation and operation of the "BENDIX / KING" KLN90B GPS NAVIGATION SYSTEM INTERFACED WITH THE HSI KI525A" do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Informations hereafter supplement the ones given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

R S A or O	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION			
	Attitude and direction			
A	GPS KLN90B interfaced with the HSI KI525A (OPT70 34033A0MC)	KING	9.921 (4.500)	153.94 (3.910)

SECTION 7
DESCRIPTION

Normal operating procedures of the "BENDIX / KING" KLN90B GPS navigation system interfaced with the HSI KI525A are described in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision.

CONTROLS - see Figure 9.21.3

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90B can present a variety of information in a number of different page formats.

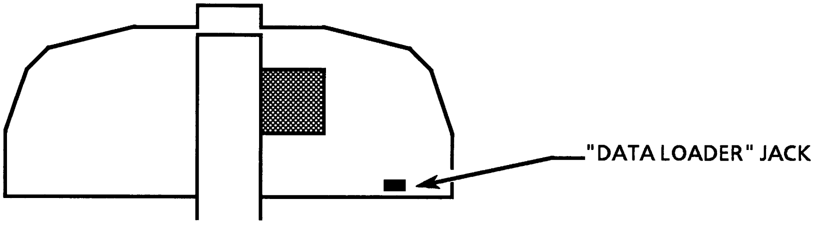
The various display types can be considered as chapters in a book, each chapter having 26 pages. With a few exceptions, each of these pages can be changed independently.

Generally the 2 concentric knobs and the cursor button to the left of the screen are used to select data on L.H. page, the knobs and cursor on the right control the R.H. page.

The large outer knobs control the chapters and the small inner knobs turn the pages.

To change data in a page use the cursor function. This function is an area of inverse video on the screen brought up by depressing the cursor button.

Then rotate the outer knob to position the cursor and the inner knob to select the desired characters. Repeat this operation as many times as necessary and valid (ENT button).



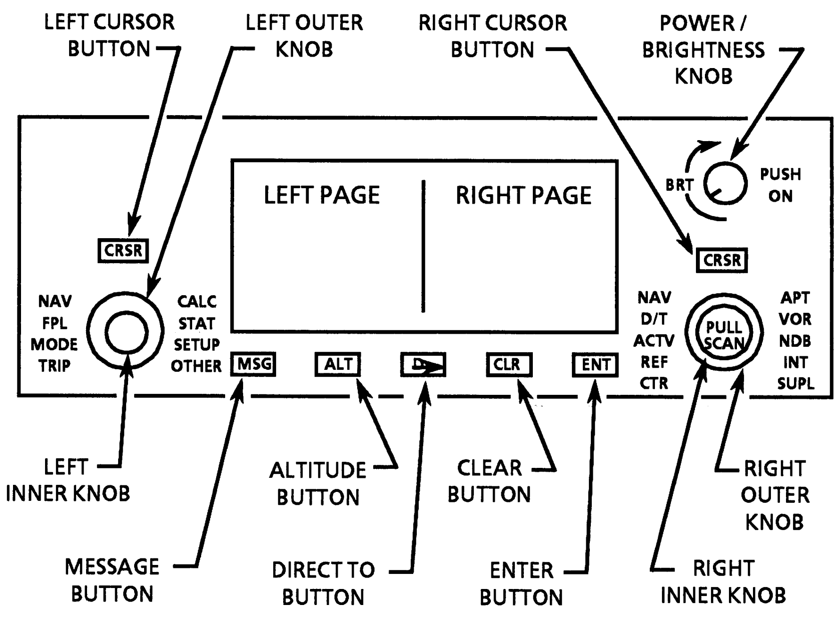


Figure 9.21.3 - Controls

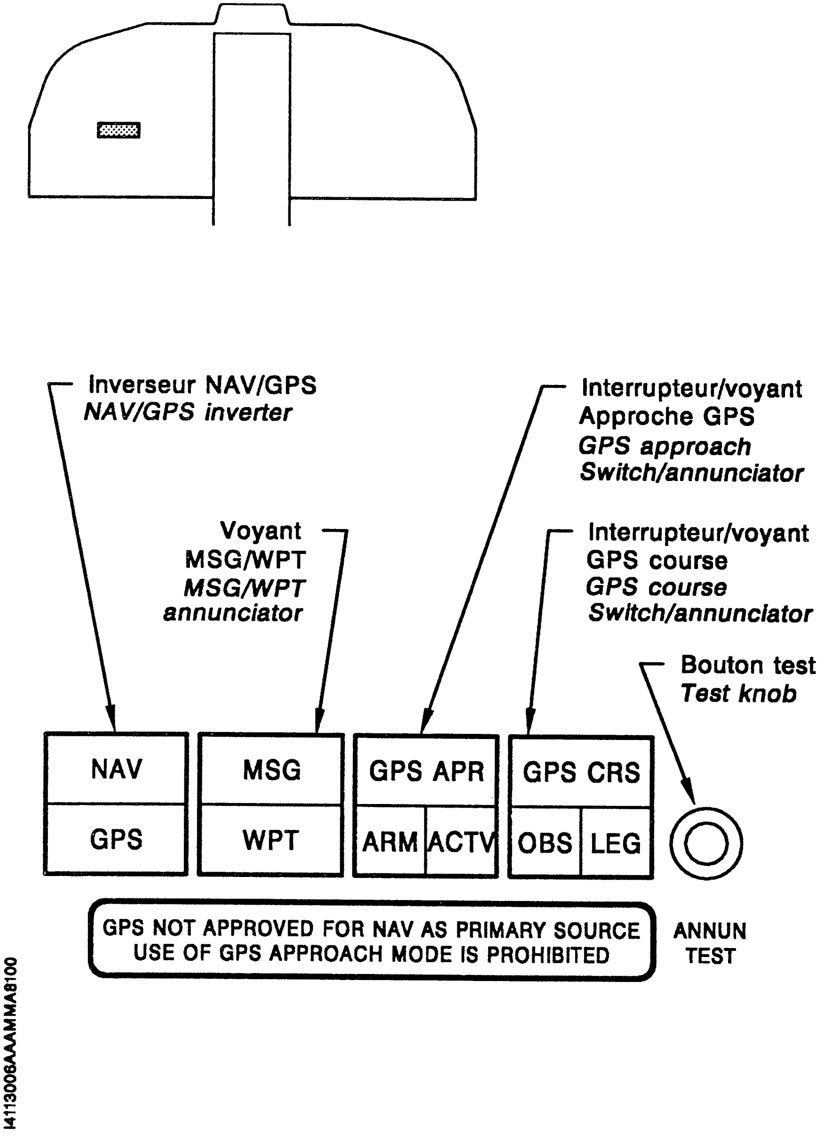


Figure 9.21.4 - GPS placard and annunciators

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SUPPLEMENT

"BENDIX/KING" RDR 2000 VERTICAL PROFILE WEATHER RADAR

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement supplies information necessary for the operation of the airplane when the optional "BENDIX/KING" RDR 2000 vertical profile color weather radar system is installed in the TBM airplane.

SECTION 2

LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

On ground, the radar radiation is inhibited, when the landing gear shock absorbers are compressed. However, it is important to obey the following restrictions :

- Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.
- Do not allow personel within 15 feet of area being scanned by antenna when system is transmitting.

2.1 - RDR 2000 weather radar not interfaced with multi-function display (KMD 850 or GMX 200)

The "BENDIX/KING" RDR 2000 Pilot's Guide P/N 006-08755-0000 at its latest revision shall be readily available to the pilot whenever the operation of the radar system is predicted.

2.2 - RDR 2000 weather radar interfaced with KMD 850 multi-function display

The "BENDIX/KING" RDR 2000 Pilot's Guide P/N 006-08755-0000, the KMD 550/850 Pilot's Guide P/N 006-18222-0000 and the KMD 850 Wx Radar Pilot's Guide Addendum P/N 006-18235-0000 at their latest revision shall be readily available to the pilot whenever the operation of the radar system is predicted.

2.3 - RDR 2000 weather radar interfaced with GMX 200 multi-function display

The ”BENDIX/KING” RDR 2000 Pilot’s Guide P/N 006-08755-0000 and the “GARMIN” GMX 200 Pilot’s Guide P/N 190-00607-02 at their latest revision shall be readily available to the pilot whenever the operation of the radar system is predicted.

SECTION 3

EMERGENCY PROCEDURES

Installation and operation of ”BENDIX/KING” RDR 2000 vertical profile weather radar system do not change the basic emergency procedures of the airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

CAUTION

IN CASE OF AP COMPUTER FAILURE, THE ANTENNA STABILIZATION WILL NOT BE OPERATIVE

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook.

Normal operating procedures for the vertical profile weather radar system are outlined in the Pilot’s Guides, the references of which are given in Section 2 “Limitations” of this Supplement.

AFTER ENGINE STARTING

- Radar function selection switch .... **TST**
  Check the antenna scanningand that there is no failure message.
- Radar function selection switch .... **SBY**

TAKE OFF

- Radar .... **As required**

  If the radar is switched "ON" with the landing gear shock absorbers compressed, the "TX FLT" message appears in the LH. lower corner of the multi-function display (KMD 850 or GMX 200) screen (if installed) or in the RH. lower corner of the radar screen (if multi-function display not installed). The radar radiation is inhibited. The radar automatically radiates, as soon as the aircraft takes off.

BEFORE LANDING

- Radar function selection switch .... **SBY**

ENGINE SHUT-DOWN

RDR 2000 weather radar interfaced with multi-function display (KMD 850 or GMX 200) :

- "RADIO MASTER" switch .... **OFF**

RDR 2000 weather radar not interfaced with multi-function display (KMD 850 or GMX 200) :

- Radar function selection switch .... **OFF**

SECTION 5

PERFORMANCE

Installation of ”BENDIX/KING” RDR 2000 vertical profile weather radar system results in a 5 KIAS decrease in maximum cruise performance and a 3 KIAS decrease in Long Range cruise performance described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION				
A	Weather radar (OPT70 34040A)	RDR 2000	KING	21.054 (9.550)	163.70 (4.158)
A	Weather radar GC 360A coupled (OPT70 34040B)	RDR 2000	KING	25.154 (11.410)	161.22 (4.095)
A	Weather radar EFIS coupled (OPT70 34040E)	RDR 2000	KING	21.054 (9.550)	163.70 (4.158)
A	Weather radar KMD 850 or GMX 200 coupled (OPT70 34040F)	RDR 2000	KING	11.530 (5.230)	173.46 (4.406)
A	Weather radar EFIS and GC 360A coupled (OPT70 34040G)	RDR 2000	KING	25.154 (11.410)	161.22 (4.095)
A	Weather radar EFIS coupled (with CP 466A) (OPT70 34040H)	RDR 2000	KING	17.394 (7.890)	167.20 (4.247)

SECTION 7

DESCRITION

7.1 - RDR 2000 weather radar not interfaced with multi-function display (KMD 850 or GMX 200)

All modes and controls, as well as radar clutter display are arranged on a specific screen.

1 - Manual gain control knob

2 - NAV mode selector button

3 - Ground Mapping mode selector button

4 - Vertical Profile mode selector button

5 - Weather and Weather-Alert toggle selector button

6 - Screen brightness control knob

7 - Left or right Track mode annunciation

8 - Degrees of Track left or right of airplane nose

9 - Vertical Profile mode annunciation

10 - Relative altitude reference line

11 - Plus & minus thousands of feet from relative altitude

12 - Radar function selection switch

13 - Range selector buttons

14 - Left or right Track mode selector buttons

15 - Antenna tilt control

16 - Range rings

17 - Weather or Weather-Alert mode annunciation

18 - VP scan angle

19 - ”TX FLT” annunciation

Figure 9.22.1 (1/2) - Indicator

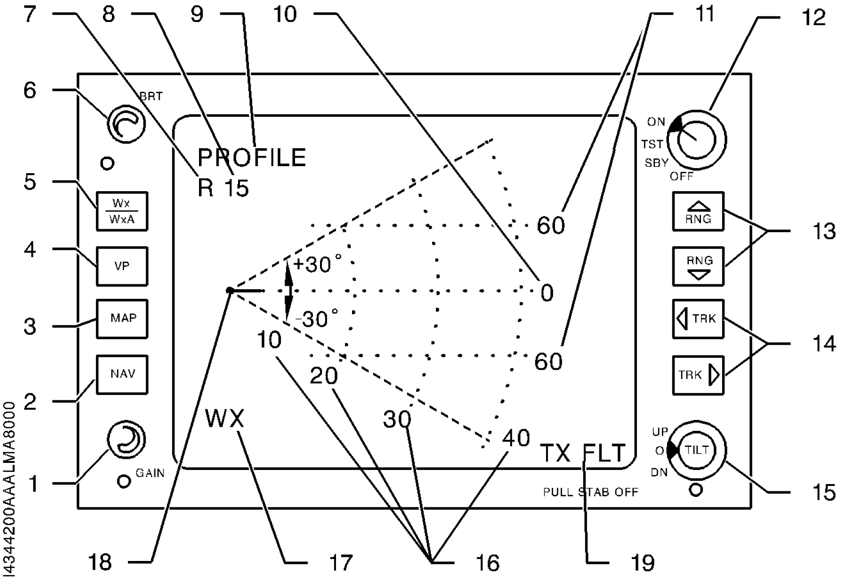
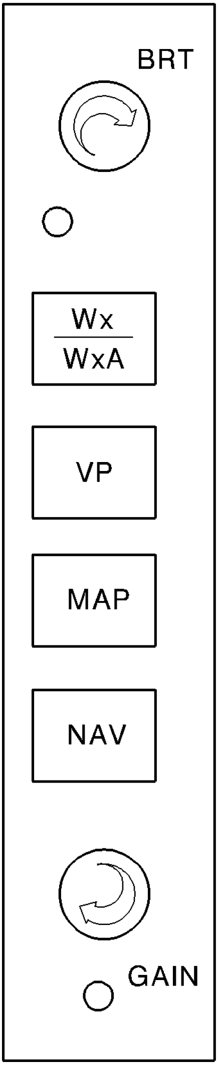


Figure 9.22.1 (2/2) – Indicator

OPERATIONAL CONTROLS



I4344200AAALMA8100

BRT Controls brightness of the indicator display.

Wx / WxA Alternately selects between weather (Wx) and "weather-alert" (WxA) modes of operation. "Wx" or "WxA" will appear on the lower left of the display. Areas of high rainfall appear in magenta color. When the WxA mode is selected, magenta areas of storms flash between magenta and black.

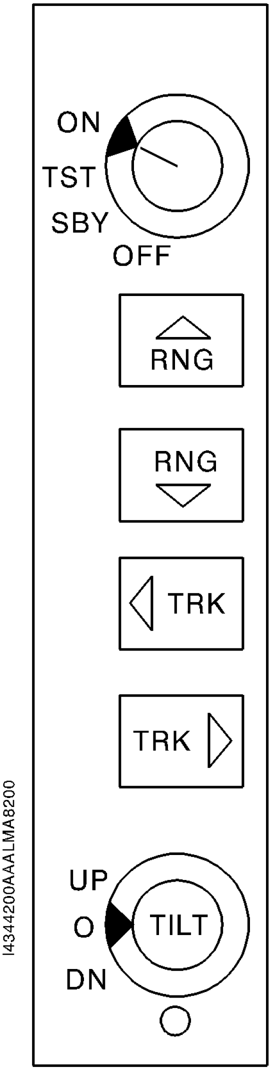
VP Selects and deselects the Vertical Profile mode of operation. Selecting the VP mode of operation will not change the selected mode of operation : TST, Wx, WxA or GND MAP. Once in VP, these modes may be changed as desired. VP will engage from the NAV MAP mode, but NAV will be disabled during VP operation.

GND MAP Places indicator in ground-mapping mode disables weather-alert feature and activates gain control. (The magenta is not activated in the GND MAP mode).

NAV MAP Places indicator in navigation mode so that preprogrammed waypoints may be displayed. If other modes are also selected, the NAV display will be superimposed on them. This button is effective only if an optional radar graphics unit and Flight Management System is installed. If actuated without these units, it will cause NO NAV to appear at lower left of screen. The radar is still capable of displaying weather.

GAIN Manual gain control becomes active when GND MAP is selected. In all other modes, gain is internally set.

LOG Used only when the "BENDIX/KING" IU 2023 series radar graphics unit is installed along with a compatible long range navigation system, a listing of the latitudes and longitudes of selected waypoints will be displayed. If a compatible RNAV is installed, selected VOR frequencies, along with bearings and distances to waypoints, will be presented. No radar transmission occurs in this mode.



ON Radar switch-on/off.

TST The test pattern is displayed on the indicator, no transmission occurs.

SBY After 30 seconds in this mode, the system is in a state of readiness. No radar transmission occurs, and the antenna is parked in the down position. ”STBY” is displayed in the lower left of the display.

OFF Removes primary power from the radar indicator and the sensor. The antenna is parked down.

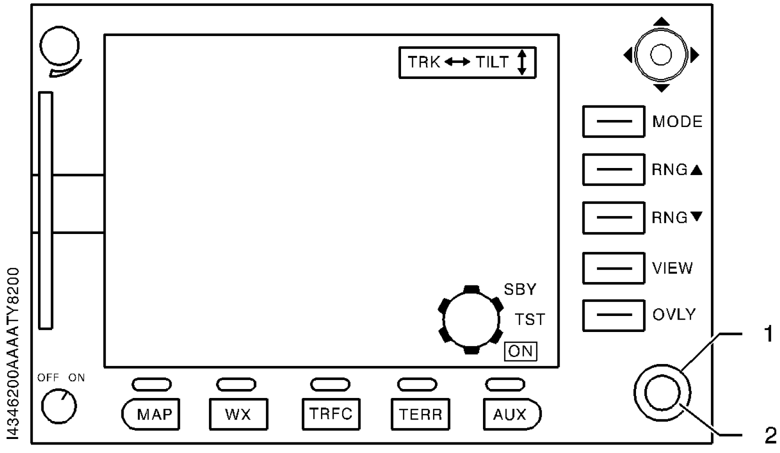
RNG When pressed clears the display and advances the indicator to the next range. Upper button increases range, lower button decreases it. Selected range is displayed in lower right corner on the last range mark and distance to other range rings is displayed along the lower edge.

TRK When pressed provides a yellow azimuth line and a digital display of the azimuth line placement left or right from the nose of the airplane. For VP operations, the TRK button performs two functions.

1) Prior to engaging VP, the appropriate button (left or right) is used to place the track line at the desired azimuth angle to be vertically scanned (sliced). When VP is engaged, the slice will be taken at the last position of the track line, whether it is visible or not. If the track line has not been selected after power has been applied to system and VP is engaged, the slice will be taken at 0° (directly in front of the airplane).
2) Continuously holding the TRK button will result in the system ”slicing” in two-degree increments.

TILT Permits manual adjustment of antenna tilt 15° up or down for best indicator presentation. The tilt angle is displayed in the upper right corner of the display. Depending on mode status of the indicator the readout may be in tenths of degree. Pull the Tilt selector knob out for ”STAB OFF” operations. ”STAB OFF” will appear in the upper left corner of the display. Tilt functions are disabled in VP mode.

7.2 - RDR 2000 weather radar interfaced with KMD 850 multi-function display



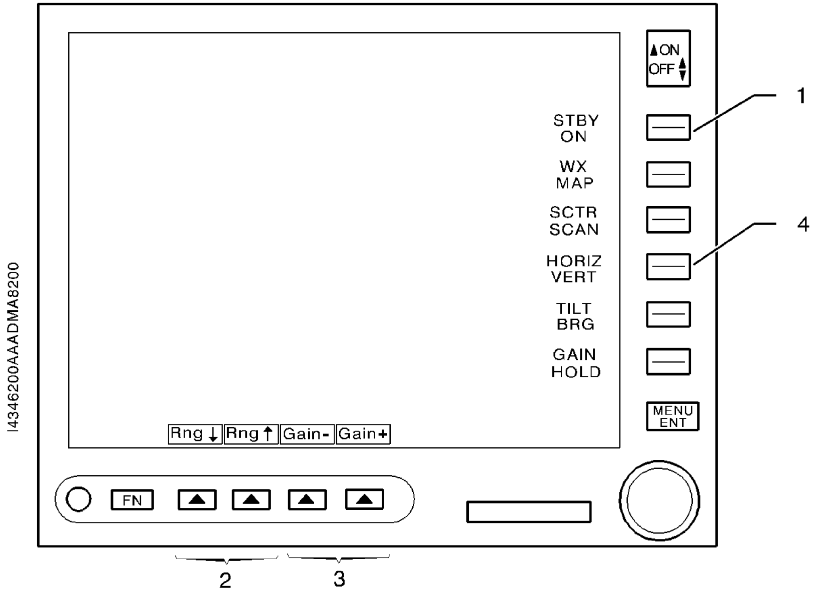
WX : KMD 850 radar function selection

Figure 9.22.2 - KMD 850 Multi-function display

When the KMD 850 is set to radar function, equivalences between KMD 850 and radar standard operational controls described in chapter 7.1 are as follows :

KMD 850 CONTROL	RDR 2000 STANDARD OPERATIONAL CONTROL
MODE	WX/GND MAP
RNG▼ / RNG▲	RNG
VIEW	VP
Joystick horizontal movement	TRK
Joystick vertical movement	TILT
1 - Outer knob	SBY / TST / ON
2 - Inner knob	GAIN

7.3 - RDR 2000 weather radar interfaced with GMX 200 multi-function display



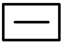
 (1) "WX" : GMX 200 radar function selection

Figure 9.22.3 - GMX 200 Multi-function display

When the GMX 200 is set to radar function, equivalences between GMX 200 and radar standard operational controls described in chapter 7.1 are as follows :

GMX 200 CONTROL	RDR 2000 STANDARD OPERATIONAL CONTROL
1 - (label depends on precedent action)	SBY / ON / OFF
2 - Rng ↑ / Rng ↓	RNG
3 - Tilt ↑ / Tilt ↓	TILT
3 - ← Brg / Brg →	TRK
3 - Gain - / Gain +	GAIN
4 - HORIZ / VERT	VP

Post-MOD70-125-23

Radar setting to ON or OFF is performed by using the "RADIO MASTER" switch.

SUPPLEMENT

AMS 44 DUAL CHANNEL AUDIO CONTROL BOX

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement provides information necessary for airplane utilization when the "AMS 44 DUAL CHANNEL AUDIO CONTROL BOX" is installed on TBM 700 airplane.

The AMS 44 provides the pilot with following features : a dual channel audio control with intercom operations and NAVAID selection. This control box works in both pilot and R.H. station configurations.

SECTION 2
LIMITATIONS

When the airplane is equipped with "AMS 44 DUAL CHANNEL AUDIO CONTROL BOX", limitations are those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook.

SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

AUDIO RECEPTION FAILURE

"OPER" switch .... **Switched to EMER**

NOTE :
A box fault will prevent the audio signal to be received. Switching the "OPER" switch to "EMER" position will allow to recover the audio signal from the radios.

CAUTION

- **WHEN SWITCHED TO "EMER" POSITION, ALL FUNCTIONS ARE VALID, EXCEPT ICS.**
- **RX VOLUME CONTROL ON THE AUDIO CONTROL BOX HAS NO EFFECT ON THE PILOT'S AUDIO SYSTEM.**
- **VOLUME CONTROL ON THE VHF EQUIPMENT MUST BE USED.**
- **IN EMER OPERATION, ANY R.H. OR L.H. SIDE RECEIVER SELECTION IS ACTIVE AT BOTH PILOT AND R.H. STATIONS.**

TRANSMISSION FAILURE

"MICRO NORM / EMER" switch .... **SWITCH to EMER**
(located on the L.H. side of the L.H. control wheel bearing assy)

NOTE :
A box fault or a power failure will prevent TX annunciator coming on.
Switching the selector to "EMER" position will allow the pilot only to recover the transmission directly through the radios.

CAUTION

- **TX ANNUNCIATOR ON THE AUDIO CONTROL BOX WILL NOT COME ON. ONLY THE ANNUNCIATOR ON THE VHF TRANSCEIVER IS ACTIVE.**
- **TRANSMISSION IS RECOVERED ONLY FROM THE PILOT STATION.**

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook.

"OPER" switch .... NORM or ISO as necessary

"MICRO" switch .... NORM
(located on the L.H. side of the L.H. control wheel bearing assy)

CAUTION

SIMULTANEOUS TRANSMISSION ON VHF COM 1 AND COM 2 IS POSSIBLE FROM PILOT AND R.H. STATION WITH A MINIMUM FREQUENCY SEPARATION OF AT LEAST 1 MHz. TWO HEADSETS HAVE TO BE ONBOARD. NO AUDIO OUTPUT IS AVAILABLE THROUGH THE LOUDSPEAKER.

SECTION 5
PERFORMANCE

Installation and use of the "AMS 44 DUAL CHANNEL AUDIO CONTROL BOX" do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

Information hereafter supplement the ones given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM LEVER in. (m)
AMS 44 audio control box	NAT	2.204 (1,000)	153.937 (3,910)

SECTION 7
DESCRIPTION

The dual channel audio control system consists of :

- an audio control box NAT AMS 44 located at the top of the radio rack,
- a guarded "MICRO" switch located on the L.H. side of the pilot's control wheel column.

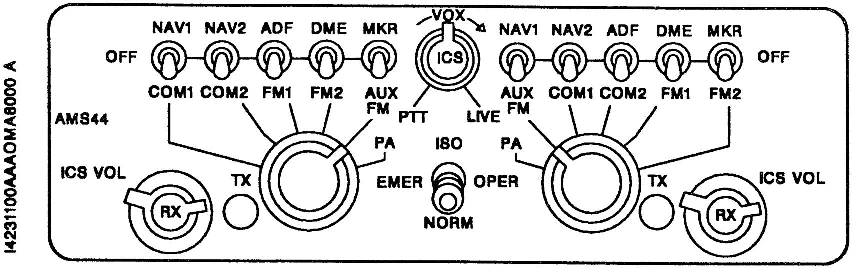


Figure 9.23.1 - AMS 44 overview

The AMS 44 audio control box is a dual channel audio control box with VOX ICS operation and front panel NAVAIDS and radio selection.

This audio control box can be operated from both pilot and R.H. stations.

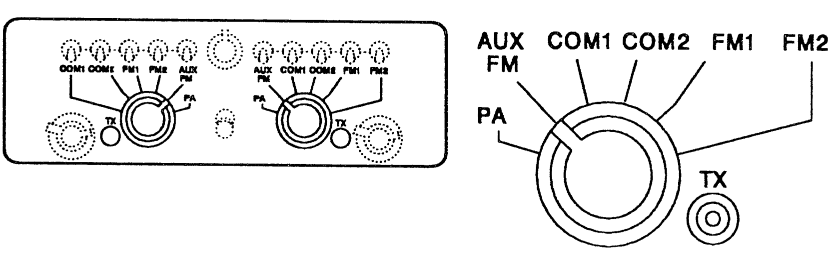
Five transceiver positions, both sides, are provided as well as selections of five additional sources.

ABBREVIATIONS

ICS : Inter Communication System
RX : Receive (from NAVAIDS and COM systems)
TX : Transmit
ISO : Isolated
VOX : Voice

NORMAL OPERATIONS

14231100AAAOMA8000 B

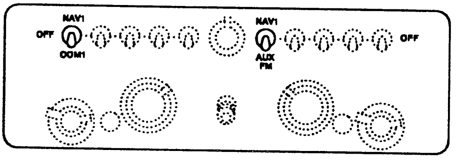


① TRANSMIT SELECTION

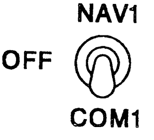
The rotary selector switch, located on L.H. and R.H. panel, selects the transmit function desired when mic transmit switch is activated, the mic involved will be coupled to the radio selected.

Transmit from either the pilot or R.H. station can be simultaneously operated (frequency separation must be at least 1 MHz).

During transmit, the TX annunciator will come on (green) on the front panel and all audios are muted, except the side tone of the transmitter in use.



M231100AAAOMA8000 C



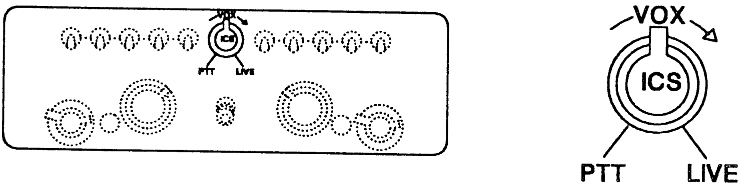
② SELECTION OF RECEIVERS

Receive audio is selected by switching any of the three position switches, top row.

- UP position : to connect NAVAIDS (NAV1 - NAV2 - ADF - DME - MKR)
- DWN position : to connect the indicated radio to headphone bus (COM1 - COM2 - FM1 - FM2 - AUX FM)
- CENTER position / or OFF : to isolate NAVAIDS and radios

Exception : The selected transceiver audio is maintained regardless of the position of the associated audio select switch.

14231100AAAOMA8000 D



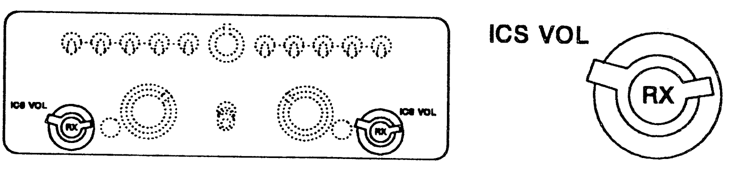
③ ICS FUNCTIONS

Located on the top centre of the box, Intercom mic audio may be controlled under two modes of speech between pilot and R.H. station :

- LIVE position gives direct voice access to ICS,
- VOX range opposes a variable threshold to the voice (and noise) to access ICS.

NOTE :
PTT notched position is not used on TBM 700 airplane. When this position is selected, ICS is muted.

14231100AAAOMA8000 E

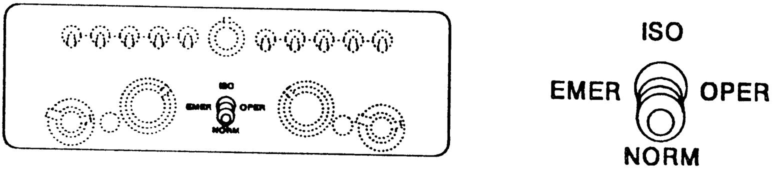


④ RX / ICS LEVEL CONTROL

Located on each bottom side of the box (L.H. and R.H.) :

- outer knob controls the level of ICS audio of the pilot or R.H. station,
- inner knob controls the level of RX audio of the pilot or R.H. station.

EMERGENCY OPERATIONS



14231100AAAOMA8000 F

⑤ The "OPER" switch (red) allows three modes of operations :

NORM - When switched down - to NORM position - the AMS 44 audio control box is on NORMAL OPERATION providing ICS and independent audio control from pilot and R.H. station as described hereabove.

ISO - When switched up - to ISO position - pilot is isolated from the ICS. He keeps control of all radios.

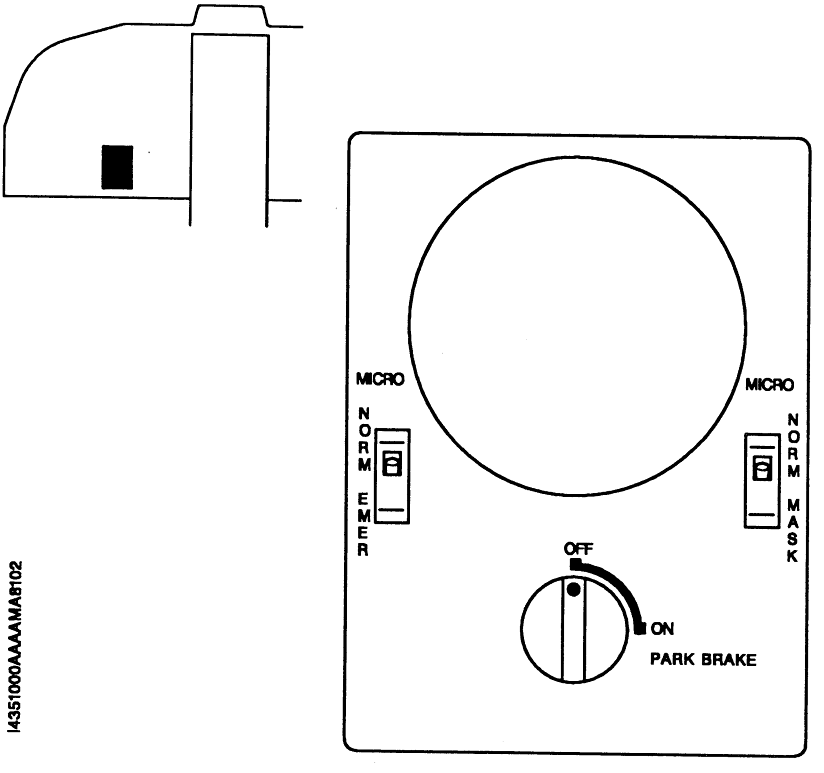
EMER - When switched center - to EMER position - the ICS becomes inoperative. Both pilot and R.H. station keep control of audio receiver selection.

Any RX selection made at either pilot or R.H. station is effective at both sides.

RX volume control of the audio control box is inoperative and volume depends on output level of the selected receiver.

NOTE :
The "OPER" switch selection has no effect on transmission operation.

Should AMS 44 electrical power supply fail, the audio control box will enter automatically into EMER operation regardless of the "OPER" switch selection (ISO / EMER / NORM).



⑥ The guarded switch located on the L.H. side of pilot's control column allows to select two alternate modes of transmission.

NORM - transmission is normally controlled through the AMS 44 audio control box.

EMER - transmission is directly made through the selected COM transceiver in the event of failure of TX function in AMS 44 audio control box.

On the audio control box, the TX annunciator becomes inoperative.

CAUTION

IN EMER MODE, TRANSMISSION IS ONLY POSSIBLE FROM THE PILOT STATION.

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SUPPLEMENT

"NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY

TABLE OF CONTENTS

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SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" (FIS).

The generalities hereafter replace those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY".

This capability provides the ability to use the airplane in two alternate configurations :

- the "6-place" configuration,
- the ""NAVCAL" FIS" configuration.

Each configuration refers to a specific empty weight.

NOTE :
The option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" (FIS) requires the installation of an optional audio panel compatible with the FIS console intercom system.

SECTION 2
LIMITATIONS

The limitations hereafter modify those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY".

SEAT LIMITATIONS

"6-place" configuration :

No change. Refer to the basic Pilot's Operating Handbook.

""NAVCAL" FIS" configuration :

From 1 to 4 seats

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
  (identical to "6-place" configuration)
- L.H. rear operator seat .... at 256.49 in. (6.515 m)
- R.H. rear seat .... at 272.28 in. (6.916 m)
  (identical to "6-place" configuration)

SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter modify those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook when the TBM 700 airplane is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" and if the system is operating.

AMBER WARNING LIGHT MAIN GEN ON

Indicates that "GENERATOR" selector has been positioned to OFF or ST-BY, or main generator is cut off

1 - If necessary .... **CORRECT**

2 - If warning persists ... **"MAIN GEN" switching confirmed**

3 - "MAIN GENERATOR RESET" push-button .... **PUSH**

In case of failure :

4 - Disconnect following ancillary electrical systems :

- AIRTRAK console .... **OFF**
- Tracking light .... **OFF**

NOTE 1 :
The "CALIBRATION 1 AND 2" circuit breakers allow the pilot to cut off the AIRTRAK console supply without the operator intervention.

NOTE 2 :
The AIRTRAK system is supplied through BUS 1 and BUS 2.

- "FREON" switch (if installed) .... **OFF**
- "STROBE" switch .... **OFF**
- "NAV" switch .... **OFF**
- "CABIN" lights switch .... **OFF**
- "CABIN FAN" switch .... **OFF**
- "AP / TRIMS MASTER" switch .... **AP OFF**
- OMEGA or LORAN navigation system (if installed) .... **OFF**
- All equipment not essential .... **OFF**
- "L.WINDSHIELD" switch (above 15 000 ft) .... **OFF**
- "R.WINDSHIELD" switch (if installed) (above 15 000 ft) .... **OFF**
- "BLEED VALVE" switch (before landing and on ground) .... **OFF**
- Only use landing lights briefly and if necessary.

5 - "GENERATOR" selector .... **ST- BY**
(RESET if necessary)

AMBER WARNING LIGHT [LO VOLT] ON normal functioning on "MAIN GEN"

1 - Voltmeter voltage .... **CHECK**

2 - If voltage is < 26 Volts, monitor a possible drop or any indication of battery run-down

In that case :

3 - Disconnect following ancillary electrical systems :

- AIRTRAK console .... **OFF**
- Tracking light .... **OFF**

NOTE 1 :
The "CALIBRATION 1 AND 2" circuit breakers allow the pilot to cut off the AIRTRAK console supply without the operator intervention.

NOTE 2 :
The AIRTRAK system is supplied through BUS 1 and BUS 2.

- "FREON" switch (if installed) .... **OFF**
- "STROBE" switch .... **OFF**
- "NAV" switch .... **OFF**
- "CABIN" lights switch .... **OFF**
- "CABIN FAN" switch .... **OFF**
- "AP / TRIMS MASTER" switch .... **AP OFF**
- OMEGA or LORAN navigation system (if installed) .... **OFF**
- All equipment not essential .... **OFF**
- "L.WINDSHIELD" switch (above 15 000 ft) .... **OFF**
- "R.WINDSHIELD" switch (if installed) (above 15 000 ft) .... **OFF**
- "BLEED VALVE" switch (before landing and on ground) .... **OFF**
- Only use landing lights briefly and if necessary.

4 - "GENERATOR" selector .... **ST-BY** **(RESET if necessary)**

5 - Voltage and battery charge .... **MONITOR**

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter modify those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook when the TBM 700 airplane is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" and if the system is operating.

AFTER STARTING ENGINE

7 - ECS panel

- "BLEED VALVE" switch .... **ON (LO or HI)**

<u>OR</u>

- "AIR COND" switch (if installed) .... **ON**

NOTE :
Due to high electrical consumption of the bleed air system and air conditioning system on ground, it is not possible to have both systems ON on ground. If air conditioning is required, select bleed valve ON at takeoff.

BEFORE TAKEOFF

If air conditioning is used on ground :

7 - Advisory panel .... **CHECK**
All warning lights OFF,

except	**PARK BRAKE**	**ON**
	BLEED OFF	**ON**
and, if used	**INERT SEP**	**ON**

TAKEOFF

If air conditioning is used on ground :

5 - ECS panel

- "BLEED VALVE" switch .... **ON (LO or HI)**
- Cabin altitude selector ...... **Cruise altitude + 1000 ft**

AFTER LANDING

If air conditioning is used on ground :

6 - ECS panel

- "BLEED VALVE" switch .... **OFF**

  Warning light **BLEED OFF** **ON**
- Check for cabin depressurization

SECTION 5
PERFORMANCE

The installation and the use of the ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6
WEIGHT AND BALANCE

The data hereafter replace those of the standard airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY".

WEIGHT AND BALANCE GRAPH

"6-place" configuration

No change. Refer to the basic Pilot's Operating Handbook.

""NAVCAL" FIS" configuration

See Fig. 9.24.1 (Kg and litres) and 9.24.1A (lbs and us gal)

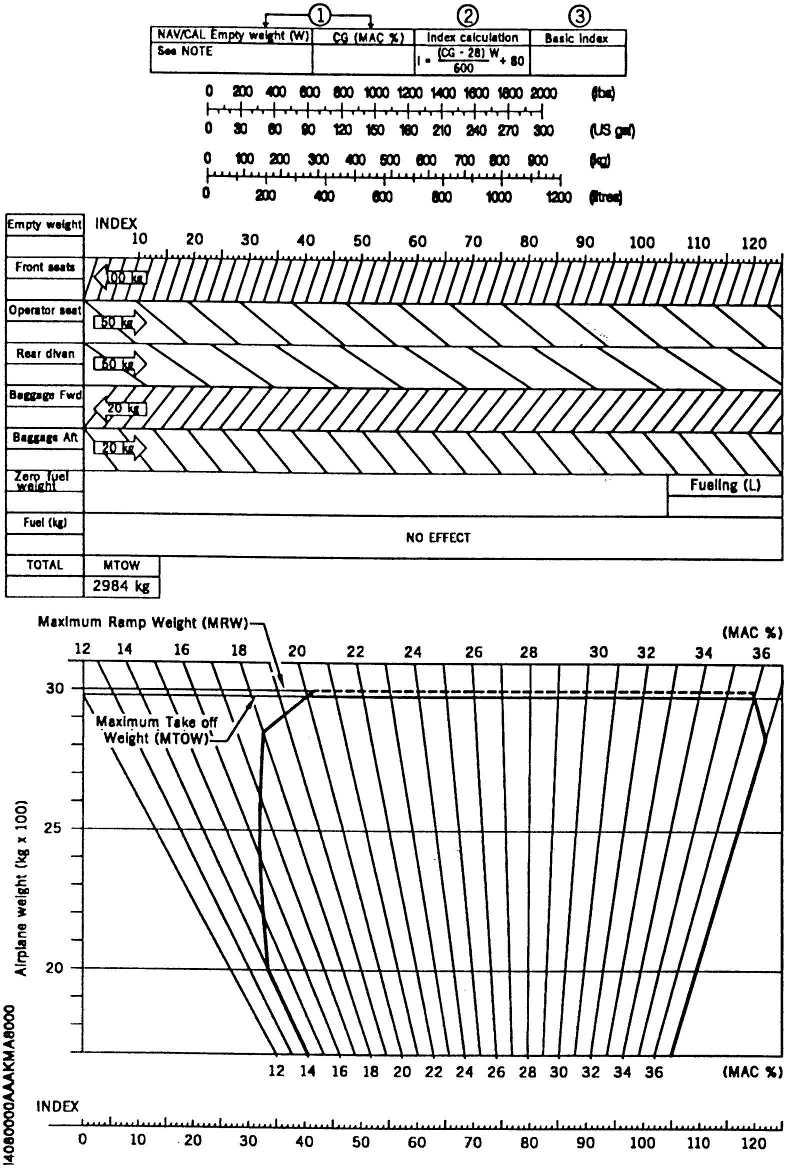

Figure 9.24.1 - LOADING SAMPLE (in Kg and Litres)

NOTE :

The index must be calculated for each configuration using individual airplane data specific to each configuration.

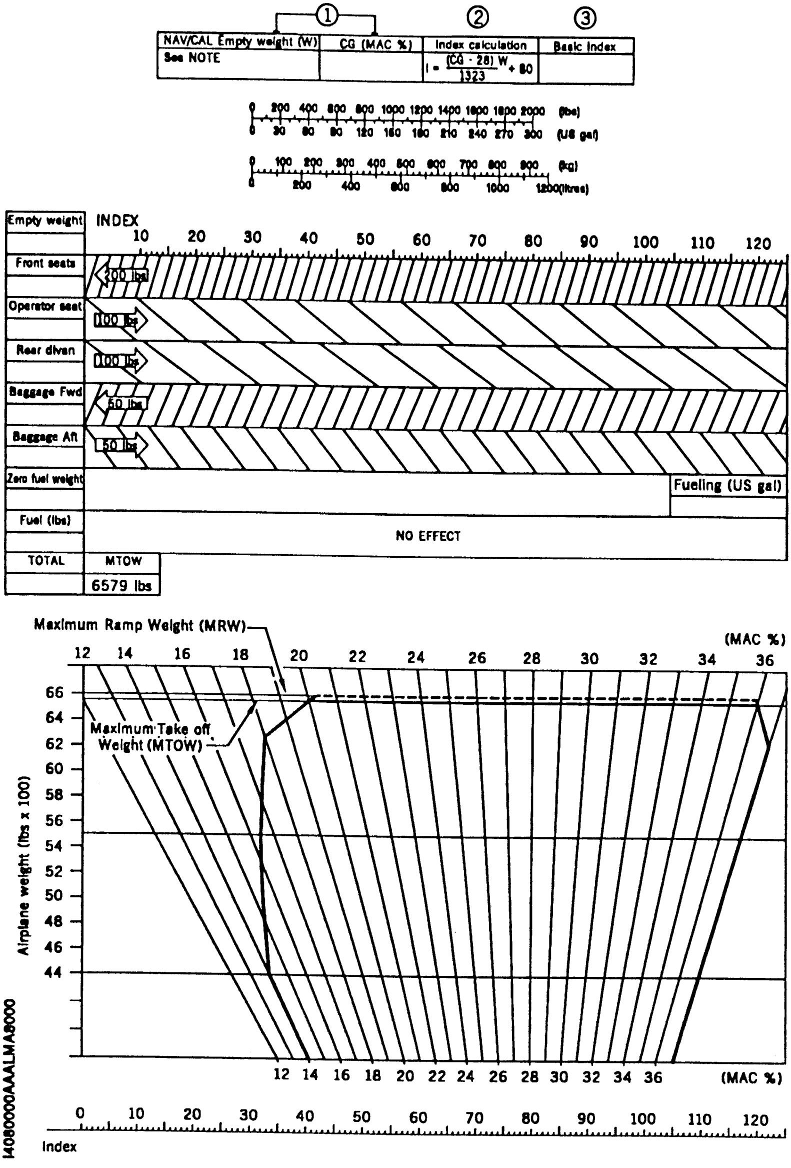

Figure 9.24.1A - LOADING SAMPLE (in lbs and us gal)

NOTE :
The index must be calculated for each configuration using individual airplane data specific to each configuration.

LEVER ARM

"6-place" configuration

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
- L.H. and R.H. intermediate seats .... at 223.07 in. (5.666 m)
- L.H. and R.H. double chairs .... at 272.28 in. (6.916 m)

""NAVCAL" FIS" configuration

- L.H. and R.H. front seats .... at 180.51 in. (4.585 m)
  (identical to "6-place" configuration)
- L.H. rear operator seat .... at 256.49 in. (6.515 m)
- R.H. rear seat .... at 272.28 in. (6.916 m)
  (identical to "6-place" configuration)

EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM LEVER in. (m)
"NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY (OPT 70-01-008 A)			
. "6-place" configuration	SOCATA	19.842 (9,000)	282.28 (7,170)
. ""NAVCAL" FIS" configuration	SOCATA	99.208 (45,000)	229.13 (5,820)

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SECTION 7
DESCRIPTION

The ""NAVCAL" FLIGHT INSPECTION SYSTEM CAPABILITY" consists in :

- permanent installation of a full set of radionavigation antennas dedicated to the FIS (VOR / GLIDE, ADF, DME, MARKER and GPS) located on the vertical fin and on the bottom fuselage,
- permanent installation of an UHF antenna on the bottom of fuselage dedicated to the telemetry for data transmission between the airborne console and the ground station of FIS,
- permanent installation of a VHF COM antenna under the right wing dedicated to the VHF transmitter / receiver included in the console,
- permanent installation of a pilot controlled tracking light located in a fairing at the top of the vertical fin,
- installation of a removable ILS Coaming Mounted Indicator (CMI) located on top of the pilot sun visor,
- fitting out of a junction box for console to A / C connection located on the L.H. side interior panel between pilot and intermediate seats.
- modification of the rear bench to make the L.H. half part quickly removable. It is then replaced when necessary with a specific console operator seat,
- relocation of the emergency locator transmitter on the L.H. sidewall of rear baggage compartment,
- fitting out of customized tie-down device in both front and cabin baggage compartment.

ANTENNAS LOCATION

NOTE : Bold-faced and italic types are specific for "NAVCAL" FIS equipment.

1) VHF 1
2) ADF 1
3) GPS 1
4) VHF 2
5) ELT
6) VOR GLIDE 1
7) ***VOR GLIDE 2***
8) ***Tracking light*** (for reference)
9) ***GPS 2***
10) Stormscope
11) ***UHF***
12) DME 1
13) Radio alti (receiver)
14) ***ADF 2***
15) Radio alti (transceiver)
16) ***DME 2***
17) ***MKR 2***
18) MKR 1
19) Transponder
20) Weather radar
21) ***VHF 3***

Figure 9.24.2 (1/4) - ANTENNAS LOCATION

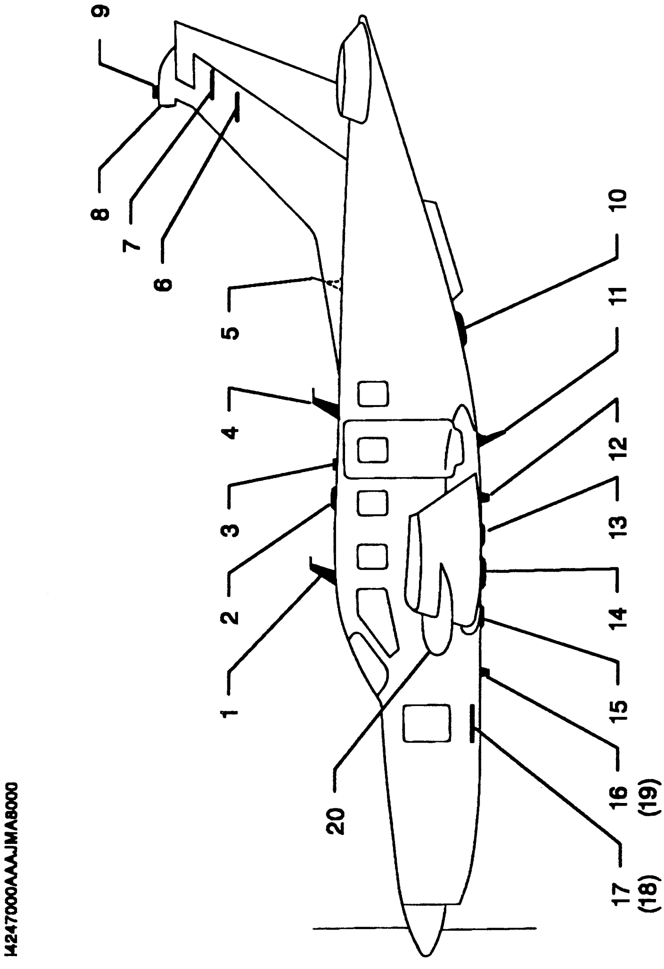

Figure 9.24.2 (2/4) - ANTENNAS LOCATION

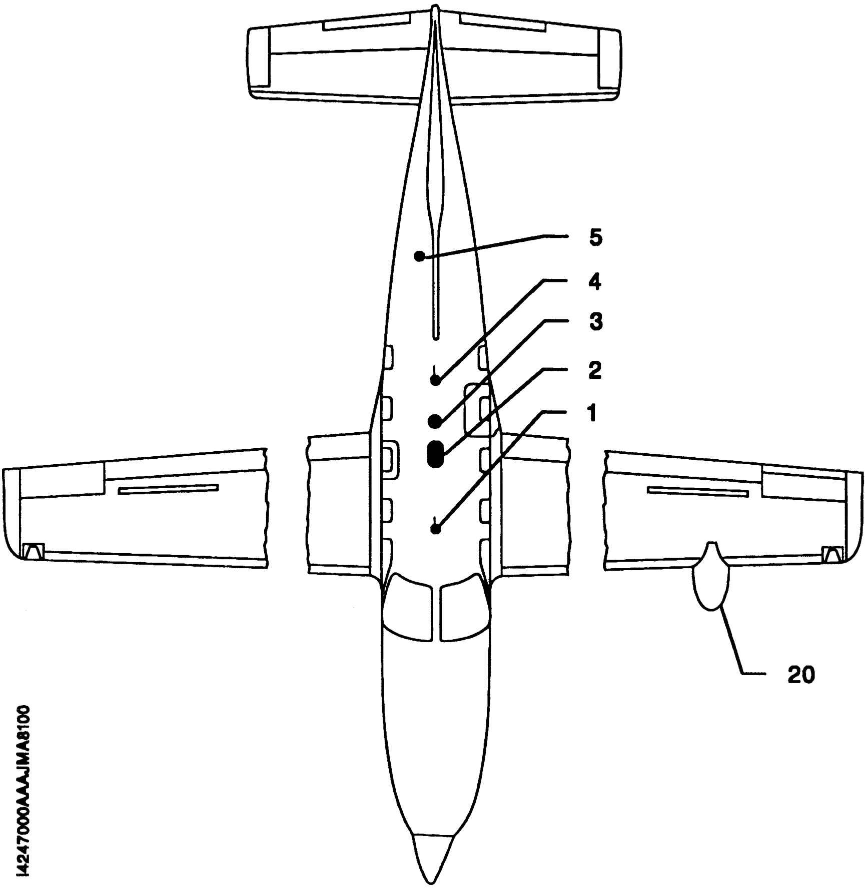

Figure 9.24.2 (3/4) - ANTENNAS LOCATION (top view)

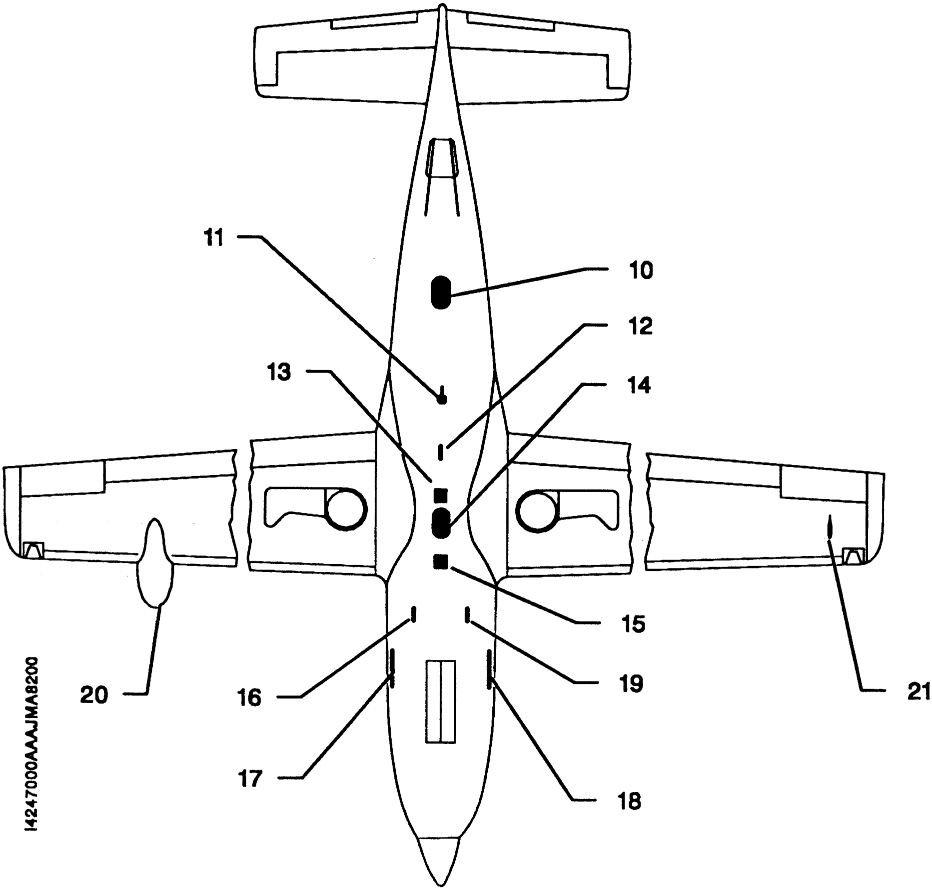

Figure 9.24.2 (4/4) - ANTENNAS LOCATION (bottom view)

EMERGENCY OXYGEN SYSTEM

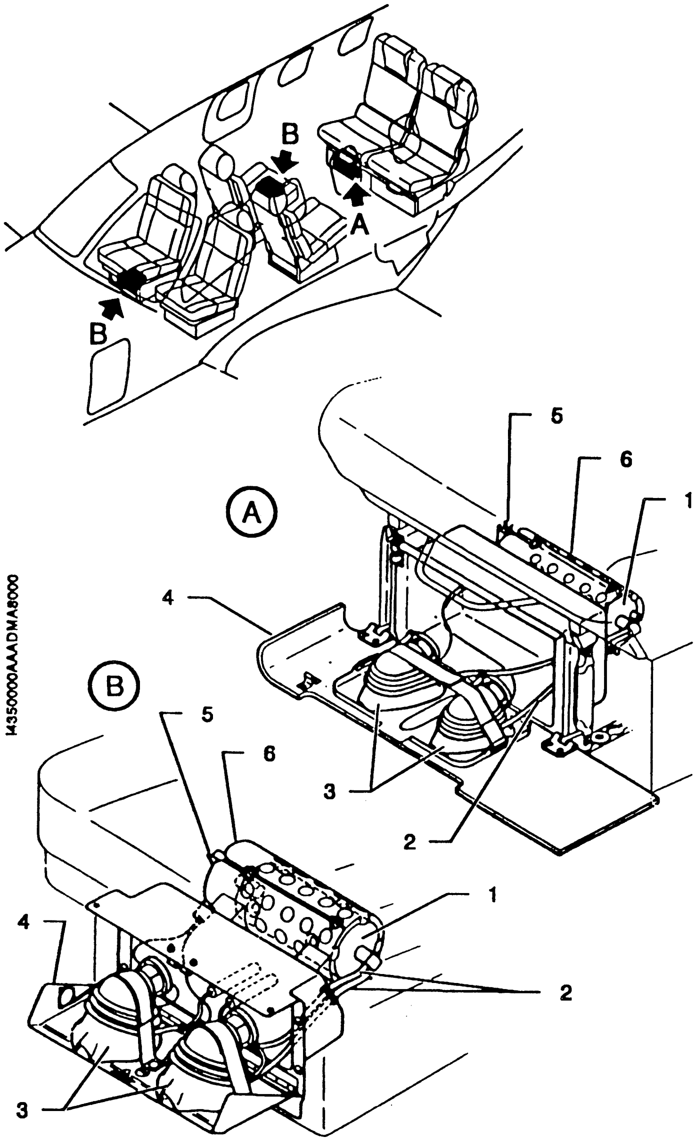

Figure 9.24.3 - EMERGENCY OXYGEN SYSTEM

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

A - CONVERSION OF "6-PLACE" CONFIGURATION INTO ""NAVCAL" FIS" CONFIGURATION (Figures 9.24.4, 9.24.5 and 9.24.6)

1) Remove the R.H. intermediate seat (Item 1) as follows :
   a) Disconnect oxygen warning power supply wire located under the seating.
   b) Pull upward the lock pin strap located under the rear part of the seat on central aisle side and disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails.
   c) Remove the seat from the cabin and store it.
2) Remove the L.H. intermediate seat (Item 4) as follows :
   a) Pull upward the lock pin strap located under the rear part of the seat on central aisle side and disengage the seat, moving it backward by $\frac{1}{2}$ inch (12.7 mm) to release it from the rails.
   b) Remove the seat from the cabin and store it.
3) If installed, remove the L.H. storage cabinet (Item 5) and store it.
4) Remove the 6-place rear carpet (Item 3) secured with "VELCRO" tape and store it.
5) Remove the L.H. rear seat and its support structure (Item 2) as follows :
   a) Remove the seat cushion (Item 10) secured with "VELCRO" tape.
   b) By accessing through the door (Item 15), remove the cotter pin (Item 34), nut (Item 33), washer (Item 32) and attaching bolt (Item 31) of the connecting lever (Item 16).
   c) Actuate the displacement control (Item 13) and position the seat to align the front access holes (Item 12) with the attaching screws (Item 11).
   d) Unscrew the two attaching screws (Item 11).
   e) Fold the seat back.

1) R.H. intermediate seat
2) L.H. rear seat
3) 6-place rear carpet
4) L.H. intermediate seat
5) L.H. storage cabinet

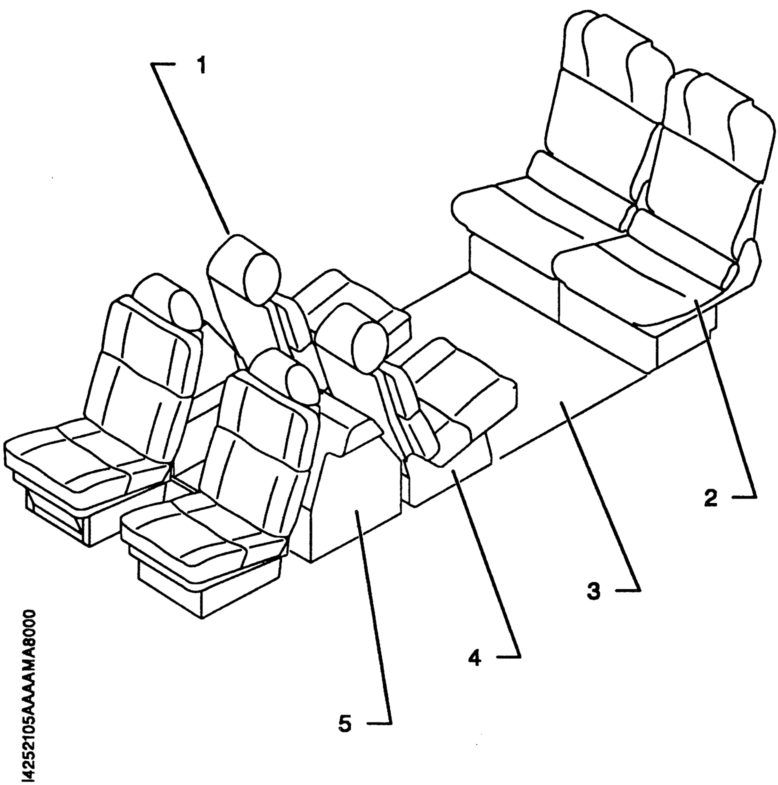

Figure 9.24.4 - 6-PLACE CONFIGURATION

f) Repeat the operation c) in order to unscrew the rear attaching screws.
g) Remove the seat (Item 2).
h) Remove the reinforcement plate (Item 14).
i) Remove the nut (Item 26), the washer (Item 25) and the bolt (Item 21).
j) Remove the four bolts (Item 20) and the washers (Item 19).
k) Remove the web assembly (Item 18).
l) Remove the screws (Item 29) and the door (Item 15).
m) Remove the screw (Item 22), the washer (Item 23) and the pad assembly (Item 24).
n) Remove the screw (Item 28), the washer (Item 27) and the pad / rod assembly (Item 30).
o) Store all components.

6) Install the coaming indicator on the L.H. visor as follows :
   a) Position the indicator into its support.
   b) Secure it with two attaching screws and remove blanking cap from connector.
   c) Unclip the wiring harness, remove blanking plug and connect it to the indicator.
7) Install the "NAVCAL" FIS carpet P / N T700A2521295001 (Item 45).
8) Put the AIRTRAK console (Item 40) into the cabin away from the seat tracks slots in order to provide room to install the operator seat (Item 41).
9) Install the operator seat P / N T700A2522070000 (Item 41) as follows :
   a) Position the seat into the seat tracks slots.
   b) Pull handle (Item 42) and move the seat backward to the rear stop.
   c) Install the front stop P / N T700A2510039001 into the port side seat track (Item 44) (refer to Fig. 9.24.6, Detail A).

10) Install the AIRTRAK console (Item 40) as follows :
   a) Position and secure console on the seat tracks.
   b) Remove blanking caps and plugs from the console and junction box connectors.
   c) Connect the junction wiring harness P / N T700A0187554000 to the "DATA", "POWER", "ADF" and "COMMS" console and junction box connectors.
   d) Connect the console antenna feeders to the "VHF COM", "UHF TELEMETRY", "DME", "MKR", "G / P" and "LOC" junction box connectors.
   e) Connect the airplane "GPS" antenna feeder to the console.

2)	L.H. rear seat	22)	Screw
10)	Seat cushion	23)	Washer
11)	Attaching screw	24)	Pad assembly
12)	Access hole	25)	Washer
13)	Displacement control	26)	Nut
14)	Reinforcement plate	27)	Washer
15)	Door	28)	Screw
16)	Connecting lever	29)	Screw
17)	Fitting	30)	Pad / rod assembly
18)	Web assembly	31)	Attaching bolt
19)	Washer	32)	Washer
20)	Bolt	33)	Nut
21)	Bolt	34)	Cotter pin

Figure 9.24.5 (1 / 3) - CONVERSION

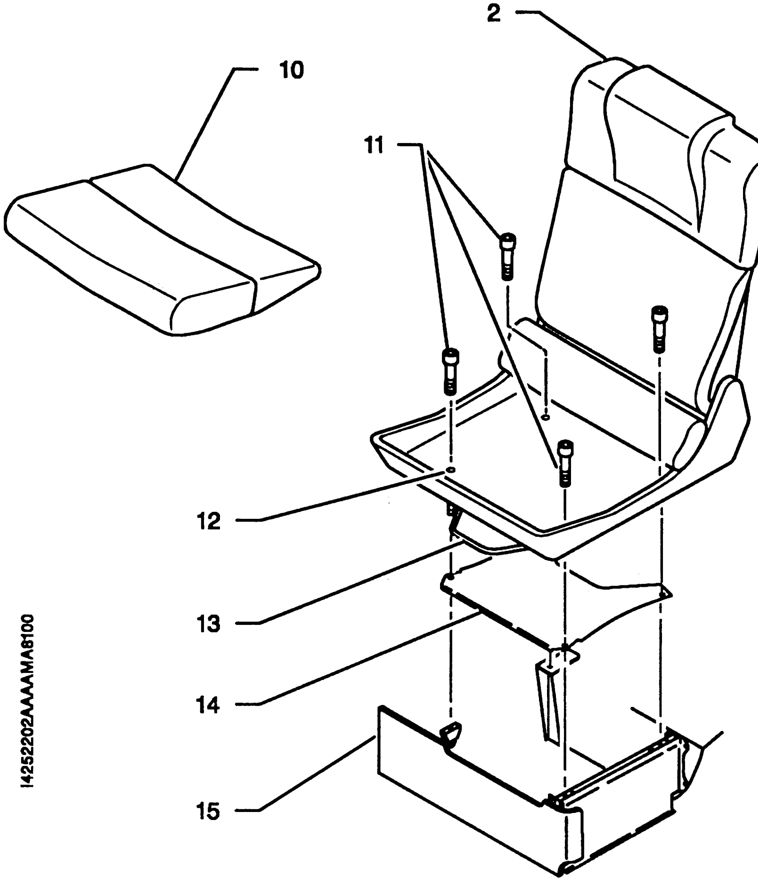

Figure 9.24.5 (2 / 3) - CONVERSION

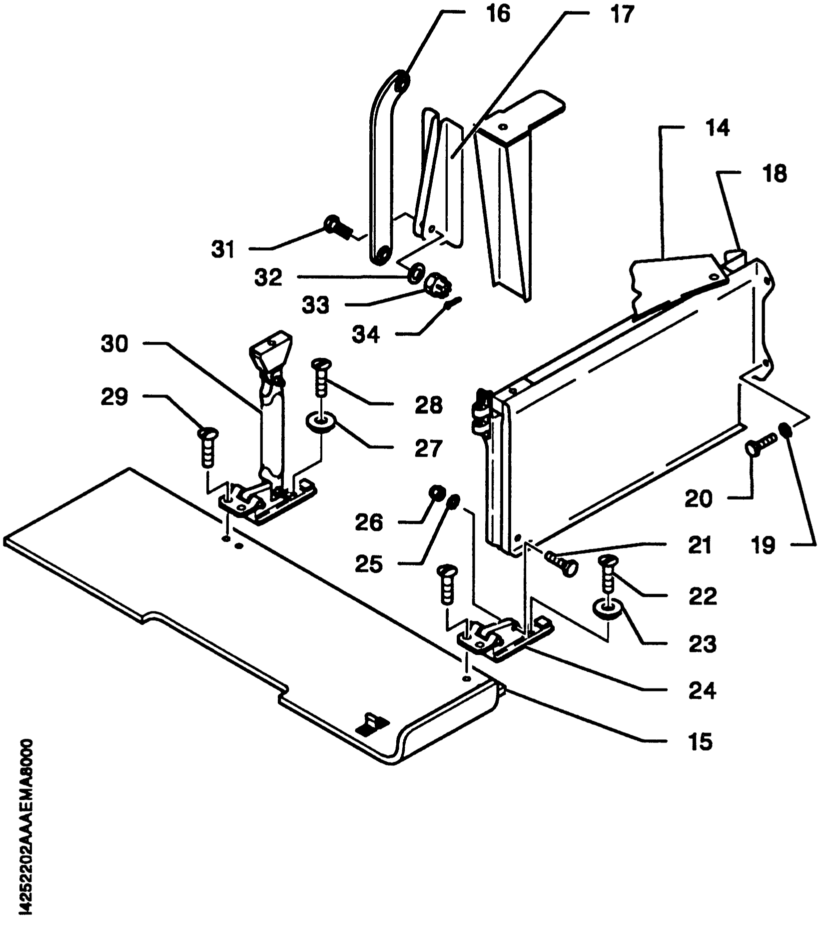

Figure 9.24.5 (3 / 3) - CONVERSION

40) AIRTRAK console
41) Operator seat
42) Handle
43) Starboard seat track
44) Port seat track
45) "NAVCAL" FIS carpet
46) Junction box
47) Stop

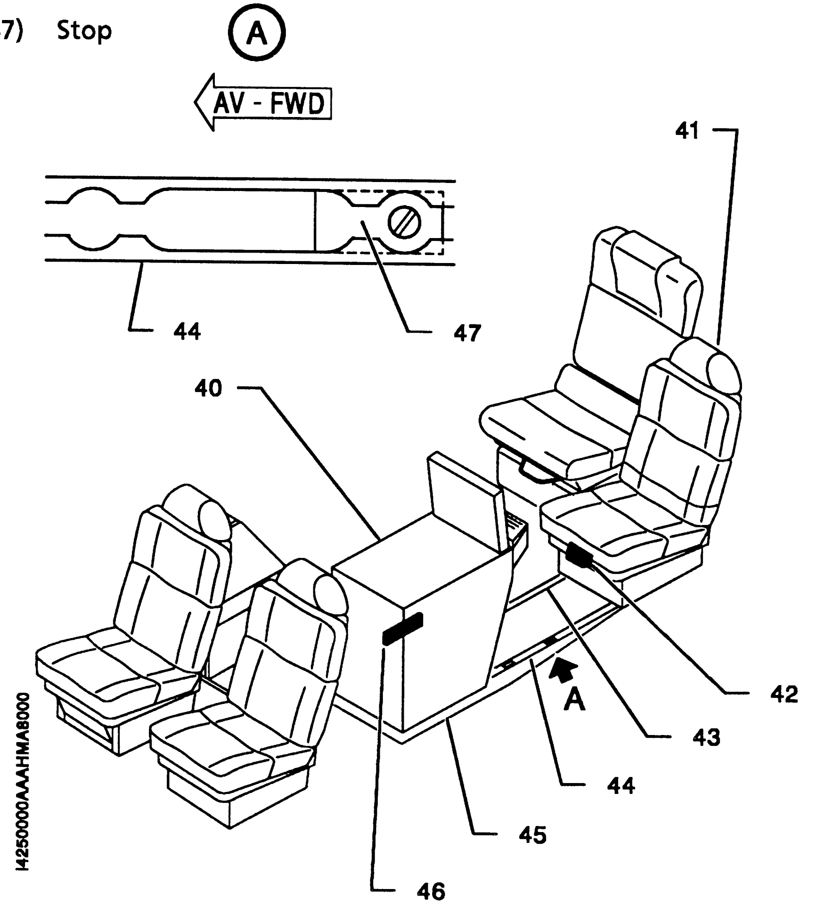

Figure 9.24.6 - "NAVCAL" FIS CONFIGURATION

B - CONVERSION OF ""NAVCAL" FIS" CONFIGURATION INTO "6-PLACE" CONFIGURATION (Figures 9.24.4, 9.24.5 and 9.24.6)

1) Remove the AIRTRAK console (Item 40) as follows :

   a) Disconnect the junction wiring harness P / N T700A0187554000 from the "DATA", "POWER", "ADF" and "COMMS" console and junction box connectors and store it.

   b) Disconnect the console antenna feeders from the "VHF COM", "UHF TELEMETRY", "DME", "MKR", "G / P" and "LOC" junction box connectors.

   c) Disconnect the airplane "GPS" antenna feeder from the console.

   d) Blank off the console and junction box connectors.

   e) Move the console to provide room to remove the operator seat.

2) Remove the operator seat (Item 41) as follows :

   a) Remove the front stop (Item 47) and store it.

   b) Pull handle (Item 42) and move the seat forward to the seat tracks slots.

   c) Lift the seat, remove from the cabin and store it.

3) Remove the AIRTRAK console (Item 40) from the cabin and store it.

4) Remove the "NAVCAL" FIS carpet (Item 45).

5) Remove the coaming indicator as follows :

   a) Disconnect the wiring harness, blank off the connector and secure the harness into the spring clips on the visor.

   b) Remove two attaching screws and pull the coaming indicator from its support.

   c) Blank off the connector, handscrew the two attaching screws into the coaming indicator and store it.

6) Install the L.H. rear seat P / N T700A2590013002 and its support structure (Item 2) as follows :

   a) Engage the pad assembly (Item 24) in the port track (Item 44).

   b) Install and attach with the washer (Item 23) and the screw (Item 22).

   c) Install the web assembly (Item 18) and attach with the bolts (Items 20 and 21), the washers (Items 19 and 25) and the nut (Item 26).

   d) Engage the pad / rod assembly (Item 30) in the starboard seat track (Item 43).

   e) Install and attach with the washer (Item 27) and the screw (Item 28).

   f) Install the door (Item 15) and attach it with the screws (Item 29).

   g) If installed, remove the seat cushion (Item 10).

   h) Position the reinforcement plate (Item 14).

   i) Fold the back and install the seat (Item 2) on the support structure.

   j) Install the rear attaching screws.

   k) Lift the back and actuate the displacement control (Item 13) in order to align the access holes (Item 12) with the front screw heads (Item 11).

   l) Install the front attaching screws (11).

   m) Install the seat cushion (Item 10).

   n) Through the door (Item 15), install the connecting lever (Item 16) in the fitting (Item 17) and install the bolt (Item 31), the washer (Item 32), the nut (Item 33) and a new cotter pin (Item 34).

   o) Close the door (Item 15).

7) Install the 6-place rear carpet P / N T700A2521295003 (Item 3).

8) If required, install the L.H. storage cabinet (Item 5).

9) Install (back to the flight direction) the L.H. intermediate seat (Item 4) as follows :

   a) Position the seat on the rails, the lock pin (fitted with a strap which is accessible from the rear) being engaged in line with yellow marking [X = 223.1 in. (5666 mm)] located at the bottom of the internal rail.

   b) Move the seat by ½ inch (12.7 mm) toward the forward section of the airplane until proper locking of both lock pins on rails.

   c) Check locking.

   d) Put in place, under the seat, the lock system strap ("VELCRO" tape).

10) Install (back to the flight direction) the R.H. intermediate seat (Item 1) as follows :

   a) Position the seat on the rails, the lock pin (fitted with a strap which is accessible from the rear) being engaged in line with yellow marking [X = 223.1 in. (5666 mm)] located at the bottom of the internal rail.

   b) Move the seat by ½ inch (12.7 mm) toward the forward section of the airplane until proper locking of both lock pins on rails.

   c) Check locking.

   d) Put in place, under the seat, the lock system strap ("VELCRO" tape).

   e) Connect oxygen warning power supply wire located under the seating, to the stand-by plug located under the carpet.

SUPPLEMENT

”EVENTIDE” ARGUS 7000 CE ELECTRONIC RMI/ELECTRONIC RMI/MOVING MAP DISPLAY

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SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""EVENTIDE" ARGUS 7000 CE ELECTRONIC RMI/ELECTRONIC RMI/MOVING MAP DISPLAY".

The ARGUS 7000 CE indicator ensures the following functions :

- RMI
- navigation map visualization, type IFR.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""EVENTIDE" ARGUS 7000 CE ELECTRONIC RMI/ELECTRONIC RMI/MOVING MAP DISPLAY".

CAUTION

SETTING UP IS RESERVED FOR INSTALLERS. OPERATORS ARE NOT ALLOWED TO ACCESS AND CHANGE THE SET UP DATA

Use of the ARGUS 7000 CE indicator is approved as follows :

- use as a VOR/ADF function : the ARGUS 7000 CE indicator, when in ADF mode, replaces the standard RMI.
- use for GPS navigation : the ARGUS 7000 CE indicator is approved for use as a supplemental navigation display for VFR and IFR flight operations, but is limited to the approval of the GPS navigation system. All GPS system limitations pertaining to IFR flight must be observed when operating the ARGUS 7000 CE under IFR. Refer to the appropriate Supplement for the GPS.

The flight crew must verify the coordinates of each waypoint to be used during IFR flight.

The flight crew must verify the coordinates of each waypoint to be used during IFR flight.

The data base currency must be checked before each flight.

If ETA is used, the ARGUS time must be coherent with the GPS time.

The ARGUS 7000 CE indicator is not to be substituted for nor does it replace Aeronautical Charts and Manuals required for appropriate VFR and IFR flight.

CAUTION

THE MSL INFORMATION IS NOT AVAILABLE FOR THE DATA BASE OUT OF THE USA

CAUTION

THE BAROMETRIC ALTITUDE DISPLAYED BY THE ARGUS 7000 CE IS REFERENCED TO THE CABIN PRESSURIZED ENVIRONMENT. DO NOT TAKE IT INTO ACCOUNT

The "EVENTIDE AVIONICS" ARGUS 7000 CE Moving Map Display reference manual, P/ N 141000 at its latest revision shall be readily available to the flight crew.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook when the TBM 700 airplane is equipped with the option ""EVENTIDE" ARGUS 7000 CE ELECTRONIC RMI/MOVING MAP DISPLAY" and if the system is operating.

The ARGUS 7000 CE indicator is protected by a 2–amp. circuit breaker labeled "MAP DISPL". In the event that the circuit breaker should "Open", reset the circuit breaker. Should it "Open" again, do not reset.

Operation failure of the ARGUS system :

EQUIPMENT -- OFF

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook when the TBM 700 airplane is equipped with the option ""EVENTIDE" ARGUS 7000 CE ELECTRONIC RMI/MOVING MAP DISPLAY" and if the system is operating.

Program identification number

After the self–test cycle has been completed, the approval page will appear. Verify that the program version is 05.xx, where xx can be from 00 to 99.

Operation in ADF mode

If the ARGUS 7000 CE is not in ADF mode :

"MAP DISPLAY" switch --- **ADF**

"AUX" button -- **AMEND**
(press 3 times or
1 time for 5 seconds)

"DISPLAY OPTION", choose ADF----------------------- **ADF MODE**

Operation in MAP mode

Refer to the reference manual.

Search for the nearest airports

Pressing the "AUX" and "ARR" buttons simultaneously for at least 1 second will activate the EMERgency mode. The ARGUS 7000 CE indicator will display 5 airports which meet the criteria which has been previously selected in the AMEND mode. The range will automatically change to the smallest range which will display all 5 airports. If there are more than 5 airports within the range, all the airports will be displayed. VOR type navaids will also be displayed.

SECTION 5

PERFORMANCE

The installation and the use of the ””EVENTIDE” ARGUS 7000 CE ELECTRONIC RMI/MOVING MAP DISPLAY” do not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 – NAVIGATION			
A	Electronic RMI/Moving map display ARGUS 7000 CE (OPT70 34042B)	EVENTIDE	3.461 (1.570)	145.98 (3.708)
A	Electronic RMI/Moving map display ARGUS 7000 CE (EFIS version) (OPT70 34042G)	EVENTIDE	3.461 (1.570)	145.98 (3.708)

SECTION 7

DESCRIPTION

Normal operating procedures of the ARGUS 7000 CE indicator are described in the "EVENTIDE" AVIONICS ARGUS 7000 CE Moving Map Display reference manual, P/ N 141000 at the latest revision.

The ARGUS 7000 CE indicator consists of a coloured display screen located on the L.H. instrument panel and an external switch labeled "MAP DISPLAY" located on the upper right side of the L.H. instrument panel. This switch controls which navigation source is supplying the Pointer 1 (single needle). When the switch is in the ADF position, the ADF is supplying information. "ADF" will be displayed on the lower left corner of the ARGUS 7000 CE display. When the switch is in the VOR 1 position, the No. 1 VOR nav is supplying information. "VOR 1" will be displayed on the lower left corner of the ARGUS 7000 CE display.

The ARGUS 7000 CE indicator is protected by a 2–amp. circuit breaker labeled "MAP DISPL".

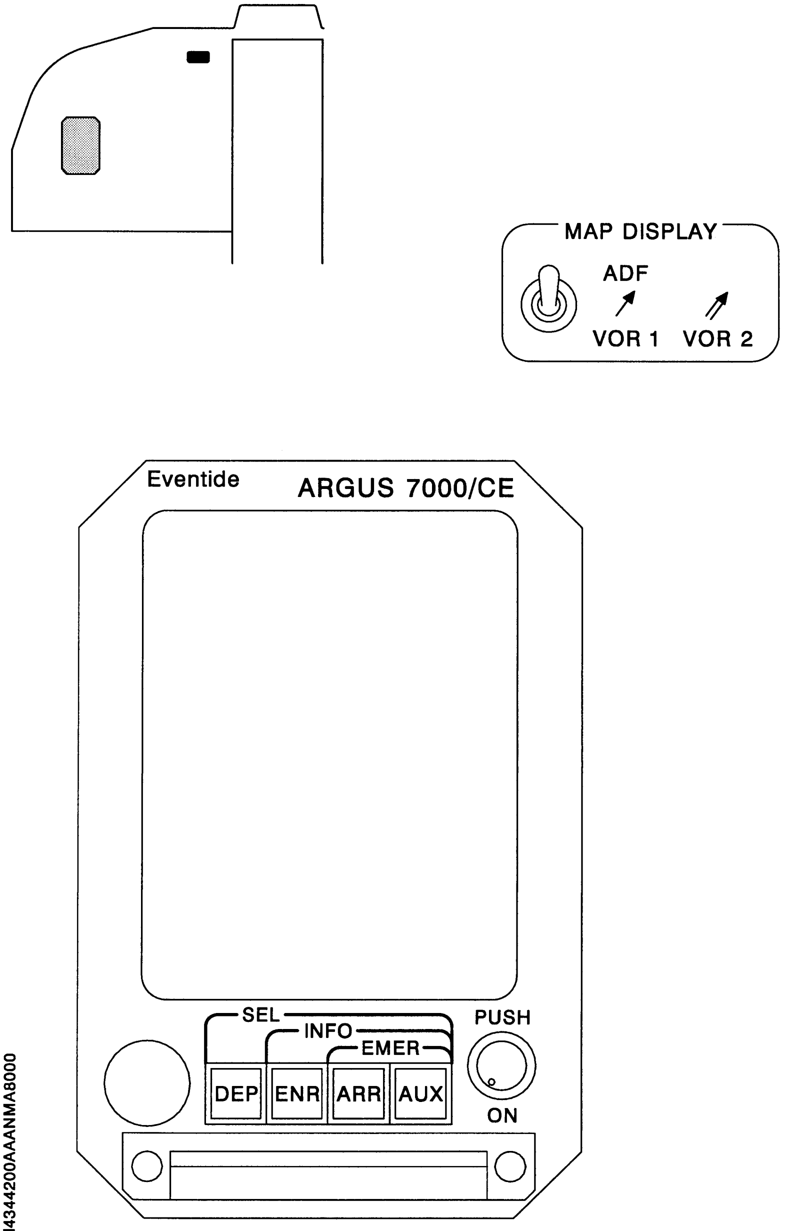

Figure 9.25.1 – ARGUS 7000 CE Indicator and external switch

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SUPPLEMENT

"BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI".

Using information provided by satellites ("BENDIX / KING" KLN90B is able to track up to 8 satellites at a time), GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means. It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90B and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90B with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 250 user defined waypoints and 26 different flight plans.

CAUTION

IT IS STRONGLY ADVISED NOT TO LOAD USER WAYPOINTS IN DATA BASE IN TERMINAL AREA NAVIGATION DUE TO THE INCREASE OF WORK LOAD FOR THE PILOT

The KLN90B can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI".

Data base updating must be verified before each flight.

NOTE :
The original KLN90B data base is in accordance with the WGS84 geodetic model

If the data base or the cartridge are not in accordance with WGS84 or NAD 83 geodetic model, and as there is no means of operation published, GPS navigation system must be disengaged in terminal area.

The navigation sources required for the anticipated flight shall be serviceable. In any case, GPS use is limited to the En route or terminal area of the flight.

The KLN90B fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX / KING" KLN90B Pilot's Guide at its latest revision shall be readily available to the pilot, each time the GPS navigation system is used.

GPS APPROVED FOR B-RNAV SID/STAR AND APPROACH MODE PROHIBITED

Figure 9.26.1 - GPS limitation placard

IFR navigation is restricted as follows :

- The system must utilize ORS level 20 or higher.
- IFR en route and terminal area navigation is prohibited unless the pilot verifies the currency of the data base and each selected waypoint for accuracy.
- For every navigation into areas reserved for B-RNAV the pilot must be provided with a predicted availability of RAIM on the route.
- When the GPS is selected as EFIS navigation source, it is prohibited to engage the autopilot Approach mode.
- The use of SIDs and STARs stored in GPS data base and the use of GPS Approach mode are prohibited.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI".

NAV FLAG

If the NAV flag appears on the EHSI when it is interfaced with GPS KLN90B, this means that the GPS signal integrity has been lost.

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

1 - "NAV" push-knob of EHSI .... **PRESS ONCE or TWICE**

"MSG" ANNUNCIATOR ILLUMINATION

1 - "MSG" push-knob of KLN90B .... **PRESS**

Check the message.

If the message mentions the loss of GPS system integrity (RAIM NOT AVAILABLE) or detects a too important position error (RAIM POSITION ERROR) :

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

2 - "NAV" push-knob of EHSI .... **PRESS ONCE or TWICE**

WHEN IN B-RNAV VERIFY THE IFR PROCEDURE APPLICABLE TO EACH ONE OF THESE NEW SITUATIONS WITH THE AIR TRAFFIC CONTROL :

- **OUT OF B-RNAV AREA : IT IS PROHIBITED TO ENTER THE B-RNAV AREA.**
- **IN B-RNAV AREA : INFORM THE AIR TRAFFIC CONTROL TO INDICATE THE LOSS OF B-RNAV CAPABILITY.**

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI".

Normal operating procedures of the KLN90B GPS recommended by "BENDIX / KING" manufacturer are outlined in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision and KLN90B Memory Jogger at the latest revision.

However, it is important to precise the following points for the use of KLN90B on TBM700 :

SET UP CONDITIONS

- In case of B-RNAV use :

  During the preflight planning phase, the availability of GPS integrity (RAIM) shall be confirmed for the intended flight (route and time). This will be obtained from a prediction program (e.g. : "BENDIX KING" PREFLIGHT PLUS).

  B-RNAV flight dispatch shall not be made in the event of a continuous loss of RAIM for more than 5 minutes predicted in any part of the intended flight.

  With 23 or more satellites available, the predicted availability of RAIM is valid for 7 days.

  When less than 23 satellites are available, the predicted availability of RAIM shall be confirmed short before each flight.

- The system must utilize ORS level 20 or higher in compliance with the Pilot's Guide.

- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid to the KLN90B prior to flight.
- Set turn anticipation mode (SET / 6) to :
  . ENABLE (turn anticipation ENABLED) : recommended mode,
  . DISABLE (turn anticipation DISABLED) : not recommended mode.
- Check that the proper criteria are used for nearest airport selection (SET / 3).

The course deviation indicator sensitivity is adjustable with a maximum value which is the default value selected by the KLN90B. It is recommended not to change the default value which is ± 5 NM full scale.

In order to reduce navigation errors in terminal area, the course deviation indicator scale shall be set to ± 1 NM or navigation shall be conducted with autopilot.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

EHSI presentation "NAV" push-knob

It may be used to select data for presentation on the pilot's EHSI ; either NAV data from NAV 1 or NAV 2 navigation receiver or GPS data from the KLN90B GPS or ADF data
"**NAV**" symbol is green, "**GPS**" symbol is blue, "**ADF**" symbol is green.

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR ONLY FLASHES.

It will flash to alert the pilot of a situation that requires his attention. Press the "MSG" button on the KLN 90B GPS to view the message. (Appendix B of the KLN90B Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings).
"MSG" annunciator is amber.

"WPT" Waypoint annunciator

Prior to reaching a waypoint in the active flight plan, the KLN90B GPS will provide navigation along a curved path segment to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of the turn anticipation, the "WPT" annunciator will flash, going solid upon initiation of the turn, and extinguishing upon turn completion.
"WPT" annunciator is amber. **"WPT"** symbol is also displayed white on L.H. side of the EHSI.

GPS approach "GPS APR, ARM, ACTV" switch / annunciator

This switch / annunciator is used to select or deselect approach mode of the KLN90B. This operation mode is prohibited.

GPS course "GPS CRS, OBS, LEG" switch / annunciator

This switch / annunciator is used to select the basic operation modes of the KLN90B, either a single waypoint with omnibearing selector (OBS) selection through the waypoint (like a VOR) or automatic leg sequencing (LEG) between waypoints.
"GPS CRS" annunciator is white. **"OBS"** annunciator is amber. **"LEG"** annunciator is green.

NOTE :
Either LEG or OBS will illuminate during system self-test depending on switch position.

EN ROUTE-LEG mode

When using the en route-leg mode, GPS navigation data are differently presented on the EHSI according to the selected mode :

- display equivalent to an electromechanical HSI (track, course deviation, TO / FROM) in ARC or HSI modes,
- trace of the navigation in "MAP" mode. The active leg is blue, the following legs are white.

When crossing a waypoint, the track resetting on following navigation leg automatically occurs.

When turn anticipation is ENABLED, the "WPT" annunciator will flash about 20 seconds before the initialization of the turn, going solid upon the turn, and extinguishing upon turn completion.

When turn anticipation is DISABLED, the "WPT" annunciator will flash, until waypoint vertical line is crossed, then extinguishes.

The navigation course selecting knob "CRS" is inactive.

With the autopilot engaged on NAV mode, the EHSI automatic resetting, when crossing a waypoint, allows to the aircraft an automatic transition from leg to leg without pilot action.

EN ROUTE-OBS mode

When using the "ENROUTE-OBS" mode, the desired radial selection on the waypoint is made equally from the course selecting knob "CRS" of the EHSI or from the KLN90B control box. The recopy is quasi instantaneous.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

The EHSI may be coupled with KFC 325 autopilot.

Engaging the "NAV" mode on the autopilot mode controller will make the FD appear on the EADI, which uses selected course and left / right steering information presented on the EHSI.

This information is related to the navigation source (VOR, GPS or ADF) selected by the push-button "NAV" on the EHSI.

When AP is engaged on the mode controller, the autopilot is then coupled to the EHSI and uses displayed information (track and course deviation).

In order to reduce navigation errors in terminal area, the course deviation indicator scale shall be set to ± 1 NM or navigation shall be conducted with autopilot.

NOTE :
When the EHSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

SECTION 5

PERFORMANCE

Installation and operation of the "BENDIX / KING" KLN90B GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EFS 40 EHSI" do not change the performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

R S A or O	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION			
	Attitude and direction			
A	GPS, EFIS coupled KLN90B (B-RNAV) (OPT70 34033D)	KING	8.774 (3.980)	155.20 (3.942)

SECTION 7
DESCRIPTION

Normal operating procedures of the "BENDIX / KING" KLN90B GPS (B-RNAV) navigation system interfaced with EFS 40 EHSI are described in the "BENDIX / KING" KLN90B Pilot's Guide at the latest revision.

CONTROLS - see Figure 9.26.2

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90B can present a variety of information in a number of different page formats.

The various display types can be considered as chapters in a book, each chapter having 26 pages. With a few exceptions, each of these pages can be changed independently.

Generally the 2 concentric knobs and the cursor button to the left of the screen are used to select data on L.H. page, the knobs and cursor on the right control the R.H. page.

The large outer knobs control the chapters and the small inner knobs turn the pages.

To change data in a page use the cursor function. This function is an area of inverse video on the screen brought up by depressing the cursor button.

Then rotate the outer knob to position the cursor and the inner knob to select the desired characters. Repeat this operation as many times as necessary and valid (ENT button).

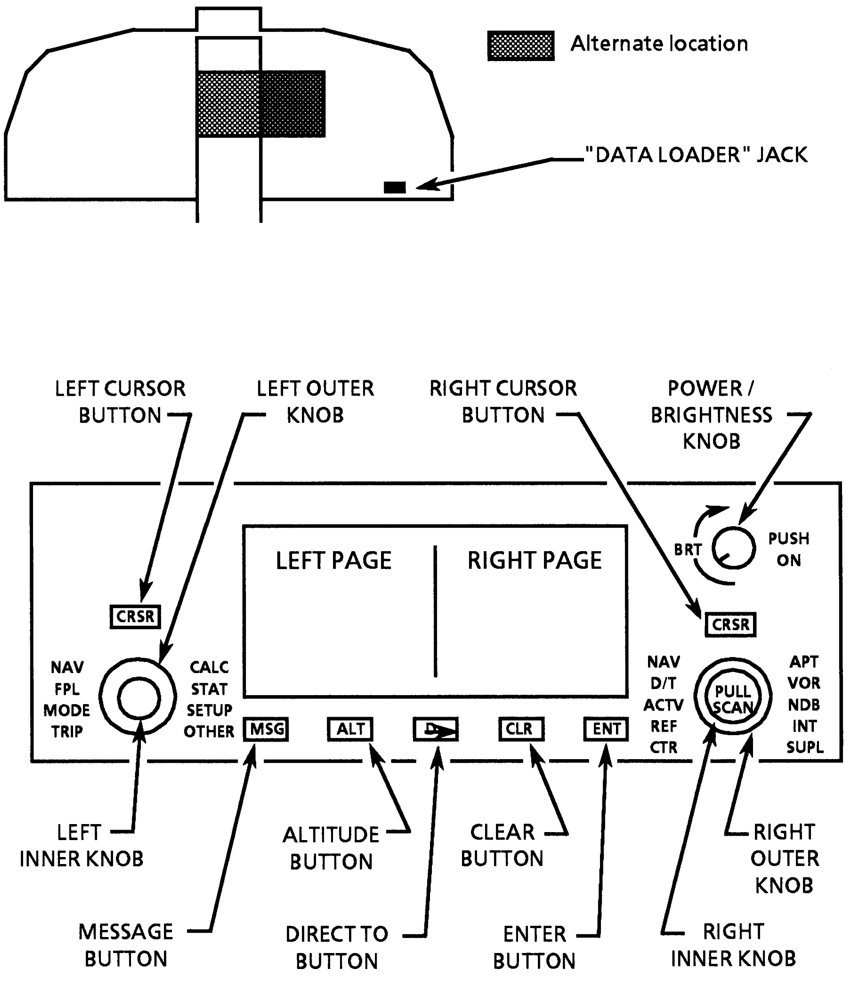

Figure 9.26.2 - Controls

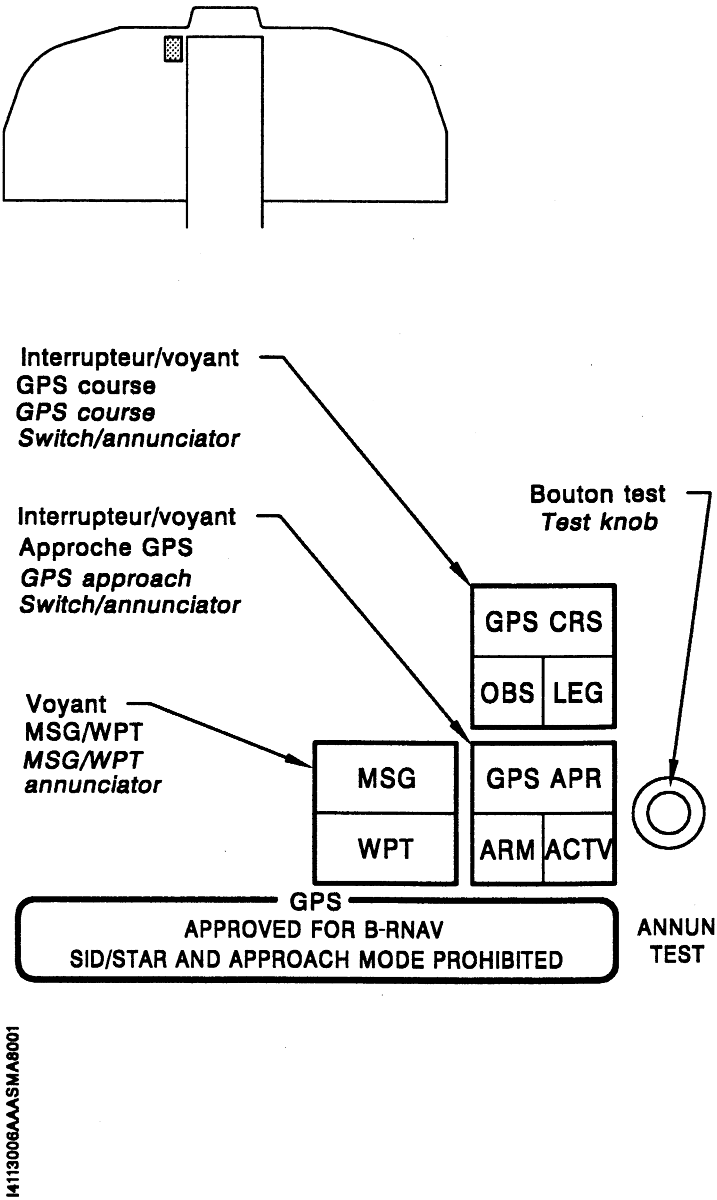

Figure 9.26.3 - GPS placard and annunciators

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SUPPLEMENT

”BENDIX/KING” KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI

TABLE OF CONTENTS

SECTION 1

GENERAL

The B–RNAV certification bases are the following :

– AMJ 20X2 Section 4,

– AC 20–138,

– RNP5 navigation precision.

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI".

Based on satellite* reception, the GPS is an automatic tridimensional** location and navigation means. It also uses data recorded in a data base (two different data base are available : North American one or International one). The data base is housed in a cartridge plugged into the back of the KLN90B and is updated every 28 days by means of diskettes and a computer (a jack located on right lower panel PL25 provides a means of interfacing the KLN90B with the computer via an interface cable).

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

(*) The "BENDIX/KING" KLN90B is able to track up to 8 satellites at a time.
(**) Geodetic position : lat, long and alt.

There is also room for up to 250 user defined waypoints and 26 different flight plans.

CAUTION

IT IS STRONGLY ADVISED NOT TO LOAD USER WAYPOINTS IN DATA BASE IN TERMINAL AREA NAVIGATION BECAUSE OF THE INCREASE OF WORK LOAD FOR THE PILOT

The KLN90B can be interfaced with "SHADIN" fuel flow system. It also receives altitude code from the encoding altimeter.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI".

Data base updating must be verified before each flight.

NOTE :
The original KLN90B data base is in accordance with the WGS84 geodetic model.

If the data base or the cartridge are not in accordance with WGS84 or NAD 83 geodetic model, and as there is no means of operation published, GPS navigation system must be disengaged in terminal area.

The navigation sources required for the anticipated flight shall be serviceable. In any case, GPS use is limited to the En route or terminal area of the flight.

The KLN90B fuel management pages use a fuel flow input of the "SHADIN" fuel flowmeter (if installed) and must not be used as a fuel management primary source.

"BENDIX/KING" KLN90B Pilot's Guide at its latest revision shall be readily available to the pilot, each time the GPS navigation system is used.

GPS
APPROVED FOR B–RNAV
SID/STAR AND APPROACH MODE PROHIBITED

Figure 9.27.1 – GPS limitation placard

IFR navigation is restricted as follows :

– The system must utilize ORS level 20 or higher.

– IFR en route and terminal area navigation is prohibited unless the pilot verifies the currency of the data base and the coordinates of each selected waypoint.

– For every navigation into areas reserved for B–RNAV the pilot must be provided with a predicted availability of RAIM on the route.

– When the GPS is selected as navigation source, it is prohibited to engage the autopilot Approach mode.

– The use of SIDs and STARs stored in GPS data base and the use of GPS Approach mode are prohibited.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””BENDIX/KING” KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI”.

NAV FLAG

If the NAV flag appears on the HSI when it is interfaced with GPS KLN90B, this means that the GPS signal integrity has been lost.

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

”MSG” ANNUNCIATOR ILLUMINATION

1 – ”MSG” push–knob of KLN90B .... **PRESS**

Check the message.

If the message mentions the loss of GPS system integrity (RAIM NOT AVAILABLE) or (RAIM POSITION ERROR) :

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

"MSG" ANNUNCIATOR ILLUMINATION (Cont'd)

If the message detects a too important position error :

– OBS set to DTK value
  Return to VOR or ADF navigation source and to remaining operational navigation equipment.
  "NAV/GPS" inverter .... **NAV**

– OBS not set to DTK value
  Set the OBS to the value of DTK. Check the correct interception of the leg.

WHEN IN B–RNAV VERIFY THE IFR PROCEDURE APPLICABLE TO EACH ONE OF THESE NEW SITUATIONS WITH THE AIR TRAFFIC CONTROL :

- **OUT OF B–RNAV AREA : IT IS PROHIBITED TO ENTER THE B–RNAV AREA.**
- **IN B–RNAV AREA : INFORM THE AIR TRAFFIC CONTROL TO INDICATE THE LOSS OF B–RNAV CAPABILITY.**

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI".

Normal operating procedures of the KLN90B GPS recommended by "BENDIX/KING" manufacturer are outlined in the "BENDIX/KING" KLN90B Pilot's Guide at the latest revision and KLN90B Memory Jogger at the latest revision.

However, it is important to highlight the following points for the use of KLN90B on TBM700 :

SET UP CONDITIONS

- In case of B–RNAV use :

  During the preflight planning phase, the availability of GPS integrity (RAIM) shall be confirmed for the intended flight (route and time). This will be obtained from a prediction program (e.g. : "BENDIX KING" PREFLIGHT PLUS).

  B–RNAV flight dispatch shall not be made in the event of a continuous loss of RAIM for more than 5 minutes predicted in any part of the intended flight.

  With 23 or more satellites available, the predicted availability of RAIM is valid for 7 days.

  When less than 23 satellites are available, the predicted availability of RAIM shall be confirmed short before each flight.

- The system must utilize ORS level 20 or higher in compliance with the Pilot's Guide.
- Verify if the data base is current. Verify data on the self test page.

– Verify that altitude data is valid for the KLN90B prior to flight.

– Set turn anticipation mode (SET/6) to :

  . ENABLE (turn anticipation ENABLED) : recommended mode,

  . DISABLE (turn anticipation DISABLED) : not recommended mode.

– Check that the proper criteria are used for nearest airport selection (SET/3).

The course deviation indicator sensitivity is adjustable with a maximum value which is the default value selected by the KLN90B. It is recommended not to change the default value which is ± 5 NM (RNP 5) full scale.

In order to reduce navigation errors in terminal area, the course deviation indicator scale shall be set to ± 1 NM or navigation shall be conducted with autopilot.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

HSI presentation "NAV/GPS" push–knob

It may be used to select data for presentation on the pilot's HSI ; the NAV data come either from NAV 1 navigation receiver or from the KLN90B GPS.

"NAV" symbol is green, **"GPS"** symbol is white.

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR JUST FLASHES.

It will flash to alert the pilot of a situation that requires his attention. Press the "MSG" button on the KLN90B GPS to view the message. (Appendix B of the "BENDIX/KING" KLN90B Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings).

"MSG" annunciator is amber.

"WPT" Waypoint annunciator

Prior to reaching a waypoint in the active flight plan, the KLN90B GPS will provide navigation along a curved path to ensure a smooth transition between two adjacent legs in the flight plan. This feature is called turn anticipation. Approximately 20 seconds prior to the beginning of the turn anticipation, the "WPT" annunciator will flash, going solid upon initiation of the turn, and extinguishing upon turn completion.

"**WPT**" annunciator is amber.

GPS approach "GPS APR, ARM, ACTV" switch/annunciator

This switch/annunciator is used to select or deselect approach mode of the KLN90B. This operation mode is prohibited.

GPS course "GPS CRS, OBS, LEG" switch/annunciator

This switch/annunciator is used to select the basic operation modes of the KLN90B, either a single waypoint with omnibearing selector (OBS) selection through the waypoint (like a VOR) or automatic leg sequencing (LEG) between waypoints.

"**GPS CRS**" annunciator is white. "**OBS**" annunciator is amber. "**LEG**" annunciator is green.

NOTE :
Either "LEG" or "OBS" will illuminate during system self–test depending on switch position.

EN ROUTE–LEG mode

When using the "EN ROUTE–LEG" mode, GPS navigation data are presented on the HSI (track, course deviation, TO / FROM).

When crossing a waypoint, the track resetting on the following navigation leg is performed by hand on the HSI.

When turn anticipation is ENABLED, the "WPT" annunciator will flash about 20 seconds before the initiation of the turn, going solid upon the turn, and extinguishing upon turn completion.

When turn anticipation is DISABLED, the "WPT" annunciator will flash, until waypoint vertical line is crossed, then extinguishes.

EN ROUTE–OBS mode

When using the "ENROUTE–OBS" mode, the desired radial selection on the waypoint is made equally from the control knob of the HSI or from the KLN90B control box.

FLIGHT DIRECTOR / AUTOPILOT COUPLED OPERATION

The HSI may be coupled with KFC275 autopilot.

Engaging the "NAV" mode on the autopilot mode controller will make the FD appear on the ADI, which uses selected course and left/right steering information presented on the HSI.

This information is related to the navigation source (VOR or GPS) selected by the push–button "NAV/GPS" on the HSI.

When AP is engaged on the mode controller, the autopilot is then coupled to the HSI and uses displayed information (track and course deviation).

In order to reduce navigation errors in terminal area, the course deviation indicator scale shall be set to ± 1 NM or navigation shall be conducted with autopilot.

NOTE :
When the HSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source.

SECTION 5

PERFORMANCE

The installation and the operation of the "BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 – NAVIGATION				
	Ground Positioning System (GPS)				
A	GPS interfaced with HSI (B–RNAV) (OPT70 34033C)	KLN90B	BENDIX/KING	9.921 (4.500)	153.94 (3.910)

SECTION 7

DESCRIPTION

Normal operating procedures of the "BENDIX/KING" KLN90B GPS (B–RNAV) NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL HSI are described in the "BENDIX/KING" KLN90B Pilot's Guide at the latest revision.

CONTROLS – see Figure 9.27.2

Controlled by two sets of concentric knobs and two cursor buttons, the KLN90B can present a variety of information in a number of different page formats.

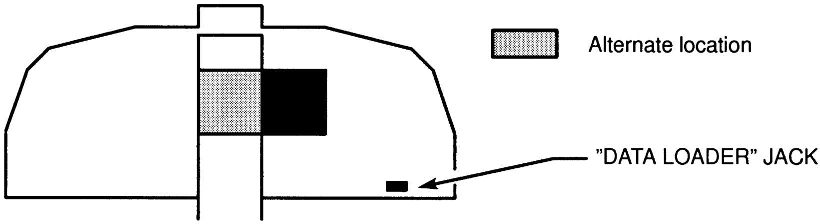
The various display types can be considered as chapters in a book, each chapter having 26 pages. With a few exceptions, each of these pages can be changed independently.

Generally the concentric knobs and the cursor button to the left of the screen are used to select data on L.H. page, the knobs and the cursor on the right control the R.H. page.

The large outer knobs control the chapters and the small inner knobs turn the pages.

To change data in a page, use the cursor function. This function is an area of inverse video on the screen brought up by depressing the cursor button.

Then rotate the outer knob to position the cursor and the inner knob to select the desired characters. Repeat this operation as many times as necessary and valid (ENT button).



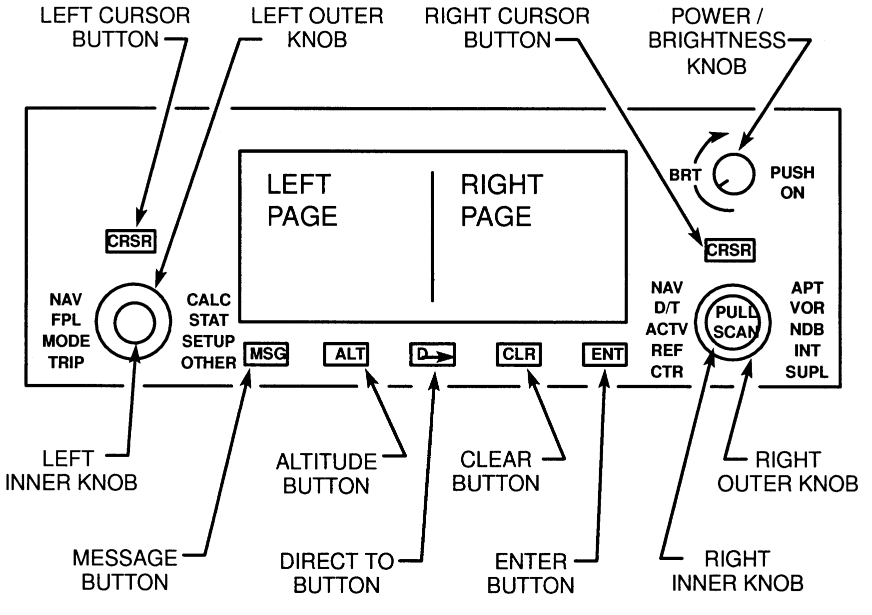


Figure 9.27.2 – Controls

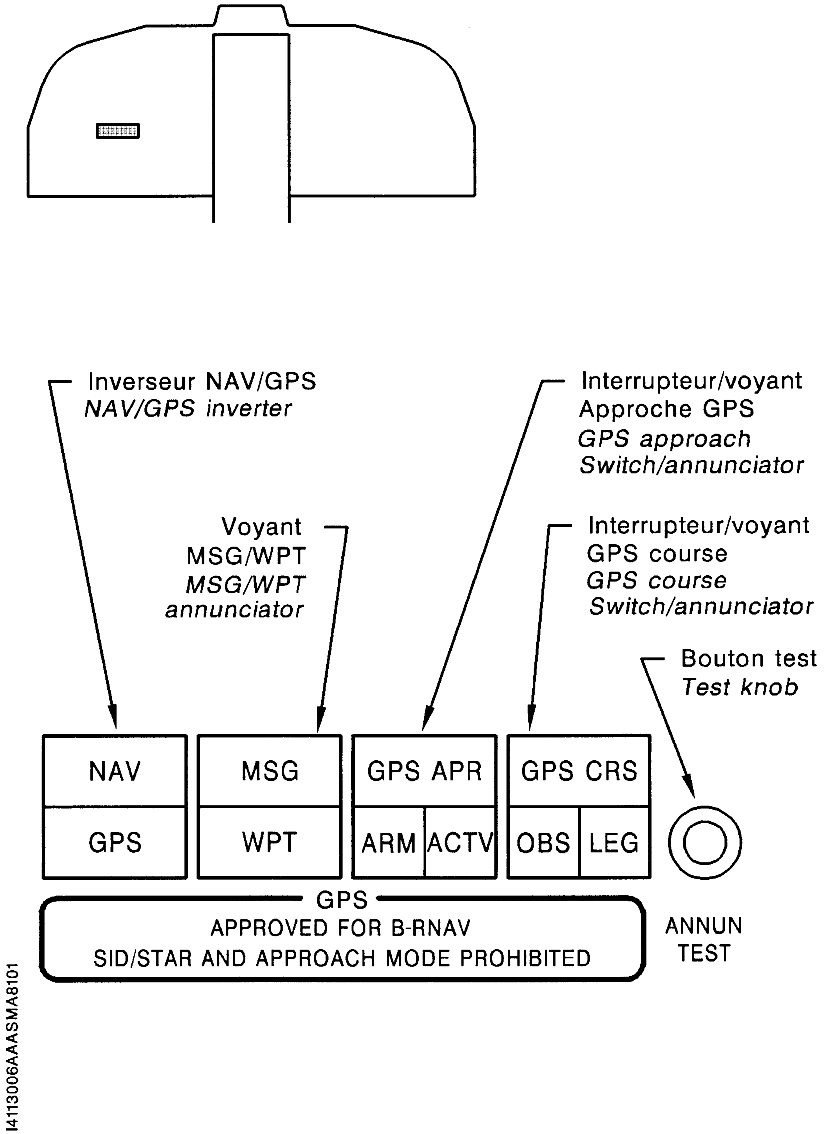


Figure 9.27.3 – GPS placard and annunciators

SUPPLEMENT

”BFG” SKYWATCH
SKY 497 OR SKY 899
TRAFFIC ADVISORY SYSTEM

TABLE OF CONTENTS

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SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ”BFG” SKYWATCH SKY 497 OR SKY 899 TRAFFIC ADVISORY SYSTEM.

The SKYWATCH traffic advisory system relies on information obtained from nearby aircraft transponders. It does neither detect, nor track aircraft which are not equipped with an operating ATCRBS transponder.

SECTION 2

LIMITATIONS

The installation of the ”BFG” SKYWATCH traffic advisory system does not change the basic limitations of the airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook.

REMARK :
The SKYWATCH is a TAS (advisory means), not a TCAS.

SECTION 3

EMERGENCY PROCEDURES

The installation of the ”BFG” SKYWATCH traffic advisory system does not change the emergency procedures of the airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4

NORMAL PROCEDURES

Normal operating procedures of the "BFG" SKYWATCH traffic advisory system are outlined in :

- the Pilot's Guide for the "BFG" SKYWATCH™ traffic advisory system, Model SKY 497 P/N 009-10801-001 Rev. B dated 06/00 or any applicable following edition
  or
- the Pilot's Guide for the "BFG" SKYWATCH® HP traffic alert/advisory system, Model SKY 899 P/N 009-11901-001 Rev. A dated 08/01 or any applicable following edition and :
  - . the Multi-function Display Traffic Avoidance Function (TCAS/TAS) Pilot's Guide Addendum P/N 006-18238-0000 Rev. 0 dated 04/01 or any applicable following edition, if data are displayed on a KMD 850 MFD,
  - . the "GARMIN" GNS 530 Pilot's Guide, P/N 190-00181-00 Revision A dated 04/00 or any applicable following edition, if data are displayed on a GNS 530 GPS.

WARNING

DO NOT ATTEMPT EVASIVE MANEUVERS BASED SOLELY ON TRAFFIC INFORMATION SHOWN ON THE SKYWATCH DISPLAY. INFORMATION ON THE DISPLAY IS PROVIDED TO THE FLIGHT CREW AS AN AID IN VISUALLY ACQUIRING TRAFFIC; IT IS NOT A REPLACEMENT FOR ATC AND SEE & AVOID TECHNIQUES

When the SKYWATCH traffic advisory system issues a Traffic Alert (aural or visual), look outside for the intruder aircraft. When you spot an intruder aircraft, use normal right-of-way procedures to maintain separation.

SECTION 5

PERFORMANCE

The installation of the "BFG" SKYWATCH traffic advisory system does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION			
A	Traffic advisory system SKYWATCH™ SKY 497 (OPT70 34047A)	BFG	15.780 (7.16)	145.91 (3.706)
A	Traffic advisory system (EFIS version) SKYWATCH™ SKY 497 (OPT70 34047B)	BFG	13.140 (5.96)	150.12 (3.813)
A	Traffic advisory system SKYWATCH® HP SKY 899 (OPT70 34059)	BFG	12.720 (5.77)	151.18 (3.840)

SECTION 7

DESCRIPTION

The SKYWATCH is an airborne Traffic Advisory System (TAS). It monitors the airspace around your aircraft and advises the flight crew where to look for transponder equipped aircraft that may pose a collision threat.

SKYWATCH SKY 497

The traffic can be displayed on the stormscope display, whether a stormscope system is installed or not.

The display range is 2 NM or 6 NM.

SKYWATCH SKY 899

The traffic can be shown on a dedicated screen (KMD 850 MFD or GNS 530 GPS) and/or on the EFS 40.

The controls ("TEST" or "TEST/MODE", "ON", "OFF" and "ST-BY/OPR") are remote from the screen (see Figures 9.28.1 and 9.28.2).

The display range is between 2 NM and 20 NM.

All

The traffic detected is displayed, when the vertical separation between your own aircraft altitude and the intruder altitude ranges :

MODE	From	Up to
ABV (Look up)	- 2700 ft	+ 9000 ft
NRM (Normal)	- 2700 ft	+ 2700 ft
BLW (Below)	- 9000 ft	+ 2700 ft

The Traffic Advisory (TA) criteria, which initiates a visual and/or an aural alert, are (sensitivity level B) :

- detection of an intruder aircraft within a 0.55 NM horizontal radius and a ± 800 ft relative altitude,
- approach of an intruder aircraft on a course that will intercept your course within 20 to 30 seconds.

Post-MOD70-125-23

SKYWATCH setting to ON or OFF is performed by using the “RADIO MASTER” switch.

AIRCRAFT EQUIPPED WITH THE KRA 405B RADIO ALTIMETER

When the aircraft is at a ground height lower than 2000 ft, the Traffic Advisory (TA) criteria, which initiate a visual and/or an aural alert, are (sensitivity level A) :

- detection of an intruder aircraft within a 0.2 NM horizontal radius and a ± 600 ft relative altitude,
- approach of an intruder aircraft on a course that will intercept your course within 15 to 20 seconds.

When the aircraft is at a ground height lower than 1700 ft, the traffics which ground height is lower than 380 ft will no longer be displayed.

The aural traffic alert is inhibited when the height detected by the radio altimeter is below 400 ft.

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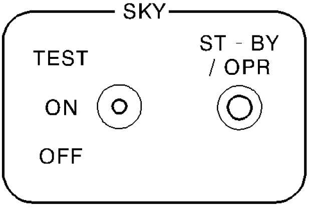
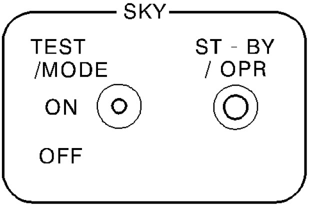


TEST : Held position for test

ST-BY/OPR : 1st press : Skywatch stand-by
2nd press : OPR selection

Figure 9.28.1 - SKYWATCH SKY 899 remote control : EFS 40 display impossible

I4344400AAAAMA8200



ST-BY/OPR : Skywatch stand-by

TEST/MODE : 1st case : When the SKY 899 is in stand-by, tests the Skywatch
2nd case : When the SKY 899 is in OPR, changes display type (NORM, BLW, ABV) in the EFS 40

NOTE :
EFS 40 TEST/REF knob enables selection of SKY 899 Skywatch data display in the EFS 40.

Figure 9.28.2 - SKYWATCH SKY 899 remote control with display on EFS 40

SUPPLEMENT

”EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)”.

This system replaces the standard oxygen system described in Section 7 ”Description”, Chapter ”Emergency oxygen”, of the basic Pilot’s Operating Handbook.

This optional oxygen system for air taxi and commercial operations provides supplementary oxygen for the crew and passengers to meet the requirements of FAR 135.89 and 135.157. Actual compliance with the regulation is the responsibility of the operator as established by the FAA for the particular operation.

ABBREVIATIONS AND TERMINOLOGY

GENERAL ABBREVIATIONS

STPD : Standard Temperature Pressure Dry

SECTION 2

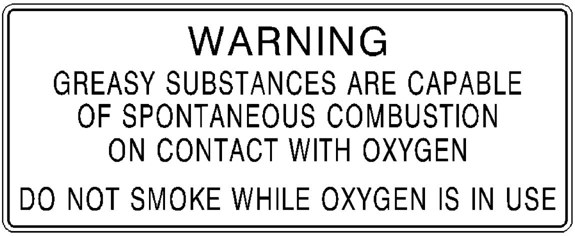
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)”.

PLACARDS

(1) On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

I4113400AAABMA8000



(2) On rear passengers masks containers (on R.H. side on the ceiling)

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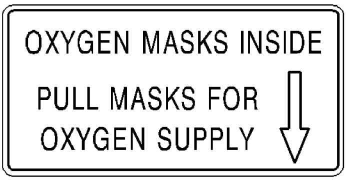


SECTION 3

EMERGENCY PROCEDURES

These emergency procedures supplement those of the standard airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)”.

The procedure hereafter replaces the one described in Chapter ”Miscellaneous”, Paragraph ” Oxygen use”, of the basic Pilot’s Operating Handbook.

If circumstances require that the depressurized airplane remains at 10000 ft or above, tables located in Section 7 give minimum oxygen pressure values required to insure conditions indicated in these tables.

OXYGEN USE

WARNING

SMOKING IS STRICTLY PROHIBITED WHEN THE OXYGEN SYSTEM IS IN USE.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE UP, ETC...)

For front seats

1 – Take a mask above the opposite seat (pilot : right side mask ; front passenger : left side mask).

– Pull the mask out of the stowage cup and fully uncoil the tube.

– Press the red side vanes together to inflate the harness.

– Put the mask onto the face and release the red side vanes.

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

2 - No smoke in cabin :
Mask regulator control knob . . . . **NORMAL (100 % as required)**

3 - Smoke in cabin :
Mask regulator control knob . . . . **EMERGENCY**
Smoke goggles . . . . **Don and fit to the mask**

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

4 - No smoke in cabin :
Mask regulator control tab . . . . **N (Normal) (100 % as required)**
Vent valve . . . . **Closed**

5 - Smoke in cabin :
Mask regulator control tab . . . . **100 %**
"EMERGENCY" control knob . . . . **EMERGENCY**
Smoke goggles . . . . **Don and fit to the mask**
Vent valve . . . . **Open**

All

6 - Oxygen flow indicator on mask hose . . . . **Check**

7 - "NORM/MASK" microphone switch . . . . **MASK**

8 - PMA 7000 selection mode, if installed . . . . **ISO**

9 - "PASSENGERS OXYGEN" switch . . . . **ON**

10 - Perform an emergency descent to the minimum enroute altitude and, if possible, below 10000 ft.

For intermediate and rear seats

1 - Take a mask.

2 - Fully uncoil the tube.

3 - Pull on the lanyard cord to pull out the lanyard pin and flow the oxygen.

4 - Put the mask onto the face.

5 - Check that the green bag inflates.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)”.

PREFLIGHT INSPECTION

External

Rear R.H. karman ------------------- **Oxygen cylinder open**

Oxygen pressure ---------------------------------- **CHECK**

Internal

Oxygen supply -------------- **Available for the planned flight (see tables in Section 7 for a FAR 135 type operation)**

”OXYGEN” switch -------------------------------------- **ON**

”PASSENGERS OXYGEN” switch ---------------------- **OFF**

Copilot and pilot masks ----------------- **Press push-button ”PRESS TO TEST” : the blinker shall turn red momentarily, then turns transparent**

”NORMAL/MASK” micro inverter -------------------**NORMAL**

IN-FLIGHT AVAILABLE OXYGEN QUANTITY

(Crew oxygen masks in NORMAL mode)

Oxygen pressure -------------------------------------**Read**

Outside air temperature (IOAT)-------------------------**Read**

IN-FLIGHT AVAILABLE OXYGEN QUANTITY (Cont'd)

1 - Determine the usable oxygen percent using the chart Figure 9.29.1.

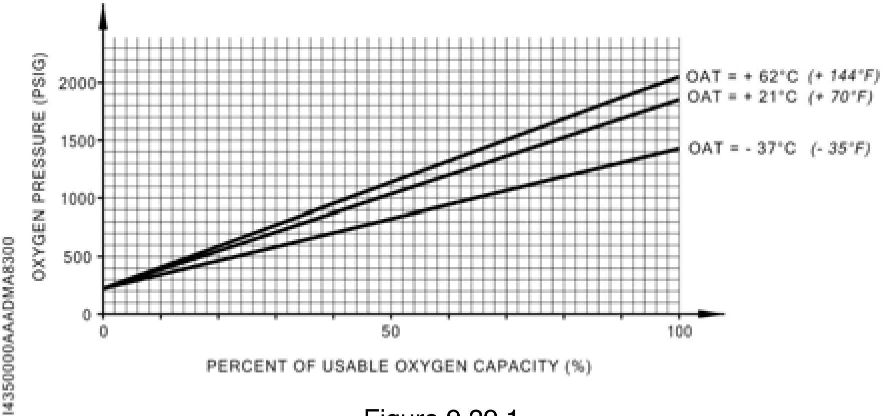


Figure 9.29.1

2 - Determine the oxygen duration in minutes by multiplying the values read on table Figure 9.29.2 by the percent obtained with the chart Figure 9.29.1.

Number of passen-gers	Duration : Passengers, plus 1 pilot	Duration : Passengers, plus 2 pilots
0	226	113
1	162	94
2	127	81
3	104	71
4	88	65

Figure 9.29.2

AFTER LANDING

"OXYGEN" switch . . . . **OFF**

SHUT-DOWN

Oxygen cylinder (right wing fairing) . . . . **Close**

SECTION 5

PERFORMANCE

The installation of the gaseous oxygen system does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	35 - OXYGEN			
A	Gaseous oxygen system (30000 ft) (OPT70 35001A)	EROS/ INTERTECHNIQUE	22.930 (10.400)	178.19 (4.526)

SECTION 7

DESCRIPTION

The TBM700 airplane is equipped with an optional gaseous oxygen system which will be used by the crew and the passengers, when the cabin altitude is greater than 10000 ft following a loss of pressurization or if there is smoke or fumes in the cabin.

The oxygen reserve is contained in an oxygen cylinder made of composite material and located outside of the pressurized cabin in a compartment in the right wing fairing. Its capacity is 50.3 cu.ft (1425 litres) "STPD" and use limit pressures are :

- maximum pressure 1850 PSIG (127 bars) at 70° F (21° C). The maximum pressure for different outside temperatures is given in Section 8, Figure 9.29.10, as well as on a placard on the inside of the cylinder service door,
- minimum pressure 217 PSIG (15 bars).

CAUTION

IF THE OXYGEN CYLINDER PRESSURE FALLS BELOW THE MINIMUM, THE CYLINDER MUST BE PURGED BEFORE REFILLING. INFORM MAINTENANCE DEPARTMENT.

The oxygen cylinder head is equipped with :

- a hand-controlled isolation valve to permit cylinder installation and removal,
- a microswitch supplying the "OXYGEN" warning light located on the advisory panel. This warning light illuminates when the isolation valve is closed,
- a graduated pressure gage,
- a charging valve - refer to the replenishment procedure in Section 8,
- an overpressure system consisting of a safety disc. This disc is designed to rupture between 2500 and 2775 PSIG (172 and 191 bars) discharging the cylinder contents overboard,
- a pressure reducing valve regulating oxygen pressure to the masks between 64 and 85 PSIG (4.4 and 5.9 bars),

- a low pressure safety valve calibrated to 116 PSIG (8 bars).

An indicating and control panel located in the cockpit overhead panel at the disposal of the pilot includes :

- a graduated pressure gage to permit checking the cylinder charge,
- a two-position valve "ON/OFF" ("OXYGEN" switch) to permit the supply of the front seats occupiers masks,
- a two-position valve "ON/OFF" ("PASSENGERS OXYGEN" switch) with guard to permit the supply of the four passenger masks, when the "OXYGEN" switch is set to "ON".

Two pressure-demand type masks allowing quick donning with only one hand, covering the nose and the mouth, as well as two pairs of smoke goggles are at disposal of the pilot and the front passenger. Masks are installed in cups on the cabin walls aft of the front seats. For the ease of donning and for ergonomic reason, the pilot mask is located in the right side cup and the front passenger mask is located in the left side cup. The masks are permanently connected to the oxygen system.

The smoke goggles are stowed in the cabinet drawer behind the right front seat.

Each cockpit mask is equipped with :

1 - a microphone, controlled by the "NORM/MASK" switch under cover located on the instrument panel near the pilot's control wheel.

<u>Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)</u>

2 - a Smart Mike system that reduces the breathing noise in the headsets. The noise reduction function operates when the switch located on the O_2 connecting line is set to "ON" - see Figure 9.29.6.

All

3 - a vent valve integrated in the facepiece of the mask to provide airflow to the goggles.

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

NOTE :
Opening of the vent valve is automatic when goggles are in place.

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

NOTE :
Manual opening of the vent valve is necessary when goggles are in place.

All

4 - a regulator equipped with :

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

- a three-position "NORMAL - 100 % - EMERGENCY" rotating knob with a "PRESS TO TEST" function.

NOTE :
When smoke or fumes are present, the mask can be set to provide positive pressure to prevent smoke or fumes from infiltrating the mask and to provide airflow to clear the goggles. Set the three-position rotating knob to the "EMERGENCY" position.

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

- a two-position control tab "N (NORMAL) - 100 %",
- an "EMERGENCY" rotating knob with a "PRESS TO TEST" function.

NOTE :
When smoke or fumes are present, the mask can be set to provide positive pressure to prevent smoke or fumes from infiltrating the mask and to provide airflow to clear the goggles. Push the "N-100 %" control tab in towards the mask to the "100 %" position and turn the "EMERGENCY" control knob to the "EMERGENCY" position. After donning the goggles, open the goggle vent on the bridge of the mask by pulling the slide fully downwards.

All

A flow indicator (blinker) into the oxygen tubing signals the proper flow.

In accordance with airplane configuration, for more information, refer to masks manufacturer documentation available on myTBM.aero website.

Four passenger constant-flow type masks, covering the nose and the mouth and permanently connected, are installed in two containers on the cabin ceiling. The opening of these containers and the descent of the masks are controlled by the pilot, when the "OXYGEN" and "PASSENGERS OXYGEN" switches are set to "ON".

Oxygen flow to the passenger masks is obtained when the passenger pulls on the lanyard to release the connected pin. The green bag on the oxygen mask inflates when oxygen flow is obtained.

WARNING

SMOKING IS STRICTLY PROHIBITED WHEN THE OXYGEN SYSTEM IS IN USE.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE-UP, ETC.)

1) Microphone switch
2) ”OXYGEN” switch
3) ”PASSENGERS OXYGEN” switch

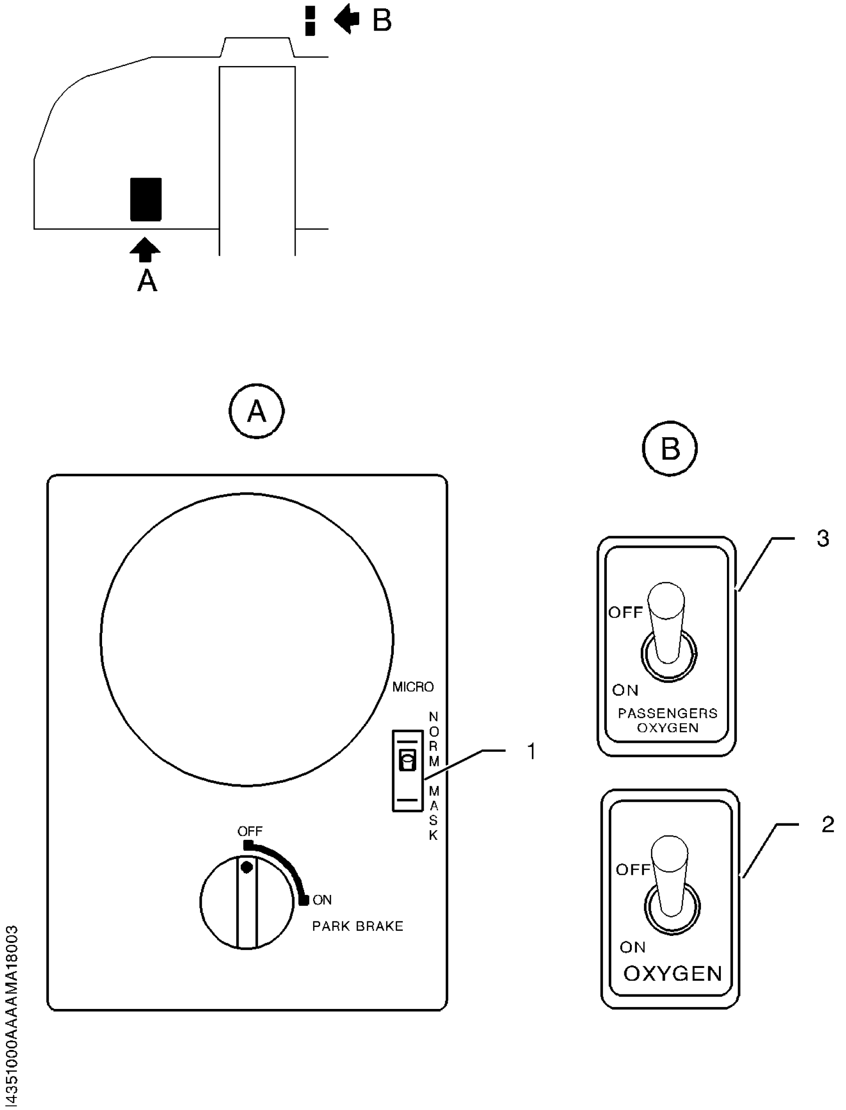


Figure 9.29.3 – Emergency oxygen system

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

1) Harness inflation side vanes
2) Regulator control knob
3) "PRESS TO TEST" function

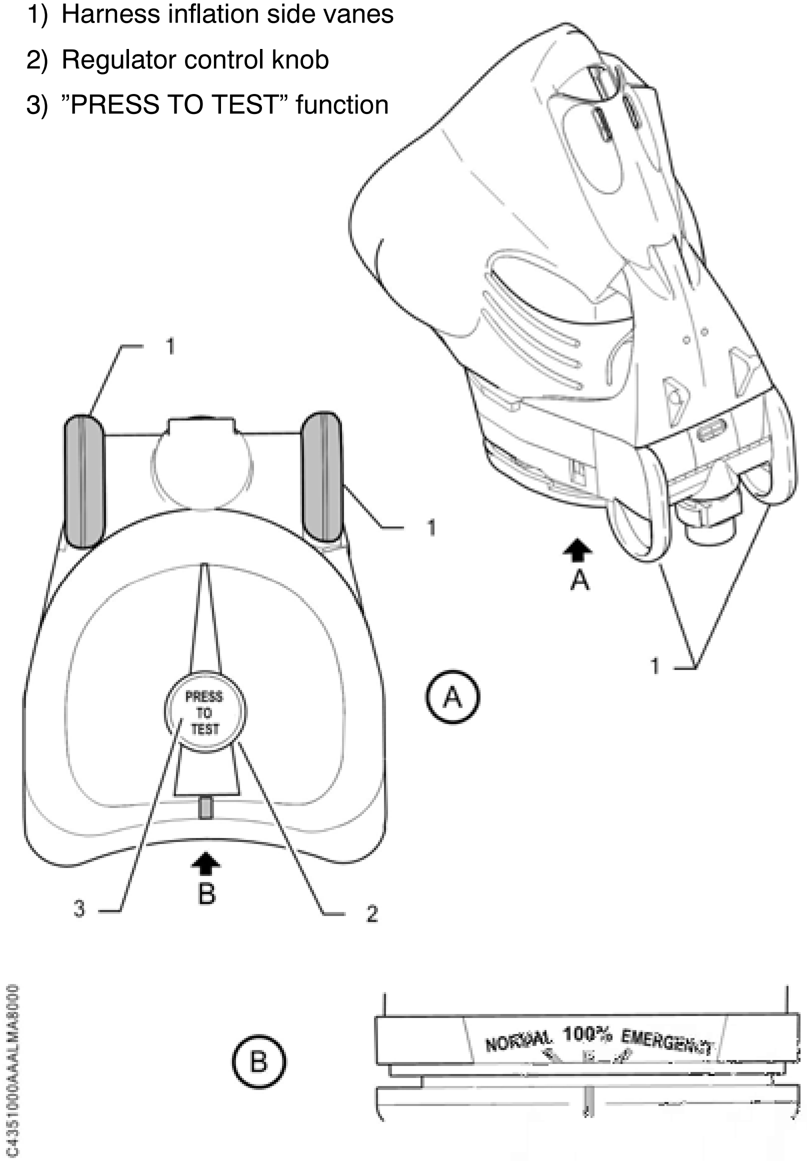


Figure 9.29.4 - Crew oxygen masks - Regulator controls

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

1) Harness inflation side vanes
2) "N (Normal) – 100 %" regulator control tab
3) "EMERGENCY" control knob
4) "PRESS TO TEST" function
5) Vent valve

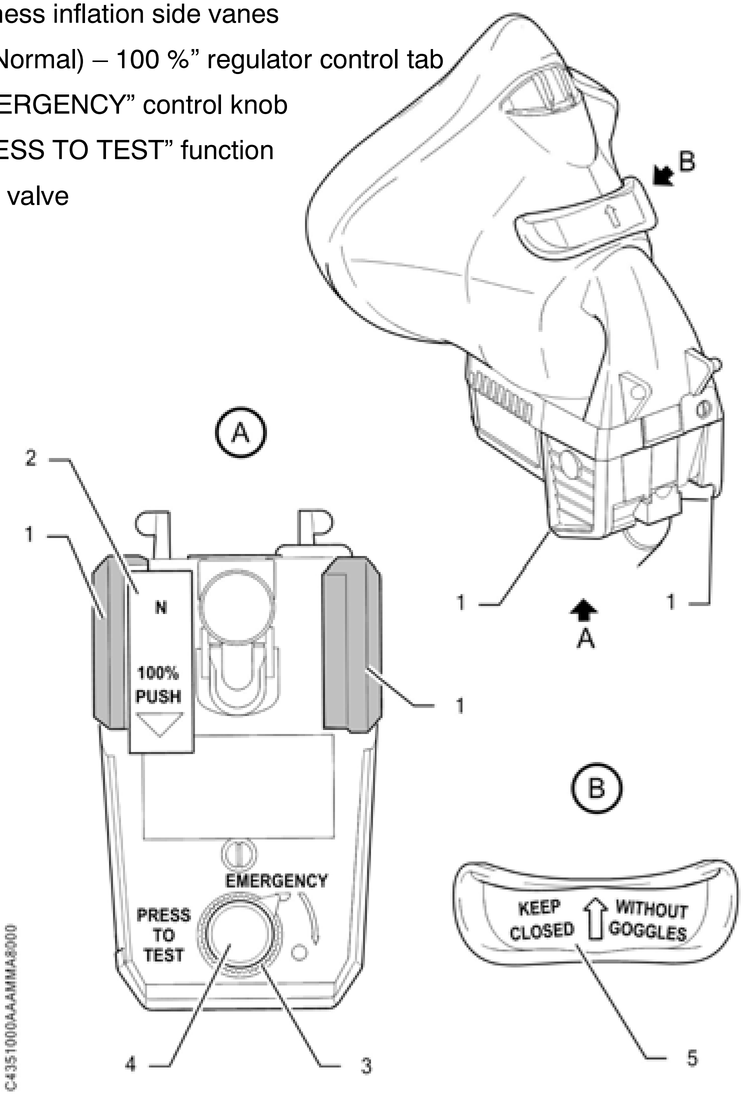


Figure 9.29.5 - Crew oxygen masks - Regulator controls

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

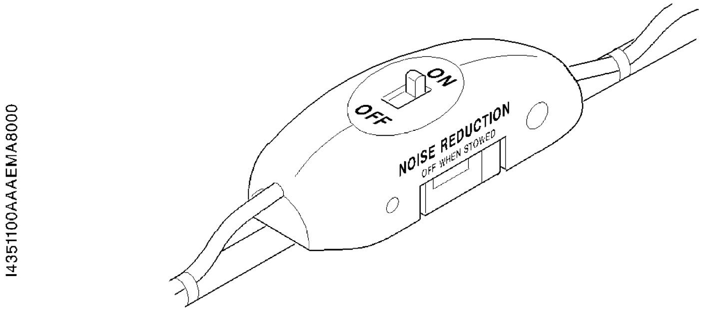


Figure 9.29.6 - Crew oxygen masks - Noise reduction switch

All

FLIGHT ABOVE 15000 FT WITH POSSIBLE EMERGENCY DESCENT

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- 4 minutes usage by each pilot and passenger from 30000 ft to 15000 ft.
- Plus 30 minutes usage by each pilot and passenger at 15000 ft.
- Plus 86 minutes usage by each pilot at 10000 ft.

Number of occupants		**OUTSIDE TEMPERATURE**						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ −1° C	10° F/ −12° C	−10° F/ −23° C
1	0	451	435	**418**	399	381	365	346
1	1	567	545	**525**	501	479	457	435
1	2	685	657	**632**	605	578	550	522
1	3	802	770	**740**	707	674	642	608
1	4	920	882	**847**	809	772	734	696
2	0	937	898	**864**	824	783	745	709
2	1	1056	1009	**971**	925	881	837	792
2	2	1175	1123	**1078**	1027	977	928	875
2	3	1293	1234	**1186**	1115	1072	1014	961
2	4	1414	1349	**1293**	1228	1168	1106	1044

Figure 9.29.7 − Minimum oxygen pressure (PSIG)
[Flight above 15000 ft with possible emergency descent]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

WHEN REQUIRED TO REMAIN ABOVE 15000 FT DUE TO MINIMUM ENROUTE ALTITUDE

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- Flight above 15000 ft. All equipment used.
- 1 hour usage by each pilot and passenger.
- Plus 1 hour usage by each pilot under 15000 ft.

Number of occupants		**OUTSIDE TEMPERATURE**						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ –1° C	10° F/ –12° C	–10° F/ –23° C
1	0	464	447	**430**	410	393	376	357
1	1	672	646	**621**	593	567	539	513
1	2	880	843	**811**	773	738	702	665
1	3	1091	1044	**1001**	955	910	864	817
1	4	1300	1242	**1191**	1134	1077	1022	966
2	0	912	873	**839**	801	763	728	689
2	1	1122	1072	**1029**	980	934	885	840
2	2	1333	1271	**1220**	1163	1108	1045	991
2	3	1545	1472	**1410**	1342	1272	1203	1138
2	4	1755	1671	**1600**	1516	1436	1355	1262

Figure 9.29.8 – Minimum oxygen pressure (PSIG)
[When required to remain above 15000 ft due to minimum Enroute altitude]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

FLIGHT BETWEEN 15000 FT AND 10000 FT

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- Flight under 15000 ft.
- 90 minutes usage by each pilot and one passenger.
- Plus 30 minutes usage by each pilot at 10000 ft.

Number of occupants		OUTSIDE TEMPERATURE						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ −1° C	10° F/ −12° C	−10° F/ −23° C
1	0	464	447	**430**	410	393	376	357
1	1	776	745	**716**	683	653	622	590
1	2	776	745	**716**	683	653	622	590
1	3	776	745	**716**	683	653	622	590
1	4	776	745	**716**	683	653	622	590
2	0	912	873	**839**	801	763	728	689
2	1	1228	1172	**1125**	1073	1016	966	913
2	2	1228	1172	**1125**	1073	1016	966	913
2	3	1228	1172	**1125**	1073	1016	966	913
2	4	1228	1172	**1125**	1073	1016	966	913

Figure 9.29.9 – Minimum oxygen pressure (PSIG)
[Flight between 15000 ft and 10000 ft]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

The operations hereafter supplement those of the standard airplane described in Section 8 ”Handling, servicing and maintenance” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (30000 FT)”.

These directives replace the one described in Chapter ”Servicing”, Paragraph ”Oxygen”, of the basic Pilot’s Operating Handbook.

The oxygen replenishment device is installed directly on the oxygen cylinder head. It consists of a charging valve and a pressure gage graduated from 0 to 2000 PSIG. A chart – see Figure 9.29.10, located on the inside of the cylinder service door, gives the maximum cylinder charge pressure for the ambient temperature.

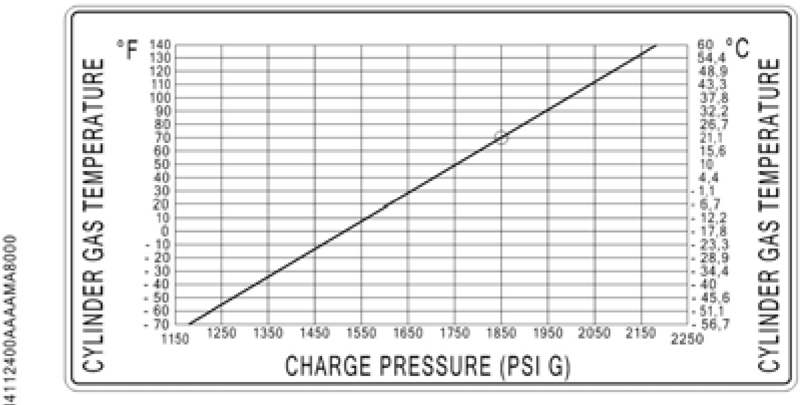


Figure 9.29.10 – Charge pressure chart

REPLENISHMENT PROCEDURE

WARNING

MAKE SURE THAT THE AIRPLANE IS FITTED WITH A GROUNDING CABLE AND IS PROPERLY GROUNDED.
THE OXYGEN CART MUST BE ELECTRICALLY BONDED TO THE AIRPLANE.

DO NOT OPERATE THE AIRPLANE ELECTRICAL SWITCHES OR CONNECT/DISCONNECT GROUND POWER DURING OXYGEN SYSTEM REPLENISHMENT.

DO NOT OPERATE THE OXYGEN SYSTEM DURING REFUELING/DEFUELING OR PERFORM ANY OTHER SERVICING PROCEDURE THAT COULD CAUSE IGNITION.

INTRODUCTION OF PETROLEUM BASED SUBSTANCES SUCH AS GREASE OR OIL TO OXYGEN CREATES A SERIOUS FIRE HAZARD. USE NO OIL OR GREASE WITH THE OXYGEN REPLENISHMENT EQUIPMENT.

ALWAYS OPEN SHUT-OFF VALVE SLOWLY TO AVOID GENERATING HEAT AND REPLENISH THE SYSTEM SLOWLY AT A RATE NOT EXCEEDING 200 PSIG (13.7 BARS) PER MINUTE

CAUTION

REPLENISHMENT OF THE OXYGEN SYSTEM SHOULD ONLY BE CARRIED OUT BY QUALIFIED PERSONNEL

NOTE :
The cylinder is fully charged at a pressure of 1850 PSIG (127 bars) at a temperature of 70° F (21° C). If the cylinder temperature differs from 70° F (21° C), refer to Figure 9.29.10 which lists the required pressures according to the cylinder temperature.

Open the oxygen service door at the rear of the right wing fairing.

Measure the oxygen cylinder temperature.

Make sure the thermometer indication is constant. Note the indication.

Refer to the temperature/pressure chart for the correct oxygen cylinder pressure.

If the pressure on the oxygen cylinder gage is lower than the maximum for the cylinder temperature, fill the oxygen cylinder.

The minimum pressure for the oxygen cylinder is 217 PSIG (15 bars).

CAUTION

IF THE OXYGEN CYLINDER PRESSURE FALLS BELOW THE MINIMUM, THE CYLINDER MUST BE PURGED BEFORE REFILLING. INFORM MAINTENANCE DEPARTMENT.

Make sure the area around the oxygen cylinder charging valve is clean. Remove the cap from the charging valve.

Make sure the oxygen supply hose is clean and connect it to the charging valve.

Slowly pressurize the oxygen cylinder to the correct pressure.

Close the oxygen supply and let the cylinder temperature become stable.

Monitor the oxygen pressure on the gage and fill to the correct pressure if necessary.

Release the pressure in the oxygen supply hose and disconnect from the charging valve.

Install the cap on the charging valve.

Make sure all the tools and materials are removed and the work area is clean and free from debris.

Close the oxygen service door.

PASSENGER MASKS REPACKING INSTRUCTIONS

WARNING

DO NOT USE OIL OR OTHER PETROLEUM BASED LUBRICANTS ON PASSENGER OXYGEN MASK OR DEPLOYMENT CONTAINER. OIL BASED LUBRICANTS ARE A FIRE HAZARD IN OXYGEN-RICH ENVIRONMENTS

WARNING

REPACKING PROCEDURES SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH THE INSTRUCTIONS AND WARNINGS IN THIS DOCUMENT. IMPROPERLY PACKED MASKS CAN DAMAGE THE MASKS OR RESULT IN FAILURE OF THE MASKS TO DEPLOY

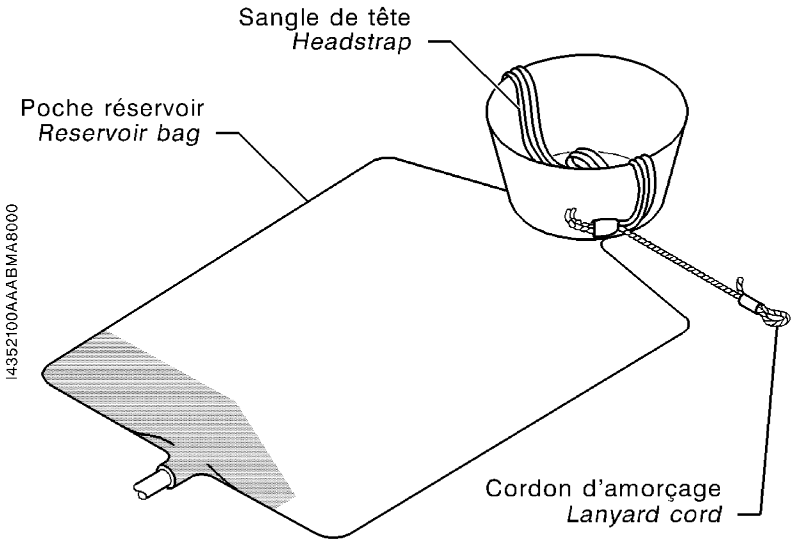
WARNING

MASKS SHALL BE REPACKED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER CONTAMINANTS

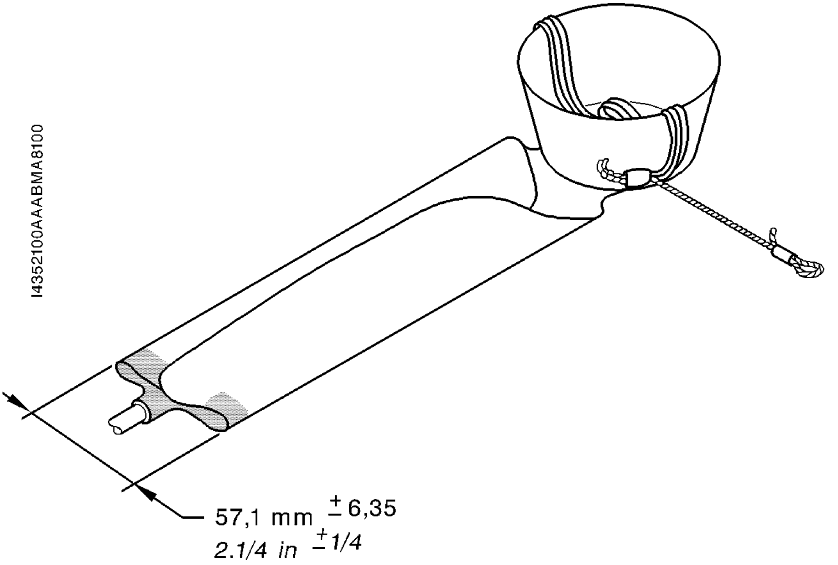
Inspect and disinfect mask and deployment container with an aqueous solution of Zephiran Chloride ("Scott Aviation" P/N 00-2572) or with disinfection cleaners ("EROS" P/N SAN50). After disinfecting and thoroughly drying the mask, lightly dust the outside of the facepiece with Neo-Novacite powder ("Scott Aviation" P/N 00-736). Contamination can be removed with mild soap and water solution.

Fold headstrap into facepiece. Pull lanyard cord out to side of facepiece so that it does not interfere with repacking.

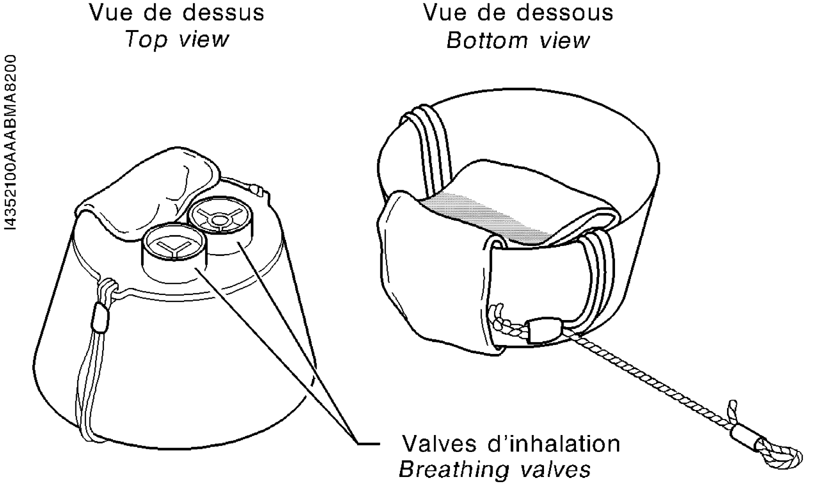
Lay reservoir bag on flat surface and smooth out wrinkles.



Gently fold reservoir bag lengthwise into thirds (outside edges folded inward over center of bag). Do not crease bag.

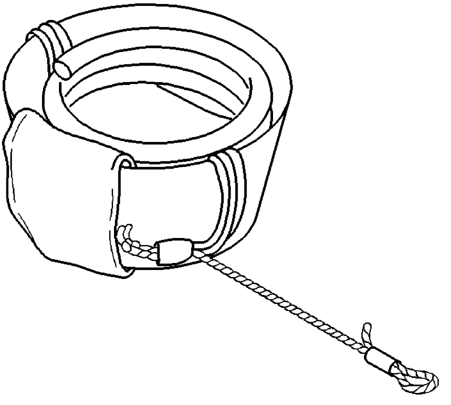


Fold reservoir bag away from breathing valves and into facepiece. Make sure bag does not cover breathing valves.



Coil oxygen tubing inside facepiece over reservoir bag.

I4352100AAABMA18000



Connect oxygen tubing to manifold oxygen fitting.

WARNING

MAKE SURE LANYARD PIN IS INSERTED INTO CORRECT CHECK VALVE FOR MASK BEING INSTALLED. CROSS CONNECTED PINS WILL RESULT IN PASSENGERS PULLING LANYARD CORDS ONLY TO INITIATE OXYGEN FLOW TO ANOTHER MASK

Insert lanyard pin into corresponding check valve.

Place mask facepiece – first in deployment container. Make sure that oxygen tubing and lanyard cord are free to deploy and are not caught between the container and lid.

Close and latch deployment container lid.

SUPPLEMENT

CARGO TRANSPORTATION CAPABILITY

TABLE OF CONTENTS

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SECTION 1

GENERAL

This supplement is intended to inform the pilot about the limitations, description and operations necessary to load the airplane in order to perform cargo transportation.

For this utilization, the freight is installed in the cabin aft of the front seats.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the airplane is equipped with the option ”CARGO TRANSPORTATION CAPABILITY”.

OCCUPANTS

- Front L.H. seat .. 1 (pilot)
- Front R.H. seat .. 0 [with partition net, P/N T700B259001100000 (emergency exit not accessible)]
  ...... 1 [with partition net, P/N T700B259001800000 (emergency exit accessible)]

Front R.H. seat occupied

The specific partition net, P/N T700B259001800000 must be installed. This net allows bulk freight only.
A clear path must be available to the emergency exit. In particular, no cargo or equipment may be stowed on top of the net forward of frame 10.

FREIGHT WEIGHT LIMITATIONS

Bulk freight [max. density 6.24 lb/cu.ft (100 kg/m^3)] :

- between the two partition nets .... 441 lbs (200 kg)
- aft of the rear partition net .... 220 lbs (100 kg)

Container, pallet or heavy box freight :

- front container, pallet or heavy box .... 396.8 lbs (180 kg)
- rear container, pallet or heavy box .... 330.7 lbs (150 kg)

Max. floor load .... 38.5 lb/sq.ft (188 kg/m^2)

Max. dimensions of containers, pallets or heavy boxes :

- Length .... 47.24 in (1.20 m)
- Width .... 31.50 in (0.80 m)
- Height (front container, pallet or heavy box) .... 39.37 in (1.00 m)
- Height (rear container, pallet or heavy box) .... 31.50 in (0.80 m)

PLACARDS

(1) On the raiser at frame 13bis, inside the cabin

LOADING LIMITS

CONTAINERS, PALLETS AND HEAVY BOXES	BULK
330 Kg (727 lbs) MAXIMUM	200 Kg (441 lbs) BETWEEN PARTITION NETS
188 Kg / m^2 (38,5 lb/sq.ft) MAXIMUM	100 Kg (220 lbs) AFT OF REAR PARTITION NET
	100 Kg / m^3 (6,24 lb/cu.ft)

FOR LOADING INSTRUCTIONS REFER TO RELEVANT SUPPLEMENT IN PILOT'S OPERATING HANDBOOK

IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE CARGO IS PROPERLY SECURED

I4255004AAAJMA18002

(2) Under L.H. front side window

CARGO OPERATION LIMIT

DO NOT USE FRONT RIGHT SEAT
IF EMERGENCY EXIT IS NOT ACCESSIBLE

I4113200AAABMA8000

SECTION 3
EMERGENCY PROCEDURES

The installation of the option ”CARGO TRANSPORTATION CAPABILITY” does not change the basic emergency procedures of the airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the airplane is equipped with the option ”CARGO TRANSPORTATION CAPABILITY”.

PREFLIGHT INSPECTION

Bulk freight

Partition nets in place .... **CHECK**

Container, pallet or heavy box freight

Stowing nets in place .... **CHECK**

SECTION 5
PERFORMANCE

The installation of the option ”CARGO TRANSPORTATION CAPABILITY” does not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the information given for the standard airplane in Section 6 "Weight and Balance" of the basic Pilot's Operating Handbook, when the airplane is equipped with the option "CARGO TRANSPORTATION CAPABILITY".

S A or O	STANDARD OR OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	25 - EQUIPMENT - FURNISHINGS			
A	Cargo transportation capability :			
	- Partition net at frame 7	SOCATA	2.205 (1.00)	200.31 (5.088)
	- Partition net at frame 14	SOCATA	2.205 (1.00)	289.53 (7.354)
	- Stowing net	SOCATA	6.614 (3.00)	224.41 (5.700) or 275.59 (7.000)
	- Front stop	SOCATA	1.014 (0.46)	202.76 (5.150)
	- Rear shim	SOCATA	6.173 (2.80)	255.12 (6.480)
	(OPT70 25027A)			
A	Cargo transportation capability :			
	- Partition net at frames 7/10	SOCATA	5.071 (2.30)	219.09 (5.57)
	- Partition net at frame 14	SOCATA	2.205 (1.00)	289.53 (7.354)
	(OPT70 25027B)			
S	Seats (oxygen equipment excluded) – 6-seat configuration			
	. R.H. front seat	SOCATA	29.696 (13.470)	182.68 (4.640)
	. Intermediate (back to flight direction)	SOCATA	25.507 (11.570)	218.31 (5.545)
	. Rear double chair	SOCATA	57.319 (26.000)	271.30 (6.891)

S A or O	STANDARD OR OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
S	Stairway	SOCATA	9.921 (4.500)	252.36 (6.410)
S	Cabin and baggage compartment carpets	SOCATA	23.369 (10.600)	234.02 (5.944)
A	JEPPESEN cabinet – Composite (OPT70 25005C)	SOCATA	14.991 (6.800)	202.76 (5.150)
A	Storage cabinet – Composite (OPT70 25006E)	SOCATA	16.314 (7.400)	202.76 (5.150)
A	Refreshment cabinet – Composite (OPT70 25006F)	SOCATA	18.960 (8.600)	202.76 (5.150)
A	Audio cabinet – Composite (OPT70 25009C)	SOCATA	24.052 (10.910)	206.14 (5.236)

WEIGHT AND BALANCE DETERMINATION

Enter the basic empty weight of the airplane in normal configuration and the moment in the appropriate block on the Loading Form, Figure 9.30.2 (1/3).

Use Figure 9.30.1 to determine the weight and moment difference for the conversion to the cargo version. Enter the weight and moment difference for the conversion in the appropriate block on the Loading Form, Figure 9.30.2 (1/3).

Enter the weight of all the crew and the loaded cargo in the appropriate block on the Loading Form, Figure 9.30.2 (1/3).

Determine the moment for each occupant.

Determine the moment for the cargo according to the position of the C.G. arm from Figure 9.30.1.

Enter the moment of each item in the appropriate blocks on the Loading Form, Figure 9.30.2 (1/3).

Add the weight and moment of all the items to the basic empty weight and moment of the airplane to determine the zero fuel weight and moment. Divide the moment by the weight to determine the C.G. arm “do”.

Determine the moment of the fuel load.

Enter the fuel weight and moment in the appropriate block on the Loading Form, Figure 9.30.2 (1/3) and proceed as for the zero fuel configuration.

Add the fuel weight and moment to the here above calculated zero fuel weight and moment to determine the weight with fuel and moment. Divide the moment by the weight to determine the C.G. arm.

Express the C.G. arms “do” in percentage of the aerodynamic chord according to the formula and complete the table, Figure 9.30.2 (2/3) or (3/3).

Enter the characteristics of the loaded airplane in blocks 1 for the zero fuel and weight with fuel configurations, Figure 9.30.3.

Calculate the basic index using the formula described in 2 and enter the results in 3, Figure 9.30.3.

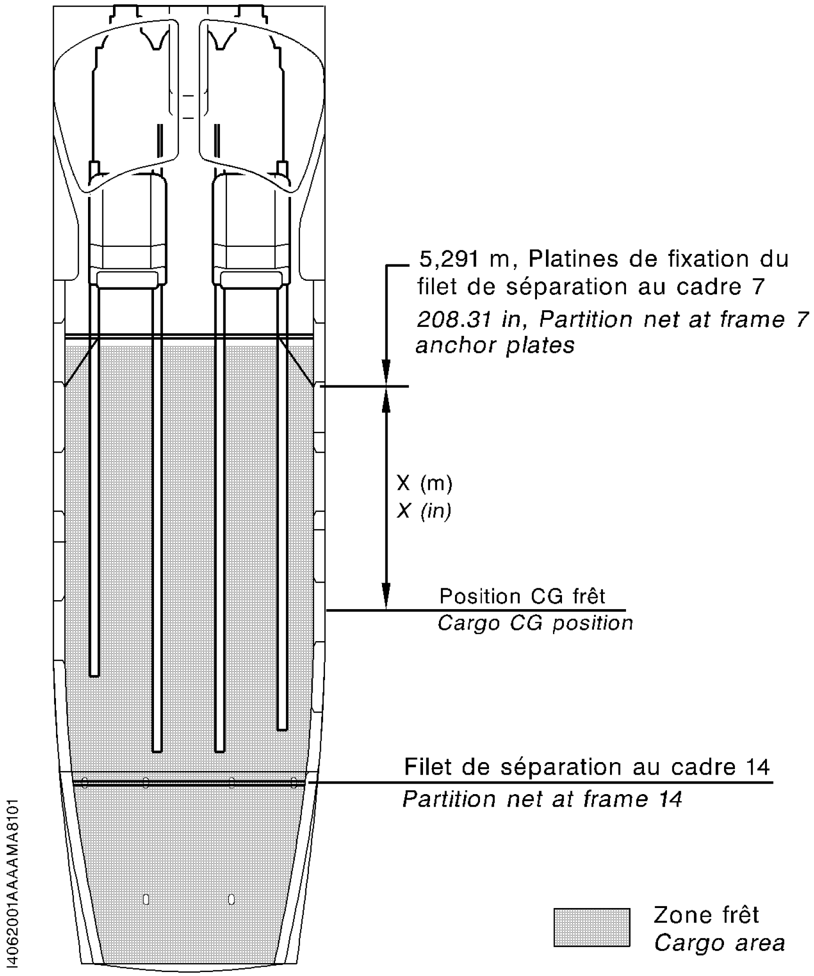
Enter the calculated index 3 in the upper index scale and proceed according to the method described in Figure 9.30.3.

Draw a vertical line corresponding to the final index (loaded airplane) until you reach the airplane weight horizontal line.

Read the corresponding balance while checking that the obtained point falls within the weight and balance envelope. Also check that the total zero fuel weight does not exceed the max. zero fuel weight [6001 lbs (2722 kg)].

Otherwise, reconsider the airplane loading.

Record these data on your navigation log.



Measure the cargo CG position (x dimension) from the anchor plates at frame 7.

Express the cargo CG arm according to the following formula :

$$\boxed{do = 208.31 + x} \text{ (in)}$$

or

$$\boxed{do = 5.291 + x} \text{ (m)}$$

Figure 9.30.1 - CG arm calculation

LOADING FORM			
ITEM	WEIGHT lb (kg)	C.G. ARM in (m)	MOMENT lb.in (m.kg)
1. Basic empty weight			
2. Cargo conversion			
3. Pilot		180.5 (4.585)	
4. R.H. seat passenger		180.5 (4.585)	
5. Front baggage		128.0 (3.250)	
6. Cargo			
7. Cargo			
8. Cargo			
9. Cargo			
10. Rear baggage		303.0 (7.695)	
11. Zero fuel weight			
12. Fuel		188.19 (4.780)	
13. Weight with fuel			

Figure 9.30.2 (1/3) – Loading Form

$$\text{CG m.a.c. \%} = \frac{(d_o - 172.93)}{59.45} \times 100$$

ITEM	WEIGHT lb	do in	CG m.a.c. %
14. Zero fuel weight			
15. Weight with fuel			

Figure 9.30.2 (2/3) – Loading Form (lbs and in)

$$\text{CG \% cam} = \frac{(d_o - 4.3925)}{1.51} \times 100$$

ITEM	WEIGHT kg	do m	CG m.a.c. %
14. Zero fuel weight			
15. Weight with fuel			

Figure 9.30.2 (3/3) – Loading Form (kg and m)

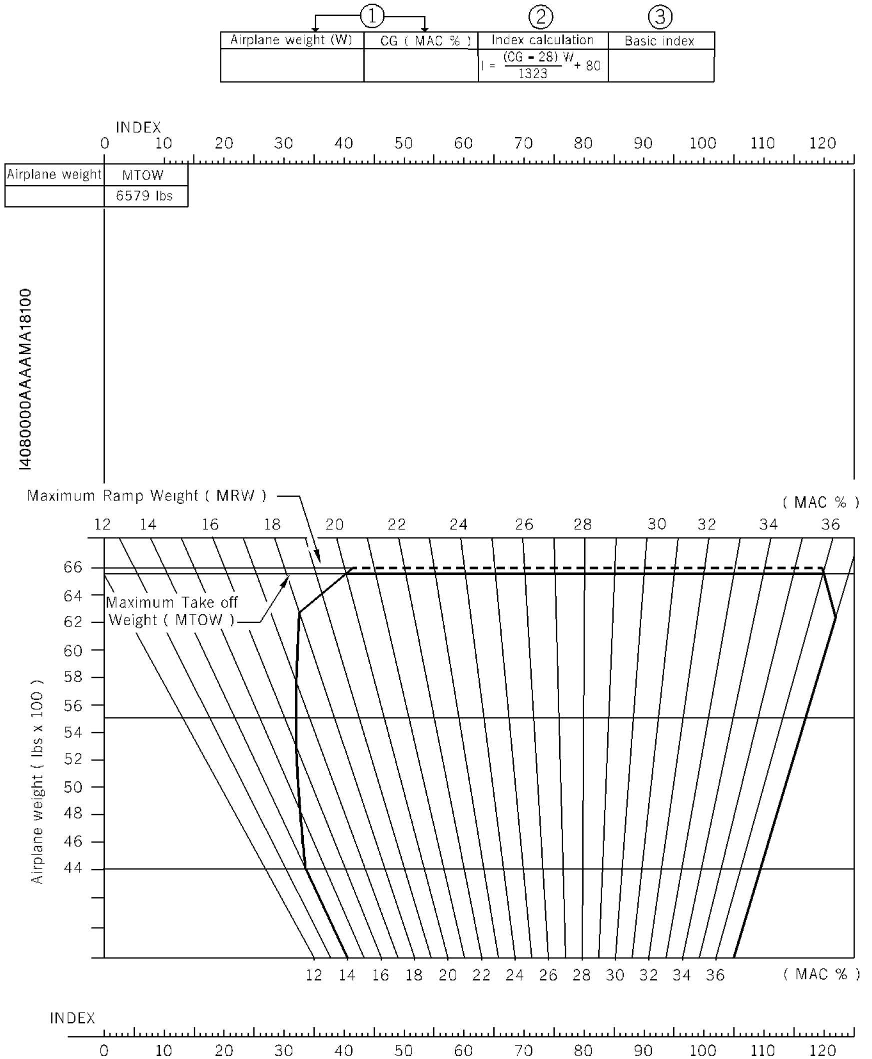


Figure 9.30.3 - Weight and balance graph (in lbs)

1	1	2	3
Airplane weight (W)	CG (MAC %)	Index calculation	Basic index
		$I = \frac{(CG - 28)\,W}{600} + 80$	

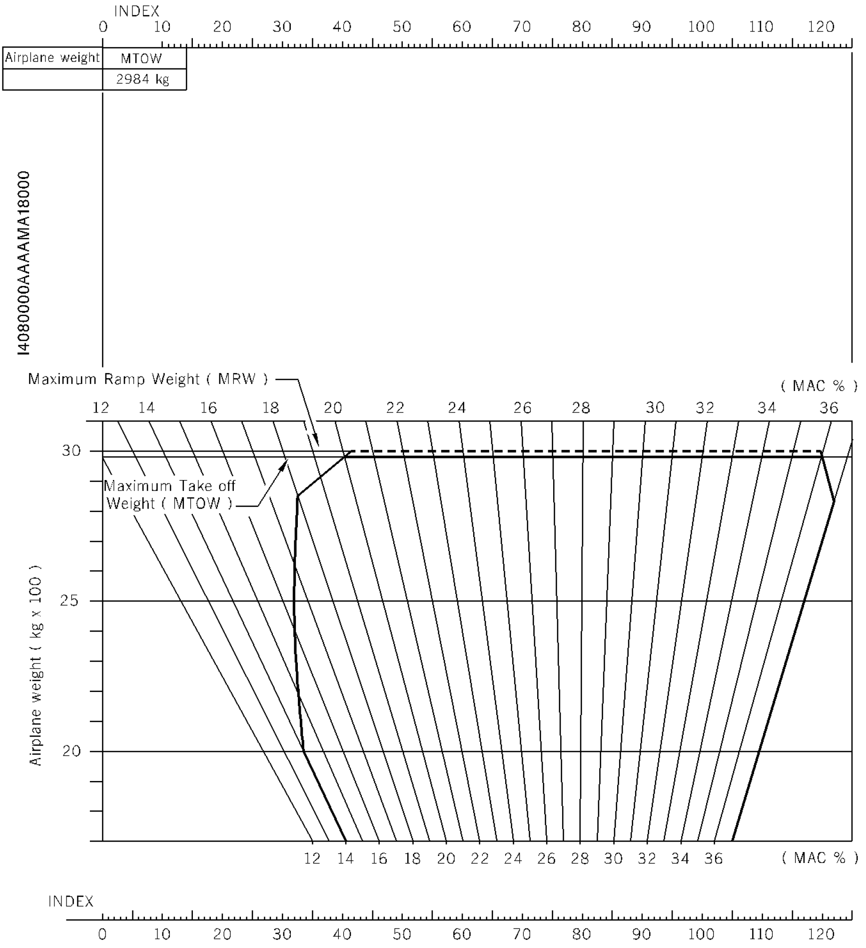


Figure 9.30.3A – Weight and balance graph (in kg)

SECTION 7

DESCRIPTION

DESCRIPTION

For transport of goods in bulk (cargo of low density), two partition nets are available :

- one net at frame 7 for cargo installed in the cabin with only a pilot on board or one net at frames 7/10 with a pilot and a R.H. passenger on board,
- one net at frame 14 for cargo installed in the baggage compartment aft of the cabin.

For transport of goods in container, on pallet or in heavy case, two identical stowing nets, with adjustable straps, are available. The strap ends are equipped with anchor fittings allowing their attachment to the seat rails or into anchor points provided in the baggage compartment.

LOADING INSTRUCTIONS

CAUTION

CARGO MUST BE STRAPPED ON THE PALLET FROM THE FRONT TO THE REAR PART OF THE CARGO

When positioned at the front, the container, pallet or heavy case must be installed against retaining angles attached to the seat rails and it must be stowed with one of the stowing nets attached to the anchor fittings in the seat rails.

When positioned at the rear, the container, pallet or heavy case must be stowed with the second stowing net attached to the anchor fittings in the seat rails, to the attachment fittings of standard straps in the baggage compartment and to the lower attachment fittings of the partition net at frame 14.

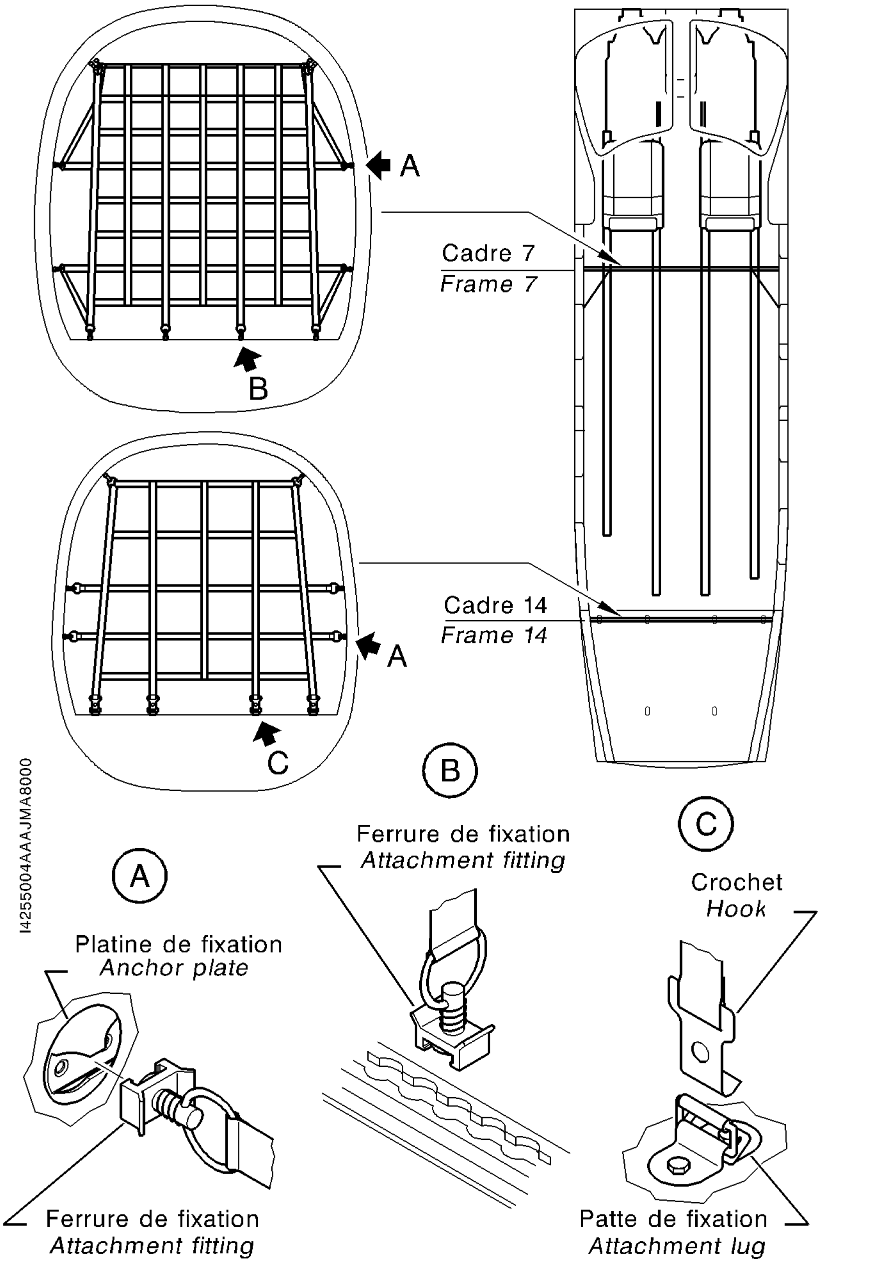


Figure 9.30.4 – Partition nets (version with a pilot)

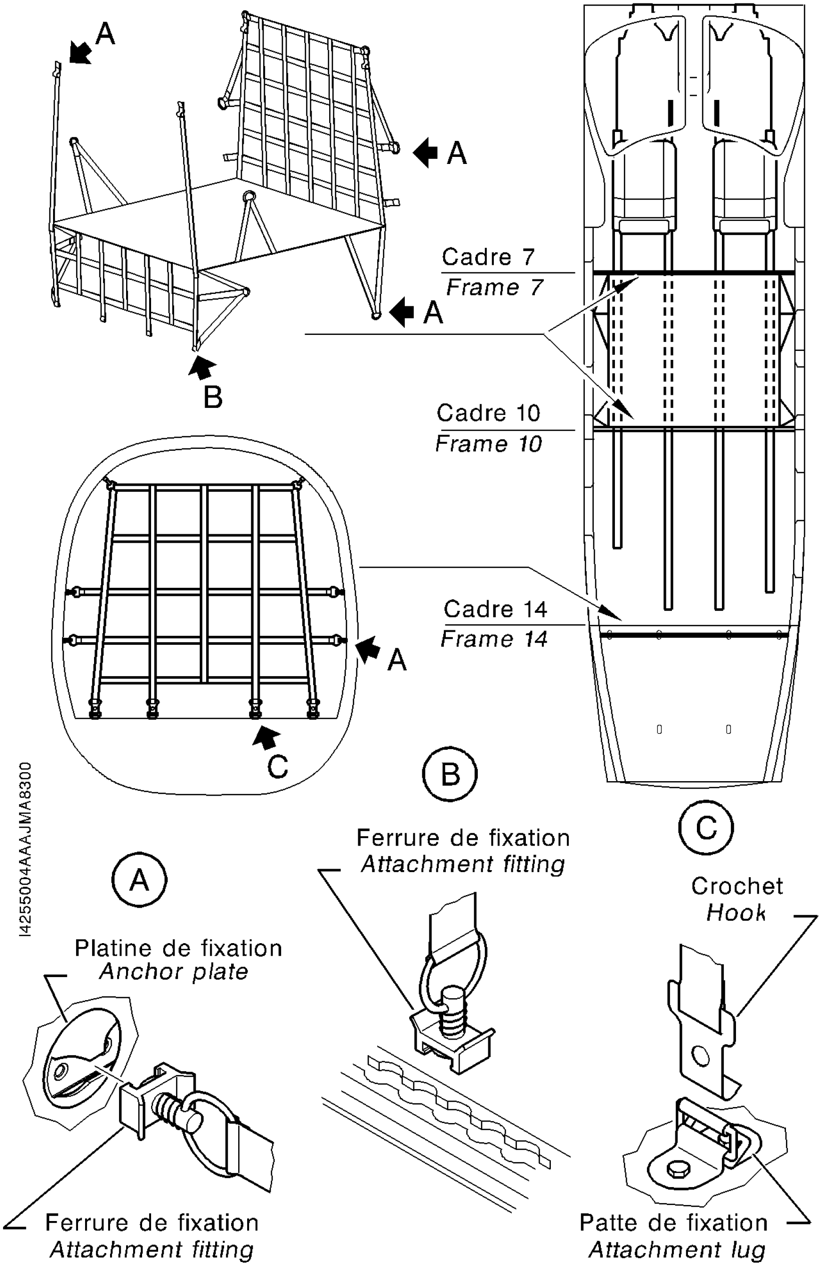


Figure 9.30.4A – Partition nets
(version with a pilot and a R.H. passenger)

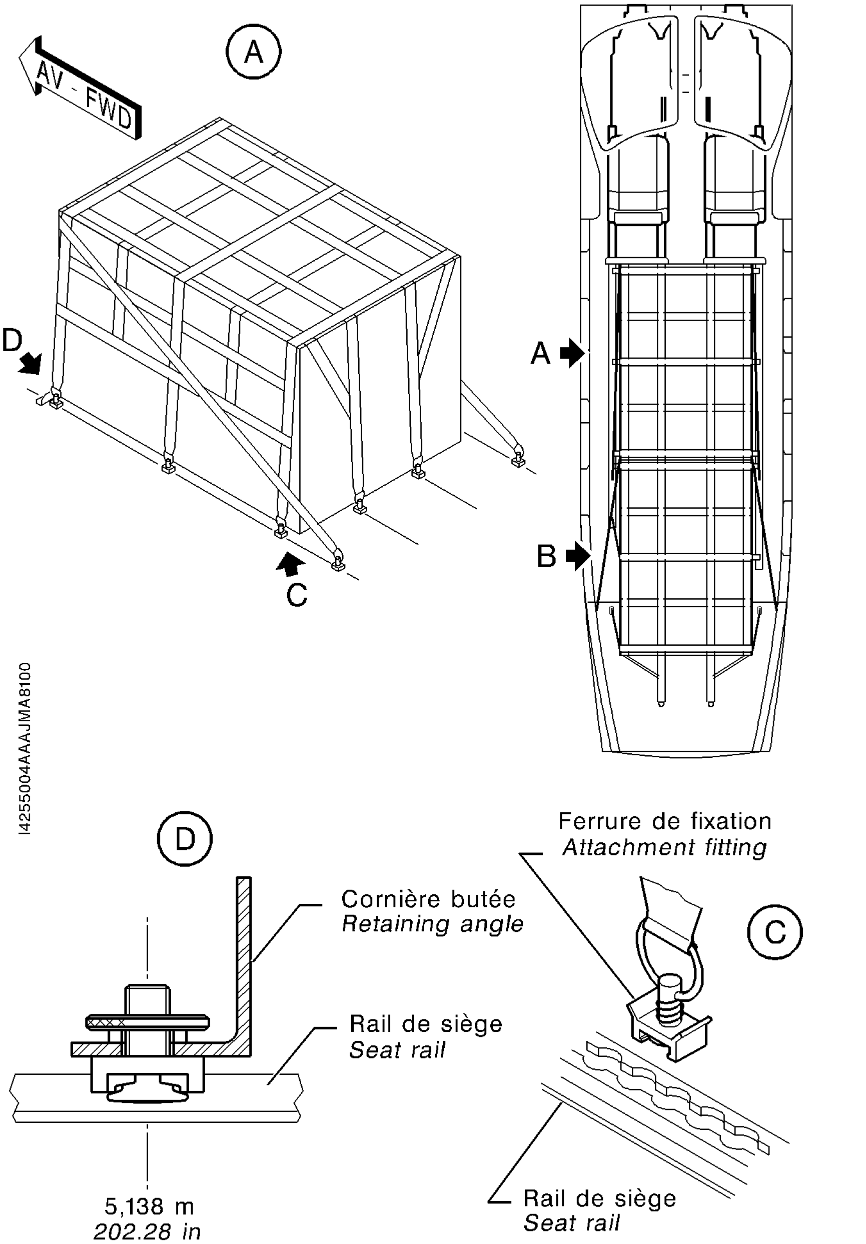


Figure 9.30.5 (1/2) - Stowing of front container, pallet or heavy box (pilot alone on board)

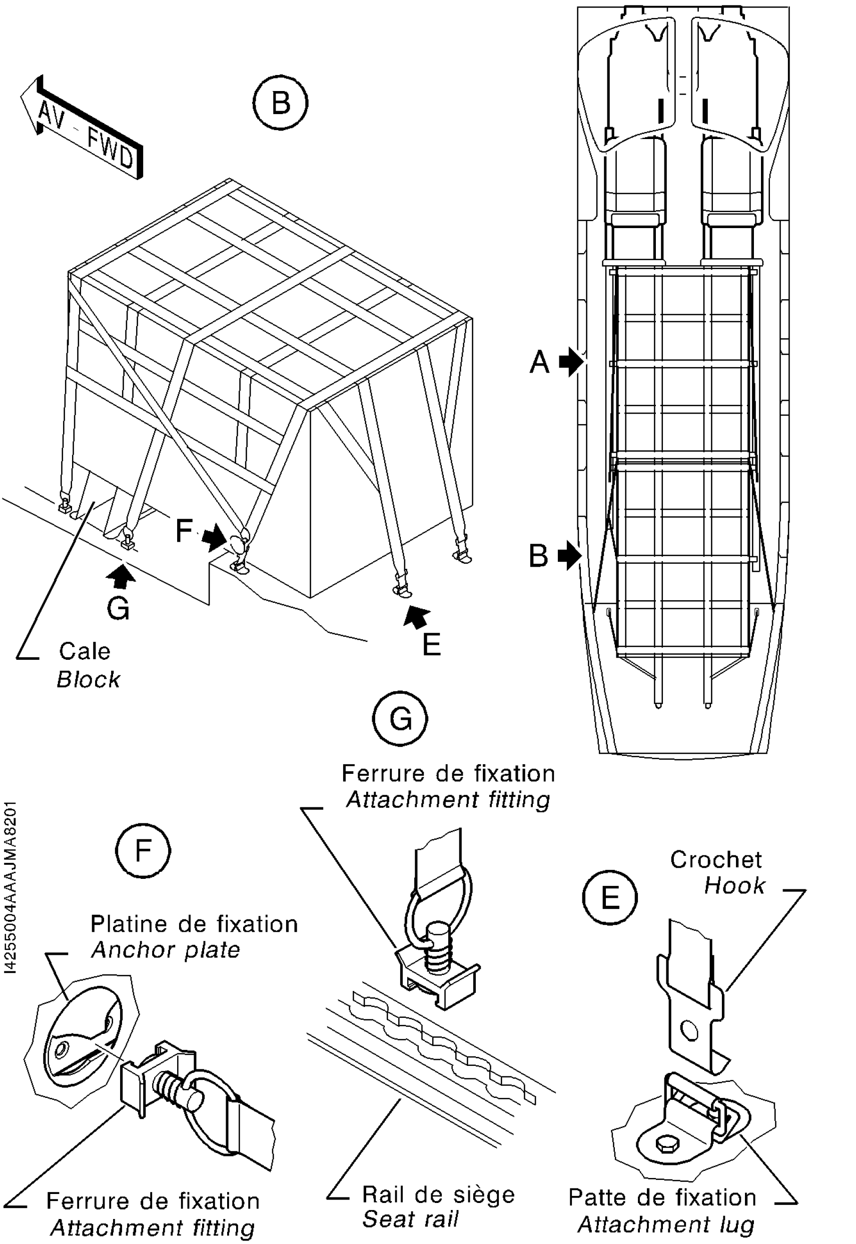


Figure 9.30.5 (2/2) - Stowing of rear container, pallet or heavy box
(pilot alone on board)

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

A - CONVERSION OF PASSENGERS ACCOMMODATION INTO CARGO TRANSPORTATION VERSION

1) Remove the rear double chair and the intermediate passengers' seats.
2) If the airplane is equipped with the gaseous oxygen option, optionally remove the R.H. front seat.
3) If installed, remove the cabinets.
4) Remove the cabin and baggage compartment carpets.
5) If necessary, remove the stairs.

<u>Bulk freight with a pilot</u>

6) Attach the front partition net, P/N T700B259001100000.
7) Attach the rear partition net, P/N T700B259000100000.

<u>Bulk freight with a pilot and a passenger</u>

6) Attach the front partition net, P/N T700B259001800000.
7) Attach the rear partition net, P/N T700B259000100000.

<u>Container, pallet or heavy box freight</u>

6) Position and secure the retaining angles, P/N T700B259003100000.

CAUTION

CARGO MUST BE STRAPPED ON THE PALLET FROM THE FRONT TO THE REAR PART OF THE CARGO

7) If a container, a pallet or a heavy box must be installed in aft location :
   a) Remove both attachment lugs and the rings in airplane centerline at the level of frame 14.
   b) Position and secure the block, P/N T700B259001500000.
8) After having loaded the airplane, position and secure the stowing nets, P/N T700B259001300000.

B - CONVERSION OF CARGO TRANSPORTATION VERSION INTO PASSENGERS ACCOMMODATION

1) If removed, install the stairs.
2) Remove and put away :
   - the stowing nets, P/N T700B259001300000,
   - the retaining angles, P/N T700B259003100000,
   - the front partition net, P/N T700B259001100000 or T700B259001800000,
   - if necessary, the rear partition net, P/N T700B259000100000,
   - the block, P/N T700B259001500000.
3) If removed, install both attachment lugs and the rings at the level of frame 14.
4) Install the cabin and baggage compartment carpets.
5) If removed, install the cabinets.
6) Install the intermediate passengers' seats and the rear double chair.
7) If removed, install the R.H. front seat.

SUPPLEMENT

”GARMIN GNS 430” GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS

TABLE OF CONTENTS

SECTION 1

GENERAL

The certification bases are the following :

- AC 20-138,
- RNP5 navigation precision.

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ””GARMIN GNS 430” GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS”.

The generalities hereafter supplement those of the standard airplane described in Section 1 ”General” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””GARMIN GNS 430” GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS”.

This supplement does not constitute an operational utilization authorization.

The GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means using information provided by satellites (the “GNS 430” system is able to track up to 12 satellites at a time). It also uses data recorded in a data base (two different data bases are available : North American one or International one). The data base is housed in a Navdata card to be inserted in the front face and is updated every 28 days by replacing the card.

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 1000 user defined waypoints and 20 different flight plans.

CAUTION

IT IS STRONGLY ADVISED NOT TO LOAD USER WAYPOINTS IN DATA BASE IN TERMINAL AREA NAVIGATION BECAUSE OF THE INCREASE OF WORK LOAD FOR THE PILOT

Configuration “mono GNS 430” System # 2 (OPT70-23-018 Version Z) :

This configuration consists of one GNS 430 System # 2, which has not the B-RNAV lien. This GPS is not coupled to the pilot’s EHSI. This configuration is installed on EFIS equipped airplane. GNS 430 VOR/LOC data are displayed on pilot’s EHSI.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS".

Data base updating must be verified before each flight.

If the data base or the card are not in accordance with WGS84 or NAD 83 geodetic model, and as there is no means of operation published, GPS navigation system must be disengaged in terminal area.

The navigation sources required for the anticipated flight shall be serviceable. In any case, GPS use is limited to the En route or terminal area of the flight.

"GARMIN GNS 430" Pilot's Guide at its latest revision shall be readily available to the pilot, each time the GPS navigation system is used.

<u>OPT70-23-018 Version Z</u>

GNS 430 GPS : IFR EN ROUTE

Figure 9.32.1 - GPS limitation placard

IFR navigation is restricted as follows :

- The system must utilize the following software versions or more recent ones :

Subsystem	Software
MAIN	2.00
GPS	2.00
COM	1.22
VOR/LOC	1.25
G/S	2.00

- IFR en route and terminal area navigation is **PROHIBITED** unless the pilot verifies the currency of the data base and the coordinates of each selected waypoint.
- The use of SIDs and STARs stored in GPS data base and the use of GPS Approach mode are **PROHIBITED**.

In continental en route area, currency of information given by the GPS and, particularly its accuracy, must be regularly verified during the flight.

The check of navigation system information consistency shall be performed :

. when reaching each waypoint or before reaching the position report point of the ATC,

. before leaving a published route and then every 15 minutes during this type of operation (function “Direct To”).

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS".

NAV FLAG OF GI 106A CDI

In GPS navigation, return to VOR or ADF navigation source and to remaining operational navigation equipment.

"CDI" push-button .... **VLOC**

"MSG" ANNUNCIATOR ILLUMINATION

1 - "MSG" push-button of GPS .... **PRESS**

Check the message.

"RAIM is not available", **"Poor GPS Coverage", "Searching the sky" or "RAIM position warning" :**

Return to VOR or ADF navigation source and to remaining operational navigation equipment.

"CDI" push-button .... **VLOC**

⬇

"MSG" ANNUNCIATOR ILLUMINATION (Cont'd)

*If the message mentions **"Set to course [###]°"** :*

- OBS set to DTK value
  Return to VOR, GPS1 or ADF navigation source and to remaining operational navigation equipment.
  "CDI" push-button . . . . **VLOC**
- OBS not set to DTK value
  Set the OBS to the value of DTK.

When the system integrity is restored, the return to GPS mode must be accompanied by the validation of the followed and desired track concordance by using primary sources of navigation.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS".

Normal operating procedures of the GPS recommended by the manufacturer are outlined in the "GARMIN" GNS 430 Pilot's Guide at the latest revision and Memory Jogger at the latest revision.

However, it is important to precise the following points for the GPS use on TBM 700 :

<u>SET UP CONDITIONS</u>

- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid for the GPS prior to flight.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

"CDI" push-button

This push-button is used to select data to be displayed on the GI 106A CDI ; the NAV data come either from NAV 2 navigation receiver or from the GNS 430 GPS System # 2.

When pressed once, the push-button illuminates **"VLOC"** (white), pressed one more time illuminates **"GPS"** (green). This information is displayed on the GNS 430 and on the GI 106A CDI.

”MSG” message annunciator (amber)

CAUTION

”MSG” ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, ”MSG” ANNUNCIATOR JUST FLASHES.

”MSG” message annunciator will flash to alert the pilot of a situation that requires his attention. Press the **”MSG” push-button** located on the GPS to view the message (Chapter 10 of ”GARMIN” GNS 430 Pilot’s Guide contains a list of all the messages likely to appear on the ”Message” page and their meanings).

”WPT” Waypoint annunciator (amber)

This annunciator illuminates 10 seconds before warning ”TURN TO XXX”.

”GPS” MODE

When using the ”GPS” mode, GPS navigation data (course deviation, TO/FROM) are presented :

- in configuration “mono GNS” System # 2 (OPT70-23-018 Version Z) :
  . GPS2 on the CDI

NOTE 1 :
VOR/LOC data are displayed on the pilot’s EHSI.

NOTE 2 :
Transmissions on VHF frequencies/channels between 121.175 and 121.20 MHz may adversely affect reception of the GPS signal. Transmissions in excess of 10 seconds may result in “RAIM position warning” annunciator activation. GPS normal navigation mode will be restored within 15 to 20 seconds after the completion of the transmission.

SECTION 5

PERFORMANCE

The installation and the operation of the "GARMIN GNS 430" GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	23 - COMMUNICATIONS			
A	COM-NAV-GPS # 2 GNS 430 interfaced with GI 106A CDI (OPT70 23018 Version Z)	GARMIN	0.330 (0.150)	206.81 (5.253)

SECTION 7

DESCRIPTION

Normal operating procedures of the ”GARMIN GNS 430” GPS NAVIGATION SYSTEM INTERFACED WITH ELECTROMECHANICAL INSTRUMENTS are described in the ”GARMIN” GNS 430 Pilot’s Guide at the latest revision.

7.1 - “Mono GNS 430” OPTION - System # 2 (OPT70-23-018 Version Z)

The option includes the GPS2 system consisting of :

- one ”GNS 430” GPS - see Figure 9.32.2 :
  This GPS cannot be a navigation source for the autopilot.
- one GI 106A CDI.

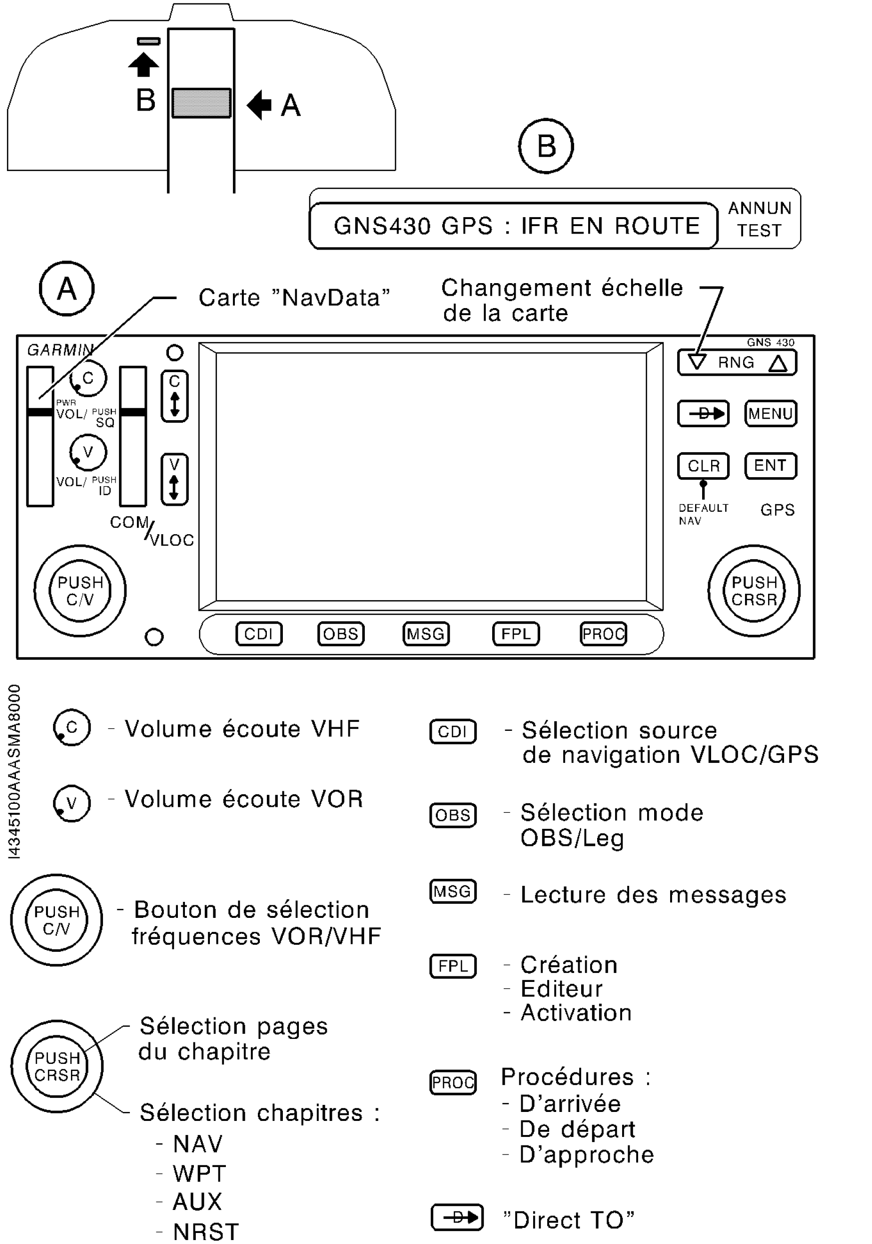


Figure 9.32.2 – ”GARMIN GNS 430” GPS SYSTEMS

SUPPLEMENT

”GARMIN GNS 430” GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Approved utilization types :

- IFR in continental and Terminal Enroute areas as additional source,
- B-RNAV,
- Non precision approaches (GPS, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV).

Conformity means :

- ACJ 20X4 and ACJ 20X5
- AC 20-138

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

This supplement does not constitute an operational utilization authorization.

The GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means using information provided by satellites (the "GNS 430" system is able to track up to 12 satellites at a time). It also uses data recorded in a data base. The data base is housed in a Navdata card to be inserted in the front face and is updated every 28 days by replacing the card.

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 1000 user defined waypoints and 20 different flight plans.

SECTION 2

LIMITATIONS

2.1 - General

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””GARMIN GNS 430” GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40”.

”GARMIN” GNS 430 Pilot’s Guide, P/N 190-00140-00 Revision A dated 12/98 or any applicable following edition, shall be readily available to the pilot, each time the GPS navigation system is used.

The system must utilize the following software versions or more recent ones :

Subsystem	Software
MAIN	2.16
GPS	2.03

Data base updating must be verified before each flight.

The navigation sources required for the anticipated flight shall be serviceable and allow an immediate crossed check on available ground aids or shall allow to return to primary navigation sources in case of GPS navigation loss.

Use of GPS as a navigation source is **PROHIBITED**, unless the pilot verifies the currency of the data base and the coordinates of each selected waypoint.

Procedures during flight preparation

During flight preparation, the pilot must get information about GPS constellation, via aeronautical data (consultation of GPS NOTAM).

When less than 24 satellites are available (or less than 23 if equipment uses pressure altitude information), the pilot must make sure that RAIM function is available on the projected route and for the flight period in B-RNAV areas.

RAIM function prediction can be done using prediction software integrated into GNS 430 or any other approved software such as the one provided for the users by EUROCONTROL on INTERNET.

If a loss of RAIM function is predicted on the chosen route for a period of more than 5 minutes, the flight cannot be done. In that case, the flight will either be postponed or another route will be chosen. The prediction software must then be used again.

Preflight procedures

During preflight checks, it is necessary to verify data base validity (updating of the last AIRAC cycle).

The onboard equipment must be initialized in compliance with manufacturer procedures (refer to "GARMIN GNS 430 Pilot's Guide").

In case a pre-programmed or an already stored flight plan is used, an accurate check of the waypoints is also required.

General in-flight procedures

Before entering a B-RNAV area, the pilot must make sure that RAIM function is available.

Flight plan activation, WPT and LEG changes as well as any modification of initialization data must be done in compliance with equipment User's Manual.

For every navigation into areas reserved for B-RNAV, the pilot must be provided with a predicted availability of RAIM on the route, if the constellation disposes of less than 23 satellites.

The check of navigation system information consistency shall be performed :

- when reaching each waypoint or before reaching the position report point of the ATC,
- before leaving a published route and then every 15 minutes during this type of operation (function "Direct To").

The check of position information consistency may be performed by comparing this position with the one determined by the primary radionavigation sources.

2.2 - SID/STAR

The use of SIDs and STARs stored in GPS data base is only authorized, if the pilot has checked that GPS procedure corresponds to the one given in the official documentation (coordinates of various points and paths between points).

2.3 - Instrument approach (Non precision approach)

Use of the GPS to perform an instrument approach is possible, as long as this use is approved by the air navigation local authority for the approach in question.

Instrument approaches performed with the GPS must be achieved according to approved approach procedures given in the GPS data base. The data base must be kept up to date and base data accuracy checked with regard to the official documentation, preferably before the flight.

a) Instrument approaches must be performed in GPS approach mode and the RAIM must be available at the final approach fix (FAF).

b) Precision approaches (ILS, LOC, LOC-BC, MLS ...) must not be performed with the GPS.

c) If a landing is required on a diversion field, an other means than GPS must be available to perform approach to this field. Required on board equipment must be serviceable and ground aids must be operational.

Instrument approaches can only be performed, as long as used point coordinates are referenced with regard to WGS 84 system or an equivalent system.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

EHSI NAV FLAG

In navigation GPS#1 (OPT70-23019 Version B) :

Return to VOR, ADF or (if installed) GPS#2 navigation sources and to remaining operational navigation equipment.

Selection of GPS#2 (if installed and
BRNAV authorized) .... **PRESS ONCE**
on "1-2" push-button of the EHSI

or

Selection of VOR or ADF .... **PRESS ONCE or TWICE**
on "NAV" push-button of the EHSI

In navigation GPS#2 (OPT70-23018 Version B) :

Return to VOR, ADF or GPS#1 navigation sources and to remaining operational navigation equipment.

Selection of GPS#1
(if BRNAV authorized) .... **PRESS ONCE**
on "1-2" push-button of the EHSI

or

Selection of VOR or ADF .... **PRESS ONCE or TWICE**
on "NAV" push-button of the EHSI

"MSG" ANNUNCIATOR ILLUMINATION

In navigation with GPS associated to the warning :

"MSG" push-button of associated GPS .... **PRESS**

Check the message.

NOTE :
A single "stand-alone" GPS certified as B-RNAV navigation means is required to fly in B-RNAV areas.

<u>In case of loss of RAIM function,</u> the navigation information remains available but its integrity is no longer controlled.

- If RAIM loss occurs out of B-RNAV area, the aircraft must not enter B-RNAV area.
- If RAIM loss occurs in B-RNAV area, GPS navigation can be continued as long as cross-checkings done with conventional means (VOR, DME, NDB and dead reckoning elements) enable making sure that B-RNAV accuracy criteria are observed. When this condition is not met, the Air Traffic Control must be contacted to return to conventional navigation.

<u>If GPS navigation information is lost or declared not valid,</u> use the other available navigation means. If this occurs during instrument approach final phase, a go-around must be made, except if the other approved radio means to perform approach are displayed and available.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40".

Normal operating procedures of the GPS recommended by the manufacturer are outlined in the "GARMIN" GNS 430 Pilot's Guide at the latest revision and Memory Jogger at the latest revision.

However, it is important to precise the following points for the GPS use on TBM 700 :

SET UP CONDITIONS

- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid for the GPS prior to flight.
- In case of B-RNAV use :

  During the preflight planning phase, the availability of GPS integrity (RAIM) shall be confirmed for the intended flight (route and time).

  B-RNAV flight dispatch shall not be made in the event of a continuous loss of RAIM for more than 5 minutes predicted in any part of the intended flight.

  When less than 24 satellites are available (or less than 23 if equipment uses pressure altitude information), the pilot must make sure that RAIM function is available on the projected route and for the flight period in B-RNAV areas.

  When 23 or more satellites are available, the prediction of satellite position is valid for 7 days. Their predicted availability is ensured for 48 hours by EUROCONTROL.

  When less than 23 satellites are available, the predicted availability of RAIM shall be confirmed short before each flight.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

”CDI” push-button of the GPS

This push-button may be used to select data to be displayed on electromechanical instruments (CDI or HSI).

This push-button is ineffective on the EHSI.

EHSI presentation ”NAV” push-button

This push-button may be used to select data for presentation on the pilot’s EHSI ; either NAV data from NAV 1 or NAV 2 navigation receiver or GPS#1 or (if installed) GPS#2 data or ADF data.

”NAV” symbol is green, **”GPS1”** symbol is blue, **”GPS2”** symbol is yellow and **”ADF”** symbol is green.

Colors relative to EHSI symbols are as follows :

CONFIGURATION	TEXTS	LEG OR NEEDLE
GPS1	Blue	Active leg : Blue Not active leg : White
GPS2	Yellow	Active leg : Yellow Not active leg : White
ADF	Green	Magenta
VOR1	Green	White
VOR2	Yellow	Magenta
LOC1	Green	Green
LOC2	Yellow	Yellow

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR JUST FLASHES.

"MSG" message annunciator will flash to alert the pilot of a situation that requires his attention. Press the **"MSG" push-button** located on the GPS to view the message (Chapter 10 of "GARMIN" GNS 430 Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings).

"MSG" message annunciator (white color) of the GPS system interfaced with EHSI is displayed on the L.H. side of the EHSI. **"MSG1" message annunciator** of GPS#1 system (OPT70-23019 Version B) and/or **"MSG2" message annunciator** of GPS#2 system (OPT70-23018 Version B) are displayed on L.H. instrument panel (amber indication - see Figure 9.34.1, Detail A).

"WPT" Waypoint annunciator

This annunciator illuminates 10 seconds before warning "TURN TO XXX".

"WPT" Waypoint annunciator is also displayed on the L.H. side of the EHSI.

"APR" annunciator is also displayed on the L.H. side of the EHSI.

Flight director/autopilot coupled operation

The EHSI may be coupled with KFC 325 autopilot.

Engaging the "NAV" mode on the autopilot mode controller will make the FD appear on the EADI. The FD uses selected course and left/right steering information presented on the EHSI.

This information is related to the navigation source (VOR, GPS or ADF) selected by the push-button "NAV" on the EHSI.

When "AP" is engaged on the mode controller, the autopilot is then coupled to the EHSI and uses displayed information (track and course deviation).

When the GPS suspends the linked navigation (GPS "SUSP" annunciator), the autopilot continues keeping same heading.

NOTE :
When the EHSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

REMARK :
The change of steering source for the autopilot, when the latter is set to "NAV" side mode, implies a sequence of checks, some of which may be omitted or require a particular attention. Therefore it is strongly recommended to temporarily disengage the autopilot "NAV" mode before changing source.

GPS flight plan

In the active flight plan, addition of a STAR or an approach is always made at the end of the flight plan. In the scope of these additions, the pilot must pay attention not to duplicate points.

Non precision approach with coupled autopilot

The EHSI must be set in "HSI Compass Rose" mode.

Coupling with autopilot must be made in "NAV" mode, except in the following cases : - holding pattern, - landing pattern turn, - interrupted approach, which have to be made in "HDG" mode.

For memory, the approach particular point name in the GARMIN system is as follows :
- IA = IAF
- FA = FAF ou FAP
- MA = MAP
- MH = MAHP

SECTION 5

PERFORMANCE

The installation and the operation of the "GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40 do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	23 - COMMUNICATIONS			
A	COM-NAV-GPS # 1 GNS 430 (B-RNAV) interfaced with EHSI (OPT70 23019 Version B EFIS)	GARMIN	- 4.060 (- 1.840)	160.67 (4.081)
A	COM-NAV-GPS # 2 GNS 430 interfaced with GI 106A CDI and EHSI (OPT70 23018 Version B EFIS)	GARMIN	- 0.350 (- 0.160)	208.15 (5.287)

SECTION 7

DESCRIPTION

Normal operating procedures of the "GARMIN GNS 430" GPS (B-RNAV) NAVIGATION SYSTEM INTERFACED WITH EHSI OF EFS 40 are described in the "GARMIN" GNS 430 Pilot's Guide at the latest revision.

7.1 **"GNS 430 System # 1" OPTION** (OPT70-23019 Version B)

The option includes the GPS#1 system consisting of :

- one "GNS 430" GPS - see Figure 9.34.1 :
  This GPS may be a navigation source for the autopilot. Course deviation information is then displayed on the EHSI.
- one "MSG1" repeater on pilot's instrument panel.

7.2 **"GNS 430 System # 2" OPTION** (OPT70-23018 Version B)

The option includes the GPS#2 system consisting of :

- one "GNS 430" GPS - see Figure 9.34.1 :
  This GPS may be a navigation source for the autopilot. Course deviation information is then displayed on the EHSI.
- one GI 106A CDI,
- one "MSG2" repeater on pilot's instrument panel.

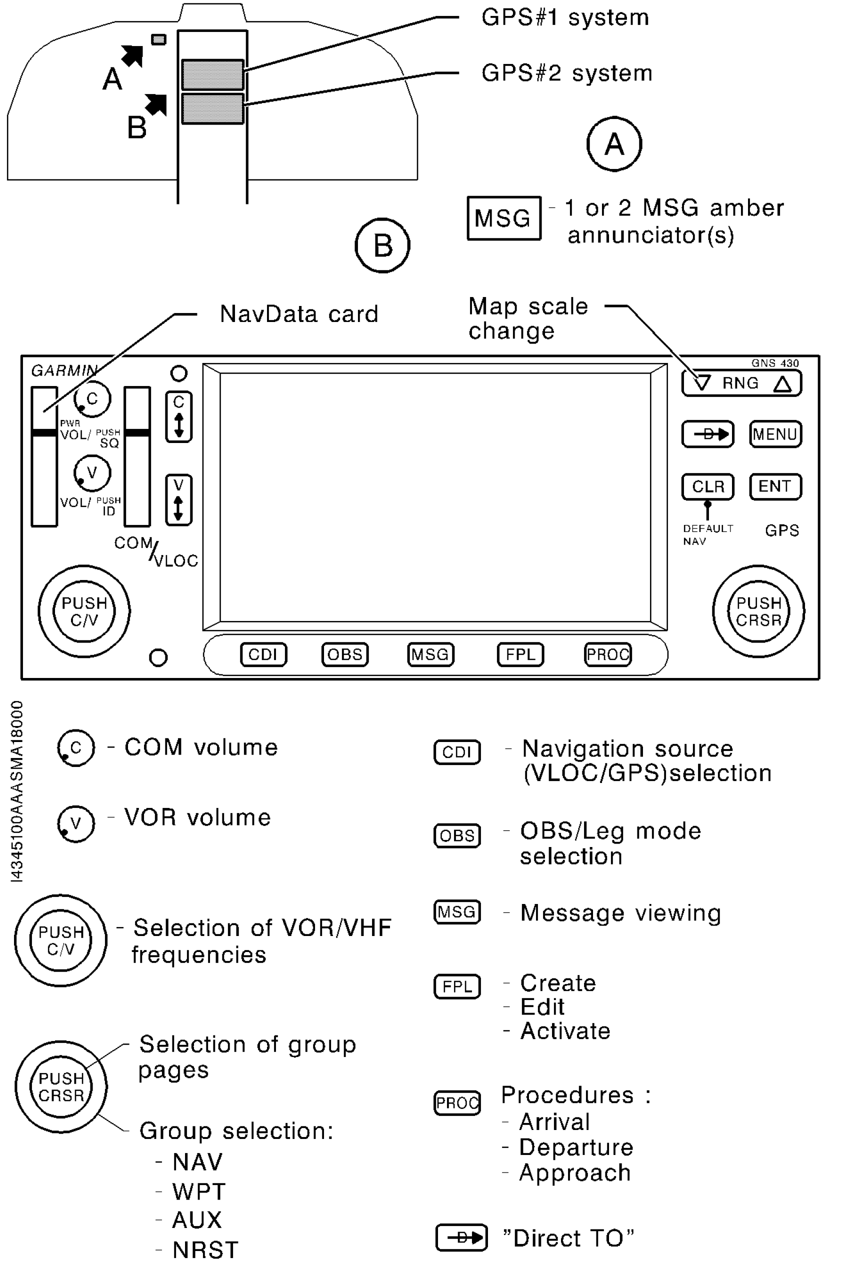


Figure 9.34.1 – "GARMIN GNS 430" GPS SYSTEMS

SUPPLEMENT

"HONEYWELL" KMD 850 MULTI-FUNCTION DISPLAY

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ””HONEYWELL” KMD 850 MULTI-FUNCTION DISPLAY”.

The generalities hereafter supplement those of the standard airplane described in Section 1 ”General” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””HONEYWELL” KMD 850 MULTI-FUNCTION DISPLAY”.

The KMD 850 is a multifunction display screen which allows to display topographical type information (rivers, roads, ...), aeronautical type information (VOR, Airport, NDB, ...), as well as information issued from a weather radar, a stormscope, an EGPWS and the active flight plan issued from a GPS.

Aeronautical items of information are stored in a data card. This data base is updated every 28 days by replacing the data card.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””HONEYWELL” KMD 850 MULTI-FUNCTION DISPLAY”.

KMD 550/850 Multi-function Display Pilot’s Guide, P/N 006-18222-0000, Revision 0 dated Oct/2000 or any applicable following edition, shall be readily available to the pilot.

The KMD 850 may be used only as an aid to navigation, if :

- navigation is based on other approved instruments,
- the KMD 850 data base is current and compatible with the flight,
- KMD 850 and associated GPS data bases cover the same geographical areas.

CAUTION

KMD 850 TOPOGRAPHICAL DATA MUST NOT BE USED FOR TERRAIN AND/OR OBSTACLES AVOIDANCE

SECTION 3

EMERGENCY PROCEDURES

Installation and operation of the ”HONEYWELL” KMD 850 Multi-function Display do not change the emergency procedures described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard aircraft described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the TB aircraft is equipped with the option ””HONEYWELL” KMD 850 MULTI-FUNCTION DISPLAY”.

KMD normal operating procedures recommended by the manufacturer are outlined in the KMD 550/850 Multi-function Display Pilot’s Guide, P/N 006-18222-0000, Revision 0 dated Oct/2000 or any applicable following edition.

SECTION 5

PERFORMANCE

The installation and the operation of the "HONEYWELL" KMD 850 Multi-function Display do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION			
A	Multi-function display KMD 850 (OPT70 34054)	HONEYWELL	6.415 (2.910)	153.54 (3.900)

SECTION 7

DESCRIPTION

1 – Brightness control
2 – Data card
3 – LCD display
4 – Available function
5 – ON/OFF control
6 – Selected function indicators
7 – Function select keys
8 – Control knobs (inner and outer)
9 – Power key labels
10 – Soft labels
11 – Joystick
12 – Power keys
13 – Fault indicator

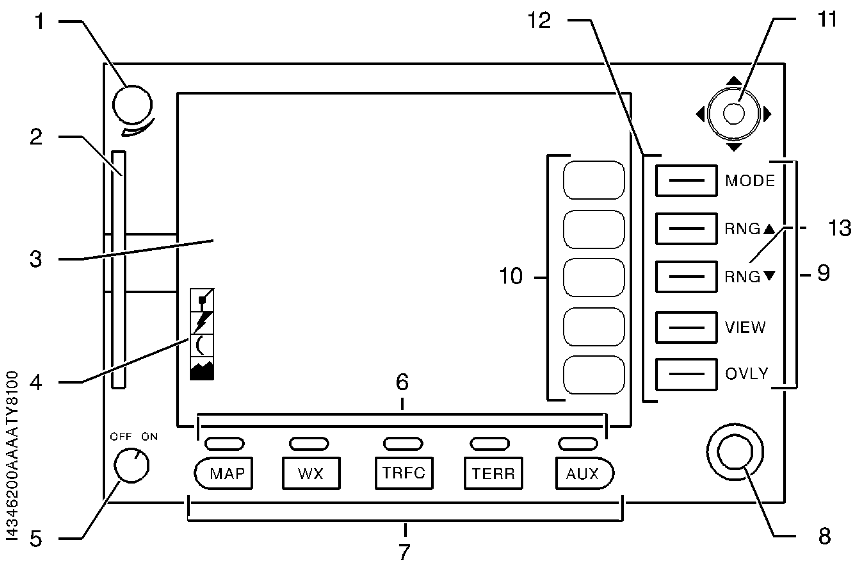


Figure 9.35.1 – KMD 850 Multi-function display (front view)

SUPPLEMENT

”GARMIN GNS 530” GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ""GARMIN GNS 530" GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40".

Approved utilization types :

- IFR in continental and Terminal Enroute areas as additional source,
- B-RNAV,
- Non precision approaches (GPS, VOR, VOR-DME, TACAN, NDB, NDB-DME, RNAV).

Conformity means :

- ACJ 20X4 and ACJ 20X5
- AC 20-138.

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 530" GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40".

This supplement does not constitute an operational utilization authorization.

The GPS is an automatic tridimensional (latitude, longitude, altitude) location and navigation means using information provided by satellites (the GNS 530 system is able to track up to 12 satellites at a time). It also uses data recorded in a data base. The data base is housed in a Navdata card to be inserted in the front face and is updated every 28 days by replacing the card.

Each data base contains information about airports, communication frequencies, VORs, NDBs, Intersections, SIDs, STARs, instrument approaches, flight service stations ...

There is also room for up to 1000 user defined waypoints and 20 different flight plans.

SECTION 2

LIMITATIONS

2.1 - General

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””GARMIN GNS 530” GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40”.

”GARMIN” GNS 530 Pilot’s Guide, P/N 190-00181-00 Revision A dated 04/00 or any applicable following edition, shall be readily available to the pilot, each time the GPS navigation system is used.

The system must utilize the following software versions or more recent ones :

Subsystem	Software
MAIN	2.06
GPS	2.10

Data base updating must be verified before each flight.

The navigation sources required for the anticipated flight shall be serviceable and allow an immediate crossed check on available ground aids or shall allow to return to primary navigation sources in case of GPS navigation loss.

Use of GPS as a navigation source is **PROHIBITED**, unless the pilot verifies the currency of the data base and the coordinates of each selected waypoint.

Procedures during flight preparation

During flight preparation, the pilot must get information about GPS constellation, via aeronautical data (consultation of GPS NOTAM).

When less than 24 satellites are available (or less than 23 if equipment uses pressure altitude information), the pilot must make sure that RAIM function is available on the projected route and for the flight period in B-RNAV areas.

RAIM function prediction can be done using prediction software integrated into GNS 530 or any other approved software such as the one provided for the users by EUROCONTROL on INTERNET.

If a loss of RAIM function is predicted on the chosen route for a period of more than 5 minutes, the flight cannot be done. In that case, the flight will either be postponed or another route will be chosen. The prediction software must then be used again.

Preflight procedures

During preflight checks, it is necessary to verify data base validity (updating of the last AIRAC cycle).

The onboard equipment must be initialized in compliance with manufacturer procedures (refer to "GARMIN GNS 530 Pilot's Guide").

In case a pre-programmed or an already stored flight plan is used, an accurate check of the waypoints is also required.

General in-flight procedures

Before entering a B-RNAV area, the pilot must make sure that RAIM function is available.

Flight plan activation, WPT and LEG changes as well as any modification of initialization data must be done in compliance with equipment User's Manual.

For every navigation into areas reserved for B-RNAV, the pilot must be provided with a predicted availability of RAIM on the route, if the constellation disposes of less than 23 satellites.

The check of navigation system information consistency must be regularly performed during the flight :

- when reaching each waypoint or before reaching the position report point of the ATC,
- before leaving a published route and then every 15 minutes during this type of operation (function "Direct To").

The check of position information consistency may be performed by comparing this position with the one determined by the primary radionavigation sources.

2.2 - SID/STAR

The use of SIDs and STARs stored in GPS data base is only authorized, if the pilot has checked that GPS procedure corresponds to the one given in the official documentation (coordinates of various points and paths between points).

2.3 - Instrument approach (Non precision approach)

Use of the GPS to perform an instrument approach is possible, as long as this use is approved by the air navigation local authority for the approach in question.

Instrument approaches performed with the GPS must be achieved according to approved approach procedures given in the GPS data base. The data base must be kept up to date and base data accuracy checked with regard to the official documentation, preferably before the flight.

a) Instrument approaches must be performed in GPS approach mode and the RAIM must be available at the final approach fix (FAF).

b) Precision approaches (ILS, LOC, LOC-BC, MLS ...) must not be performed with the GPS.

c) If a landing is required on a diversion field, an other means than GPS must be available to perform approach to this field. Required on board equipment must be serviceable and ground aids must be operational.

Instrument approaches can only be performed, as long as used point coordinates are referenced with regard to WGS 84 system or an equivalent system.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""GARMIN GNS 530" GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40".

EHSI NAV FLAG

In navigation GPS#1 (OPT70-23024) :

Return to VOR, ADF or (if installed) GPS#2 navigation sources and to remaining operational navigation equipment.

Selection of GPS#2 (if installed and BRNAV authorized) .... **PRESS ONCE on "1-2" push-button of the EHSI**

or

Selection of VOR or ADF .... **PRESS ONCE or TWICE on "NAV" push-button of the EHSI**

In navigation GPS#2 (OPT70-23025) :

Return to VOR, ADF or GPS#1 navigation sources and to remaining operational navigation equipment.

Selection of GPS#1 (if BRNAV authorized) .... **PRESS ONCE on "1-2" push-button of the EHSI**

or

Selection of VOR or ADF .... **PRESS ONCE or TWICE on "NAV" push-button of the EHSI**

"MSG" ANNUNCIATOR ILLUMINATION

In navigation with GPS associated to the warning :

"MSG" push-button of associated GPS .... **PRESS**

Check the message.

NOTE :
A single "stand-alone" GPS certified as B-RNAV navigation means is required to fly in B-RNAV areas.

<u>In case of loss of RAIM function,</u> the navigation information remains available but its integrity is no longer controlled.

- If RAIM loss occurs out of B-RNAV area, the aircraft must not enter B-RNAV area.
- If RAIM loss occurs in B-RNAV area, GPS navigation can be continued as long as cross-checkings done with conventional means (VOR, DME, NDB and dead reckoning elements) enable making sure that B-RNAV accuracy criteria are observed. When this condition is not met, the Air Traffic Control must be contacted to return to conventional navigation.

<u>If GPS navigation information is lost or declared not valid,</u> use the other available navigation means. If this occurs during instrument approach final phase, a go-around must be made, except if the other approved radio means to perform approach are displayed and available.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””GARMIN GNS 530” GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40”.

Normal operating procedures of the GPS recommended by the manufacturer are outlined in the ”GARMIN” GNS 530 Pilot’s Guide at the latest revision and Memory Jogger at the latest revision.

However, it is important to precise the following points for the GPS use on TBM 700 :

SET UP CONDITIONS

- Verify if the data base is current. Verify data on the self test page.
- Verify that altitude data is valid for the GPS prior to flight.
- In case of B-RNAV use :

  During the preflight planning phase, the availability of GPS integrity (RAIM) shall be confirmed for the intended flight (route and time).

  B-RNAV flight dispatch shall not be made in the event of a continuous loss of RAIM for more than 5 minutes predicted in any part of the intended flight.

  When less than 24 satellites are available (or less than 23 if equipment uses pressure altitude information), the pilot must make sure that RAIM function is available on the projected route and for the flight period in B-RNAV areas.

  When 23 or more satellites are available, the prediction of satellite position is valid for 7 days. Their predicted availability is ensured for 48 hours by EUROCONTROL.

  When less than 23 satellites are available, the predicted availability of RAIM shall be confirmed short before each flight.

SYSTEM ANNUNCIATORS / SWITCHES / CONTROLS

"CDI" push-button of the GPS

This push-button may be used to select data to be displayed on electromechanical instruments (CDI or HSI).

This push-button is ineffective on the EHSI.

EHSI presentation "NAV" push-button

This push-button may be used to select data for presentation on the pilot's EHSI ; either NAV data from NAV 1 or NAV 2 navigation receiver or GPS#1 or (if installed) GPS#2 data or ADF data.

"**NAV**" symbol is green, "**GPS1**" symbol is blue, "**GPS2**" symbol is yellow and "**ADF**" symbol is green.

Colors relative to EHSI symbols are as follows :

CONFIGURATION	TEXTS	LEG OR NEEDLE
GPS1	Blue	Active leg : Blue Not active leg : White
GPS2	Yellow	Active leg : Yellow Not active leg : White
ADF	Green	Magenta
VOR1	Green	White
VOR2	Yellow	Magenta
LOC1	Green	Green
LOC2	Yellow	Yellow

"MSG" message annunciator

CAUTION

"MSG" ANNUNCIATOR MAY BE PERMANENTLY ILLUMINATED IF THERE EXISTS A PERMANENT MESSAGE. WHEN A NEW MESSAGE APPEARS, "MSG" ANNUNCIATOR JUST FLASHES.

"MSG" message annunciator will flash to alert the pilot of a situation that requires his attention. Press the **"MSG" push-button** located on the GPS to view the message (Chapter 12 of "GARMIN" GNS 530 Pilot's Guide contains a list of all the messages likely to appear on the "Message" page and their meanings).

"MSG" message annunciator (white color) of the GPS system interfaced with EHSI is displayed on the L.H. side of the EHSI. **"MSG1" message annunciator** of GPS#1 system (OPT70-23024) and/or **"MSG2" message annunciator** of GPS#2 system (OPT70-23025) are displayed on L.H. instrument panel (amber indication - see Figure 9.36.1, Detail A).

"WPT" Waypoint annunciator

This annunciator illuminates 10 seconds before warning "TURN TO XXX".

"WPT" Waypoint annunciator is also displayed on the L.H. side of the EHSI.

"APR" annunciator is also displayed on the L.H. side of the EHSI.

Flight director/autopilot coupled operation

The EHSI may be coupled with KFC 325 autopilot.

Engaging the "NAV" mode on the autopilot mode controller will make the FD appear on the EADI. The FD uses selected course and left/right steering information presented on the EHSI.

This information is related to the navigation source (VOR, GPS or ADF) selected by the push-button "NAV" on the EHSI.

When "AP" is engaged on the mode controller, the autopilot is then coupled to the EHSI and uses displayed information (track and course deviation).

When the GPS suspends the linked navigation (GPS "SUSP" annunciator), the autopilot continues keeping same heading.

NOTE :
When the EHSI is selected on GPS navigation source, the RMI remains selected on NAV 1 source (VOR or RNAV).

REMARK :
The change of steering source for the autopilot, when the latter is set to "NAV" side mode, implies a sequence of checks, some of which may be omitted or require a particular attention. Therefore it is strongly recommended to temporarily disengage the autopilot "NAV" mode before changing source.

GPS flight plan

In the active flight plan, addition of a STAR or an approach is always made at the end of the flight plan. In the scope of these additions, the pilot must pay attention not to duplicate points.

Non precision approach with coupled autopilot

The EHSI must be set in "HSI Compass Rose" mode.

Coupling with autopilot must be made in "NAV" mode, except in the following cases : - holding pattern, - landing pattern turn, - interrupted approach, which have to be made in "HDG" mode.

For memory, the approach particular point name in the GARMIN system is as follows :
- IA = IAF
- FA = FAF ou FAP
- MA = MAP
- MH = MAHP

SECTION 5

PERFORMANCE

The installation and the operation of the "GARMIN GNS 530" GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40 do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	23 - COMMUNICATIONS			
A	COM-NAV-GPS # 1 GNS 530 (B-RNAV) interfaced with EHSI (OPT70 23024)	GARMIN	- 1.852 (- 0.840)	169.13 (4.296)
A	COM-NAV-GPS # 2 GNS 530 interfaced with GI 106A CDI and EHSI (OPT70 23025)	GARMIN	1.852 (0.840)	143.15 (3.636)

SECTION 7

DESCRIPTION

Normal operating procedures of the ”GARMIN GNS 530” GPS NAVIGATION SYSTEM (B-RNAV) INTERFACED WITH EHSI OF EFS 40 are described in the ”GARMIN” GNS 530 Pilot’s Guide at the latest revision.

7.1 “GNS 530 System # 1” OPTION (OPT70-23024)

The option includes the GPS#1 system consisting of :

- one ”GNS 530” GPS - see Figure 9.36.1 :
  This GPS may be a navigation source for the autopilot. Course deviation information is then displayed on the EHSI.
- one “MSG1” repeater on pilot’s instrument panel.

7.2 “GNS 530 System # 2” OPTION (OPT70-23025)

The option includes the GPS#2 system consisting of :

- one ”GNS 530” GPS - see Figure 9.36.1 :
  This GPS may be a navigation source for the autopilot. Course deviation information is then displayed on the EHSI.
- one GI 106A CDI,
- one “MSG2” repeater on pilot’s instrument panel.

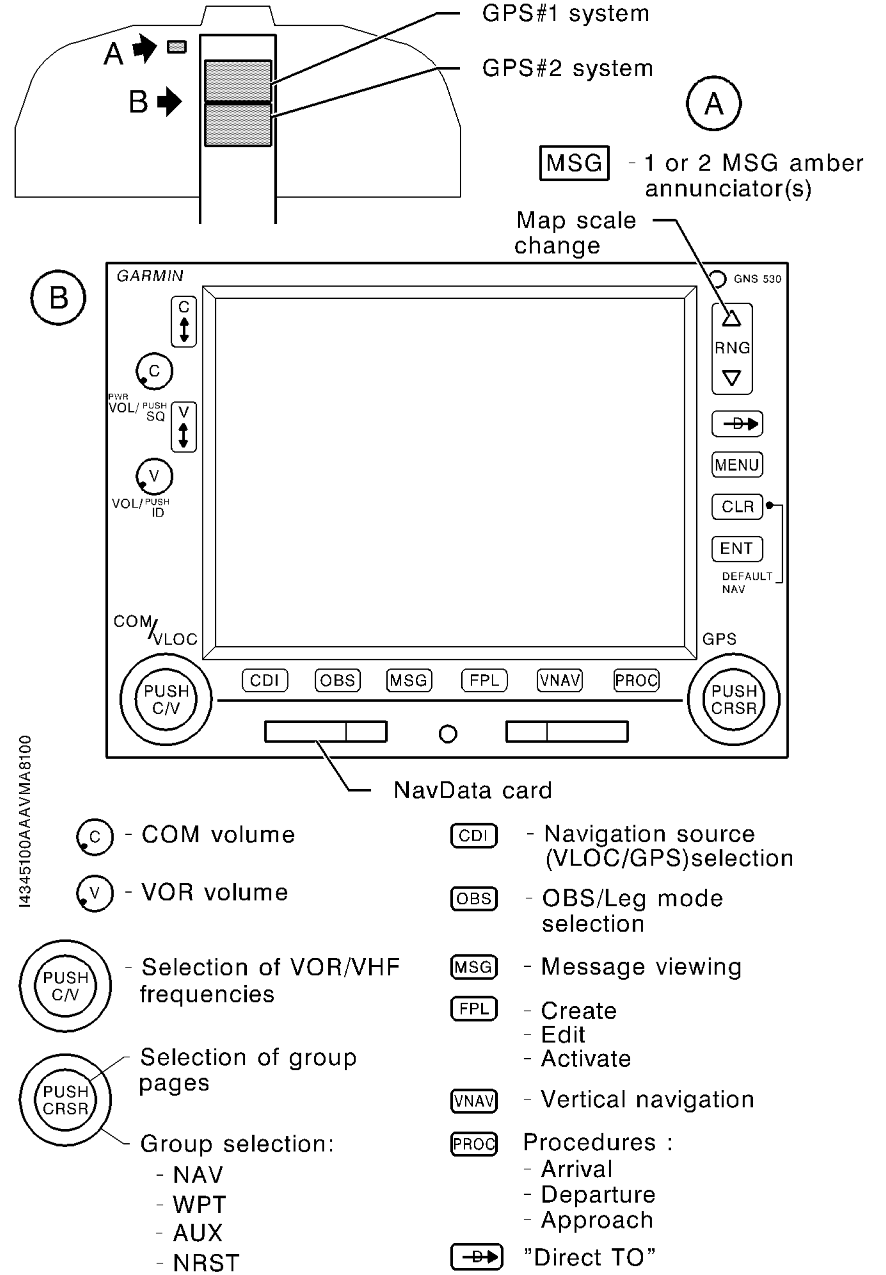


Figure 9.36.1 – "GARMIN GNS 530" GPS SYSTEMS

SUPPLEMENT

”EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (31000 FT)

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (31000 FT)”.

This system replaces the standard oxygen system described in Section 7 ”Description”, Chapter ”Emergency oxygen”, of the basic Pilot’s Operating Handbook.

This optional oxygen system for air taxi and commercial operations provides supplementary oxygen for the crew and passengers to meet the requirements of FAR 135.89 and 135.157. Actual compliance with the regulation is the responsibility of the operator as established by the FAA for the particular operation.

ABBREVIATIONS AND TERMINOLOGY

GENERAL ABBREVIATIONS

STPD : Standard Temperature Pressure Dry

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option ""EROS/INTERTECHNIQUE" GASEOUS OXYGEN SYSTEM (31000 FT)".

PLACARDS

(1) On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

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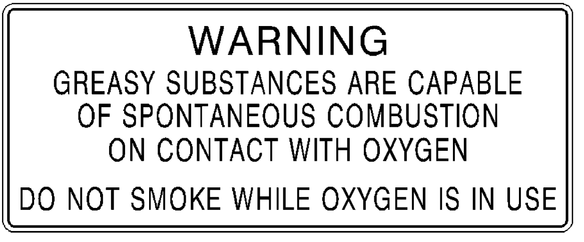

(2) On rear passengers masks containers (on R.H. side on the ceiling)

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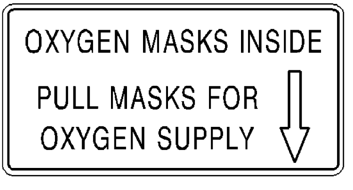

SECTION 3

EMERGENCY PROCEDURES

These emergency procedures supplement those of the standard airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (31000 FT)”.

The procedure hereafter replaces the one described in Chapter ”Miscellaneous”, Paragraph ” Oxygen use”, of the basic Pilot’s Operating Handbook.

If circumstances require that the depressurized airplane remains at 10000 ft or above, tables located in Section 7 give minimum oxygen pressure values required to insure conditions indicated in these tables.

OXYGEN USE

WARNING

SMOKING IS STRICTLY PROHIBITED WHEN THE OXYGEN SYSTEM IS IN USE.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE UP, ETC...)

For front seats

1 – Take a mask above the opposite seat (pilot : right side mask ; front passenger : left side mask).

– Pull the mask out of the stowage cup and fully uncoil the tube.

– Press the red side vanes together to inflate the harness.

– Put the mask onto the face and release the red side vanes.

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

2 - No smoke in cabin :
Mask regulator control knob . . . . **NORMAL (100 % as required)**

3 - Smoke in cabin :
Mask regulator control knob . . . . **EMERGENCY**
Smoke goggles . . . . **Don and fit to the mask**

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

4 - No smoke in cabin :
Mask regulator control tab . . . . **N (Normal) (100 % as required)**
Vent valve . . . . **Closed**

5 - Smoke in cabin :
Mask regulator control tab . . . . **100 %**
"EMERGENCY" control knob . . . . **EMERGENCY**
Smoke goggles . . . . **Don and fit to the mask**
Vent valve . . . . **Open**

All

6 - Oxygen flow indicator on mask hose . . . . **Check**

7 - "NORM/MASK" microphone switch . . . . **MASK**

8 - PMA 7000 selection mode, if installed . . . . **ISO**

9 - "PASSENGERS OXYGEN" switch . . . . **ON**

10 - Perform an emergency descent to the minimum enroute altitude and, if possible, below 10000 ft.

For intermediate and rear seats

1 - Take a mask.

2 - Fully uncoil the tube.

3 - Pull on the lanyard cord to pull out the lanyard pin and flow the oxygen.

4 - Put the mask onto the face.

5 - Check that the green bag inflates.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (31000 FT)”.

PREFLIGHT INSPECTION

External

Rear R.H. karman . . . . **Oxygen cylinder open**

Oxygen pressure . . . . **CHECK**

Internal

Oxygen supply . . . . **Available for the planned flight (see tables in Section 7 for a FAR 135 type operation)**

”OXYGEN” switch . . . . **ON**

”PASSENGERS OXYGEN” switch . . . . **OFF**

Copilot and pilot masks . . . . **Press push-button ”PRESS TO TEST” : the blinker shall turn red momentarily, then turns transparent**

”NORMAL/MASK” micro inverter . . . . **NORMAL**

IN-FLIGHT AVAILABLE OXYGEN QUANTITY
(Crew oxygen masks in NORMAL mode)

Oxygen pressure . . . . **Read**

Outside air temperature (IOAT) . . . . **Read**

⬇

IN-FLIGHT AVAILABLE OXYGEN QUANTITY (Cont'd)

1 - Determine the usable oxygen percent using the chart Figure 9.37.1.

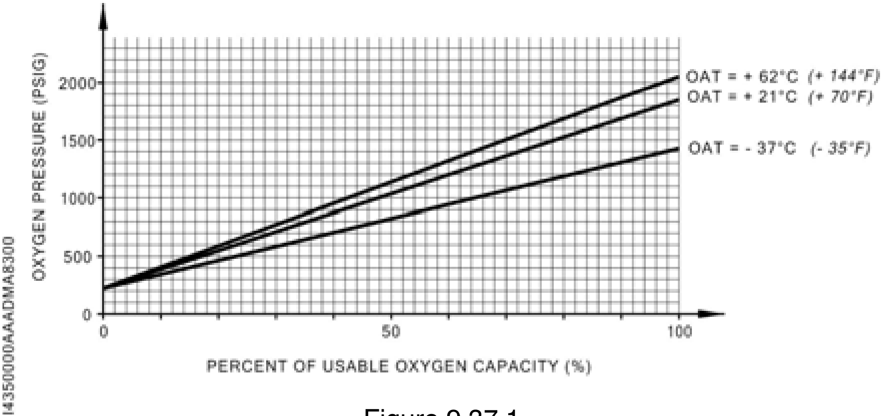

Figure 9.37.1

2 - Determine the oxygen duration in minutes by multiplying the values read on table Figure 9.37.2 by the percent obtained with the chart Figure 9.37.1.

Number of passengers	Duration : Passengers, plus 1 pilot	Duration : Passengers, plus 2 pilots
0	226	113
1	162	94
2	127	81
3	104	71
4	88	65

Figure 9.37.2

AFTER LANDING
"OXYGEN" switch . . . . **OFF**

SHUT-DOWN
Oxygen cylinder (right wing fairing) . . . . **Close**

SECTION 5

PERFORMANCE

The installation of the gaseous oxygen system does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	35 - OXYGEN			
A	Gaseous oxygen system (31000 ft) (OPT70 35001B)	EROS/ INTERTECHNIQUE	24.692 (11.200)	178.19 (4.526)

SECTION 7

DESCRIPTION

The TBM700 airplane is equipped with an optional gaseous oxygen system which will be used by the crew and the passengers, when the cabin altitude is greater than 10000 ft following a loss of pressurization or if there is smoke or fumes in the cabin.

The oxygen reserve is contained in an oxygen cylinder made of composite material and located outside of the pressurized cabin in a compartment in the right wing fairing. Its capacity is 50.3 cu.ft (1425 litres) "STPD" and use limit pressures are :

- maximum pressure 1850 PSIG (127 bars) at 70° F (21° C). The maximum pressure for different outside temperatures is given in Section 8, Figure 9.37.10, as well as on a placard on the inside of the cylinder service door,
- minimum pressure 217 PSIG (15 bars).

CAUTION

IF THE OXYGEN CYLINDER PRESSURE FALLS BELOW THE MINIMUM, THE CYLINDER MUST BE PURGED BEFORE REFILLING. INFORM MAINTENANCE DEPARTMENT.

The oxygen cylinder head is equipped with :

- a hand-controlled isolation valve to permit cylinder installation and removal,
- a microswitch supplying the "OXYGEN" warning light located on the advisory panel. This warning light illuminates when the isolation valve is closed,
- a graduated pressure gage,
- a charging valve - refer to the replenishment procedure in Section 8,
- an overpressure system consisting of a safety disc. This disc is designed to rupture between 2500 and 2775 PSIG (172 and 191 bars) discharging the cylinder contents overboard,
- a pressure reducing valve regulating oxygen pressure to the masks between 64 and 85 PSIG (4.4 and 5.9 bars),

- a low pressure safety valve calibrated to 116 PSIG (8 bars).

An indicating and control panel located in the cockpit overhead panel at the disposal of the pilot includes :

- a graduated pressure gage to permit checking the cylinder charge,
- a two-position valve “ON/OFF” (”OXYGEN” switch) to permit the supply of the front seats occupiers masks,
- a two-position valve “ON/OFF” (”PASSENGERS OXYGEN” switch) with guard to permit the supply of the four passenger masks, when the ”OXYGEN” switch is set to ”ON”.

An altimetric valve provides an automatic passenger masks actuation function at a cabin altitude between 12500 and 14750 ft when the ”OXYGEN” switch is set to ”ON”.

Two pressure-demand type masks allowing quick donning with only one hand, covering the nose and the mouth, as well as two pairs of smoke goggles are at disposal of the pilot and the front passenger. Masks are installed in cups on the cabin walls aft of the front seats. For the ease of donning and for ergonomic reason, the pilot mask is located in the right side cup and the front passenger mask is located in the left side cup. The masks are permanently connected to the oxygen system.

The smoke goggles are stowed in the cabinet drawer behind the right front seat.

Each cockpit mask is equipped with :

1 - a microphone, controlled by the ”NORM/MASK” switch under cover located on the instrument panel near the pilot’s control wheel.

<u>Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)</u>

2 - a Smart Mike system that reduces the breathing noise in the headsets. The noise reduction function operates when the switch located on the O_2 connecting line is set to ”ON” - see Figure 9.37.6.

All

3 - a vent valve integrated in the facepiece of the mask to provide airflow to the goggles.

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

NOTE :
Opening of the vent valve is automatic when goggles are in place.

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

NOTE :
Manual opening of the vent valve is necessary when goggles are in place.

All

4 - a regulator equipped with :

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

- a three-position ”NORMAL - 100 % - EMERGENCY” rotating knob with a ”PRESS TO TEST” function.

NOTE :
When smoke or fumes are present, the mask can be set to provide positive pressure to prevent smoke or fumes from infiltrating the mask and to provide airflow to clear the goggles. Set the three-position rotating knob to the ”EMERGENCY” position.

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

- a two-position control tab "N (NORMAL) - 100 %",
- an "EMERGENCY" rotating knob with a "PRESS TO TEST" function.

NOTE :
When smoke or fumes are present, the mask can be set to provide positive pressure to prevent smoke or fumes from infiltrating the mask and to provide airflow to clear the goggles. Push the "N-100 %" control tab in towards the mask to the "100 %" position and turn the "EMERGENCY" control knob to the "EMERGENCY" position. After donning the goggles, open the goggle vent on the bridge of the mask by pulling the slide fully downwards.

All

A flow indicator (blinker) into the oxygen tubing signals the proper flow.

In accordance with airplane configuration, for more information, refer to masks manufacturer documentation available on myTBM.aero website.

Four passenger constant-flow type masks, covering the nose and the mouth and permanently connected, are installed in two containers on the cabin ceiling. The opening of these containers and the descent of the masks are controlled :

- by the pilot, when the “OXYGEN” and “PASSENGERS OXYGEN” switches are set to “ON”,
- or automatically at a cabin altitude between 12500 and 14750 ft with the “OXYGEN” switch set to “ON”.

Oxygen flow to the passenger masks is obtained when the passenger pulls on the lanyard to release the connected pin. The green bag on the oxygen mask inflates when oxygen flow is obtained.

WARNING

SMOKING IS STRICTLY PROHIBITED WHEN THE OXYGEN SYSTEM IS IN USE.
BEFORE USING OXYGEN, REMOVE ANY TRACE OF OIL, GREASE, SOAP AND OTHER FATTY SUBSTANCES (INCLUDING LIPSTICK, MAKE-UP, ETC.)

1) Microphone switch
2) ”OXYGEN” switch
3) ”PASSENGERS OXYGEN” switch

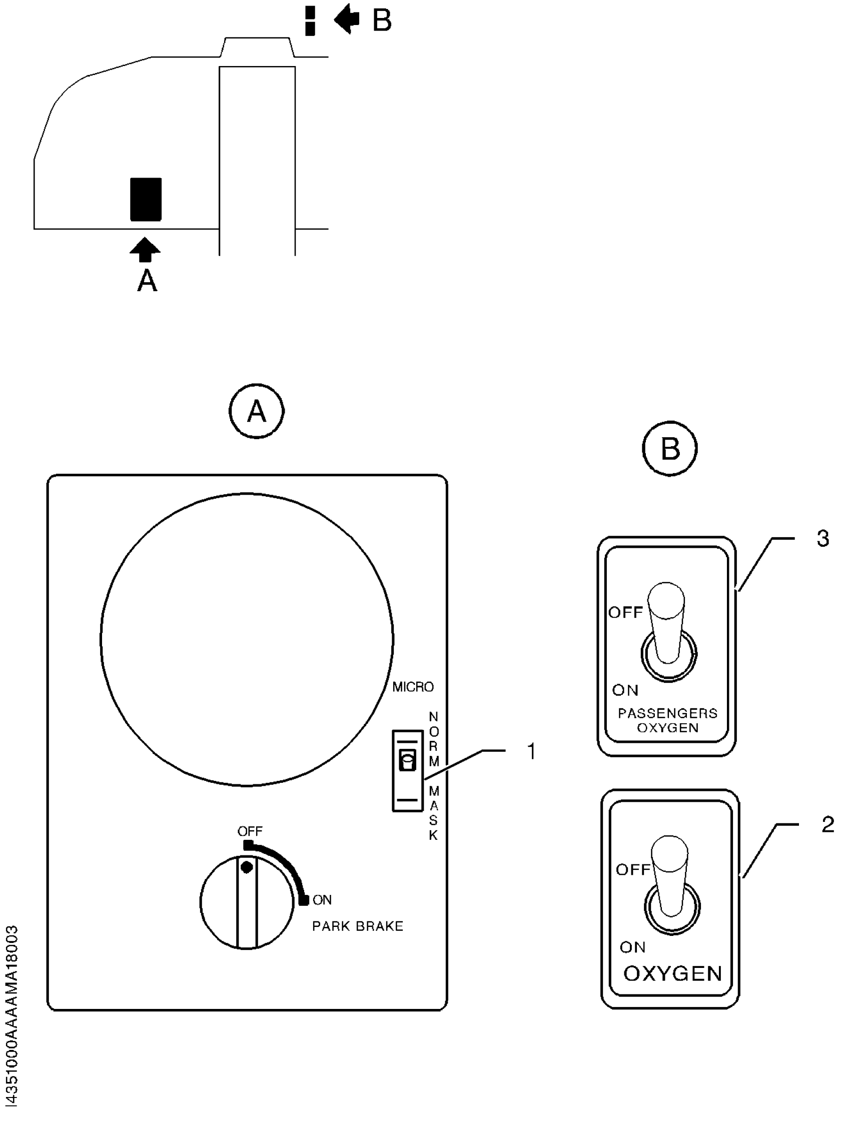

Figure 9.37.3 – Emergency oxygen system

Airplane equipped with MRA005 oxygen masks (Pre-MOD70-0714-35)

1) Harness inflation side vanes
2) Regulator control knob
3) "PRESS TO TEST" function

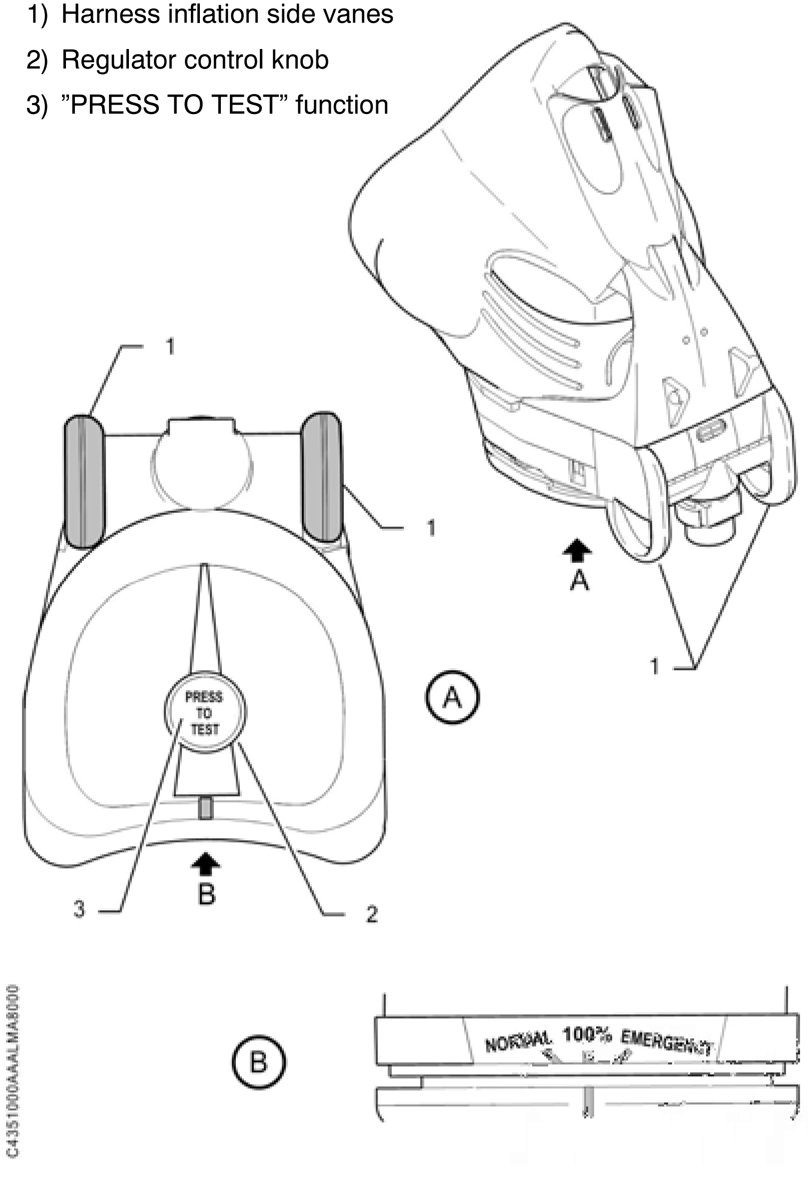

Figure 9.37.4 - Crew oxygen masks - Regulator controls

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

1) Harness inflation side vanes
2) "N (Normal) – 100 %" regulator control tab
3) "EMERGENCY" control knob
4) "PRESS TO TEST" function
5) Vent valve

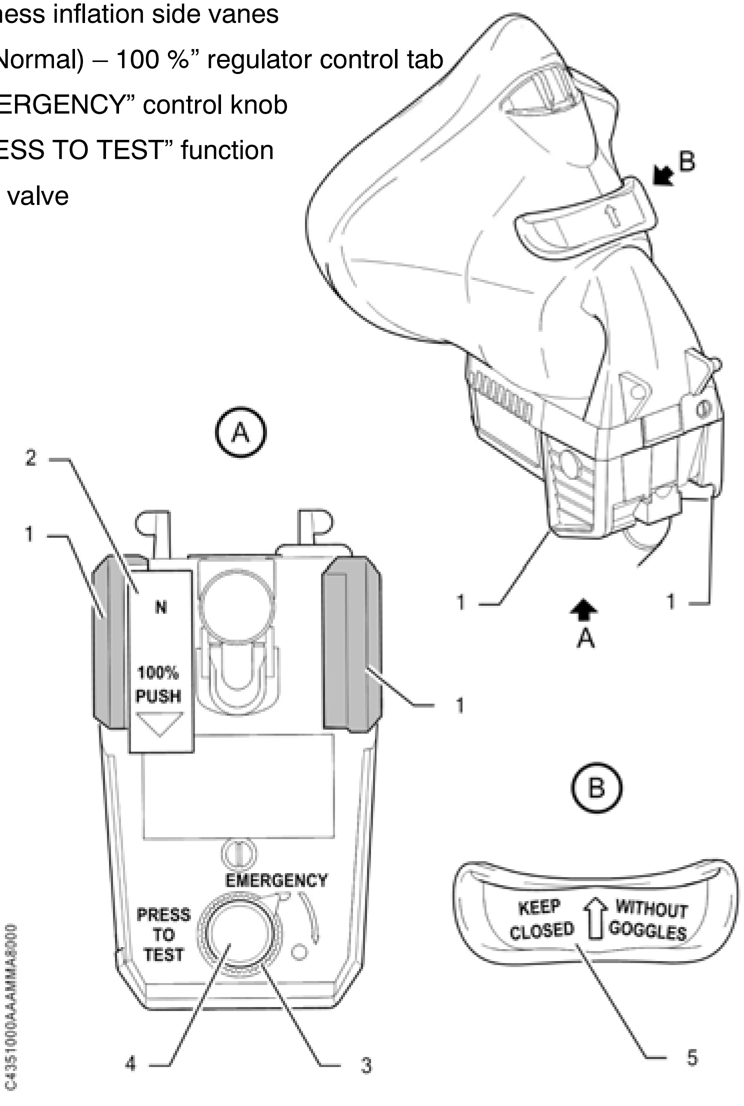

Figure 9.37.5 - Crew oxygen masks - Regulator controls

Airplane equipped with MC10 Smart Mike oxygen masks (Post-MOD70-0714-35)

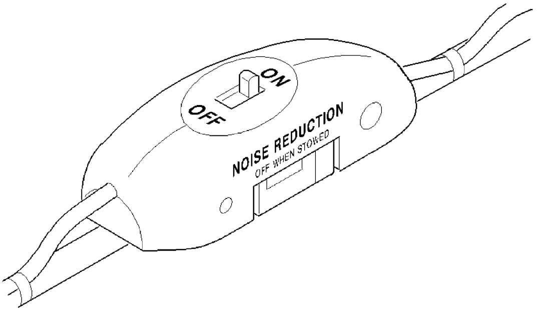

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Figure 9.37.6 - Crew oxygen masks - Noise reduction switch

All

FLIGHT ABOVE 15000 FT WITH POSSIBLE EMERGENCY DESCENT

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- 4 minutes usage by each pilot and passenger from 31000 ft to 15000 ft.
- Plus 30 minutes usage by each pilot and passenger at 15000 ft.
- Plus 86 minutes usage by each pilot at 10000 ft.

Number of occupants		**OUTSIDE TEMPERATURE**						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ -1° C	10° F/ -12° C	-10° F/ -23° C
1	0	631	614	**597**	580	563	546	529
1	1	759	736	**713**	691	668	646	623
1	2	885	856	**828**	799	771	743	715
1	3	1010	976	**941**	907	873	839	806
1	4	1137	1096	**1056**	1015	975	935	897
2	0	1037	1001	**965**	930	894	859	825
2	1	1164	1122	**1080**	1038	997	956	916
2	2	1289	1241	**1192**	1144	1097	1050	1004
2	3	1416	1361	**1306**	1252	1198	1145	1093
2	4	1541	1480	**1418**	1357	1297	1238	1180

Figure 9.37.7 - Minimum oxygen pressure (PSIG)
[Flight above 15000 ft with possible emergency descent]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

WHEN REQUIRED TO REMAIN ABOVE 15000 FT DUE TO MINIMUM ENROUTE ALTITUDE

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- Flight above 15000 ft. All equipment used.
- 1 hour usage by each pilot and passenger.
- Plus 1 hour usage by each pilot under 15000 ft.

Number of occupants		**OUTSIDE TEMPERATURE**						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ –1° C	10° F/ –12° C	–10° F/ –23° C
1	0	618	602	**585**	569	552	536	520
1	1	842	816	**789**	763	736	710	685
1	2	1067	1029	**992**	955	918	882	846
1	3	1513	1240	**1192**	1144	1097	1050	1004
1	4	1513	1452	**1392**	1333	1275	1217	1161
2	0	992	958	**925**	891	858	825	793
2	1	1215	1170	**1125**	1081	1037	994	952
2	2	1439	1382	**1326**	1270	1215	1161	1108
2	3	1662	1593	**1525**	1457	1391	1326	1262
2	4	1888	1807	**1725**	1645	1567	1490	1415

Figure 9.37.8 – Minimum oxygen pressure (PSIG)
[When required to remain above 15000 ft due to minimum enroute altitude]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

FLIGHT BETWEEN 15000 FT AND 10000 FT

Minimum oxygen pressure (PSIG) for following conditions :

- Crew oxygen masks in NORMAL mode.
- Flight under 15000 ft.
- 90 minutes usage by each pilot and one passenger.
- Plus 30 minutes usage by each pilot at 10000 ft.

Number of occupants		**OUTSIDE TEMPERATURE**						
Cockpit	**Cabin**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ −1° C	10° F/ −12° C	−10° F/ −23° C
1	0	618	602	**585**	569	552	536	520
1	1	961	929	**896**	864	833	801	770
1	2	961	929	**896**	864	833	801	770
1	3	961	929	**896**	864	833	801	770
1	4	961	929	**896**	864	833	801	770
2	0	992	958	**925**	891	858	825	793
2	1	1333	1282	**1231**	1181	1131	1083	1035
2	2	1333	1282	**1231**	1181	1131	1083	1035
2	3	1333	1282	**1231**	1181	1131	1083	1035
2	4	1333	1282	**1231**	1181	1131	1083	1035

Figure 9.37.9 − Minimum oxygen pressure (PSIG)
[Flight between 15000 ft and 10000 ft]

NOTE :
Increase the pressure in the table by 8 % if the airplane has been parked in the sun for a long time.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

The operations hereafter supplement those of the standard airplane described in Section 8 ”Handling, servicing and maintenance” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ””EROS/INTERTECHNIQUE” GASEOUS OXYGEN SYSTEM (31000 FT)”.

These directives replace the one described in Chapter ”Servicing”, Paragraph ”Oxygen”, of the basic Pilot’s Operating Handbook.

The oxygen replenishment device is installed directly on the oxygen cylinder head. It consists of a charging valve and a pressure gage graduated from 0 to 2000 PSIG. A chart – see Figure 9.37.10, located on the inside of the cylinder service door, gives the maximum cylinder charge pressure for the ambient temperature.

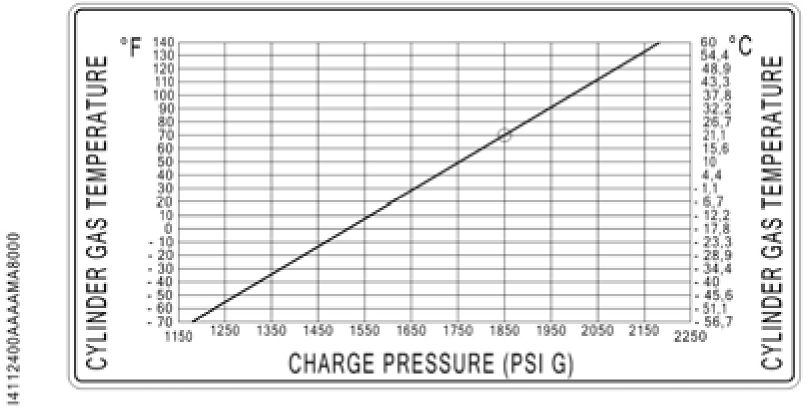


Figure 9.37.10 – Charge pressure chart

REPLENISHMENT PROCEDURE

WARNING

**MAKE SURE THAT THE AIRPLANE IS FITTED WITH A GROUNDING CABLE AND IS PROPERLY GROUNDED.
THE OXYGEN CART MUST BE ELECTRICALLY BONDED TO THE AIRPLANE.**

DO NOT OPERATE THE AIRPLANE ELECTRICAL SWITCHES OR CONNECT/DISCONNECT GROUND POWER DURING OXYGEN SYSTEM REPLENISHMENT.

DO NOT OPERATE THE OXYGEN SYSTEM DURING REFUELING/DEFUELING OR PERFORM ANY OTHER SERVICING PROCEDURE THAT COULD CAUSE IGNITION.

INTRODUCTION OF PETROLEUM BASED SUBSTANCES SUCH AS GREASE OR OIL TO OXYGEN CREATES A SERIOUS FIRE HAZARD. USE NO OIL OR GREASE WITH THE OXYGEN REPLENISHMENT EQUIPMENT.

ALWAYS OPEN SHUT-OFF VALVE SLOWLY TO AVOID GENERATING HEAT AND REPLENISH THE SYSTEM SLOWLY AT A RATE NOT EXCEEDING 200 PSIG (13.7 BARS) PER MINUTE

CAUTION

REPLENISHMENT OF THE OXYGEN SYSTEM SHOULD ONLY BE CARRIED OUT BY QUALIFIED PERSONNEL

NOTE :
The cylinder is fully charged at a pressure of 1850 PSIG (127 bars) at a temperature of 70° F (21° C). If the cylinder temperature differs from 70° F (21° C), refer to Figure 9.37.10 which lists the required pressures according to the cylinder temperature.

Open the oxygen service door at the rear of the right wing fairing.

Measure the oxygen cylinder temperature.

Make sure the thermometer indication is constant. Note the indication.

Refer to the temperature/pressure chart for the correct oxygen cylinder pressure.

If the pressure on the oxygen cylinder gage is lower than the maximum for the cylinder temperature, fill the oxygen cylinder.

The minimum pressure for the oxygen cylinder is 217 PSIG (15 bars).

CAUTION

IF THE OXYGEN CYLINDER PRESSURE FALLS BELOW THE MINIMUM, THE CYLINDER MUST BE PURGED BEFORE REFILLING. INFORM MAINTENANCE DEPARTMENT.

Make sure the area around the oxygen cylinder charging valve is clean. Remove the cap from the charging valve.

Make sure the oxygen supply hose is clean and connect it to the charging valve.

Slowly pressurize the oxygen cylinder to the correct pressure.

Close the oxygen supply and let the cylinder temperature become stable.

Monitor the oxygen pressure on the gage and fill to the correct pressure if necessary.

Release the pressure in the oxygen supply hose and disconnect from the charging valve.

Install the cap on the charging valve.

Make sure all the tools and materials are removed and the work area is clean and free from debris.

Close the oxygen service door.

PASSENGER MASKS REPACKING INSTRUCTIONS

WARNING

DO NOT USE OIL OR OTHER PETROLEUM BASED LUBRICANTS ON PASSENGER OXYGEN MASK OR DEPLOYMENT CONTAINER. OIL BASED LUBRICANTS ARE A FIRE HAZARD IN OXYGEN-RICH ENVIRONMENTS

WARNING

REPACKING PROCEDURES SHALL BE PERFORMED BY PERSONNEL FAMILIAR WITH THE INSTRUCTIONS AND WARNINGS IN THIS DOCUMENT. IMPROPERLY PACKED MASKS CAN DAMAGE THE MASKS OR RESULT IN FAILURE OF THE MASKS TO DEPLOY

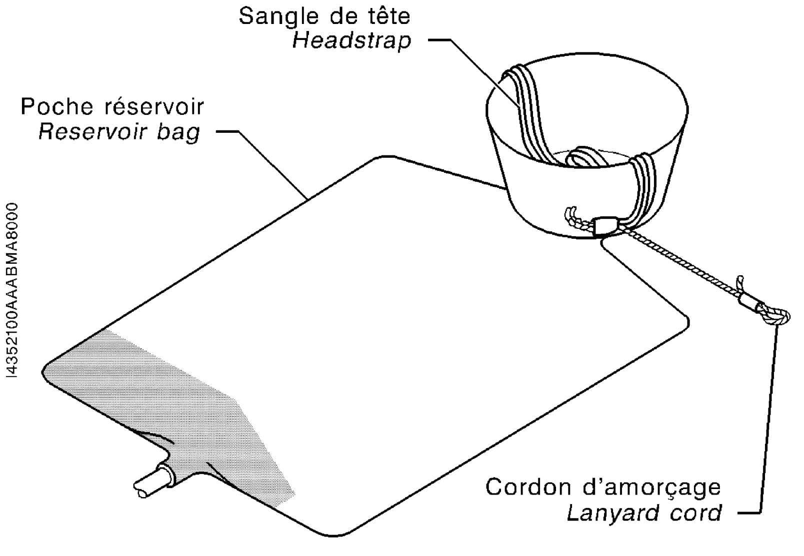
WARNING

MASKS SHALL BE REPACKED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER CONTAMINANTS

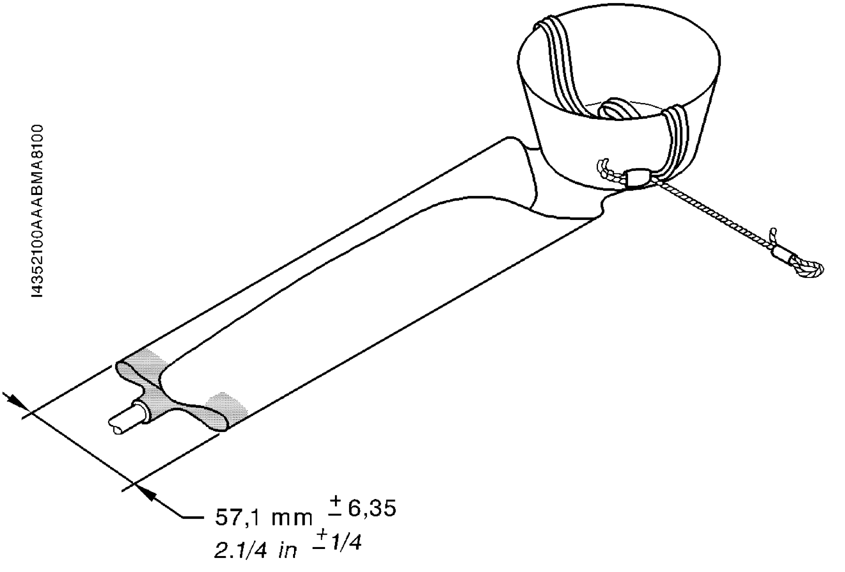
Inspect and disinfect mask and deployment container with an aqueous solution of Zephiran Chloride ("Scott Aviation" P/N 00-2572) or with disinfection cleaners ("EROS" P/N SAN50). After disinfecting and thoroughly drying the mask, lightly dust the outside of the facepiece with Neo-Novacite powder ("Scott Aviation" P/N 00-736). Contamination can be removed with mild soap and water solution.

Fold headstrap into facepiece. Pull lanyard cord out to side of facepiece so that it does not interfere with repacking.

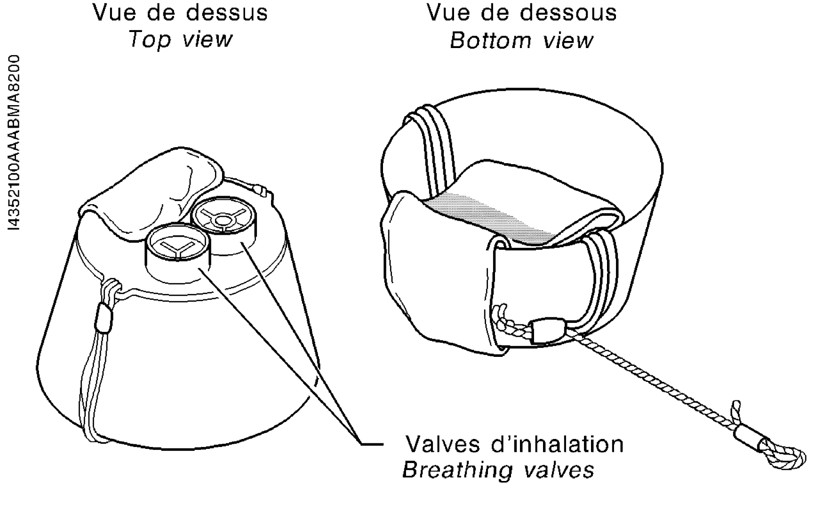
Lay reservoir bag on flat surface and smooth out wrinkles.



Gently fold reservoir bag lengthwise into thirds (outside edges folded inward over center of bag). Do not crease bag.

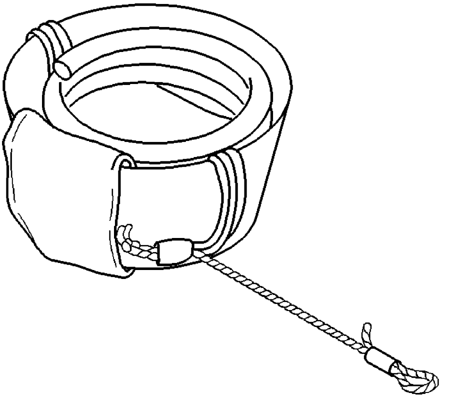


Fold reservoir bag away from breathing valves and into facepiece. Make sure bag does not cover breathing valves.



Coil oxygen tubing inside facepiece over reservoir bag.

I4352100AAABMA18000



Connect oxygen tubing to manifold oxygen fitting.

WARNING

MAKE SURE LANYARD PIN IS INSERTED INTO CORRECT CHECK VALVE FOR MASK BEING INSTALLED. CROSS CONNECTED PINS WILL RESULT IN PASSENGERS PULLING LANYARD CORDS ONLY TO INITIATE OXYGEN FLOW TO ANOTHER MASK

Insert lanyard pin into corresponding check valve.

Place mask facepiece – first in deployment container. Make sure that oxygen tubing and lanyard cord are free to deploy and are not caught between the container and lid.

Close and latch deployment container lid.

SUPPLEMENT

OPERATION AT 31000 FT

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the limitations and the operation of the TBM 700 airplane at 31000 ft.

SECTION 2
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM 700 airplane is equipped with the option ”OPERATION AT 31000 FT”.

The operation of the TBM 700 airplane at 31000 ft is subjected to the application of the “PRATT & WHITNEY” Service Bulletins No. 14261 and 14308.

Flight at 31000 ft is authorized, if the option OPT70 35001B ”EROS/INTERTECHNIQUE” Gaseous oxygen system (31000 ft)” – refer to Section 9, Supplement 37 – is installed and correctly operates on the TBM 700 airplane.

SECTION 3
EMERGENCY PROCEDURES

The operation of the TBM 700 airplane at 31000 ft does not change the emergency procedures described in Section 3 “Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4
NORMAL PROCEDURES

The operation of the TBM 700 airplane at 31000 ft does not change the normal procedures described in Section 4 “Normal procedures” of the basic Pilot’s Operating Handbook.

SECTION 5
PERFORMANCE

Information hereafter supplement or replace the one given for the standard airplane in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

5.1 - CABIN PRESSURIZATION ENVELOPE

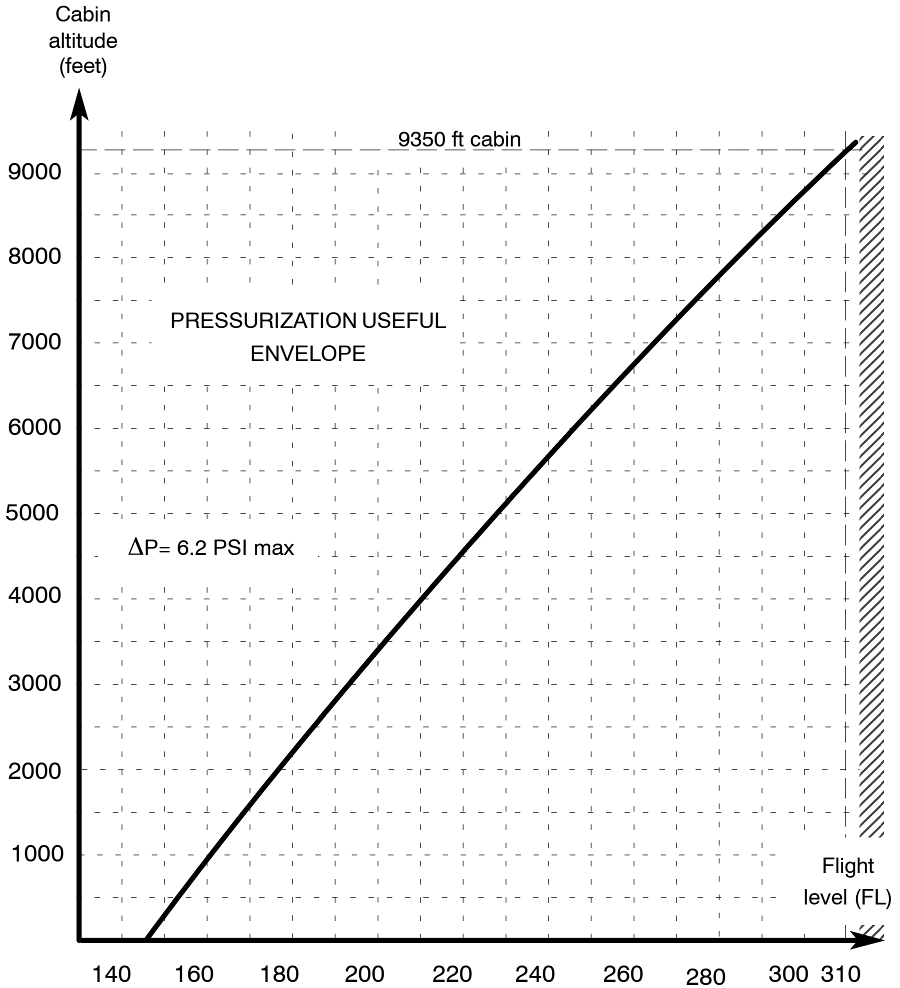


Figure 9.38.1 - CABIN PRESSURIZATION ENVELOPE

5.2 - ENGINE OPERATION

Conditions : ***31000 ft***
Landing gear and flaps UP
Np = 2000 RPM – BLEED LO

SAT (°C)	Maximum Climb Power IAS = 130 kt		Normal (recommended) Cruise Power		Maximum Cruise Power	
	IOAT (°C)	TRQ (%)	IOAT (°C)	TRQ (%)	IOAT (°C)	TRQ (%)
– 67	– 60	91	– 56	95	– 56	100
– 65	– 58	89	– 54	93	– 54	99
– 63	– 56	86	– 52	91	– 52	97
– 61	– 54	85	– 50	89	– 50	95
– 59	– 52	83	– 48	87	– 48	93
– 57	– 50	81	– 46	85	– 46	91
– 55	– 48	79	– 44	83	– 44	89
– 53	– 46	77	– 42	81	– 42	87
– 51	– 44	75	– 40	79	– 40	85
– 49	– 42	74	– 38	77	– 38	83
– 47	– 40	73	– 36	75	– 36	81
– 45	– 38	72	– 34	73	– 34	79
– 43	– 36	70	– 33	71	– 32	77
– 41	– 34	69	– 31	70	– 30	75
– 39	– 32	67	– 29	69	– 28	74
– 37	– 30	65	– 27	67	– 26	72
– 35	– 28	64	– 25	65	– 24	70
– 33	– 26	62	– 23	63	– 22	68
– 31	– 25	61	– 21	61	– 20	66
– 29	– 23	59	– 19	59	– 19	64
– 27	– 21	57	– 17	57	– 17	62
– 25	– 19	55	– 15	56	– 15	60
– 23	– 17	54	– 13	54	– 13	59
– 21	– 15	53	– 11	52	– 11	57

Figure 9.38.2 – ENGINE OPERATION

5.3 - CLIMB PERFORMANCE : TIME, CONSUMPTION AND CLIMB DISTANCE

To obtain the values for 31000 ft, refer to Section 5 ”Performance”, Chapter 5.9 “Climb performance”, of the basic Pilot’s Operating Handbook and add 4 % to the values given for 30000 ft in the tables “Time, consumption and climb distance”.

5.4 - MAXIMUM, NORMAL (RECOMMENDED) AND INTERMEDIATE CRUISE PERFORMANCE

To obtain the values for 31000 ft, refer to Section 5 ”Performance”, Chapter 5.10 “Cruise performance”, of the basic Pilot’s Operating Handbook and decrease the values given for 30000 ft in the tables “Maximum cruise”, “Normal (recommended) cruise” and “Intermediate cruise” by :

- 1.85 US Gal/h for the fuel flow,
- 5 kt for IAS,
- 3 kt for TAS.

5.5 - LONG RANGE CRUISE PERFORMANCE

To obtain the values for 31000 ft, refer to Section 5 ”Performance”, Chapter 5.10 “Cruise performance”, of the basic Pilot’s Operating Handbook and decrease the values given for 29000 ft in the tables “Long Range Cruise” by :

- 1 % for TRQ values,
- 1.2 US Gal/h for the fuel flow (FF),
- 4 kt for IAS,
- 2 kt for TAS.

SECTION 6

WEIGHT AND BALANCE

The operation of the TBM 700 airplane at 31000 ft does not change the weight and balance given in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

SECTION 7

DESCRIPTION

In order to be able to fly at 31000 ft, the “PRATT & WHITNEY” Service Bulletins No. 14261 and 14308 must be applied for the engine and the airplane must be equipped with the option OPT70 35001B ”EROS/INTERTECHNIQUE” Gaseous oxygen system (31000 ft)” – refer to Section 9 “Supplements”.

SUPPLEMENT

KGP 560 "HONEYWELL" EGPWS SYSTEM

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM 700 airplane is equipped with the option "KGP 560 "HONEYWELL" EGPWS SYSTEM".

The EGPWS system is an aid for the pilot enabling him to detect if the airplane path is in compliance with the overflown terrain relief.

SECTION 2
LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option "KGP 560 "HONEYWELL" EGPWS SYSTEM".

Following documents or any further edition applicable to the latter, shall be readily available to the pilot, each time the EGPWS system is used.

- KMD 550/850 Multi-function Display Pilot's Guide, P/N 006-18222-0000 Revision 1 dated April/2001,
- KMD 550/850 Multi-function Display/Terrain Function (EGPWS) Pilot's Guide Addendum, P/N 006-18236-0000 Revision 1 dated April/2001,
- KGP 560 General aviation Enhanced Ground Proximity Warning System - TSO C151a Class B - Pilot's Guide, P/N 006-18254-0000 Revision 1.

The EGPWS system provides terrain proximity alerting and detection to the pilot. It must not be used for airplane vertical and horizontal navigation.

AC 2318 recommendation : in order to avoid unwillingly warnings, the EGPWS must be inhibited for any landing on a terrain which is not mentioned in the data base.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option "KGP 560 "HONEYWELL" EGPWS SYSTEM".

WARNING LIGHT "TERR N/A" ON

1 - MD41 "TEST" switch .... **PUSH**

If the following voice message is heard :
"EGPWS Computer OK - External faults : Display configuration"
or
"EGPWS Computer OK - External faults : Display bus inactive" :

2 - Check the KMD 850 is set to ON.

For all other messages :

The EGPWS system is not operational.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM 700 airplane is equipped with the option "KGP 560 "HONEYWELL" EGPWS SYSTEM".

BEFORE TAKEOFF

1 - MD41 "TEST" switch . . . . **PUSH**

2 - "EGPWS System OK" voice message . . . . **HEARD**

4.1 - WARNINGS

"PULL UP" AURAL WARNING

The red "TERR" warning light illuminates.

1 - Level the wings.

2 - Display the maximum power.

3 - Choose the optimum rate of climb adapted to airplane configuration and speed, until the warning disappears.

"Terrain Terrain Pull up", "Obstacle Obstacle Pull up", AURAL WARNINGS

The red "TERR" warning light illuminates.

Adjust airplane path in order to make the warning disappear.

4.2 - CAUTIONS

"Caution terrain", "Caution obstacle", "Too low terrain" AURAL WARNINGS
The amber "TERR" warning light illuminates. Adjust airplane path in order to make the warning disappear.

"DON'T SINK" AURAL WARNING
The amber "TERR" warning light illuminates. Re-establish a positive rate of climb.

"SINK RATE" AURAL WARNING
The amber "TERR" warning light illuminates. Reduce rate of descent.

SECTION 5

PERFORMANCE

The installation and the operation of the KGP 560 "HONEYWELL" EGPWS system do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION			
A	EGPWS KGP 560 (OPT70 34060)	HONEYWELL	2.535 (1.150)	185.39 (4.709)

SECTION 7

DESCRIPTION

7.1 COMPONENTS OF THE OPTION

The EGPWS option is constituted of the following components :

- a KA 92 GPS antenna,
- a KGP 560 computer with integrated GPS,
- an MD41-1208 control box.

The KGP 560 information are displayed on a KMD 850 screen, when the "TERR" function is activated by the pilot. The GPS # 1 flight plan may be overlaid on the EGPWS display.

7.2 FUNCTIONS OF THE EGPWS SYSTEM

The EGPWS system has 5 functions :

- "Look ahead" function
  This function provides a protection ahead of the airplane with a 1 minute prediction ("Caution terrain" or "Caution obstacle" aural warning associated with the illumination of the amber "TERR" warning light) and a 30 seconds prediction ("Terrain Terrain Pull up" or "Obstacle Obstacle Pull up" aural warning associated with the illumination of the red "TERR" warning light).

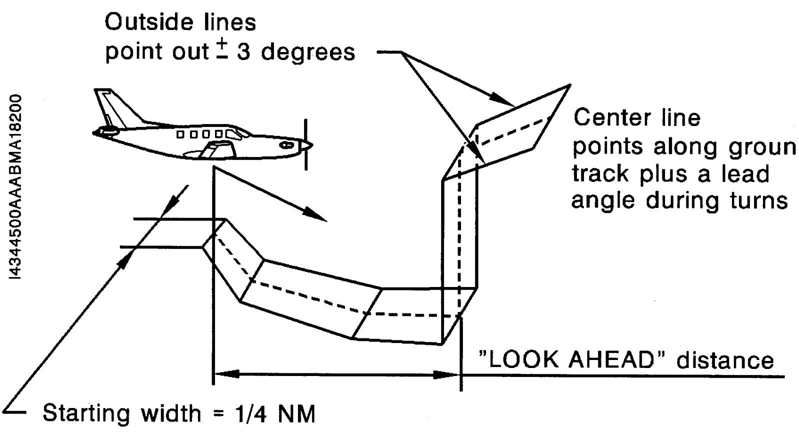


Figure 9.39.1

- <u>"Runway Field Clearance Floor" (RFCF) function</u>
  This function is active, when the airplane flies at less than 5 NM from a runway known in the KGP 560 data base ; it generates the "Too low terrain" aural warning and the illumination of the amber "TERR" warning light.

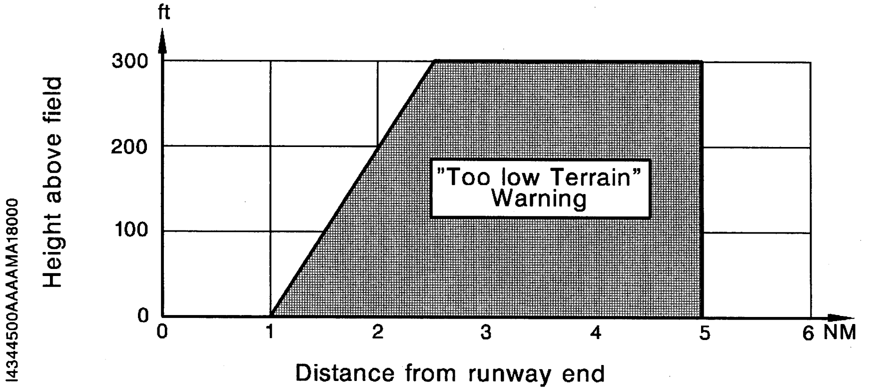


Figure 9.39.2 - "Too low terrain" warning area

- <u>"Excessive rate of descent" function</u>
  This function has a lower priority than the "Look ahead" function ; it generates the "Sink rate" aural warning (illumination of the amber "TERR" warning light) and the "Pull up" aural warning (illumination of the red "TERR" warning light).

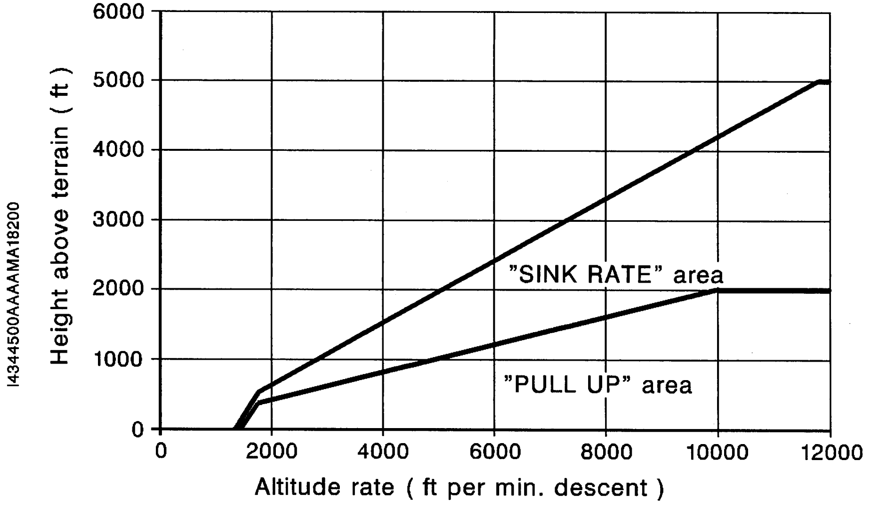


Figure 9.39.3 - "Sink rate" and "Pull up" warnings areas

- "Loss of altitude/negative rate of descent after takeoff" function
  This function is active until the airplane reaches an altitude of approximately 700 ft above the runway ; it generates the "Don't sink" aural warning and the illumination of the amber "TERR" warning light.

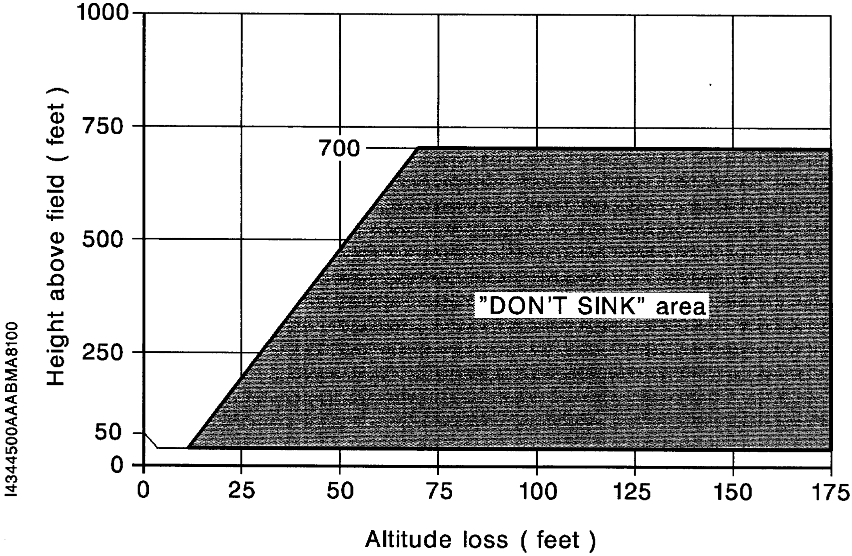
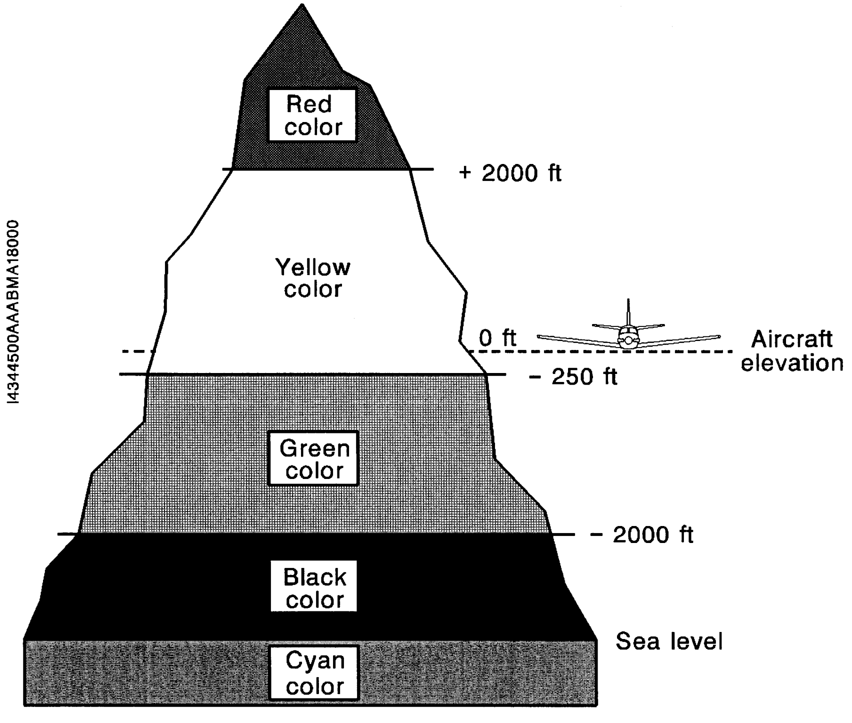


Figure 9.39.4 - "Don't sink" warning area

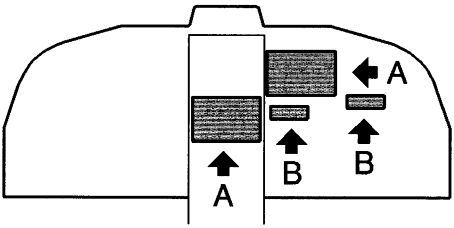
- "500 ft" function
  This function is active, when the airplane flies at less than 5 NM from a runway known in the KGP 560 data base ; it generates a "500 ft" aural warning. This warning is re-initialized when the airplane reaches a height of 700 ft above the terrain altitude.

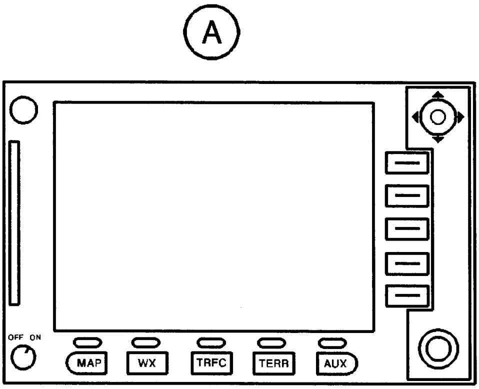
7.3 TERRAIN AWARENESS DISPLAY



7.4 OBSTACLE DATA BASE

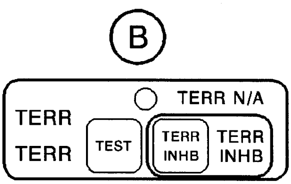
Data for known obstacles such as towers, buildings, antennas, etc. is contained on the same data card as the terrain and airport data. Presently, there are some 70000-plus obstacles in the database, but they are all in the area of North America. As more reliable information becomes available, Honeywell will expand the capability to provide alerting and warning for obstacles in other areas of the world.
Obstacles in the database are those known obstacles more than 100 feet AGL, so obstacles of lower height will not produce GA-EGPWS "Obstacle" alerts or warnings. However, terrain elevations are "rounded" up to the next 100 feet, so alerting and warning protection is generally available for known obstacles that are less than 100 feet AGL.





KMD 850

TERR : EGPWS mapping selection



MD41 - 1208

TEST : EGPWS system test switch

TERR INHB : EGPWS warning inhibition switch

TERR (red) : Warnings
TERR (amber) : Cautions
TERR INHB (white) : Inhibited EGPWS warnings
TERR N/A (amber) : EGPWS system not operational

I4344500AAAAMA8100

Figure 9.39.5 - EGPWS system

SUPPLEMENT

CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR

TABLE OF CONTENTS

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SECTION 1

GENERAL

This supplement is intended to inform the pilot about the limitations, description and operations necessary to load the airplane in order to perform cargo transportation.

For this utilization, the freight is installed in the cabin aft of the front seats.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the airplane is equipped with the option "CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR".

ON BOARD PEOPLE

- pilot 1
- passenger 1

FREIGHT WEIGHT LIMITATIONS

Bulk freight [max. density 6.24 lb/cu.ft (100 kg/m^3)]
installed aft of the partition net at frame 14 .... 220 lbs (100 kg)

Plus

Container, pallet or heavy box freight installed
between the front seats and the partition net
at frame 14 .... 396.8 lbs (180 kg)

Max. floor load .... 38.5 lb/sq.ft (188 kg/m^2)

CAUTION

CARGO INSTALLATION IN THE CABIN MUST NOT HINDER ACCESS TO EMERGENCY EXIT AND CABIN DOOR

Max. dimensions of containers, pallets or heavy boxes :

- Length .... 47.24 in (1.20 m)
- Width .... 31.50 in (0.80 m)
- Height .... 19.69 in (0.50 m)

PLACARD

On the raiser at frame 13bis, inside the cabin

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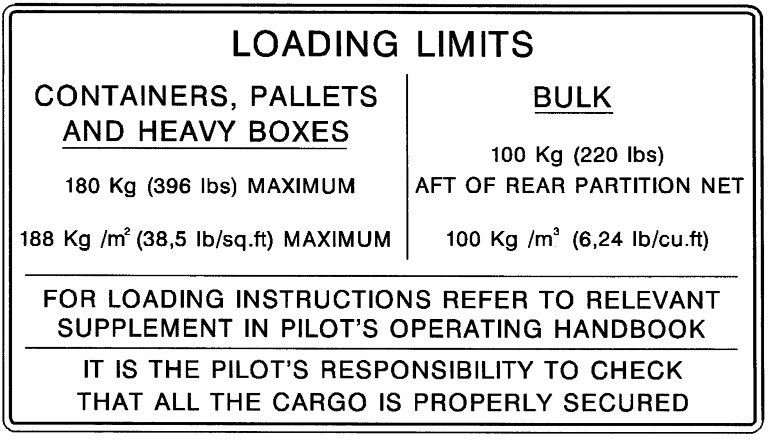


SECTION 3

EMERGENCY PROCEDURES

The installation of the option "CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR" does not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the airplane is equipped with the option "CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR".

PREFLIGHT INSPECTION

Bulk freight

Partition net in place .... **CHECK**

Container, pallet or heavy box freight

Stowing net in place .... **CHECK**

SECTION 5

PERFORMANCE

The installation of the option "CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR" does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the information given for the standard airplane in Section 6 "Weight and Balance" of the basic Pilot's Operating Handbook, when the airplane is equipped with the option "CARGO TRANSPORTATION CAPABILITY WITHOUT PILOT DOOR".

S A or O	STANDARD OR OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	25 - EQUIPMENT - FURNISHINGS			
A	Cargo transportation capability : - Stowing net (OPT70 25031)	SOCATA	6.614 (3.00)	224.41 (5.700)
S	Seats (oxygen equipment excluded) – 6-seat configuration . Intermediate (back to flight direction)	SOCATA	25.507 (11.570)	218.31 (5.545)
	. Rear double chair	SOCATA	57.319 (26.000)	271.30 (6.891)
A	7-seat configuration (OPT70 25002C - TBM700B) (Refer to Supplement 7)	SOCATA	Δ 30.137 (Δ13.670)	237.76 (6.039)
S	Stairway	SOCATA	9.921 (4.500)	252.36 (6.410)
S	Cabin and baggage compartment carpets	SOCATA	23.369 (10.600)	234.02 (5.944)
A	JEPPESEN cabinet - Composite (OPT70 25005C)	SOCATA	14.991 (6.800)	202.76 (5.150)
A	Storage cabinet - Composite (OPT70 25006E)	SOCATA	16.314 (7.400)	202.76 (5.150)

S A or O	STANDARD OR OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
A	Refreshment cabinet - Composite (OPT70 25006F)	SOCATA	18.960 (8.600)	202.76 (5.150)
A	Audio cabinet - Composite (OPT70 25009C)	SOCATA	24.052 (10.910)	206.14 (5.236)

WEIGHT AND BALANCE DETERMINATION

Enter the basic empty weight of the airplane in normal configuration and the moment in the appropriate block on the Loading Form, Figure 9.40.2 (1/2).

Use Figure 9.40.1 to determine the weight and moment difference for the conversion to the cargo version. Enter the weight and moment difference for the conversion in the appropriate block on the Loading Form, Figure 9.40.2 (1/2).

Enter the weight of all the crew and the loaded cargo in the appropriate block on the Loading Form, Figure 9.40.2 (1/2).

Determine the moment for each occupant.

Determine the moment for the cargo according to the position of the C.G. arm from Figure 9.40.1.

Enter the moment of each item in the appropriate blocks on the Loading Form, Figure 9.40.2 (1/2).

Add the weight and moment of all the items to the basic empty weight and moment of the airplane to determine the zero fuel weight and moment. Divide the moment by the weight to determine the C.G. arm “do”.

Determine the moment of the fuel load.

Enter the fuel weight and moment in the appropriate block on the Loading Form, Figure 9.40.2 (1/2) and proceed as for the zero fuel configuration.

Add the fuel weight and moment to the here above calculated zero fuel weight and moment to determine the weight with fuel and moment. Divide the moment by the weight to determine the C.G. arm.

Express the C.G. arms “do” in percentage of the aerodynamic chord according to the formula and complete the table, Figure 9.40.2 (2/2).

Enter the characteristics of the loaded airplane in blocks 1 for the zero fuel and weight with fuel configurations, Figure 9.40.3.

Calculate the basic index using the formula described in 2 and enter the results in 3, Figure 9.40.3.

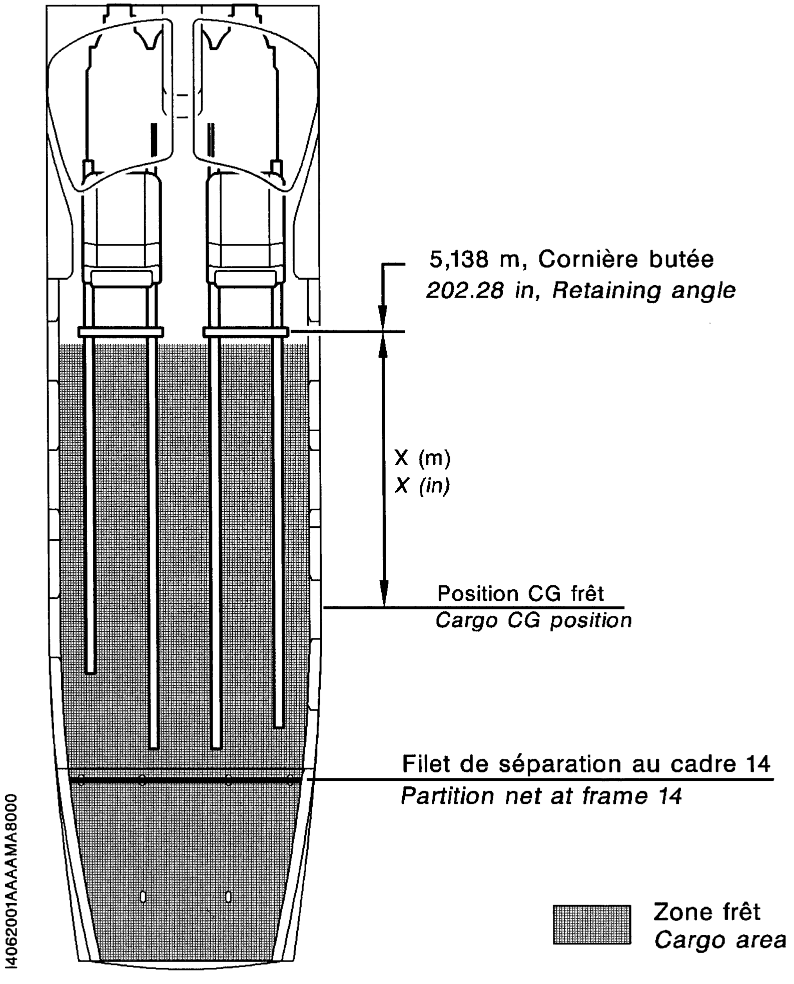
Enter the calculated index 3 in the upper index scale and proceed according to the method described in Figure 9.40.3.

Draw a vertical line corresponding to the final index (loaded airplane) until you reach the airplane weight horizontal line.

Read the corresponding balance while checking that the obtained point falls within the weight and balance envelope. Also check that the total zero fuel weight does not exceed the max. zero fuel weight [6001 lbs (2722 kg)].

Otherwise, reconsider the airplane loading.

Record these data on your navigation log.



Measure the cargo CG position (x dimension) from the retaining angles.

Express the cargo CG arm according to the following formula :

$$\boxed{do = 202.28 + x} \text{ (in)}$$

Figure 9.40.1 - CG arm calculation

LOADING FORM			
ITEM	WEIGHT lb (kg)	C.G. ARM in (m)	MOMENT lb.in (m.kg)
1. Basic empty weight			
2. Cargo conversion			
3. Pilot		180.5 (4.585)	
4. R.H. seat passenger		180.5 (4.585)	
5. Front baggage		128.0 (3.250)	
6. Cargo			
7. Cargo			
8. Cargo			
9. Cargo			
10. Rear baggage		303.0 (7.695)	
11. Zero fuel weight			
12. Fuel		188.19 (4.780)	
13. Weight with fuel			

Figure 9.40.2 (1/2) – Loading Form

$$\text{CG m.a.c. \%} = \frac{(d_o - 173)}{59} \times 100$$

ITEM	WEIGHT lb (kg)	do in (m)	CG m.a.c. %
14. Zero fuel weight			
15. Weight with fuel			

Figure 9.40.2 (2/2) - Loading Form

Airplane weight (W)	CG (MAC %)	Index calculation	Basic index
		$I = \frac{(CG - 28)\ W}{1323} + 80$	

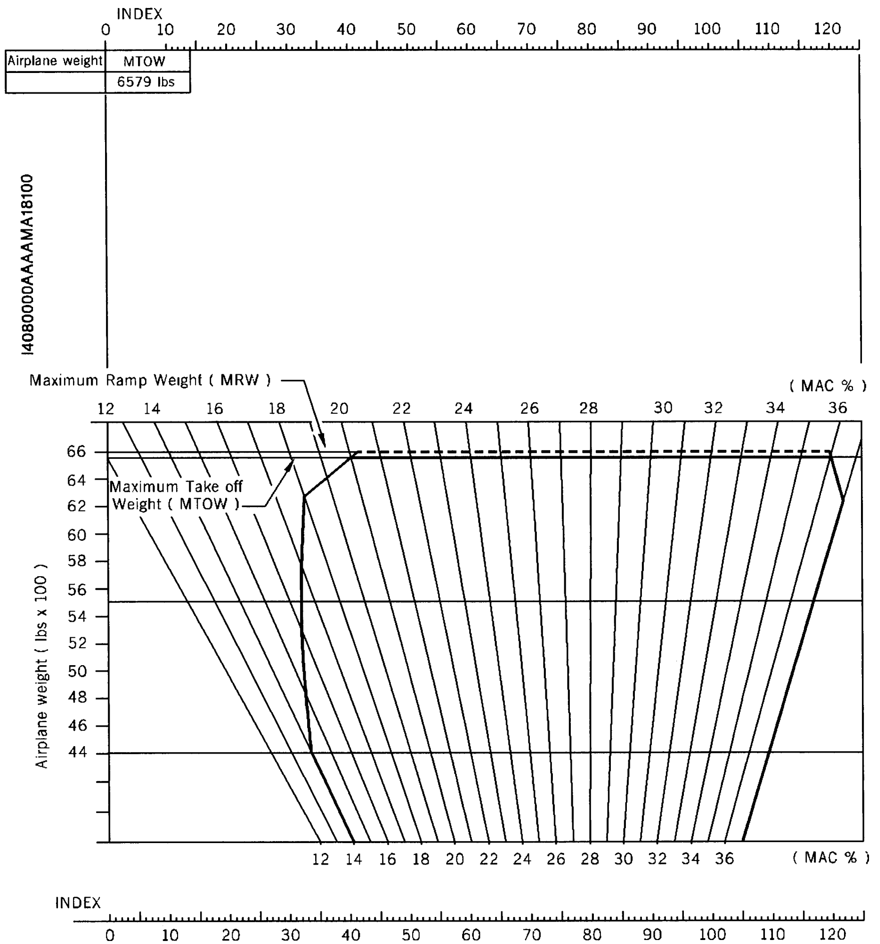


Figure 9.40.3 - Weight and balance graph (in lbs)

Airplane weight (W)	CG (MAC %)	Index calculation	Basic index
		$I = \frac{(CG - 28)\ W}{600} + 80$	

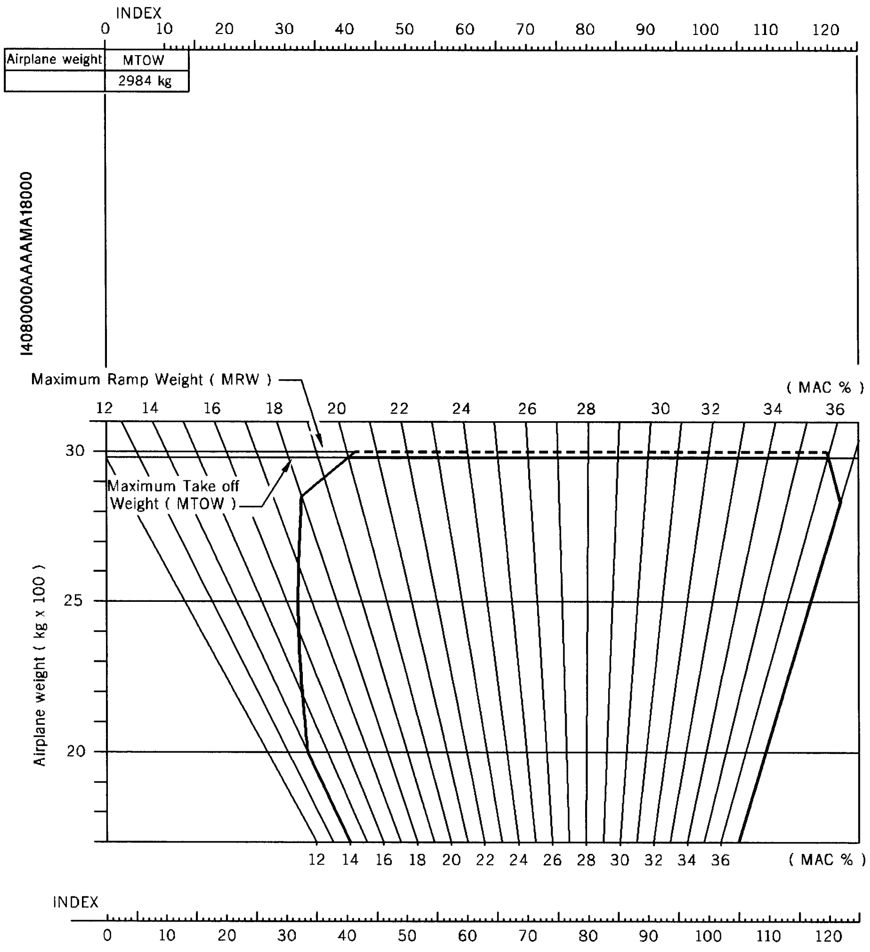


Figure 9.40.3A - Weight and balance graph (in kg)

SECTION 7

DESCRIPTION

DESCRIPTION

For transport of goods in bulk (cargo of low density) in the baggage compartment aft of the cabin, a partition net is installed at frame 14.

For transport of goods in container, on pallet or in heavy case inside the cabin, a stowing net, with adjustable straps, is available. The strap ends are equipped with anchor fittings allowing their attachment to the seat rails.

LOADING INSTRUCTIONS

CAUTION

CARGO MUST BE STRAPPED ON THE PALLET FROM THE FRONT TO THE REAR PART OF THE CARGO

The container, pallet or heavy case must be installed against retaining angles attached to the seat rails and it must be stowed with the stowing net attached to the anchor fittings in the seat rails.

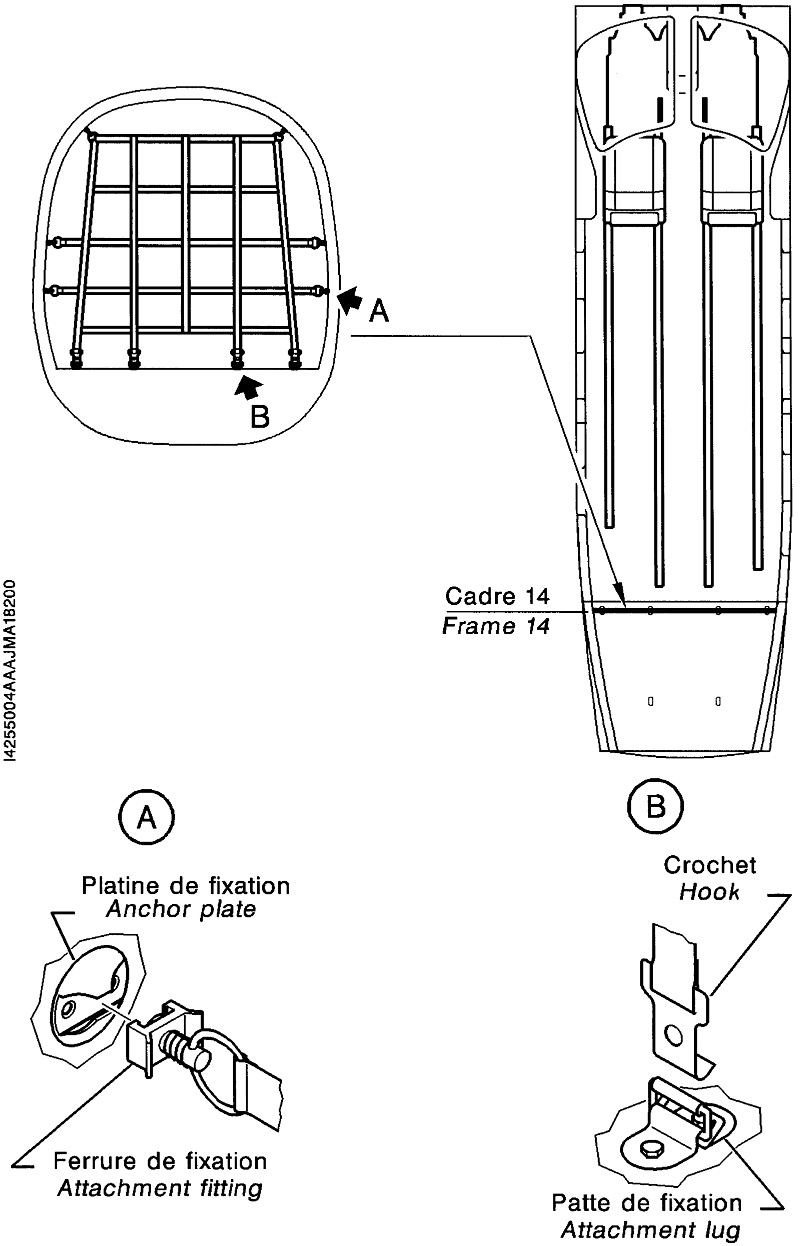


Figure 9.40.4 - Partition net

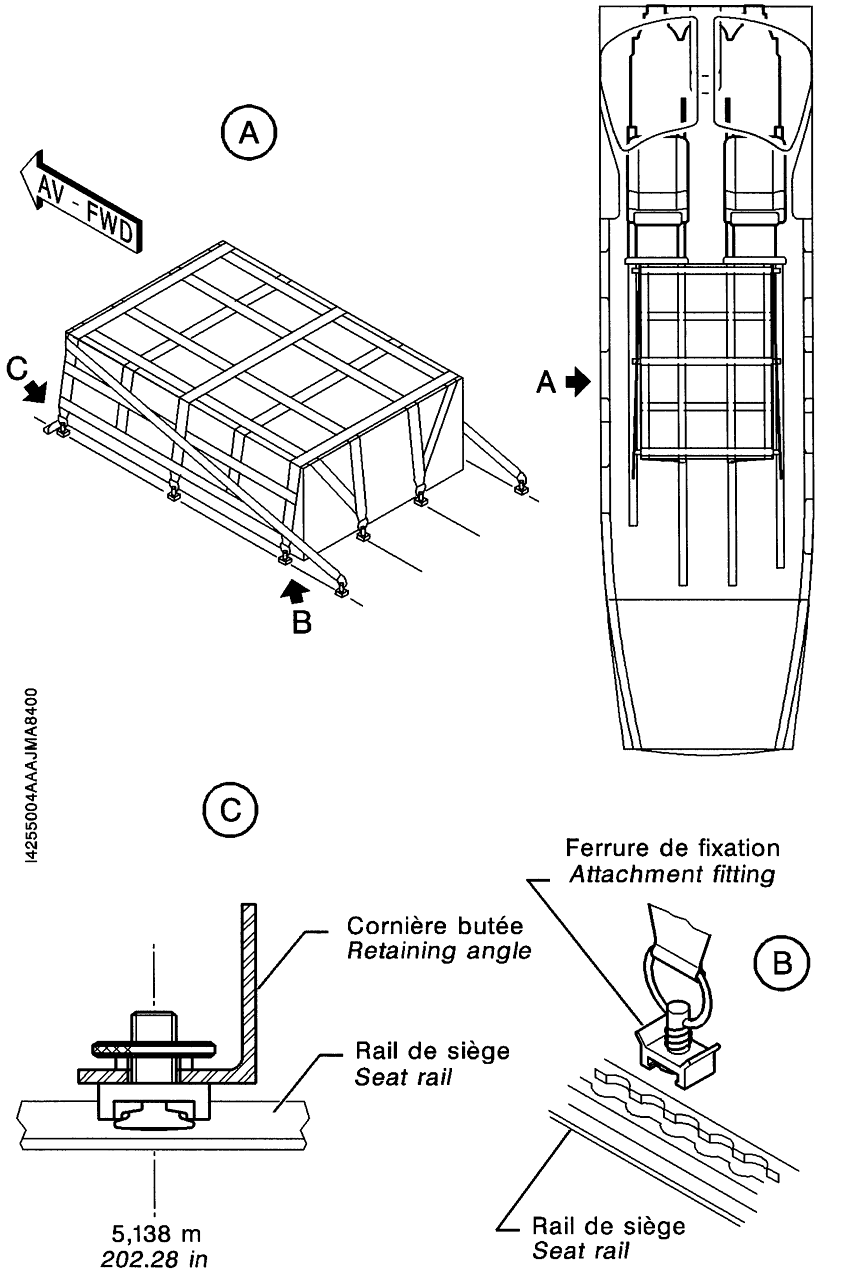


Figure 9.40.5 – Stowing of a container, a pallet or heavy box

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

A - CONVERSION OF PASSENGERS ACCOMMODATION INTO CARGO TRANSPORTATION VERSION

1) Remove the rear double chair and the intermediate passengers' seats.
2) If installed, remove the cabinets.
3) Remove the cabin and baggage compartment carpets.

Container, pallet or heavy box freight

4) Position and secure the retaining angles, P/N T700B259003100000.

CAUTION

CARGO MUST BE STRAPPED ON THE PALLET FROM THE FRONT TO THE REAR PART OF THE CARGO

5) After having loaded the airplane, position and secure the stowing net, P/N T700B259001300600 and the partition net at frame 14.

B - CONVERSION OF CARGO TRANSPORTATION VERSION INTO PASSENGERS ACCOMMODATION

1) Remove and put away :
   - the stowing net, P/N T700B259001300600,
   - the retaining angles, P/N T700B259003100000.
2) Install the cabin and baggage compartment carpets.
3) If removed, install the cabinets.
4) Install the intermediate passengers' seats and the rear double chair.

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SUPPLEMENT

”HONEYWELL” KMH 880 EGPWS/TAS SYSTEM

TABLE OF CONTENTS

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SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM airplane is equipped with the option "HONEYWELL" KMH 880 EGPWS/TAS SYSTEM.

The KMH 880 system provides two functions which are aids for the pilot :

- the EGPWS function enables to detect if the airplane path is in compliance with the overflown terrain relief.
- the TAS function enables to monitor the traffic by relying on information obtained from nearby airplane transponders. This function does neither detect, nor track airplane which are not equipped with an operating ATCRBS transponder.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook, when the TBM airplane is equipped with the option "HONEYWELL" KMH 880 EGPWS/TAS SYSTEM.

The KMH 880 EGPWS function provides terrain proximity alerting and detection to the pilot. It must not be used for airplane vertical and horizontal navigation.

AC 2318 recommendation : in order to avoid unwillingly warnings, EGPWS function must be inhibited for any landing on a terrain which is not mentioned in the data base.

REMARK :
The KMH 880 TAS function is an advisory means, not a TCAS.

Following documents or any further edition applicable to the latter, shall be readily available to the pilot, each time the KMH 880 system is used :

- KTA 870/KMH 880 Traffic Advisory System/Multi-Hazard Awareness System Pilot's Guide, P/N 006-18265-0000 Revision 0 dated 03/01,
- EFS 40/50 Pilot's Guide, P/N 006-08701-0000 dated 08/15/93,
- "GARMIN" GNS 530 Pilot's Guide, P/N 190-00181-00 Revision A dated 04/00, if data are displayed on a GNS 530 GPS,

and, depending of the multi-function display used, :

- KMD 550/850 Multi-function Display Pilot's Guide, P/N 006-18222-0000 Revision 1 dated April/2001,
- KMD 550/850 Multi-function Display/Terrain Function (EGPWS) Pilot's Guide Addendum, P/N 006-18236-0000 Revision 1 dated April/2001,
- Multi-function Display Traffic Avoidance Function (TCAS/TAS) Pilot's Guide Addendum P/N 006-18238-0000 Revision 0 dated 04/01, if data are displayed on a KMD 850 MFD,

or

- "GARMIN" GMX 200 Multi-function Display Pilot's Guide, P/N 190-00607-02 Revision A dated June 2006, if data are displayed on a GMX 200 MFD.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook, when the TBM airplane is equipped with the option "HONEYWELL" KMH 880 EGPWS/TAS SYSTEM.

WARNING LIGHT "TERR N/A" ON

1 – MD41 "TEST" switch . . . . **PUSH**

If the following voice message is heard :
"EGPWS Computer OK – External faults : Display configuration"
or
"EGPWS Computer OK – External faults : Display bus inactive" :

2 – Check the multi–function display (KMD 850 or GMX 200) is set to ON.

For all other messages :

The EGPWS function is not operational.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM airplane is equipped with the option "HONEYWELL" KMH 880 EGPWS/TAS SYSTEM.

BEFORE TAKEOFF

1 – MD41 "TEST" switch . . . . **PUSH**

2 – "EGPWS System OK" voice message . . . . **HEARD**

3 – If KMD 850 installed :
- KMD 850 "TRFC" knob . . . . **PRESS**
- TAS function test (KMD 850) . . . . **OK**
- "TAS" knob (on KMD 850 "TRFC" page) . . . . **ON**

4 – If GMX 200 installed :
- TAS function key (GMX 200) . . . . **ON**
- TAS "Operate" item key (GMX 200) . . . . **PRESS**

4.1 - WARNINGS OF THE EGPWS FUNCTION

"PULL UP" AURAL WARNING

The red "TERR" warning light illuminates.

1 – Level the wings.

2 – Display the maximum power.

3 – Choose the optimum rate of climb adapted to airplane configuration and speed, until the warning disappears.

"Terrain Terrain Pull up", "Obstacle Obstacle Pull up", AURAL WARNINGS
The red "TERR" warning light illuminates. Adjust airplane path in order to make the warning disappear.

4.2 - CAUTIONS OF THE EGPWS FUNCTION

"Caution terrain", "Caution obstacle", "Too low terrain" AURAL WARNINGS
The amber "TERR" warning light illuminates. Adjust airplane path in order to make the warning disappear.

"DON'T SINK" AURAL WARNING
The amber "TERR" warning light illuminates. Re-establish a positive rate of climb.

"SINK RATE" AURAL WARNING
The amber "TERR" warning light illuminates. Reduce rate of descent.

4.3 - KMH 880 TAS FUNCTION

WARNING

DO NOT ATTEMPT EVASIVE MANEUVERS BASED SOLELY ON TRAFFIC INFORMATION SHOWN ON DISPLAY ASSOCIATED TO THE KMH 880 TAS FUNCTION. INFORMATION ON THE DISPLAY IS PROVIDED TO THE FLIGHT CREW AS AN AID IN VISUALLY ACQUIRING TRAFFIC; IT IS NOT A REPLACEMENT FOR ATC AND SEE & AVOID TECHNIQUES

When the KMH 880 TAS function issues a Traffic Alert (aural or visual), look outside for the intruder airplane. When you spot an intruder airplane, use normal right-of-way procedures to maintain separation.

SECTION 5

PERFORMANCE

The installation and the operation of the "HONEYWELL" KMH 880 EGPWS/TAS SYSTEM do not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

A or O	OPTIONAL EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION				
A	EGPWS/TAS system (OPT70 34061A)	KMH 880	HONEYWELL	15.63 (7.09)	158.42 (4.024)
A	EGPWS/TAS system (with antenna KA92) (OPT70 34061B)	KMH 880	HONEYWELL	15.89 (7.21)	166.02 (4.217)
A	EGPWS/TAS system (OPT70 34061C)	KMH 880	HONEYWELL	15.65 (7.10)	158.42 (4.024)

SECTION 7

DESCRIPTION

7.1 COMPONENTS OF THE OPTION

The KMH 880 option is constituted of the following components :

- a KA 92 GPS antenna (airplanes equipped with a “HONEYWELL” GPS),
- an MD41-1208 control box for EGPWS function of the option,
- a KMH 880 computer,
- two KA 815 antennas.

KMH 880 terrain type information is displayed on a KMD 850 or on a GMX 200 screen, when the “TERR” function is activated by the pilot.

Traffic information can be displayed on a dedicated screen (KMD 850 / GMX 200 and/or GNS 530) and/or on the EFS 40.

KMH 880 traffic type information is displayed on a KMD 850 or on a GMX 200 screen, when the “TRFC” function is activated by the pilot.

Use EFS 40 “TEST/REF” knob to display TAS information on the EFS 40.

7.2 MODES OF THE KMH 880 EGPWS FUNCTION

The KMH 880 EGPWS function has 5 modes :

- <u>“Look ahead” mode</u>
  This mode provides a protection ahead of the airplane with a 1 minute prediction (”Caution terrain” or “Caution obstacle” aural warning associated with the illumination of the amber “TERR” warning light) and a 30 seconds prediction (”Terrain Terrain Pull up” or “Obstacle Obstacle Pull up” aural warning associated with the illumination of the red “TERR” warning light).

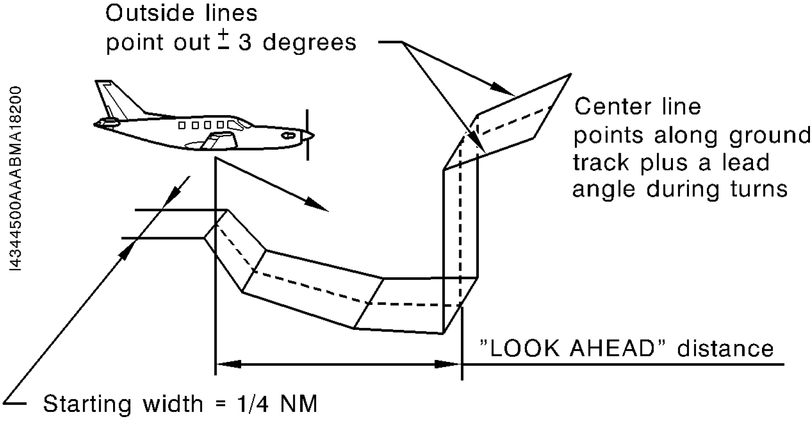


Figure 9.42.1

- "Runway Field Clearance Floor" (RFCF) mode
  This mode is active, when the airplane flies at less than 5 NM from a runway known in the KMH 880 data base ; it generates the "Too low terrain" aural warning and the illumination of the amber "TERR" warning light.

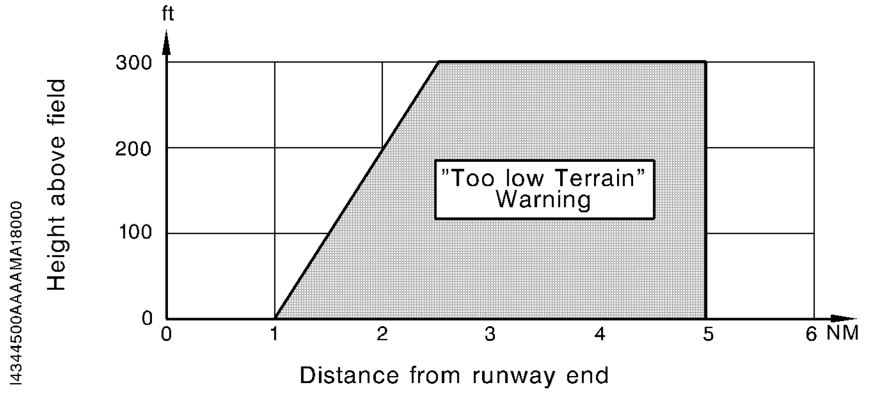


Figure 9.42.2 – "Too low terrain" warning area

- "Excessive rate of descent" mode
  This mode has a lower priority than the "Look ahead" mode ; it generates the "Sink rate" aural warning (illumination of the amber "TERR" warning light) and the "Pull up" aural warning (illumination of the red "TERR" warning light).

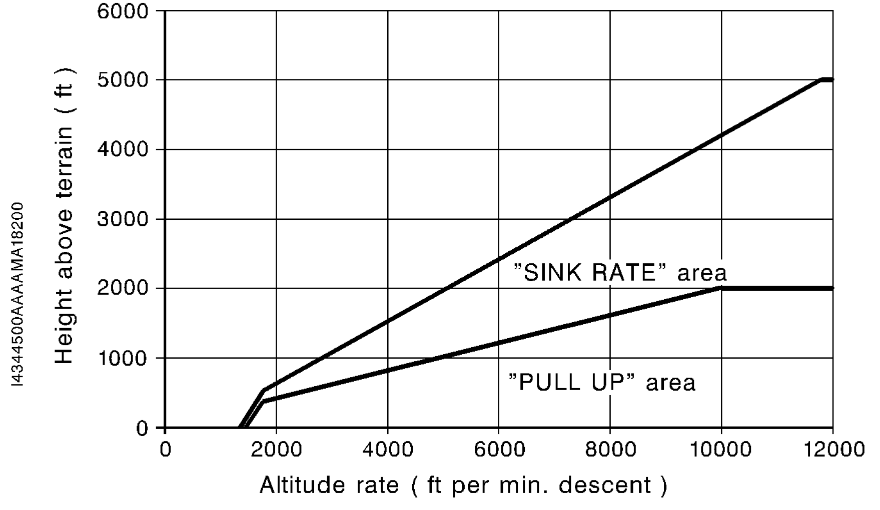


Figure 9.42.3 – "Sink rate" and "Pull up" warnings areas

- <u>"Loss of altitude/negative rate of descent after takeoff" mode</u>
  This mode is active until the airplane reaches an altitude of approximately 700 ft above the runway ; it generates the "Don't sink" aural warning and the illumination of the amber "TERR" warning light.

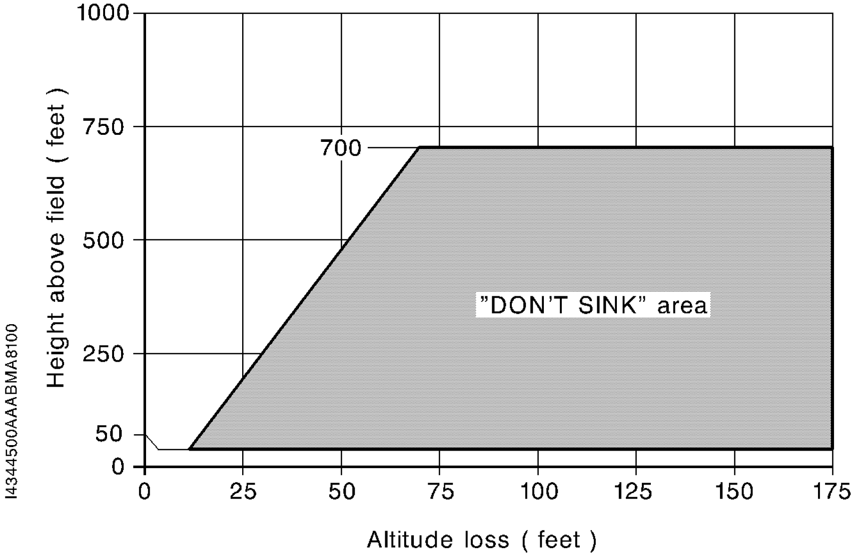


Figure 9.42.4 – "Don't sink" warning area

- <u>"500 ft" mode</u>
  This mode is active, when the airplane flies at less than 5 NM from a runway known in the KMH 880 data base ; it generates a "500 ft" aural warning. This warning is re-initialized when the airplane reaches a height of 700 ft above the terrain altitude.

7.3 TERRAIN AWARENESS DISPLAY

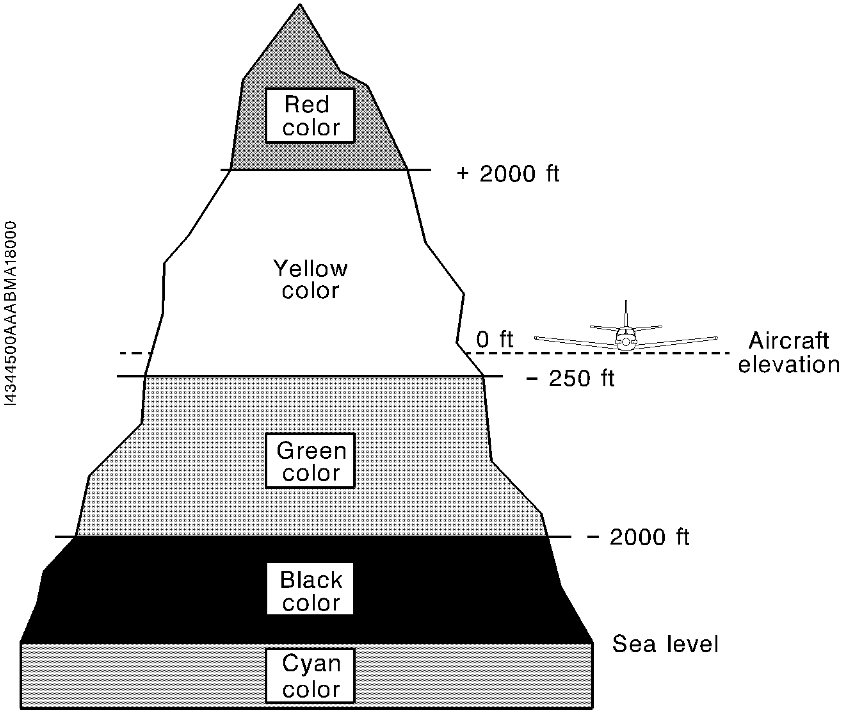


Figure 9.42.5

7.4 OBSTACLE DATA BASE

Data for known obstacles such as towers, buildings, antennas, etc. is contained on the same data card as the terrain and airport data. Presently, there are some 70000-plus obstacles in the database, but they are all in the area of North America. As more reliable information becomes available, Honeywell will expand the capability to provide alerting and warning for obstacles in other areas of the world.
Obstacles in the database are those known obstacles more than 100 feet AGL, so obstacles of lower height will not produce GA-EGPWS "Obstacle" alerts or warnings. However, terrain elevations are "rounded" up to the next 100 feet, so alerting and warning protection is generally available for known obstacles that are less than 100 feet AGL.

7.5 KMH 880 TAS FUNCTION

Traffic detected is displayed, when the vertical separation between your own airplane altitude and the intruder altitude ranges :

MODE	From	Up to
ABV (Look up)	- 2700 ft	+ 9000 ft
NRM (Normal)	- 2700 ft	+ 2700 ft
BLW (Below)	- 9000 ft	+ 2700 ft

Traffic Advisory (TA) criteria, which initiate a visual and/or an aural alert, are (sensitivity level B) :

- detection of an intruder airplane within a 0.55 NM horizontal radius and a ± 800 ft relative altitude,
- approach of an intruder airplane on a course that will intercept your course within 20 to 30 seconds.

Airplanes equipped with the radio altimeter

When the airplane is at a ground height lower than 2000 ft, Traffic Advisory (TA) criteria, which initiate a visual and/or an aural alert, are (sensitivity level A) :

- detection of an intruder airplane within a 0.2 NM horizontal radius and a ± 600 ft relative altitude,
- approach of an intruder airplane on a course that will intercept your course within 15 to 20 seconds.

The aural traffic alert is inhibited when the height detected by the radio altimeter is below 600 ft.

TAS function will be automatically activated, if following conditions are combined :

- radio altimeter height is greater than 50 ft,
- KMD 850 TAS selector (outer knob icon) is set to ON.

7.6 SWITCH-ON

To switch ON or OFF the KMH 880, use "RADIO MASTER" switch.

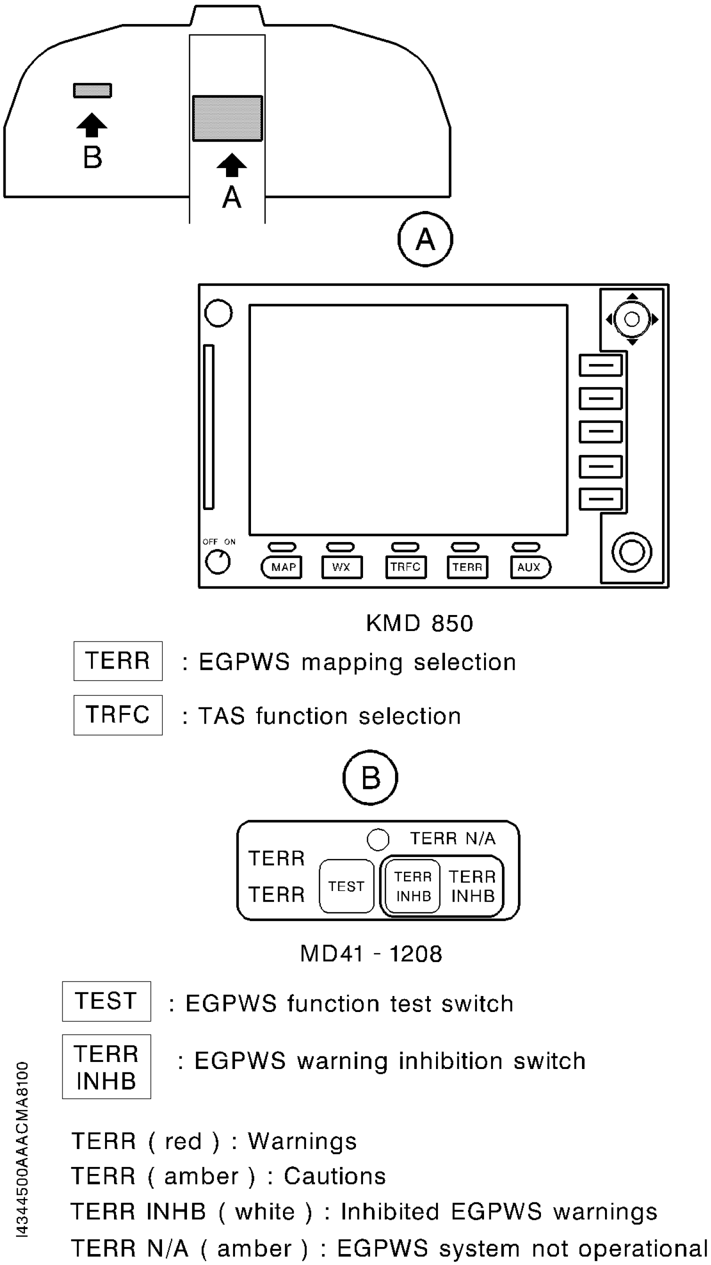
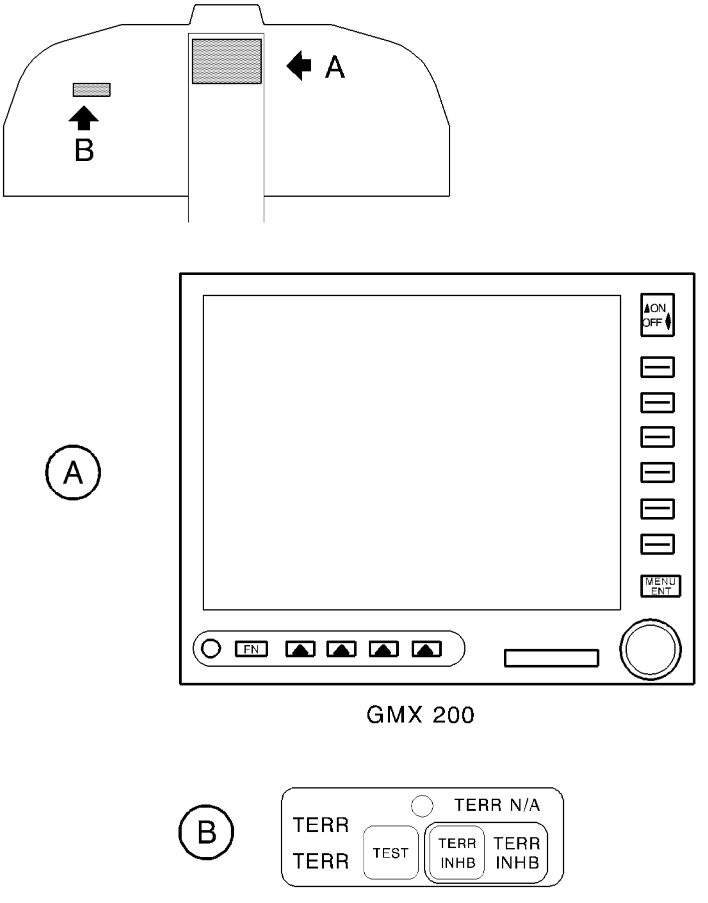


Figure 9.42.6 – KMH 880 system displayed on KMD 850 MFD



TEST : EGPWS function test switch

TERR INHB : EGPWS warning inhibition switch

TERR (red) : Warnings
TERR (amber) : Cautions
TERR INHB (white) : Inhibited EGPWS warnings
TERR N/A (amber) : EGPWS system not operational

I4346200AAADMA8100

Figure 9.42.6A – KMH 880 system displayed on "GARMIN" GMX 200 MFD

SUPPLEMENT

CHIP DETECTION SYSTEM

TABLE OF CONTENTS

SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM airplane is equipped with the option ”CHIP DETECTION SYSTEM”.

SECTION 2
LIMITATIONS

The installation and the operation of the CHIP DETECTION SYSTEM do not change the limitations of the airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook.

SECTION 3

EMERGENCY PROCEDURES

The emergency procedures hereafter supplement those of the standard airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook, when the TBM airplane is equipped with the option ”CHIP DETECTION SYSTEM”.

OIL CONTAMINATION CHIP

Indication : **“CHIP”** amber warning on

On ground

Before engine start :

1 – Do not start engine.

After engine start or after landing :

1 – Return to parking area.

2 – Shut down engine.

3 – Inspect chip detector(s) and engine, if required.

In flight

1 – Check and monitor engine parameters.

2 – Land as soon as practical.

3 – Shut down engine.

4 – Inspect chip detector(s) and engine, if required.

SECTION 4

PROCEDURES NORMALES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook, when the TBM airplane is equipped with the option ”CHIP DETECTION SYSTEM”.

When “CHIP” amber warning goes on, it causes the illumination of the “Master Caution” light.

SECTION 5

PERFORMANCE

The installation and the operation of the CHIP DETECTION SYSTEM do not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement those given for the standard aircraft in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	79 - LUBRICATION			
A	Chip detection system (2 detectors) (MOD70-0169-79A)		Negligible	/
A	Chip detection system (1 detector) (MOD70-0169-79B)		Negligible	/
A	Chip detection system (2 detectors) with GARMIN flight deck system (MOD70-0169-79C)		Negligible	/

SECTION 7

DESCRIPTION

The chip detection system enables the monitoring of engine oil system.

The system includes one chip detector installed on propeller reduction gear box and, if installed, a second chip detector installed on engine accessory gear box.

In case of chip detection, amber warning light “CHIP” on advisory panel or amber CAS message “CHIP” on GARMIN flight deck system screen goes on.

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MEXICO SPECIFICS

MOD70-0212-11

This supplement includes the general, limitations, emergency procedures, normal procedures, performance, weight and balance and description in addition to those of TBM airplane in its standard version.

This Supplement includes information to be furnished to the pilot as required by the certification conditions.

This Supplement Revision 2 meeting the Mexico DGAC requirements is approved under the authority of DOA EASA.21J.013.
Approval Number : EASA.21J.013 17275 T/N DOA

Date : September28, 2017

THIS DOCUMENT MUST BE EMBODIED IN SECTION 9 OF THE PILOT'S OPERATING HANDBOOK AND BE PERMANENTLY KEPT IN THE AIRPLANE

LIST OF EFFECTIVE PAGES AND VALIDITIES

ORIGINAL ISSUE OF SEPTEMBER 30, 2011

From S/N 1 to S/N 999, except S/N 687

P/N Z00.DMAFM45EE0R2MX

Page No.	Revision No.	Page No.	Revision No.
9.45A	2	9.45.15	2
9.45B	2	9.45.16	2
9.45C	1	9.45.17	2
9.45D	2	9.45.18	2
9.45.1	2	9.45.19	2
9.45.2	0	9.45.20	2
9.45.3	0	9.45.21	2
9.45.4	0	9.45.22	2
9.45.5	0	9.45.23	2
9.45.6	0	9.45.24	2
9.45.7	0	9.45.25	2
9.45.8	0	9.45.26	2
9.45.9	0	9.45.27	2
9.45.10	0	9.45.28	2
9.45.11	0	9.45.29	2
9.45.12	0	9.45.30	2
9.45.13	0	9.45.31	2
9.25.13A	1	9.45.32	2
9.25.13B	1	9.45.33	2
9.45.14	2	9.45.34	2

This Supplement Revision 2 meeting the Mexico DGAC requirements is approved under the authority of DOA EASA.21J.013.
Approval Number : EASA.21J.013 17275 T/N DOA

Date : September 28, 2017

LIST OF AMENDMENTS

Revision 1 of April 29, 2016

Pages	Description
9.45A	Approval page
9.45B	List of effective pages and validities
9.45C	List of amendments
9.45.13A and 9.45.13B	Integration of TR17 ”AIR TOTAL extinguisher”
9.45.17	Modification of ”OILS – ACEITES” placard : addition of AEROSHELL 560
9.45.15, 9.45.16, 9.45.18, 9.45.20	Terminology

LIST OF AMENDMENTS

Revision 2 of July 17, 2017

Pages	Description
9.45A	Approval page
9.45B	List of effective pages and validities
9.45D	List of amendments
9.45.1	Table of contents
9.45.14 to 9.45.17	Addition of placards for MOD70-0505-25
9.45.14, 9.45.18 thru 9.45.34	Text moving

SUPPLEMENT

MEXICO SPECIFICS

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SECTION 1
GENERAL

This supplement is intended to inform the pilot about the airplane specifics, among others those required by the relevant Certification Authorities (limitations, description and operations necessary to the operation of the TBM airplane).

SECTION 2
LIMITATIONS

The limitations hereafter supplement or replace those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook.

PLACARDS

Internal placards

1) Rear pressurized baggage compartment (in cabin)

   d) On bottom bulkhead

   TBM 700A, TBM 700B

MÁXIMO 100 kg - (220 lbs)
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS ”DATOS DE PESO Y BALANCE”
DEL MANUAL DE OPERACIÓN DEL PILOTO.

I4112003AAAEMA8001

e) On partition wall

TBM 700C1, TBM 850

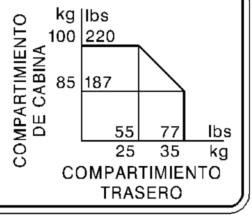
I4112003AAAEMA8001

MÁXIMO 100 kg - (220 lbs)
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS "DATOS DE PESO Y BALANCE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

or

I4112003AAAGMA8201

MÁXIMO 100 kg - (220 lbs)
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS "DATOS DE PESO Y BALANCE" DEL MANUAL
DE OPERACIÓN DEL PILOTO Y LA GRÁFICA DE AL LADO.



TBM 700C2 (Refer to POH Supplement 41)

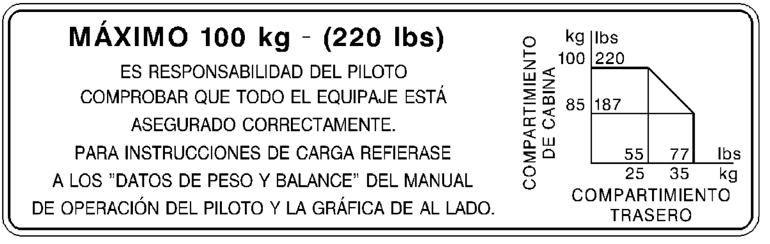
With partition net version A (refer to Section 6 of TBM 700C1 Pilot's Operating Handbook)

I4112003AAAGMA8301

MÁXIMO 45 kg - (100 lbs)
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE
ESTÁ ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA
REFIERASE A LOS "DATOS DE PESO Y BALANCE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

With partition net version B (refer to Section 6 of TBM 700C1 Pilot's Operating Handbook)

I4112003AAAGMA8201



2) Non pressurized FWD baggage compartment

a) On baggage compartment door frame

<u>TBM 700A, TBM 700B and TBM 850 S/N 269 and from S/N 434</u>

I4112003AAAEMA8100

MÁXIMO 50 kg - (110 lbs)

PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS "DATOS DE PESO Y BALANCE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

3) Non pressurized rear baggage compartment

a) On internal face of the baggage compartment door

TBM 700C, TBM 850 up to S/N 433 except S/N 269

I4112003AAAGMA8000

MÁXIMO 35 kg - (77 lbs)

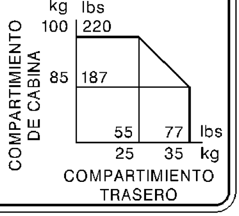
PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS "DATOS DE PESO Y BALANCE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

or

I4112003AAAGMA8101

MÁXIMO 35 kg - (77 lbs)

PARA INSTRUCCIONES DE CARGA
REFIERASE A LOS "DATOS DE PESO Y
BALANCE" DEL MANUAL DE OPERACIÓN
DEL PILOTO Y LA GRÁFICA DE AL LADO.



4) On cockpit R.H. side, at front seat level

TBM 700A, TBM 700B (chemical oxygen)

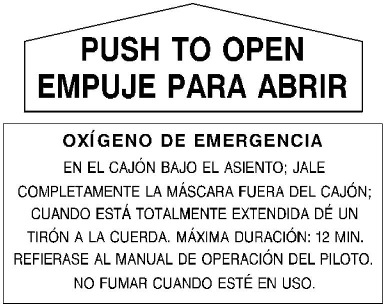
I4112003AAAEMA18001

OXÍGENO DE EMERGENCIA

EN EL CAJÓN BAJO EL ASIENTO; JALE
COMPLETAMENTE LA MÁSCARA FUERA DEL CAJÓN;
CUANDO ESTÁ TOTALMENTE EXTENDIDA DÉ UN
TIRÓN A LA CUERDA. MÁXIMA DURACIÓN: 12 MIN.
REFIERASE AL MANUAL DE OPERACIÓN DEL PILOTO.
NO FUMAR CUANDO ESTÉ EN USO.

5) Under seating of intermediate and rear passenger seats (on FWD side), which are fitted with oxygen

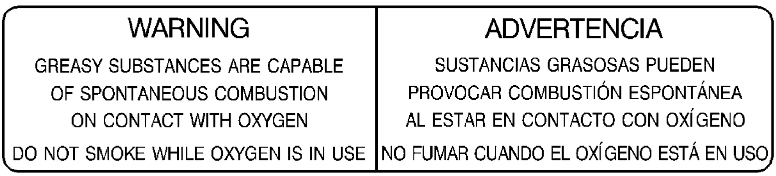
TBM 700A, TBM 700B (chemical oxygen)



I4112003AAAEMA8500

6) On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

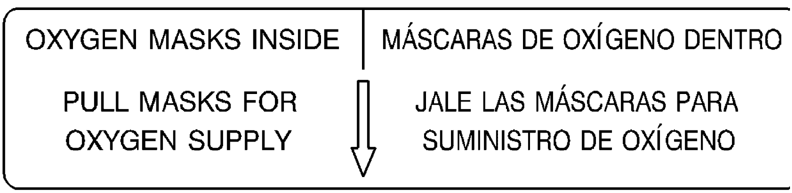
TBM 700C, TBM 850 (standard definition)



I4112003AAAFMA18101

7) On rear passengers masks containers (on R.H. side on the ceiling)

TBM 700C, TBM 850 (standard definition)



I4112003AAAFMA18201

8) On rear passenger’s table casing

ALL

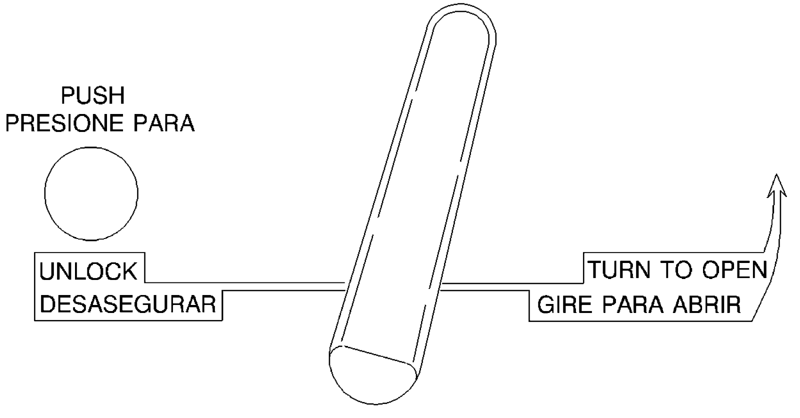
I4112003AAAEMA8400

LA MESA DEBE ESTAR GUARDADA DURANTE EL DESPEGUE Y ATERRIZAJE.

9) Door internal side

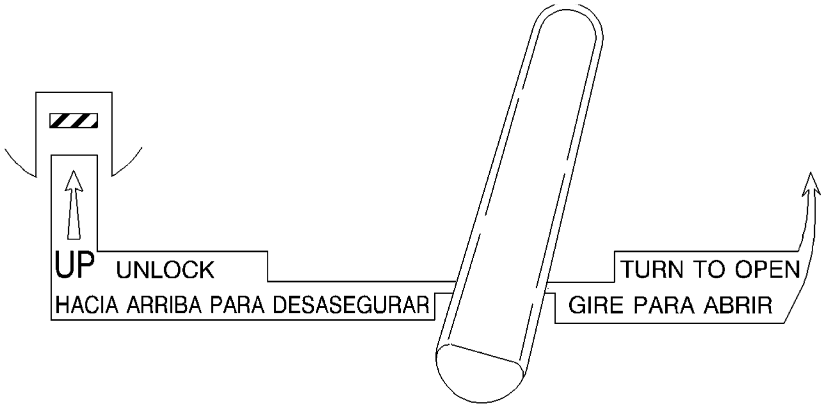
a) On access door – **TBM 700A** from S/N 1 to S/N 49, except airplanes equipped as a retrofit with modification No. MOD70-019-25

I4112002AAAFMA8201



b) On access door – **TBM 700A** from S/N 50 to S/N 125, plus airplanes equipped as a retrofit with modification No. MOD70-019-25

I4112002AAAFMA8301

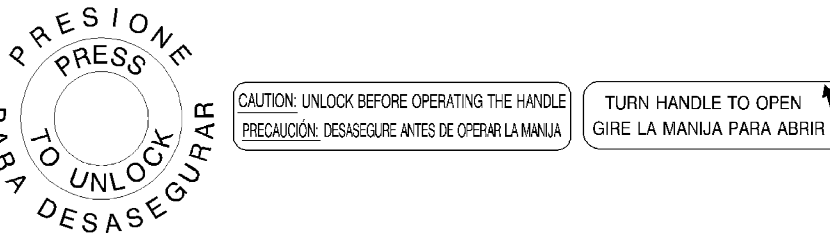


c) On access door – **TBM 700A** S/N 30, 35 and from S/N 50 to S/N 125

I4112003AAAJMA8100

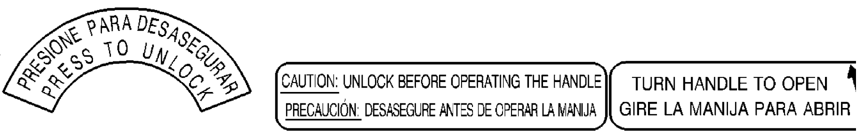
d) On access door – **TBM 700B, TBM 700C, TBM 850 up to S/N 433 except S/N 269**

I4112003AAAFMA8101



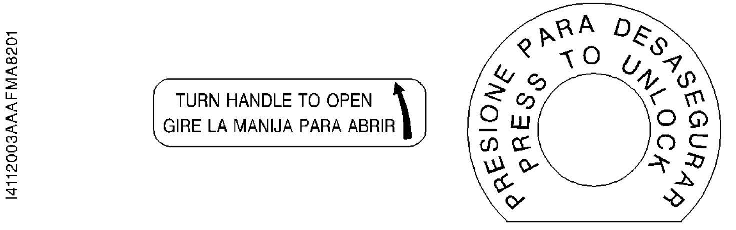
e) On access door – **TBM 850 S/N 269 and from S/N 434**

I4112003AAAQMA8300



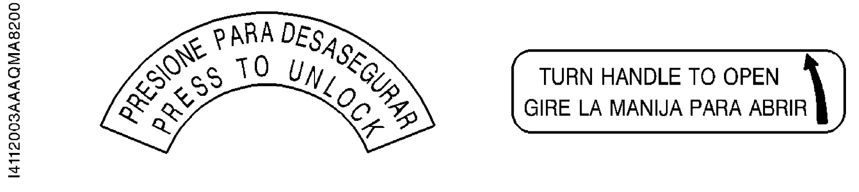
f) On ”pilot” door (if installed)

TBM 700B, TBM 700C, TBM 850 up to S/N 433 except S/N 269



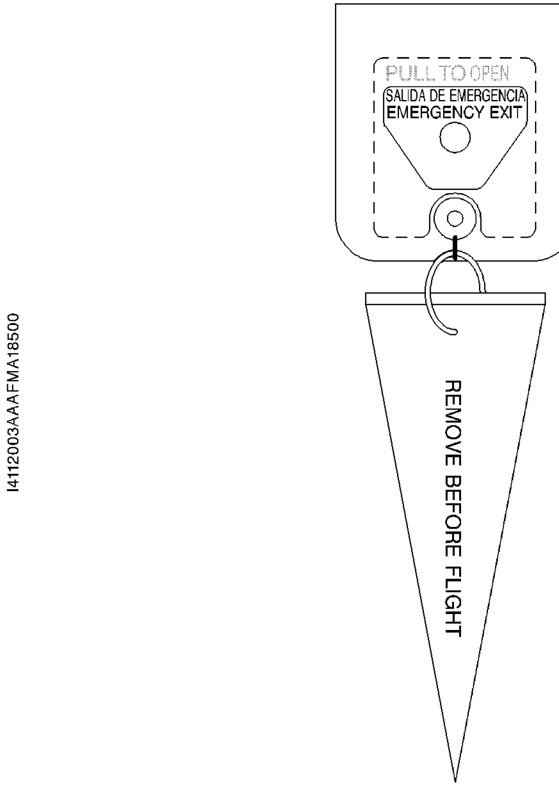
g) On ”pilot” door (if installed)

TBM 850 S/N 269 and from S/N 434



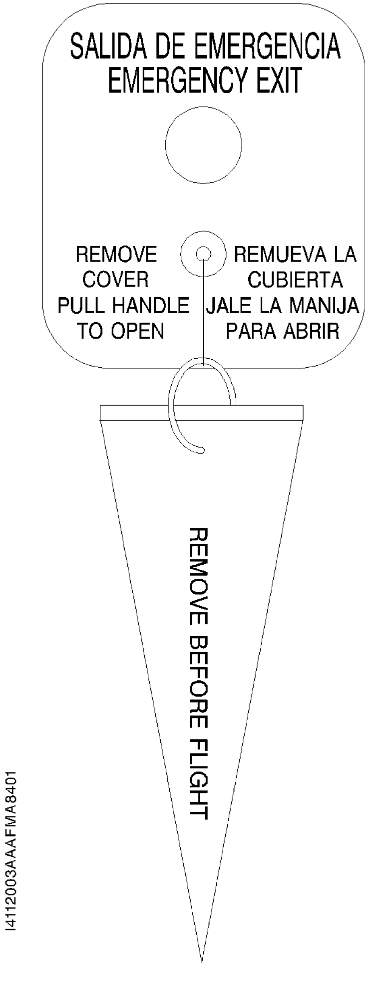
10) On emergency exit handle

a) **<u>TBM 700A</u>** From S/N 1 to 23, 25, 28, 33 and 35, <u>except</u> airplanes equipped as a retrofit with modification No. MOD 70-019-25

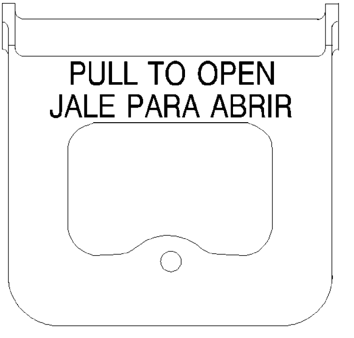


b) **ALL** From S/N 24, 26, 27, 29 to 32, 34, 36 to 9999, plus airplanes equipped as a retrofit with modification No. MOD 70-019-25

Marking on cover



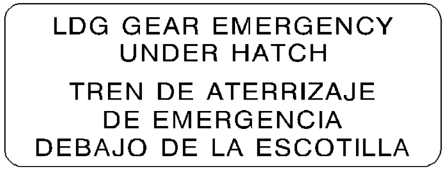
Marking on handle



11) On landing gear emergency control access door

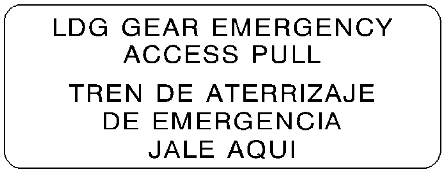
a) **TBM 700A, 700B, TBM 700C, TBM 850 not equipped with MOD70-0189-53**

I4112003AAAIMA8401



b) **TBM 850 equipped with MOD70-0189-53**

I4112003AAAIMA18400



12) At the upper corner of the window on each side of the cockpit

ALL

I4112003AAAHMA8301

13) On cabinet drawer

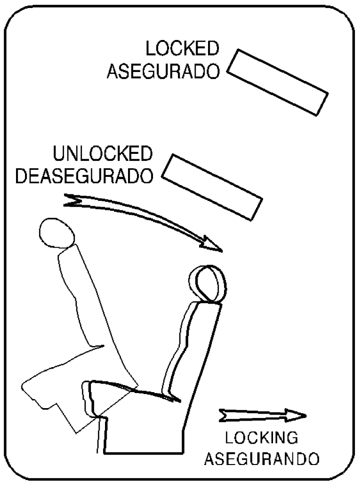
ALL

I4112003AAAIMA18000

14) On aisle side of rear seats

TBM 700A - PRE-MOD70-019-25

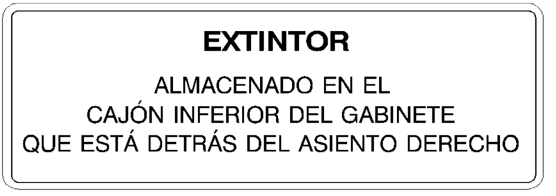
I4112003AAAIMA18301



Pre-MOD70-0336-26 and Post-MOD70-0391-26D

14A) On R.H. side at front seat level

I4113207AAAAMA8401



14B) On the lower drawer of the R.H. cabinet

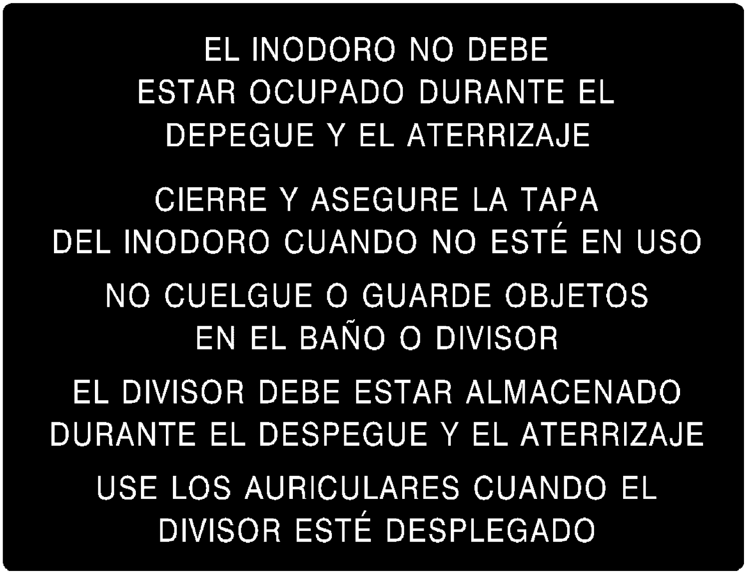
I4113207AAAAMA8101

TBM 850 Airplanes from S/N 434 and equipped with MOD70-0505-25 “Lavatory compartment”

15) - On fixed panel, cabin side

I4113200AAAKMA8300

16) – On fixed panel, toilet side



I4113200AAAKMA8000

17) – On access door, cabin side and toilet side

I4113200AAAKMA8300

18) – Behind access door, cabin side

I4113200AAAKMA8100

19) – Behind access door, toilet side

I4113200AAALMA8100

20) – Front face of lavatory compartment, near opening / closing switches

I4113200AAAKMA18000

I4113200AAAKMA8400

21) - On the magazine rack and on side wall of storage volume

I4113200AAAKMA18100

ALL

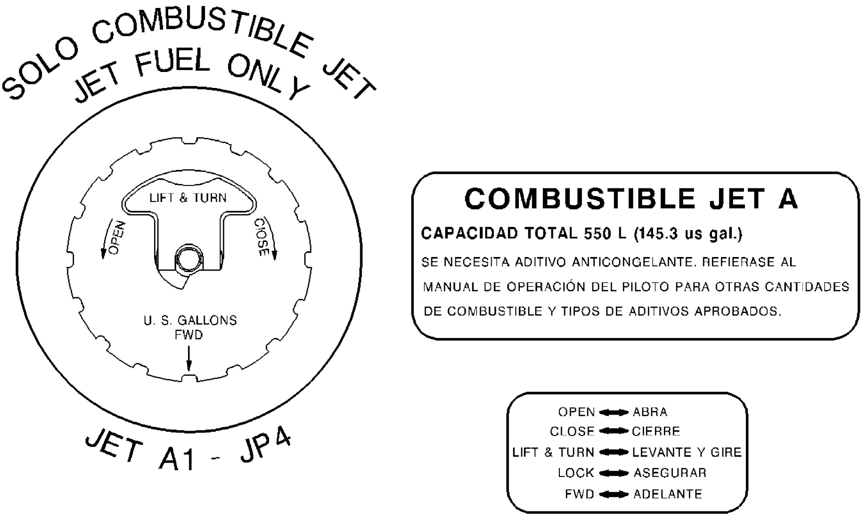
External placards

22) Under engine cowling and under each wing

I4112003AAAHMA18300

23) Near fuel tank caps

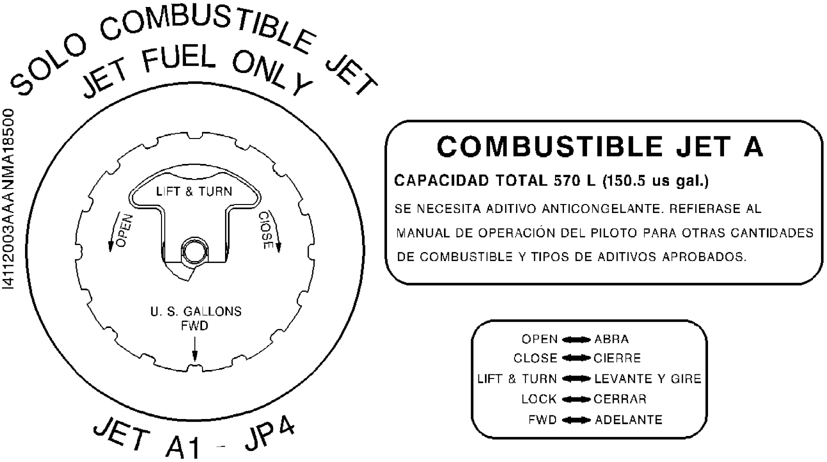
a) **ALL up to S/N 433 except S/N 269**



I4112003AAAEMA8201

b) **TBM 850 S/N 269 and from S/N 434**

I4112003AAANMA18500



c) **ALL**

I4112003AAAHMA8201

ALL

24) Above brakes hydraulic fluid reservoir against firewall

I4112003AAAHMA18101

25) On langing gear hydraulic fluid reservoir

I4112003AAAHMA18001

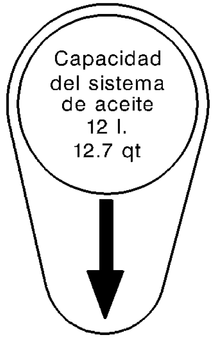
26) On fuse box in engine cowling

I4112003AAAHMA18200

27) On internal face of L.H. engine cowling

a) **ALL**

I4112003AAAEMA8300



I4112003AAAHMA8101

OILS - ACEITES

- ☐ AEROSHELL 560
- ☐ EXXON 2380 OR ESSO 2380 OR BPTO 2380
- ☐ MOBIL JET OIL II
- ☐ MOBIL JET OIL 254
- ☐ AERO SHELL TURBINE OIL 500
- ☐ ROYCO TURBINE OIL 500
- ☐ CASTROL 5000
- ☐ TURBONYCOIL 525-2A

b) **TBM 700A, 700B, TBM 700C**

I4112003AAAJMA8301

BATERÍA

- ☐ NÍQUEL-CADMIO
- ☐ PLOMO-ÁCIDO
  EN ESTE CASO LA LUZ ROJA DE ADVERTENCIA "BAT OVHT" ESTÁ DESACTIVADA.

ALL

28) On front lower portion of firewall L.H. side

I4112003AAAHMA8401

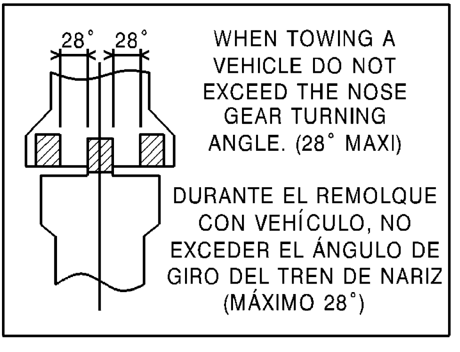
29) On engine cowling, in front of compartment door

I4112003AAAEMA18200

ALIMENTACIÓN EXTERNA:
28 VOLTS C.D. NOMINAL.
CAPACIDAD MÍNIMA DE ARRANQUE:
800 AMPS
NO EXCEDER 1400 AMPS

30) On nose gear door

I4112003AAAEMA18101



31) On nose gear leg

ALL

TREN DE ATERRIZAJE
DE NARIZ

PRESIÓN DE LLANTA: 6,5 bar
94 psi

I4112003AAAIMA8200

32) On main gear leg

TBM 700A, TBM 700B, TBM 700C1

TREN DE ATERRIZAJE
PRINCIPAL

PRESIÓN DE LLANTA: 8,25 bar
120 psi

I4112003AAAIMA8100

TBM 700C2, TBM 850

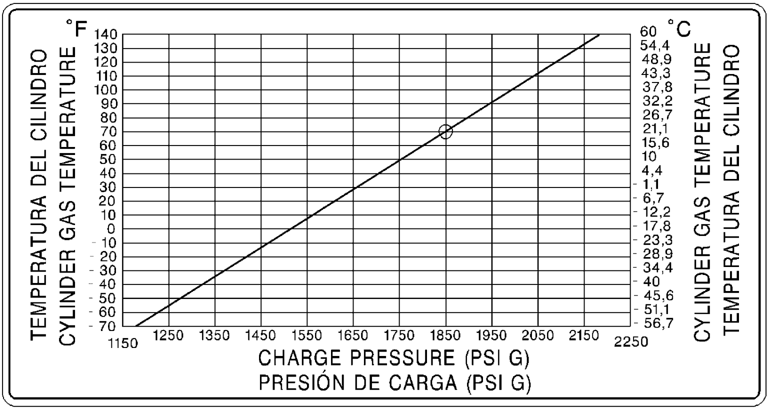
TREN DE ATERRIZAJE
PRINCIPAL

PRESIÓN DE LLANTA: 8,96 bar
130 psi

I4112003AAAIMA8300

33) On internal face of the oxygen cylinder service door

TBM 700C, TBM 850 (standard definition)



I4112003AAAFMA18301

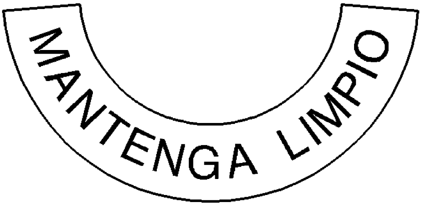
34) On the oxygen service door

TBM 700C, TBM 850 (standard definition)

I4112003AAAIMA18101

35) Near air data system port

ALL

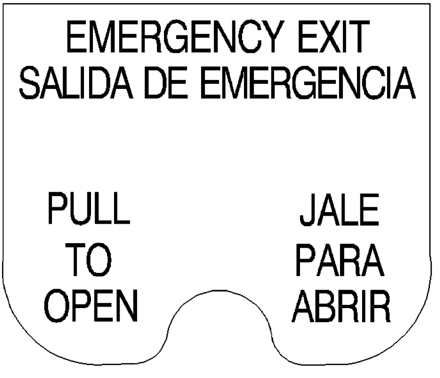


I4112003AAAHMA8001

36) On external side of emergency locator transmitter inspection door
ALL

I4112003AAAHMA18400

37) On emergency exit external side
ALL

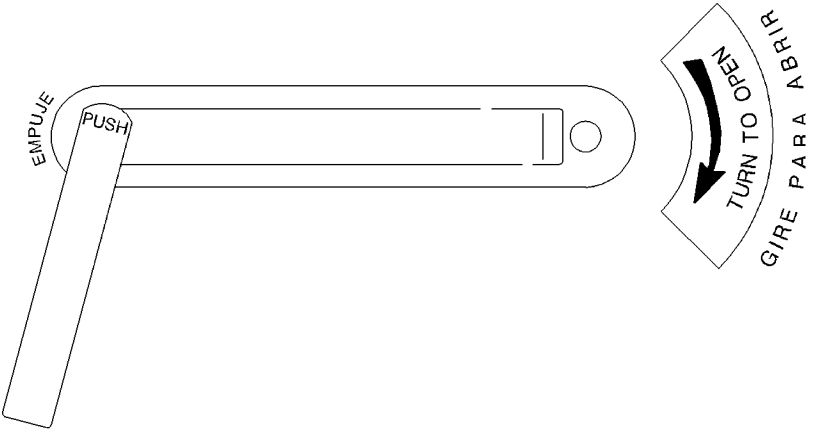


I4112003AAAFMA8500

38) Door external side

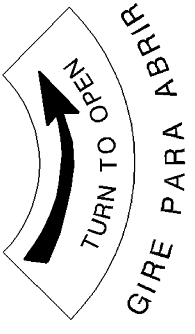
a) **TBM 700A** – On access door

TBM 700B, TBM 700C, TBM 850 – On ”pilot” door (if installed)



I4112003AAAEMA18301

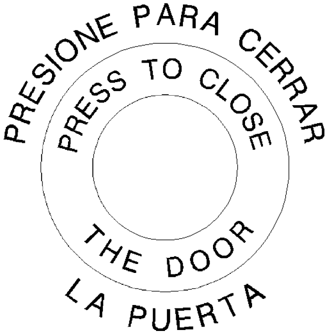
b) **TBM 700B, TBM 700C, TBM 850** – On access door



I4112003AAAEMA18400

c) **<u>TBM 700B, TBM 700C, TBM 850</u>** – On outer fuseline skin aft of access door and in the cabin forward of access door

I4112003AAAFMA8000



39) **<u>ALL</u>** – On last step of stairs

I4112003AAAFMA8300

CARGA MÁXIMA SOBRE LA ESCALERA : UNA PERSONA

40) On R.H. access door jamb
<u>TBM 700B, TBM 700C, TBM 850</u>

I4112003AAAFMA18001

NO USAR EL PASAMANO PARA RETRAER O GUARDAR LA ESCALERA

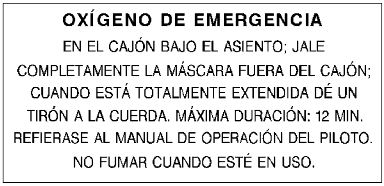
Placards relative to optional equipment

41) Airplanes equipped with option OPT70 25002 :
"7-place accomodation" (refer to POH Supplement 7)

a) **Specific for S/N 7**

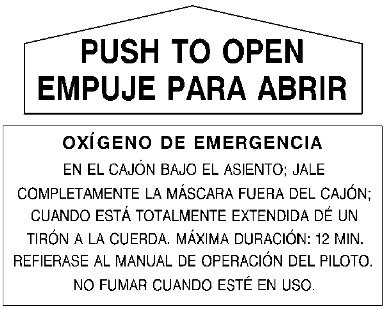
- On cockpit R.H. side, at front seat level

I4112003AAAEMA18001



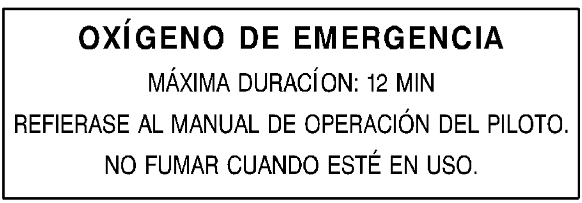
- Under seating of intermediate and R.H. rear seats (on FWD side) equipped with oxygen

I4112003AAAEMA8500



- On FWD side of the rear divan seating

I4112003AAAGMA18300



- On the rear divan middle seating

I4112003AAAJMA8201

OXÍGENO DE EMERGENCIA

EN EL CAJÓN ENTRE LOS ASIENTOS, JALE
COMPLETAMENTE LA MÁSCARA; CUANDO ESTÁ
TOTALMENTE EXTENDIDA DÉ UN TIRÓN A LA CUERDA.
MÁXIMA DURACÍON - 12 MIN
REFIERASE AL MANUAL DE OPERACIÓN DEL PILOTO.
NO FUMAR CUANDO ESTÉ EN USO

b) **<u>From S/N 68 to S/N 243, except S/N 72 to 75 and S/N 205 and 240</u>**

- On cockpit R.H. side, at front seat level

I4112003AAAEMA18001

OXÍGENO DE EMERGENCIA

EN EL CAJÓN BAJO EL ASIENTO; JALE
COMPLETAMENTE LA MÁSCARA FUERA DEL CAJÓN;
CUANDO ESTÁ TOTALMENTE EXTENDIDA DÉ UN
TIRÓN A LA CUERDA. MÁXIMA DURACIÓN: 12 MIN.
REFIERASE AL MANUAL DE OPERACIÓN DEL PILOTO.
NO FUMAR CUANDO ESTÉ EN USO.

- Under seating of L.H. intermediate seat, R.H. rear seat and rear seats (on FWD side)

I4112003AAAEMA18500

PULL TO OPEN
JALE PARA ABRIR

OXÍGENO DE EMERGENCIA

EN EL CAJÓN BAJO EL ASIENTO; JALE
COMPLETAMENTE LA MÁSCARA FUERA DEL CAJÓN;
CUANDO ESTÁ TOTALMENTE EXTENDIDA DÉ UN
TIRÓN A LA CUERDA. MÁXIMA DURACIÓN: 12 MIN.
REFIERASE AL MANUAL DE OPERACIÓN DEL PILOTO.
NO FUMAR CUANDO ESTÉ EN USO.

c) **<u>S/N 7 and from S/N 68 to S/N 243, except S/N 72 to 75 and S/N 205 and 240</u>**

- On bottom bulkhead of rear pressurized baggage compartment (in cabin)

VERSIÓN 6-ASIENTOS : MÁXIMO 100 kg - (220 lbs)
VERSIÓN 7-ASIENTOS : MÁXIMO 35 kg - (77 lbs)
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE
ESTÁ ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFIERASE
A LOS "DATOS DE PESO Y BALANCE"
DEL MANUAL DE OPERACIÓN DEL PILOTO

I4112003AAAGMA8401

- On L.H. side, under R.H and L.H intermediate seat seatings or on L.H. intermediate seat back-rest

JALE LA MANIJA HACIA ARRIBA Y EMPUJE EL
RESPALDO DEL ASIENTO HACIA ADELANTE

I4112003AAAIMA18200

42) **<u>TBM 700B & TBM 700C1 with pilot door</u>** Airplanes equipped with option OPT70 25027 : “Cargo transportation capability” (refer to POH Supplement 30)

- On the raiser at frame 13bis, inside the cabin

LÍMITES DE CARGA

CONTENEDORES, PLATAFORMAS Y CAJAS PESADAS	CARGAMENTO A GRANEL
MÁXIMO 330 Kg (727 Lbs)	200 Kg (441 Lbs) ENTRE REDES DE SEPARACÍON
MÁXIMO 188 Kg/m² (38.5 Lb/Sq.ft)	100 Kg (220 Lbs) DETRÁS DE LA RED DE SEPARACIÓN TRASERA
	100 Kg/m³ (6.24 Lb/Cu.ft)

PARA INSTRUCCIONES DE CARGA REFIERASE AL SUPLEMENTO APLICABLE EN EL MANUAL DE OPERACIÓN DEL PILOTO.

ES RESPONSABILIDAD DEL PILOTO COMPROBAR QUE TODA LA CARGA ESTÁ ASEGURADA CORRECTAMENTE.

I4112003AAAGMA18101

- Under L.H. front side window

LÍMITES DE OPERACIÓN
VERSIÓN CARGA

SI LA SALIDA DE EMERGENCIA NO ESTÁ ACCESIBLE, NO USE EL ASIENTO DELANTERO DERECHO

I4112003AAAGMA18001

43) **TBM 700B without pilot door** Airplanes equipped with option OPT70 25031 : “Cargo transportation capability without pilot door” (refer to POH Supplement 40)

- On the raiser at frame 13bis, inside the cabin

LÍMITES DE CARGA

CONTENEDORES, PLATAFORMAS Y CAJAS PESADAS	CARGAMENTO A GRANEL
MÁXIMO 180 Kg (396 Lbs)	100 Kg (220 Lbs) DETRÁS DE LA RED DE SEPARACIÓN TRASERA
MÁXIMO 188 Kg/m² (38.5 Lb/Sq.ft)	MÁXIMO 100 Kg/m³ (6.24 Lb/Cu.ft)

PARA INSTRUCCIONES DE CARGA, REFIERASE AL SUPLEMENTO APLICABLE EN EL MANUAL DE OPERACIÓN DEL PILOTO.

ES RESPONSABILIDAD DEL PILOTO COMPROBAR QUE TODA LA CARGA ESTÁ ASEGURADA CORRECTAMENTE.

I4112003AAAGMA18201

44) **TBM 700B** Airplanes equipped with option OPT70 35001 : “”EROS/INTERTECHNIQUE” gaseous oxygen system” (refer to POH Supplement 29 or 37)

- On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

WARNING	ADVERTENCIA
GREASY SUBSTANCES ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN	SUSTANCIAS GRASOSAS PUEDEN PROVOCAR COMBUSTIÓN ESPONTÁNEA AL ESTAR EN CONTACTO CON OXÍGENO
DO NOT SMOKE WHILE OXYGEN IS IN USE	NO FUMAR CUANDO EL OXÍGENO ESTÁ EN USO

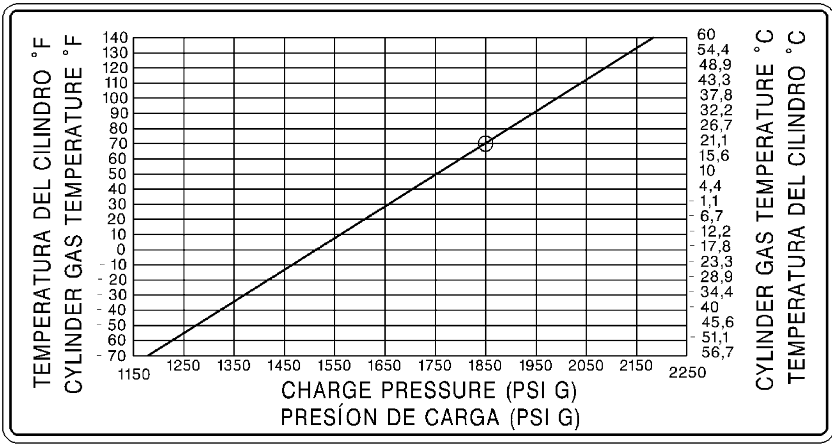
I4112003AAAFMA18101

- On rear passengers masks containers (on R.H. side on the ceiling)

OXYGEN MASKS INSIDE	MÁSCARAS DE OXÍGENO DENTRO
PULL MASKS FOR OXYGEN SUPPLY	JALE LAS MÁSCARAS PARA SUMINISTRO DE OXÍGENO

I4112003AAAFMA18201

- On internal face of the oxygen cylinder service door



I412003AAAFMA18301

SECTION 3

EMERGENCY PROCEDURES

No specifics

SECTION 4

PROCEDURES NORMALES

No specifics

SECTION 5

PERFORMANCE

No specifics

SECTION 6

WEIGHT AND BALANCE

No specifics

SECTION 7

DESCRIPTION

No specifics

SUPPLEMENT

”GARMIN” GMX 200
MULTI-FUNCTION DISPLAY

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary to the operation when the TBM airplane is equipped with the option ""GARMIN" GMX 200 MULTI-FUNCTION DISPLAY".

The generalities hereafter supplement those of the standard airplane described in Section 1 "General" of the basic Pilot's Operating Handbook, when the TBM airplane is equipped with the option ""GARMIN" GMX 200 MULTI-FUNCTION DISPLAY".

The GMX 200 is a multi-function display screen which allows to display topographical type information (rivers, roads, ...), aeronautical type information (VOR, Airport, NDB, ...), as well as information issued from a weather radar, a stormscope, an EGPWS and the active flight plan issued from a GPS.

SECTION 2

LIMITATIONS

The limitations hereafter supplement those of the standard airplane described in Section 2 ”Limitations” of the basic Pilot’s Operating Handbook, when the TBM airplane is equipped with the option ””GARMIN” GMX 200 MULTI-FUNCTION DISPLAY”.

GMX 200 Multi-function Display Pilot’s Guide, P/N 190-00607-02, Revision A dated June 2006 or any applicable following edition, shall be readily available to the pilot.

The GMX 200 may be used only as an aid to navigation, if :

- navigation is based on other approved instruments,
- the GMX 200 data base is current and compatible with the flight,
- GMX 200 and associated GPS data bases cover the same geographical areas.

CAUTION

GMX 200 TOPOGRAPHICAL DATA MUST NOT BE USED FOR TERRAIN AND/OR OBSTACLES AVOIDANCE

CAUTION

THE GMX 200 CHART VIEW FEATURE DOES NOT CURRENTLY REPRESENT A SOLE REPLACEMENT FOR THE PAPER CHART WITHIN THE COCKPIT. THE PRESENTATION OF THE CHART DATA IS INTENDED FOR SUPPLEMENTAL USE AND TO PROVIDE ADDITIONAL SITUATIONAL AWARENESS. THE PILOT MUST STILL HAVE ACCESS TO THE PRINTED CHART AS REQUIRED BY REGULATIONS

SECTION 3

EMERGENCY PROCEDURES

Installation and operation of the "GARMIN" GMX 200 Multi-function Display do not change the emergency procedures described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4

NORMAL PROCEDURES

The normal procedures hereafter supplement those of the standard airplane described in Section 4 "Normal procedures" of the basic Pilot's Operating Handbook, when the TBM airplane is equipped with the option ""GARMIN" GMX 200 MULTI-FUNCTION DISPLAY".

GMX 200 normal operating procedures recommended by the manufacturer are outlined in the "GARMIN" GMX 200 Multi-function Display Pilot's Guide, P/N 190-00607-02, Revision A dated June 2006 or any applicable following edition.

SECTION 5

PERFORMANCE

The installation and the operation of the ”GARMIN” GMX 200 Multi-function Display do not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Information hereafter supplement the one given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	OPTIONAL EQUIPMENT		EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
	34 - NAVIGATION				
A	Multi-function display (MOD70-0210-34A)	GMX 200	GARMIN	5.423 (2.46)	153.54 (3.90)
A	Multi-function display with chart view (MOD70-0210-34B)	GMX 200	GARMIN	5.423 (2.46)	153.54 (3.90)

SECTION 7

DESCRIPTION

1 - Power/Dimming
2 - Menu Item Keys
3 - Menu Enter Key
4 - Rotary knob and push-button
5 - Data card
6 - Function Item Keys
7 - Function key
8 - Photosensor
9 - Menu Item labels
10 - Function Item labels
11 - Advisory/Data Flags
12 - Traffic and terrain thumbnail
13 - To waypoint identifier
14 - Bearing to destination (TO) WPT

Key to Figure 9.46.1 - GMX 200 Multi-function display (front view)

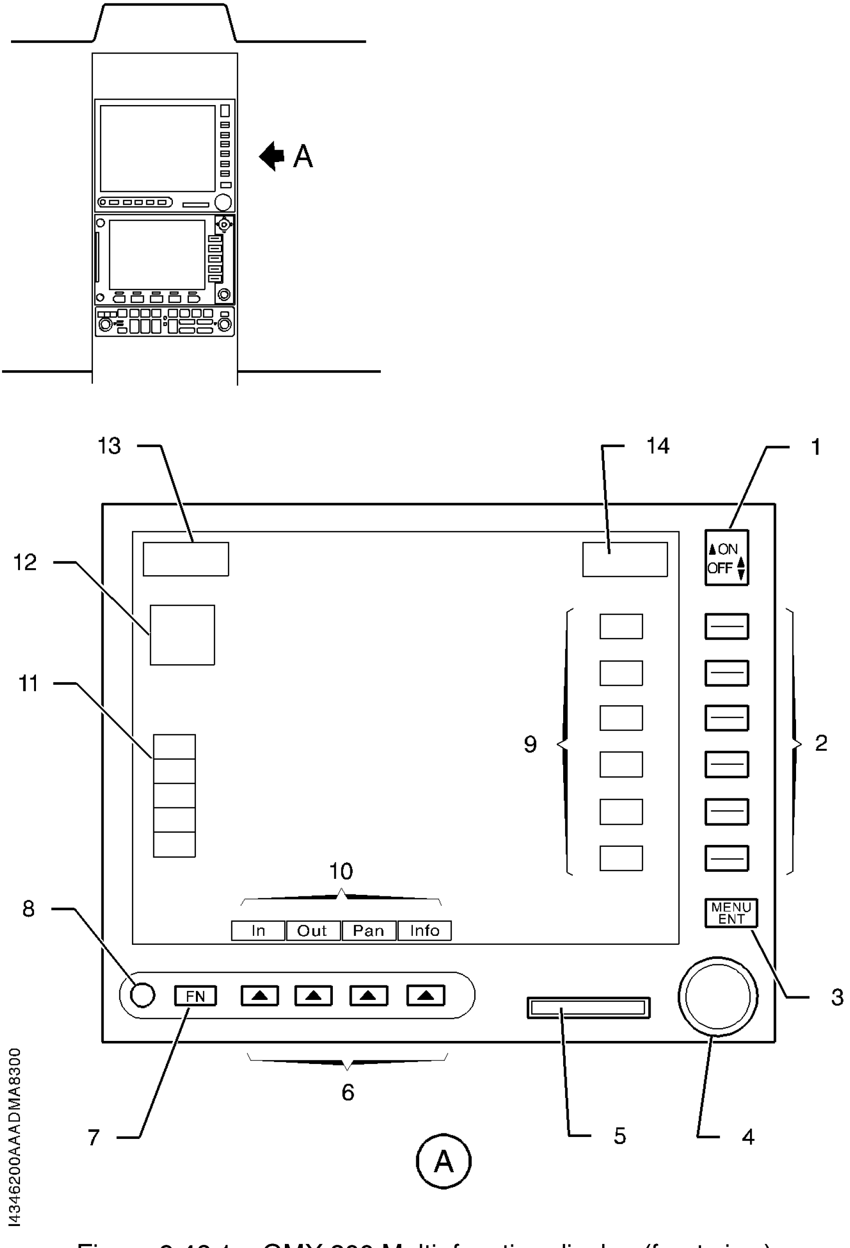


Figure 9.46.1 – GMX 200 Multi-function display (front view)
(typical arrangement)

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Supplement

Argentina specifics

Table of contents

Page

Section 1

General

This supplement is intended to inform the pilot about the airplane specifics, among others those required by the relevant Certification Authorities (limitations, description and operations necessary to the operation of the TBM airplane).

Refer to Supplement A at the beginning of section 9 of the POH for the list of available supplements with their respective applicability.

Section 2

Limitations

The information in this section supplements and/or replaces the information in section 2: Limitations of the standard POH.

Placards

Internal placards

1) Rear pressurized baggage compartment (in cabin)
   a) On bottom bulkhead

TBM 700A, TBM 700B

MÁXIMO 100 kg - (220 lbs)

ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

I4112003AAALMA8000

b) On partition wall

TBM 700C1

I4112003AAALMA8000

MÁXIMO 100 kg - (220 lbs)

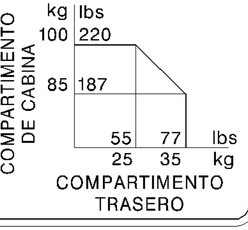
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

or

I4112003AAANMA8200

MÁXIMO 100 kg - (220 lbs)

ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE" DEL MANUAL
DE OPERACIÓN DEL PILOTO Y LA GRÁFICA DE AL LADO.



TBM 700C2 - refer to POH Supplement 41

With partition net version A - refer to section 6 of TBM 700C1 POH

I4112003AAANMA8300

MÁXIMO 45 kg - (100 lbs)

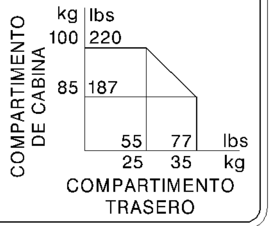
ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE
ESTÁ ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA
REFERIRSE A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

With partition net version B - refer to Section 6 of TBM 700C1 POH

I4112003AAANMA8200

MÁXIMO 100 kg - (220 lbs)

ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE" DEL MANUAL
DE OPERACIÓN DEL PILOTO Y LA GRÁFICA DE AL LADO.

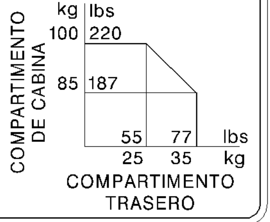


TBM 850 (up to S/N 433)

I4112003AAANMA8200

MÁXIMO 100 kg - (220 lbs)

ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE" DEL MANUAL
DE OPERACIÓN DEL PILOTO Y LA GRÁFICA DE AL LADO.



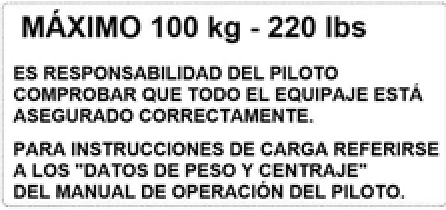
TBM 850 (from S/N 434), TBM 900, TBM 910 (up to S/N 1269), TBM 930

I4112003AAALMA8000

MÁXIMO 100 kg - (220 lbs)

ES RESPONSABILIDAD DEL PILOTO
COMPROBAR QUE TODO EL EQUIPAJE ESTÁ
ASEGURADO CORRECTAMENTE.
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

TBM 910 (from S/N 1270)



C4113500AAAEMA8300

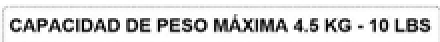
c) On the left-side rear cargo compartment panel upper edge

Airplane equipped with coat hanger

TBM 910 (up to S/N 1269), TBM 930 - MOD70-0557-25B

C4113500AAAEMA8000

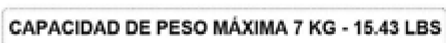
TBM 850, TBM 900, TBM 910 (from S/N 1270), TBM 930 - MOD70-0557-25C or MOD70-0641-25A



C4113500AAAEMA8100

Airplane equipped with coat and headset hanger

TBM 910 (from S/N 1336), TBM 930 - MOD70-0683-25F

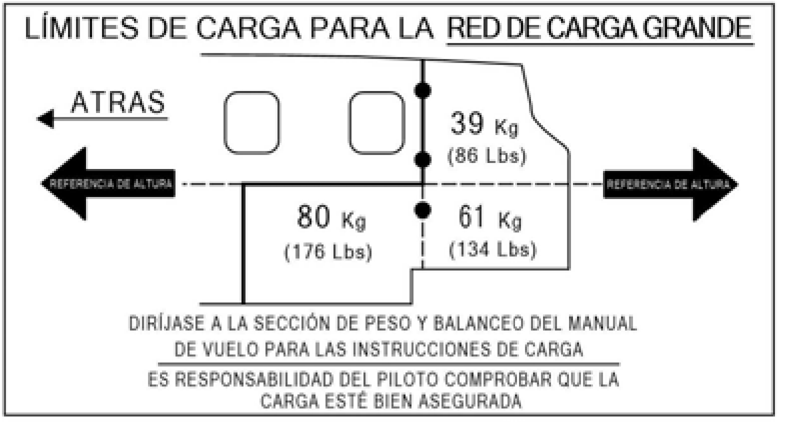


C4113500AAAEMA8200

2) Post-MOD70-0315-25, as a retrofit or as standard equipment (from S/N 609)

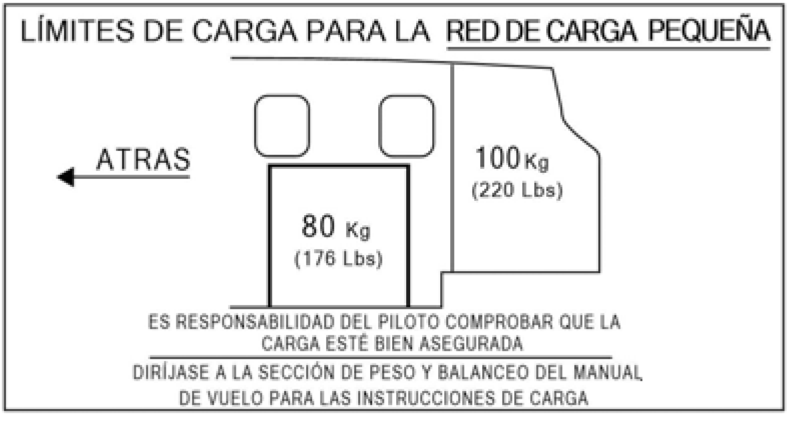
TBM 850 (from S/N 609), TBM 900, TBM 910, TBM 930

a) For the large cargo net, on the right-side upholstery panel, in the rear bagage compartment



C41135OOAAAFMA08000

b) For the small cargo net, on frame C13bis or on the right lower upholstery panel



C41135OOAAAFMA8100

3) Non pressurized FWD baggage compartment

a) On baggage compartment door frame

<u>TBM 700A, TBM 700B, TBM 850 (from S/N 434), TBM 900, TBM 910, TBM 930</u>

I4112003AAALMA8100

MÁXIMO 50 kg - (110 lbs)

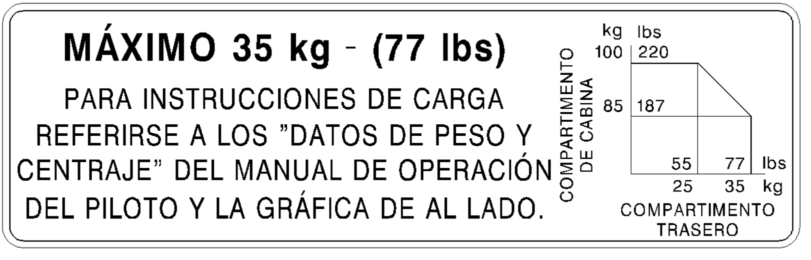
PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

4) Non pressurized rear baggage compartment

a) On internal face of the baggage compartment door

<u>TBM 700C, TBM 850 (up to S/N 433)</u>

I4112003AAANMA8100



or

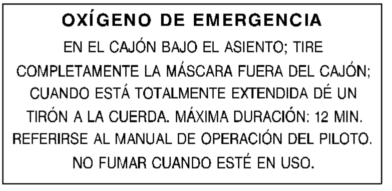
I4112003AAANMA8000

MÁXIMO 35 kg - (77 lbs)

PARA INSTRUCCIONES DE CARGA REFERIRSE
A LOS "DATOS DE PESO Y CENTRAJE"
DEL MANUAL DE OPERACIÓN DEL PILOTO.

5) On the right side of the cockpit, at front seat level

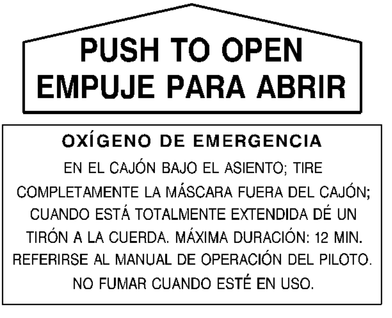
TBM 700A, TBM 700B (chemical oxygen)



I4112003AAALMA18000

6) Under seating of intermediate and rear passenger seats (on FWD side), which are fitted with oxygen

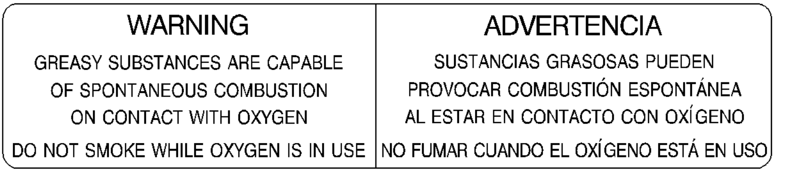
TBM 700A, TBM 700B (chemical oxygen)



I4112003AAALMA8500

7) On the right side of the cockpit, at front seat level, and on the first rear passenger masks container (right side on the ceiling)

TBM 700C, TBM 850, TBM 900, TBM 910 (up to S/N 1269), TBM 930

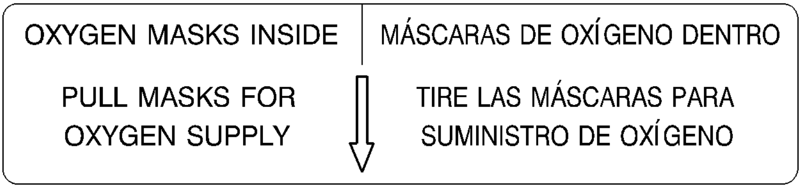


I4112003AAAMMA18100

8) On rear passenger masks containers (right side on the ceiling)

<u>TBM 700C, TBM 850, TBM 900, TBM 910 (up to S/N 1269), TBM 930</u>

I4112003AAAMMA18200



9) On rear passenger masks containers

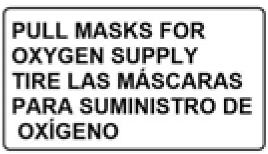
<u>TBM 910 (from S/N 1270)</u>

I4112003AAASMA8000

10) On internal face of rear passenger masks containers doors

<u>TBM 910 (from S/N 1270)</u>

C4112003AAABMA08000



11) On rear passenger's table casing

<u>TBM 700A, TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910 (up to S/N 1269), TBM 930</u>

I4112003AAALMA8400

12) Above passenger's table

TBM 910 (from S/N 1270)

13) On cabinet drawer (optional)

All

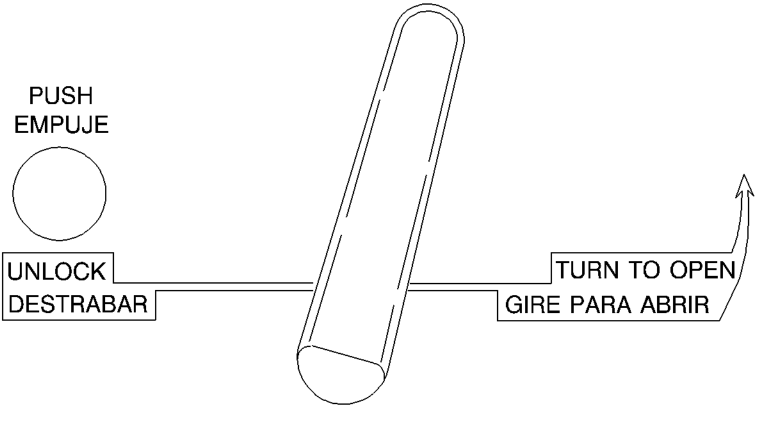
I4112003AAAIMA18000

14) Door internal side

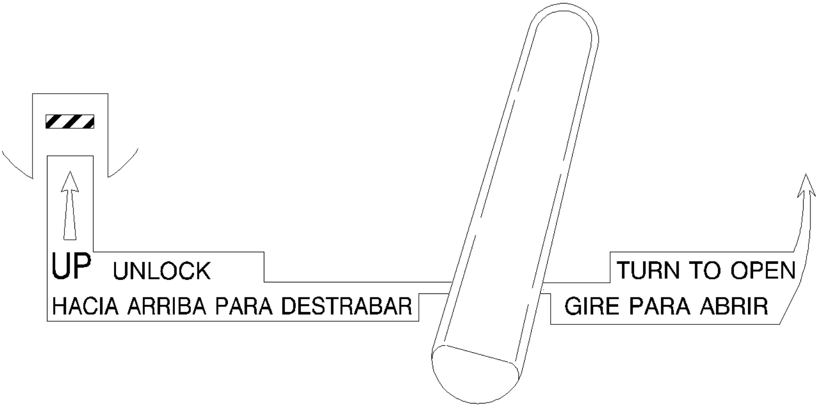
a) On access door

TBM 700A from S/N 1 to S/N 49, except airplanes equipped as a retrofit with modification No. MOD70-019-25

I4112002AAAMMA8200

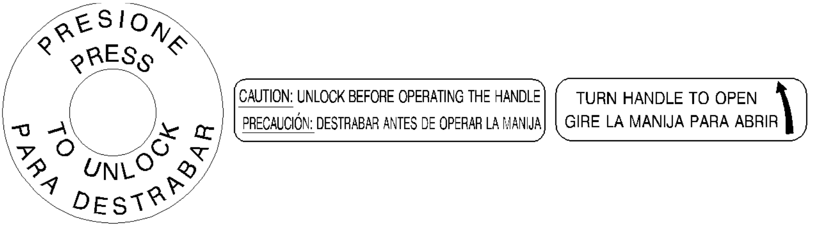


TBM 700A from S/N 50 to S/N 125, plus airplanes equipped as a retrofit with modification No. MOD70-019-25



I4112002AAAMMA8300

TBM 700B, TBM 700C, TBM 850 (Up to S/N 433)



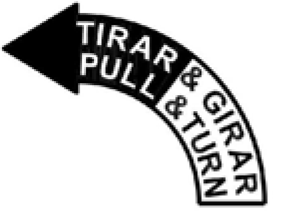
I4112003AAAMMA8100

TBM 850 (From S/N 434), TBM 900, TBM 910 (up to S/N 1269), TBM 930

I4112003AAAPMA8001

TBM 910 (from S/N 1270)

C4112003AAACMA8000



b) In the cabin, forward of access door

TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910 (up to S/N 1269), TBM 930

I4112003AAAMMA8000

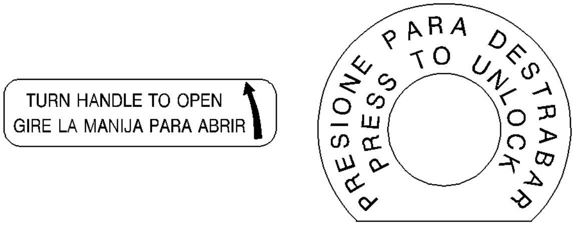
TBM 910 (from S/N 1270)

C4113300AAAHMA08000

c) On pilot's door, if installed

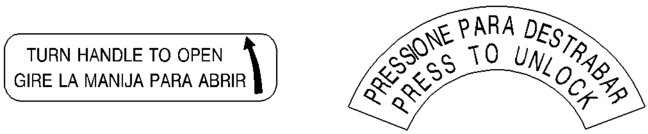
TBM 700B, TBM 700C, TBM 850 (Up to s/n 433)

I4112003AAAMMA8200

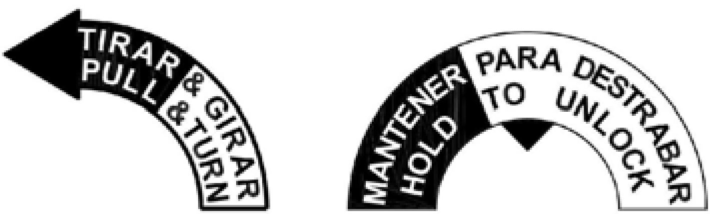


TBM 850 (From S/N 434), TBM 900, TBM 910 (up to S/N 1269), TBM 930

I4112003AAAPMA8100

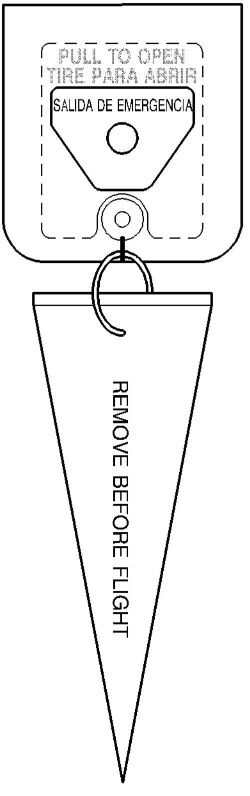


TBM 910 (from S/N 1270)



15) On emergency exit handle

<u>TBM 700A S/N 1 to 23, 25, 28, 33 and 35, except airplanes equipped as a retrofit with modification No. MOD 70-019-25</u>

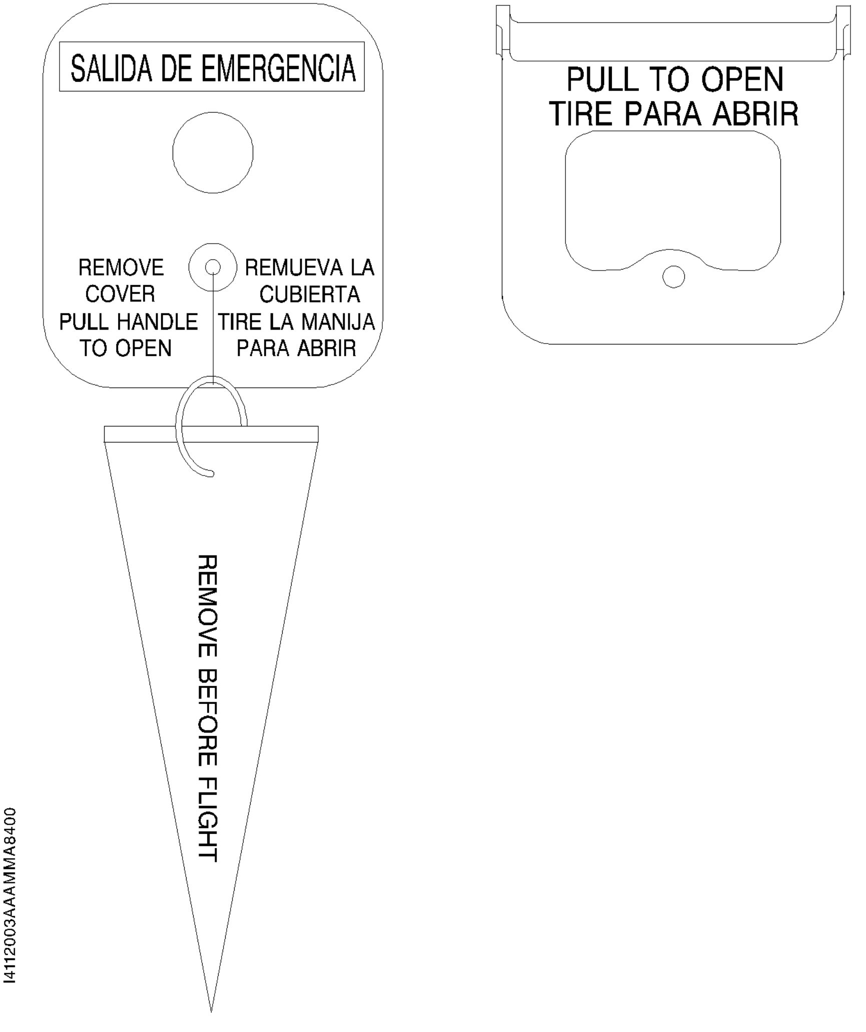


I4112003AAAMMA18500

S/N 24, 26, 27, 29 to 32, 34, 36 to 1269, plus airplanes equipped as a retrofit with modification No. MOD 70-019-25

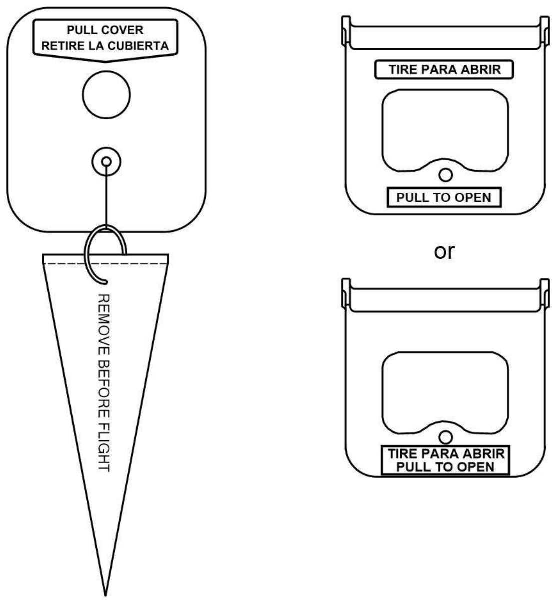
Marking on cover

Marking on handle



From S/N 1270

Marking on cover   Marking on handle



C4112003AAADMA8001

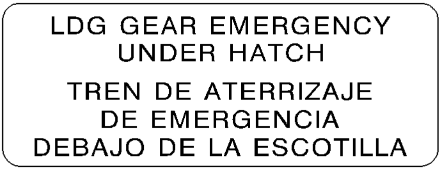
16) Above emergency exit

All

C4113300AAACMA8100

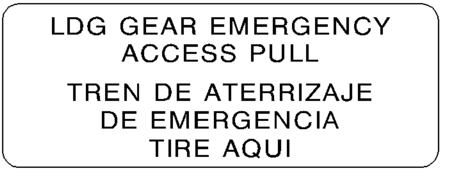
17) On landing gear emergency control access door

TBM 700A, TBM 700B, TBM 700C, TBM 850 not equipped with MOD70-0189-53



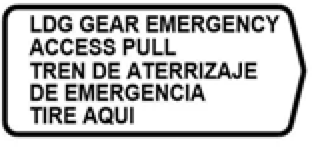
I4112003AAAOMA8400

TBM 850 equipped with MOD70-0189-53, TBM 900, TBM 910 (up to S/N 1269), TBM 930



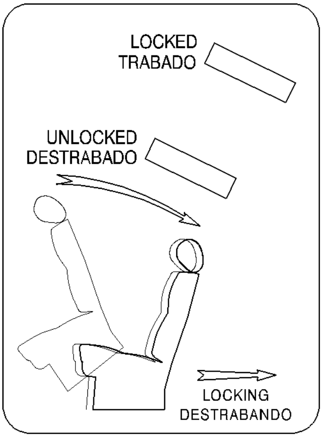
I4112003AAAOMA18400

TBM 910 (from S/N 1270)



18) On aisle side of rear seats

TBM 700A - Pre-MOD70-019-25

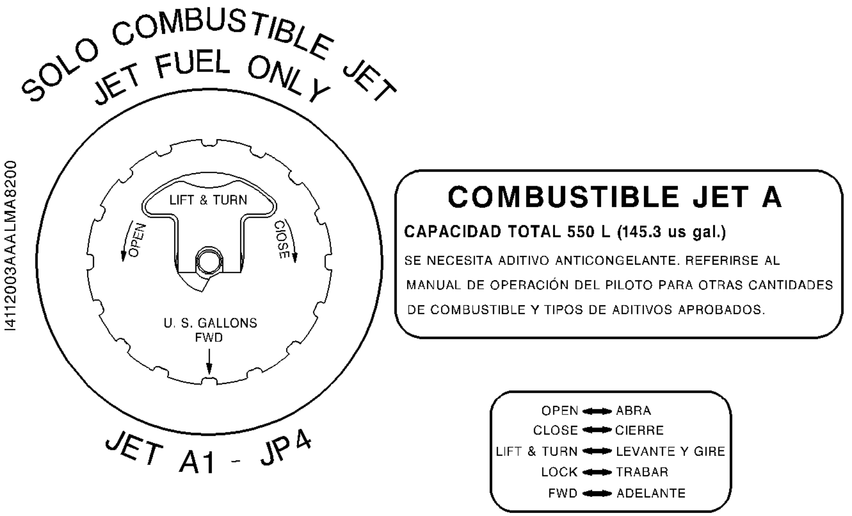


I4112003AAAOMA18300

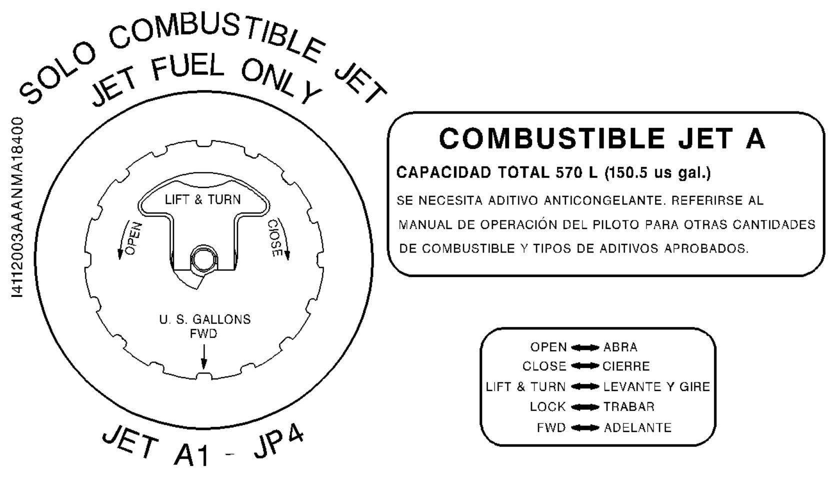
External placards

19) Near fuel tank caps

<u>TBM 700A, TBM 700B, TBM 700C, TBM 850 (Up to S/N 433)</u>



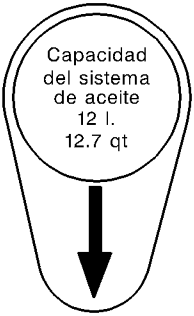
<u>TBM 850 (From S/N 434), TBM 900, TBM 910, TBM 930</u>



All

20) On internal face of the left-side engine cowling

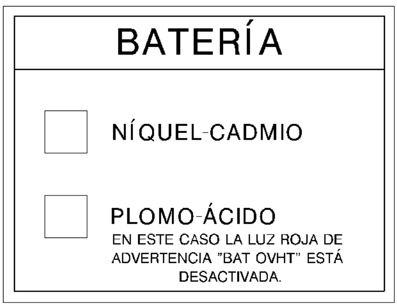
I4112003AAALMA8300



21) On internal face of the left-side engine cowling

TBM 700A, TBM 700B, TBM 700C

I4112003AAAPMA8300



22) On engine cowling, in front of compartment door

TBM 700A, TBM 700B, TBM 700C, TBM 850

I4112003AAALMA18200

TBM 900, TBM 910, TBM 930

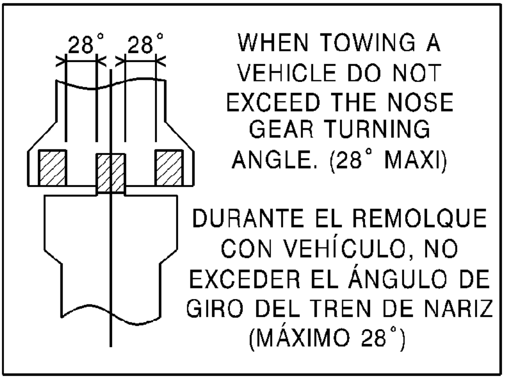
I4112003AAAGMA18500

ALIMENTACIÓN EXTERNA:
28 VOLTS C.D. NOMINAL.
CAPACIDAD MÍNIMA DE ARRANQUE:
800 AMPS
NO EXCEDER 1000 AMPS

All

23) On nose gear door

I4112003AAALMA18100



24) On nose gear leg

I4112003AAAOMA8200

TREN DE ATERRIZAJE
DE NARIZ

PRESIÓN DE CUBIERTA: 6,5 bar
94 psi

25) On main gear leg

TBM 700A, TBM 700B, TBM 700C1

TREN DE ATERRIZAJE
PRINCIPAL

PRESIÓN DE CUBIERTA: 8,25 bar
120 psi

I4112003AAAOMA8100

TBM 700C2, TBM 850, TBM 900, TBM 910, TBM 930

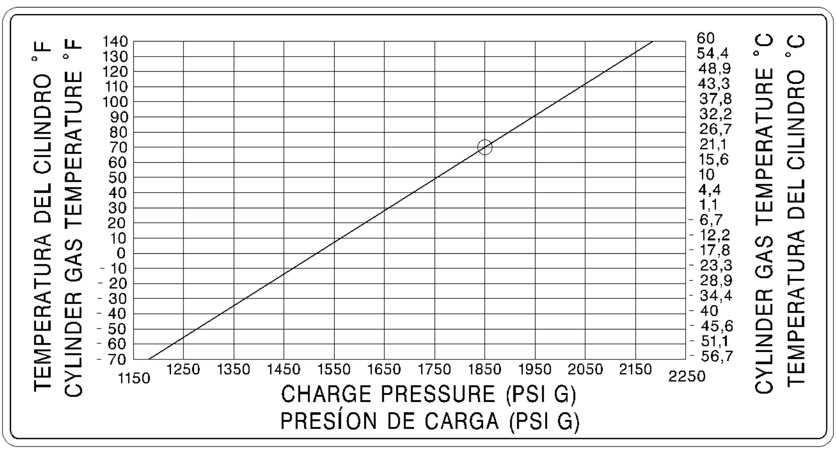
TREN DE ATERRIZAJE
PRINCIPAL

PRESIÓN DE CUBIERTA: 8,96 bar
130 psi

I4112003AAAOMA8300

26) On internal face of the oxygen cylinder service door

TBM 700C, TBM 850, TBM 900, TBM 910, TBM 930



I4112003AAAMMA18300

27) On the oxygen service door

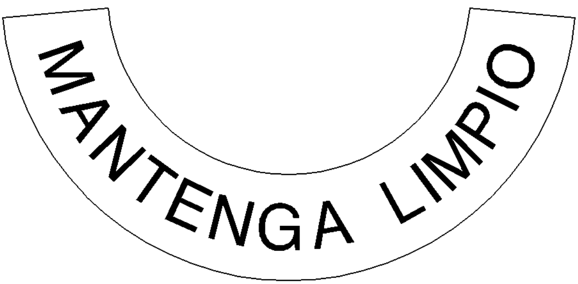
TBM 700C, TBM 850, TBM 900, TBM 910, TBM 930

I4112003AAAOMA18100

All

28) Near air data system port

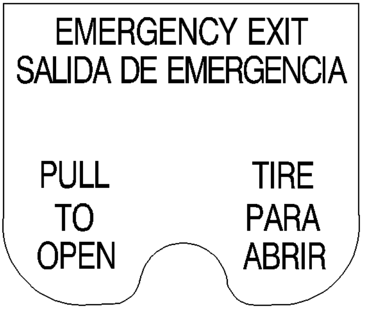
I4112003AAAQMA8000



29) On external side of emergency locator transmitter inspection door

I4112003AAAQMA8100

30) On emergency exit external side

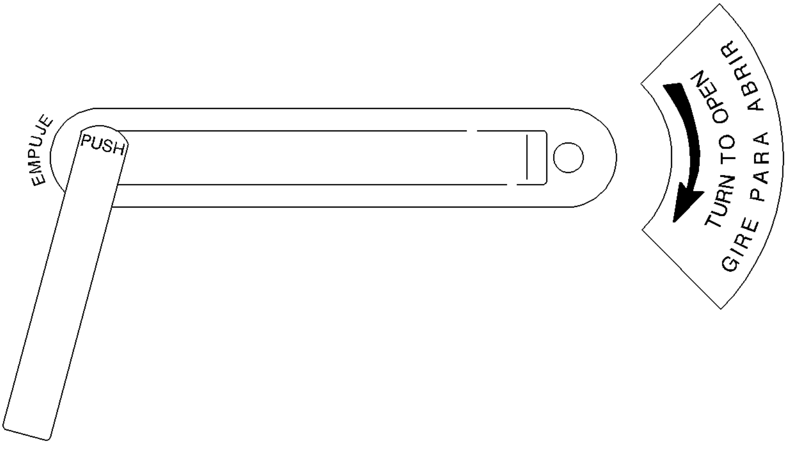


I4112003AAAMMA8500

31) Door external side

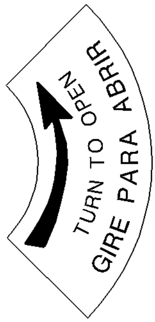
a) **TBM 700A** - On access door

TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910, TBM 930 - On pilot's door, if installed



I4112003AAALMA18300

b) **TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910, TBM 930** - On access door



I4112003AAALMA18400

c) **TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910, TBM 930** - On outer fuselage skin aft of access door and in the cabin forward of access door

I4112003AAAMMA8000

32) **TBM 700A** - On external side of lower half-door

TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910 (Up to S/N 1269), TBM 930 - On last step of stairs

CARGA MÁXIMA SOBRE LA ESCALERA : UNA PERSONA

I4112003AAAMMA8300

33) On the right-side access door jamb

TBM 700B, TBM 700C, TBM 850, TBM 900, TBM 910 (up to S/N 1269), TBM 930

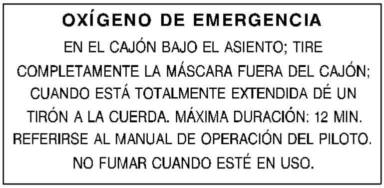
I4112003AAAMMA18000

Placards relative to optional equipment

34) Airplanes equipped with option OPT70 25002 :
"7-place accomodation" - refer to POH Supplement 7

a) **Specific for S/N 7**

- On the right side of the cockpit, at front seat level

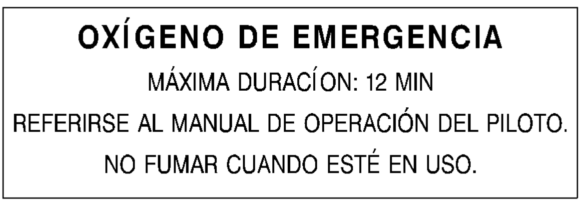


I4112003AAALMA18000

- Under seating of intermediate and right-side rear seats (on FWD side) equipped with oxygen

I4112003AAALMA8500

- On FWD side of the rear divan seating



I4112003AAANMA18300

- On the rear divan middle seating

I4112003AAAPMA8200

> **OXÍGENO DE EMERGENCIA**
>
> EN EL CAJÓN ENTRE LOS ASIENTOS, TIRE
> COMPLETAMENTE LA MÁSCARA; CUANDO ESTÁ
> TOTALMENTE EXTENDIDA DÉ UN TIRÓN A LA CUERDA.
> MÁXIMA DURACÍON - 12 MIN
> REFERIRSE AL MANUAL DE OPERACIÓN DEL PILOTO.
> NO FUMAR CUANDO ESTÉ EN USO

b) **<u>From S/N 68 to S/N 243, except S/N 72 to 75 and S/N 205 and 240</u>**

- On the right side of the cockpit, at front seat level, and under seating of left-side intermediate seat, right-side rear seat and rear seats (on FWD side)

I4112003AAALMA18000

> **OXÍGENO DE EMERGENCIA**
>
> EN EL CAJÓN BAJO EL ASIENTO; TIRE
> COMPLETAMENTE LA MÁSCARA FUERA DEL CAJÓN;
> CUANDO ESTÁ TOTALMENTE EXTENDIDA DÉ UN
> TIRÓN A LA CUERDA. MÁXIMA DURACIÓN: 12 MIN.
> REFERIRSE AL MANUAL DE OPERACIÓN DEL PILOTO.
> NO FUMAR CUANDO ESTÉ EN USO.

c) **<u>S/N 7 and from S/N 68 to S/N 243, except S/N 72 to 75 and S/N 205 and 240</u>**

- On bottom bulkhead of rear pressurized baggage compartment (in cabin)

I4112003AAANMA8400

> VERSIÓN 6-ASIENTOS : MÁXIMO 100 kg - (220 lbs)
> VERSIÓN 7-ASIENTOS : MÁXIMO 35 kg - (77 lbs)
>
> ES RESPONSABILIDAD DEL PILOTO
> COMPROBAR QUE TODO EL EQUIPAJE
> ESTÁ ASEGURADO CORRECTAMENTE.
> PARA INSTRUCCIONES DE CARGA REFERIRSE
> A LOS "DATOS DE PESO Y CENTRAJE"
> DEL MANUAL DE OPERACIÓN DEL PILOTO

- On left side, under the right-side and left-side intermediate seat seatings or on the left-side intermediate seat back-rest

TIRE LA MANIJA HACIA ARRIBA Y EMPUJE EL
RESPALDO DEL ASIENTO HACIA ADELANTE

I4112003AAAOMA18200

35) **TBM 700B & TBM 700C1 with pilot door** Airplanes equipped with option OPT70 25027 : “Cargo transportation capability" - refer to POH Supplement 30

- On the raiser at frame 13bis, inside the cabin

LÍMITES DE CARGA

CONTENEDORES, PLATAFORMAS Y CAJAS PESADAS	CARGAMENTO A GRANEL
MÁXIMO 330 Kg (727 Lbs)	200 Kg (441 Lbs) ENTRE REDES DE SEPARACÍON
MÁXIMO 188 Kg/m^2 (38.5 Lb/Sq.ft)	100 Kg (220 Lbs) DETRÁS DE LA RED DE SEPARACIÓN TRASERA
	100 Kg/m^3 (6.24 Lb/Cu.ft)

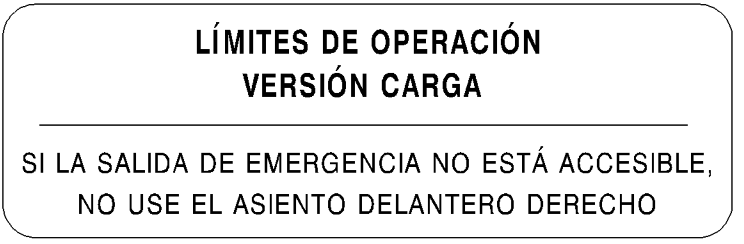
PARA INSTRUCCIONES DE CARGA REFERIRSE AL SUPLEMENTO APLICABLE EN EL MANUAL DE OPERACIÓN DEL PILOTO.

ES RESPONSABILIDAD DEL PILOTO COMPROBAR QUE TODA LA CARGA ESTÁ ASEGURADA CORRECTAMENTE.

I4112003AAANMA18100

- Under the left front side window

I4112003AAANMA18000



36) **TBM 700B without pilot door**
Airplanes equipped with option OPT70 25031 : “Cargo transportation capability without pilot door" - refer to POH Supplement 40

- On the raiser at frame 13bis, inside the cabin

I4112003AAANMA18200

37) **TBM 700A with MOD70-019-25 and TBM 700B**
Airplanes equipped with option OPT70 35001 : “"EROS/INTERTECHNIQUE" gaseous oxygen system" - refer to POH Supplement 29 or 37

- On the right side of the cockpit, at front seat level, and on the first rear passenger masks container (right side on the ceiling)

I4112003AAAMMA18100

WARNING	ADVERTENCIA
GREASY SUBSTANCES ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN	SUSTANCIAS GRASOSAS PUEDEN PROVOCAR COMBUSTIÓN ESPONTÁNEA AL ESTAR EN CONTACTO CON OXÍGENO
DO NOT SMOKE WHILE OXYGEN IS IN USE	NO FUMAR CUANDO EL OXÍGENO ESTÁ EN USO

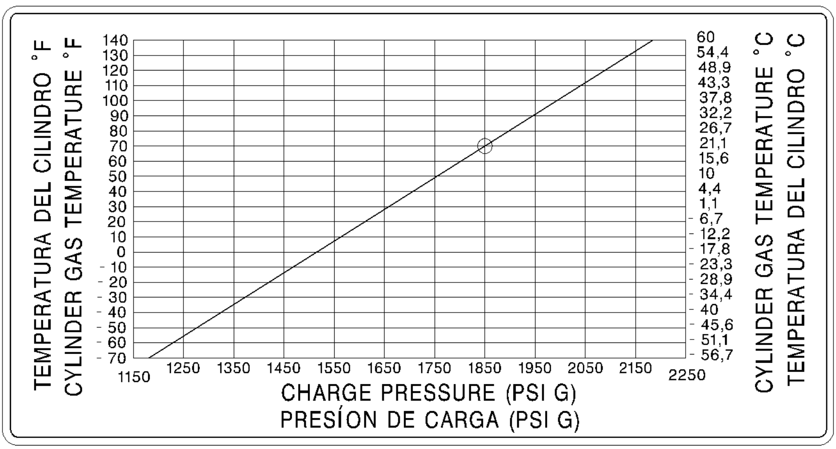
- On rear passenger masks containers (right side on the ceiling)

I4112003AAAMMA18200

OXYGEN MASKS INSIDE	MÁSCARAS DE OXÍGENO DENTRO
PULL MASKS FOR OXYGEN SUPPLY	TIRE LAS MÁSCARAS PARA SUMINISTRO DE OXÍGENO

- On internal face of the oxygen cylinder service door

I4112003AAAMMA18300

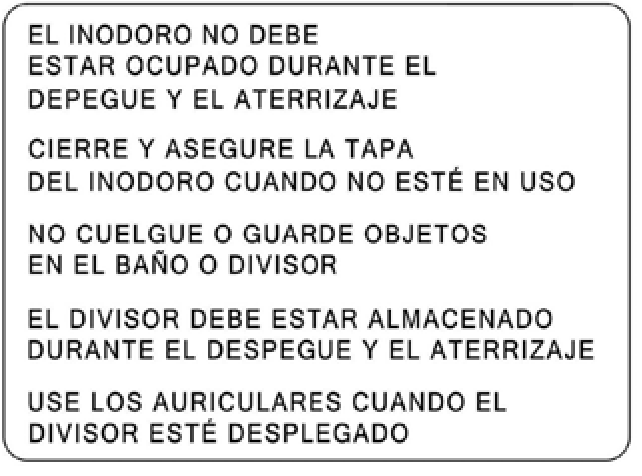


38) Airplanes equipped with optional MOD70-0505-25C "Cabinet installation : Lavatory compartment"

- On fixed panel, cabin side

I41113200AAAQMA8000

- On fixed panel, toilet side

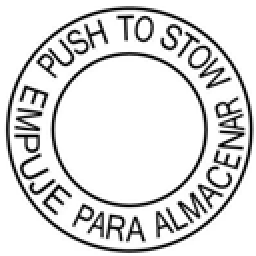


I41113200AAAQMA8100

- On access door, cabin side and toilet side

C41132O0AAABMA08000

- Behind access door, cabin side and toilet side



C41132O0AAAAMA8200

- Front face of lavatory compartment, near opening / closing switches

I41132000AAARMA8100

I41132000AAARMA8200

- On the magazine rack

I41132000AAARMA8300

1,5 KG (3.3 LBS)

39) Airplanes equipped with optional MOD70-0684-25 "Extended large storage cabinet"

- On the upper surface of the cabinet

C41133000AAAHMA8100

WARNING	ADVERTENCIA
DO NOT SIT DOWN ON THE CABINET	NO SENTARSE SOBRE EL GABINETE
NO BAGGAGE ON THE CABINET	NO COLOCAR EQUIPAJE SOBRE EL GABINETE

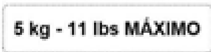
FOR TAKE-OFF AND LANDING :	PARA DESPEGUE Y ATERRIZAJE:
- NO OBJECTS ALLOWED ON THE CABINET	NO SE PERMITEN OBJETOS SOBRE EL GABINETE
- CABINET DRAWERS MUST BE STOWED	LOS CAJONES DEL GABINETE DEBEN ESTAR CERRADOS

- Inside large drawers, on side wall

C4113300AAAHMA8200

- Inside small internal drawer, on side wall

C4113300AAAHMA8300



Section 3
Emergency procedures

No specifics

Section 4
Normal procedures

No specifics

Section 5
Performance

No specifics

Section 6

Weight and balance

The information in this section supplements and/or replaces the information in section 6: Weight and Balance of the standard POH.

S/ R/ A/ O	Item OPT70 or MOD70	Required (R) or Standard (S) or Optional (A or O) equipment	Weight per unit lb (kg)	Arm in. (m)
		01 - Specific optional equipment		
A	0289-11	Argentina markings	/	/
A	0619-11F	Argentina markings	/	/
		34 - Navigation		
A	0176-00H	ADF RA 3500 system	7.61 (3.45)	214.65 (5.452)

Section 7

Description

No specifics

Section 8

Handling, servicing and maintenance

No specifics

SUPPLEMENT

“GARMIN” GSR 56 WEATHER DATALINK AND SATELLITE PHONE FOR G600 AND G600 Txi

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the airplane is equipped with “GARMIN” GSR 56 WEATHER DATALINK AND SATELLITE PHONE FOR G600 AND G600 Txi”.

1.1 - GENERAL

Airplane equipped with MOD70-0331-23 Version I

The GARMIN G600 Pilot’s Guide No. 190-00601-02 and GTN 7XX Pilot’s Guide No. 190-01007-03 at their latest revision shall be readily available to the pilot whenever the operation of the GARMIN GSR 56 weather datalink and satellite phone system for G600 is predicted.

Airplane equipped with MOD70-0331-23 Version O

The GARMIN G600 Txi Pilot’s Guide No. 190-017170-10 and GTN 7XX Xi Pilot’s Guide No. 190-02237-03 at their latest revision shall be readily available to the pilot whenever the operation of the GARMIN GSR 56 weather datalink and satellite phone system for G600 Txi is predicted.

All

SECTION 2

LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook when the airplane is equipped with "GARMIN" GSR 56 WEATHER DATALINK AND SATELLITE PHONE FOR G600 AND G600 Txi.

<u>SATELLITE PHONE functions</u>

- It is forbidden to activate Pilot In Command GTN TEL button as long as the airplane is in the air or moving on the ground.
- Only the Pilot In Command cross side GTN TEL input can be activated at all time of flight for the front passenger and passengers to have the GSR 56 telephone audio functions.

USE OF PHONE BY PIC PROHIBITED DURING ALL AIRCRAFT OPERATIONS

<u>WEATHER DATALINK functions</u>

- The GSR 56 weather datalink is only an advisory weather source. It does not relieve the pilot to comply with the applicable operational regulation in terms of flight preparation especially with regard to the use of approved weather and NOTAM sources during flight planning.

<u>INTERNATIONAL TELECOMMUNICATION REGULATION</u>

The GSR 56 is a telecommunication device approved under FCC ID Q639522B and registered by the ITU (International Telecommunication Union) for international use according to the GMPCS-MoU.

The receiver transmitter RF module embedded in the GSR 56 is a 9522 B manufactured by Iridium Satellite LLC.

Terms of use are subject to changes and are available from the ITU website.

2.1 - PLACARDS

Under L.H. front side window, under instruction plate

I4113207AAAAMA4200

SECTION 3

EMERGENCY PROCEDURES

These Emergency Procedures supplement those of standard airplane described in Section 3 “Emergency Procedures” of the basic Pilot’s Operating Handbook.

3.9 - ELECTRICAL SYSTEM

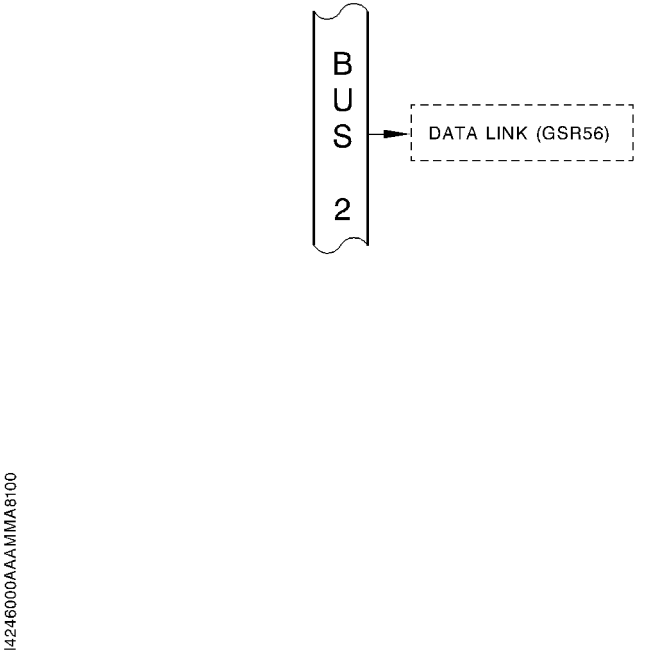


Figure 3.9.1 - PARTIAL ELECTRICAL DISTRIBUTION OF BUS BARS

SECTION 4

NORMAL PROCEDURES

These Normal Procedures supplement or replace those of standard airplane described in Section 4 ”Normal Procedures” of the basic Pilot’s Operating Handbook when the airplane is equipped with “GARMIN” GSR 56 WEATHER DATALINK AND SATELLITE PHONE FOR G600 AND G600 Txi.

Normal operating procedures of the ”GARMIN” GSR 56 weather datalink and satellite phone for G600 and G600 Txi are outlined in the Pilot’s Guide, the references of which are given in Section 1 “General” of this Supplement.

BEFORE STARTING ENGINE

On GTN, in “Telephone Setup” page :

1 – ”Pilot” button . . . . **DEACTIVATED**

2 – “Copilot” button . . . . **DEACTIVATED**

3 – “Passenger” button . . . . **DEACTIVATED**

BEFORE STARTING A PHONE CALL IN FLIGHT

On GTN, in “Telephone Setup” page :

1 – ”Pilot” button . . . . **DEACTIVATED**

If passengers intend to take part into a phone call :

2 – ”Passenger” button . . . . **ACTIVATED**

If front passenger intends to take part into a phone call :

3 – ”Copilot” button . . . . **ACTIVATED**

SECTION 5

PERFORMANCE

Installation and operation of “GARMIN” GSR 56 WEATHER DATALINK AND SATELLITE PHONE FOR G600 AND G600 Txi system do not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

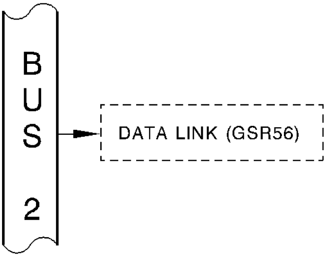
Information hereafter supplement the one given for the standard airplane in Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

A or O	ITEM OPT70 or MOD70	OPTIONAL EQUIPMENT	EQUIPMENT SUPPLIER	WEIGHT per unit lb (kg)	ARM in. (m)
		23 - COMMUNICATIONS			
A	0331-23 I	Weather datalink and satellite phone system GSR 56 coupled with "GARMIN" G600 system	GARMIN	3.82 (1.736)	58.03 (1.474)
A	0331-23 O	Weather datalink and satellite phone system GSR 56 coupled with "GARMIN" G600 Txi system	GARMIN	3.82 (1.736)	58.03 (1.474)

SECTION 7

DESCRIPTION

7.8 - ELECTRICAL SYSTEM



I4246000AAAMMA8100

Figure 7.8.2 - PARTIAL ELECTRICAL DISTRIBUTION OF BUS BARS

7.15 - MISCELLANEOUS EQUIPMENT

DATALINK SYSTEM

”GARMIN” GSR 56 weather datalink and satellite phone system provides airborne low speed datalink and voice communication capability to ”GARMIN” G600 and G600 Txi system excluding any voice mail function. GSR 56 weather datalink and satellite phone system contains a transceiver that operates on the Iridium Satellite network.

The weather information are displayed on the MFD maps.

The satellite phone interface is embedded in the MFD and controlled by keys located on the MFD bezel and MFD knobs.

The telephone audio is controlled by the “Telephone” key on the GTN and can be played in the pilot, front passenger and passengers headphones.

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SUPPLEMENT

PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement supplies information necessary for the operation of the TBM airplane when used for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES".

SECTION 2

LIMITATIONS

These limitations supplement those of standard airplane described in Section 2 "Limitations" of the basic Pilot's Operating Handbook when the TBM airplane is used for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES".

2.1 - PLACARDS

(1) On access door - Internal side

(2) On access door – External side

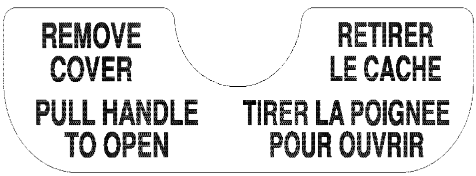
(3) On “pilot” door – External side (if installed)

(4) On outer fuselage skin aft of access door and in the cabin, forward of access door

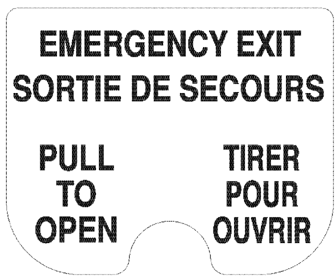
(5) On emergency exit handle – Internal side

Marking on cover

Marking on handle



(6) On emergency exit handle – External side



(7) On R.H. access door jamb

NE PAS UTILISER
LA RAMPE
POUR RENTRER
OU ESCAMOTER
L'ESCALIER

(8) On last step of stairs

CHARGE MAXI SUR ESCALIER : UNE PERSONNE

(9) On rear passengers masks containers

OXYGEN MASKS INSIDE	MASQUES A OXYGENE A L'INTERIEUR
PULL MASKS FOR OXYGEN SUPPLY	TIRER SUR LES MASQUES POUR OBTENIR DE L'OXYGENE

(10) On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

WARNING	ATTENTION
GREASY SUBSTANCES ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN	LES SUBSTANCES GRAISSEUSES PEUVENT S'ENFLAMMER SPONTANEMENT AU CONTACT DE L'OXYGENE
DO NOT SMOKE WHILE OXYGEN IS IN USE	NE PAS FUMER LORSQU'ON UTILISE L'OXYGENE

(11) Under window, at L.H. intermediate seat

(12) On rear passenger's table edge

LA TABLETTE DOIT ETRE RABATTUE LORS DU DECOLLAGE ET DE L'ATTERRISSAGE

(13) On the chemical toilet cabinet curtain (if installed)

LE RIDEAU DOIT ETRE RANGE LORS DU DECOLLAGE ET DE L'ATTERRISSAGE

SECTION 3

EMERGENCY PROCEDURES

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic emergency procedures of the airplane described in Section 3 ”Emergency procedures” of the basic Pilot’s Operating Handbook.

SECTION 4

NORMAL PROCEDURES

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic normal procedures of the airplane described in Section 4 ”Normal procedures” of the basic Pilot’s Operating Handbook.

SECTION 5

PERFORMANCE

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic performance of the airplane described in Section 5 ”Performance” of the basic Pilot’s Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change Section 6 ”Weight and balance” of the basic Pilot’s Operating Handbook.

SECTION 7

DESCRIPTION

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change Section 7 ”Description” of the basic Pilot’s Operating Handbook.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Use of TBM airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change Section 8 ”Handling, Servicing and Maintenance” of the basic Pilot’s Operating Handbook.

SUPPLEMENT

ICARUS Aural Warning Box

Table of contents

Page

SECTION 1

General

This supplement is intended to inform the pilot about the procedures and description necessary for operation when the airplane is equipped with the ICARUS Aural Warning Box.

SECTION 2

Limitations

The ICARUS Aural Warning Box does not change the limitations of the airplane described in Section 2: Limitations of the standard POH.

SECTION 3

Emergency procedures

The ICARUS Aural Warning Box does not change the emergency procedures of the airplane described in Section 3: Emergency procedures of the standard POH.

SECTION 4

Normal procedures

The information in this section supplements and/or replaces the information in Section 4: Normal procedures of the standard POH when the airplane is equipped with the ICARUS Aural Warning Box.

4.3 - Check-list Procedures

PREFLIGHT INSPECTION (See Figure 4.3.1 of the standard POH)
During the preflight inspection, from outside the airplane, check correct operation of all lights and the stall warning alert.

4.4 - Amplified Procedures

PREFLIGHT INSPECTION
During the preflight inspection, from outside the airplane, check correct operation of all lights and the stall warning alert.

SECTION 5

Performance

The ICARUS Aural Warning Box does not change the performance of the airplane described in Section 5: Performance of the standard POH.

SECTION 6

Weight and balance

The information in this section supplements and/or replaces the information in Section 6: Weight and Balance of the standard POH when the airplane is equipped with ICARUS Aural Warning Box.

S/ R/ A/ O	Item OPT70 or MOD70	Required (R) or Standard (S) or Optional (A or O) equipment	Weight per unit lb (kg)	Arm in. (m)
		31 - Indicating / Recording systems		
		31-50 - Aural warning		
O	0653-31	ICARUS Aural Warning Box	Δ Neglig.	/

SECTION 7

Description

The information in this section supplements and/or replaces the information in Section 7: Description of the standard POH when the airplane is equipped with the ICARUS Aural Warning Box.

7.3 - Accomodation

Instrument Panel

Aural Warnings

The aural warnings are intended to alert the pilot in certain airplane configurations.

The aural warnings are played through the loudspeakers and through the buzzer located on the right-side instrument panel for the KRA 405 radar altimeter (if installed).

Aural warnings are also played in the headsets.

>> Airplanes equipped with MOD70-0276-00

Aural warning system is also used to play the other Garmin system alerts. Please refer to Garmin Pilot's Guide for further information.

>> All

Aural Warning Box

The aural warning box consists of logic circuitry, which creates the voice alerts heard in the loudspeaker and through the headsets.

According to the airplane configuration, different aural warnings will be played:

- Gear up and power lever in the IDLE position → *"Landing gear / Landing gear"*
- Gear up and extended flaps → *"Landing gear / Landing gear"*
- Stall → *"Stall / Stall"*
- Gear up, power lever in the IDLE position and stall → *"Stall / Landing gear" / "Stall / Landing gear"*
- Gear up, extended flaps and stall → *"Stall / Landing gear / Stall / Landing gear"*
- IAS > 266 KIAS → *"Overspeed / Overspeed"*
- Cabin altitude > 11,000 ft → *"Use oxygen mask / Use oxygen mask" 3 times*

The aural warning box is mounted under the cabin floor, on the left side, between Frames C5 and C6.

Electrical protection

>> Airplanes not equipped with MOD70-0276-00

The aural warning box is electrically supplied by the "ESS BUS 1" bar and protected by the "AUDIO WARN" circuit breaker.

The alarm loudspeaker is electrically supplied by the aural warning box.

The altitude preselection indicating buzzer is powered by the "BUS 3" bar and protected by the "AP / ALT SEL" circuit breaker.

The autopilot disconnection indicating buzzer is electrically supplied by the "BUS 3" bar and protected by the "AP / ALERT" circuit breaker.

>> Airplanes equipped with MOD70-0276-00

The aural warning box is electrically supplied by the "ESS BUS 2" bar and protected by the "AUDIO WARN" circuit breaker.

The alarm loudspeaker is electrically supplied by the aural warning box.

>> All

The emergency lighting rheostat is electrically supplied by the ”BUS BAT” bar and protected by the ”PANEL EMER” circuit breaker.

Upper Panel

The overhead panel includes the following elements:

- the alarm loudspeaker,
- the V_{MO} buzzer (inhibited),
- the altitude preselection indicating buzzer,
- the autopilot disconnection indicating buzzer,
- the ”HORN TEST” knob,
- the emergency lighting rheostat.

It is attached to the cabin upper part between Frames C6 and C7.

Aural Warning Operation

The voice alert loudspeaker receives signals from the aural warning box.

Buzzers receive their signal directly from the concerned circuit.

>> Airplanes not equipped with MOD70-0276-00

All warning signals go through the amplifier before being played in headsets and in the loudspeaker.

>> All

The ”HORN TEST” knob enables a validation of the aural warning correct operation. To test the correct operation, proceed as follows:

- Set the ”SOURCE” selector to ”BAT” or to ”GPU”.

>> Airplanes equipped with MOD70-0276-00

- Set the “AVIONICS MASTER” switch to ”ON”.

>> All

- Press and hold the ”HORN TEST” knob: the loudspeakers plays *“Stall / Landing gear”* voice alert which is also played through the headsets.
- Release the knob to stop the aural warning.

● NOTE ●
The test is effective for headsets when the ”AP / TRIMS MASTER” switch is set to ”ON”.
●

7.5 – Landing Gear

Safety

Landing Gear Voice Alert

The *“Landing gear / Landing gear”* voice alert will be played when:

- power lever is in the IDLE position and landing gear is not down-locked,
- flaps are beyond “TO” position and landing gear is not down-locked.

● NOTE ●
If one of the above conditions exists and the airplane is in stall configuration, the “*Stall / Landing gear”* voice alert will be played.
●

7.10 – Emergency Oxygen System

The *“Use oxygen mask”* voice alert will be played when cabin altitude is higher than 11,000 ft.

7.15 – Miscellaneous Equipment

Stall Warning System

The airplane is equipped with an electrically-deiced stall sensor in the right wing’s leading edge. This sensor is fitted with a vane that is electrically connected to an audible warning. The vane senses the change in airflow over the wing and operates the warning unit, which produces a voice alert over the loudspeaker. This alert begins between 5 and 10 knots above the stall in all configurations.

The stall warning system should be checked during the preflight inspection by momentarily turning on the ”SOURCE” selector and by manipulating the vane in the wing. The system is operational if a “Stall” voice alert is played on the loudspeaker.

● NOTE ●
The audible stall warning may not work properly in case of severe or prolonged icing.
●

SECTION 8

Handling, servicing and maintenance

The ICARUS Aural Warning Box does not change the handling, servicing and maintenance of the airplane described in Section 8: Handling, servicing and maintenance of the standard POH.