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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 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.

Whenever this Pilot's Operating Handbook refers to the GARMIN integrated Flight Deck Pilot's Guide, it states the one described in Section 2.1.

Whenever this Pilot's Operating Handbook refers to the MD302 Pilot's Guide, it states the one described in Section 2.1.

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

The installed ADS-B OUT system has been shown to meet the equipment requirements of 14 CFR 91.227.

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).
1.2 - THREE VIEW DRAWING

* Airplane on level field with fully extended FWD shock-absorber
1.3 - DESCRIPTIVE DATA

ENGINE

Number of engines : 1
Engine manufacturer : PRATT & WHITNEY CANADA
Engine model number : PT6A - 66D
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 : 850 SHP at 2000 RPM

PROPELLER

Number of propellers : 1
Propeller manufacturer : HARTZELL
Propeller model number : HC-E5N-3C / NC8834K
Number of blades : 5
Propeller diameter :
Minimum : 90 in (2.286 m)
Maximum : 91 in (2.311 m)

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

Propeller blade setting at 30 in station
Low pitch : 19.5°
Feathering : 85°
Maximum reverse : - 9°

Propeller governor : 8210.007 WOODWARD
FUEL

Total capacity : 301 USG (1140 Litres)
Total capacity each tank : 150.5 USG (570 Litres)
Total usable : 292 USG (1106 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 COMPRIZED 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

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<td>AIR 3405C Grade F35</td>
<td>DERD 2494 Issue 9</td>
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<td>ASTM-D1655 JET A1</td>
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**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 oil consumption in 10 hour period :
0.14 qt/hr (0.13 l/hr)
[0.3 lb/hr (0.136 cc/hr)]

Specification

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<td>MIL-PRF-23699G</td>
<td>O-156 (STD)</td>
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<td>O-154 (HTS)</td>
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Figure 1.3.2 - RECOMMENDED ENGINE OIL TYPES
(Reference : Service Bulletin P & W C. No. 14001 at the latest revision)

MAXIMUM CERTIFICATED WEIGHTS

Ramp : 7430 lbs (3370 kg)

Takeoff : 7394 lbs (3354 kg)

Landing : 7024 lbs (3186 kg)

Baggage weight

- refer to Section 2 (Paragraph 2.5) for weight and C.G. limits
- refer to Section 6 for cargo loading instructions

STANDARD AIRPLANE WEIGHTS

Standard empty weight : 4583 lbs (2079 kg)

Maximum useful load : 2811 lbs (1275 kg)
CABIN AND ENTRY DIMENSIONS

Maximum cabin width : 3 ft 11.64 in (1.21 m)
Maximum cabin length : 13 ft 3.45 in (4.05 m)
Maximum cabin height : 4 ft (1.22 m)
Number of cabin entries : 1 (standard) + 1 pilot door (if installed)
Entry width (standard) : 3 ft 6.52 in (1.08 m)
Entry height (standard) : 3 ft 10.85 in (1.19 m)
Pilot entry mean width : 2 ft 3.6 in (0.70 m)
Pilot entry mean height : 3 ft 2.16 in (0.97 m)

SPECIFIC LOADINGS

Wing loading : 38.16 lbs / sq.ft (186.3 kg / m²)
Power loading : 8.7 lbs / SHP (3.95 kg / SHP)
1.4 - ABBREVIATIONS AND TERMINOLOGY

METEOROLOGICAL TERMINOLOGY

ISA : International standard atmosphere
OAT : Outside air temperature
SAT : Static air temperature
QFE : Atmospheric pressure at the airport reference point.
QNH : Atmospheric pressure at sea level, at airplane position.

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.
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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 propeller by positioning blades at the pitch angle allowing minimal drag.

Maximum Cruise Power : Power developed corresponding to outside (Flight Level and Temperature) conditions (Refer to Chapter 5 PERFORMANCE).

Ng : Gas generator RPM.

Np : Propeller rotation speed.

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

RPM : Revolutions per minute.

SHP : Shaft Horsepower.

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

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<thead>
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<th>Description</th>
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<tbody>
<tr>
<td>A</td>
<td>Ampere or Amber</td>
</tr>
<tr>
<td>ADC</td>
<td>Air Data Computer</td>
</tr>
<tr>
<td>AGL</td>
<td>Above ground level</td>
</tr>
<tr>
<td>AIL TRIM</td>
<td>Aileron TRIM</td>
</tr>
<tr>
<td>ALT. SEL.</td>
<td>Altitude selector</td>
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<tr>
<td>ALTI</td>
<td>Altimeter</td>
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<td>AMP.</td>
<td>Ampere</td>
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<td>AoA</td>
<td>Angle of Attack</td>
</tr>
<tr>
<td>AP</td>
<td>Autopilot</td>
</tr>
<tr>
<td>ATIS</td>
<td>Automatic Terminal Information Service</td>
</tr>
<tr>
<td>AUTO SEL</td>
<td>Automatic selector</td>
</tr>
<tr>
<td>AUX BP</td>
<td>Auxiliary boost pump</td>
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<td>BAT</td>
<td>Battery</td>
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<tr>
<td>BAT OVERHEAT</td>
<td>Battery overheat (only with Cadmium-Nickel battery)</td>
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<tr>
<td>BRT</td>
<td>Brightness</td>
</tr>
<tr>
<td>CAS</td>
<td>Crew Alerting System</td>
</tr>
<tr>
<td>°C</td>
<td>Celsius degree</td>
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<td>CHIPS</td>
<td>Cable Harness Protection System</td>
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<tr>
<td>CONT.</td>
<td>Control</td>
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<tr>
<td>DIEGME</td>
<td>Diethylene glycol monomethyl ether</td>
</tr>
<tr>
<td>DISC</td>
<td>Disconnect</td>
</tr>
<tr>
<td>DN</td>
<td>Down</td>
</tr>
<tr>
<td>ECS</td>
<td>Environmental control system</td>
</tr>
<tr>
<td>EDM</td>
<td>Emergency Descent Mode</td>
</tr>
<tr>
<td>EGME</td>
<td>Ethylene glycol monomethyl ether</td>
</tr>
<tr>
<td>EIS</td>
<td>Engine Indication System</td>
</tr>
<tr>
<td>EMER</td>
<td>Emergency</td>
</tr>
<tr>
<td>ESHP</td>
<td>Estimated shaft horsepower</td>
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<td>ESP</td>
<td>Electronic Stability Protection</td>
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<td>Essential BUS tie</td>
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<td>Exterior lightings</td>
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<td>°F</td>
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<td>FCU</td>
<td>Fuel control unit</td>
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<tr>
<td>FIRE EXTING</td>
<td>Fire extinguisher</td>
</tr>
<tr>
<td>FL</td>
<td>Flight level</td>
</tr>
<tr>
<td>FOB</td>
<td>Fuel On Board</td>
</tr>
<tr>
<td>FPL</td>
<td>Flight Plan</td>
</tr>
<tr>
<td>ft</td>
<td>Feet</td>
</tr>
<tr>
<td>ft/min</td>
<td>Feet per minute</td>
</tr>
<tr>
<td>G</td>
<td>Green</td>
</tr>
<tr>
<td>HI</td>
<td>High</td>
</tr>
<tr>
<td>HP</td>
<td>High pressure</td>
</tr>
<tr>
<td>hPa</td>
<td>Hectopascal</td>
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hr : Hour
HTR : Heater
IGNIT : Ignition
in : Inch / inches
INERT SEP : Inertial separator
INDIC : Indicator
in.Hg : Inch of mercury
INT. LIGHTS : Interior lightings
INSTR. : Instrument
ITT : Interturbine temperature
kg : Kilogram
kt : Knot (1 nautical mile/hr - 1852 m/hr)
kW : Kilowatt
L or L.H. : Left
l/h : Litre / hour
lb or lbs : Pound(s)
L / D : Lift-to-drag
LDG : Landing
LDG GR : Landing gear
LDR : Lightweight Data Recorder
LFE : Landing Field Elevation
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
MFD : Multi-function Display
MIN : Minimum
min : Minute
mm : Millimetre
MLW : Maximum Landing Weight
MRW : Maximum Ramp Weight
MTOW : Maximum Takeoff Weight
MXCR : Maximum Cruise
MZFW : Maximum Zero Fuel Weight
NM : Nautical mile
NOCR : Normal cruise (recommended)
NORM : Normal
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<tr>
<td>PFD</td>
<td>Primary Flight Display</td>
</tr>
<tr>
<td>PHF</td>
<td>Plan Horizontal Fixe (Horizontal stabilizer)</td>
</tr>
<tr>
<td>PRESS</td>
<td>Pressure</td>
</tr>
<tr>
<td>PROP</td>
<td>Propeller</td>
</tr>
<tr>
<td>psi</td>
<td>Pounds per square inch</td>
</tr>
<tr>
<td>qt</td>
<td>Quart (¼ USG)</td>
</tr>
<tr>
<td>QTY</td>
<td>Quantity</td>
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<tr>
<td>R or R.H.</td>
<td>Right</td>
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<tr>
<td>RUD</td>
<td>Rudder</td>
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<tr>
<td>s or sec</td>
<td>Second</td>
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<tr>
<td>SEL</td>
<td>Selector</td>
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<td>SIG</td>
<td>Signalization</td>
</tr>
<tr>
<td>SL</td>
<td>Sea level</td>
</tr>
<tr>
<td>S/N</td>
<td>Serial number</td>
</tr>
<tr>
<td>SPKR</td>
<td>Speaker</td>
</tr>
<tr>
<td>ST - BY</td>
<td>Stand-by</td>
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<tr>
<td>STALL HTR</td>
<td>Stall heater</td>
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<tr>
<td>TO</td>
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<td>TURN COORD</td>
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<td>USP</td>
<td>UnderSpeed Protection</td>
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<td>V</td>
<td>Volt or Voltage</td>
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<td>WARN</td>
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### RADIO - NAVIGATION ABBREVIATIONS

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<td>ADF</td>
<td>Automatic Direction Finder System</td>
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<td>ADI</td>
<td>Attitude Director Indicator</td>
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<td>ADS-B</td>
<td>Automatic Dependent Surveillance-Broadcast</td>
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<td>AFCS</td>
<td>Automated Flight Control System</td>
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<td>AHRS</td>
<td>Attitude and Heading Reference System</td>
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<td>ATC</td>
<td>Transponder</td>
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<td>B RNAV</td>
<td>Basic aRea NAVigation</td>
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<td>CDI</td>
<td>Course Deviation Indicator</td>
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<td>Communications Transceivers</td>
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<td>DME</td>
<td>Distance Measuring Equipment</td>
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<td>ELT</td>
<td>Emergency Locator Transmitter</td>
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<td>FMS</td>
<td>Flight Management System</td>
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<td>GPS</td>
<td>Global Positioning System</td>
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<tr>
<td>HF</td>
<td>High Frequency</td>
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<tr>
<td>IFR</td>
<td>Instrument Flight Rules</td>
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<td>Instrument Landing System</td>
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<td>IMC</td>
<td>Instrument Meteorological Conditions</td>
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<td>Lateral NAVigation</td>
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<td>Localizer Precision Vertical</td>
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<td>Marker Radio Beacon</td>
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<td>Area NAVigation</td>
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<td>Required Navigation Performance</td>
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<td>Very High Frequency</td>
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<td>Vertical NAVigation</td>
</tr>
<tr>
<td>VOR</td>
<td>VHF Omnidirectional Range</td>
</tr>
<tr>
<td>VOR / LOC</td>
<td>VHF Omnidirectional Range LOCalizer</td>
</tr>
<tr>
<td>WAAS</td>
<td>Wide Area Augmentation System</td>
</tr>
<tr>
<td>WXR</td>
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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

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Figure 1.6.1 - STANDARD ATMOSPHERE
NOTE

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

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## Section 2

### Limitations

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LIMITATIONS

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2.1 - GENERAL

TBM 910 is the trade name of the TBM 700 N version airplane (TBM 700 type), which 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.

The GARMIN G1000 NXi Integrated Flight Deck Pilot's Guide, No. 190-02218-00, or any later version as applicable, must be readily available to the pilot and permanently kept in the airplane with the Pilot's Operating Handbook.

The Pilot's Guide for the MD302 Standby Attitude Module P/N 9017846 Rev. E or any later version as applicable, must be permanently kept in the airplane with the Pilot's Operating Handbook.

Departure into IMC is not authorized if the MD302 battery following message is displayed:

WARNING
INTERNAL BATTERY MAY PROVIDE LESS THAN 60 MINUTES OF OPERATIONS

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 included in this Section have been approved by the Federal Aviation Administration in accordance with 14 CFR Section 21.29.

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

TBM 700 airplane is certified under EASA.A.010 and FAA N° A60EU Type Certificates.
2.2 - AIRSPEED LIMITATIONS

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

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Figure 2.2.1 - AIRSPEED LIMITATIONS
2.3 - POWERPLANT LIMITATIONS

ENGINE

Number of engines : 1

Engine manufacturer : PRATT & WHITNEY CANADA

Engine model number : PT6A - 66D

Maximum power :
100 % at Np = 2000 RPM

Ng limitation :
104.1 %

Np limitation :
2000 RPM ± 40 RPM

ITT limitations :
- Take off : 850°C
- Maximum climb/cruise : 840°C
- During start :
  " 850°C (no duration limitation)
  " 870°C for 20 seconds max.
  " 1000°C for 5 seconds max.

CAUTION

WHEN NORMALLY OPERATING, REFER TO CHAPTER 5.8
ENGINE OPERATION TABLES
OIL

CAUTION

DO NOT MIX DIFFERENT VISCOSITIES OR SPECIFICATIONS OF OIL AS THEIR DIFFERENT CHEMICAL STRUCTURE CAN MAKE THEM INCOMPATIBLE.

Maximum oil temperature: 104 °C

Oil pressure:

- Minimum: 60 psi
- Maximum: 135 psi (a transient oil pressure up to 170 psi is acceptable for maximum 20 seconds)

Normal oil pressure is 105 to 135 psi. Oil pressures under 105 psi are undesirable. Under emergency conditions, to complete a flight, a lower oil pressure of 60 psi is permissible at reduced power level not exceeding 80% torque. Oil pressures below 60 psi are unsafe and require that either the engine be shut down or a landing be made as soon as possible using the minimum power required to sustain flight.

Oil capacity:

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

Fuel limitations:
- 2 tanks: 150.5 USG (570 Litres) each
- Total fuel: 301 USG (1140 Litres)
- Usable fuel: 292 USG (1106 Litres)
- Unusable fuel: 9 USG (34 Litres)
- Maximum fuel imbalance: 15 USG (57 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.*

*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.*

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<td>MIL-DTL-5624 Grade JP-4</td>
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<td>DERD 2454 Issue 4 Amdt 1</td>
<td>F40 with additive</td>
</tr>
<tr>
<td>MIL-DTL-5624 Grade JP-5</td>
<td>AIR 3404C Grade F44</td>
<td>DERD 2452 Issue 2 Amdt 1</td>
<td>F44 with additive when utilization</td>
</tr>
<tr>
<td>MIL-DTL-83133 Grade JP-8</td>
<td>AIR 3405C Grade F34</td>
<td>DERD 2453 Issue 4 Amdt 1</td>
<td>F34 with additive S748</td>
</tr>
<tr>
<td></td>
<td>AIR 3404C Grade F43</td>
<td>DERD 2498 Issue 7</td>
<td>F34 without additive</td>
</tr>
</tbody>
</table>

(Figure 2.3.1 - RECOMMENDED FUEL TYPES (Reference: Service Bulletin P & W C. No. 14004))

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SECTION 2
LIMITATIONS
EASA Approved

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

Propeller model number : HC-E5N-3C / NC8834K

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

Propeller blade setting at 30 in station :
- Low pitch : 19.5°
- Feathering : 85°
- Maximum reverse : - 9°
2.4 - STARTER OPERATION LIMITS

Starter operation sequence is limited as follows:

if \( Ng \leq 30\% \) .......................................................... 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
2.5 - WEIGHT AND C.G. LIMITS

WEIGHT LIMITS

Maximum ramp weight (MRW) : 7430 lbs (3370 kg)

Maximum takeoff weight (MTOW) : 7394 lbs (3354 kg)

Maximum landing weight (MLW) : 7024 lbs (3186 kg)

Maximum zero fuel weight (MZFW) : 6032 lbs (2736 kg)

Maximum baggage weight :
- in FWD compartment (non pressurized) : 110 lbs (50 kg)
- in rear part of pressurized cabin : 220 lbs (100 kg)

With 6-seat accommodation

- in rear part of pressurized cabin : 396 lbs (180 kg), with small or large net (see sketch below)

Figure 2.5.1 - Baggage limits
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 in (4.604 m) aft of datum at 4409 lbs (2000 kg) or less (14% of m.a.c)
- 183.6 in (4.664 m) aft of datum at 6250 lbs (2835 kg) (18% of m.a.c)
- 185.3 in (4.707 m) aft of datum at 6579 lbs (2984 kg) (20.85% of m.a.c)
- 187 in (4.752 m) aft of datum at all weights above 7024 lbs (3186 kg) (23.8% of m.a.c)

Aft limits:
- 193.65 in (4.921 m) aft of datum at 7394 lbs (3354 kg) (35% of m.a.c)
- 194 in (4.928 m) aft of datum at 6986 lbs (3169 kg) (35.5% of m.a.c)

Reference datum: 118.1 in (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.*
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) above 8000 ft pressure altitude

FLIGHT LOAD FACTOR LIMITS

Flaps up

Weight below 6579 lbs (2984 kg) :
- 1.5 ≤ n ≤ + 3.8 g

Weight above 6579 lbs (2984 kg) :
- 1.5 ≤ n ≤ + 3.5 g

Flaps down

- 0 ≤ n ≤ + 2.0 g

CAUTION

INTENTIONAL NEGATIVE LOAD FACTORS PROHIBITED
SECTION 2
LIMITATIONS
EASA Approved

PILOT'S OPERATING HANDBOOK

GENERATOR LIMITS

Generator load has to be below 200 amps when the airplane is on the ground.

GFC 700 AUTOPILOT LIMITS

- During autopilot operation, a pilot with seat belt fastened must be seated at the left position.
- The autopilot and yaw damper must be OFF during takeoff and landing.
- Do not engage autopilot below 1000 ft (300 m) above ground level in cruise or climb.
- Do not use autopilot in approach under 200 ft (60 m).
- Do not use autopilot for airspeeds below 85 KIAS.

NOTE

Do not use the autopilot in descent below 2000 ft (600 m) AGL with a vertical speed in excess of 2000 ft/min.

G1000 GNSS (GPS/SBAS) NAVIGATION EQUIPMENT APPROVALS

The Garmin GNSS navigation system installed in this airplane is a GPS system with a Satellite Based Augmentation System (SBAS) comprised of two TSO-C145a Class 3 approved Garmin GIA 63Ws, TSO-C146c Class 3 approved Garmin GDU 1XXX Display Units, Garmin GA36 and GA37 antennas, and GPS software version 3.2 or later approved version. The Garmin GNSS navigation system in this airplane is installed in accordance with AC 20-138A

The Garmin GNSS navigation system as installed in this airplane complies with the requirements of AC 20-138A and AMC 20-28, is approved for navigation using GPS and SBAS (within the coverage of a Satellite Based Augmentation System complying with ICAO Annex 10) for IFR enroute, terminal area, and non-precision approach operations (including those approaches titled GPS, or GPS, and RNAV (GPS) approaches). The Garmin GNSS navigation system installed in this airplane is approved for approach procedures with vertical guidance including LPV (within the coverage of a Satellite Based Augmentation System complying with ICAO Annex 10) and LNAV/VNAV, within the U.S. National Airspace System.

The airplane is approved for enroute and terminal operations including RNAV5 / BRNAV and RNAV1 / PRNAV in accordance with JAA TGL-10, provided the FMS is receiving usable navigation information from one or more GPS receivers.
G1000 GNSS (GPS/SBAS) NAVIGATION SYSTEM LIMITATIONS

NOTE

Limitations are in bolded text for this section only.

The pilot must confirm at system initialization that the Navigation database is current.

Navigation database is expected to be current for the duration of the flight.

If the AIRAC cycle will change during flight, the pilot must ensure the accuracy of navigation data, including suitability of navigation facilities used to define the routes and procedures for flight. If an amended chart affecting navigation data is published for the procedure, the database must not be used to conduct the procedure.

GPS/SBAS based IFR enroute, oceanic, and terminal navigation is prohibited unless the pilot verifies and uses a valid, compatible, and current Navigation database or verifies each waypoint for accuracy by reference to current approved data.

Discrepancies that invalidate a procedure must be reported to Garmin International. The affected procedure is prohibited from being flown using data from the Navigation database until a new Navigation database is installed in the airplane and verified that the discrepancy has been corrected.

Contact information to report Navigation database discrepancies can be found at www.Garmin.com>Support>Contact Garmin Support>Aviation. Pilots and operators can view navigation data base alerts at www.Garmin.com > In the Air> NavData Alerts.

For flight planning purposes, in areas where SBAS coverage is not available, the pilot must check RAIM availability.

Within the United States, RAIM availability can be determined using the WFDE Prediction program, part number 006-A0154-01 (010-G1000-00) or later approved version with GARMIN GA36 and GA37 antennas selected, or the FAA’s enroute and terminal RAIM prediction website: www.raimprediction.net, or by contacting a Flight Service Station.

Within Europe, RAIM availability can be determined using the WFDE Prediction program or Europe’s AUGER GPS RAIM Prediction Tool at http://augur.ecacnav.com/augur/app/home.

For other areas, use the WFDE Prediction program.

This requirement is not necessary if SBAS coverage is confirmed to be available along the entire route of flight.

The route planning and WFDE prediction program may be downloaded from the GARMIN website on the internet. For information on using the WFDE Prediction Program, refer to GARMIN WAAS FDE Prediction Program, part number 190-00643-01, WFDE Prediction Program Instructions.
For flight planning purposes, operations within the U.S. National Airspace System on RNP and RNAV procedures when SBAS signals are not available, the availability of GPS integrity RAIM shall be confirmed for the intended route of flight.

In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended route of flight, the flight should be delayed, cancelled, or re-routed on a track where RAIM requirements can be met.

For flight planning purposes for operations within European B-RNAV and P-RNAV airspace, if more than one satellite is scheduled to be out of service, then the availability of GPS integrity RAIM shall be confirmed for the intended flight (route and time).

In the event of a predicted continuous loss of RAIM of more than five minutes for any part of the intended flight, the flight should be delayed, cancelled, or re-routed on a track where RAIM requirements can be met.

For flight planning purposes, operations where the route requires Class II navigation the airplane’s operator or pilot-in-command must use the WFDE Prediction program to demonstrate that there are no outages on the specified route that would prevent the G1000 to provide primary means of Class II navigation in oceanic and remote areas of operation that requires (RNP-10 or RNP-4) capability.

If the WFDE Prediction program indicates fault exclusion (FDE) availability will exceed 34 minutes in accordance with FAA Order 8400.12A for RNP-10 requirements, or 25 minutes in accordance with FAA Order 8400.33 for RNP-4 requirements, then the operation must be rescheduled when FDE is available.

Both GPS navigation receivers must be operating and providing GPS navigation guidance to their respective PFD for operations requiring RNP-4 performance.

North Atlantic (NAT) Minimum Navigational Performance Specifications (MNPS) Airspace operations per AC 91-49 and AC 120-33 require both GPS/SBAS receivers to be operating and receiving usable signals except for routes requiring only one Long Range Navigation sensor. Each display computes an independent navigation solution based on the on-side GPS sensor. However, either display will automatically revert to the cross-side sensor if the on-side sensor fails or if the cross-side sensor is determined to be more accurate. A BOTH ON GPS1 or BOTH ON GPS2 message does not necessarily mean that one GPS has failed. Refer to the MFD AUX-GPS STATUS page to determine the state of the unused GPS.
Manual entry of waypoints using latitude/longitude or place/bearing is prohibited.

Whenever possible, RNP and RNAV routes including Standard Instrument Departures (SIDs) and Obstacle Departure Procedures (ODPs), Standard Terminal Arrival (STAR), and enroute RNAV Q and RNAV T routes should be loaded into the flight plan from the database in their entirety, rather than loading route waypoints from the database into the flight plan individually. Selecting and inserting individual named fixes from the database is permitted, provided all fixes along the published route to be flown are inserted.

GPS, or GPS, and RNAV (GPS) instrument approaches using the G1000 System are prohibited unless the pilot verifies and uses the current Navigation database. GPS based instrument approaches must be flown in accordance with an approved instrument approach procedure that is loaded from the Navigation database.

LNAV+V feature is a standard LNAV approach with advisory vertical guidance provided for assistance in maintaining a constant vertical glideslope similar to an ILS glideslope on approach. This guidance is displayed on the G1000 PFD in the same location as the ILS glideslope using a magenta diamond. In all cases where LNAV+V is indicated by the system during an approach, LNAV minima are used.

Not all published Instrument Approach Procedures (IAP) are in the Navigation database.

Pilots planning on flying an RNAV instrument approach must ensure that the Navigation database contains the planned RNAV Instrument Approach Procedure and that approach procedure must be loaded from the Navigation database into the FMS flight plan by its name.

IFR non-precision approach approval using the GPS/SBAS sensor is limited to published approaches within the U.S. National Airspace System. Approaches to airports in other airspace are not approved unless authorized by the appropriate governing authority.

The navigation equipment required to join and fly an instrument approach procedure is indicated by the title of the procedure and notes on the IAP chart.

Use of the GARMIN G1000 GPS/SBAS receivers to provide navigation guidance during the final approach segment of an ILS, LOC, LOC-BC, LDA, SDF, MLS or any other type of approach not approved for or GPS navigation is prohibited. When using the G1000 VOR/LOC/GS receivers to fly the final approach segment, VOR/LOC/GS navigation data must be selected and presented on the CDI of the pilot flying.

Navigation information is referenced to WGS-84 reference system, and should only be used where the Aeronautical Information Publication (including electronic data and aeronautical charts) conform to WGS-84 or equivalent.
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).

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 executed 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.

1) GPS/RNAV instrument approaches must be performed in GPS approach mode and the RAIM must be available at the final approach fix (FAF).

2) Precision approaches (ILS, LOC, LOC-BC, MLS ...) must not be performed with the GPS.

Instrument approaches can only be performed, as long as used point coordinates are referenced with regard to WGS 84 system or an equivalent system.

ICING CONDITIONS

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 3.12.
SEVERE ICING CONDITIONS

WARNING

SEVERE ICING MAY RESULT FROM ENVIRONMENTAL CONDITIONS OUTSIDE OF THOSE FOR WHICH THE AIRPLANE 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 AIRPLANE.

During flight, severe icing conditions that exceed those for which the airplane 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 airplane is in icing conditions.

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

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 3.12.

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.
WEATHER RADAR GWX 70

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 personnel within 12 feet of area being scanned by antenna when system is transmitting.

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.

CAUTION

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) CAS warning and caution messages
   - 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 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)
   - 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
   - Electrical 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) Pitotstatic tube deicing
Pressurized flight

1) Cabin altimeter
2) Cabin vertical speed indication
3) Cabin differential pressure indication
4) Pressurization control valve
5) Safety valve
6) Pressurization control
7) Maximum cabin altitude and pressure warning light

Flight into icing conditions

1) All equipment required for IFR flight
2) Propeller deicing
3) L.H. windshield deicing
4) Airframe, stabilizer and elevator horn deicing
5) Wing leading edge inspection light (if night flight)
6) Stall warning deicing
7) Inertial separator
8) Garmin annunciation Airspeed, Airspeed
ALTITUDE OPERATING LIMITS

Maximum altitude : 31000 ft (9449 m)

Maximum differential pressure : 6.2 psi

Operation in RVSM area

This airplane is approved for operations in Reduced Vertical Separation Minimum (RVSM) airspace when required equipment (refer to Section List of equipment, § List of critical RVSM equipment) is maintained in accordance with the airplane Maintenance Manual.

This does not constitute operational approval. Individual airplane and operational approval must be obtained in accordance with applicable operating rules.

Each operator must ensure compliance with required crew training and operating practices and procedures.

Moreover, the following equipment must be installed and operating normally upon entering RVSM airspace :

- Pilot and R.H. station primary altimeters
- Autopilot
- Altitude Alerter
- ATC transponder

NOTE

Any changes to the pitot / static, air data computer, autopilot, altitude alerting and / or transponder systems, or other changes that affect operation of these systems must be evaluated for impact on the RVSM approval.

The standby altimeter is not approved for RVSM operations.

IN-FLIGHT BREAKER USE LIMITS

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

The installed Mode S system satisfies the data requirements of ICAO Doc 7030/4, Regional Supplementary Procedures for SSR Mode S Enhanced Surveillance in designated European airspace. The capability to transmit data parameters is shown in column 2:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Available (A) / Not Available (NA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic Heading</td>
<td>A</td>
</tr>
<tr>
<td>Indicated Airspeed</td>
<td>A</td>
</tr>
<tr>
<td>Mach No</td>
<td>A</td>
</tr>
<tr>
<td>Vertical Rate</td>
<td>A</td>
</tr>
<tr>
<td>Roll Angle</td>
<td>A</td>
</tr>
<tr>
<td>True Airspeed</td>
<td>A</td>
</tr>
<tr>
<td>True Track Angle</td>
<td>A</td>
</tr>
<tr>
<td>Groundspeed</td>
<td>A</td>
</tr>
<tr>
<td>Selected Altitude</td>
<td>A</td>
</tr>
<tr>
<td>Barometric Pressure Setting</td>
<td>A</td>
</tr>
</tbody>
</table>
CHARTVIEW SYSTEM OPERATING LIMITATIONS

The geographic-referenced airplane symbol on some charts must not be used for navigation.

**NOTE**

The airplane symbol displayed on some charts provides supplemental airplane situational awareness information. It is not intended as a means for navigation or flight guidance. The airplane symbol is not to be used for conducting instrument approaches or departures, and it should not be relied upon during low visibility taxi operations. Position accuracy, orientation, and related guidance must be assured by other means of required navigation.

Operators must have back-up charts available to the flight crew.

Database currency must be verified prior to use via database effectivity page.

The flight crew is responsible for verifying availability of charts for the planned flight.
2.7 - MISCELLANEOUS LIMITS

SEATING LIMITS C.G.
- 2 front seats at 178.5 in (4.534 m)
  With 4-seat accommodation or 6-seat accommodation
- 2 intermediate seats at 224.8 in (5.710 m)
  With 6-seat accommodation
- Rear bench (2 seats) at 267.1 in (6.785 m)

BAGGAGE LIMITS
- Baggage in pressurized cabin at 303 in (7.695 m)
- Baggage in non pressurized forward section at 128 in (3.250 m)

MINIMUM CREW
- One pilot at L.H. front seat

MAXIMUM OCCUPANCY
The number of persons on board is limited by approved seating configuration installed but must not exceed six, including the pilot.
The number of persons must be less than or equal to the number of seats.

USE OF DOORS
Flight with door open or ajar is prohibited.
Post-MOD70-0246-25

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.
CARGO NET INSTALLATION LIMITS

Small cargo net: maximum loading height = 28 in (710 mm)

Large cargo net: maximum loading height = 22 in (565 mm) (in cabin, out of baggage compartment).

CAUTION

NO ITEM MAY EXTEND FORWARD OF THE CARGO NET SYSTEM TO PROTECT DOOR FROM OBSTRUCTION
2.8 - MARKINGS

INDICATED AIRSPEED

Indicated airspeed markings and their color code significance are shown in Figure 2.8.1.

<table>
<thead>
<tr>
<th>MARKING</th>
<th>KIAS (Value or range)</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red line</td>
<td>Below 65</td>
<td>/</td>
</tr>
<tr>
<td>White line</td>
<td>65 - 122</td>
<td>Full Flap Operating Range Lower limit is maximum weight ( V_{SO} ) in landing configuration.</td>
</tr>
<tr>
<td>Green line</td>
<td>Above 122</td>
<td>Normal operating airspeed range</td>
</tr>
<tr>
<td>Hatched (Red &amp; White) Sector</td>
<td>Above 266</td>
<td>266 = VMO</td>
</tr>
</tbody>
</table>

Figure 2.8.1 - IAS AWARENESS BAR CUES

PRESSURIZATION

<table>
<thead>
<tr>
<th>MARKING</th>
<th>VALUE</th>
<th>SIGNIFICANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red line</td>
<td>6.2 psi</td>
<td>Cabin ( \Delta P ) limit</td>
</tr>
</tbody>
</table>

Figure 2.8.2 - PRESSURIZATION MARKING
ENGINE INSTRUMENTS

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

<table>
<thead>
<tr>
<th>INDICATION</th>
<th>Red Line or Arc Minimum Limit</th>
<th>Yellow Line or Arc Caution Range</th>
<th>Green Line or Arc Normal Operating</th>
<th>Red Line Maximum Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil temperature</td>
<td>- 40 °C (- 40 °F)</td>
<td>- 40 to 0 °C (- 40 to 32 °F)</td>
<td>0 to 104 °C (32 to 219.2 °F)</td>
<td>110 °C (230 °F)</td>
</tr>
<tr>
<td>Oil pressure</td>
<td>60 psi</td>
<td>60 to 105 psi</td>
<td>105 to 135 psi</td>
<td>135 psi (red line) normal limit</td>
</tr>
<tr>
<td>Generator RPM (Ng)</td>
<td>---</td>
<td>---</td>
<td>51 to 104 %</td>
<td>104 %</td>
</tr>
<tr>
<td>Propeller RPM (Np)</td>
<td>---</td>
<td>450 to 1000 RPM</td>
<td>1950 to 2050 RPM</td>
<td>2050 RPM</td>
</tr>
<tr>
<td>ITT Engine start or off</td>
<td>---</td>
<td>840 to 1090 °C (1544 to 1994 °F)</td>
<td>400 to 840 °C (752 to 1544 °F)</td>
<td>840 °C (1544 °F) normal limit</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engine running</td>
<td>---</td>
<td>400 to 840 °C (752 to 1544 °F)</td>
<td></td>
<td>840 °C (1544 °F) normal limit</td>
</tr>
<tr>
<td>Torque (TRQ)</td>
<td>---</td>
<td>100 %</td>
<td>0 to 100 %</td>
<td>101 %</td>
</tr>
</tbody>
</table>

Figure 2.8.3 - ENGINE INSTRUMENT MARKINGS
2.9 - PLACARDS

(1) Under L.H. front side window

(2) Calibration chart on compass and on windshield post

<table>
<thead>
<tr>
<th>For</th>
<th>N</th>
<th>30</th>
<th>60</th>
<th>E</th>
<th>120</th>
<th>150</th>
</tr>
</thead>
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DATE : RADIO ON

(3) On pressurized baggage compartment partition wall

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
(3)a For the small cargo net, on frame C13bis

(3)b For the large cargo net, on R.H. side upholstery panel, in the rear baggage compartment

All

(3)c On FWD baggage compartment door frame (non pressurized)
(4) On pedestal console

(5) On fuel selector

(6) Near fuel tank caps
(7) On internal face of L.H. engine cowling

Oil system capacity
12 l
12.7 qt

(8) On landing gear emergency control access door

LDG GEAR EMERGENCY ACCESS PULL

(9) Under window, at L.H. Intermediate seat

(10) On rear passenger's table casing

TABLE MUST BE STOWED DURING TAKEOFF AND LANDING
(11) Under R.H. control wheel

(12) On nose gear door

(13) On nose gear leg

NOSE LANDING GEAR
TIRE PRESSURE: 6.5 bar
94 psi
(14) On main gear leg

**MAIN LANDING GEAR**
TIRE PRESSURE : 8.96 bar
130 psi

(15) On engine cowling, in front of compartment door

**EXTERNAL POWER**
28 VOLTS D.C. NOMINAL
800 AMPS
STARTING CAPACITY MIN
DO NOT EXCEED 1000 AMPS

(16) On pilot door - External side (if installed)
(17) On access door - External side

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

(19) On access door - Internal side
(20) On pilot door - Internal side (if installed)

(21) On emergency exit handle
Marking on cover
Marking on handle
(22) On last step of stairs

**STAIRS MAX LOAD : ONE PERSON**

(23) On R.H. access door jamb

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

(24) On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

**WARNING**
GREASY SUBSTANCES ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN
DO NOT SMOKE WHILE OXYGEN IS IN USE
(25) On rear passengers masks containers

(26) On internal face of the oxygen cylinder service door

(27) On the oxygen service door

OXYGEN SERVICE POINT
USE NO LUBRICANTS
(28) On emergency locator transmitter inspection door

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

CURTAIN MUST BE STOWED FOR TAKE-OFF AND LANDING
### CAS MESSAGES

**NOTE**

**CAS MESSAGES are in alphabetical order by either Chapter, Section, Paragraph, Advisory or Supplement**

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EMERGENCY PROCEDURES
EASA Approved

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- INADVERTENT SPINS
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- USP ACTIVE
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- AIRSPEED INDICATING SYSTEM FAILURE
- FLIGHT INTO SEVERE ICING CONDITIONS
- CARGO DOOR
- GPU DOOR
- IGNITION
- AP ON YD OFF
- AUTOPILOT OR ELECTRIC PITCH TRIM MALFUNCTION
- DUAL GPS/SBAS FAILURE (AMBER "DR" OR "LOI") ON HSI
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- ABORT APR
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- ADC FAILURE
- MFD FAILURE
- XPDR1 FAIL OR XPDR2 FAIL
- XPDR1 ADS-B FAIL OR XPDR2 ADS-B FAIL
- GWX FAIL
- TCAS FAIL
- TRAFFIC FAIL
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.

The 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 warning or caution messages appearing on CAS display.

The CAS messages include:

- the **red** warning messages indicating failures which require an immediate action from the pilot,
- the **amber** caution messages indicating failures or discrepancies which require an action as soon as practical,
- the **white** advisory messages indicating state of a system which does not require an action from the pilot.

Red or amber failure warnings are coupled with the lighting of

- a flashing red indicator/button

or

- a fixed amber indicator/button
Both indicators/buttons 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 CAS display, the corresponding failure message remains ON as long as the failed condition exists.

The actions associated to the red warning or amber caution messages are described in this Section of the POH.

The information associated to the white advisory messages are described in the GARMIN Pilot's Guide.
NAME OF THE EMERGENCY PROCEDURE

The memory items are written like this.

The other items are written like this.

Memory items are items requesting to be done by heart.

Land as soon as possible means land on the nearest suitable runway.

Land as soon as practical means land on the nearest suitable runway with convenient facilities.
3.2 - REJECTED TAKE OFF

ENGINE FAILURE AT TAKE OFF BEFORE ROTATION

1 - THROTTLE ........................................ Flight IDLE
2 - Brakes .............................................. As required

If the airplane cannot be stopped on the runway:

3 - THROTTLE ........................................ CUT OFF
4 - FUEL TANK SELECTOR .......................... OFF
5 - Crash lever ......................................... Pull down
6 - Evacuate if necessary, after the airplane has come to a stop.
FOR ANY OTHER REASON

1 - THROTTLE ................................. Flight IDLE
2 - Reverse ................................. As required
3 - Brakes ................................. As required

If the airplane cannot be stopped on the runway:

4 - THROTTLE ................................. CUT OFF
5 - FUEL TANK SELECTOR ............................ OFF
6 - Crash lever ........................ Pull down
7 - Evacuate if necessary, after the airplane has come to a stop.
3.3 - ENGINE FAILURES

BEFORE ROTATION

Refer to Chapter 3.2, Paragraph Engine failure at take off before rotation

AFTER ROTATION

1 - MAN OVRD control ........................................ Full forward

If successful
Fly the airplane using the MAN OVRD control for power, set THROTTLE to Flight IDLE and land as soon as possible

If unsuccessful

1 - MAN OVRD control ........................................ Full backward

If height does not allow to choose a favourable runway or field, land straight ahead without changing landing gear position.

2 - FLAPS ........................................................... TO
Maintain IAS > 100 KIAS

3 - THROTTLE ............................................... CUT OFF

4 - FUEL TANK SELECTOR ................................. OFF

Before touch down :

5 - FLAPS ......................................................... LDG

6 - Crash lever ................................................. Pull down
AFTER ROTATION (CONT'D)

If HEIGHT allows to reach a favourable runway:

2 - LANDING GEAR lever ........................................ DN
3 - FLAPS .................................................. As required
   Maintain:

   | FLAPS UP   | IAS > 105 KIAS |
   | FLAPS TO   | IAS > 100 KIAS |
   | FLAPS LDG  | IAS > 85 KIAS  |

4 - THROTTLE ............................................... CUT OFF

5 - FUEL TANK SELECTOR ...................................... OFF
6 - Crash lever ................................................. Pull down
ENGINE FAILURE IN FLIGHT

**FLY THE AIRPLANE**

1. **Autopilot**  
   Disconnect

2. **FUEL TANK SELECTOR**  
   Switch tanks

3. **AUX BP switch**  
   Check / correct

If successful

   Check remaining fuel and land as soon as possible

If unsuccessful

1. **THROTTLE**  
   CUT OFF

2. **Oxygen mask**  
   Use

3. **Air start envelope**  
   Check  
   (refer to Chapter 3.4)
FLY THE AIRPLANE

1 - Land as soon as possible.
2 - Monitor the oil pressure.
3 - TRQ  Minimum necessary

If engine looses power

4 - THROTTLE CUT OFF
5 - Perform a forced landing.

CAUTION
DUE TO THE OIL PRESSURE DROP, THE PROPELLER BLADE ANGLE MAY GO TOWARDS HIGH PITCH AND THEREFORE LEADS TO A NP PROPELLER ROTATION SPEED DECREASE.
ENGINE REGULATION DISCREPANCY, POWER LOSS, THROTTLE CONTROL LOSS

If circumstances and obtained minimum power allow:

1. THROTTLE .......................................... Flight IDLE
2. Confirm engine still running
3. FUEL TANK SELECTOR ......................... Switch tanks
4. Check that no parameter exceeds allowed values
5. MAN OVRD control ............................. Actuate progressively to Minimum necessary

6. Continue flight, land as soon as possible.

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.

7. Perform a normal landing without reverse
8. Brakes .............................................. As required

CAUTION

IN MANUAL OVERRIDE MODE, 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 MAN OVRD 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.
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 > 840°C:
   INERT SEP switch ................................................. OFF

4 - LANDING GEAR lever ............................................. DN

5 - FLAPS ................................................................. TO

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

7 - When runway is assured:
   FUEL TANK SELECTOR ........................................... OFF

8 - THROTTLE ........................................................... FEATHER
   If available and necessary to extend trajectory

9 - FLAPS ............................................................... LDG As required
   (at IAS < 122 KIAS)

10 - Land normally without reverse

11 - Brakes ......................................................... As required

GOVERNOR CONTROL NOT OPERATING

1 - Continue the flight.

2 - If Np < 1960 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.
EXCESSIVE PROPELLER ROTATION SPEED

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

2 - Land as soon as possible.

3 - Do not perform a go-around.

In that case, the go-around may damage the gear reduction box and the reverse efficiency might be lower than expected. The airplane repair is mandatory before any other flight.
ENGINE DOES NOT STOP ON GROUND

If the engine does not stop when the THROTTLE is set to CUT OFF:

1 - FUEL TANK SELECTOR ................................. OFF

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

3 - GENERATOR selector ............................ OFF

4 - SOURCE selector ................................. OFF

5 - Crash lever ........................................... Pull down

Inform maintenance department.
During engine start

1 - Starting procedure .......................... ABORT

2 - Cancel the flight, inform maintenance department.

After engine start

**In flight : FLY THE AIRPLANE**

1 - Reduce power to have ITT < 840°C

2 - Land as soon as possible

Inform maintenance department.

Indicates an oil chip detection.

1 - Land as soon as practical

**FLY THE AIRPLANE**

2 - Or do not take off .......................... airplane is grounded

3 - Inform maintenance department.
NG HI

Indicates Ng speed is more than 103 %.

1 - Reduce power to bring Ng below 103 %
With or without:

**RED WARNING CAS MESSAGE** [OIL PRESS ON]

Indicates that oil temperature is below 0°C or above 104°C

1 - Oil temperature indicator ........................................ Check

If the indicated temperature is in the green sector:

2 - Land as soon as possible

**FLY THE AIRPLANE**

3 - Monitor

If the indicated temperature is not in the green sector:

4 - Failure is confirmed, you can expect an oil pressure failure shortly.

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 looses power:

5 - **THROTTLE ................................. CUT OFF**

    Perform a **FORCED LANDING**
INTENTIONALLY LEFT BLANK
Air start may be attempted outside of the envelope. However, above 20000 ft or at lower speeds, ITT tends to increase during start and prudence is recommended.
## AIR START PROCEDURES

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When Ng around 13%:

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</table>

When Ng around 52%:

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Check starter is OFF automatically</td>
</tr>
<tr>
<td>14.</td>
<td>THROTTLE Flight IDLE</td>
</tr>
<tr>
<td>15.</td>
<td>THROTTLE As required</td>
</tr>
<tr>
<td>16.</td>
<td>Electrical equipment As required</td>
</tr>
<tr>
<td>17.</td>
<td>AUX BP switch AUTO</td>
</tr>
<tr>
<td>18.</td>
<td>BLEED switch As required</td>
</tr>
<tr>
<td>19.</td>
<td>If necessary, EMERGENCY DESCENT</td>
</tr>
<tr>
<td>20.</td>
<td>If AIR START not successful FORCED LANDING</td>
</tr>
</tbody>
</table>
## 3.5 - FIRE AND SMOKE

**ENGINE FIRE ON GROUND**

Symptoms: ITT increasing, ITT ON, smoke, ...

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>THROTTLE ............................... CUT OFF</td>
</tr>
<tr>
<td>2</td>
<td>BLEED switch ............................... OFF / RST</td>
</tr>
<tr>
<td>3</td>
<td>A/C switch ................................. OFF</td>
</tr>
</tbody>
</table>

4 - Brakes ........................................ As required

5 - FUEL TANK SELECTOR .............................. OFF

6 - Warn ground assistance, if necessary

7 - Crash lever ................................. Pull down

8 - Evacuate as soon as possible
CABIN FIRE ON GROUND

1 - THROTTLE ......................................................... CUT OFF

2 - Brakes ................................................................. As required
3 - Warn for ground assistance, if necessary
4 - Crash lever ........................................................... Pull down
5 - Cabin extinguisher .................................................. As required
6 - Evacuate as soon as possible
ENGINE FIRE IN FLIGHT

Symptoms: ITT increasing, ITT ON, smoke, ...

CAUTION

NO AIR START ATTEMPT AFTER AN ENGINE FIRE

FLY THE AIRPLANE

1 - THROTTLE ................................................. CUT OFF
2 - AUX BP switch .............................................. OFF
3 - FUEL TANK SELECTOR ................................. OFF
4 - Oxygen mask ............................................... Use

5 - BLEED switch ................................................. OFF / RST
6 - A/C switch ..................................................... OFF
7 - If necessary, .............................................. EMERGENCY DESCENT
8 - Perform ...................................................... FORCED LANDING
CABIN ELECTRICAL FIRE OR SMOKE DURING FLIGHT

**FLY THE AIRPLANE**

1. Oxygen mask and goggles ........................................ Use

   If the origin is known:
   
   2. Defective equipment breaker ...................................... Pull
   
   3. Extinguisher .............................................................. Use

   If the origin is unknown:
   
   2. A/C switch ................................................................. OFF
   
   3. All unnecessary equipment .......................................... OFF
   
   4. Perform ................................................................. EMERGENCY DESCENT
   
   5. If necessary ......................................................... SMOKE ELIMINATION
   
   6. Land as soon as possible
SMOKE ELIMINATION

1 - Oxygen mask and goggles ................................. Use

2 - BLEED switch .................................................. OFF / RST

3 - A/C switch ....................................................... OFF

4 - DUMP switch .................................................. Actuate

5 - Wait until the differential pressure drops

6 - EMERGENCY RAM AIR ................................. Pull

7 - If smoke increases ................................. Push

8 - Land as soon as possible
3.6 - EMERGENCY DESCENTS

EMERGENCY DESCENTS PROFILES

No wind - Smooth atmosphere

Altitude (feet)

30000
25000
20000
15000
10000
5000

Ground distances (Nautical miles)

0 10 20 30 40 50 60 70

Max. Rate Descent

V_{MO}

Max Range Descent

IAS = 120 KIAS
### MAXIMUM RATE DESCENT

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>THROTTLE</td>
</tr>
<tr>
<td>2</td>
<td>Oxygen mask</td>
</tr>
<tr>
<td>3</td>
<td>Pitch attitude</td>
</tr>
</tbody>
</table>

**If smooth air:**
- 4 - FLAPS and LANDING GEAR lever | UP
- 5 - Speed | VMO = 266 KIAS

**If rough air or in case of structure problem:**
- 4 - Speed | Below 178 KIAS
- 5 - FLAPS | UP
- 6 - LANDING GEAR lever | DN
### MAXIMUM RANGE DESCENT

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oxygen mask</td>
</tr>
<tr>
<td>2</td>
<td>THROTTLE</td>
</tr>
<tr>
<td>3</td>
<td>FLAPS and LANDING GEAR lever</td>
</tr>
<tr>
<td>4</td>
<td>Speed</td>
</tr>
<tr>
<td>5</td>
<td>DUMP switch</td>
</tr>
<tr>
<td>6</td>
<td>EMERGENCY RAM AIR</td>
</tr>
<tr>
<td>7</td>
<td>ESS BUS TIE switch</td>
</tr>
<tr>
<td>8</td>
<td>Prepare for FORCED LANDING</td>
</tr>
</tbody>
</table>

If VMC and non icing conditions are possible

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>All DE-ICE switches</td>
</tr>
<tr>
<td>10</td>
<td>All light switches</td>
</tr>
<tr>
<td>11</td>
<td>BLEED switch</td>
</tr>
<tr>
<td>12</td>
<td>A/C switch</td>
</tr>
<tr>
<td>13</td>
<td>AUX BP switch</td>
</tr>
<tr>
<td>14</td>
<td>FUEL SEL switch</td>
</tr>
<tr>
<td>15</td>
<td>AP / TRIMS switch</td>
</tr>
<tr>
<td>16</td>
<td>PFD 2 breaker</td>
</tr>
<tr>
<td>17</td>
<td>ADC 2 breaker</td>
</tr>
<tr>
<td>18</td>
<td>XPDR 2 breaker</td>
</tr>
</tbody>
</table>
If icing conditions:

1. PITOT L HTR switch .......................... ON
2. WINDSHIELD switch .......................... ON
3. Speed .......................... Above 135 KIAS

If time permits:

1. PLUGS breakers .......................... Pull
2. AIR COND breaker .......................... Pull

17. Prepare for ........................ FORCED LANDING
3.7 - EMERGENCY LANDINGS, FLAPS, GEAR

FORCED LANDINGS

1 - THROTTLE ........................................... CUT OFF
2 - FUEL TANK SELECTOR ................................. OFF
3 - AUX BP switch ........................................... OFF
4 - BLEED switch ........................................... OFF / RST
5 - A/C switch ............................................. OFF
6 - DUMP switch ........................................... Actuate
7 - Maintain 120 KIAS of gliding speed until favourable ground approach

If ground allows it:
1. ESS BUS TIE switch ................................. NORM
   (to have GEAR and FLAPS available)
2. LANDING GEAR lever ............................... DN

If night conditions:
1. LIGHTS ............................................ LDG

If ground does not allow it:
1. LANDING GEAR lever ......................... Keep UP
2. FLAPS ............................................ LDG
   (when chosen ground is assured)

8 - Crash lever ......................................... Pull down
9 - Speed on final approach ......................... 85 KIAS
10 - Land flaring out
11 - Evacuate after stop
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
FLAPS MALFUNCTION

In case of blockage of flaps or inoperant flap control lever between UP and TO positions, with no flaps warning CAS message:

1. FLAPS breaker ................................................ Pull
   2. FLAPS lever ................................................ UP

3. Land as soon as possible 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 LANDING WITH FLAPS MALFUNCTION.
LANDING WITH FLAPS MALFUNCTION

For flaps deflections between UP and TO:
Proceed as for a normal landing with 105 KIAS of approach speed.
Provide for a landing distance increased by 60%.

For flaps deflections greater than TO:
Proceed as for a normal landing with 100 KIAS of approach speed.
Provide for a landing distance increased by 50%.
LANDING GEAR RETRACTION DISCREPANCY

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

GEAR UNSAFE CAS message and GEAR UNSAFE red warning light ON or amber light flashing and 3 green lights OFF.

1 - Maintain IAS below 150 KIAS.

2 - LDG GEAR breaker ........................................ Pull

3 - If GEAR UNSAFE CAS message and GEAR UNSAFE red warning light are OFF:
   1. The flight may be continued without any restriction.

4 - If not:
   1. LDG GEAR breaker ................................. Push

5 - Refer to EMERGENCY GEAR EXTENSION.
LANDING GEAR EXTENSION DISCREPANCY

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

**GEAR UNSAFE** CAS message and GEAR UNSAFE red warning light ON or amber light flashing and 3 green lights OFF.

1. Maintain IAS below 150 KIAS.

2. Refer to EMERGENCY GEAR EXTENSION.
## EMERGENCY GEAR EXTENSION

**Note:** This procedure has to be followed in case of any doubt about the gear extension.

<table>
<thead>
<tr>
<th>Step</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LANDING GEAR lever .......................... DN</td>
</tr>
<tr>
<td>2</td>
<td>LDG GEAR breaker ............................. Pull</td>
</tr>
<tr>
<td>3</td>
<td>Floor hatch ................................. Open</td>
</tr>
<tr>
<td>4</td>
<td>By-pass selector ............................. Fully pull / locked</td>
</tr>
</tbody>
</table>

**CAUTION**

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

**CAUTION**

CLIMB PERFORMANCE WILL BE DEGRADED BY 50%.

**CAUTION**

CRUISE IAS SPEED WILL BE REDUCED COMPARED TO A CLEAN AIRPLANE, BECAUSE OF THE DRAG. THIS SHOULD BE TAKEN INTO ACCOUNT WHEN CALCULATING THE AIRPLANE RANGE.

Maintain IAS below 150 KIAS

5 - Hand pump .......................... Actuate with maximum amplitude

Press the CAS MASTER WARNING push-button to reset the GEAR UNSAFE CAS message.

If GEAR UNSAFE red warning light is not illuminated and 3 green lights are illuminated:

Continue flight if necessary below 178 KIAS, exit and/or remain outside icing conditions.
LANDING WITH UNLOCKED MAIN LANDING GEAR

1 - Ask Air Traffic Control 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 switch ........................................... OFF / RST
3 - DUMP switch .......................................... Actuate
4 - Maintain FUEL TANK SELECTOR on defective landing gear side to lighten corresponding wing [maximum fuel imbalance 15 USG (57 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 - Do a normal approach at 90 KIAS, FLAPS on LDG
8 - Land and set nose gear immediately on ground to assure lateral control
9 - Use full aileron during roll-out to lift the wing with the defective landing gear
10 - Preferably do not use reverse
11 - Complete taxing with a slight turn toward defective landing gear
12 - THROTTLE ................................................ CUT OFF
13 - Engine stop procedure ................................. Complete
14 - Evacuate

If landing gear drags during landing:

15 - THROTTLE ................................................ CUT OFF
16 - Crash lever ............................................. Pull down
17 - FUEL TANK SELECTOR .............................. OFF
18 - Evacuate after airplane comes to a stop
LANDING WITH DEFECTIVE NOSE LANDING GEAR
(DOWN UNLOCKED OR NOT DOWN)

1 - Transfer passengers to the rear, if necessary
2 - Approach .................................................. FLAPS LDG

IAS = 90 KIAS

3 - Land with nose-up attitude, keep nose high
4 - THROTTLE .................................................. CUT OFF
5 - Touch-down slowly with nose wheel and keep elevator at nose-up stop
6 - Moderate braking
7 - Crash lever ................................................. Pull down
8 - Evacuate after airplane comes to a stop
LANDING WITH GEAR UP

1. Final approach .............................................. Standard
2. FLAPS .......................................................... LDG

IAS = 85 KIAS

3. BLEED switch ................................................. OFF / RST
4. DUMP switch .................................................. Actuate

When runway is assured:

5. THROTTLE ..................................................... CUT OFF
6. FUEL TANK SELECTOR ................................. OFF
7. Flare out
8. After touch-down, crash lever ......................... Pull down
9. Evacuate after airplane comes to a stop
DITCHING

1 - LANDING GEAR lever ............................. 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 ≥ 85 KIAS

5 - BLEED switch ...................................... OFF / RST

6 - DUMP switch ...................................... Actuate

7 - Crash lever ....................................... Pull down

8 - Maintain attitude without rounding off until touch-down

9 - Evacuate through EMERGENCY EXIT
LANDING WITHOUT ELEVATOR CONTROL

1 - Configuration .............. LANDNG GEAR lever DN - FLAPS LDG
2 - Airspeed .......................... Maintain IAS = 95 KIAS
3 - Power as necessary to maintain airspeed according to an easy approach slope
   = 300 ft / min
4 - Adjust elevator by using manual pitch trim wheel
5 - When ground approaches, decrease slope progressively
6 - Reduce power progressively
Indicates a dissymmetry of flap deflection. This immediately stops the flap motor and prevents further operation of the flaps.

1 - FLAPS breaker ................................................... Pull

2 - FLAPS lever ....................................................... UP

3 - Land as soon as possible 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 LANDING WITH FLAPS MALFUNCTION.
3.8 - FUEL SYSTEM

FUEL PRESS

Indicates a fuel pressure drop at HP engine pump inlet

FLY THE AIRPLANE

1 - Remaining fuel ........................................... Check
2 - FUEL TANK SELECTOR .............................. Switch tanks
3 - AUX BP switch ........................................... AUTO

If FUEL PRESS remains ON

4 - AUX BP switch ........................................... ON

Check message AUX BOOST PMP ON ON

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

5 - Maintain AUX BP switch ............................... ON

LAND AS SOON AS PRACTICAL

If FUEL PRESS remains ON

6 - FUEL TANK SELECTOR .............................. Switch tanks

FUEL PRESS is OFF, a supply problem may have occurred from the tank selected first (air vent, fuel icing, etc ...).

If FUEL PRESS remains ON

7 - Full TANK .................................................... Select
8 - Avoid high power and rapid movements of the THROTTLE.
9 - Descend to an altitude below 18000 ft.
10 - Land as soon as possible.

FLY THE AIRPLANE
**AUX BOOST PMP ON**

Indication is normal if AUX BP switch is in ON position

**FLY THE AIRPLANE**

If AUX BP switch is in AUTO position:

1. Reset to ................................................. ON
2. Then to ............................................... AUTO

If **AUX BOOST PMP ON** goes OFF:

continue the flight normally

If **AUX BOOST PMP ON** remains ON, mechanical booster pump has failed

3. AUX BP switch ........................................ ON
4. Land as soon as possible
FUEL LOW L-R

Indicates a 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 tank manually ............................. As required

FLY THE AIRPLANE

CHECK MINIMUM FUEL

TAKE DECISION, land as soon as practical if necessary
AUTO SEL

Indicates that there is no more automatic control mode running.

**FLY THE AIRPLANE**

1 - FUEL SEL switch .................................................. AUTO

If it is on AUTO, failure is confirmed

2 - FUEL SEL switch .................................................. MAN

3 - Select tanks manually as required

**CAUTION**

MAXIMUM IMBALANCE IS 15 USG
FUEL IMBALANCE

Indicates fuel tanks imbalanced by more than 15 USG for more than 30 seconds.

If FUEL SEL on AUTO mode
   Select the fullest tank ........................................ by pressing the
   SHIFT push-button

If FUEL SEL on MAN mode
   Select the fullest tank ....................................... by shifting the tank
   selector manually

FLY THE AIRPLANE

Manage the fuel by selecting the fullest tank until fuel imbalance is below 15 USG.
LOW LVL FAIL L-R

FUEL LOW LEVEL SENSOR FAILURE

Check .............................................. Fuel remaining in tanks

TAKE DECISION

If any doubt ...................................... Land as soon as practical

FLY THE AIRPLANE

On the ground ................................. Inform maintenance department
3.9 - ELECTRICAL SYSTEM

**BAT OFF**

Indicates that:

- the SOURCE selector has been positioned on OFF or
- the battery plug is disconnected

**FLY THE AIRPLANE**

1 - SOURCE selector .............................................. OFF
2 - SOURCE selector .............................................. BATT
3 - If warning persists ............................... Land as soon as possible

4 - Monitor airplane mains voltage
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 ................. Press

In case of failure

**FLY THE AIRPLANE**

4 - Keep the following systems connected:
   - Autopilot system
   - Deicing systems except right windshield
   - STROBE and NAV lights
   - Cockpit emergency lights
   - VHF 1
   - NAV/GPS 1
   - BLEED
   - LDG 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 (RESET if necessary) .............. ST-BY

Maintain ST-BY loads below 100 A
LOW VOLTAGE

normal functioning on MAIN GEN

1. Voltmeter voltages ................................................................. Check

2. If voltages are < 26 Volts, monitor a possible drop or any indication of battery discharge

In that case :

FLY THE AIRPLANE

3. Keep the following systems connected:
   - Autopilot system
   - Deicing systems except right windshield
   - STROBE and NAV lights
   - Cockpit emergency lights
   - VHF 1
   - NAV/GPS 1
   - BLEED
   - LDG 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 (RESET if necessary) ......................... ST- BY

Maintain ST-BY loads below 100 A
With GENERATOR selector on **ST-BY**

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

1. GENERATOR selector ................................. MAIN
2. MAIN GENERATOR RESET push-button ................. Press

**FLY THE AIRPLANE**

If successful :
3. Disconnect ancillary electrical systems not essential
4. Monitor voltmeter and ammeter

Prepare to land as soon as possible

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 land as soon as possible

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

9. GENERATOR selector ................................. OFF

If conditions allow : VMC and non icing conditions

10. If altitude ≥ 10000 ft : OXYGEN switch ............... ON
11. ESS BUS TIE switch ............................... Cover up, then EMER position

In this configuration, only both ESS BUS bars and BUS BATT bar are directly supplied by the battery
12 - Land as soon as possible

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

- ESS BUS TIE switch ............... NORM

If conditions do not allow:

13 - Manually disconnect ancillary systems as follows:

- AIRFRAME DE ICE switch ......................... OFF
- ICE LIGHT switch ................................. OFF
- PROP DE ICE switch .............................. OFF
- WINDSHIELD switch ............................. OFF
- PITOT R & STALL HTR switch ................. OFF
- OFF/LDG/TAXI light PULSE switches ........... OFF
- STROBE switch ................................. OFF
- BLEED switch ................................. OFF / RST
- A/C switch ................................ OFF
- AUX BP switch ................................. OFF
- FUEL SEL switch .............................. MAN
- AP / TRIMS switch ............................. OFF
- PFD 2 breaker ................................. Pull
- ADC 2 breaker ................................. Pull
- TAS breaker ................................. Pull
- DATA LINK breaker ............................ Pull
- DIMMER / CABIN / ACCESS controls ....... OFF
- XPDR 2 breaker ................................. Pull
If icing conditions:

- PITOT L HTR switch ................................. Check ON
- WINDSHIELD switch ................................. ON
- Maintain minimum recommended speeds into known icing conditions.

| FLAPS UP | 135 KIAS |
| FLAPS TO | 110 KIAS |
| FLAPS LDG | 90 KIAS |

If time permits:

- PLUGS breakers ........................................ Pull
- AIR COND breaker ........................................ Pull

14 - Land as soon as possible
ELEC FEATH FAULT

Indicates a propeller feathering system malfunction

FLY THE AIRPLANE

1 - FEATHER breaker .................................................. Pull
2 - Land as soon as possible
BUS BAR

BUS 1

AP CTRL
PFD 2
CDM 2
GPS/NAV 2
ADC 2
XPIR 2 (if installed)
AIRFRAME DE ICE
INERT DE ICE
R WS DE ICE
PITOT L

AUDIO 2
AHRS 2
STORM (if installed)
STROBE LIGHT
AP SERVOS
FLAPS
AIL TRIM
RUD TRIM
STICK SHAKER

BUS 2

PROP DE ICE
ICE LIGHT
FLAPS SIG
CAB BLEED
AIR COND
CABIN DOORS
NAV RECOG LIGHT
MFD
CAB/N

PANEL LIGHT
TAS (if installed)
WXR
FLUGS (28VDC)
FLUGS (USB)
DATA LINK (if installed)
LDG CONT
SATCOM (if installed)
SATCOM HEATER (if installed)
LDG GEAR

BUS 3

OXYSGEN PRESS
L WS DE ICE
PITOT R & STALL
Aca
RADIO ALTI (if installed)
DME (if installed)
FUEL SEL

AUX BP
ACF (if installed)
TAXI LIGHT
LH LDG LIGHT
RH LDG LIGHT
PULSE SYST (if installed)

Figure 3.9 (1/3) - Electrical distribution of bus bars
Figure 3.9 (2/3) - Electrical distribution of bus bars

NOTE: CIRCUIT BREAKERS ON C13 BIS FRAME
Figure 3.9 (3/3) - Electrical distribution of bus bars
TOTAL LOSS OF ELECTRICAL POWER

1 - Maintain airplane control.
2 - Use the MD 302 for attitude, airspeed and/or altitude

FLY THE AIRPLANE

3 - Land as soon as possible.

Note: Aircraft power is provided to the MD 302 display for normal operation. Operation of the basic MD 302 system is automatic - the system is powered ON while airplane power is ON. The internal battery will provide power to the MD 302 if airplane power is lost.
3.10 - PRESSURIZATION AND AIR CONDITIONING

Possibly due to:
- system malfunction
- BLEED switch on OFF / RST position

1 - Oxygen masks ................................. Use
2 - Check BLEED switch position ..................... AUTO correct if necessary
3 - If possible, reduce power

FLY THE AIRPLANE

4 - BLEED switch ................................. OFF / RST
5 - BLEED switch ................................. AUTO

6 - If warning PRESSU OFF still displayed :

7 - If necessary, ................................. EMERGENCY DESCENT

8 - Continue flight

NOTE: If Zp ≥ 10000 ft ± 500 ft, it may be followed by CABIN ALTITUDE and USE OXYGEN MASK
GAS EVENT

Indicates a GASC system malfunction (only displayed 45 sec. after landing)

1. Taxi back to the apron.
2. Normal engine shut-down
3. Inform maintenance department before next flight
Indicates a GASC system malfunction

1 - Shorten the flight

2 - Inform maintenance department before next flight
PRESSU BACKUP

Indicates a GASC system malfunction. The GASC cannot compute optimal cabin altitude and is automatically set to 9800 ft default value as cabin altitude reference.

FLY THE AIRPLANE

1 - Continue flight

2 - Inform maintenance department before next flight
CABIN ALTITUDE AND USE OXYGEN MASK

NOTE: CABIN ALTITUDE warning CAS message is followed by amber CAS message and 3 voice messages “USE OXYGEN MASK / USE OXYGEN MASK”.

Indicates a cabin altitude over 10000 ft ± 500 ft.

1 - Pressurization indicator Check

If cabin altitude > 10000 ft:

2 - Oxygen masks Use

FLY THE AIRPLANE

3 - BLEED switch Check AUTO

4 - DUMP switch Check NORM / guarded

5 - EMERGENCY RAM AIR Check pushed

6 - If necessary EMERGENCY DESCENT

CABIN ALTITUDE AND USE OXYGEN MASK AND EDM

NOTE: CABIN ALTITUDE warning CAS message is followed by amber CAS message and 3 voice messages “USE OXYGEN MASK / USE OXYGEN MASK”.

Indicates a cabin altitude over 10000 ft ± 500 ft.

1 - Pressurization indicator Check

If cabin altitude > 10000 ft:

2 - Oxygen masks Use
3 - BLEED switch .............................................. Check AUTO
4 - DUMP switch ................................. Check NORM / guarded
5 - EMERGENCY RAM AIR ................................. Check pushed
6 - If necessary .................................... EMERGENCY DESCENT

NOTE:
- EDM makes a 90° left heading change and descent to 15000 ft.
- EDM override is possible by pressing twice the AP/TRIMS switch and other AP modes are usable.
- Power reduction to speed up the descent is recommended.
CABIN DIFF PRESS

Indicates a cabin pressure differential over 6.4 PSI ± 0.2 PSI.

1 - Pressurization indicator

If ∆P > 6.4 PSI ± 0.2 PSI:

2 - BLEED switch

3 - Oxygen masks

FLY THE AIRPLANE

4 - If necessary

EMERGENCY DESCENT
CABIN NOT DEPRESSURIZED AFTER LANDING

$\Delta P$ cabin remains > 0

1. DUMP switch ................................................. Actuate
2. BLEED switch .................................................. OFF / RST
3. EMERGENCY RAM AIR ................................. Pull if necessary
4. Wait for complete cabin depressurization before opening the door
O2 CYL CLOSED

Indicates that the oxygen cylinder isolation valve is closed.

1 - Oxygen cylinder .................................................. Open

CAUTION

FLIGHT IS PROHIBITED WITH OXYGEN CYLINDER CLOSED.
Indicates that one of the door latches of the access door or (if installed) of the pilot door is not 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
- DO NOT TAKE OFF if warning CAS message **DOOR** is ON

In flight:

**FLY THE AIRPLANE**

1 - START a SLOW DESCENT
2 - Decrease cabin pressure differential by selecting a higher cabin altitude and maximum cabin rate

If a real failure of one of the doors is noted:

3 - Oxygen masks Use
4 - BLEED switch OFF / RST
5 - DUMP switch Actuate
6 - If necessary EMERGENCY DESCENT
VACUUM LOW

Low vacuum may lead to malfunctioning of LEADING EDGE DEICING and PRESSURIZATION

MONITOR

If necessary, fly to an altitude ≤ 10000 ft and return to VMC conditions as soon as possible.

FLY THE AIRPLANE

1. BLEED switch ............................................. OFF / RST
DEFOG MALFUNCTION

If moisture starts to quickly cover the inside of the windscreen with the HOT AIR FLOW distributor already turned to the left :

1 - HOT AIR FLOW distributor ......................... Set to around a 10 o’clock position

If moisture continues :

2 - HOT AIR FLOW distributor ....................... Turn to the left
3 - WINDSHIELD switch ............................... ON

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

4 - Altitude .............................................. ± 10000 ft
5 - BLEED switch ................................. OFF / RST

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 airplane VSI and altimeter.
3.11 - 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
SECTION 3
EMERGENCY PROCEDURES
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PILOT'S OPERATING HANDBOOK

PROP DEICE FAIL

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

1 - Reduce power

FLY THE AIRPLANE

2 - Actuate THROTTLE .................................................. to vary RPM within operating range

3 - Leave icing conditions .............................................. as soon as possible
INERT SEP FAIL

Symptoms:

- Advisory message **INERT SEP ON** does not appear within 50 seconds following INERT SEP switch setting **ON**

- Inertial separator not retracted after 50 seconds following INERT SEP switch setting **OFF**.

- Breaker INERT DE ICE triggered.

1 - **Leave icing conditions** .................. as soon as possible

**FLY THE AIRPLANE**
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 overheating. In that case :

1 - WINDSHIELD switch ............................................ OFF / ON when necessary

In case of total failure :

1 - TEMP selector .................................................. Maxi warm
2 - HOT AIR FLOW distributor ................................. Turn to the left

Before landing wait for a sufficient visibility
WINDSHIELD MISTING OR INTERNAL ICING

Symptoms: Mist or ice on windshield internal face

1. TEMP selector  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Set to 12 o'clock position
2. HOT AIR FLOW distributor  . . . . . . . . . . . . . . . . . . . . . . . . . . Turn to the left
3. WINDSHIELD switch  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ON

If not successful, to gain sufficient visibility:

4. HOT AIR FLOW distributor  . . . . . . . . . . . . . . . . . . . . . . . . . . Fully turn to the left
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. For landing with FLAPS LDG, maintain:

IAS ≥ 95 KIAS

CAUTION

IN CASE OF SIDESLIP APPROACH WITH PEDAL ON THE RIGHT DURING A LONG PERIOD, SELECT R.H. FUEL TANK
Indicates a heating failure of the corresponding probe.

**PITOT NO HT L-R**

Icing conditions may alter L.H. airspeed indications

1 - Avoid icing conditions

**FLY THE AIRPLANE**

If it is not possible:

2 - Perform moderate descent or climb attitudes

\[ V_{MO} \text{ overshoot and stall warning system are always operating} \]

**PITOT NO HT R**

\[ V_{MO} \text{ overshoot warning may be altered by icing conditions} \]

**FLY THE AIRPLANE**

Monitor maximum airspeed \[ \leq 266 \text{ KIAS} \]
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.

**FLY THE AIRPLANE**
### 3.12 - MISCELLANEOUS

#### RUNAWAY OF TRIM

**FLY THE AIRPLANE**

1. **AP / TRIM DISC push-button** Press and hold.
   
   The three trim tabs are disconnected and runaway stops.

2. **AP / TRIMS switch** OFF.

3. **AP / TRIM DISC push-button** Release.

4. Pitch trim may be used manually.

5. Reduce airspeed if necessary to reduce control forces.

If pitch trim runaway:

6. **AP / TRIMS 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 breaker** corresponding to the defective trim.

8. **AP / TRIMS switch** ON.

   Two other trim tabs may be used again electrically.
CRACK IN COCKPIT WINDOW OR WINDOW PANEL

FLY THE AIRPLANE

1 - Descend slowly

2 - Reduce cabin $\Delta P$ ........................................ by setting Landing Field Elevation to 10000 ft
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 (ELT) USE

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 remote control switch ON (maintain it ON until aid arrives)
INADVERTENT SPINS

(Voluntary spins are prohibited)

1 - AP / TRIM DISC push-button ........ Press and hold until recovery
2 - Control wheel ....................... NEUTRAL : PITCH ROLL
3 - Rudder ............................... Fully opposed to the spin
4 - THROTTLE ............................. Flight IDLE
5 - FLAPS .............................................. UP

When rotation is stopped

6 - Level the wings and ease out of the dive
7 - Then :

FLY THE AIRPLANE
PILOT'S OPERATING HANDBOOK
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AP OFF, STALL WARNING

**NOTE**: Shaker will vibrate simultaneously with stall warning sound.

1 - Fly the airplane, wings level and nose down until stall warning stops

2 - Power as required

3 - Return to the desired flight path

**USP ACTIVE**

1 - Do not disconnect AP

2 - Increase power up to 50 % minimum

3 - Manage the flight

**NOTE**: Stall warning may be triggered but AP will remain ON
### AURAL WRN FAIL

Indicates no aural warning alerts

1. Maintain:

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<th>Condition</th>
<th>IAS Requirement</th>
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<td>FLAPS TO</td>
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<tr>
<td>FLAPS LDG</td>
<td>IAS &gt; 85 KIAS</td>
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**CAUTION**

- NO AURAL STALL WARNING
- NO AURAL OVERSPEED WARNING
- NO LANDING GEAR WARNING
Indicates one aural warning alerts channel not available

1. Both sides GMA’s SPKR button . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . Press
   SPKR led ON on available GMA(s)

2. Adjust volume to louder level.
Indicates pitch, roll, high speed and AoA protections are inoperative

**FLY THE AIRPLANE**

1 - Maintain the airplane inside the certified flight envelope

<table>
<thead>
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<th>Condition</th>
<th>IAS Range</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>IAS &gt; 105 KIAS</td>
<td>FLAPS TO</td>
</tr>
<tr>
<td>IAS &gt; 100 KIAS</td>
<td>FLAPS LDG</td>
</tr>
<tr>
<td>IAS &gt; 85 KIAS</td>
<td>FLAPS LDG</td>
</tr>
</tbody>
</table>

2 - Continue flight

3 - Inform maintenance department
ESP DEGRADE - IAS

Indicates high speed protection is inoperative

**FLY THE AIRPLANE**

1 - Maintain IAS below 266 KIAS

2 - Continue flight

3 - Inform maintenance department
ESP DEGRADE - AOA

Indicates AoA protection at low speed is inoperative

**FLY THE AIRPLANE**

1 - Maintain airspeed above 1.3 Vs

- FLAPS UP .................................................. 105 KIAS
- FLAPS TO ................................................. 100 KIAS
- FLAPS LDG ............................................... 85 KIAS

2 - Continue flight

3 - Inform maintenance department
**OXYGEN USE**

**NOTE**: With or without amber CAS message

**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...)

Front seats

1 - Take a mask on the opposite seat side (pilot : R.H. side; R.H. Front passenger : L.H. side) ; draw it out of the stowage cup and uncoil tube totally. Press on the red side vanes to inflate the harness. Put the mask on the face.

2 - No smokes :
   3-position selector .................................. NORMAL (100 % as required)

3 - In case of smokes :
   3-position selector .................................. EMERGENCY
   Don the smoke goggles onto the face

4 - PASSENGER OXYGEN switch ......................... DEPLOY

5 - Check the oxygen flow indicator for the front seats (the blinker is transparent) and for the rear passengers (the blinker is green).

6 - MICRO/MASK switch ................................. MASK

7 - Perform an emergency descent to the enroute minimum altitude and, if possible, below 10000 ft.

Passengers

1 - Take a mask.

2 - Uncoil tube totally.

3 - Pull on the lanyard cord to take out the lanyard pin.

4 - Put the mask on the face.
AIRSPEED INDICATING SYSTEM FAILURE

Symptoms: erroneous indication in flight

1. PITOT L HTR switch .................................................. Check ON
2. PITOT R & STALL HTR switch ................................. Check ON

If symptoms persist:

3. ALTERNATE STATIC SOURCE ................................. Pull thoroughly

If symptoms persist, as well as on the MD302 standby attitude module of the L.H instrument panel, carry out a precautionary approach maintaining an adequate speed.
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.
CARGO DOOR

FORWARD BAGGAGE DOOR OPEN

1 - On the ground ............................................................ Correct

2 - In the air

FLY THE AIRPLANE

• Reduce to minimum speed available

• Land as soon as practical
GPU DOOR OPEN

1 - On the ground                      Correct

2 - In the air

FLY THE AIRPLANE

- Reduce to minimum speed available
- Land as soon as practical
IGNITION EXCITER IS RUNNING

1 - IGNITION .......................... Check switch position

If weather permits

2 - IGNITION ................................ AUTO

FLY THE AIRPLANE

IGNITION switch may be left ON for a long period.
AP ON YD OFF

Indicates the autopilot is ON while yaw damper is OFF

1. Check Yaw Damper status . . . . . . . . . . . . . . . . . . . . Correct if necessary
AUTOPilot OR ELECTRIC PITCH TRIM MALFUNCTION

1 - AP / TRIM DISC push-button .......................... Press and hold

2 - AP / TRIMS switch ................................. OFF

3 - AP / TRIM DISC push-button ......................... Release

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.
DUAL GPS/SBAS FAILURE (AMBER DR OR LOI) ON HSI

LOSS OF GPS/SBAS NAVIGATION DATA

When both GPS/SBAS receivers are inoperative or GPS navigation information is not available or invalid, the G1000 system will enter one of two modes: Dead Reckoning mode (DR) or Loss Of Integrity mode (LOI). The mode is indicated on the HSI by an amber DR or LOI.

Which mode is active depends on the distance from the destination airport in the active flight plan.

If the LOI annunciation is displayed, revert to an alternate means of navigation appropriate to the route and phase of flight.

In Dead Reckoning mode, the MAP – NAVIGATION MAP will continue to be displayed with a ghosted airplane icon in the center and an amber ‘DR’ overwriting the icon. Airplane position will be based upon the last valid GPS position, then estimated by Dead Reckoning methods. Changes in true airspeed, altitude, or winds aloft can affect the estimated position substantially. Dead Reckoning is only available in Enroute mode; Terminal and Approach modes do not support DR. Course deviation information will be displayed as an amber CDI on both PFDs and will remain for up to 20 minutes after GPS position data has been lost. The autopilot and/or flight director may be coupled in GPS mode while the system is in Dead Reckoning mode.

Refer to the G1000 Cockpit Reference Guide for further information.

Revert to an alternate means of navigation appropriate to the route and phase of flight.

If Alternate Navigation Sources (ILS, LOC, VOR, DME, ADF) are available:

1. Navigation ........................................ USE ALTERNATE SOURCES
If no Alternate Navigation Sources are available:

Dead Reckoning (DR) Mode - Active when the airplane is greater than 30 NM from the destination airport:

1. Navigation

- Use the airplane symbol, magenta course line on the map display and the amber CDI for course information.

Note:
- All information normally derived from GPS turns amber. All of this information will become less accurate over time.
- TAWS is inoperative.
- DR mode uses heading, true airspeed, last known wind data, and the last known GPS position to estimate the airplane’s current position. DR information will be available for a maximum of 20 minutes.
- MAP – TRAFFIC MAP display is not dependent on GPS information. The position of displayed traffic relative to the airplane symbol on the map is still accurate.

Loss Of Integrity (LOI) Mode - Active when the airplane is within 30 NM or departure airport (as calculated from the previous GPS or DR position)

1. Navigation

- Fly towards known visual conditions, use ATC or other information sources as possible.

Note:
- All information derived from GPS or DR will be removed from the displays.
- TAWS is inoperative.
- The airplane symbol is removed from all maps. The map will remain centered at the last known position. NO GPS POSITION will be annunciated in the center of the map.
GPS APPROACH ALARM LIMITS EXCEEDED

During a GPS LPV, LNAV/VNAV, or LNAV+V approach, if the Horizontal or Vertical alarm limits are exceeded, the G1000 System will downgrade the approach. This will be annunciated in the ALERTS window and by an annunciation change on the HSI from LPV, L/VNAV, or LNAV+V to LNAV. GPS glide path vertical guidance will be removed from the PFD.

The approach may be continued using the LNAV only minimums.

During any GPS approach in which both precision and non-precision alarm limits are exceeded, the G1000 System will flag the lateral guidance and display a CAS message **ABORT APR** (loss of GPS navigation).

Immediately upon viewing the message, the unit will revert to Terminal navigation mode alarm limits. If the position integrity is within these limits, lateral guidance will be restored and the GPS may be used to execute the missed approach, otherwise alternate means of navigation must be utilized.
ABORT APR

Indicates a loss of GPS navigation

Perform a GO AROUND
APR DWNGRADE

Indicates Vertical guidance generated by SBAS is unavailable.

If LNAV minimums available:

1. Approach ................................. Downgrade to LNAV

If unable:

Perform a GO AROUND

2. Inform maintenance department
LEFT PFD FAILURE

FLY THE AIRPLANE

AT TAKE OFF
1 - Fly the airplane manually  using Stand-by Instruments
2 - AP / TRIM DISC push-button  Press (to mute aural tone)

IN FLIGHT
1 - Fly the airplane manually  using Stand-by Instruments
2 - AP / TRIM DISC push-button  Press (to mute aural tone)
3 - DISPLAY BACKUP mode  Engaged on PFD2

NOTE : Pressurization switch to PRESSU BACKUP with CAS
4 - PFD 1 breaker  Check pushed
5 - XFR (on AFCS)  Press / to right side
6 - Autopilot  Normal use

Lost systems :
. COM 1, NAV 1, DME 1, XPDR 1
. Radio altimeter, TAS, ESP
7 - Land as soon as possible
8 - Use  COM 2, NAV 2, DME 2, XPDR 2

CAUTION
1 - IN CASE OF ILS APPROACH, DON'T FORGET TO SELECT LOC2 ON CDI SOURCE.
2 - USE OF REVERSIONARY MODE WILL REPORT LEFT PFD INFORMATION ON MFD AND DISABLE SUPPLEMENTARY FUNCTIONS AS STORMSCOPE,
AHRS FAILURE

Symptoms: Autopilot is disconnected

- On PFD(s): Comparator window
  - HDG and/or PIT and/or ROL annunciation(s)
- On PFD(s): Reversionary sensor window
  - BOTH ON AHRS1 or BOTH ON AHRS2 annunciation

Lost systems:

- AHRS1 or AHRS2
- AUTOPILOT (AP)
- ESP

Systems still operative:

- FLIGHT DIRECTOR (FD), when engaged again

Actions: AUTOPILOT IS NOT OPERATIVE

1. AHRS1 and/or AHRS2 breaker .......................... Check pushed
   A. If BOTH ON AHRS1 or BOTH ON AHRS2 annunciation
      is associated to
         - HDG and/or PIT and/or ROL annunciation(s)

1. Fly the airplane manually
   If pilot wishes:

2. FD (default mode: PITCH and ROLL) ............... Engaged

3. FD (specifics modes: HDG, NAV, ALT, ...) ........ Engaged as desired

4. Fly the airplane manually to follow Command Bars
If all annunciations go off, refer to following B procedure.

B - If ONLY

- BOTH ON AHRS1 or BOTH ON AHRS2 annunciation
  - not associated to HDG and/or PIT and/or ROL annunciation(s)

1 - PFD1 and PFD2 SENSOR softkey’s Press
2 - AHRS1 on PFD1 and/or AHRS2 on PFD2 Reset
3 - BOTH ON AHRS1 or BOTH ON AHRS2 annunciation – OFF Check
4 - Autopilot Normal use (as desired)
ADC FAILURE

Symptoms:
- On PFD(S): Comparator window
  - IAS and/or ALT annunciation(s)
- On PFD(S): Reversionary sensor window
  - BOTH ON ADC1 or BOTH ON ADC2 annunciation

Lost systems:
- ADC1 or ADC2

Actions: AUTOPILOT IS STILL OPERATIVE
1. ADC1 and/or ADC2 breaker 
   - Check pushed
     A. If BOTH ON ADC1 or BOTH ON ADC2 annunciation is associated to
        - IAS and/or ALT annunciation(s)
   1. NO action required
      If all annunciations go off, IAS and ALT refer to following B procedure.
B - If ONLY

**BOTH ON ADC1** or **BOTH ON ADC2** annunciation

not associated to

**IAS** and/or **ALT** annunciation(s)

1 - PFD1 and PFD2 SENSOR softkey's ................. Press

2 - ADC1 on PFD1 and/or ADC2 on PFD2 ............... Reset

3 - **BOTH ON ADC1** or **BOTH ON ADC2** annunciation – OFF

Check
MFD FAILURE

1 - PFD1 display back-up button                     Press

2 - MFD breaker                                   Check pushed

Lost systems:
- MFD
Indicates transponder # 1 [or transponder # 2] is inoperative.

**FLY THE AIRPLANE**

If transponder # 2 [or transponder # 1] is available:

1. Set transponder # 2 [or transponder # 1] as active
2. Continue flight
3. Inform maintenance department

If transponder # 2 [or transponder # 1] is unavailable:

1. Inform Air Traffic Control of the loss of the second XPDR
2. Leave controlled airspace
3. Continue flight
4. Inform maintenance department
Indicates ADS-B OUT function of transponder # 1 [or transponder # 2] is inoperative. Other functions may remain available.

**FLY THE AIRPLANE**

If transponder # 2 [or transponder # 1] is available:

1. Restore ADS-B OUT function by setting transponder # 2 [or transponder # 1] as active
2. Continue flight
3. Inform maintenance department

If transponder # 2 [or transponder # 1] is unavailable:

1. Inform Air Traffic Control
2. Leave ADS-B OUT airspace
3. Continue flight
4. Inform maintenance department
Indicates that GWX weather radar is inoperative.

**NOTE:** No real time weather data available

**FLY THE AIRPLANE**

1. GWX breaker Check pushed
2. Continue flight by using other weather data source, and adjust flight route.
3. Inform maintenance department
TCAS FAIL

Indicates that TCAS system is inoperative.

**FLY THE AIRPLANE**

Inform maintenance department
TRAFFIC FAIL

Indicates that Traffic Advisory System is inoperative.

**NOTE**: No real time traffic data available

**FLY THE AIRPLANE**

Inform maintenance department
### SECTION 4

**NORMAL PROCEDURES**

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4.4.49 LANDING
4.4.50 GO-AROUND WITH AP OFF
4.4.52 GO-AROUND WITH AP ON
4.4.53 TOUCH AND GO
4.4.55 RUNWAY CLEAR
4.4.56 SHUT-DOWN
4.4.56 OUTSIDE CHECK AFTER SHUT-DOWN

4.5 - PARTICULAR PROCEDURES

4.5.1 FLIGHT INTO KNOWN ICING CONDITIONS
4.5.5 FLIGHT INTO SEVERE ICING CONDITIONS
4.5.6 FLIGHT UNDER HEAVY PRECIPITATIONS
4.5.6 UTILIZATION ON RUNWAYS COVERED WITH WATER
4.5.7 UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPED SNOW
4.5.9 UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS
4.5.11 UTILIZATION BY COLD WEATHER (- 0°C TO - 25°C)
4.5.22 AND VERY COLD WEATHER (- 25°C TO - 40°C)
4.5.11 LANDING PROCEDURE WITH STRONG HEADWIND OR CROSSWIND
4.5.21 UTILIZATION ON GRASS RUNWAY
4.5.24 GPS NAVIGATION
4.1 - GENERAL

This Section provides procedures for the conduct of normal operation of TBM 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.
4.2 - AIRSPEEDS FOR NORMAL OPERATION

CONDITIONS:
- Takeoff weight ................................. 7394 lbs (3354 kg)
- Landing weight ............................... 7024 lbs (3186 kg)

1 - Rotation airspeed ($V_R$)
   - FLAPS TO .......................................... 90 KIAS

2 - Best rate of climb speed ($V_Y$)
   - LANDING GEAR UP, FLAPS UP .............. 124 KIAS

3 - Best angle of climb speed ($V_x$) ............. 100 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 ....................................... 150 KIAS

7 - Approach speed
   - FLAPS LDG ......................................... 85 KIAS

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

9 - Glide speed (maximum L / D ratio)
   - LANDING GEAR UP, FLAPS UP ............... 120 KIAS
SECTION 4
NORMAL PROCEDURES
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INTENTIONALLY LEFT BLANK
4.3 - CHECK-LIST PROCEDURES

Initial inside inspection and outside inspection performed

OXYGEN cylinder open

<table>
<thead>
<tr>
<th>INSIDE INSPECTION</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - Cabin door and Pilot door (if installed)</td>
<td>Closed / Locked</td>
</tr>
<tr>
<td>2 - Baggage</td>
<td>Stowed</td>
</tr>
<tr>
<td>3 - EMERGENCY EXIT Pin</td>
<td>Removed</td>
</tr>
<tr>
<td>4 - Seat, pedals, harness</td>
<td>Adjust / Lock</td>
</tr>
<tr>
<td>5 - PASSENGER OXYGEN</td>
<td>STBY</td>
</tr>
<tr>
<td>6 - OXYGEN</td>
<td>ON</td>
</tr>
<tr>
<td>7 - Crew oxygen masks</td>
<td>Test</td>
</tr>
<tr>
<td>8 - EXT LIGHTS</td>
<td>OFF</td>
</tr>
<tr>
<td>9 - INT LIGHTS</td>
<td>OFF</td>
</tr>
<tr>
<td>10 - Crash lever</td>
<td>Down</td>
</tr>
<tr>
<td>11 - STARTER</td>
<td>OFF</td>
</tr>
<tr>
<td>12 - IGNITION</td>
<td>AUTO</td>
</tr>
<tr>
<td>13 - AUX BP</td>
<td>OFF</td>
</tr>
<tr>
<td>14 - FUEL SEL</td>
<td>MAN</td>
</tr>
<tr>
<td>15 - AP / TRIMS</td>
<td>OFF</td>
</tr>
<tr>
<td>16 - A/C</td>
<td>OFF</td>
</tr>
<tr>
<td>17 - CB LIGHTS</td>
<td>OFF</td>
</tr>
<tr>
<td>18 - MICRO / MASK</td>
<td>MICRO / Guarded</td>
</tr>
</tbody>
</table>
19 - DE ICE SYSTEM ........................................... All OFF
20 - INERT SEP .................................................. OFF
21 - PARK BRAKE ................................................. Reset / ON
22 - LANDING GEAR lever ........................................ DN
23 - DUMP ...................................................... NORM / Guarded
24 - BLEED .......................................................... OFF / RST
25 - HOT AIR FLOW .............................................. Floor
26 - MAN OVRD .................................................... OFF
27 - THROTTLE .................................................. CUT OFF
28 - FUEL TANK SELECTOR ................................. Open / L or R
29 - ALTERNATE STATIC SOURCE ......................... Pushed
30 - EMERGENCY RAM AIR ................................. Pushed
31 - ESS. BUS TIE ............................................... NORM / Guarded
32 - Breakers .................................................. All in
33 - EMERGENCY LANDING GEAR lever ................. Check
<table>
<thead>
<tr>
<th></th>
<th>BEFORE STARTING ENGINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Crash lever</td>
</tr>
<tr>
<td>2</td>
<td>ATIS / Start clearance</td>
</tr>
<tr>
<td>3</td>
<td>SOURCE</td>
</tr>
<tr>
<td>4</td>
<td>GENERATOR</td>
</tr>
<tr>
<td>5</td>
<td>Audio alarms</td>
</tr>
<tr>
<td>6</td>
<td>DE ICE SYSTEM lights</td>
</tr>
<tr>
<td>7</td>
<td>LANDING GEAR LIGHTS / CHECK DOWN</td>
</tr>
<tr>
<td>8</td>
<td>MFD</td>
</tr>
<tr>
<td>9</td>
<td>Fuel on board</td>
</tr>
<tr>
<td>10</td>
<td>Residual ITT (motoring if ITT &gt; 150°C)</td>
</tr>
<tr>
<td>11</td>
<td>VOLTS : BATT &gt; 24.5 V / GPU &gt; 28 V</td>
</tr>
<tr>
<td>12</td>
<td>CAS</td>
</tr>
</tbody>
</table>
### MOTORING (if residual ITT > 150°C)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>IGNITION</td>
<td>OFF</td>
</tr>
<tr>
<td>2</td>
<td>AUX BP</td>
<td>ON</td>
</tr>
<tr>
<td>3</td>
<td>CAS msg [AUX BOOST PMP ON]</td>
<td>ON</td>
</tr>
<tr>
<td>4</td>
<td>Propeller area</td>
<td>Clear</td>
</tr>
<tr>
<td>5</td>
<td>STARTER</td>
<td>ON (2 sec then OFF) After 30 sec MAX ➤ STARTER ABORT ➤ then OFF</td>
</tr>
<tr>
<td>6</td>
<td>AUX BP</td>
<td>OFF</td>
</tr>
</tbody>
</table>
ENGINE START

1 - IGNITION ................................................. AUTO
2 - AUX BP ................................................. ON
3 - CAS msg [AUX BOOST PMP ON] .................. Check
4 - Propeller area ........................................ Clear
5 - STARTER ............................................... ON (2 sec then OFF)
6 - Ng 13% : ► THROTTLE ............................ LO-IDLE
   Monitor ITT                          Max 870° for 20 seconds / 1000° for 5 seconds
   Monitor NG                          30 % before 30 seconds / 50 % before 1 minute
   Monitor OIL                        Press. / Temp.
7 - Ng 52% (± 2%) : (1 minute max)
   ► OFF automatic STARTER .............. Check

CAUTION

AFTER ABORTED ENGINE START, WAIT :
1 MIN / 5 MIN / 30 MIN BEFORE 2ND / 3RD / 4TH NEW ENGINE START
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PILOT'S OPERATING HANDBOOK

AFTER ENGINE START WITH GPU

1 - SOURCE .................................................. BATT
2 - GPU .................................................. Disconnect
3 - CAS msg **GPU DOOR** .................. OFF

AFTER ENGINE START

1 - THROTTLE ........................................... LO-IDLE ➤ Flight IDLE
2 - Ng 70 % (± 2%) ................................. Check
3 - OIL PRESS / TEMP. ............................... Check
4 - AUX BP ............................................... AUTO
5 - FUEL SEL .................................. AUTO
6 - FUEL SEL SHIFT button .................... Test
7 - AP / TRIMS ...................................... ON
8 - GENERATOR (if BATT< 80 amps) .......... ST-BY / Test
9 - GENERATOR .................................. MAIN
10 - CAS ................................................. Check
11 - A/C ........................................... As required
12 - BLEED .................................. AUTO
13 - MODE ........................................ As required
### BEFORE TAXIING

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Stand-by instruments</td>
</tr>
<tr>
<td>2</td>
<td>DE ICE SYSTEM</td>
</tr>
<tr>
<td>3</td>
<td>INERT SEP</td>
</tr>
<tr>
<td>4</td>
<td>Flight Controls</td>
</tr>
<tr>
<td>5</td>
<td>TRIMS</td>
</tr>
<tr>
<td>6</td>
<td>FLAPS</td>
</tr>
<tr>
<td>7</td>
<td>MFD</td>
</tr>
<tr>
<td>8</td>
<td>THROTTLE</td>
</tr>
<tr>
<td>9</td>
<td>EIS</td>
</tr>
<tr>
<td>10</td>
<td>CAS</td>
</tr>
<tr>
<td>11</td>
<td>TAXI LIGHTS</td>
</tr>
</tbody>
</table>
### BEFORE LINE UP

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>LDG LIGHTS</td>
</tr>
<tr>
<td>2</td>
<td>NAV LIGHTS</td>
</tr>
<tr>
<td>3</td>
<td>STROBES</td>
</tr>
<tr>
<td>4</td>
<td>IGNITION (AUTO or ON)</td>
</tr>
<tr>
<td>5</td>
<td>AUX BP</td>
</tr>
<tr>
<td>6</td>
<td>FUEL SEL</td>
</tr>
<tr>
<td>7</td>
<td>DE ICE SYSTEM</td>
</tr>
<tr>
<td>8</td>
<td>PITOT L / PITOT R &amp; STALL HTR</td>
</tr>
<tr>
<td>9</td>
<td>INERT SEP</td>
</tr>
<tr>
<td>10</td>
<td>TRIMS</td>
</tr>
<tr>
<td>11</td>
<td>FLAPS</td>
</tr>
<tr>
<td>12</td>
<td>A/C</td>
</tr>
<tr>
<td>13</td>
<td>BLEED</td>
</tr>
<tr>
<td>14</td>
<td>LFE</td>
</tr>
<tr>
<td>15</td>
<td>FUEL gages (IMBALANCE)</td>
</tr>
<tr>
<td>16</td>
<td>BATT &lt; 50 amps</td>
</tr>
<tr>
<td>17</td>
<td>EIS</td>
</tr>
<tr>
<td>18</td>
<td>CAS</td>
</tr>
<tr>
<td>19</td>
<td>Altimeters Setting</td>
</tr>
<tr>
<td>20</td>
<td>Instruments departure setting</td>
</tr>
<tr>
<td></td>
<td>SID (PROC)</td>
</tr>
<tr>
<td></td>
<td>ALT SEL</td>
</tr>
<tr>
<td></td>
<td>XPDR Squawk</td>
</tr>
</tbody>
</table>
### TAKEOFF

1. ADI / HSI / Headings ........................................... Check
2. PROP RPM ......................................................... Green sector

**If normal takeoff**

3. Brakes ............................................................. Released
4. TRQ ................................................................. 100%

**If short takeoff**

3. TRQ ................................................................. 100%
4. Brakes ............................................................. Released

5. Rotation speed

**If normal takeoff** .................................................. Pitch up : 10°

**If short takeoff**  
- Weight < 6579 lbs (2984 kg) ...................................... Pitch up : 15°
- Weight ≥ 6579 lbs (2984 kg) .................................... Pitch up : 12.5°

6. Positive vertical speed ........ Brakes / LANDING GEAR .......... UP
7. IAS > 115 kts ................. FLAPS .............................. UP

![Diagram of VR (kt) vs Weight (lbs)](attachment)

![Diagram of VR (kt) vs Masso (kg)](attachment)
### AFTER TAKEOFF

1. LANDING GEAR lever .................................................. UP
2. FLAPS ................................................................. UP
3. TRQ max 100% .......................................................... Check
4. EIS ................................................................. Check
5. CAS ................................................................. Check
6. DE ICE SYSTEM .................................................. As required
7. INERT SEP ......................................................... As required
### CLIMB

1. **ALT SEL** ................................................. Check
2. **Altimeters Setting** ................................. As required
3. **Autopilot** ............................................. Check
4. **TRQ adjustment / ITT / Ng** ....................... Check
5. **EIS** .................................................. Check
6. **CAS** ................................................. Check
7. **WX RADAR** ......................................... As required
8. **Pressurization** ....................................... Check
9. **FUEL gages** .......................................... Check
10. **AMPS / VOLTS** ..................................... Check
11. **DE ICE SYSTEM** .................................... As required
12. **INERT SEP** .......................................... As required
13. **LDG LIGHTS** ....................................... As required
<table>
<thead>
<tr>
<th></th>
<th>CRUISE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Altimeters Setting</td>
</tr>
<tr>
<td>2</td>
<td>Autopilot</td>
</tr>
<tr>
<td>3</td>
<td>TRQ adjustment / ITT / Ng</td>
</tr>
<tr>
<td>4</td>
<td>EIS</td>
</tr>
<tr>
<td>5</td>
<td>CAS</td>
</tr>
<tr>
<td>6</td>
<td>Pressurization</td>
</tr>
<tr>
<td>7</td>
<td>FUEL gages</td>
</tr>
<tr>
<td>8</td>
<td>AMPS / VOLTS</td>
</tr>
<tr>
<td>9</td>
<td>DE ICE SYSTEM</td>
</tr>
<tr>
<td>10</td>
<td>INERT SEP</td>
</tr>
<tr>
<td>11</td>
<td>LDG LIGHTS</td>
</tr>
<tr>
<td>12</td>
<td>Top of descent</td>
</tr>
</tbody>
</table>
### BEFORE DESCENT

1. Briefing before approach ........................................... Completed
2. Altimeters Setting ......................................................... Check
3. Pressurization ............................................................... Check
4. LFE ............................................................................ Check
5. FUEL gages ................................................................. Check
6. AMPS / VOLTS ............................................................. Check
7. DE ICE SYSTEM .......................................................... As required
8. INERT SEP ................................................................. As required
<table>
<thead>
<tr>
<th></th>
<th>Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Altimeters Setting (QNH) ................................. Set / Check</td>
</tr>
<tr>
<td>2</td>
<td>Minimums ................................. Set / Check</td>
</tr>
<tr>
<td>3</td>
<td>COM / NAV / GPS ................................. Set / Check</td>
</tr>
<tr>
<td>4</td>
<td>Pressurization ................................. Check</td>
</tr>
<tr>
<td>5</td>
<td>LFE ....................................................... Check</td>
</tr>
<tr>
<td>6</td>
<td>FUEL gages ................................. Check</td>
</tr>
<tr>
<td>7</td>
<td>AMPS / VOLTS ................................. Check</td>
</tr>
<tr>
<td>8</td>
<td>DE ICE SYSTEM ................................. As required</td>
</tr>
<tr>
<td>9</td>
<td>INERT SEP ................................. ON</td>
</tr>
<tr>
<td>10</td>
<td>LDG LIGHTS (below FL 100) ................................. ON</td>
</tr>
</tbody>
</table>
FINAL APPROACH (in GS) or Downwind Leg (VMC)

1 - LDG LIGHTS ................................................. ON
2 - LANDING GEAR ........................................... DN - 3 Green
3 - FLAPS ......................................................... TO
**SHORT FINAL (~ 500 ft)**

1. **LANDING GEAR down** ................................................... Check
2. **FLAPS** ........................................................................... LDG
3. **AP / YD** ......................................................................... Disconnect
INTENTIONALLY LEFT BLANK
<table>
<thead>
<tr>
<th></th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TAXI LIGHT</td>
</tr>
<tr>
<td>2</td>
<td>NAV LIGHTS</td>
</tr>
<tr>
<td>3</td>
<td>STROBE LIGHTS</td>
</tr>
<tr>
<td>4</td>
<td>DE ICE SYSTEM</td>
</tr>
<tr>
<td>5</td>
<td>TRIMS</td>
</tr>
<tr>
<td>6</td>
<td>FLAPS</td>
</tr>
<tr>
<td>7</td>
<td>A/C</td>
</tr>
</tbody>
</table>

**RUNWAY CLEAR**

1. TAXI LIGHT                   ON
2. NAV LIGHTS                   As required
3. STROBE LIGHTS                As required
4. DE ICE SYSTEM                As required
5. TRIMS                        Reset to TO
6. FLAPS                        UP
7. A/C                          As required
<table>
<thead>
<tr>
<th>Step</th>
<th>Action Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>PARK BRAKE Set / ON</td>
</tr>
<tr>
<td>2.</td>
<td>EXT LIGHTS OFF</td>
</tr>
<tr>
<td>3.</td>
<td>INT LIGHTS As required</td>
</tr>
<tr>
<td>4.</td>
<td>OXYGEN OFF</td>
</tr>
<tr>
<td>5.</td>
<td>FUEL SEL MAN</td>
</tr>
<tr>
<td>6.</td>
<td>AP TRIMS OFF</td>
</tr>
<tr>
<td>7.</td>
<td>A/C OFF</td>
</tr>
<tr>
<td>8.</td>
<td>BLEED OFF / RST</td>
</tr>
<tr>
<td>9.</td>
<td>THROTTLE Flight IDLE for 2 min</td>
</tr>
<tr>
<td>10.</td>
<td>THROTTLE LO-IDLE for 15 sec</td>
</tr>
<tr>
<td>11.</td>
<td>THROTTLE CUT OFF</td>
</tr>
<tr>
<td>12.</td>
<td>INERT SEP OFF</td>
</tr>
<tr>
<td>13.</td>
<td>CAS msg AUX BOOST PMP ON Check</td>
</tr>
<tr>
<td>14.</td>
<td>AUX BP OFF</td>
</tr>
<tr>
<td>15.</td>
<td>GENERATOR OFF</td>
</tr>
<tr>
<td>16.</td>
<td>SOURCE (if INERT SEP retracted / ~ 40 sec) OFF</td>
</tr>
<tr>
<td>17.</td>
<td>Crash lever Down</td>
</tr>
<tr>
<td>18.</td>
<td>Stand-by instruments OFF</td>
</tr>
</tbody>
</table>

Check engine oil hot level within the 10 minutes following engine shut-down.

Close OXYGEN cylinder (R.H. karman)
4.4 - AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (1/14)

The preflight inspection procedure is based on a scanning method.

It is divided in 6 subparts to cover all items of the preflight (See Figure 4.4.1)

I Initial inside inspection

II Cabin

III L.H. Wing

IV Fuselage forward section

V R.H. Wing

VI Fuselage rear section / Empennages

IMPORTANT

* During outside inspection, visually check inspection doors and airplane general condition. Check for systems and parts attachments / deflections / leaks / cracks / deteriorations / non-obstructions / nicks / numbers / free movements / position.

* 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.
PREFLIGHT INSPECTION (2/14)
PREFLIGHT INSPECTION (3/14)

INITIAL INSIDE INSPECTION

Cockpit

CAUTION

WHEN ENGINE IS SHUTDOWN, DO NOT SET THE PROP DE ICE SWITCH TO ON, DAMAGE TO THE PROPELLER BLADES COULD RESULT.

1 - DE ICE SYSTEM panel
   - All switches ...................................................... OFF

2 - MICRO/MASK micro inverter ................................. MICRO / Guarded

3 - Flight controls lock ................................. Removed / Stowed
   - The flight controls lock is normally stowed in the front cargo compartment with the towing bar and the blanking covers.

4 - Flight controls deflections ................................. Check

5 - PARK BRAKE ....................................................... ON

6 - LANDING GEAR lever ................................. DN

7 - Engine controls
   - MAN OVRD control .............................................. Backward

CAUTION

WHEN THE ENGINE IS SHUTDOWN, THE THROTTLE MUST NOT BE MOVED INTO THE REVERSE AREA.

When engine is shut-off, a lack of hydraulic pressure prevents movement into reverse range. Trying to force the mechanism will cause damage.

   - THROTTLE ...................................................... CUT OFF

8 - FLAPS ................................................................. UP
PREFLIGHT INSPECTION (4/14)

9 - FUEL TANK SELECTOR ........................................ L or R

10 - LANDING GEAR emergency control

   Open door of emergency landing compartment :

   - Lever ........................................ Pushed down
   - By-pass selector ............................... Fully depressed
   - Door ........................................ In place
     By-pass selector must be pushed at its maximum stop, so as to have the
door in place.

11 - BLEED switch ............................................. OFF / RST

12 - A/C switch ................................................. OFF

13 - DUMP switch ............................................. NORM / Guarded

14 - ALTERNATE STATIC SOURCE selector .................... Pushed

15 - EMERGENCY RAM AIR control knob ....................... Pushed

16 - ELT ......................................................... ARM / OFF

17 - Breakers panel

   - All breakers ...................................... Checked

18 - AP / TRIMS switch ......................................... OFF

19 - Fuel

   - FUEL SEL switch ..................................... MAN
   - AUX BP switch ....................................... OFF

20 - 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.
PREFLIGHT INSPECTION (5/14)

- STARTER switch ................................................. OFF
  If not, starter is going to operate as soon as SOURCE selector is moved to
  BATT or GPU (if connected).

21 - ELECTRIC POWER panel
- Crash lever ......................................................... Up
- GENERATOR selector ........................................ MAIN
- SOURCE selector ................................................. OFF

22 - ACCESS lighting ................................................. Check
This check allows to ensure that the fuse of the BATT BUS operates correctly.

23 - INT LIGHTS panel ................................................. OFF

24 - EXT LIGHTS panel
- All switches ......................................................... OFF

25 - OXYGEN switch .................................................. OFF

26 - PASSENGER OXYGEN switch ................................. STBY

27 - Emergency lighting ........................................ Check

CAUTION
BEFORE SELECTING SOURCE, CHECK: POSITION OF IGNITION AND
STARTER SWITCHES

28 - IGNITION switch ............................................ AUTO or OFF

29 - STARTER switch ............................................. OFF

30 - LANDING GEAR lever ........................................ DN

31 - SOURCE selector ............................................. BATT or GPU

32 - MD302 battery indicator symbol .......................... Not displayed
If a battery symbol appears on the MD302 display, airplane take-off is not
allowed until the situation is resolved. Refer to the battery details in the MD302
Pilot's guide for further information.
PREFLIGHT INSPECTION (6/14)

33 - Voltage ................................................. Checked

- If BATT source .............................................. ≥ 24.5 Volts
  If not, use a GPU or charge battery. This minimum voltage is not an
  absolute guarantee for a correctly charged battery. 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).
- If GPU source .............................................. ≈ 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
  1000 amperes maximum. See placard located near ground power
  receptacle door.

CAUTION

LOW VOLTAGE (AROUND 24.5 V) MAY INDICATE THAT ONLY THE
BATTERY IS POWERING THE AIRPLANE AND NOT THE PAIR GPU +
BATTERY.

MAKE SURE THAT A GPU IS CONNECTED AND POWERING THE
AIRPLANE.

34 - EXT LIGHTS panel

- OFF/TAXI/LDG switch ................................. OFF
- STROBE .................................................. ON
- NAV ....................................................... ON

35 - DE ICE SYSTEM panel

- All switches ............................................... OFF
- ICE LIGHT ............................................... ON

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

Reentering the airplane

36 - EXT LIGHTS panel ................................. All switches OFF
37 - TEST pushbutton ................................. Press
38 - CAS display ......................................... Check
PREFLIGHT INSPECTION (7/14)

39 - Left and right FUEL quantities ........................................... Check

40 - FLAPS ................................................................. LDG

41 - LANDING GEAR panel ............................................. Warning lights : 3 GREEN ON

Light Test : all lights (red & green) FLASHING

42 - DE ICE SYSTEM panel

- PITOT L HTR switch ..................................................... ON

  WARNING CAS message  **PITOT HT ON L** ............... ON

- PITOT R & STALL HTR switch ..................................... ON

  Correct operation of pitot (PITOT L and R) tube heating elements and of stall aural warning system (STALL HTR) is indicated by display of corresponding CAS message, when control switches are ON.

  WARNING CAS message  **PITOT HT ON L-R** ............. ON

  WARNING CAS message  **STALL HEAT ON** ................. ON

- PITOT L HTR switch .................................................. OFF

- PITOT R & STALL HTR switch .................................... OFF

**WARNING**

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

43 - Crash lever ........................................................... Down

Cabin II

1 - Cabin fire extinguisher ................................. Pressure / Attachment

2 - Seats / belts .......................................................... Check

3 - Windows ......................................................... General condition / No crack

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PREFLIGHT INSPECTION (8/14)

4 - Emergency exit .............................................. Closed / Locked
   - Anti-theft safety ........................................... Removed / Stowed

5 - Baggage compartment ..................................... Straps in place

6 - Partition net (if 6-seat accommodation) .......... General condition / In place

7 - Large net or small net (if 4-seat accommodation and if baggage transportation) ........ General condition / In place

8 - Doors operation ............................................. Check

9 - Stairs condition ............................................ Condition / Play

OUTSIDE INSPECTION

The preflight inspection described in Figure 4.4.1 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

- Flap  
  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.

- Aileron and trim / Spoiler  
  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.

- Trailing edge static discharger  
  Condition / Attachment

- Winglet / nav. lights / strobe / landing light / recognition light / taxi light
  Condition

- OAT probe
  Condition

- 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.

- Fuel tank air vent  
  Unobstructed
  Air vent is not likely to be obstructed by ice or water, as it is located in a wing lower surface recess.

- Left pitot  
  Condition

- Wing lower surface  
  No leak
  - Check fuel tank access doors for leaks
  - Check for surface damage.

- Wing deicer boots  
  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.
PREFLIGHT INSPECTION (10/14)

11 - 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.

12 - 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,
  - 40 mm (1.57 in) of minimum height with full tanks.

Fuselage forward section IV

1 - Forward compartment

- Inside  
  Check
- Door  
  Close / Lock

2 - GPU door

- Closed
  If not used

3 - Fuel circuit drain  
- Drain 
  Fuel free of water and contamination
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PREFLIGHT INSPECTION (11/14)

- Filter contamination indicator (clogging indicator) .............. Check
  If the clogging indicator is extended, red collar visible, the flight is not authorized.

4 - L.H. exhaust stub ........................................ Condition / No cracks

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 ................................. No leak, deterioration, wear

6 - Engine cowls ............................................ Condition

Closed / Locked

7 - Air inlets

- Main ........................................... No cracks - 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 inlets of RAM AIR system (circular grille located in front of R.H. windshield) and of vapor cycle cooling system (two rectangular grilles located forward of the circular grille).

8 - Propeller and spinner ........ 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.
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PREFLIGHT INSPECTION (12/14)

9 - Nose gear
   - 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 ......................... Condition / No cracks

R.H. wing

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 ........................................ Condition / Attachment

4 - Stall warning ........................................ Condition / Deflection

5 - Wing lower surface ........................................ No leaks

6 - Fuel tank cap ........................................ Closed / Locked

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

8 - Right pitot ........................................ Condition

9 - Winglet / nav. light / strobe / landing light / recognition light / taxi light ........................................ Condition
PREFLIGHT INSPECTION (13/14)

10 - Trailing edge static discharger  Condition / Number / Attachment

11 - Aileron / spoiler  Condition / Free movement / Deflection

12 - Flap  Condition / Play

13 - Rear R.H. karman
   - Oxygen cylinder  Open
   - Oxygen pressure  Check

Confirm OXYGEN quantity in regards with the expected flight.

14 - Oxygen pressure  Check

Fuselage rear section / Empennages (VI)

Check that outside handle of emergency exit is flush with door skin.

1 - ELT  ARM / OFF
   - ELT door  Closed / Locked

Access to ELT is possible through an inspection door located on R.H. side of fuselage rear section.

2 - Static pressure ports  Clean

3 - Ventral fins  Condition / Attachments

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.

4 - Inspection door under fuselage  Attachments - Closed

5 - Horizontal stabilizer deicer boots (R.H. side)  Condition / Attachments

6 - Elevator and trim  Condition / Deflection free movement / Trim position

To check the deflection, hold the two half-elevators near fuselage, inside both elevator trims to avoid stresses.
PREFLIGHT INSPECTION (14/14)

7 - Static dischargers ................................................. Condition
8 - Vertical stabilizer deicer boots ....................... Condition / Attachments
9 - Rudder and trim ..................................................... Condition / Trim position
10 - Static dischargers ................................................. Condition
11 - Tail cone / nav. lights / strobe ......................... Condition
12 - Static pressure ports .............................................. Clean
INSIDE INSPECTION

After completion of preflight inspection (initial inside inspection and outside inspection performed).

1. Cabin door and Pilot door (if installed) ................. Closed / Locked
2. Baggage ......................................................... Stowed
3. EMERGENCY EXIT Pin ...................................... Removed
4. Seats, pedals, harness ........................................ Adjust / Lock
   - Pilot seat and R.H. front seat (if occupied) .............. Adjust
     . Height adjustment ......................................... Max. UP
     . Fore and aft adjustment .......................... Adjust and check locking
     . Height adjustment ........................................ Adjust

CAUTION

IT IS MANDATORY TO ADJUST SEATS IN FORE-AFT MOVEMENT WHEN SEAT IS IN MAXIMUM HIGH PERMISSIBLE POSITION, TO AVOID INTERFERENCE BETWEEN SIDE UPHOLSTERY PANEL AND SEAT HOUSING IN LOW AND INTERMEDIATE POSITIONS.

Adjust pilot's and R.H. front station seats and harnesses, so as to permit access to flight controls. The pilot at L.H. station must be able to easily reach A/C and PRESSURIZATION panel.

- L.H and R.H. pedals ............................................. Adjust
- Belts and harnesses (Pilot and passengers) .............. Fasten
  Check for pilot and passengers correct locking of belt buckles, as well as automatic locking of shoulder harness by exerting a rapid pull on the latter.
  If airbags installed, unoccupied seat belts have to be strapped. It is forbidden to fly with these belts unstrapped.

5. PASSENGER OXYGEN switch .............................. STBY
   Make sure to set on STBY the PASSENGER OXYGEN switch before setting the OXYGEN switch to ON to avoid passengers mask deployment.

6. OXYGEN switch ................................................ ON
   Check the OXYGEN CAS message is off. If not, open isolation valve of the oxygen cylinder in R.H. Karman.
7 - Crew oxygen masks .......................... Test
   Press push-button PRESS TO TEST: the blinker shall turn red momentarily,
   then turns transparent.

8 - EXT LIGHTS .................................. OFF

9 - INT LIGHTS .................................. OFF

10 - DIMMER switch .............................. OFF

11 - CABIN switch ................................. OFF

12 - ACCESS switch ............................... OFF

13 - PANEL rheostat ............................. Fully turned to the left

14 - All lights .................................... OFF

15 - Crash lever ................................. Down

16 - STARTER switch ............................. OFF
   If not, starter is going to operate as soon as SOURCE selector is positioned on
   BATT or GPU.

17 - IGNITION switch ............................ AUTO
   The IGNITION switch is normally selected to AUTO. This ensures ignition,
   whenever the starter is activated.

18 - AUX BP switch .............................. OFF

19 - FUEL SEL switch .......................... MAN

20 - AP / TRIMS switch .......................... OFF

21 - A/C switch ................................. OFF

22 - CB LIGHTS .................................. OFF

23 - MICRO / MASK ............................ MICRO / Guarded

24 - DE ICE SYSTEM ............................ All OFF

25 - INERT SEP switch .......................... OFF
26 - PARK BRAKE ......................................................... Reset / ON

**PARK BRAKE** CAS message appearance does not indicate that parking brake is set. For that, press on brake pedals before turning brake selector to the right.

27 - LANDING GEAR lever ........................................... DN

28 - DUMP switch ...................................................... NORM / Guarded

29 - BLEED switch ..................................................... OFF / RST

30 - HOT AIRFLOW distributor ................................. Floor

31 - Pitch trim wheel .................................................... Check

**CAUTION**

MAKE SURE THAT MAN OVRD CONTROL IS BACKWARD TO AVOID OVERTEMPERATURE RISKS AT START.

32 - MAN OVRD ............................................................ OFF

**CAUTION**

WHEN THE ENGINE IS SHUTDOWN, THE THROTTLE MUST NOT BE MOVED INTO THE REVERSE AREA.

33 - THROTTLE .............................................................. CUT OFF

34 - FUEL TANK SELECTOR ................................. Open / L or R

35 - ALTERNATE STATIC SOURCE selector ............... Normal / Pushed

36 - EMERGENCY RAM AIR ................................. Closed / Pushed

37 - ESS BUS TIE switch ................................. NORM / Guarded

38 - Breakers .............................................................. All pushed

39 - EMERGENCY LANDING GEAR lever ............... Check
BEFORE STARTING ENGINE (1/2)

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.

1 - Preflight inspection ........................................... Completed
2 - Crash lever .......................................................... Up
3 - ATIS / Start clearance ................................. Copied / as required
4 - SOURCE selector ................................. BATT (battery start) or GPU (GPU start)

**NOTE:** If one screen (L or R PFD or MFD) is missing:

1. SOURCE selector ........................................... OFF
2. Wait for 30 seconds
3. SOURCE selector ................................. BATT (battery start) GPU (GPU start)

Check **GPU DOOR** CAS message is illuminated if GPU use.

Check voltmeter 28 Volts ± 0.5 Volt if GPU use, higher than 24.5 Volts if Battery.

- Battery voltage ........................................... Checked
  If Batt voltage < 24.5V, ask for a GPU and be ready to a GPU start.

5 - GENERATOR selector ................................. MAIN

Check **MAIN GEN** CAS message is illuminated if GPU start.

6 - Audio alarms ............................................... Test
7 - DE ICE SYSTEM lights ........................................ Test
8 - DUMP switch .................................................. NORM / Guarded
9 - LANDING GEAR light / CHECK DOWN ......................... Test
10 - MFD ............................................................. Initialize
BEFORE STARTING ENGINE (2/2)

11 - Fuel ................................................................. Check
   - Quantity ......................................................... Check
   - FUEL TANK SELECTOR ................................. L or R
   - FUEL SEL switch ........................................... AUTO

Check **AUTO SEL** CAS message is off.

   - SHIFT push-button ................................. Press

The selector changes tank. On ground, observe a tank change every 75 seconds

12 - Parameters ....................................................... Check

   - If residual ITT > 150°C, perform a motoring

A start up procedure with an engine residual ITT above 150°C may generate an ITT exceedance. Particular monitoring of ITT will have to be performed during start up to ensure to keep the temperature within ITT enveloppe.

13 - AMPS / VOLTS : BAT > 24.5 V / GPU ~ 28 V ................. Check

14 - CAS ................................................................. Check

15 - PARK BRAKE ....................................................... Check ON

Last check before proceeding to engine start.

Check **PARK BRAKE** CAS message is illuminated.

Illuminated **PARK BRAKE** CAS message does not indicate that parking brake is set. For that, press on brake pedals before turning brake selector to the right.
ENGINE START (1/3)

1 - STROBES ........................................... ON

2 - G1000 ........................................ DISPLAY BACKUP
    Composite mode
    If there is a loss of MFD during start up sequence, that sequence will be ended
    using the left PFD in composite mode.

3 - IGNITION ............................................ AUTO

4 - AUX BP switch .................................. ON
    Check  AUX BOOST PMP ON  CAS message is illuminated.
    Check  FUEL PRESS  CAS message is OFF.

5 - Propeller area .................................. Clear

6 - STARTER switch  ......................... ON (2 seconds then OFF)
    Start timer clock to check startup acceleration.
    Check  STARTER  CAS message is illuminated.
    Check  MAIN GEN  CAS message is illuminated.

CAUTION

IF 5 SECONDS AFTER HAVING POSITIONED STARTER SWITCH TO ON
POSITION THERE IS NO START, INTERRUPT STARTING ATTEMPT BY
USING THE ABORT POSITION OF THE STARTER SWITCH.

THE UTILISATION OF THE STARTER IS BOUND BY LIMITATIONS
MENTIONED IN CHAPTER 2.4 STARTER OPERATING LIMITS.

When Ng ~13 % and ITT below 150°C and time below 20 seconds :

In case of starting with hot engine, an ITT decrease below 150°C (within starter
operation limits), may allow to stay within the allowed ITT envelope.

7 - THROTTLE  ............................................ LO-IDLE

When THROTTLE 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.
ENGINE START (2/3)

**CAUTION**: IF

- NO IGNITION 10 SECONDS AFTER HAVING POSITIONED THROTTLE TO LO-IDLE,
- OVER TEMPERATURE INDICATION APPEARS (MAX. ITT < 870°C FOR MORE THAN 20 SECONDS, < 1000°C FOR MORE THAN 5 SECONDS),
- NG < 30% AFTER 30 SECONDS OF STARTER USE,
- NG < 50% AFTER 60 SECONDS OF STARTER USE,

ABORT STARTING PROCEDURE:

- THROTTLE ....................... CUT OFF
- IGNITION switch ............... OFF or AUTO

**WHEN ITT < 850°C**:

- STARTER switch ................. ABORT

When Ng = 52 % (± 2 %)

8. Check Starter is automatically OFF

   Check [STARTER] CAS message is OFF.

   **CAUTION**

   IF THE STARTER DOES NOT GO OFF AUTOMATICALLY, DISENGAGE IT USING THE ABORT POSITION OF THE STARTER SWITCH.

9. Engine parameters ................................. Check

   Check Ng ≥ 52 %, oil pressure and ITT in green sector.

**After engine start with GPU,**

10. SOURCE selector ................................. BATT

11. Electrical network .............................. Check
ENGINE START (3/3)

12 - GPU disconnection done by ground team

   Check **GPU DOOR** CAS message is OFF.

13 - GENERATOR selector ................................. MAIN

   Check **MAIN GEN** CAS message is OFF. It normally goes out, as soon as the **STARTER** CAS message goes out.
   If not, increase Ng over 70 % to start main generator.

   - AMPS GENERATOR & BATT ....................... Check Charge
   - VOLTS BATT & ESS ......................... Voltage around 28 VOLTS.

14 - CAS .................................................... Check

15 - A/C switch ........................................... As required

16 - BLEED switch ................................. AUTO

When Ground team is cleared from propeller, proceed with AFTER ENGINE START procedure
MOTORING (1/2)

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 ............................ Backward
   
   CAUTION
   
   WHEN THE ENGINE IS SHUTDOWN, THE THROTTLE MUST NOT BE MOVED INTO THE REVERSE AREA.
   
   - THROTTLE ............................... CUT OFF

2 - IGNITION switch ................................. OFF

   WARNING CAS message IGNITION .............. OFF

3 - Fuel

   - FUEL TANK SELECTOR ....................... L or R
   - AUX BP switch ................................. ON

   WARNING CAS message AUX BOOST PMP ON ... ON

   WARNING CAS message FUEL PRESS ............ OFF

Fuel pressure is necessary for lubrication of HP pump.
MOTORING (2/2)

4. Propeller area ............................................ Clear

To clear fuel and vapor internally trapped:

5. STARTER switch .......................... ON (2 seconds then OFF)
   Start timer, motor for max 15 seconds
   WARNING CAS message STARTER ................. ON

6. STARTER switch ................................. ABORT
   WARNING CAS message STARTER ................. OFF

To cool engine following shut-down in high temperature environment:

5. STARTER switch .......................... ON (2 seconds then OFF)
   Start timer, motor for max 30 seconds
   WARNING CAS message STARTER ................. ON

If ignition symptoms occur (ITT increasing), check that IGNITION switch is OFF, that THROTTLE is on CUT OFF and continue motoring.

6. STARTER switch ................................. ABORT
   WARNING CAS message STARTER ................. OFF

7. FUEL panel
   - AUX BP switch ................................. OFF
   WARNING CAS message AUX BOOST PMP ON ...... OFF
   WARNING CAS message FUEL PRESS ............. ON
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 ................................................ Backward

   CAUTION
   WHEN THE ENGINE IS SHUTDOWN, THE THROTTLE MUST NOT BE
   MOVED INTO THE REVERSE AREA.

   - THROTTLE ......................................................... CUT OFF

2. IGNITION switch ............................................... OFF

   WARNING CAS message IGNITION ......................... OFF

3. Fuel
   - FUEL TANK SELECTOR ................................. L or R
   - AUX BP switch .............................................. ON

   WARNING CAS message AUX BOOST PMP ON ........ ON

   WARNING CAS message FUEL PRESS ................. OFF

4. STARTER switch ................................. ON (2 seconds then OFF)
   Start timer, motor for max 30 seconds

5. After 20 seconds and if ITT < 150°C:
   - IGNITION switch ........................................... AUTO
   - Ng > 13 % ......................................................... Check
   - THROTTLE ................................................ LO-Idle
MOTORING FOLLOWED BY AN ENGINE START (2/3)

6 - Monitor increase of:
   - ITT ........................ max. ITT : \( \leq 870^\circ C \) for 20 seconds max.
                             \( \leq 1000^\circ C \) for 5 seconds max.
   - Ng
   - Oil pressure

   WARNING CAS message **OIL PRESS** ................... OFF

   **NOTE**
   No action is required for the following conditions:
   - ITT from 850 °C to 870 °C limited to 20 seconds,
   - ITT from 870 °C to 1000 °C limited to 5 seconds

When \( Ng = 52 \% \pm 2 \% \)

7 - Check Starter is automatically OFF
   Check **STARTER** CAS message is OFF.

   **CAUTION**
   IF THE STARTER DOES NOT GO OFF AUTOMATICALLY, DISENGAGE IT
   USING THE ABORT POSITION OF THE STARTER SWITCH.

8 - Engine instruments Ng > 52 % ....................... CHECK
    Oil pressure / ITT = green sector

9 - THROTTLE ........................................ Flight IDLE

10 - Engine instruments Ng \( \simeq \) 69 % \( \pm 2 \% \) ...................... Check
     Oil pressure / Oil temperature / ITT = green sector

11 - FUEL panel
    - AUX BP switch ........................................... AUTO

   WARNING CAS message **AUX BOOST PMP ON** ...... OFF
MOTORING FOLLOWED BY AN ENGINE START (3/3)

12 - GENERATOR

WARNING CAS message **MAIN GEN** ............... OFF
RESET if necessary

**MAIN GEN** CAS message normally goes out, as soon as **STARTER** CAS
message goes out.

If not, increase Ng over 70 % to start main generator.

- **AMPS GENERATOR & BATT** ............... Charge Check

- **VOLTS BATT & ESS** ......................... Charge Check
  Voltage Check
  V ≈ 28 Volts
AFTER ENGINE START (1/2)

CAUTION

GENERATOR LOAD < 200 AMPS

1. THROTTLE > Flight IDLE ................................. Check
2. Ng ≈ 70% (± 2%) ................................. Check
3. OIL PRESS / TEMP ................................. Check
4. AUX BP switch ................................. AUTO
5. FUEL SEL switch ................................. AUTO
6. FUEL SEL SHIFT button ........................ Test
   Visually verify the rotation of the manual FUEL TANK SELECTOR
7. AP / TRIMS switch ................................. ON
   this initializes the A/P system
8. PFD 1, MFD and PFD 2 ................................. NORMAL mode
9. GENERATOR test

For these tests, BLEED switch must be left OFF / RST, to unload the generator circuit.

GENERATOR selector ................................. MAIN
AMPS / VOLTS ................................. Check

When MAIN LOAD \leq 80$amps:

GENERATOR selector ................................. STBY
AMPS / VOLTS ................................. Check
reset if necessary with GENERATOR RESET STBY button

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.

GENERATOR selector ................................. MAIN
AFTER ENGINE START (2/2)

10 - Oxygen
Check Verify quantity available for the planned flight see tables of paragraph IN-FLIGHT AVAILABLE OXYGEN QUANTITY in this Chapter and Chapter 7.10 for a FAR 135 type operation.

11 - PFD 1, MFD and PFD 2
Detailed control procedures of avionics system are described in the GARMIN Integrated Flight Deck Cockpit Reference Guide.
- Brightness Adjust if necessary
- DISPLAY BACKUP push-button Check then return to NORMAL mode

12 - A/C and PRESSURIZATION panel
- A/C switch As required
A cabin temperature good regulation will only be obtained, if A/C switch is set to AUTO.
- TEMP selector Adjust
- HOT AIR FLOW distributor As required
Usually selected to CABIN. However, if canopy misting is evident, select DEFOG to increase demisting efficiency.

13 - BLEED switch AUTO

14 - MODE pressurization switch AUTO or MAX DIFF
IN-FLIGHT AVAILABLE OXYGEN QUANTITY

Oxygen pressure ....................................................... Read
Outside air temperature (OAT) ........................................... Read

1 - Determine the usable oxygen percent using the chart Figure 4.4.2

\[ \text{OXYGEN PRESSURE (PSI)} \]
\[ \begin{array}{c|c|c}
\text{PERCENT OF USABLE OXYGEN CAPACITY (\%)} & \text{OAT} = + 62^\circ C \quad (+ 144^\circ F) & \text{OAT} = + 51^\circ C \quad (+ 124^\circ F) \\
0 & & \\
5 & & \\
10 & & \\
15 & & \\
20 & & \\
25 & & \\
30 & & \\
35 & & \\
40 & & \\
45 & & \\
50 & & \\
55 & & \\
60 & & \\
65 & & \\
70 & & \\
75 & & \\
80 & & \\
85 & & \\
90 & & \\
95 & & \\
100 & &
\end{array} \]

Figure 4.4.2 - USABLE OXYGEN

2 - Determine the oxygen duration in minutes by multiplying the values read on table Figure 4.4.3 by the percent obtained with the chart Figure 4.4.2

<table>
<thead>
<tr>
<th>Number of passengers</th>
<th>Duration : Passengers, plus 1 pilot</th>
<th>Duration : Passengers, plus 2 pilots</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>226</td>
<td>113</td>
</tr>
<tr>
<td>1</td>
<td>162</td>
<td>94</td>
</tr>
<tr>
<td>2</td>
<td>127</td>
<td>81</td>
</tr>
<tr>
<td>3</td>
<td>104</td>
<td>71</td>
</tr>
<tr>
<td>4</td>
<td>88</td>
<td>65</td>
</tr>
</tbody>
</table>

Figure 4.4.3 - OXYGEN DURATION
BEFORE TAXIING (1/3)

1 - Stand-by instruments ........................................ Check

2 - MFD flight management
   - Weight computing ................................. Set/Checked
   - FOB (fuel on board) synchronization .............. Set
   - FPL (if requested) ......................................... Set

3 - LFE selection .............................................. Done
   Landing Field Elevation selection is done on the MFD using :
   - destination airport of the flight plan pressing : SYSTEMS, then FMS LFE,
   - a manual entry, pressing : SYSTEMS, then MAN LFE.

4 - VHF/VOR/GPS ........................................... Adjust - Test
   - Radar .................................................. Adjust - Test
   - Stormscope/TAS/TAWS/Radio altimeter (if installed) Adjust - Test

5 - ADI/HSI on PFD1 / PFD2 ................................. Check

6 - Altimeter setting ........................................ Set / Check

7 - DE ICE SYSTEM panel ........................................ Check

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

- WINDSHIELD switch ........................................ ON
   Check illumination of the green lights located above the switch (except if hot conditions)
BEFORE TAXIING (2/3)

These lights 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):

- WINDSHIELD switch ................................................. OFF

Increase power so as to get \( Ng \geq 80\% \) 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 THROTTLE is positioned on Flight IDLE. However, it is advised for check to choose a \( Ng \) power \( \geq 80\% \) in order to obtain operation design pressure, which enables illuminating surely the two green lights and avoiding \textbf{VACUUM LOW} untimely alarms.

- 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

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

8 - INERT SEP switch ............................................... ON
  kept ON while taxiing in order to avoid ingestion of particles by the engine

9 - Flight controls ...................................................... Check
  Proper operation from stop to stop, full deflection

10 - AP / TRIMS

- AP / TRIMS operation

Detailed control procedures of autopilot and electrical pitch trim are described in the GARMIN Integrated Flight Deck Cockpit Reference Guide.

- Pitch trim ......................................................... UP / DN, then adjust
  Adjust the indicator in green range (graduated from 12 to 37 %)
- Yaw trim ......................................................... L / R, then adjust
  Adjust the indicator in green range TO (TAKEOFF)
BEFORE TAXIING (3/3)

- Roll trim .............................................. L / R, then adjust
  Adjust the indicator first at neutral position (horizontal marker)

11 - FLAPS ................................................................. UP

12 - THROTTLE ..................................................... FEATHER twice
  Flight IDLE to LO-IDLE
  then Flight IDLE, twice

  During this test, keep the spent time with the propeller RPM in the caution
  (yellow) range at a minimum.

13 - EIS ................................................................. Check

14 - CAS ................................................................. Check

15 - Passenger briefing ................................. As required

16 - TAXI LIGHT ..................................................... ON

17 - PARK BRAKE .................................................... OFF
  Make sure that chocks are removed (if used)

  WARNING CAS message PARK BRAKE .............. OFF
CAUTION

GENERATOR LOAD < 200 AMPS

1 - TAXI LIGHT ON .............................................. Check

2 - THROTTLE ................................................. As required

   After initial acceleration, throttle may be in the TAXI RANGE sector, avoiding
   excessive movements in order to keep a constant ground speed.

3 - BRAKES test ................................................ Check

4 - Nose wheel steering ................................. Check

   Check that the control wheel moves (roll) in the same direction as the rudder
   pedals due to the rudder / aileron interconnect.

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.

5 - Flight instruments ................................. Check

   Check navigation and communication systems before or during taxiing, check
   gyroscopic instruments on PFDs 1 / 2 and stand-by indicator during ground
   turns.
BEFORE LINE UP (1/4)

CAUTION

GENERATOR LOAD < 200 AMPS

1 - PARK BRAKE .......................................................... ON

WARNING CAS message PARK BRAKE ................. ON

2 - THROTTLE .......................................................... Flight IDLE

Ng : 69 % (± 2 %)

3 - LANDING LIGHTS .................................................. ON

4 - STROBES ............................................................ ON

5 - AUX BP switch ..................................................... AUTO

6 - FUEL SEL switch .................................................. AUTO

7 - DE ICE SYSTEM panel ................................. As required

   - AIRFRAME DE ICE switch .......................... As required

   - PROP DE ICE switch ................................. As required

   - WINDSHIELD switch ............................... As required

8 - PITOT L / PITOT R & STALL HTR switch ................. ON

If runway is in good condition, without icing conditions :

9 - INERT SEP switch ........................................ ON

If icing conditions are foreseen, refer to Chapter 4.5 PARTICULAR PROCEDURES of this Section, Paragraph Flight into known icing conditions.

10 - FLAPS ............................................................... TO

11 - Flight controls ........................................ Check

       Check again for proper operation from stop to stop,
       full deflection

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BEFORE LINE UP (2/4)

12 - Trims ........................................... TO
   - Pitch ........................................... TO
      Adjust inside green index sector, depending on the current balance condition.
   - Yaw ........................................... TO
      Adjust inside green index sector.
   - Roll ........................................... TO
      Adjust at neutral position.

13 - A/C switch ................................. As required

14 - BLEED switch .............................. AUTO

15 - MODE pressurization switch ............... AUTO

16 - LFE ........................................... Check

17 - FUEL gages (IMBALANCE) ............... Check quantity, symmetry

18 - AMPS < 50 amps ........................... Check

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 Amperes (± 4 Amperes)

CAS message BAT AMP ON

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.

19 - EIS ........................................... Check

20 - CAS display ................................. Check
      All messages OFF, except PARK BRAKE ON and, if used
      INERT SEP ON

21 - Altimeter setting ........................... Set
BEFORE LINE UP (3/4)

22 - Instrument departure setting .......................... Check
   - SID ........................................ Set
   - ALT SEL .................................. Set
   - XPDR ...................................... Set

23 - VHF/VOR/GPS/XPDR ................................. Adjust/Check
   - Stormscope/TAS/TAWS/ADF (if installed) ............ Adjust/Check
   - Radar ....................................... Adjust/Check
      On ground, maintain radar on STANDBY in order not to generate radiations prejudicial to outside persons.
   - Radio altimeter (if installed) .......................... Adjust/Check
   - Transponder code ............................. Adjust/Check

24 - Takeoff distances .................................. Check
      See Takeoff distances Chapter 5.9

25 - Rotation speed ($V_R$) .............................. Check
BEFORE LINE UP (4/4)

26 - Pilot's / Passengers' belts ........................................... Check
    - Passengers' table ....................................................... Stowed

27 - Engine instruments ..................................................... Check
    All engine parameters must be in green range, except propeller RPM, which will be about 1000 RPM or more with throttle at Flight IDLE.

28 - PARK BRAKE ............................................................ OFF
    WARNING CAS message PARK BRAKE ............................ OFF
TAKEOFF (1/2)

When lined up, on brakes

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 - ADI / HSI / HEADINGS .................................... Check

2 - Horizon ....................................................... Check attitude $\pm 2^\circ$

Horizon has been set so as to indicate a $2^\circ$ nose up attitude, when airplane center of gravity is at a middle average.

3 - HSI - Heading - Stand-by compass ......................... Check

The indication of the stand-by compass is disturbed when windshield deice systems are activated.

4 - LIGHTS

- OFF/TAXI/LDG switch ........................................... LDG

5 - Engine instruments ............................................ CHECK

ITT = green sector

6 - CAS display .................................................... Check

All messages OFF, except INERT SEP ON if used

except IGNITION if used

7 - Apply brakes and increase power up to RPM in green range.

If normal takeoff

8 - Brakes .......................................................... Released

9 - THROTTLE ...................................................... TRQ = 100 %

Torque will be about 40 % to 60 % before brake release. For a normal takeoff, maximum torque (100 %) will be applied after brakes release.
TAKEOFF (2/2)

If short takeoff

8 - THROTTLE ............................................. TRQ = 100 %

9 - Brakes ....................................................... Released

On short runway, maximum torque will be applied before brakes release.

10 - Rotation speed

Takeoff attitudes

If normal takeoff

- No weight dependent .............................. Attitude : 10°

If short takeoff

- Weight < 6579 lbs (2984 kg) ..................... Attitude : 15°
- Weight ≥ 6579 lbs (2984 kg) ...................... Attitude : 12°5

11 - Positive vertical speed

Brakes ............................................................. Apply Briefly

LANDING GEAR lever (IAS < 150 KIAS) ......................... UP

During the sequence :

- The amber caution light flashes ; it indicates that the landing gear pump is running. It goes off when the 3 landing gears are up locked. GEAR UNSAFE red warning light ON and GEARM UNSAFE CAS message indicate an anomaly (refer to EMERGENCY PROCEDURES).
- It is possible that the 3 landing gear position green indicator lights flash unevenly then go off at the end of the sequence.

At sequence end, check : All warning lights OFF

12 - IAS > 115 KIAS .................................................. FLAPS UP

In case of initial climb at Vx, it is recommended not to retract FLAPS to UP before 500 ft AGL  100 KIAS
AFTER TAKEOFF

1 - LANDING GEAR UP ............................................. Check
2 - FLAPS UP ......................................................... Check
3 - TRQ Max 100% ................................................... Check
4 - Climb speed ....................................................... 124 KIAS
5 - EIS ................................................................. Check
6 - CAS ................................................................. Check
7 - DE ICE SYSTEM ............................................... As required
8 - INERT SEP ....................................................... As required
CLIMB (1/2)

1 - ALT SEL .......................................................... Check
2 - Altimeter setting .............................................. As required
3 - Autopilot .......................................................... Check
4 - TRQ adjustment / ITT / Ng .................................. Check

CAUTION

OBSERVE TRQ / Ng / Np / ITT / T° AND OIL PRESSURE LIMITATIONS.

USE OPTIMUM TORQUE AND / OR REFER TO TABLES IN CHAPTER 5.8.

Torque setting during climb must be adjusted according to engine operation tables in Chapter 5.8. 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, during the final climb, reaching the maximum permitted Ng (104 %) is possible and the ITT will be approximately constant, 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 790°C (recommended ITT limit during continuous operation) will gradually reduce as flight time is performed.

5 - Climb speed ..................................................... 124 KIAS

Performance tables concerning climb at 124 and 170 KIAS / M 0.40 are given in Chapter 5.10.

6 - EIS ............................................................... Check
7 - CAS .............................................................. Check
8 - Weather radar .................................................. As required
9 - Pressurization

A/C and PRESSURIZATION panel
- TEMP selector .................................................... Adjust

10 - FUEL gages .................................................. Check

Verify fuel quantity and symmetry, correct if necessary.

11 - AMPS / VOLTS ................................................ Check
CLIMB (2/2)

12 - DE ICE SYSTEM .............................................................. As required
Refer to Chapter 4.5 PARTICULAR PROCEDURES

CAUTION
IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

13 - LDG LIGHTS ................................................................. As required
CRUISE

1 - Altimeter setting .......................... Check
2 - Autopilot .................................. Check
3 - TRQ adjustment / ITT / Ng ................ Check
   Adjust according to engine operation tables - Chapter 5.8
   or to Cruise index on the PFDs

CAUTION

OBSERVE TRQ / Ng / Np / ITT / T° AND OIL PRESSURE LIMITATIONS.
USE OPTIMUM TORQUE AND / OR REFER TO TABLES IN CHAPTER 5.8.

Engine operation tables (Chapter 5.8) give torque to be applied according to
OAT, 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 5.11.

4 - EIS ........................................... Check
5 - CAS ......................................... Check
6 - Pressurization .............................. Check
7 - FUEL gages ................................. Check

REGULARLY CHECK:
- consumption
- expected fuel at destination
- tank automatic change (every 5 minutes)
- symmetry [max. dissymmetry 15 USG (57 Litres)]

When the cruise parameters are stabilized (after 4 min minimum)

8 - AMPS / VOLTS ............................ Check

9 - DE ICE SYSTEM .......................... As required
   Refer to Chapter 4.5 PARTICULAR PROCEDURES

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

10 - INERT SEP ................................. As required
11 - LDG LIGHTS .............................. As required
BEFORE DESCENT

1. Briefing before approach ................................................. Completed

2. Altimeter settings ......................................................... Check

3. Pressurization ............................................................ Check

4. LFE ........................................................................... Check

5. FUEL gages ................................................................. Check
   - Check for quantity and symmetry
   - Select fullest tank

6. AMPS / VOLTS ............................................................ Check

7. DE ICE SYSTEM ........................................................... As required
   Refer to Chapter 4.5 PARTICULAR PROCEDURES

8. Windshield misting protection system ......................... As required
   Prior to descent in moist conditions, turn HOT AIR FLOW distributor to
   12 o'clock position and set WINDSHIELD switch to ON to avoid canopy
   misting.
   If misting continues, turn HOT AIR FLOW distributor to the left or refer to
   Chapter 3.11 Paragraph WINDSHIELD MISTING OR INTERNAL ICING.

9. INERT SEP ............................................................... As required

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.
APPRAOCH

1 - Altimeter settings (QNH) ................................. Set / Check

2 - Minimums ................................................. Set / Check

3 - COM / NAV / GPS ........................................ Set / Check

4 - Pressurization .............................................. Check

5 - LFE .......................................................... Check

6 - FUEL gages .................................................. Check
   - Check for quantity and symmetry
   - Select fullest tank

7 - AMPS / VOLTS ............................................. Check

8 - DE ICE SYSTEM ........................................... As required
   Refer to Chapter 4.5 PARTICULAR PROCEDURES

9 - Windshield misting protection system ................. As required
   Prior to descent in moist conditions, turn HOT AIR FLOW distributor to
   12 o'clock position and set WINDSHIELD switch to ON to avoid canopy
   misting.
   If misting continues, turn HOT AIR FLOW distributor to the left or refer to
   Chapter 3.11 Paragraph WINDSHIELD MISTING OR INTERNAL ICING.

10 - INERT SEP .................................................. As required
   CAUTION
   IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

11 - LDG LIGHTS (below FL 100) ............................. ON
FINAL APPROACH (in GS) or Downwind leg (VMC)

Long final

1 - Altimeters .......................... Check

2 - Fuel
   a) Gages .......................... Check Quantity / Symmetry
   b) Fullest tank ......................... Select
      Maximum tolerated dissymmetry is 15 USG (57 Litres)

3 - LDG LIGHTS (below FL 100) .......................... ON

4 - INERT SEP switch .......................... ON

5 - LANDING GEAR lever (IAS ≤ 178 KIAS) ......................... DN
   a) 3 green indicator lights ......................... ON
   b) Red warning light .......................... OFF
      \textbf{GEAR UNSAFE} CAS message .................. OFF
      Amber light .......................... OFF

During the sequence:
   a) The amber light flashes; it indicates that the landing gear pump is running. It goes off when the 3 landing gears are down locked. \textbf{GEAR UNSAFE} red warning light \textbf{ON} and \textbf{GEAR UNSAFE} CAS message indicates an anomaly (refer to EMERGENCY PROCEDURES).
   b) It is possible that the 3 landing gear position green indicator lights flash unevenly then come on at the end of the sequence.

6 - FLAPS (IAS ≤ 178 KIAS) .......................... TO
SHORT FINAL ≈ 500 ft

Stabilized approach

1. LANDING GEAR DN - 3 green ............................ Check

2. 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.

   Approach speed (FLAPS LDG)
   - Without AP engaged : ................................. 85 KIAS
   - With AP engaged : ................................. ≥ 85 KIAS

   This is to avoid any vertical deviation in case of late FLAPS extension to LDG
   position in short final.

   To ensure positive and rapid engine response to THROTTLE movement, it is
   recommended that a minimum TRQ of 10 % be maintained on final approach
   until landing is assured.

3. AP / YD ............................................................... Disconnect
   before 200 ft

   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.
LANDING

1 - THROTTLE ............................ Flight IDLE

Avoid three-point landings. Adopt a positive flight attitude in order to touch runway first with main landing gear.

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A PRONOUNCED DECELERATION, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

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 of the reverse range 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 BELOW 40 KIAS.

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.
GO-AROUND WITH AP OFF (1/2)

1. GO AROUND push-button ........................................... Pushed
   It provides the moving up of the flight director to +10°.

2. Simultaneously
   - THROTTLE ......................................................... T/O power
   - Attitude ............................................................. 10°
   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.

3. FLAPS ................................................................. TO
   Weight below 6579 lbs (2984 kg)
   If speed has been maintained at 80 KIAS or more and TRQ 100 %, select TO FLAPS as soon as the 10° attitude has been attained.
   When the vertical speed is positive and when IAS is at or above 85 KIAS:
   4. LANDING GEAR lever ............................................. UP
      All warning lights OFF
   When IAS is at or above 110 KIAS:
   5. FLAPS ................................................................. UP
   6. Climb speed ....................................................... As required
   Weight above 6579 lbs (2984 kg)
   If speed has been maintained at 85 KIAS or more and TRQ 100 %, select TO FLAPS as soon as the 10° attitude has been attained.
GO-AROUND WITH AP OFF (2/2)

When the vertical speed is positive and when IAS is at or above 90 KIAS:

7 - LANDING GEAR lever .................................................. UP
All warning lights OFF

When IAS is at or above 115 KIAS:

8 - FLAPS ................................................................. UP
9 - Climb speed ......................................................... As required
10 - Power ................................................................. As required
GO-AROUND WITH AP ON

1. GO AROUND push-button ......................... Pushed
   AP remains ON with the flight director moving up to + 10°.

2. Simultaneously
   - THROTTLE ........................................ T/O power

3. FLAPS ............................................... TO

Weight below 6579 lbs (2984 kg)

If speed has been maintained at 80 KIAS or more and TRQ 100 %, select TO FLAPS as soon as the 10° attitude has been attained.

When the vertical speed is positive and when IAS is at or above 85 KIAS :

4. LANDING GEAR lever ........................................ UP
   All warning lights OFF

When IAS is at or above 110 KIAS :

5. FLAPS ....................................................... UP

6. Climb speed ........................................... As required

Weight above 6579 lbs (2984 kg)

If speed has been maintained at 85 KIAS or more and TRQ 100 %, select TO FLAPS as soon as the 10° attitude has been attained.

When the vertical speed is positive and when IAS is at or above 90 KIAS :

7. LANDING GEAR lever ........................................ UP
   All warning lights OFF

When IAS is at or above 115 KIAS :

8. FLAPS ....................................................... UP

9. Climb speed ........................................... As required

10. Power ..................................................... As required
TOUCH AND GO (1/2)

Before wheels touch

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A PRONOUNCED DECELERATION, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

1 - Takeoff distances  

Checked  
See Takeoff distances Chapter 5.9

2 - Rotation speed ($V_R$)  

Checked

After wheels touch

1 - FLAPS  

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.
TOUCH AND GO (2/2)

3 - THROTTLE ........................................... T/O power

4 - Takeoff attitudes
   - Normal takeoff .................................. ATTITUDE : 10°
   - Short takeoff
     - Weight < 6579 lbs (2984 kg) ............... ATTITUDE : 15°
     - Weight ≥ 6579 lbs (2984 kg) .............. ATTITUDE : 12°5

However, the pilot's operating handbook does not supply distances concerning touch and go. These distances are let to pilot's initiative.
RUNWAY CLEAR

CAUTION

GENERATOR LOAD < 200 AMPS

Runway clear - airplane stopped

1 - TAXI LIGHT .................................................. ON
2 - NAV LIGHTS ................................................. OFF
3 - STROBE LIGHT ............................................. OFF
4 - DE ICE SYSTEM panel
   - AIRFRAME DE ICE switch ............................... OFF
   - PROP DE ICE switch ................................. OFF
   - WINDSHIELD switch ................................. As required
   - PITOT L HTR switch ................................. OFF
   - PITOT R & STALL HTR switch ..................... OFF
5 - INERT SEP .................................................. Check ON
6 - Trims ................................................. Reset to TAKEOFF position
7 - FLAPS .................................................. UP
8 - A/C switch ........................................... As required
SHUT-DOWN (1/2)

1 - PARK BRAKE ........................................... Set ON

WARNING CAS message PARK BRAKE ....................... ON

2 - EXT LIGHTS panel
   - All switches ............................................. OFF

3 - INT LIGHTS panel
   - All switches .......................................... As required

4 - OXYGEN switch .......................................... OFF

5 - FUEL SEL switch ......................................... MAN

6 - AP / TRIMS switch ....................................... OFF

A/C and PRESSURIZATION panel

7 - A/C switch .............................................. OFF

8 - BLEED switch .......................................... OFF / RST

Check for cabin depressurization (Δp = 0 Psi)

9 - THROTTLE ................................................ Flight IDLE for 2 min

This allows the engine to stabilize at minimum obtainable ITT in order to minimize the likelihood of oil coking in the #3 bearing area.

10 - THROTTLE .............................................. LO-IDLE for 15 sec

Keep THROTTLE on LO-IDLE position for 15 sec minimum before shutting down engine.

11 - THROTTLE .............................................. CUT OFF

12 - INERT SEP switch ..................................... OFF

13 - Radar Mode Softkey ..................................... OFF
SHUT-DOWN (2/2)

Fuel system check

14 - WARNING CAS message and AUX BOOST PMP ON

Check

Wait for AUX BP operation (an audible operation of the auxiliary booster pump should be heard, it confirms the proper functioning of the system).

15 - AUX BP switch OFF

16 - GENERATOR selector OFF

17 - SOURCE selector OFF

Wait for inertial separator complete retraction, approximately 40 seconds.

18 - Crash lever Down

19 - FUEL TANK SELECTOR OFF

20 - PARK BRAKE As required

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).

21 - Stand-by instruments OFF

MD302 - NORMAL PROCEDURE

- No pilot action required for normal shutdown. The MD302 will shut down automatically within 60 seconds following electrical power shut-down.

MD302 - MANUAL PROCEDURE

- The MD302 can be manually shut down when in the discharge mode to conserve battery power:
  - Press and hold the control knob for approximately 2 seconds.
  - Turn the control knob to select POWER OFF on the menu and press the control knob to shut down the standby attitude module.

OUTSIDE CHECK AFTER SHUT-DOWN

Check engine oil hot level within 10 minutes following engine shut-down.

Close OXYGEN cylinder (R.H. Karman).
INTENTIONALLY LEFT BLANK
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 (1/4)

CAUTION

THE STALL WARNING SYSTEM DOES NOT FUNCTION PROPERLY IN ICING CONDITIONS AND SHOULD NOT BE RELIED UPON TO PROVIDE ADEQUATE STALL WARNING IN ICING CONDITIONS AND AFTER LEAVING ICING CONDITIONS, IF ICE ACCRETION REMAINS ON THE AIRPLANE.

MOREOVER, THE ESP AND USP FUNCTIONS MAY NOT BE CORRECTLY ENGAGED.

General

1 - Icing conditions exist when the OAT on the ground or in flight is +5°C or below, and 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 OAT on the ground is +5°C or below and 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 5.5.1 to convert OAT to SAT in flight.

\[ SAT = OAT - 2^\circ C \] 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.
FLIGHT INTO KNOWN ICING CONDITIONS (2/4)

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.

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 OAT ≤ 5°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 OAT is below -35°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.
FLIGHT INTO KNOWN ICING CONDITIONS (3/4)

CAUTION

SHOULD CONDITIONS REQUIRE IT, APPLY THESE DIRECTIVES FROM BEGINNING OF TAXI ONWARDS.

IF AIRPLANE LEAVES ICING CONDITIONS, MAINTAIN INERT SEP ON AS LONG AS ICE THICKNESS ON NON-DEICED VISIBLE PARTS EXCEEDS 15 mm (OR ½ IN).

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.

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 :

<table>
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<tr>
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<th>&lt; 6579 lbs (2984 kg)</th>
<th>&gt; 6579 lbs (2984 kg)</th>
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<tr>
<td>FLAPS UP</td>
<td>130 KIAS</td>
<td>135 KIAS</td>
</tr>
<tr>
<td>FLAPS TO</td>
<td>110 KIAS</td>
<td>110 KIAS</td>
</tr>
<tr>
<td>FLAPS LDG</td>
<td>90 KIAS</td>
<td>95 KIAS</td>
</tr>
</tbody>
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- 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.

Ice accumulation effects

When ice has accumulated on the unprotected surfaces of the airplane, aerodynamic characteristics may be changed.
FLIGHT INTO KNOWN ICING CONDITIONS (4/4)

Particularly stall speeds may increase by up to:

- FLAPS UP  20 KIAS
- FLAPS TO  15 KIAS
- FLAPS LDG 10 KIAS

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 5.14 LANDING DISTANCES.
FLIGHT INTO SEVERE ICING CONDITIONS

THE FOLLOWING WEATHER CONDITIONS MAY BE CONDUCTIVE 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 airplane 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.

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.
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 TAMPE D SNOW (1/2)

Refer if required to paragraph UTILIZATION BY COLD WEATHER AND VERY COLD WEATHER.

**CAUTION**

WHEN ENGINE IS SHUTDOWN, DO NOT SET THE "PROP DE ICE SWITCH TO ON, DAMAGE TO THE PROPELLER BLADES COULD RESULT

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).

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
UTILIZATION ON RUNWAYS COVERED WITH MELTING OR NOT TAMPERED SNOW (2/2)

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 ≤ 150 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.
UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS (1/2)

Refer if required to paragraph UTILIZATION BY COLD WEATHER AND VERY COLD WEATHER.

CAUTION

WHEN ENGINE IS SHUTDOWN, DO NOT SET THE PROP DE ICE SWITCH TO ON, DAMAGE TO THE PROPELLER BLADES COULD RESULT

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 throttle to adjust speed.
   Apply very smooth variations using THROTTLE.

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
UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS (2/2)

Takeoff

1 · After takeoff, normally retract the landing gear, then perform a complete cycle (extension / retraction) at IAS ≤ 150 KIAS.

Before landing

1 · IGNITION switch ....................................................................... ON
2 · INERT SEP switch .................................................................... ON

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 throttle to adjust speed.

   Apply very smooth variations using THROTTLE.

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.
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)
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 THROTTLE.

Before starting the engine / Starting the engine / After starting the engine

Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

Taxiing / Before takeoff / Takeoff

1 - On DE ICE SYSTEM panel :

   - INERT SEP switch ................................................. ON

   - WARNING CAS message INERT SEP ON ............................ ON

   - PITOT L HTR switch ............................................. ON

   - PITOT R & STALL HTR switch ................................. ON

   - PROP DE ICE switch ............................................ ON
UTILIZATION BY COLD WEATHER (- 0°C TO - 25°C) AND VERY COLD WEATHER (- 25°C TO - 40°C) (3/10)

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 - PARK BRAKE ................................. OFF

   WARNING CAS message 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.
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 cowlings,
   - in the cabin by half-opening the door.

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.

   Spray anti-icing fluid on the wings, stabilizers and movable surfaces (upper and lower surfaces), shortly before takeoff.

3 - Carry out a complete rotation of the propeller to check its free rotation.

4 - 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.

5 - Remove chocks and / or release ties from the airplane.

6 - Check the free deflection of the flight controls and of the elevator trim.

7 - Check the free deflection of the THROTTLE.
UTILIZATION BY COLD WEATHER (-0°C TO -25°C) AND VERY COLD WEATHER (-25°C TO -40°C) (5/10)

8 - IGNITION switch ................. ON during 30 seconds

WARNING CAS message **IGNITION** ............ ON

then IGNITION switch ....................... AUTO

WARNING CAS message **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 CAS message **GPU DOOR** ........ ON

- BAT and ESS voltmeters .................. Voltage checked
  (V ≥ 28 Volts)

3 - Engine controls

- MAN OVRD control ...................... Backward

**CAUTION**

*WHEN THE ENGINE IS SHUTDOWN, THE THROTTLE MUST NOT BE MOVED INTO THE REVERSE AREA.*

- THROTTLE ............................... CUT OFF
UTILIZATION BY COLD WEATHER (-0°C TO -25°C) AND VERY COLD WEATHER (-25°C TO -40°C) (6/10)

4 - FUEL panel
- AUX BP switch .................................................. ON
  WARNING CAS message AUX BOOST PMP ON ........... ON
  WARNING CAS message FUEL PRESS ................. OFF

5 - Propeller ................................. Area clear

6 - ENGINE START panel
- IGNITION switch ........................................... ON
  WARNING CAS message IGNITION ................. ON
  STARTER switch ........................................ ON (2 sec then OFF)
  Start timer
  WARNING CAS message STARTER ................. ON

When \( Ng \approx 13 \% \)
Move directly throttle to HI-IDLE
- THROTTLE ........................................ 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._

When \( Ng = 52 \% \text{ (± 2\%)} \)

7 - Check Starter is automatically OFF

Check STARTER CAS message is OFF.

**CAUTION**

_IF THE STARTER DOES NOT GO OFF AUTOMATICALLY, DO IT USING THE ABORT POSITION OF THE STARTER SWITCH._

8 - Engine instruments ................................. Check \( Ng = 70 \% \text{ (± 2\%)} \)

Oil pressure / ITT = green sector
UTILIZATION BY COLD WEATHER (-0°C TO -25°C) AND VERY COLD WEATHER (-25°C TO -40°C) (7/10)

9 - SOURCE selector .................................................. BATT
   WARNING CAS message BAT OFF ................................ OFF
10 - IGNITION switch .................................................. AUTO
   WARNING CAS message IGNITION ................................ OFF
11 - Ground power unit ............................................. Disconnect
12 - GPU door ......................................................... Close
   WARNING CAS message GPU DOOR ................................ OFF
13 - FUEL panel
   - AUX BP switch ............................................... AUTO
   WARNING CAS message AUX BOOST PMP ON .............. OFF
14 - GENERATOR selector .......................................... MAIN
   WARNING CAS message MAIN GEN .......................... OFF
   Reset if necessary

After starting the engine

As soon as the current flow is lower than 100 A:

1 - On PRESSURIZATION panel
   - BLEED switch ............................................... AUTO
   - MODE pressurization switch ............................... AUTO
UTILIZATION BY COLD WEATHER (-0°C TO -25°C) AND VERY COLD WEATHER (-25°C TO -40°C) (8/10)

2 - On A/C panel
   - A/C switch ....................................................... PILOT only
   - TEMP selector .................................................. Maxi warm
   - FAN switch ...................................................... 0
     As soon as the oil temperature is greater than 0°C :

3 - THROTTLE .................................................... FEATHER twice
     Flight IDLE to LO-IDLE,
     then Flight IDLE twice

4 - 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.
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

As soon as the current flow is lower than 100 A:

1. On PRESSURIZATION panel
   - BLEED switch ................................................. AUTO

2. On A/C panel
   - A/C switch .................................................. PILOT only
   - TEMP selector .............................................. Maxi warm
   - FAN switch ................................................... 0

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.

As soon as the oil temperature is greater than 0°C:

3. THROTTLE .............................................. FEATHER twice
   Flight IDLE to LO-IDLE, then Flight IDLE twice

4. 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.
UTILIZATION BY COLD WEATHER (-0°C TO -25°C) AND VERY COLD WEATHER (-25°C TO -40°C) (10/10)

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](image-url)
**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:

- \[ \Delta V = \frac{(\text{WIND DOWN} - 10)}{2} \]  
  (Ex. WIND DOWN = 30 kt i.e. \( \Delta V = 10 \text{ kt} \))

  *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.

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 5.14, would not be respected.

Before touch-down, generate a slideslip with the rudder in order to align fuselage with the runway (i.e. 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.

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.
LANDING PROCEDURE WITH STRONG HEADWIND OR CROSSWIND (2/2)

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 taxiing after landing and taxiing 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.
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 moreover takeoff shall not begin 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 THROTTLE is set to Flight 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).
GPS NAVIGATION (1/2)

Set up conditions

- Verify if the data base is current.
- 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). RAIM computation is automatically done by GARMIN system.

  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. An alarm is provided by GARMIN system in that case.

  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.

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
GPS NAVIGATION (2/2)

Coupling with autopilot may 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

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<tr>
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<td>5.9 - TAKEOFF DISTANCES</td>
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<td>WEIGHT : 5512 lbs (2500 kg)</td>
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<td>WEIGHT : 6579 lbs (2984 kg)</td>
<td>5.9.2</td>
</tr>
<tr>
<td>WEIGHT : 7394 lbs (3354 kg)</td>
<td>5.9.3</td>
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</tbody>
</table>
SECTION 5
PERFORMANCE

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- MXCL - SPEEDS (IAS = 170 KIAS/M 0.40) ......................... 5.10.2
- MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
  (IAS = 124 KIAS) .................................................. 5.10.3
- MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
  (IAS = 170 KIAS/M 0.40) ......................................... 5.10.6
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- LONG RANGE CRUISE (5500 lbs - 2495 kg) ...................... 5.11.18
  (Altitude > 24000 ft) ............................................. 5.11.18
- LONG RANGE CRUISE (6300 lbs - 2858 kg) ...................... 5.11.19
  (Altitude ≤ 24000 ft) ............................................. 5.11.19
- LONG RANGE CRUISE (6300 lbs - 2858 kg) ...................... 5.11.20
  (Altitude > 24000 ft) ............................................. 5.11.20
- LONG RANGE CRUISE (7100 lbs - 3220 kg) ...................... 5.11.21
  (Altitude ≤ 24000 ft) ............................................. 5.11.21
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5.1 - GENERAL

This Section provides all of the required and additional performance data for airplane operations.

The Section 9, Supplements of the Pilot's Operating Handbook, provides specific airplane performance associated with optional equipment and systems.
5.2 - NOISE LEVEL

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<td>76.4 dB(A)</td>
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<td>76.4 dB(A)</td>
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Approved noise levels for TBM airplane are stated in EASA.A.010 Type Certificate Data Sheet.

**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.
5.3 - AIRSPEED CALIBRATION

**NOTE:** Indicated airspeeds (IAS) : instrument error supposed to be null (power configuration for cruise condition flight).

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<th>FLAPS LDG LDG GR DN</th>
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<td>MPH CAS</td>
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Figure 5.3.1 - NORMAL STATIC SOURCE
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Figure 5.3.2 - ALTERNATE STATIC SOURCE (BLEED AUTO)
5.4 - CABIN PRESSURIZATION ENVELOPE

Figure 5.4.1 - CABIN PRESSURIZATION ENVELOPE
5.5 - SAT - OAT CONVERSIONS

**NOTE**

These indicated temperatures are available for stabilized cruise at normal operating power.

<table>
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<tr>
<th>Pressure altitude (feet)</th>
<th>ISA - 20°C</th>
<th>ISA - 10°C</th>
<th>ISA + 10°C</th>
<th>ISA + 20°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SAT  OAT</td>
<td>SAT  OAT</td>
<td>SAT  OAT</td>
<td>SAT  OAT</td>
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## 5.6 - STALL SPEEDS

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<tr>
<td></td>
<td>LDG</td>
<td>Flaps</td>
</tr>
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<tr>
<td>5512 lbs (2500 kg)</td>
<td>UP DN TO LDG</td>
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</tr>
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<td>6579 lbs (2984 kg)</td>
<td>UP DN TO LDG</td>
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<tr>
<td>7394 lbs (3354 kg)</td>
<td>UP DN TO LDG</td>
<td>81</td>
</tr>
</tbody>
</table>

Figure 5.6.1 – STALL SPEEDS
5.7 - WIND COMPONENTS

EXAMPLE:
- Angle between wind direction and flight path: 50°
- Headwind: 8 kts
- Crosswind: 10 kts
- Wind speed: 13 kts

Figure 5.7.1 - WIND COMPONENTS
5.8 - ENGINE OPERATION

The following tables or/and the optimum torque indicator must be used during normal operation of the airplane.

**IMPORTANT**: It is the responsibility of the Operator to make sure that the required version of Garmin System Software is installed prior to using the hereafter Engine Operation tables. The Garmin System Software required for this revision of the Engine Operation tables is the version 0719.14 or later. This information is displayed on the MFD Power-up page upon system start.

The following conditions are given:

- BLEED AUTO.

The torque must be set at or below the value corresponding to the local conditions of flight level and temperature.

**NOTE**

*Inertial separator must be OFF and BLEED HI MSG OFF.*

Example: for FL = 260 and OAT = -22°C, the following tables give the maximum torque to be set.

Maximum climb power:

TRQ = 83 % for IAS = 124 KIAS (Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed)

(cf. tables Figures 5.8.1 and 5.8.1A)

Maximum cruise power:

TRQ = 97 % (cf. tables Figures 5.8.3 and 5.8.3A)

Recommended cruise power:

TRQ = 92 % (cf. tables Figures 5.8.4 and 5.8.4A)

**CAUTION**

*THE TRQ SETTING MUST NEVER EXCEED 100 %. WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %*

**REMARK**: The engine ITT limit at 840°C during continuous operation may be used in case of operational need.
SECTION 5
PERFORMANCE

PILOT'S OPERATING HANDBOOK

ENGINE OPERATION

Conditions:

Maximum climb power (FL ≤ 200) ISA - 124 KIAS

- Landing gear and flaps UP
- BLEED switch on AUTO

NOTE: Add 0.5% of TRQ for each additional 10 KIAS on climb airspeed.

Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

<table>
<thead>
<tr>
<th>T° (°C)</th>
<th>FLIGHT LEVEL (FL)</th>
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CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.1 - ENGINE OPERATION

[Maximum climb power (FL ≤ 200)]
ENGINE OPERATION

Conditions:

Maximum climb power (FL ≥ 200)

ISA - 124 KIAS

- If BLEED HI MSG ON, reduce TRQ by 5%
- Landing gear and flaps UP
- BLEED switch on AUTO

NOTE: Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.

Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.1A - ENGINE OPERATION

[Maximum climb power (FL ≥ 200)]
ENGINE OPERATION

Conditions:

- Maximum climb power (FL ≤ 200)
- ISA - 170 KIAS / M 0.40
- If BLEED HI MSG ON, reduce TRQ by 5%
- Landing gear and flaps UP
- BLEED switch on AUTO

**NOTE:** Add 0.5% of TRQ for each additional 10 KIAS on climb airspeed.
Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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**CAUTION**

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.2 - ENGINE OPERATION
[Maximum climb power (FL ≤ 200)]
ENGINE OPERATION

Conditions:

- Maximum climb power (FL ≥ 200) ISA - 170 KIAS / M 0.40
- If BLEED Hi MSG ON, reduce TRQ by 5%
- Landing gear and flaps UP
- BLEED switch on AUTO

**NOTE:** Add 0.5% of TRQ for each additional 10 KIAS on climb airspeed.

Table not valid if INERTIAL SEPARATOR ON and/or BLEED Hi MSG ON.

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**CAUTION**

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.2A - ENGINE OPERATION

[Maximum climb power (FL ≥ 200)]

Edition 0 - January 15, 2017
Rev. 0
ENGINE OPERATION

Conditions:

- Maximum cruise power (FL ≤ 200)
- ISA
- If BLEED HI MSG ON, reduce TRQ by 5%
- Landing gear and flaps UP
- BLEED switch on AUTO

**NOTE:** Use preferably recommended cruise power.

Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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**CAUTION**

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.3 - ENGINE OPERATION

[Maximum cruise power (FL ≤ 200)]
ENGINE OPERATION

Conditions:

Maximum cruise power (FL ≥ 200) ISA

- Landing gear and flaps UP
- BLEED switch on AUTO

**NOTE:** Use preferably recommended cruise power.
Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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**CAUTION:**
THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.3A - ENGINE OPERATION
[Maximum cruise power (FL ≥ 200)]
ENGINE OPERATION

Conditions:

- Normal (recommended) cruise power (FL ≤ 200)
- If BLEED HI MSG ON, reduce TRQ by 5%
- Landing gear and flaps UP
- BLEED switch on AUTO

**NOTE:** Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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**Recommended NG < 103 %**

**CAUTION**

THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.4 - ENGINE OPERATION
[Normal (recommended) cruise power (FL ≤ 200)]
ENGINE OPERATION

Conditions:
- Normal (recommended) cruise power (FL ≥ 200)
- If BLEED HI MSG ON, reduce TRQ by 5 %
- Landing gear and flaps UP
- BLEED switch on AUTO

NOTE: Table not valid if INERTIAL SEPARATOR ON and/or BLEED HI MSG ON.

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CAUTION
THE TRQ SETTING MUST NEVER EXCEED 100 %
WHEN SETTING TRQ, NG MUST NEVER EXCEED 104 %

Figure 5.8.4A - ENGINE OPERATION
[Normal (recommended) cruise power (FL ≥ 200)]
5.9 - TAKEOFF DISTANCES

WEIGHT : 5512 lbs (2500 kg)

Associated conditions :
- Landing gear DN and flaps TO
- 15° of attitude - TRQ = 100 %
- BLEED switch on AUTO
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D50 = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (VR)

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Figure 5.9.1 - 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 rear wind
. Increase by : 7 % on hard sod 25 % on high grass
. 10 % on short grass 30 % on slippery runway
. 15 % on wet 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 switch to AUTO.

In SL ISA conditions, nominal Np is of 1985 RPM.
WEIGHT : 6579 lbs (2984 kg)

Associated conditions:
- Landing gear DN and flaps TO
- 15° of attitude - TRQ = 100 %
- BLEED switch on AUTO
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D50 = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (VR)

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Figure 5.9.2 - 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 rear wind
- Increase by:
  - 7 % on hard sod
  - 25 % on high grass
  - 10 % on short grass
  - 30 % on slippery runway
  - 15 % on wet 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 switch to AUTO.

In SL ISA conditions, nominal Np is of 1985 RPM.
WEIGHT : 7394 lbs (3354 kg)

Associated conditions:
- Landing gear DN and flaps TO
- 12° of attitude - TRQ = 100 %
- BLEED switch on AUTO
- Hard, dry and level runway
- GR = Ground roll (in ft)
- \( D_{50} \) = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (\( V_R \))

85

90

\( V_R \) (KT)

3000

7000

7394

7500

WEIGHT (LBS)

3354

3400

WEIGHT : 7394 lbs (3354 kg) at 50 ft = 99 KIAS - 114 MPH IAS

\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline
\textbf{PRESSURE ALTITUDE ft} & \textbf{ISA - 35°C} & \textbf{ISA - 20°C} & \textbf{ISA - 10°C} & \textbf{ISA} \\
\hline
0 & 1440 & 2020 & 1560 & 2175 & 1645 & 2275 & 1725 & 2380 \\
2000 & 1555 & 2170 & 1690 & 2335 & 1770 & 2445 & 1860 & 2560 \\
4000 & 1685 & 2325 & 1820 & 2505 & 1910 & 2630 & 2045 & 2785 \\
6000 & 1810 & 2500 & 1970 & 2710 & 2130 & 2930 & 2290 & 3135 \\
8000 & 1960 & 2695 & 2220 & 3045 & 2410 & 3265 & 2590 & 3490 \\
\hline
\textbf{PRESSURE ALTITUDE ft} & \textbf{ISA + 10°C} & \textbf{ISA + 20°C} & \textbf{ISA + 30°C} & \textbf{ISA + 37°C} \\
\hline
0 & 1800 & 2485 & 1880 & 2595 & 1965 & 2705 & 2060 & 2810 \\
2000 & 1945 & 2675 & 2080 & 2865 & 2215 & 3040 & 2325 & 3160 \\
4000 & 2185 & 3000 & 2355 & 3200 & 2500 & 3385 & 2610 & 3520 \\
6000 & 2470 & 3340 & 2640 & 3550 & 2810 & 3765 & 2935 & 3915 \\
8000 & 2775 & 3720 & 2965 & 3950 & 3180 & 4185 & 3315 & 4350 \\
\hline
\end{tabular}

Figure 5.9.3 - TAKEOFF DISTANCES - 7394 lbs (3354 kg)

Corrections:
- Reduce total distances of 10 % every 10 kts of headwind
- Increase total distances of 30 % every 10 kts of rear wind
- Increase by:
  - 7 % on hard sod
  - 25 % on high grass
  - 10 % on short grass
  - 30 % on slippery runway
  - 15 % on wet runway

\textbf{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 switch to AUTO.

In SL ISA conditions, nominal \( N_p \) is of 1985 RPM.
5.10 - CLIMB PERFORMANCE

MXCL - SPEEDS (IAS - 124 KIAS)

Conditions:
- Maximum climb power TRQ = 100 %
- Landing gear and flaps UP
- IAS = 124 KIAS - BLEED switch on AUTO or BLEED HI MSG ON

<table>
<thead>
<tr>
<th>Airplane weight</th>
<th>Pressure altitude (feet)</th>
<th>RATE OF CLIMB (ft/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA - 20°C</td>
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<tr>
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<tr>
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</tr>
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<tr>
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<td>2775</td>
<td>2755</td>
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<tr>
<td>6594 lbs (2991 kg)</td>
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<tr>
<td>7394 lbs (3354 kg)</td>
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Figure 5.10.1 - MXCL - SPEEDS (IAS - 124 KIAS)

**NOTE:** In SL ISA conditions, nominal Np is of 1985 RPM.
## MXCL - SPEEDS (IAS - 170 KIAS / M 0.40)

**Conditions:**
- Maximum climb power TRQ = 100%
- Landing gear and flaps UP
- IAS = 170 KIAS / M 0.40
- BLEED switch on AUTO or BLEED HI MSG ON

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<thead>
<tr>
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<th>RATE OF CLIMB (ft/min)</th>
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Figure 5.10.2 - MXCL - SPEEDS (IAS - 170 KIAS / M 0.40)

**NOTE:** In SL ISA conditions, nominal Np is of 1985 RPM.
**SECTION 5**

**PERFORMANCE**

**PILOT’S OPERATING HANDBOOK**

**MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE**

**(IAS = 124 KIAS)**

**Conditions:**
- ISA - 20°C
- Maximum climb power
- Landing gear and flaps UP
- IAS = 124 KIAS - BLEED switch on AUTO

**NOTE:**
- Time, consumption and distance from the 50 ft
- If BLEED HI selected: fuel consumptions increased by 1 %

<table>
<thead>
<tr>
<th>Pressure altitude (ft)</th>
<th>WEIGHT 5794 lbs (2628 kg)</th>
<th>WEIGHT 6579 lbs (2984 kg)</th>
<th>WEIGHT 7394 lbs (3354 kg)</th>
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</thead>
<tbody>
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<td>Dist. (NM)</td>
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</tr>
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</table>

**Figure 5.10.3 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE**

**(IAS = 124 KIAS) / ISA - 20°C**
### MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 124 KIAS)

**Conditions:**
- ISA
- Maximum climb power
- Landing gear and flaps UP
- IAS = 124 KIAS - BLEED switch on AUTO

**NOTE:**
- Time, consumption and distance from the 50 ft
- If BLEED HI selected:
  - Fuel consumptions increased by 2%
  - Time to climb increased up to 1% above FL 260

<table>
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<th>Dist. (NM)</th>
<th>Time (min. s)</th>
<th>Consump.</th>
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</table>
### Conditions:
- ISA + 20°C
- Maximum climb power
- Landing gear and flaps UP
- IAS = 124 KIAS - BLEED switch on AUTO

### NOTE:
- Time, consumption and distance from the 50 ft
- If BLEED HI selected: fuel consumptions increased by 1%

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<th>Pressure altitude (ft)</th>
<th>Time (min.s)</th>
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<th>USG</th>
<th>Dist. (NM)</th>
<th>Time (min.s)</th>
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</tr>
<tr>
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<td>46</td>
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<td>18.9</td>
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<td>62</td>
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<td>75</td>
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<td>19.8</td>
<td>21:45</td>
<td>92</td>
<td>72</td>
<td>24.4</td>
</tr>
</tbody>
</table>

Figure 5.10.5 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE (IAS = 124 KIAS) / ISA + 20°C
### MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE

(\text{IAS} = 170 \text{ KIAS} / \text{M} 0.40)

**Conditions:**
- \text{ISA} - 20°C
- Maximum climb power
- Landing gear and flaps UP
- \text{IAS} = 170 \text{ KIAS} / \text{M} 0.40 - BLEED switch on AUTO

**NOTE:**
- Time, consumption and distance from the 50 ft
- If BLEED HI selected: fuel consumptions increased by 1%

<table>
<thead>
<tr>
<th>Pressure altitude (ft)</th>
<th>WEIGHT 5794 lbs (2628 kg)</th>
<th>WEIGH</th>
<th>WEIGHT 7394 lbs (3354 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time (min. s)</td>
<td>Consump.</td>
<td>Dist. (NM)</td>
</tr>
<tr>
<td>SL</td>
<td>00.00</td>
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<td>0</td>
</tr>
<tr>
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<td>4</td>
<td>3</td>
</tr>
<tr>
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<td>01:45</td>
<td>9</td>
<td>7</td>
</tr>
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<td>6000</td>
<td>02:30</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
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<td>17</td>
<td>14</td>
</tr>
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<tr>
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<td>05:15</td>
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<td>20</td>
</tr>
<tr>
<td>14000</td>
<td>06:00</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>16000</td>
<td>07:00</td>
<td>34</td>
<td>27</td>
</tr>
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<td>18000</td>
<td>08:00</td>
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</tr>
<tr>
<td>20000</td>
<td>09:00</td>
<td>43</td>
<td>34</td>
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<td>24000</td>
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</tr>
<tr>
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<td>50</td>
</tr>
</tbody>
</table>

Figure 5.10.6 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE

(\text{IAS} = 170 \text{ KIAS} / \text{M} 0.40) / \text{ISA} - 20°C
**PILOT’S OPERATING HANDBOOK**

**SECTION 5**

**PERFORMANCE**

**MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE**

(IAS = 170 KIAS / M 0.40)

**Conditions:**
- ISA
- Maximum climb power
- Landing gear and flaps UP
- IAS = 170 KIAS / M 0.40 - BLED switch on AUTO

**NOTE:**
- Time, consumption and distance from the 50 ft
- If BLED HI selected:
  . Fuel consumptions increased by 2 %
  . Time to climb increased up to 2 % above FL 260

<table>
<thead>
<tr>
<th>Pressure altitude (ft)</th>
<th>WEIGHT 5794 lbs (2628 kg)</th>
<th>WEIGHT 6579 lbs (2984 kg)</th>
<th>WEIGHT 7394 lbs (3354 kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Time (min.s)</td>
<td>Consump.</td>
<td>Dist. (NM)</td>
</tr>
<tr>
<td>SL</td>
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<td>0</td>
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<td>4</td>
</tr>
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<td>4000</td>
<td>01:45</td>
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<td>7</td>
</tr>
<tr>
<td>6000</td>
<td>02:30</td>
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<td>11</td>
</tr>
<tr>
<td>8000</td>
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<td>14</td>
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<td>10000</td>
<td>04:30</td>
<td>36</td>
<td>28</td>
</tr>
<tr>
<td>12000</td>
<td>05:15</td>
<td>27</td>
<td>21</td>
</tr>
<tr>
<td>14000</td>
<td>06:15</td>
<td>32</td>
<td>25</td>
</tr>
<tr>
<td>16000</td>
<td>07:15</td>
<td>36</td>
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<tr>
<td>18000</td>
<td>08:15</td>
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<td>32</td>
</tr>
<tr>
<td>20000</td>
<td>09:15</td>
<td>45</td>
<td>36</td>
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Figure 5.10.7 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE

(IAS = 170 KIAS / M 0.40) / ISA
MXCL - TIME, CONSUMPTION AND CLimb DISTANCE  
(IAS = 170 KIAS / M 0.40)

Conditions:
- ISA + 20°C
- Maximum climb power
- Landing gear and flaps UP
- IAS = 170 KIAS / M 0.40 - BLEED switch on AUTO

**NOTE:**
- Time, consumption and distance from the 50 ft
- If BLEED HI selected:
  - Fuel consumptions increased by
    - 3% below FL 240
    - Up to 6% above FL 240
  - Time to climb increased by 1% to 8% from FL 200 to FL 310

<table>
<thead>
<tr>
<th>Pressure altitude (ft)</th>
<th>WEIgHT 5794 lbs (2628 kg)</th>
<th>WEIgHT 6579 lbs (2984 kg)</th>
<th>WEIgHT 7394 lbs (3354 kg)</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Time (min. s)</td>
<td>Consump.</td>
<td>Dist. (NM)</td>
</tr>
<tr>
<td>SL</td>
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<tr>
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<td>00:45</td>
<td>5</td>
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</tr>
<tr>
<td>4000</td>
<td>01:45</td>
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<td>8</td>
</tr>
<tr>
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<td>02:45</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
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<td>03:30</td>
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<td>04:30</td>
<td>24</td>
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<td>05:30</td>
<td>29</td>
<td>22</td>
</tr>
<tr>
<td>14000</td>
<td>06:30</td>
<td>33</td>
<td>26</td>
</tr>
<tr>
<td>16000</td>
<td>07:30</td>
<td>38</td>
<td>30</td>
</tr>
<tr>
<td>18000</td>
<td>08:30</td>
<td>43</td>
<td>34</td>
</tr>
<tr>
<td>20000</td>
<td>09:45</td>
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<td>38</td>
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<tr>
<td>22000</td>
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</tr>
<tr>
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<td>70</td>
<td>55</td>
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<td>17:15</td>
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<td>31000</td>
<td>18:00</td>
<td>78</td>
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</table>

Figure 5.10.8 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE  
(IAS = 170 KIAS / M 0.40) / ISA + 20°C
### CLIMB PERFORMANCE AFTER GO-AROUND

**Conditions:**
- Landing gear DN and flaps LDG
- IAS = 90 KIAS

<table>
<thead>
<tr>
<th>Airplane weight</th>
<th>Pressure altitude (feet)</th>
<th>RATE OF CLIMB (ft/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ISA - 35°C</td>
</tr>
<tr>
<td>6594 lbs (2991 kg)</td>
<td>SL</td>
<td>1635</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>1615</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>1585</td>
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<td>6000</td>
<td>1555</td>
</tr>
<tr>
<td></td>
<td>8000</td>
<td>1520</td>
</tr>
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</table>

**Conditions:**
- Landing gear DN and flaps LDG
- IAS = 95 KIAS

<table>
<thead>
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<th>Pressure altitude (feet)</th>
<th>RATE OF CLIMB (ft/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>ISA - 35°C</td>
</tr>
<tr>
<td>7394 lbs (3354 kg)</td>
<td>SL</td>
<td>1350</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>1325</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>1295</td>
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<td>6000</td>
<td>1265</td>
</tr>
<tr>
<td></td>
<td>8000</td>
<td>1230</td>
</tr>
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</table>

Figure 5.10.9 - CLIMB PERFORMANCE AFTER GO-AROUND
### CLIMB PERFORMANCE - FLAPS TO

**Conditions:**
- Landing gear UP and flaps TO
- IAS = 110 KIAS

<table>
<thead>
<tr>
<th>Airplane weight</th>
<th>Pressure altitude (feet)</th>
<th>Rate of Climb (ft/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA - 35°C</td>
<td>ISA - 20°C</td>
</tr>
<tr>
<td>6594 lbs (2991 kg)</td>
<td>SL</td>
<td>2295</td>
</tr>
<tr>
<td></td>
<td>2000</td>
<td>2280</td>
</tr>
<tr>
<td></td>
<td>4000</td>
<td>2265</td>
</tr>
<tr>
<td></td>
<td>6000</td>
<td>2250</td>
</tr>
<tr>
<td></td>
<td>8000</td>
<td>2235</td>
</tr>
</tbody>
</table>

**Conditions:**
- Landing gear UP and flaps TO
- IAS = 115 KIAS

<table>
<thead>
<tr>
<th>Airplane weight</th>
<th>Pressure altitude (feet)</th>
<th>Rate of Climb (ft/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISA - 35°C</td>
<td>ISA - 20°C</td>
</tr>
<tr>
<td>7394 lbs (3354 kg)</td>
<td>SL</td>
<td>1985</td>
</tr>
<tr>
<td></td>
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<td>1970</td>
</tr>
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<td></td>
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<tr>
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Figure 5.10.10 - CLIMB PERFORMANCE - FLAPS TO
5.11 - CRUISE PERFORMANCE

MAXIMUM CRUISE

Figure 5.11.1 - CRUISE PERFORMANCE (Maximum cruise)
MAXIMUM CRUISE

Conditions:
- **ISA - 20°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRO (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>I / h</td>
<td>USG / h</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>IAS TAS</td>
<td>IAS TAS</td>
</tr>
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<td>31000</td>
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<td>100</td>
<td>238 187</td>
<td>63.0</td>
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</table>

Figure 5.11.2 - CRUISE PERFORMANCE
Maximum cruise / ISA - 20°C
MAXIMUM CRUISE

Conditions:
- **ISA - 10°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Below FL 300: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 300 and above: reduce the torque value mentioned in the table below by 2%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>5500 lbs (2495 kg)</td>
<td>6300 lbs (2858 kg)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>I / h</td>
<td>kg / h</td>
</tr>
<tr>
<td>SL</td>
<td>6</td>
<td>100</td>
<td>238</td>
<td>239</td>
</tr>
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<td>97</td>
<td>230</td>
<td>181</td>
</tr>
</tbody>
</table>

Figure 5.11.3 - CRUISE PERFORMANCE
Maximum cruise / ISA - 10°C
MAXIMUM CRUISE

Conditions:
- **ISA - 5°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- **If BLEED HI MSG ON:**
  - Below FL 290: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 290 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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Figure 5.11.4 - CRUISE PERFORMANCE
Maximum cruise / ISA - 5°C
MAXIMUM CRUISE

Conditions:
- ISA
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

NOTE:
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Below FL 280: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 280 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow l/h</th>
<th>Fuel flow kg/h</th>
<th>Fuel flow USG/h</th>
<th>AIRSPEEDS (kt)</th>
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Figure 5.11.5 - CRUISE PERFORMANCE
Maximum cruise / ISA
### MAXIMUM CRUISE

**Conditions:**
- **ISA + 5°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Below FL 270: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 270 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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</table>

Figure 5.11.6 - CRUISE PERFORMANCE
Maximum cruise / ISA + 5°C
# Maximum Cruise

Conditions:
- **ISA + 10°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Below FL 260: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 260 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 3 KIAS.

## Pressure altitude (feet) | OAT (°C) | TRQ (%) | Fuel flow l/h | Fuel flow kg/h | USG / h | AIRSPEEDS (kt)
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Figure 5.11.7 - CRUISE PERFORMANCE
Maximum cruise / ISA + 10°C
MAXIMUM CRUISE

Conditions:
- **ISA + 20°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Use preferably recommended cruise power
- If BLEED HI MSG ON:
  - Below FL 230: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 230 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 4 KIAS.

<table>
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<th>Pressure altitude (feet)</th>
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Figure 5.11.8 - CRUISE PERFORMANCE
Maximum cruise / ISA + 20°C
NORMAL CRUISE (Recommended)

Figure 5.11.9 - CRUISE PERFORMANCE (Recommended cruise)
NORMAL CRUISE (Recommended)

Conditions:
- **ISA - 20°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow l/h</th>
<th>Fuel flow USG/h</th>
<th>AIRSPEEDS (kt)</th>
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Figure 5.11.10 - CRUISE PERFORMANCE
Normal cruise / ISA - 20°C
NORMAL (RECOMMENDED) CRUISE

Conditions:
- **ISA - 10°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Below FL 290: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 290 and above: reduce the torque value mentioned in the table below by 2%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT ('°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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</thead>
<tbody>
<tr>
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<tr>
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Figure 5.11.11 - CRUISE PERFORMANCE
Normal cruise / ISA - 10°C
NORMAL (RECOMMENDED) CRUISE

Conditions:
- **ISA - 5°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Below FL 280: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 280 and above: reduce the torque value mentioned in the table below by 2%, leading to airspeed reduction by 2 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRO (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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</thead>
<tbody>
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Figure 5.11.12 - CRUISE PERFORMANCE
Normal cruise / ISA - 5°C
NORMAL (RECOMMENDED) CRUISE

Conditions:
- **ISA**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Below FL 270: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 270 and above: reduce the torque value mentioned in the table below by 2%, leading to airspeed reduction by 2 KIAS.

### Normal cruise / ISA

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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</thead>
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<td>5500 lbs (2495 kg)</td>
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<td>IAS</td>
<td>TAS</td>
</tr>
<tr>
<td>l / h</td>
<td>kg / h</td>
<td>USG / h</td>
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Figure 5.11.13 - CRUISE PERFORMANCE
Normal cruise / ISA
NORMAL (RECOMMENDED) CRUISE

Conditions:
- ISA + 5°C
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

NOTE:
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  . Below FL 260: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  . FL 260 and above: reduce the torque value mentioned in the table below by 2%, leading to airspeed reduction by 2 KIAS.

<table>
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<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow l/h</th>
<th>Fuel flow kg/h</th>
<th>Fuel flow USG/h</th>
<th>5500 lbs (2495 kg) IAS</th>
<th>6300 lbs (2858 kg) TAS</th>
<th>7100 lbs (3220 kg) IAS</th>
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Figure 5.11.14 - CRUISE PERFORMANCE
Normal cruise / ISA + 5°C
NORMAL (RECOMMENDED) CRUISE

Conditions:
- ISA + 10°C
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

NOTE:
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Below FL 240: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 240 and above: reduce the torque value mentioned in the table below by 3%, leading to airspeed reduction by 3 KIAS.

<table>
<thead>
<tr>
<th>Pressure altitude (feet)</th>
<th>OAT (°C)</th>
<th>TRQ (%)</th>
<th>Fuel flow</th>
<th>AIRSPEEDS (kt)</th>
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<td>kg / h</td>
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Figure 5.11.15 - CRUISE PERFORMANCE
Normal cruise / ISA + 10°C
NORMAL (RECOMMENDED) CRUISE

Conditions:
- **ISA + 20°C**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

**NOTE:**
- Power recommended by PRATT & WHITNEY CANADA
- If BLEED HI MSG ON:
  - Below FL 210: fuel flow will increase by 1%, reduce the torque only to respect the maximum power of 100%.
  - FL 210 and above: reduce the torque value mentioned in the table below by 4%, leading to airspeed reduction by 4 KIAS.

<table>
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Figure 5.11.16 - CRUISE PERFORMANCE
Normal cruise / ISA + 20°C
## LONG RANGE CRUISE (5500 LBS - 2495 KG)

### Conditions :
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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LONG RANGE CRUISE (5500 LBS - 2495 KG) (CONT’D)

**LEGEND:**
- OAT: °C
- IAS: KIAS
- FF: USG/h
- FF: kg/h
- TAS: KTAS

**Conditions:**
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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LONG RANGE CRUISE (6300 LBS - 2858 KG)

Conditions :
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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LONG RANGE CRUISE (6300 LBS - 2858 KG) (CONT'D)

Conditions:
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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Figure 5.11.18 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (6300 lbs - 2858 kg) (Altitude ≥ 24000 ft)
LONG RANGE CRUISE (7100 LBS - 3220 KG)

Conditions:
- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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LONG RANGE CRUISE (7100 LBS - 3220 KG) (CONT’D)

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- Landing gear and flaps UP
- BLEED switch on AUTO and BLEED HI MSG OFF

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Figure 5.11.19 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (7100 lbs - 3220 kg) (Altitude ≥ 24000 ft)
5.12 - TIME, CONSUMPTION AND DESCENT DISTANCE

Conditions:
- Power as required to maintain constant Vz
- Landing gear and flaps UP
- CAS = 230 KCAS - BLEED switch on AUTO

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Figure 5.12.1 - TIME, CONSUMPTION AND DESCENT DISTANCE
5.13 - HOLDING TIME

Conditions:
- Landing gear and flaps UP
- IAS = 120 KIAS - BLEED switch on AUTO
- TRQ ≈ 26%

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Figure 5.13.1 - HOLDING TIME
INTENTIONALLY LEFT BLANK
5.14 - LANDING DISTANCES

**WEIGHT : 7024 lbs (3186 kg)**

Associated conditions :
- Landing gear DN and flaps LDG
- Approach speed IAS = 85 KIAS
- Touch-down speed IAS = 78 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)

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<th>PRESSURE ALTITUDE ft</th>
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Figure 5.14.1 - LANDING DISTANCES - 7024 lbs (3186 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
- 25 % on high grass
- 10 % on short grass
- 30 % on slippery runway
- 15 % on wet runway
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)

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<td>2645</td>
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<td>2820</td>
<td>3085</td>
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Figure 5.14.2 - 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
  - 25 % on high grass
  - 10 % on short grass
  - 30 % on slippery runway
  - 15 % on wet runway
WEIGHT : 5071 lbs (2300 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)

### Table: LANDING DISTANCES - 5071 lbs (2300 kg)

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<thead>
<tr>
<th>PRESSURE ALTITUDE ft</th>
<th>ISA - 35°C</th>
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<tr>
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<table>
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<td></td>
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<td>GR D50</td>
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<td>1245 2495</td>
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<tr>
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<td>1345 2645</td>
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<td>1445 2820</td>
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<td>8000</td>
<td>1445 2790</td>
<td>1510 2885</td>
<td>1560 2985</td>
<td>1610 3085</td>
</tr>
</tbody>
</table>

Figure 5.14.3 - 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
- 25% on high grass
- 10% on short grass
- 30% on slippery runway
- 15% on wet runway
SECTION 6
WEIGHT AND BALANCE

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    UTILIZATION OF WEIGHT AND BALANCE GRAPH .... 6.4.2
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6.1 - GENERAL

This section contains the procedure for determining the basic empty weight and the balance of the airplane. Procedures for calculating the weight and the balance for various flight operations are also provided.

A list of equipment available for this airplane is referenced at the end of this Pilot's Operating Handbook - refer to Chapter 6.5.

It should be noted that 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 LOADED PROPERLY AND THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.
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.
6.3 - BAGGAGE LOADING

With 6-seat accommodation

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.

A partition net separating the cabin from the baggage compartment is attached to frame C14.

With 4-seat accommodation

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 in the rear of the pressurized cabin with maximum baggage capacity of 176 lbs + 220 lbs (80 kg + 100 kg)

Two types of baggage securing nets can be used.

The Small Cargo Net is attached through nine anchoring points on seat rails, between frame C11 and frame C13bis (Figure 7.2.1B).

The Large Cargo Net is attached through seven anchoring points on seat rails, between frame C11 and frame C13bis and six anchoring points on fuselage sides, at frame C14 (Figure 7.2.1A).

Authorized anchoring points are identified with green self-adhesive labels affixed to the inside of the rail.

A placard indicates loading limits for each securing net.

Center the load distribution within the cargo zone. Distribute evenly and centrally within the zone. With the large net, account for portions of weight in respective zones (delineated by the step on the floor) for proper weight allocation.
**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.

Baggage compartments loading must be done in accordance with the weight and balance limits of the airplane.

Generally, if rear seats are not used (or removed in 4-seat accommodation), 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.
6.4 - DETERMINING WEIGHT AND BALANCE

GENERAL

This paragraph is intended to provide the pilot with a simple and rapid means of determining weight and balance of his airplane.

IT IS THE PILOT’S RESPONSIBILITY TO ENSURE THAT THE AIRPLANE IS LOADED PROPERLY AND THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.

Empty weight to be considered is the weight noted on last weighing form. To this empty weight corresponds a basic balance, expressed in percent of mean aerodynamic chord and a basic moment, expressed in m.kg or in.lb.

If airplane empty weight has varied since last weighing form, refer to paragraph DETERMINING EMPTY AIRPLANE CHARACTERISTICS to determine new empty weight and the corresponding balance (for instance: optional equipment installation).
UTILIZATION OF WEIGHT AND BALANCE GRAPH (Figures 6.4.1, 6.4.1A, 6.4.2, 6.4.2A)

1) Record airplane basic characteristics.
2) Record foreseen loading and compute each associated moment.
3) Compute Zero Fuel Weight weight and moment as sum of all above weights and moments.
4) Compute arm and CG using given formulas.
5) Record foreseen fuel and compute associated moment.
6) Compute Ramp Weight weight and moment as sum of Zero Fuel Weight and Fuel.
7) Compute arm and CG using given formulas.
8) Record foreseen Taxi Fuel (negative value) and compute associated moment.
9) Compute Takeoff Weight weight and moment as sum of Ramp Weight and Taxi Fuel.
10) Compute arm and CG using given formulas.
11) Record foreseen Trip Fuel (negative value) and compute associated moment.
12) Compute Landing Weight weight and moment as sum of Takeoff Weight and Trip Fuel.
13) Compute arm and CG using given formulas.
14) Plot Zero Fuel Weight, Ramp Weight, Takeoff Weight, Landing Weight on Figure 6.4.1 or 6.4.2

Check that all the points are inside the weight and balance envelope. All the points should be vertically aligned.

Check also that each characteristic weight does not exceed the maximum weight. If not, reconsider airplane loading.
15) Record these data on your navigation log.

\[
\text{Moment} = \text{Weight} \times \text{Arm} \\
CG(\%) = \frac{(\text{Arm} \ m) - 4.392}{1.51} \times 100
\]

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (% MAC)</th>
</tr>
</thead>
<tbody>
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<td>(1)</td>
<td>(1)</td>
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<td>(2)</td>
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<tr>
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</tr>
<tr>
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<tr>
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<td>Cargo (&lt; 80 kg)</td>
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</tr>
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</tbody>
</table>
### SECTION 6
### WEIGHT AND BALANCE

#### PILOT'S OPERATING HANDBOOK

Units: meters, kg, litres

Moment = Weight X Arm

\[ CG \% = \frac{(Arm \ m - 4.392)}{1.51} \times 100 \]

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (% MAC)</th>
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<td>Trip Fuel</td>
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<td>Landing Weight  (&lt; 3186 kg)</td>
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Figure 6.4.1 - WEIGHT AND BALANCE GRAPH (in kg and litres)
Moment = Weight X Arm

\[ CG (\%) = \frac{(Arm (in) - 172.93)}{59.45} \times 100 \]

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<th>Item</th>
<th>Weight (lbs)</th>
<th>Arm (in)</th>
<th>Moment (in.lbs)</th>
<th>CG (% MAC)</th>
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<td>Fuel (lbs)</td>
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<tr>
<td>Taxi Fuel (lbs)</td>
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</table>

Units: in, lbs, USG
Figure 6.4.1A - WEIGHT AND BALANCE GRAPH (in lbs and USG)
EXAMPLE 1

Airplane basic characteristics:
- Empty weight: 2126 kg
- Moment: 10072.5 m.kg
- CG = Balance (m.a.c %): 22.9%

Foreseen loading:
- 1 Pilot and 1 front Passenger: 200 kg
- 2 Rear Passengers: 160 kg
- Aft Baggage: 50 kg
- Fuel: 820 kg

Foreseen fuel:
- Taxi Fuel: -16 kg
- Trip Fuel: -600 kg

Units: meters, kg, litres

Moment = Weight X Arm

\[ CG (\%) = \frac{(Arm (m) - 4.392)}{1.51} \times 100 \]

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (% MAC)</th>
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<td>22.9%</td>
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<td>0</td>
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</tr>
<tr>
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<td>6.785</td>
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<td>Pax</td>
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<td>Cargo (&lt; 80 kg)</td>
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<td>Baggage AFT (&lt; 100 kg)</td>
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<td>Zero Fuel Weight (&lt; 2736 kg)</td>
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<td>4.910</td>
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<td>Fuel (kg)</td>
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<td>4.820</td>
<td>3 952</td>
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<td>Ramp Weight (&lt; 3370 kg)</td>
<td>3356</td>
<td>4.888</td>
<td>16 403</td>
<td>32.8</td>
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<td>Taxi Fuel (kg)</td>
<td>-16</td>
<td>4.820</td>
<td>-77</td>
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<td>Takeoff Weight (&lt; 3354 kg)</td>
<td>3340</td>
<td>4.888</td>
<td>16 326</td>
<td>32.8</td>
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<td>Trip Fuel (kg)</td>
<td>-600</td>
<td>4.820</td>
<td>-2 892</td>
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<td>Landing Weight (&lt; 3186 kg)</td>
<td>2740</td>
<td>4.903</td>
<td>13 434</td>
<td>33.8</td>
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Figure 6.4.2 - LOADING SAMPLE (in kg and litres)
EXAMPLE 2

Airplane basic characteristics:
- Empty weight: 4638 lbs
- Moment: 864173 in.lbs
- CG = Balance (m.a.c %): 22.6 %

Foreseen loading:
- 1 Pilot and 1 front Passenger: 400 lbs
- 2 Intermediate Passengers: 220 lbs
- 2 Rear seats removed
- Rear Cargo: 176 lbs
- Aft Baggage: 220 lbs
- Fuel: 1850 lbs

Foreseen fuel:
- Taxi Fuel: -36 lbs
- Trip Fuel: -1400 lbs

Units: in, lbs, USG

Moment = Weight X Arm

\[
CG \text{ (%)} = \frac{\text{Arm (in)} - 172.93}{59.45} \times 100
\]

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<thead>
<tr>
<th>Item</th>
<th>Weight (lbs)</th>
<th>Arm (in)</th>
<th>Moment (in.lbs)</th>
<th>CG (% MAC)</th>
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<td>Empty Weight</td>
<td>4638</td>
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<td>864173</td>
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<td>Baggage FWD (&lt;110 lbs)</td>
<td>0</td>
<td>128.0</td>
<td>0</td>
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<td>Front Seats (lbs)</td>
<td>400</td>
<td>178.5</td>
<td>71400</td>
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<tr>
<td>Inter. Seats</td>
<td>-33.1 lbs per seat removed</td>
<td>0</td>
<td>224.8</td>
<td>0</td>
</tr>
<tr>
<td>Pax</td>
<td>220</td>
<td></td>
<td>49456</td>
<td></td>
</tr>
<tr>
<td>Rear bench/net</td>
<td>-45.2 lbs per seat removed</td>
<td>-90.4</td>
<td>267.1</td>
<td>-24 146</td>
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<td></td>
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<td>Cargo (&lt;176 lbs)</td>
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<td>Baggage AFT (&lt;220 lbs)</td>
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<td>Zero Fuel Weight (&lt;6032 lbs)</td>
<td>5 564</td>
<td>193.1</td>
<td>1 074 553</td>
<td>33.9</td>
</tr>
<tr>
<td>Fuel (lbs)</td>
<td>1 850</td>
<td>189.8</td>
<td>351 130</td>
<td></td>
</tr>
<tr>
<td>Ramp Weight (&lt;7430 lbs)</td>
<td>7 414</td>
<td>192.3</td>
<td>1 425 683</td>
<td>32.6</td>
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<tr>
<td>Taxi Fuel (lbs)</td>
<td>-36</td>
<td>189.8</td>
<td>-6 833</td>
<td></td>
</tr>
<tr>
<td>Takeoff Weight (&lt;7394 lbs)</td>
<td>7 378</td>
<td>192.3</td>
<td>1 418 850</td>
<td>32.6</td>
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<td>Trip Fuel (lbs)</td>
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<td>189.8</td>
<td>-285 720</td>
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<td>Landing Weight (&lt;7024 lbs)</td>
<td>5 978</td>
<td>192.9</td>
<td>1 153 130</td>
<td>33.6</td>
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</table>
Figure 6.4.2A - LOADING SAMPLE (in lbs and USG)
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 and installed seats.

List of equipment (refer to paragraph 6.5) contains the standard and optional equipment, as well as their characteristics (weight, arm), except those listed in this Chapter.

Use the chart below to compute new empty weight and corresponding balance if necessary.

<table>
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<tr>
<th>DATE</th>
<th>EQUIPMENT OR MODIFICATION DESCRIPTION</th>
<th>(+)</th>
<th>(-)</th>
<th>WEIGHT MODIFICATION</th>
<th>BASIC EMPTY WEIGHT</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Weight lb</td>
<td>Arm in.</td>
</tr>
<tr>
<td>According to delivery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>

Figure 6.4.3 - SAMPLE WEIGHT AND BALANCE RECORD

\[
CG\ m.a.c.\ % = \frac{(d_o - 172.93)}{59.45} \times 100
\]

Use the above formula to express arm “d_o” in % of mean aerodynamic chord.

**NOTE**

*Arm expressed in inches with regard to reference.*
<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td><strong>10 - PARKING, MOORING, STORAGE AND RETURN TO SERVICE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Board kit SOCATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>OPT70</td>
<td>- Blanking caps bag</td>
<td>8.31 (3.77)</td>
<td>128.00 (3.250)</td>
</tr>
<tr>
<td>S</td>
<td>OPT70</td>
<td>- Towing bar</td>
<td>8.77 (3.98)</td>
<td>128.00 (3.250)</td>
</tr>
<tr>
<td>S</td>
<td>OPT70</td>
<td>- Control lock device</td>
<td>0.90 (0.41)</td>
<td>133.86 (3.400)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>25 - EQUIPMENT AND FURNISHINGS (PARTIAL)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0171-25</td>
<td>Generation 2008 cabinets SOCATA</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Version A : L.H. low cabinet SOCATA</td>
<td>9.48 (4.300)</td>
<td>203.74 (5.175)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Version B : R.H. low cabinet SOCATA</td>
<td>9.48 (4.300)</td>
<td>203.74 (5.175)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Version C : Removable (low) insulated picnic bag</td>
<td>9.48 (4.300)</td>
<td>203.74 (5.175)</td>
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<tr>
<td></td>
<td></td>
<td>- Version D : L.H. top storage cabinet SOCATA</td>
<td>7.72 (3.500)</td>
<td>203.74 (5.175)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Version E : R.H. top storage cabinet SOCATA</td>
<td>7.72 (3.500)</td>
<td>203.74 (5.175)</td>
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<tr>
<td></td>
<td></td>
<td>- Version F : R.H. top storage cabinet + audio SOCATA</td>
<td>7.94 (3.600)</td>
<td>203.74 (5.175)</td>
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<tr>
<td></td>
<td></td>
<td>- Version G : L.H. top baggage cabinet SOCATA</td>
<td>3.09 (1.400)</td>
<td>203.74 (5.175)</td>
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### Weight and Balance Table

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<th>Weight per unit (kg)</th>
<th>Arm (m)</th>
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<tr>
<td>S 0207-00</td>
<td>Carpet SOCATA</td>
<td>35.27</td>
<td>16.000</td>
<td>211.42</td>
</tr>
<tr>
<td>A 0207-00</td>
<td>2nd carpet (cargo use) SOCATA</td>
<td>35.27</td>
<td>16.000</td>
<td>211.42</td>
</tr>
<tr>
<td>S - L.H. intermediate seat (back to or in flight direction) T700G2500005</td>
<td>SOCATA</td>
<td>37.48</td>
<td>17.00</td>
<td>224.80</td>
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<td>S - R.H. Intermediate seat (back to or in flight direction) T700G2500005</td>
<td>SOCATA</td>
<td>37.48</td>
<td>17.00</td>
<td>224.80</td>
</tr>
<tr>
<td>S - Double chair</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>. L.H. Seat T700C2500005</td>
<td>SOCATA</td>
<td>52.91</td>
<td>24.00</td>
<td>278.19</td>
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<td>. R.H. Seat T700C2500005</td>
<td>SOCATA</td>
<td>52.91</td>
<td>24.00</td>
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<tr>
<td>S 0315-25 - Small cargo net GP SOCT704CC–10 SOCATA</td>
<td>15.00</td>
<td>7.00</td>
<td>/</td>
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<tr>
<td>S 0315-25 - Large cargo net GP SOCT704CS–10 SOCATA</td>
<td>13.00</td>
<td>6.00</td>
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<tr>
<td>S 25026B - Partition net at Frame 14 (between the cabin and the baggage compartment) T700B2590001, of which: SOCATA</td>
<td>3.638</td>
<td>1.650</td>
<td>289.53</td>
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<td>S - Partition net</td>
<td>1.698</td>
<td>0.770</td>
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6.5 - LIST OF EQUIPMENT

The list of equipment is available in SOCATA Report reference NAV No.34/90-RJ-App 5, located at the end of this POH.

A separate list of equipment of items installed at the factory in your specific airplane is provided in your airplane file.
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## SECTION 7

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7.1 - GENERAL

This Section provides description and operation of the airplane and its systems.

Some of the equipment described herein is optional and may not be installed in the airplane.

Complete description and operation of the GARMIN integrated flight deck are detailed in the GARMIN G1000 NXi Integrated Flight Deck Cockpit Reference Guide, No.190-02219-00, or any later version as applicable. References to this Guide are often made all along this Section to get more details about some systems.

Details of other optional systems and equipment are presented in Section 9 Supplements of the Pilot's Operating Handbook.
7.2 - AIRFRAME (Figures 7.2.1, 7.2.1A and 7.2.1B)

The TBM 910 is a six-place, low wing airplane.

The airplane can be changed into 2, 3, 4 or 5-seat accommodation.

The structure is a semi-monocoque all-metal construction and is equipped with a retractable tricycle landing gear.

The pressurized cabin is equipped, on the left side of fuselage, with a one-piece access 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.

An optional pilot door located forward of the cabin on the left side allows access to the cockpit by means of folding stairs.

The aft cabin section is a baggage compartment.
Figure 7.2.1 - CABIN ARRANGEMENT
6-seat accommodation
Figure 7.2.1A - CABIN ARRANGEMENT
4-seat accommodation with large securing net
Figure 7.2.1B - CABIN ARRANGEMENT
4-seat accommodation with small securing net
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.

Each wing extremity is equipped with a winglet.

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 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°).

A monitoring device interrupts flaps movement as soon as a deflection dissymmetry is
detected.

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.
Figure 7.2.2 (1/2) - WING FLAPS

1) Geared motor
2) Internal actuator
3) Intermediate bearings
4) Wing flap
5) External actuator
6) Rods
7) Control selector
7.3 - ACCOMMODATIONS

INSTRUMENT PANEL

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, ancillary electrical systems, AP/TRIMS switch, ELT remote control switch and the FUEL control panel.

Rearwards of upper panel, the central part of cockpit overhead panel provides loud-speaker and cockpit floodlights.

Instrument panel (Figure 7.3.1)

The instrument panel consists of the G1000 integrated flight deck composed of three screens [two Primary Flight Displays (PFD) and one Multi-Function Display (MFD)] - refer to the GARMIN Cockpit Reference Guide for detailed description. Apart from the G1000 system, equipment listed below complete the instrument panel.

- Left area instrument panel includes (Figure 7.3.3) :
  - on top : MD302, MASTER CAUTION and MASTER WARNING,
  - at bottom : deicing controls and indicators, NORMAL/MASK inverter, hourmeter, landing gear control panel, parking brake control and left station control wheel.

- Central area instrument panel includes (Figure 7.3.4) :
  - on top : surmounted by the stand-by compass, AFCS control unit, and the LVL pushbutton.
  - at bottom : GCU 475 MFD control unit and A/C and PRESSURIZATION panel.

- Right area instrument panel includes (Figure 7.3.5) :
  - on top : locations for optional equipment,
  - at bottom : alternate static source selector and the right station control wheel.

- Emergency air control is located under the right area instrument panel.

An adjustable air outlet is located on both sides of instrument panel lower part.
Reception-micro jacks are located inside the recess under the arm-rest on both lateral sides of the cockpit, on R.H. side of intermediate R.H. passenger's seat and on the arm-rest of rear R.H. passenger's seat.

**Pedestal console** (Figure 7.3.6)

The pedestal console, under the GCU 475 MFD control unit, comprises flaps controls, pitch trim tab control wheel, aileron trim switch, engine controls and fuel tank selector.

**Breakers panel** (Figures 7.3.7 and 7.8.4)

Breakers for all electrical equipment supplied by bus bars are located on a separate panel installed on the right side of cockpit.

**General alarms warning lights and CAS messages**

**WARNING** and **CAUTION** messages appear on the MFD CAS display to alert crew about monitored systems discrepancies. As a message appears, a chime is heard. Refer to the GARMIN Cockpit Reference Guide to know all possible CAS messages.

A **MASTER WARNING** red flashing indicator and a **MASTER CAUTION** amber indicator located on instrument panel (see Figure 7.3.8) in front of the pilot, illuminate as soon as one or several messages of same color light on.

To cancel and reset a general alarm, press on the red or amber indicator. A pressure on the red indicator also stops red message associated chimes.

**Aural warnings** (Figure 7.3.2)

The aural warnings are intended to alert the pilot during some configurations. The aural signals are heard through the loud-speaker installed in cockpit overhead panel (if the loud-speakers are selected) and through the pilot's and R.H. station headsets.

The aural warnings consist of:

- the G1000 system (GIA and GMA),
- the loud-speakers.
The system uses:
- the stall warning system,
- the airspeed indicator,
- the landing gear control unit,
- the flap geared motor,
- the idle position sensor.

**Aural warning alerts**

According to the airplane configuration, different aural warning alerts sound:

- gear up and idle ➔ "landing gear / landing gear"
- gear up and extended flaps ➔ "landing gear / landing gear"
- stall ➔ "stall / stall"
- gear up, idle and stall ➔ "stall / landing gear"
- gear up, extended flaps and stall ➔ "stall / landing gear"

Refer to the GARMIN Cockpit Reference Guide for description of the other aural warning alerts.
Cockpit overhead panel (Figure 7.3.2)

This panel includes the following elements:

- the loud-speaker of GMA#1,
- the loud-speaker of GMA#2,
- the TEST push-button,
- the emergency lighting rheostat.

It is attached to the cabin upper part between frames C6 and C7.

The emergency lighting rheostat is electrically supplied by BATT BUS bar and protected by PANEL EMER breaker.

The TEST push-button allows to test:

- the autopilot control panel backlighting,
- the MASTER WARNING and MASTER CAUTION indicators,
- the GMA panels (audio control panel) backlighting,
- the deicing panel led,
- the fire detection system (if installed),
- the stall aural warning alert,
- the stick shaker system,
- the LVL push-button.
Figure 7.3.1 - INSTRUMENT PANEL ASSEMBLY
(Typical arrangement)
1) L.H. instrument panel emergency lighting
2) Loud-speaker of GMA#1
3) Loud-speaker of GMA#2
4) R.H. instrument panel emergency lighting
5) Instrument panel emergency lighting switches (rheostats)
6) R.H. cockpit floodlight
7) ELT remote control switch
8) AP/TRIMS switch
9) FUEL control panel (Figure 7.7.3)
10) ENGINE START switches (Figure 7.6.4)
11) ELECTRIC POWER switches (Figure 7.8.5)
12) INT LIGHTS internal lighting switches (Figure 7.8.7)
13) EXT LIGHTS external lighting switches (Figure 7.8.6)
14) L.H. cockpit floodlight
15) TEST push-button
1) L.H. GMA audio panel
2) General alarm red and amber indicators
3) GDU PFD1
4) MD302
5) LANDING GEAR configuration and control panel (Figure 7.5.1)
6) PARK BRAKE control (Figure 7.5.6)
7) Left station control wheel tube
8) DE ICE SYSTEM control and check panel (Figure 7.13.1)
9) L.H. station rudder pedals adjusting handle
10) Left station reception-micro jacks
11) Pitch & Yaw trim setting management
12) Push To Talk button (PTT)
13) AP / TRIM DISC red push-button
14) CWS
15) Paper clip
16) Chonometer management
17) Transponder Ident sequence
18) Stormscope clear
19) COM 2 (Stand-by / active)
20) Flight conditions and instruction placard
21) Adjustable air outlet
22) Breaker panel lighting switch
23) Oxygen mask microphone switch (Figure 7.10.1)
24) Hourmeter
25) USB servicing plug
1) Stand-by compass
2) GMC AFCS mode controller
3) Registration
4) A/C and PRESSURIZATION panel (Figure 7.9.2)
5) GCU MFD control unit
6) GDU MFD
7) LVL push-button
8) LDR microphone
Figure 7.3.4 (2/2) - CENTRAL INSTRUMENT PANEL
(Typical arrangement)
1) GDU PFD2
2) R.H. GMA audio panel
3) Right station control wheel tube
4) Crew music
5) Adjustable air outlet
6) Right station reception-micro jacks
7) R. H. station rudder pedals adjusting handle
8) Breakers panel postlight
9) USB servicing plugs
10) Cabin emergency air control (EMERGENCY RAM AIR control knob)
11) ALTERNATE STATIC source selector
12) COM 2 (Stand-by / active)
13) Stormscope clear
14) Transponder Ident sequence
15) Chronometer management
16) Paper clip
17) CWS
18) AP / TRIM DISC red push-button
19) Push To Talk button (PTT)
20) Pitch & Yaw trim setting management
Figure 7.3.5 (2/2) - RIGHT INSTRUMENT PANEL
(Typical arrangement)
1) THROTTLE
2) FLAPS lever
3) THROTTLE friction adjustment
4) Manual FUEL TANK SELECTOR (Figure 7.7.2)
5) Roll trim tab control
6) Emergency fuel control
7) Pitch trim tab control
8) Lock for access door to landing gear emergency pump (Figure 7.5.2)
Figure 7.3.8 - GENERAL ALARMS WARNING LIGHTS
DOORS, WINDOWS AND EMERGENCY EXIT

Cabin access door (Figure 7.3.9)

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 embedded 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 CAS message lights on as long as the door is not correctly locked.

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.
Figure 7.3.9 - CABIN ACCESS DOOR
Cockpit access door (Figure 7.3.9A)

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 embedded 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** CAS message lights on as long as cabin access door and pilot access door (if installed) 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.

**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 compartment door

The FWD 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 is equipped with a lock (same key as for the access door and the pilot door (if installed)). When the door is closed, latches are flush with the fuselage profile. The FRONT CARGO DOOR CAS message lights on as long as FWD compartment door is not locked.
Figure 7.3.9A - COCKPIT ACCESS DOOR (PILOT DOOR)
Windows

Windows do not open. The windshield consists of two parts electrically 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 HARNESSSES

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 forward for longitudinal setting.

The seat height is adjusted by pulling up side forward handle while relieving the seat from the body weight.

The seat back angle is adjusted by pulling up side rearward handle.

Passengers’ seats (Figures 7.3.11 and 7.3.11A)

With 6-seat accommodation

The accommodation consists of:

- two individual seats, installed back to the flight direction, mounted on the same rails as the front seats.
  The seat back angle is adjusted by pulling up side handle.

- two rear seats arranged as a bench, mounted on the same rails as the front seats.
  The seat back rests tilt forward by pulling up the handle located forward on L.H. side of each seat which may tilt forwards by pulling up a rear handle to ease baggage loading in baggage compartment.
  For longitudinal setting pull up the handle located forward, on R.H. side.

With 4-seat accommodation

The accommodation consists of:

- two individual seats, installed facing flight direction, mounted on the same rails as the front seats.
  The seat back angle is adjusted by pulling up side handle.
Many accommodations are possible. They are described hereafter.

- **Location number**
  - **Front baggage zone**: For all configurations, verify that your luggages are stowed and attached in the appropriate areas.
  - **Pilot zone**: No modification allowed.
  - **MID Seat Zone**: Possibility of seat configuration if no net installations.
  - **Cargo zone**: Only zone B and zone C can be modified for seat configurations.
  - **REAR Seat Zone**: Possibility of seat configuration if no net installations.
  - If installed, cabinets can be removed or added by Service Center.

For the MID Seat zone (B):
- ONLY the Middle Seats can be installed in MID Seat Zone.
- This zone accepts Fwd and Aft Facing Mid Seat when rear seats are installed.
- The zone (B) accepts zero or 1 or 2 seats.
- (The zone (B) is not a luggage area).

<table>
<thead>
<tr>
<th>Location number</th>
<th>FWD Facing</th>
<th>AFT Facing</th>
<th>Number of seat can be installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>YES</td>
<td>YES</td>
<td>1 or 0</td>
</tr>
<tr>
<td>2</td>
<td>YES</td>
<td>YES</td>
<td>1 or 0</td>
</tr>
</tbody>
</table>

For the REAR Seat zone (C):
- ONLY the Rear Seat can be installed in Rear Seat Zone.
- The Zone (C) accepts zero or 1 or 2 seats.

<table>
<thead>
<tr>
<th>Location number</th>
<th>FWD Facing</th>
<th>Number of seat can be installed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>YES</td>
<td>1 or 0</td>
</tr>
<tr>
<td>4</td>
<td>YES</td>
<td>1 or 0</td>
</tr>
<tr>
<td>5 *(1)</td>
<td>YES *0</td>
<td>1 or 0 *0</td>
</tr>
</tbody>
</table>

*(1) Centered on the fuselage axis.
Here are all the configurations possibilities

<table>
<thead>
<tr>
<th>Configuration name</th>
<th>Location number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>C1</td>
<td>X</td>
</tr>
<tr>
<td>C2</td>
<td>X</td>
</tr>
<tr>
<td>C3</td>
<td>X</td>
</tr>
<tr>
<td>C4 (1)</td>
<td>X</td>
</tr>
<tr>
<td>C5</td>
<td>X</td>
</tr>
<tr>
<td>C6</td>
<td>X</td>
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<tr>
<td>C7</td>
<td></td>
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<tr>
<td>C8</td>
<td></td>
</tr>
<tr>
<td>C9</td>
<td></td>
</tr>
<tr>
<td>C10 (1)</td>
<td></td>
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<tr>
<td>C11</td>
<td></td>
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<tr>
<td>C12</td>
<td></td>
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<td>C13</td>
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<td>C14</td>
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<td>C15 (1)</td>
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<td>C16</td>
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<td>C17</td>
<td></td>
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<td>C18</td>
<td></td>
</tr>
<tr>
<td>C19</td>
<td></td>
</tr>
<tr>
<td>C20 (1)</td>
<td></td>
</tr>
</tbody>
</table>

(1) This configuration accepts small net or large net

Each cross indicates that you have a seat at the correspondent location number.
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.

Each cockpit seat is equipped with a four-point restraint system consisting of an adjustable lap belt and a dual-strap inertia reel-type shoulder harness with airbags (if installed).

Each passenger seat is equipped with a three-point restraint system consisting of an adjustable lap belt and an inertia reel-type shoulder harness.

Airbags (if installed) are inflated by two inflators located under the backrest fairing, which are activated by an accelerometer fixed under the floor panel in front of the seat.

**BAGGAGE COMPARTMENTS**

With 6-seat accommodation

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. Rings fitted with lashing straps are provided for securing parcels and baggage on compartment floor.

The FWD compartment is accessible by opening the external door located on the left side of the airplane.

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 is separated from the baggage compartment by a partition net 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 (Figure 7.2.1), 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 the baggage compartments depend on airplane equipment, refer to Section 6 Weight and balance.

**WARNING**

ANY PARCEL OR BAGGAGE MUST BE STOWED BY STRAPS.

IT IS THE PILOT’S RESPONSIBILITY TO CHECK THAT ALL THE PARCELS AND BAGGAGE ARE PROPERLY SECURED IN THE CABIN.

IN CASE OF TRANSPORT OF DANGEROUS MATERIALS, RESPECT THE LAW CONCERNING TRANSPORT OF DANGEROUS MATERIALS AND ANY OTHER APPLICABLE REGULATION.
With 4-seat accommodation

Two cargo nets are available for the pilot to safely secure and transport baggage:

- the Small Cargo Net is attached through nine anchoring points on seat rails, between frame C11 and frame C13bis (Figure 7.2.1B).

- the Large Cargo Net is attached through seven anchoring points on seat rails, between frame C11 and frame C13bis and six anchoring points on fuselage sides, at frame C14 (Figure 7.2.1A).

**NOTE**

*Original Partition Net must be disconnected from side walls and placed on the floor.*

Authorized anchoring points are identified with green self-adhesive labels affixed to the inside of the seat rail.
A placard indicates loading limits for each cargo net:

- for the Small Cargo Net, it is affixed on frame C13bis,
- for the Large Cargo Net, it is affixed on R.H. side upholstery panel, in the rear baggage compartment.

Maximum loads allowable in the baggage compartments depend on airplane equipment, refer to Section 6 Weight and balance.

**WARNING**

ANY PARCEL OR BAGGAGE IN CABIN MUST BE STOWED BY CARGO NET AND STRAPS.

IT IS THE PILOT’S RESPONSIBILITY TO CHECK THAT ALL THE PARCELS AND BAGGAGE ARE PROPERLY SECURED.

IN CASE OF TRANSPORT OF DANGEROUS MATERIALS, RESPECT THE LAW CONCERNING TRANSPORT OF DANGEROUS MATERIALS AND ANY OTHER APPLICABLE REGULATION

**USE OF CARGO NETS**

**Net inspection**

Before each use, visually inspect net for:

- webbing condition,
- seam condition of tensioning strap,
- metallic part condition.

**Installation instructions**

Tensioning straps must be installed so that they make a V with a minimum angle of 40° between both strands attached on the net. The net must be properly tight.
Damage acceptance criteria

If any damage is detected, such as:

- damage or absence of hook, buckle or stud on tensioning strap: strap must **mandatorily** be discarded and replaced,
- webbing frayed or cut on less than 30% of its surface: reduce maximum load by 50%,
- seam of vertical net tensioning straps damaged on less than 30% of its length: reduce maximum load by 50%,
- seam of tensioning straps attached on the rails damaged on less than 30% of its length: reduce maximum load by 50%,
- beyond 30% damage for above-mentioned cases, defective element must **mandatorily** be discarded and replaced,
- netting cut or torn on less than 3.9 in (100 mm): still serviceable, no impact,
- netting cut or torn on more than 3.9 in (100 mm): do not carry small objects which dimensions are smaller than 4.9 x 4.9 x 4.9 in (125 x 125 x 125 mm)
1) Front passenger's seat
2) L. H. pilot's seat
3) R. H. intermediate passenger's seat
4) L. H. intermediate passenger's seat
5) R. H. rear passenger's seat
6) L. H. rear passenger's seat
7) Front seat(s) longitudinal shift control
8) Front seat(s) height control
9) Front seat(s) back-rest tilt control
10) Drawer for pilot's piddle pak (if installed)
    (front side : new bags, rear side : used bags)
11) Intermediate seat(s) back-rest tilt control
12) Rear bench seat(s) back-rest tilt control
13) Rear bench L.H. seat tilt control
14) Rear bench seat(s) adjustment control handle

**NOTE**

To have access to the baggage compartment, pull forwards the back-rest of rear bench L.H. seat, then pull forwards control (Item 13) to tilt L.H. seat assembly forwards.
If necessary, pull forwards the back-rest of rear bench R.H. seat.

Figure 7.3.11 (1/2) - SEATS
With 6-seat accommodation
Figure 7.3.11 (2/2) - SEATS
With 6-seat accommodation
1) Front passenger's seat
2) L. H. pilot's seat
3) R. H. intermediate passenger's seat (facing flight direction)
4) L. H. intermediate passenger's seat (facing flight direction)
5) Front seat(s) longitudinal shift control
6) Front seat(s) height control
7) Front seat(s) back-rest tilt control
8) Intermediate seat(s) back-rest tilt control
Figure 7.3.11A (2/2) - SEATS
With 4-seat accommodation
Figure 7.3.12 - FRONT AND REAR SEAT BELTS (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 breaker.
1) Pedestal assembly
2) Control wheels
3) Fuselage roll lever
4) Spoiler
5) Aileron
6) Aileron control in wing
7) Spoiler control
1) Roll trim tab
2) Aileron
3) Adjustable rods
4) Actuator
5) Trim tab control wiring
6) Trim switch on pedestal console
Figure 7.4.2 (2/2) - LATERAL TRIM
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 stick shaker is fixed on the pitch lever linked to the pilot control column lever. This is a mechanical device to vibrate the control wheel to warn the pilot in case of an imminent stall. When the data received from the AoA (angle of attack) sensor indicates an imminent stall, the AoA computer actuates both the stick shaker and the stall warning.

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 (NOSE UP - NOSE DOWN) located on the pilot control wheel and a servo-motor attached under the pedestal.

The electrical circuit for pitch trims is protected by the AP SERVOS 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 preseal connection
6) Lever assembly under floor
7) Pedestal assembly
8) Actuator
9) Stick shaker
1) Cables 
2) Pulleys 
3) Pitch trim tabs 
4) Actuating rods 
5) Actuator 
6) Pitch trim manual control wheel 
7) Electric pitch trim control
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 rudder trim switch (Y L / Y R) located on pilot control wheel.

Electrical circuit of rudder trim tab is protected by RUD TRIM 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 (2/2) - RUDDER
1) Trim switch on control wheel
2) Actuator
3) Rudder trim tab
4) Rods
5) Rudder trim control wiring
7.5 - LANDING GEAR

The airplane 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.

**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.

All doors are mechanically kept in down position.

**HYDRAULIC PRESSURE**

Hydraulic pressure required for landing gear operation is provided:

- 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 LEVER** (Figure 7.5.1)

LANDING GEAR lever, 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 POSITION INDICATOR (Figure 7.5.1)

Landing gear position indication is accomplished by 5 lights:

- On LANDING GEAR control panel:
  - 3 green indicator lights (one per landing gear),
  - 1 red warning light GEAR UNSAFE
  - 1 amber light in the LANDING GEAR lever.

- On MFD CAS window:
  - 1 warning CAS message: **GEAR UNSAFE**

*NOTE*

The amber light flashes while the hydraulic pump is operating to extend or retract the landing gear.

When landing gear is correctly retracted, all lights are OFF.

Down-locked correct indication is when there are 3 green indicator lights ON, the **GEAR UNSAFE** red warning light is OFF, the **GEAR UNSAFE** CAS message is OFF and the amber caution light is OFF. All other cases mean the gear is not down-locked.

In case of doubt about landing gear down-locked position, an independent electrical circuit provides a countercheck capability of the indication system. Pressing the CHECK DOWN push-button, located on the landing gear panel, checks the down-lock of the gear making twinkle, at 16 hertz, the green indicator lights corresponding to the down-locked gear.

Pressing the LIGHT TEST push-button allows testing all landing gear panel lights making them flash at 1 hertz.
1) Green indicator light
2) Red warning light
3) LANDING GEAR lever
4) CHECK DOWN test push-button
5) LIGHT TEST push-button
6) Amber light

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 aural warning

Landing gear / Landing gear aural warning alert sounds when:

- THROTTLE 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 Stall/landing gear aural warning alert sounds and the control wheel vibrates.*

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 and a valve which regulates brake pressure.

To apply parking brake, press on toe brake of rudder pedals and position control knob on ON.

PARK BRAKE CAS message lights on 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 CAS message disappears.
1) Reservoir
2) Vent
3) R.H. station master cylinders
4) PARK BRAKE control knob
5) PARK BRAKE valve
6) Drain
7) Pilot's station master cylinders
8) L.H. brake assembly
9) R.H. brake assembly
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-66D model) is a free turbine engine rated at 850 SHP and developing a thermodynamic power of 1825 ESHP.

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, propeller governor and overspeed governor are installed on accessory gearbox located rearward of engine.
1) Propeller governor
2) Exhaust stub
3) Axial compressors
4) Accessory gearbox
5) FCU Fuel control unit
6) Oil to fuel heater
7) Input coupling shaft
8) Air intake
9) Centrifugal impeller
10) Combustion chamber
11) Compressor turbine
12) Power turbine 1st stage
13) Power turbine 2nd stage
14) Power turbine shaft
ENGINE CONTROLS (LEVERS) (Figure 7.6.2)

Engine operation requires use of two levers located on pedestal console in cabin:

- THROTTLE (Item 1), and its detent for reverse (Item 4)
- MAN OVRD emergency fuel regulation lever (Item 3).

**NOTE**

*Thumbwheel for lever friction (Item 2)*

![Figure 7.6.2 - ENGINE CONTROLS (LEVERS)](image-url)
THROTTLE (Figure 7.6.3)
The THROTTLE has two operating modes: Thrust mode and Condition mode.

- Thrust mode
  The THROTTLE is in vertical position. It modulates engine power from full reverse to max power.
  Engine running, the throttle 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 THROTTLE forward.

  **CAUTION**

  **DO NOT MOVE THE COCKPIT THROTTLE 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.
  Any rearward effort on the THROTTLE, past the idle stop, may damage or break the flexible control cable.
- **Condition mode**
  The THROTTLE is moved to the condition side by lifting the knob.

  As long as the THROTTLE is in condition mode, the propeller is in feather position. The THROTTLE can be positioned to CUT OFF, idle LO-IDLE or idle HI-IDLE.

  Change from idle HI-IDLE to LO-IDLE position requires moving the THROTTLE rearwards.

  Change from idle LO-IDLE to CUT OFF position is only possible after having overridden the idle gate. To override idle gate, raise the THROTTLE and move it rearwards.

![Figure 7.6.3 - THROTTLE](image)

**MAN OVRD emergency fuel regulation lever** (Figure 7.6.2)

Emergency fuel regulation lever (3) is normally in OFF position. In case of FCU or throttle failure, it allows setting engine power manually.

To quit OFF position, move the lever forward overriding the indexation.

**NOTE**

*The power available if the throttle fails will be limited by the position of the lever.*

**Lever friction** (Figure 7.6.2)

A thumbwheel (Item 2) located on right side of pedestal console increases friction to avoid control slip of the THROTTLE after setting.
ENGINE INSTRUMENTS

Engine indicating consists of:

- engine torque expressed in percent (%), TRQ
- propeller speed in RPM, PROP RPM
- generator rotation speed expressed in percent (%), Ng
- ITT expressed in °C.
- oil pressure expressed in PSI.
- oil temperature expressed in °C.

NOTE

Engine monitoring is ensured by CAS messages: [ITT] and [OIL PRESS]. Refer to the GARMIN Cockpit Reference Guide for further details.

ENGINE LUBRICATION

Engine oil is in a tank incorporated into the powerplant. 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.

A chip detection system enables the monitoring of engine oil system. The system includes one chip detector installed on propeller reduction gear box and a second chip detector installed on engine accessory gear box. In case of chip detection an amber CAS message [CHIP] on integrated flight deck system screen goes on.

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 powerplant, a three-position IGNITION switch OFF - AUTO - ON located on ENGINE START panel at upper 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 during the engine start.

IGNITION CAS message lights on as long as ignition unit is supplied.

Starter function

Starting system consists of STARTER switch located on ENGINE START panel, starter generator and ignition circuit (Refer to Paragraph Ignition function).

Starting procedure is semi-automatic. Setting STARTER switch to ON connects the starter generator which drives powerplant. STARTER CAS message lights on indicating that the starter generator is operating.

Starter operation is stopped automatically by the Electrical Power System once a sufficient starter-generator speed is reached or after 60 s. The pilot has the capability to interrupt the start process anytime by setting momentarily the STARTER switch to the ABORT position.

WARNING

POWERPLANT STARTING MUST BE PERFORMED BY QUALIFIED PERSONNEL AND FOLLOWING PROCEDURES AND PARAMETERS DESCRIBED IN SECTION 4 NORMAL PROCEDURES
Figure 7.6.4 - ENGINE STARTING
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 conducted 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 ON CAS message lights on when vanes have reached their maximum deflection and remains visible as long as switch remains ON. Full deflection takes about 30 seconds.

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), propeller governor and overspeed 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 is transmitted to the G1000 system for display on the MFD (under normal display conditions).

Power turbine tacho-generator (Np)

Power turbine tacho-generator is attached on the right side of the reduction gearbox. It supplies a voltage which is transmitted to the G1000 system for display on the MFD (under normal display conditions).

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. This voltage is transmitted to the G1000 system for display on the MFD (under normal display conditions).

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 solenoid which makes feather the propeller when the THROTTLE is in condition mode.

Torque limiter

Torque limiter is located on right side of the reduction gear box. It is rated to limit engine torque to 109-110 % at sea level.
PROPELLER

Airplane is equipped with a composite five-bladed, constant-speed and full-feathering propeller.

Regulation

Propeller governor located on engine maintains rotation speed to the nominal value of 2000 RPM. 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 throttle (Condition mode) 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 THROTTLE (Thrust mode) (Refer to Paragraph ENGINE CONTROLS).
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 CAS message remains visible.
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 or the other in predetermined sequences. These sequences depend on airplane configuration (ground, in-flight, fuel low level CAS messages appearance).

Automatic tank selection system comprises an electronic sequencer, an actuator attached on the fuel unit, FUEL SEL two-position selector (AUTO, MAN) and SHIFT push-knob located on FUEL 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** CAS message disappears; 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.

Airplane in flight: tank is changed every five minutes, as long as a fuel low level **FUEL LOW L** or **FUEL LOW R** CAS message does not appear. When the first low level CAS message lights on, the sequencer immediately selects the other tank. The selected tank will operate until the second low level CAS message lights on. When both low level **FUEL LOW L-R** CAS messages are visible, the sequencer changes tanks every minute and 15 seconds.

**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 CAS messages not visible, 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 appearance of **AUTO SEL** CAS message. **AUTO SEL** CAS message also lights on 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
1) AUX BP switch
2) FUEL SEL switch
3) SHIFT push-button
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. Fuel data are displayed in us gallons. 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 low level CAS messages appearance, when usable fuel quantity remaining in the concerned fuel tank is under about 9 USG (34 Litres).

FUEL SYSTEM MONITORING

Fuel system monitoring is ensured by CAS messages:

- **FUEL OFF**: Fuel tank selector set to OFF
- **FUEL PRESS**: Fuel pressure at mechanic pump outlet under 10 psi (± 2 psi)
- **AUX BOOST PMP ON**: Electric fuel pump running (manual or automatic mode)
- **FUEL LOW L-R** *: Fuel quantity less than or equal to 9 USG (34 Litres) of usable fuel in specified tank
- **AUTO SEL**: Sequencer inactive or operating defect
- **FUEL IMBALANCE**: Fuel tanks imbalanced by more than 15 USG (57 Litres) for more than 30 seconds

* Only affected side (L, R or L-R) displayed in CAS message
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, 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.*
Figure 7.7.4 - FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

1) Lighting switch
2) Mirror door
3) Clogging indicator
4) Central access door
5) Filter drain
6) Tank drain
7) Drain bowl
7.8 - ELECTRICAL SYSTEM (Figures 7.8.1, 7.8.2 and 7.8.5)

The airplane is fitted with a 28-Volt direct-current electrical system.

Electrical supply is obtained from various power supplies:
- a starter generator
- a stand-by generator
- a battery
- a ground power unit, via a plug, located on L.H. side.

Connection relays, main bus bar, generator regulation and protection systems and control logic systems are grouped in Electrical Power System box located in front baggage compartment upper section.

Electrical system indicating is displayed on the MFD and monitoring is ensured by CAS messages.

On ground, when the crash lever is positioned in the UP position (SOURCE selector in the OFF position), the battery supplies the electrical power system through the BATT BUS. A Power Up Built In Test (P-BIT) of the EPS internal functions is performed to verify the operating status. In case of failure detection, a white message EPS SERVICE REQUIRED appears in the message window on the PFD.

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 CAS message disappearance.

NOTE

STARTER GENERATOR will not supply airplane if source switch is on GPU.

On ground, generator load should be maintained below 200 amps.
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

STAND-BY GENERATOR will not supply airplane if source switch is on GPU.

In order to prevent possible errors during flight, access to ST-BY position requires a double action from the pilot (pull to unlock). On ground, avoid using stand-by generator at full load.

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 BATT BUS bus bar except when crash lever is pulled down.

Battery connection to main bus bar is controlled through SOURCE selector set to BATT position.

BAT OFF CAS message lights on when battery is isolated from the main bus and when main bus is supplied through another source.

GROUND POWER RECEPACELCE

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.

When SOURCE selector is set to GPU position, the battery and ground power unit are connected simultaneously on main bus bar.
Ground power receptacle door opening is indicated by GPU DOOR CAS message appearance.

**NOTE**

*Before connecting a GPU to the airplane, ensure that the voltage of the GPU is regulated between 27.5 Volts and 28.5 Volts. The amperage output needs to be consistent with the airplane placard in front of compartment door: GPU shall provide a current limiting function, and current limit shall be set per placard. Use of a ground power source with voltage in excess of 28.5 volts or current exceeding current limit indicated on placard may damage the airplane electrical system. Do not use batteries pack as GPU sources.*

**DISTRIBUTION**

Airplane electrical systems are connected to BUS bars and protected by pull-off type breakers located on R.H. side panel (See Figure 7.8.4). In case of overload of a system, the breaker triggers and switches the system off.

*If a breaker corresponding to a non essential system trips, do not reset in flight.*

If a breaker corresponding to an essential system trips:

- allow it to cool for about three minutes, then the breaker may be reengaged (pressed down)
- if the breaker trips again, do not reset.

BUS 1, BUS 2, BUS 3 and BUS 4 bus bars are directly connected to main bus bar and protected by fuses located in electrical power system.

The ESS BUS 1 and ESS BUS 2 essential bus bars are connected to main bus bar through ESS BUS TIE switch set to NORM position. ESS BUS TIE switch is attached to breaker panel; NORM position is protected and locked by a cover. Common power supply to both essential bus bars is protected by a fuse (located in EPS box) and a breaker (located in the front cargo compartment on C2 frame right side), each bar being individually protected by a breaker.

BATT BUS bar is directly connected to the battery; it is protected by a fuse (located in EPS box) and a breaker (located in the front cargo compartment on C2 frame left side).

**NOTE**

*The electrical distribution of bus bars is described in Figure 7.8.3.*
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 BATT 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 switch to EMER position

In this configuration, only ESS BUS 1, ESS BUS 2 and BATT BUS bars are supplied.

NOTE

*Supplying BUS 1, BUS 2, BUS 3 and BUS 4 bars is always possible, resetting temporarily ESS BUS TIE switch to NORM position.*
Figure 7.8.1 - ELECTRICAL DIAGRAM
### SECTION 7
#### DESCRIPTION

PILOT’S OPERATING HANDBOOK

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<td>ST-BY</td>
<td>NORM</td>
<td>Battery &amp; ST-BY</td>
<td>Battery &amp; ST-BY</td>
<td>Battery &amp; ST-BY</td>
<td>Battery &amp; ST-BY</td>
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<tr>
<td>UP</td>
<td>OFF</td>
<td>MAIN</td>
<td>NORM</td>
<td>MAIN</td>
<td>MAIN</td>
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<td>UP</td>
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<td>ST-BY</td>
<td>ST-BY</td>
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<tr>
<td>UP</td>
<td>BATT</td>
<td>OFF</td>
<td>EMER</td>
<td>Battery</td>
<td>Battery</td>
<td>Battery</td>
<td>None</td>
</tr>
</tbody>
</table>

(*) **NOTE**: In that case, power is done by MAIN or ST-BY and battery is used as a floated battery.

Figure 7.8.2 - BUS BARS SUPPLY CONFIGURATIONS
Figure 7.8.3 (1/3) - ELECTRICAL DISTRIBUTION OF BUS BARS
Figure 7.8.3 (2/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

NOTE: BREAKERS ON C13 BIS FRAME

COND. FAN
CABIN FAN
COCKPIT FAN
C&N D FAN
HF (if installed)
HF ?A (if installed)

NOT USED
Figure 7.8.3 (3/3) - ELECTRICAL DISTRIBUTION OF BUS BARS
## ESS BUS TIE
Essential bus NORM & EMER switch

<table>
<thead>
<tr>
<th>BUS 1</th>
<th>Description</th>
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<tbody>
<tr>
<td>AP SERVOS</td>
<td>Autopilot servo protection</td>
</tr>
<tr>
<td>FLAPS</td>
<td>Flaps protection</td>
</tr>
<tr>
<td>AIL TRIM</td>
<td>Aileron trim protection</td>
</tr>
<tr>
<td>RUD TRIM</td>
<td>Pitch trim protection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUS 2</th>
<th>Landing gear general supply protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>LDG GEAR</td>
<td>Essential bus 2 circuit protection</td>
</tr>
<tr>
<td>ESS BUS 1</td>
<td>Primary Flight Display 1 protection</td>
</tr>
<tr>
<td>PFD 1</td>
<td>VHF 1 protection</td>
</tr>
<tr>
<td>COM 1</td>
<td>GPS NAV 1 protection</td>
</tr>
<tr>
<td>ADC 1</td>
<td>Air Data Computer 1 protection</td>
</tr>
<tr>
<td>ENGINE</td>
<td>Powerplant cont. protec. : Oil temp. &amp; pres., torque, propeller</td>
</tr>
<tr>
<td>AIRFRAME 1</td>
<td>Powerplant cont. protection : Ng, flowmeter &amp; ITT</td>
</tr>
<tr>
<td>ENGINE</td>
<td>Powerplant cont. protection : Ng, flowmeter &amp; ITT</td>
</tr>
<tr>
<td>AIRFRAME 2</td>
<td>L.H. fuel gage protection</td>
</tr>
<tr>
<td>FUEL GAGE 1</td>
<td>R.H fuel gage protection</td>
</tr>
<tr>
<td>FUEL GAGE 2</td>
<td>R.H fuel gage protection</td>
</tr>
<tr>
<td>ESS BUS 2</td>
<td>Essential bus 2 circuit protection</td>
</tr>
</tbody>
</table>

| PASS MASKS     | Passengers' oxygen masks protection |
| STBY INSTR     | Standby Attitude Module (MD302) protection |
| KEYPAD         | Keypad protection                   |
| AUDIO 1        | Audio control panel 1 protection    |
| AHRS 1         | Attitude and Heading Reference System 1 protection |
| XPDR 1         | Transponder 1 protection            |
| LDG SIG        | Landing gear indicating system protection |
| NP/NG          | Tachometer signal conditioner protection |
| FEATHER        | Propeller feather protection        |
| TORQUE         | Torque control protection           |
| IGNITION       | Powerplant ignition protection      |

(Cont'd on next page)
<table>
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<tr>
<th>BUS 1</th>
<th>Protection</th>
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<td>AP CTRL</td>
<td>Flight controller protection</td>
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<tr>
<td>PFD 2</td>
<td>Primary Flight Display 2 protection</td>
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<tr>
<td>COM 2</td>
<td>VHF 2 &amp; radio protection</td>
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<tr>
<td>GPS/NAV 2</td>
<td>GPS NAV 2 protection</td>
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<tr>
<td>ADC 2</td>
<td>Air Data Computer 2 protection</td>
</tr>
<tr>
<td>XPDR 2</td>
<td>Transponder 2 (if installed) protection</td>
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<tr>
<td>AIRFRAME DE ICE</td>
<td>Empennage and wing leading edges deicing</td>
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<tr>
<td>INERT DE ICE</td>
<td>Inertial separator protection</td>
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<tr>
<td>R WS DE ICE</td>
<td>R.H. windshield deicing protection</td>
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<td>PITOT L</td>
<td>Pitot L heating protection</td>
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<td>AUDIO 2</td>
<td>Audio control panel 2 protection</td>
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<tr>
<td>AHRS 2</td>
<td>Attitude and Heading Reference System 2 protection</td>
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<td>STORM</td>
<td>Stormscope protection (if installed)</td>
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<tr>
<td>STROBE LIGHT</td>
<td>Strobe lights protection</td>
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<tr>
<td>SHAKER</td>
<td>Stick shaker protection</td>
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<td>PROP DE ICE</td>
<td>Propeller deicing protection</td>
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<tr>
<td>ICE LIGHT</td>
<td>L.H. wing leading edge lighting and lighting test protection</td>
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<tr>
<td>FLAPS SIG</td>
<td>Trim and flaps regulator protection</td>
</tr>
<tr>
<td>CAB BLEED</td>
<td>Cabin pressurization protection</td>
</tr>
<tr>
<td>AIR COND</td>
<td>Cabin ventilation and vapor cycle system protection</td>
</tr>
<tr>
<td>CABIN DOORS</td>
<td>Cabin doors opening protection</td>
</tr>
<tr>
<td>NAV/RECOG LIGHT</td>
<td>Navigation and recognition lights protection</td>
</tr>
<tr>
<td>PLUGS</td>
<td>12 VDC plugs protection</td>
</tr>
<tr>
<td>PLUGS</td>
<td>USB plugs protection</td>
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<tr>
<td>MFD</td>
<td>Multifunction display protection</td>
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<tr>
<td>CABIN</td>
<td>Passenger’s reading lamps protection</td>
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<tr>
<td>PANEL LIGHT</td>
<td>Instruments lighting protection</td>
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<tr>
<td>TAS</td>
<td>TAS (if installed) protection</td>
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<tr>
<td>WXR</td>
<td>Weather radar protection</td>
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<tr>
<td>DATA LINK</td>
<td>Data Link (if installed) protection</td>
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<tr>
<td>LDG CONT</td>
<td>Landing gear control protection</td>
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<tr>
<td>SATCOM</td>
<td>SATCOM protection (if installed)</td>
</tr>
<tr>
<td>SATCOM HEATER</td>
<td>SATCOM heater protection (if installed)</td>
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(Cont'd on next page)
### BUS 3

<table>
<thead>
<tr>
<th>Function</th>
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</thead>
<tbody>
<tr>
<td>OXYGEN PRESS</td>
<td>Oxygen/Pressure indication protection</td>
</tr>
<tr>
<td>L WS DE ICE</td>
<td>L.H. windshield deicing protection</td>
</tr>
<tr>
<td>PITOT R &amp; STALL</td>
<td>Pitot R and stall warning heating protection</td>
</tr>
<tr>
<td>AOA</td>
<td>Angle of Attack protection</td>
</tr>
<tr>
<td>RADIO ALTI</td>
<td>RADIO ALTI (if installed) protection</td>
</tr>
<tr>
<td>DME</td>
<td>DME protection (if installed)</td>
</tr>
<tr>
<td>FUEL SEL</td>
<td>Tank selector timer protection</td>
</tr>
<tr>
<td>AUX BP</td>
<td>Electrical fuel pump protection</td>
</tr>
<tr>
<td>ADF</td>
<td>ADF protection (if installed)</td>
</tr>
<tr>
<td>TAXI LIGHT</td>
<td>Taxi light protection</td>
</tr>
<tr>
<td>LH LDG LIGHT</td>
<td>L.H. landing light protection</td>
</tr>
<tr>
<td>RH LDG LIGHT</td>
<td>R.H. landing light protection</td>
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<tr>
<td>PULSE SYST</td>
<td>Pulse lite system protection (if installed)</td>
</tr>
<tr>
<td>BATT BUS</td>
<td></td>
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<tr>
<td>EMER LIGHT</td>
<td>Instrument panel emergency lighting protection</td>
</tr>
<tr>
<td>GND CLR</td>
<td>Ground clearance protection</td>
</tr>
<tr>
<td>ACCESS</td>
<td>Cabin access lighting protection</td>
</tr>
<tr>
<td>EPS</td>
<td>Electrical power system protection</td>
</tr>
<tr>
<td>REC</td>
<td>Lightweight Data Recorder protection</td>
</tr>
</tbody>
</table>

Figure 7.8.4 (3/4) - BREAKER PANEL (Typical arrangement)
Figure 7.8.4 (4/4) - BREAKER PANEL (Typical arrangement)
INDICATING

Electrical system indicating consists of voltage and ampere indicating - refer to GARMIN Cockpit Reference Guide for further details.

Following CAS messages may appear on the MFD CAS display:

- **BAT OFF**: Battery is not connected to main bus bar
- **MAIN GEN**: Starter generator is not connected to main bus bar
- **LOW VOLTAGE**: Battery voltage is below the minimum value
- **GPU DOOR**: Ground power receptacle access door is not closed

PROTECTION - SAFETY (Figures 7.8.2 and 7.8.5)

The electrical power system provides systems protection in case of:

- overvoltage
- short-circuits

In case of disconnection of starter generator or stand-by generator following a failure, MAIN or ST-BY reset can be done by pressing corresponding GENERATOR RESET MAIN or ST-BY push-button.

A battery reset is done by setting the SOURCE selector to OFF and back to BATT.

In case of disconnection of ground power unit following a failure, it is possible to re-activate the system by turning the SOURCE selector to OFF and setting it again to GPU position to reset the protection.

A **crash lever** located on upper panel center part allows isolating simultaneously BATT BUS bar and setting to OFF the SOURCE and GENERATOR selectors when lowered. In this case all bus bars are isolated from generators.
1) MAIN GENERATOR RESET push-button
2) ST-BY GENERATOR RESET push-button
3) Crash lever
4) SOURCE selector
5) GENERATOR selector
EXTERIOR LIGHTING (Figure 7.8.6)

The airplane is equipped with two navigation lights, three strobe lights, two landing lights, two taxi lights, two recognition lights and a wing leading edge icing inspection light.

Landing lights

Landing lights are embedded in the winglets and located in leading edges. Lights illumination is controlled by setting to LDG, a switch located on upper panel.

The Pulse lite system (if installed) enables the pilot to control landing light flashing to be seen by the control tower or in heavy traffic areas.

Taxi lights

The taxi lights are embedded in the winglets and located in leading edges. They are controlled by setting to TAXI, a switch located on upper panel.

Navigation lights and strobe lights

Navigation lights are embedded in the winglets.

Two strobe lights are installed in the winglets and one on the tail cone.

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.

Recognition lights

Recognition lights are embedded in the winglets.

They are automatically switched on when the airplane is on ground.

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).
FWD compartment light

The dome light illumination of the FWD compartment is controlled by the switch located in the upper section of the door frame.

Fuel unit compartment light

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) Taxi and landing light switch
2) Pulse system switch
3) Navigation lights switch
4) Strobe lights switch
INTERIOR LIGHTING (Figure 7.8.7)

Interior lighting consists of access, cabin, instrument panel, instruments, baggage compartment 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 baggage compartment. ACCESS push-button on INT LIGHTS panel and the push-button located on access door rear frame control these 3 lights via a delayed breaker.

If the crash lever is down, access lighting is automatically cut out after 3 minutes.
If the crash lever is up, there is no access lighting automatic cut out.

Cabin lighting

Cabin lighting consists of two swiveling floodlights for front seats, six individual floodlights for rear passenger seats and the baggage compartment R.H. dome light. Each floodlight is controlled by a push-button located near. The floodlight above the table is controlled by two switches which are two-way type switches. The pilot can switch off the cabin floodlights and the baggage compartment dome light 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 tubes and a led lighting for the pedestal.

Breaker panel lighting

Breaker panel lighting is controlled by a switch located on the instrument panel near the pilot’s control wheel.

Emergency lighting

Emergency lighting consists of two swiveling floodlights located on both sides of the cockpit overhead panel above front seats. It illuminates instrument panel assembly in case of visor lighting tubes and / or instrument integrated lighting failure.

A rheostat located on the cockpit overhead panel 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.
1) Instrument panel lighting switch (rheostat)

2) DIMMER switch

3) Cabin lighting switch (rear seats reading light)

4) Access door, baggage compartment and FWD dome light (delayed breaker) push-button

5) Emergency lighting switch

6) Breaker panel lighting switch
Figure 7.8.7 - INTERNAL LIGHTING CONTROLS
7.9 - AIR CONDITIONING AND PRESSURIZATION

The airplane is equipped with a Global Air System (GAS), which ensures air conditioning and pressurization (Figure 7.9.1).

GAS controls are located on A/C and PRESSURIZATION panel at the L.H. side of the R.H. side control wheel and above the arm rest of the L.H. passenger's seat (Figure 7.9.2).

The system is monitored through CAS messages appearing on the GDU 1550 MFD.

**NOTE**

* A list of abbreviations used in this chapter is given in Figure 7.9.1.

The GAS is composed of 3 main sub-systems :
- Engine Bleed Air System,
- Dual zones Environmental Control System, including heating and cooling functions,
- Cabin Pressurization Control System.

These 3 sub-systems are managed by a single digital controller (GASC), which receives information coming from :
- the sensors set in the sub-systems,
- the human interfaces set in the airplane.

The GASC elaborates the proper commands to the sub-system actuators and indication or warning elements.

**ENGINE BLEED AIR SYSTEM**

The Engine Bleed Air System is designed to ensure the following functions :
- to bleed air from the engine,
- to ensure a controlled airflow in the cabin,
- to adjust the temperature of the bleed air at a compatible level, in order to control the cabin temperature in heating and cooling modes.
The BLEED switch allows to switch on the Engine Bleed Air System provided that the engine runs. The Ground Fan (GF) runs until takeoff, when BLEED switch is set to AUTO, and the MAIN GEN CAS message is OFF.

The BLEED switch is fitted with a blocking device between AUTO and OFF/RST positions preventing the operator from a non expected setting of BLEED switch to OFF/RST position.

The PRESSU OFF CAS message appears in the MFD CAS window (in display normal conditions), when the BLEED switch is in OFF/RST position or when the Flow Control and Shut Off Valve is closed due to a system malfunction (cabin inlet overtemperature, BDPS or FCSOV failure).

The GAS DEGRADED CAS message appears in the MFD CAS window (in display normal conditions), when the pressurization system is degraded without total loss of pressurization or when the heating system is degraded.

The GAS EVENT CAS message appears in the MFD CAS window (in display normal conditions), on ground 45 seconds after landing when the overheat thermal switch triggered in flight.

To reactivate the system, set BLEED switch to OFF/RST, then to AUTO.

To bleed air from the engine

The Engine Bleed Air System is based on 2 engine bleed ports operation. The normal operation is performed on P2.5 engine port as far as the pressure or temperature available at this port is able to comply with the needs. If one of these conditions is not fulfilled, the system automatically switches to P3 engine bleed port. The switching back to P2.5 supply is automatically performed as far as the conditions on P2.5 are restored to adapted values.

The sensor (IPPS) measures continuously the pressure at the P2.5 pressure port and sends the value to the Global Air System Controller (GASC) which manages the ports switching on condition with the Shut Off Valve (SOV). A Non Return Valve (NRV) secures the P2.5 pressure port when the P3 pressure port is opened.

To ensure a controlled airflow in the cabin

The bleed flow control operation is ensured by the FCSOV driven by the GASC.

To adjust the temperature of the bleed air

The bleed air outlet temperature control is ensured by the By-Pass Valve (BPV) in association with the Main Heat Exchanger (MHX).
The temperature measurement loop given by the Inlet Temperature Sensor (ITS) and the 2 Ventilated Temperature Sensors (CKVTS, CBVTS) sends the value to the GASC which compares them with the set temperature and manages the BPV position. The BPV derives a part of the bleed air through the MHX to cool it and mix it to the remaining air.

The Engine Air Bleed System is supplied by BUS 2 bar and protected by the CAB BLEED CB60 breaker.

DUAL ZONES ENVIRONMENTAL CONTROL SYSTEM

The Environmental Control System is based on two independent air circuits. The heating circuit uses the controlled temperature bleed air. The cooling circuit is based on a Vapor Cycle System (VCS).

The Environmental Control System is designed to ensure the following functions:

- Cockpit / Cabin Heating function
- Cockpit / Cabin Cooling function.

The Environmental Control System is supplied by BUS 2 bar and protected by the AIR COND CB160 breaker. Four fans are supplied by BUS 4 bar and protected respectively by following breakers: COND FAN CB114, CABIN FAN CB113, COCKPIT FAN CB112 and GND FAN CB111.

The system includes an automatic load shedding feature which:

- shuts off the Ground Fan (GF) and the Condenser Fan COND FAN and opens compressor clutch when MAIN GEN CAS message is ON.
- shuts off all the Vapor Cycle System (VCS) during engine start.
Heating circuit

Hot air coming from the bleed air system is mixed with the cabin recirculating air in the Mixing Ejector (MIXEJ) in order to lower the blown air temperature. The resultant air flow enters the Hot Air Distributor (HAD) and is distributed in the cockpit / cabin zones regarding the demand.

It is dispatched:

- in the cockpit through ports located on pedestal sides, under each seat or through the demisting outlets.
- in the cabin through ports located on the lower section of the L.H. and R.H. side cabin upholstery.

The HOT AIR FLOW distributor allows to select the windshield defog / cabin heating functions.

When the A/C switch is set to OFF position, the temperature is set by default by the GASC to 23°C.

Cooling circuit

There are two separate circuits: one for the cockpit and the other for the cabin.

In each circuit, air is sucked by means of a variable speed electrical fan, then it is blown through an evaporator and ducted to the different zones:

- cockpit circuit: by passing into the upper panel equipped with 2 swivelling and adjustable air outlets, through air outlets located on arm rests of pilot and R.H. front passenger stations and through ports located under instrument panel,
- cabin circuit: by passing into the overhead duct equipped with 4 swivelling and adjustable air outlets and through ports located on the floor between the cabinets and the intermediate passenger's seats.

The VCS can be switched on, only if the fans are set at least to minimum speed and if the TEMP selectors are set in the cold zone (blue part). The compressor clutch and the condenser fan are controlled by the GASC.

The blown air temperature is controlled by the system according to the settings of each temperature selector.

The FAN speed selectors enable to control blown air speed of each fan of the cockpit and cabin evaporators.
The A/C switch allows to switch on or off the Vapor Cycle System.

- If set to OFF position, the VCS is switched to off.
- If set to PILOT position, the operation of the controls located in the cabin zone is inhibited.
- If set to PLT + PAX position, each zone controls its proper values.

Emergency air control (EMERGENCY RAM AIR control knob), located under R.H. area instrument panel facing control wheel, enables outside air to enter the cabin through a valve. In NORMAL position, the valve is closed and the control is locked. To open emergency ventilation valve, press on locking knob and move control rearwards.
CABIN PRESSURIZATION CONTROL SYSTEM

The cabin altitude check is automatically ensured by the pressurization control system through a monitoring of the cabin pressure. The opening of the Outflow Valve (OFV) is controlled by the GASC through a torque motor fitted on the valve.

The Landing Field Elevation (LFE) entered by the pilot via FPL (destination airport) is used by the GASC to manage the optimal cabin altitude rate of change in order to land with a cabin altitude equal to LFE minus 200 ft.

The Landing Field Elevation selection is done on the MFD using:

- automatically destination airport of the flight plan,
- a manual entry pressing SYSTEM, then MAN LFE on the MFD.

The cabin altitude is automatically calculated by the GASC using the data sent by MFD unit.

In flight, the GASC controls the opening of the OFV in order to reach the automatic computed cabin altitude. The MODE pressurization switch allows to select 2 pressurization modes:

- if set to AUTO, the GASC controls the cabin altitude rate of change in order to optimize comfort and avoid reaching maximum $\Delta P$ or negative $\Delta P$.
- if set to MAX DIFF, the cabin altitude is minimized throughout the flight. For airplane altitudes below 13500 ft, this results in cabin altitudes that could be as low as 0 ft. Above 13500 ft, the cabin altitude is minimized while maintaining $\Delta P \leq 6.0$ PSI.

The MFD shows landing field altitude, cabin climb speed in Sea Level ft/min and cabin-atmosphere differential pressure ($\Delta P$) in PSI.

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 A/C and PRESSURIZATION panel (in normal operation, this switch is protected and locked by a cover).

Overpressure and negative relief safety are managed by both OFV and SFV. The safety functions are ensured by independent pneumatic modules fitted on both valves, which override the GASC control when necessary.

The MAX DIFF MODE CAS message appears in the MFD CAS window (in display normal conditions) when the MODE pressurization switch is set to MAX DIFF.
The **CABIN ALTITUDE** CAS message appears in the MFD CAS window (in display normal conditions) when the cabin altitude is over 10000 ft.

The **CABIN DIFF PRESS** CAS message appears in the MFD CAS window (in display normal conditions) when the cabin-atmosphere differential pressure is over 6.2 psi (427 mb).

The DUMP switch allows the pilot to open the OFV in order to de-pressurize the cabin. The OFV is fitted with a cabin altitude limitation device which overrides the DUMP function and forces the closure of the OFV if the cabin altitude reaches 14500 ft.

The **PRESSU BACKUP** CAS message appears in the MFD CAS window when, due to malfunction, GASC cannot compute optimal cabin altitude.

In this case, cabin altitude is controlled by GASC to 9800 ft default value.
<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
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<td>Front vents</td>
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<td>Cockpit ventilated temperature sensor (CKVTS)</td>
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<tr>
<td>4)</td>
<td>Cabin ventilated temperature sensor (CBVTS)</td>
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<td>Air ports</td>
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<td>6)</td>
<td>Cabin control panel</td>
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<td>Global air system controller (GASC)</td>
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<td>8)</td>
<td>Out-flow valve (OFV)</td>
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<td>9)</td>
<td>Safety valve (SFV)</td>
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<td>10)</td>
<td>Condenser fan</td>
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<td>High pressure switch</td>
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<td>Cabin thermostatic valve</td>
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<td>Low pressure switch</td>
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<td>A/C and PRESSURIZATION panels</td>
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<td>Cockpit thermostatic valve</td>
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<td>21)</td>
<td>Cockpit fan</td>
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<td>Cockpit evaporator</td>
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<td>23)</td>
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</tbody>
</table>
24) Demisting microswitch
25) Hot air distributor (HAD)
26) (Cabin) Inlet temperature Sensor (ITS)
27) (Cabin) Bleed temperature switch (BTSW)
28) Mixing ejector (MIXEJ)
29) Check valve
30) MFD unit
31) Ground safety microswitch
32) Differential pressure switch
33) By-pass valve (BPV)
34) Cabin altitude alarm switch
35) Emergency air supply system (EMERGENCY RAM AIR)
36) Main heat exchanger (MHX)
37) Ground fan (GF)
38) Flow control shut off valve (FCSOV)
39) Bleed differential pressure sensor
40) Compressor
41) Shut-off valve (SOV)
42) Overheat thermal switch (OTSW)
43) Non return valve (NRV)
44) Intermediate port pressure sensor (IPPS)
45) Cabin pressure sensor
Figure 7.9.1 (3/3) - Global Air System
1) A/C switch
2) BLEED switch
3) MODE pressurization switch
4) DUMP switch
5) HOT AIR FLOW distributor
6) TEMP selector (cockpit/cabin)
7) FAN speed selector (cockpit/cabin)
8) FAN speed selector (cabin)
9) TEMP selector (cabin)
Figure 7.9.2 (2/2) - GAS controls
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7.10 - EMERGENCY OXYGEN SYSTEM (Figure 7.10.1)

The gaseous oxygen system will be used by the crew and the passengers, when the cabin altitude is greater than 10000 ft following a loss of pressurization or in case of cabin air contamination.

The USE OXYGEN MASK CAS message appears in the MFD CAS window (in normal conditions) and the USE OXYGEN MASK / USE OXYGEN MASK aural warning alert sounds when the cabin altitude is greater than 10000 ft.

The oxygen reserve is contained in an oxygen cylinder made of composite material and located outside of the pressurized cabin into the R.H. karman. Its capacity is 50.3 cu.ft (1425 litres) STPD (Standard Temperature Pressure Dry) and use limit pressures are:

- maximum pressure 1850 PSIG (127 bars) at 70°F (21°C).
  Evolution of this pressure according to the outside temperature is given in Section 8, Figure 8.7.1, as well as on a placard on the inside of the cylinder service door,
- minimum pressure 217 PSIG (15 bars).

The oxygen cylinder head is equipped with:

- a hand-controlled isolation valve to permit cylinder installation and removal,
- a microswitch causing the O2 CYL CLOSED CAS message to light on. This message lights on, 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 outboard,
- a pressure reducing valve adjusting utilization pressure to a value comprised between 64 and 85 PSIG (4.4 and 5.9 bars),
- a low pressure safety valve calibrated to 116 PSIG (8 bars).
1) Microphone switch
2) OXYGEN switch
3) PASSENGER OXYGEN switch
A control panel located in the cockpit overhead panel at the disposal of the pilot includes:

- a two-position valve ON/OFF (OXYGEN switch) to permit the supply of the front seats occupants masks,
- a two-position valve DEPLOY/STBY (PASSENGER OXYGEN switch) with guard to permit the supply of the passengers four masks, when the first valve is open.

Oxygen pressure is displayed on the MFD.

An altimetric valve provides an automatic passengers masks actuation function at a cabin altitude between 13000 and 14000 ft when 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 of the R.H. front seat occupier. Masks are installed in cups on the cabin walls aft of the front seats. Permanently connected to the oxygen system, they are equipped with a micro controlled by the switch (MICRO/MASK micro inverter) under cover located on the instrument panel near the pilot’s control wheel. The cockpit masks are equipped with a microphone, a three-position selector NORMAL, 100% and EMERGENCY and with a push-button PRESS TO TEST. The proper flow is signaled by a flow indicator (blinker) into the oxygen tubing.

The airplane is equipped with two smoke goggles.

Four passengers 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 both switches at its disposal are set to ON, or automatically at a cabin altitude between 13000 and 14000 ft with the OXYGEN switch set to ON. The oxygen flow is obtained by pulling on the mask bounded by a lanyard cord to a pin. A proper flow is signaled by the filling of the green bag located on each passenger mask.
WARNING

DO NOT SMOKE DURING OXYGEN SYSTEM USE.
OIL, GREASE, SOAP, MAKE UP, LIPSTICK AND ANY OTHER GREASY
SUBSTANCES CONSTITUTE A SERIOUS FIRE OR BURNING HAZARD,
WHEN ON CONTACT WITH OXYGEN

FLIGHT ABOVE 15000 FT WITH EMERGENCY DESCENT

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(Values in PSIG)

Conditions:
1. 4 minutes from 31000 to 15000 ft. All equipment used from 31000 ft.
2. Plus 30 minutes usage by each pilot and passenger at 15000 ft.
3. Plus 86 minutes usage by each pilot at 10000 ft.

NOTE

After a long parking time in the sunshine, increase pressures indicated in the table here above by 8 %.
WHEN REQUIRED TO REMAIN ABOVE 15000 FT DUE TO MINIMUM ENROUTE ALTITUDE

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</table>

(Values in PSIG)

Conditions:
1. Flight above 15000 ft. All equipment used.
2. 1 hour usage by each pilot and passenger.
3. Plus 1 hour usage by each pilot under 15000 ft.

**NOTE**

After a long parking time in the sunshine, increase pressures indicated in the table here above by 8%.
SECTION 7
DESCRIPTION

FLIGHT BETWEEN 15000 FT AND 10000 FT

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</table>

(Values in PSIG)

Conditions:
1. Flight under 15000 ft.
2. 90 minutes usage by each pilot and one passenger.
3. Plus 30 minutes usage by each pilot at 10000 ft.

NOTE

After a long parking time in the sunshine, increase pressures indicated in the table here above by 8%.
7.11 - AIR DATA SYSTEM AND INSTRUMENTS (Figure 7.11.1)

Airplane air data system consists of:

- two separate static pressure systems supplying an electronic standby indicator and air data computers (ADC).
  A part of 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 electronic standby indicator and air data computers.

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 part, which is connected to the switching valve (normal / alternate), supplies the $\Delta P$ cabin and the electronic standby indicator. The system remainder directly supplies one of the air data computers.

System 2 is directly connected to the second ADC.

Systems feature a drain valve located under the instrument panel on R.H. side.

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.

The alternate line incorporates a drain plug located under the instrument panel on R.H. side.
DYNAMIC PRESSURE SYSTEM

One heated pitot probe is installed under the L.H. wing. The second one is installed under the R.H. wing. The first one supplies the electronic standby indicator and one ADC.

The second one supplies the other ADC.

Both lines incorporate a drain plug located in the root of L.H. and R.H. wings.

Pitot heating

Pitot heating is controlled by PITOT L HTR and PITOT R & STALL HTR switches, installed on DE-ICE SYSTEM panel. Refer to Chapter 7.13 for further details.

NOTE

Do not use heating during prolonged periods on ground to avoid pitot overheat.
1) Pitot L  
2) Dynamic system drain  
3) Standby Attitude Module (MD302)  
4) GDC ADC  
5) GDC ADC  
6) FWD pressure bulkhead  
7) Static system drain  
8) Static system drain  
9) Static system drain  
10) Emergency static system drain  
11) Emergency static valve (Normal / Alternate)  
12) Instrument panel  
13) Dynamic system drain  
14) Pitot R  
15) Rear pressure bulkhead  
16) Static port  
17) Emergency static port  
18) Static port
INTENTIONALLY LEFT BLANK
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 cabin pressurization and the leading edge deicing.

Vacuum system includes:
- A pressure regulator
- An ejector
- A regulating and relief valve
- A pressure switch

Compressed air necessary for the ejector to create decompressed air is taken from the powerplant. 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 system. In case of pressure drop, a pressure switch, installed in the system, indicates the failure by causing the **VACUUM LOW** CAS message to light on.

**STANDBY ATTITUDE MODULE (MD302)**

The Mid-Continent Instrument and Avionics MD302 Standby Attitude Module consists of two LCD screens. The first screen displays the airplane attitude (pitch and roll) and the second screen displays the airplane altitude and airspeed. The MD302 is powered from the ESSENTIAL BUS 2 or internal replaceable battery ensuring that the airplane can continue safe flight and landing in the event of a loss of primary attitude and air data displays. Pilot and static pressures are provided to the MD302 solid state electronic sensors using the airplane pitot probe and static sources.

The standby attitude module is located in the top left hand corner of the instrument panel.
1) Pressure regulator
2) Ejector
3) Valve
4) Regulating and relief valve
5) Pressure switch
6) Failure CAS message
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: WINDSHIELD
- Electrical heating system for both pitots and for the stall warning sensor: PITOT L HTR and PITOT R & 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 the inboard and outboard zones of all blades. 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.

PROP DEICE ON CAS message illuminates if the engine is shut down with PROP DE ICE still on.

CAUTION

WHEN ENGINE IS SHUTDOWN, DO NOT SET THE PROP DE ICE SWITCH TO ON, DAMAGE TO THE PROPELLER BLADES COULD RESULT

WINDSHIELD DEICING

The windshields are deiced electrically by integrated heating resistors. The system includes a controller and two heat probes embedded in each windshield. They are operated by the WINDSHIELD switch.

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 of 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.

Two green lights located above the WINDSHIELD switch go on when the corresponding heating resistors are being supplied.
HEATING OF PITOTS AND STALL WARNING SENSOR (PITOT L HTR AND PITOT R & STALL HTR)

The two pitots, which supply ADCs, the airspeed indicator and the stall warning sensor are electrically heated. This deice equipment must be used even during flight into non-icing conditions.

The system condition messages **PITOT NO HT L** or **PITOT NO HT R**, **PITOT HT ON L** or **PITOT HT ON R**, **STALL HEAT ON** or **STALL NO HEAT** are displayed on the MFD CAS window. Refer to the GARMIN Cockpit Reference Guide for further details.

**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 Chapter 7.6 Paragraph ENGINE AIR INLET.
Figure 7.13.1 - DEICING CONTROL AND CHECK PANEL
7.14 - 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 an aural warning alert. This warning alert begins no later than 5 knots above the stall in all configurations.

Simultaneously, the control wheel vibrates through the stick shaker.

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 stall warning system should also be checked during the preflight inspection by momentarily turning on the SOURCE selector and by depressing the TEST push-button on cockpit overhead panel.

The system is operational if a stall / stall aural warning alert 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

The fire extinguisher is located on R.H. front station side panel.

A pressure gage allows checking the fire extinguisher condition. Follow the recommendations indicated on the extinguisher.

AUTOPILOT

Autopilot control panel is located above the MFD. Refer to Section 2 Limitations of this Pilot's Operating Handbook and to GARMIN Cockpit Reference Guide for further details.

GPS

GPS navigation is performed through the GARMIN system. Refer to Section 2 Limitations and Section 4 Normal procedures of this Pilot's Operating Handbook and to GARMIN Cockpit Reference Guide for further details.

WEATHER RADAR GWX 70

The weather information can be displayed on MFD.

Refer to Section 2 Limitations of this Pilot's Operating Handbook and to GARMIN Cockpit Reference Guide for further details.

1) MFD
2) Radar mode
3) Area of weather display
4) Antenna stabilization status
5) MFD bezels
6) GCU MFD control unit
7) Changes radar range, TILT and bearing
8) Scale for weather display

Figure 7.14.1 (1/2) - GWX 70 weather radar display and controls
EMERGENCY LOCATOR TRANSMITTER

The airplane is equipped with an emergency locator transmitter which enables to locate it in case of distress. It is located in fuselage rear section with a service door on fuselage R.H. side.

The emergency locator transmitter assembly is constituted of a transmitter supplied by a battery, of an antenna attached on upper fuselage and of a remote control located on the upper panel.

NOTE

For test sequences, refer to manufacturer manual.

ELT ARTEX 1000

Operation of the emergency locator transmitter is obtained as follows:

- from the instrument panel by setting ELT remote control switch to ON (locator transmitter ARM/OFF switch set to ARM/OFF),
- from the locator transmitter by setting its ARM/OFF control switch to ON,
- automatically in case of shock, when remote control switch is set to ARM/OFF and locator transmitter switch is set to ARM/OFF.

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

1) Set remote control switch or ELT switch to ON.

   a) The ELT keeps on transmitting emergency signal.
   b) On remote control box, red indicator light flashes.
   c) On ELT, red indicator light flashes.
   d) Near ELT, the buzzer sounds.
2) Wait approximately for 1 second.

3) Set remote control switch to ARM/OFF or ELT switch to ARM/OFF.

**NOTE**: The ELT cannot be reset if either the remote control switch or ELT switch is in ON position.

- a) The ELT does not transmit emergency signal any longer.
- b) On remote control box, red indicator light illuminates for about 1 second, then goes off.
  or
- c) On ELT, red indicator light goes off.
- d) Near ELT, the buzzer does no more sound.
LIGHTWEIGHT DATA RECORDER (LDR 1000)

The airplane is equipped with a lightweight data recorder which is a crash-survivable system, recording both cockpit voices and flight data. These data are intended to be used after an accident or an incident.

The lightweight data recorder system includes a cockpit microphone located on the instrument panel, between the MD302 and the autopilot control panel.

The lightweight data recorder simultaneously records audio from the GMA audio control panels, audio from the cockpit microphone, data from the GASC and data from the GIA integrated avionics unit #1 (GARMIN integrated flight deck system).

The lightweight data recorder is powered from the BATT BUS and controlled by a printed circuit as follows:

- If the crash lever is set upward, the lightweight data recorder starts recording.
- If the crash lever is set downward, the lightweight data recorder goes on recording for 10 minutes (audio only) and then automatically stops recording.

ADS-B OUT FUNCTION

The ADS-B OUT function enables the airplane to broadcast data, such as position information, to ground stations and to other airplanes equipped with ADS-B IN system.

The loss of an interfaced input to the selected extended squitter transponder may cause the transponder to stop transmitting ADS-B OUT data. Depending on the nature of the fault or failure, the transponder may no longer be transmitting all of the required data in the ADS-B OUT messages.

ADS-B OUT data is transmitted via transponder #1 or transponder #2 (if installed).

If the transponder #1 [#2] detects any internal fault or failure with the ADS-B OUT functionality, the following advisory message XPDR1 ADS-B FAIL [XPDR2 ADS-B FAIL] will be displayed on the PFDs.

After being informed of ADS-B OUT failure either by the advisory message XPDR1 ADS-B FAIL [XPDR2 ADS-B FAIL] or by Air traffic Control, it is possible to restore ADS-B OUT function by selecting transponder #2 [#1].

FLIGHT DECK INFORMATION SYSTEM (FS 510)

The airplane is equipped with a flight deck information system allowing portable electronics devices to stream data to and from the GARMIN integrated flight deck system.

For the system description and its utilization, refer to GARMIN Cockpit Reference Guide.
OPTIONAL EQUIPMENT

For optional equipment such as stormscope, SVS or TAWS system, refer to Section 9 Supplements.

Other optional equipment such as radio altimeter or chartview system or TAS system are described in the GARMIN Cockpit Reference Guide.

NOTE

Refer to Section 2 Limitations for chartview system operating limitations.
## SECTION 8
### HANDLING, SERVICING AND MAINTENANCE

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8.10 - PREPARATION OF THE AIRPLANE
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8.1 - GENERAL

This section contains the procedures recommended by the manufacturer for the proper ground handling and routine care and servicing of 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.
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, the GARMIN Integrated Flight Deck Cockpit Reference Guide and supplemental data covering optional equipment installed in the airplane (refer to Section 9 Supplements and pilot's guides).

In addition, the owner may get access to the following publications online:

- Maintenance Manual
- Illustrated Parts Catalog
- Catalog of Service Bulletins, Service Letters

**CAUTION**

PILOT'S OPERATING HANDBOOK MUST ALWAYS BE IN THE AIRPLANE
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.
SECTION 8
HANDLING, SERVICING AND MAINTENANCE
PILOT'S OPERATING HANDBOOK

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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.
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 that the fuel selector is set to OFF.

**NOTE**

*Do not use solar screens or shields installed on the airplane inside, or leave sun visors down against windshield when airplane 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, NACAs, exhaust stubs), cockpit cover, tie-downs, wheel chocks, propeller lock 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.
Figure 8.6.1 - TURNING ANGLE LIMITS
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.

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. Close oxygen cylinder isolation valve.

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. Close oxygen cylinder isolation valve.

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.
Figure 8.6.2 - CONTROL LOCK DEVICE
INTENTIONALLY LEFT BLANK
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, testing or overhaul.

ENGINE OIL

Type of oil:

Oil type:

**CAUTION**

DO NOT MIX DIFFERENT VISCOSITIES OR SPECIFICATIONS OF OIL AS THEIR DIFFERENT CHEMICAL STRUCTURE CAN MAKE THEM INCOMPATIBLE

<table>
<thead>
<tr>
<th>Specification</th>
<th>NATO Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Viscosity</td>
<td></td>
</tr>
<tr>
<td>5cSt</td>
<td>O-156 (STD)</td>
</tr>
<tr>
<td></td>
<td>O-154 (HTS)</td>
</tr>
</tbody>
</table>

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 Inspection).
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: 150.5 USG (570 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

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM-D1655 JET A</td>
<td>AIR 3405C Grade F35</td>
<td>DERD 2494 Issue 9</td>
<td>F35 without additive</td>
</tr>
<tr>
<td>ASTM-D1655 JET A1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ASTM-D1655 JET B</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MIL-DTL-5624 Grade JP-4</td>
<td>AIR 3407B</td>
<td>DERD 2454 Issue 4</td>
<td>F40 with additive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amdt 1</td>
<td></td>
</tr>
<tr>
<td>MIL-DTL-5624 Grade JP-5</td>
<td>AIR 3404C Grade F44</td>
<td>DERD 2452 Issue 2</td>
<td>F44 with additive when utilization</td>
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<td></td>
<td></td>
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<tr>
<td>MIL-DTL-83133 Grade JP-8</td>
<td>AIR 3405C Grade F34</td>
<td>DERD 2453 Issue 4</td>
<td>F34 with additive S748</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Amdt 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AIR 3404C Grade F43</td>
<td>DERD 2498 Issue 7</td>
<td>F43 without additive</td>
</tr>
</tbody>
</table>

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 DETERIMENTAL 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:

- liquid И – GOST 8313–88

Above-mentioned liquid is added in the quantity equal to 0.3 percent 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 10 PR - Inflation pressure: 98 psi (6.7 bars) *

Main gear tires:
18 5.5 10 PR - Inflating pressure: 135 psi (9.32 bars) *

Nose gear shock absorber:
Fill with hydraulic fluid AIR 3520 B (MIL.H5606E); inflate with nitrogen to 87 psi (6 bars).

Main gear shock absorbers:
Fill with hydraulic fluid AIR 3520 B (MIL.H5606E); inflate with nitrogen to 160 psi (11 bars).

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

The replenishment device of the oxygen cylinder is installed directly on the cylinder head. It consists of a charging valve and of a pressure gage graduated from 0 to 2000 PSIG. A chart - see Figure 8.7.4, located on the inside of the cylinder service door, gives the cylinder charge maximum pressure according to the environment temperature.
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 full charge is assured for 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 8.7.4 which lists the required pressures according to the cylinder temperature.

Open the oxygen service door on the R.H. rear karman.

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, fill the oxygen cylinder.

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.
Passengers’ 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

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.

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.
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.
SECTION 8
HANDLING, SERVICING AND MAINTENANCE
PILOT'S OPERATING HANDBOOK

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. Never use an alkaline cleaner on the blades; remove grease and dirt. Refer to Maintenance Manual for the procedures to follow.

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)

**NOTE**

*Check pressure values in a hangar heated at about 15°C with control equipment at room temperature.*

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 door and engine cowlings seals, as well as the leading edge deicers.

2. Apply engine oil on the engine cowling latches.

3. Inflatable main landing gear shock absorbers to 247 psi (17 bars) at a room temperature of 15°C.

4. Position a 0.59 in (15 mm) shim at the bottom of the piston tube and against forward landing gear half-fork to reduce shock absorber travel. Refill with hydraulic liquid. Remove the shim and inflate shock absorber to 138 psi (9.5 bars) at a room temperature of 15°C.

5. Inflate main landing gear tires to 130 psi (8.96 bars) and nose tire to 102 psi (7 bars) at a room temperature of 15°C.

**NOTE**

*See Table 1 hereafter to check pressure values and to inflate tires and shock absorbers.*
Check pressure values and inflate, if necessary, according to following table 1 during operation in cold weather only:

<table>
<thead>
<tr>
<th>OAT (°C)</th>
<th>-40°</th>
<th>-30°</th>
<th>-20°</th>
<th>-10°</th>
<th>+15°</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Main landing gear shock absorber</strong></td>
<td>189 (13)</td>
<td>196 (13.5)</td>
<td>203 (14)</td>
<td>218 (15)</td>
<td>247 (17)</td>
</tr>
<tr>
<td><strong>Nose gear shock absorber</strong></td>
<td>102 (7)</td>
<td>109 (7.5)</td>
<td>116 (8)</td>
<td>123 (8.5)</td>
<td>138 (9.5)</td>
</tr>
<tr>
<td><strong>Main landing gear tire</strong></td>
<td>144 (9.96)</td>
<td>144 (9.96)</td>
<td>130 (8.96)</td>
<td>130 (8.96)</td>
<td>130 (8.96)</td>
</tr>
<tr>
<td><strong>Nose gear tire</strong></td>
<td>94 (6.5)</td>
<td>94 (6.5)</td>
<td>102 (7)</td>
<td>102 (7)</td>
<td>102 (7)</td>
</tr>
</tbody>
</table>

Table 1
8.10 - PREPARATION OF THE AIRPLANE (EQUIPMENT AND FURNISHINGS)

WARNING

IN ANY ACCOMMODATION, MAKE SURE ACCESS TO EMERGENCY EXIT IS FREE.

CAUTION

REMOVED EQUIPMENT ITEMS MUST BE STOWED IN A PLACE WHICH ENSURES THEIR INTEGRITY.

Many accommodations are authorized by Daher. They are enumerated in Section 7.

This procedure specifies how to change your 6-seat accommodation into 4-seat accommodation, and conversely. However, it can be used partly to remove or install an equipment item.

However, the pilot must ensure that he gets all necessary authorizations from his regulatory authority.

1 - CONVERSION OF 6-SEAT ACCOMMODATION INTO 4-SEAT ACCOMMODATION (Figures 8.10.1, 8.10.2, 8.10.3 and 8.10.4)

A - Tools and consumable materials

- Seat protective covers

B - Preparation

1) Make sure the SOURCE selector is set to OFF and the crash lever is down.

C - Removal of rear seats (Figure 8.10.1)

1) To remove rear seats, perform the following operations

CAUTION

IN ORDER TO PREVENT CUSHION COVERING DAMAGE, PROTECTIVE COVERS SHOULD BE PUT ON SEATS.

a) Install protective covers.
b) Unlock backrest using backrest tilting handle (6) and fold it forward.

**NOTE**

*For the R.H. rear seat, backrest tilting handle is located behind backrest.*

c) Clear the carpet from under the seat to facilitate moving in rails.

d) Unlock seat using seat tilting handle (1) and tilt it forward.

e) Hold the seat in tilted position and unscrew quick links (7) of strap (9) located under L.H. seatpan.

**NOTE**

*This operation is specific to L.H. seat.*

f) Pull up and hold L.H. and R.H. rings (2), and turn knobs (8) by 90° in order to release and keep locks (3) in up position.

g) Move the seat in the rails to line up pads (4) with rail (5) apertures.

h) Remove the seat.

**NOTE**

*Ensure proper storage of strap (9) with L.H. rear seat to avoid loosening part.*

D - Removal of intermediate seats (Figures 8.10.2 and 8.10.3)

1) To remove intermediate seats, perform the following operations

a) Install protective covers.

b) Pull backrest bottom upholstery (25) to remove it.

c) Clear the carpet from under the seat to facilitate moving in rails.

d) Pull up locking handle (21) located under the pan, on the seat rear side, to unlock it.

e) Move the seat in the rails to line up pads (23) with rail (24) apertures.

f) Remove the seat.
g) Install backrest bottom upholstery (25).

**CAUTION**: IN ORDER TO PREVENT DEFLECTORS
DAMAGE, IT IS NECESSARY TO REMOVE
THEM.

2) Remove deflector (34) maintained with Velcro-type strap.

3) If necessary, remove the cabin central carpet.

**NOTE**

*If one of two cargo nets must be installed, it is necessary to use the carpet with appropriate cuttings.*

E - Removal of a cabinet

**NOTE**

*This operation must be carried out by a service center.*

F - Cabin comfort (Figure 8.10.3)

1) Blank off the hot air outlet, located forward the large door, with blanking
device assy (33) stored in storage bag - see Figure 8.10.3 Detail A.

2) Remove blanking plugs (32) located forward the large door and store
them into storage bag - see Figure 8.10.3 Detail B.

3) Remove blanking plugs (31) located in line with R.H. front side window
- see Figure 8.10.3 Detail C, and install them on holes located in line
with card table - see Figure 8.10.3 Detail D.

G - Installation of intermediate seats (Figures 8.10.2, 8.10.3 and 8.10.4)

1) Install deflector (34), ensuring that both red marks (36) are aligned with
the deflector holes (35) - see Figure 8.10.4.

**NOTE**

*Position deflectors (34) as indicated on label, according to future position
of intermediate seat.*
2) Install intermediate seats.

**NOTE**

*If seats are installed facing flight direction (frontwards), the L.H. seat must be installed on the right and the R.H. seat on the left in order to have the armrest on aisle side.*

a) Pull backrest bottom upholstery (25) to remove it.

b) Clear the carpet from seat area to facilitate moving in rails.

c) Position the seat and put lock (22) near the color mark (37) made on rail bottom on aisle side.

**NOTE**

*The color mark (37) in the rail is aligned with red marks (36).*

d) Pull up locking handle (21), insert pads (23) into rail (24) apertures and then, move the seat so that lock (22) is in front of the color mark (37).

e) Release locking handle (21) to lock the seat.

**WARNING:** VERIFY THAT LOCK (22) AND ALL PADS (23) ARE ENGAGED AND LOCKED INTO RAILS, TRYING TO MOVE SEAT FORWARD AND BACKWARD.

f) Install backrest bottom upholstery (25).

**NOTE**

*Adjust it properly; make sure not to obstruct deflector (34) outlet.*

g) Slide properly the carpet under the seat.

h) Remove protective covers.

H - Final operations

1) If removed, install cabin central carpet suited to the intended use.

**NOTE**

*Slide properly the carpet under doorstep.*
2) If necessary, remove the baggage compartment partition net and install the small or large cargo net (refer to Section 7).

3) Make sure the work area is clean and free from debris.

4) Determine weight and balance (refer to Section 6).

### 2 - CONVERSION OF 4-SEAT ACCOMMODATION INTO 6-SEAT ACCOMMODATION (Figures 8.10.1, 8.10.2, 8.10.3 and 8.10.4)

#### A - Tools and consumable materials
- Seat protective covers

#### B - Preparation
1) Make sure the SOURCE selector is set to OFF and the crash lever is down.

2) If installed, remove the cargo net.

3) Remove intermediate seats – refer to Paragraph 1.D.

4) Remove the deflectors (34) maintained with Velcro-type strap.

5) If necessary, remove the cabin central carpet.

#### C - Cabin comfort (Figure 8.10.3)
1) Remove blanking plugs (32) from their storage bag and install them on holes located forward the large door - see Figure 8.10.3 Detail B.

2) Remove blanking device assy (33) from the hot air outlet, located forward the large door, and store it into storage bag - see Figure 8.10.3 Detail A.

3) Remove blanking plugs (31) located in line with card table - see Figure 8.10.3 Detail D, and install them on holes located in line with R.H. front side window - see Figure 8.10.3 Detail C.

#### D - Installation of cabinet

**NOTE**

*This operation must be carried out by a service center.*
E - Installation of intermediate seats
1) Install intermediate seats – refer to Paragraph 1 G.
2) If removed, install the baggage compartment partition net.
3) If removed, install cabin central carpet.

F - Installation of rear seats (Figure 8.10.1)
1) Make sure the work area is clean and free from debris.
2) Clear the carpet from seat area to facilitate moving in rails.
3) Check that knobs (8) maintain locks (3) in up position.
4) Position the seat, fold it forward, refer to Detail B, and insert pads (4) into rail (5) apertures.
5) Move the seat so that locks (3) are in front of the color mark made on rail bottom.
6) Pull up and hold L.H. and R.H. rings (2) and turn knobs (8) by 90° in order to insert locks (3) into rail (5) apertures.
7) Make sure the seat is correctly locked on rails (5).
8) Tilt seat forward, hold it and slip strap (9) around the locking control hinge pin. Screw quick links (7).
9) Tilt the seat rearward and lock it using seat tilting handle (1).
10) Fold up the backrest and lock it using backrest tilting handle (6).
11) Slide properly the carpet under the seat.
12) Remove protective covers.

G - Reconditioning
1) Make sure the work area is clean and free from debris.
2) Determine weight and balance (refer to Section 6).
3 - ADDITIONAL CONFIGURATIONS

WARNING

REMOVED SEATS CAN ONLY BE INSTALLED AT THEIR ORIGINAL LOCATION. REAR SEAT (L.H. OR R.H.) IS THE ONLY ONE WHICH CAN BE INSTALLED IN CABIN AXIS, ON BOTH CENTRAL RAILS – REFER TO SECTION 7.

NOTE

Many combinations of accommodations are authorized with seats (rear and intermediate) by pilot or service centers and cabinet(s) by service centers only. However, the pilot must ensure that he gets all necessary authorizations from his regulatory authority.

NOTE

To remove or install these elements, use Paragraph 1 or 2 – (refer to Table 1).

NOTE

After these operations, determine weight and balance with the new C.G. (refer to Section 6).

<table>
<thead>
<tr>
<th>EQUIPMENT</th>
<th>ACTION</th>
<th>DESCRIPTION OPERATIONS</th>
</tr>
</thead>
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<tr>
<td>REAR SEAT</td>
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<td>Paragraph 1.C.</td>
</tr>
<tr>
<td></td>
<td>INSTALLATION</td>
<td>Paragraph 2.F.</td>
</tr>
<tr>
<td>INTERMEDIATE SEAT</td>
<td>REMOVAL</td>
<td>Paragraph 1.D.</td>
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<td>INSTALLATION</td>
<td>Paragraph 1.G.</td>
</tr>
<tr>
<td>CARGO NET</td>
<td>INSTALLATION</td>
<td>SECTION 7</td>
</tr>
</tbody>
</table>

Table 1
1) Seat tilting handle
2) Ring
3) Lock
4) Pad
5) Rail
6) Backrest tilting handle
7) Quick link
8) Knob
9) Strap
Figure 8.10.1 (2/2) - Removal/Installation of rear seat

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Page 8.10.9
21 - Locking handle
22 - Lock
23 - Pad
24 - Rail
25 - Backrest bottom upholstery
Figure 8.10.3 - Cabin comfort – Installation of blanking plugs and deflector

31 - Blanking plug
32 - Blanking plug
33 - Blanking device assy
34 - Deflector
Figure 8.10.4 - Cabin comfort – Installation of deflector

34 - Deflector
35 - Deflector hole
36 - Red mark
37 - Color mark
LIST OF EQUIPMENT

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<td>ATA 79</td>
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</table>
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

LIST OF CRITICAL RVSM EQUIPMENT

Equipment listed hereafter, or later approved versions, is required for RVSM operation.

<table>
<thead>
<tr>
<th>Equipment</th>
<th>*</th>
<th>**</th>
<th>P/N</th>
</tr>
</thead>
</table>
| Barometric altimeter :  
- GDC72B (Air data computer)  
- GDU1XXX (Display) | 2 | 3 | P/N 011-03470-XX or P/N 011-03732-XX |
| Autopilot Altitude Hold function :  
- GMC710 (AFCS mode controller)  
- GIA63W (Integrated Avionics Computer)  
- GRS79 | 1 | 2 | or P/N 011-01020-10 or P/N 011-01105-40 or P/N 011-03732-XX |
| ATC :  
- Altitude reporting transponder | 1 | 1 | TSO C-74c |

(*) Quantity installed  
(**) Quantity required
<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit</th>
<th>ARM in. (m)</th>
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<td>01026A</td>
<td>Flight ceiling at 31000 ft SOCATA</td>
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## LIST OF EQUIPMENT

### 21 - ENVIRONMENTAL SYSTEM

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<th>O</th>
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<th>ARM in. (m)</th>
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<tr>
<td></td>
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<td></td>
<td>General Air System Controller (GASC) 82024A040701 LIEBHERR</td>
<td>1.98 (0.900)</td>
<td>311.02 (7.900)</td>
</tr>
<tr>
<td>S</td>
<td>0454-21A</td>
<td><strong>21-20 - Distribution</strong></td>
<td></td>
<td></td>
<td>Mixing unit 9723A010001 LIEBHERR</td>
<td>0.53 (0.240)</td>
<td>151.57 (3.850)</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Hot Air Distributor 6044A010001 LIEBHERR</td>
<td>4.06 (0.840)</td>
<td>153.54 (3.900)</td>
</tr>
<tr>
<td>S</td>
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<td></td>
<td></td>
<td></td>
<td>Bleed temperature switch 92244B010002 LIEBHERR</td>
<td>0.13 (0.060)</td>
<td>153.54 (3.900)</td>
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<tr>
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<td></td>
<td><strong>21-30 - Pressurization control</strong></td>
<td></td>
<td></td>
<td>Cabin altitude warn switch 214 C40.3.261 CONDEC/EATON</td>
<td>0.077 (0.035)</td>
<td>152.94 (3.910)</td>
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<td>Cabin differential pressure warn switch 17-600-01 UMA</td>
<td>0.143 (0.065)</td>
<td>139.76 (3.550)</td>
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<td>0448-21</td>
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<td>Outflow valve 81144A010101 LIEBHERR</td>
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<td>317.32 (8.060)</td>
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<td>0448-21</td>
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<td>Safety valve 81145A010101 LIEBHERR</td>
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<td><strong>21-50 - Temperature conditioning system</strong></td>
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<td>Flow control shut-off valve 784A010001 LIEBHERR</td>
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<td>Non-return valve 7085A010002 LIEBHERR</td>
<td>0.11 (0.050)</td>
<td>102.36 (2.600)</td>
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<tr>
<td>S/R/A/O</td>
<td>ITEM</td>
<td>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</td>
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<td>ARM in. (m)</td>
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<tr>
<td>S</td>
<td>Shut-off valve 4589A010001 LIEBHERR</td>
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<td>114.17 (2.900)</td>
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<td>S</td>
<td>Intermediate pressure sensor 93557A010001 LIEBHERR</td>
<td>0.33 (0.150)</td>
<td>110.24 (2.800)</td>
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<tr>
<td>S</td>
<td>Overheat thermal switch A042010300-5 LIEBHERR</td>
<td>0.18 (0.080)</td>
<td>110.24 (2.800)</td>
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<tr>
<td>S</td>
<td>Main heat exchanger 81249A010001 LIEBHERR</td>
<td>7.72 (3.500)</td>
<td>108.27 (2.750)</td>
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<td>Non-return valve 52704A010001 LIEBHERR</td>
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<td>118.11 (3.000)</td>
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<td>S</td>
<td>Ground Fan 8031A020 LIEBHERR</td>
<td>3.95 (1.790)</td>
<td>90.55 (2.300)</td>
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</tr>
</tbody>
</table>

**21-55 - Vapor cycle cooling system**

| S       | Compressor 1377A010001 LIEBHERR | 14.77 (6.700) | 98.43 (2.500) |
| S       | Cockpit Evaporator Assembly 14720A010001 LIEBHERR | 9.06 (4.111) | 200.79 (5.100) |
| S       | Cabin Evaporator Assembly 14719A010001 LIEBHERR | 12.90 (5.850) | 311.02 (7.900) |
| S       | Condenser Assembly 81250A010001 LIEBHERR | 24.80 (11.250) | 330.71 (8.400) |

**21-60 - Temperature regulation**

| S       | By-pass valve 6043A010001 LIEBHERR | 3.31 (1.500) | 106.30 (2.700) |
| S       | Bleed differential pressure sensor 93558A010001 LIEBHERR | 0.44 (0.200) | 114.17 (2.900) |
| S       | Inlet temperature sensor 93276A010001 LIEBHERR | 0.11 (0.050) | 153.54 (3.900) |
### LIST OF EQUIPMENT

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<th>ARM in. (m)</th>
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<td>S</td>
<td>Cockpit ventilated sensor 92279A010002</td>
<td>LIEBHERR</td>
<td>0.18 (0.080)</td>
<td>182.09 (4.625)</td>
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<tr>
<td>S</td>
<td>Cabin ventilated sensor 92279A010002</td>
<td>LIEBHERR</td>
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<td>250.00 (6.350)</td>
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<td>S/R</td>
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<td>S</td>
<td>0305-22</td>
<td>Upgrading of AFCS GFC 700 composed of:</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Pitch servo GSA 81</td>
<td>4.08 (1.85)</td>
<td>247.40 (6.284)</td>
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<td>+ Servo mount GSM 86</td>
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<tr>
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<td></td>
<td>- Roll servo GSA 81</td>
<td>4.08 (1.85)</td>
<td>231.10 (5.870)</td>
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<tr>
<td></td>
<td></td>
<td>+ Servo mount GSM 86</td>
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<td></td>
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<td>- Yaw servo GSA 81</td>
<td>4.08 (1.85)</td>
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<td>+ Servo mount GSM 86</td>
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<td>- Pitch trim servo GSA 81</td>
<td>4.14 (1.88)</td>
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<td>+ Servo mount GSM 86</td>
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<td></td>
<td>- Trim adapter GTA 82</td>
<td>1.30 (0.59)</td>
<td>240.87 (6.118)</td>
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<td>- AFCS Control Unit GMC 710</td>
<td>0.91 (0.41)</td>
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22 - AUTO FLIGHT
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<th>ARM in. (m)</th>
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<tbody>
<tr>
<td>S</td>
<td>0176-00A</td>
<td>G1000 dual audio system with integrated Marker GMA 1347C Beacoon Receiver # 1 GMA 1347C</td>
<td>2.59 (1.17)</td>
<td>153.35 (3.895)</td>
</tr>
<tr>
<td>S</td>
<td>0176-00A</td>
<td>G1000 dual audio system with integrated Marker GMA 1347C Beacoon Receiver # 2 GMA 1347C</td>
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<td>153.35 (3.895)</td>
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<tr>
<td>S</td>
<td>0176-00A</td>
<td>G1000 COM # 1 system</td>
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<td>. Transceiver (integrated in the GIA 63W Integrated Avionics Unit # 1 : refer to ATA 34-28)</td>
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<td></td>
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<tr>
<td></td>
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<td>. VHF antenna (under fuselage) 16-21B-P3</td>
<td>0.86 (0.390)</td>
<td>271.65 (6.900)</td>
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<td>G1000 COM # 2 system</td>
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<tr>
<td></td>
<td></td>
<td>. VHF antenna (upper fuselage) 16-21B-P3</td>
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<td>271.65 (6.900)</td>
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<td>Static dischargers on winglets</td>
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<td>- Static dischargers DSC 740049 (Qty : 2) DAYTON GRANGER</td>
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<td>or</td>
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<td>- Static dischargers 2-5 SCY (Qty : 2) CHELTON/COBHAM</td>
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<td>0287-23A</td>
<td>Radio stereo-headset A20 with bluetooth BOSE</td>
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<td>WEIGHT per unit lb (kg)</td>
<td>ARM in. (m)</td>
</tr>
<tr>
<td>---------</td>
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<td>----------------------------------------------------------</td>
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</tr>
<tr>
<td>O 0331-23</td>
<td>Weather Data Link and Satellite Phone GSR 56 GARMIN</td>
<td>- Version G : with antenna CI 490-490 (spare for antenna CI 490-1) 3.58 (1.629)</td>
<td>58.00 (1.474)</td>
<td></td>
</tr>
<tr>
<td>A 0410-23A</td>
<td>HF Communication System KHF1050, of which HONEYWELL</td>
<td>- Control Display unit 1.56 (0.707)</td>
<td>155.43 (3.948)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Receiver/Exciter 5.90 (2.676)</td>
<td>123.07 (3.126)</td>
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<tr>
<td></td>
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<td>- Antenna coupler 16.20 (7.348)</td>
<td>342.28 (8.694)</td>
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<tr>
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<td></td>
<td>- Power amplifier 8.40 (3.810)</td>
<td>342.83 (8.708)</td>
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<td></td>
<td>- HF Antenna kit 1.74 (0.790)</td>
<td>324.80 (8.250)</td>
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<tr>
<td>A 0458-23A</td>
<td>GDL 69A SXM - XM Generation 4 interfaced with G1000 system GARMIN</td>
<td>1.41 (0.640)</td>
<td>163.46 (4.152)</td>
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<td>S/R/A/O</td>
<td>ITEM</td>
<td>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</td>
<td>WEIGHT per unit lb (kg)</td>
<td>ARM in. (m)</td>
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<td>24 - ELECTRICAL POWER</td>
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<td>24-30 - DC generation</td>
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<td>R</td>
<td>0234-24</td>
<td>Electric power system (EPS) ASTRONICS</td>
<td>14.330 (6.500)</td>
<td>128.15 (3.255)</td>
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<tr>
<td>R</td>
<td></td>
<td>Stand-by alternator ES10024B-5 HARTZELL ENGINEERING TECHNOLOGY (HET)</td>
<td>13.000 (5.897)</td>
<td>104.84 (2.663)</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td>Starter generator MG94K-1 ADVANCED INDUSTRIES</td>
<td>31.989 (14.510)</td>
<td>118.83 (2.815)</td>
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<tr>
<td>S</td>
<td>24002A</td>
<td>Lead-acid battery RG-380E/44 CONCORDE</td>
<td>85.979 (39.000)</td>
<td>112.20 (2.850)</td>
</tr>
<tr>
<td>A</td>
<td>0303-24</td>
<td>Charger/Maintainer for lead acid battery</td>
<td>0.220 (0.100)</td>
<td>114.17 (2.900)</td>
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<tr>
<td>S</td>
<td></td>
<td>Ground power receptacle MS 3506-1 OPL (AIRCRAFT APPLIANCES AND EQUI. LTD)</td>
<td>0.794 (0.360)</td>
<td>114.17 (2.900)</td>
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## LIST OF EQUIPMENT

<table>
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<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
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<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
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<tr>
<td></td>
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<td><strong>25 - EQUIPMENT AND FURNISHINGS</strong></td>
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<tr>
<td>A</td>
<td>0505-25C</td>
<td>Installation of the lavatory compartment, AIP of which</td>
<td>33.07 (15.00)</td>
<td>269.45 (6.844)</td>
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<td></td>
<td></td>
<td>- specific carpet replacing standard carpet</td>
<td>11.820 (5.360)</td>
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<tr>
<td>A</td>
<td>25032</td>
<td>Front seats ease covers SOCATA</td>
<td>2.756 (1.250)</td>
<td>183.78 (4.668)</td>
</tr>
<tr>
<td>A</td>
<td>0417-25</td>
<td>Paper clips (one on each control wheel) SOCATA</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td>A</td>
<td>0386-25</td>
<td>Leather upholstering &quot;Vulcain&quot; SOCATA</td>
<td>6.614 (3.000)</td>
<td>212.60 (5.400)</td>
</tr>
<tr>
<td>S</td>
<td>0557-25A</td>
<td>Upholstery Version 2017 SOCATA (For carpet data refer to Section 6.4 of the POH)</td>
<td>Δ Neglig</td>
<td>/</td>
</tr>
<tr>
<td>S</td>
<td>0557-25B</td>
<td>Coat hanger SOCATA (For carpet data refer to Section 6.4 of the POH)</td>
<td>0.280 (0.130)</td>
<td>287.91 (7.313)</td>
</tr>
<tr>
<td>A</td>
<td>0151-25</td>
<td>CD reader PCD 7100 PS ENGINEERING</td>
<td>2.200 (1.00)</td>
<td>205.04 (5.208)</td>
</tr>
<tr>
<td>S</td>
<td>0530-25A</td>
<td>Hi-power USB servicing plugs, of which :</td>
<td>0.330 (0.150)</td>
<td>188.00 (4.775)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- one 5 Vdc servicing single plug (USB type) 6430202-9 - on instrument panel, pilot side TRUE BLUE POWER</td>
<td>/</td>
<td>/</td>
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<tr>
<td></td>
<td></td>
<td>- one 5 Vdc servicing double plug unit (USB type) 6430202-5 - on instrument panel, Font R.H. Seat side TRUE BLUE POWER</td>
<td>/</td>
<td>/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- two 5 Vdc servicing double plugs unit (USB type) 6430202-5 - in the cabin, R.H. And L.H. Intermediate seats TRUE BLUE POWER</td>
<td>/</td>
<td>/</td>
</tr>
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</table>
### LIST OF EQUIPMENT

#### PILOT'S OPERATING HANDBOOK

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>0531-25A</td>
<td>13.8 VDC servicing plug unit, of which :</td>
<td>0.74 (0.334)</td>
<td>193.00 (4.900)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 28-12 VDC Converter</td>
<td>0.60 (0.270)</td>
<td>193.00 (4.900)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6430120-1 TRUE BLUE POWER</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>- 13.8 VDC servicing plug 77 00 808 844</td>
<td>0.14 (0.064)</td>
<td>288.00 (7.310)</td>
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<tr>
<td></td>
<td></td>
<td>in the cabin (R.H. Rear seat) RENAULT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>0553-25</td>
<td>Pilot's seat T700J2500005 SOCATA</td>
<td>48.90 (22.20)</td>
<td>185.86 (4.721)</td>
</tr>
<tr>
<td>S</td>
<td>0553-25</td>
<td>Front R.H. seat T700J2500005 SOCATA</td>
<td>48.90 (22.20)</td>
<td>185.86 (4.721)</td>
</tr>
<tr>
<td>O</td>
<td>0388-25A</td>
<td>Airbag seat belts AMSAFE</td>
<td>15.08 (6.840)</td>
<td>189.11 (4.803)</td>
</tr>
<tr>
<td>S</td>
<td>0516-25A</td>
<td>Pilot's and passengers’ seat belts AMSAFE</td>
<td>10.24 (4.640)</td>
<td>/</td>
</tr>
<tr>
<td>S</td>
<td>0568-25A</td>
<td>Airbag capability AMSAFE</td>
<td>1.43 (0.647)</td>
<td>166.85 (4.238)</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td>Smoke goggles MXP 210 INTERTECHNIQUE</td>
<td>0.855 (0.388)</td>
<td>200.00 (5.080)</td>
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</tbody>
</table>

#### Seats - Belts (Standard equipment)

#### Seats - Belts (Optional equipment)

#### 25-60 - Emergency equipment
<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0437-25A</td>
<td>Emergency locator transmitter ELT 1000 (airplanes equipped with reinforcement), of which ARTEX</td>
<td>2.385 (1.082)</td>
<td>340.91 (8.659)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- ELT 1000 with base ARTEX</td>
<td>1.764 (0.800)</td>
<td>354.72 (9.010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Antenna 110-338 ARTEX</td>
<td>0.449 (0.204)</td>
<td>318.70 (8.095)</td>
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### 26 - FIRE PROTECTION

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit</th>
<th>ARM in.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0391-26</td>
<td>Portable fire extinguisher unit 74-00 AIR TOTAL</td>
<td>4.89 (2.220)</td>
<td>170.11 (4.321)</td>
</tr>
<tr>
<td>A</td>
<td></td>
<td>- Version A (on R.H. Station R.H. Upholstering)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A</td>
<td>0496-26A</td>
<td>Engine fire detection system L'HOTELLIER</td>
<td>1.464 (0.664)</td>
<td>96.06 (2.440)</td>
</tr>
</tbody>
</table>
### 27 - FLIGHT CONTROLS

#### 27-10 - Roll control
- **Roll trim actuator** 145700.02 LPMI (Assy T7002710018)
  - **Required**
  - **Weight per unit** lb (kg)
    - 1.543 (0.700)
  - **Arm in.** (m)
    - 212.60 (5.400)

#### 27-20 - Yaw control
- **Rudder trim actuator** 145700.02 LPMI (Assy T7002710018)
  - **Required**
  - **Weight per unit** lb (kg)
    - 1.543 (0.700)
  - **Arm in.** (m)
    - 395.27 (10.040)

#### 27-30 - Pitch control
- **Pitch trim actuator** 145400-02 LPMI
  - **Optional**
  - **Weight per unit** lb (kg)
    - 1.213 (0.550)
  - **Arm in.** (m)
    - 425.20 (10.800)

#### 27-50 - Wing flaps (control)
- **Flap control including :** AVIAC
  - **Required**
  - **Weight per unit** lb (kg)
    - 15.520 (7.040)
  - **Arm in.** (m)
    - 218.50 (5.550)
- **Flap motor** 6157-1 AVIAC
  - **Required**
  - **Weight per unit** lb (kg)
    - 2.866 (1.300)
  - **Arm in.** (m)
    - 216.54 (5.500)
- **Flap actuator 1-5297 / 2-5297** AVIAC
  - **Required**
  - **Weight per unit** lb (kg)
    - 1.830 (0.830)
  - **Arm in.** (m)
    - 220.47 (5.600)
## LIST OF EQUIPMENT

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<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
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</thead>
<tbody>
<tr>
<td>R</td>
<td>OPT70 or MOD70</td>
<td>28 - FUEL SYSTEM</td>
<td>4.409 (2.000)</td>
<td>129.92 (3.300)</td>
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<td>R</td>
<td></td>
<td>28-20 - Fuel supply</td>
<td>1.543 (0.700)</td>
<td>110.24 (2.800)</td>
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<tr>
<td>R</td>
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<td>28-40 - Fuel indication</td>
<td>4.586 (2.080)</td>
<td>133.07 (3.380)</td>
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<td>R</td>
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<td>Electric boost pump 1B9-5 AIRBORNE</td>
<td>1.102 (0.500)</td>
<td>125.98 (3.200)</td>
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<tr>
<td>R</td>
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<td>Engine driven fuel pump 1127-02 IN-LHC</td>
<td>0.331 (0.150)</td>
<td>183.07 (4.650)</td>
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<td>R</td>
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<td>Fuel unit L88A15-651 INTERTECHNIQUE</td>
<td>0.331 (0.150)</td>
<td>183.07 (4.650)</td>
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<tr>
<td>R</td>
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<td>A35 fuel sequencer unit TFE</td>
<td>0.143 (0.065)</td>
<td>185.28 (4.706)</td>
</tr>
<tr>
<td>R</td>
<td>0158-28C</td>
<td>Fuel gage amplifier (in us gal) 735674-1-0 INTERTECHNIQUE</td>
<td>1.08 (0.49)</td>
<td>277.74 (7.108)</td>
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<tr>
<td>R</td>
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<td>Inboard L.H. Gage 762 438.1.0 INTERTECHNIQUE</td>
<td>0.331 (0.150)</td>
<td>183.07 (4.650)</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td>Inboard R.H. Gage 762 439.1.0 INTERTECHNIQUE</td>
<td>0.331 (0.150)</td>
<td>183.07 (4.650)</td>
</tr>
<tr>
<td>R</td>
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<td>Intermediate gage 762 440.1.0 INTERTECHNIQUE</td>
<td>0.220 (0.100)</td>
<td>190.94 (4.850)</td>
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<tr>
<td>R</td>
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<td>Outboard gage 762 441.1.0 INTERTECHNIQUE</td>
<td>0.220 (0.100)</td>
<td>190.94 (4.850)</td>
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<tr>
<td>R</td>
<td>0427-28A</td>
<td>Low level sensor 747-971-1-0 ZODIAC/INTERTECHNIQUE</td>
<td>0.143 (0.065)</td>
<td>185.28 (4.706)</td>
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<td>S/R/A/O</td>
<td>ITEM</td>
<td>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</td>
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<td>30 - ICE AND RAIN PROTECTION</td>
<td>Deicer T700A3013003000, L.H. horizontal stabilizer</td>
<td>SOCATA</td>
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<td>Deicer T700A3013003001, R.H. horizontal stabilizer</td>
<td>SOCATA</td>
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<td>Deicer T700A3014003000, vertical stabilizer</td>
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<td>Deicer T700A3010001002, inboard L.H. wing</td>
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<td>Deicer T700A3010001003, inboard R.H. wing</td>
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<td>Deicer T700A3010001004, middle L.H. wing</td>
<td>SOCATA</td>
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<tr>
<td></td>
<td>Deicer T700A3010001005, middle R.H. wing</td>
<td>SOCATA</td>
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<td>Deicer T700A30100012000, outboard L.H. wing</td>
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<td>Deicer T700A3010001007, outboard R.H. wing</td>
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<td>Dual port distribution valve 1532-10C</td>
<td>LUCAS</td>
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<td>Timer 42E25-2A</td>
<td>LUCAS</td>
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<td></td>
<td>Water separator and filter 44E21-2A</td>
<td>LUCAS</td>
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<td>30-40 - Windshield deicing</td>
<td>Windshield heater controllers (Qty 2 : L.H. + R.H.</td>
<td>AIR SYSTEMS</td>
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<tr>
<th>WEIGHT per unit</th>
<th>ARM</th>
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<tr>
<td>lb</td>
<td>in.</td>
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<tr>
<td>4.189 (1.900)</td>
<td>398.42 (10.120)</td>
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<tr>
<td>4.189 (1.900)</td>
<td>398.42 (10.120)</td>
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<tr>
<td>3.968 (1.800)</td>
<td>374.02 (9.500)</td>
</tr>
<tr>
<td>5.732 (2.600)</td>
<td>173.23 (4.400)</td>
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<tr>
<td>5.732 (2.600)</td>
<td>173.23 (4.400)</td>
</tr>
<tr>
<td>3.748 (1.700)</td>
<td>173.23 (4.400)</td>
</tr>
<tr>
<td>3.748 (1.700)</td>
<td>173.23 (4.400)</td>
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<tr>
<td>2.65 (1.200)</td>
<td>173.23 (4.400)</td>
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<tr>
<td>3.307 (1.500)</td>
<td>173.23 (4.400)</td>
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<td>2.425 (1.100)</td>
<td>125.98 (3.200)</td>
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<td>0.772 (0.350)</td>
<td>177.17 (4.500)</td>
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<td>1.102 (0.500)</td>
<td>125.98 (3.200)</td>
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<tr>
<td>1.984 (0.900)</td>
<td>149.61 (3.800)</td>
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<td>S/R/A/O</td>
<td>ITEM</td>
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<tr>
<td>S</td>
<td>30-60 - Propeller deicing</td>
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### 31 - INDICATING/RECORDING SYSTEMS

**31-20 - Independent instruments**

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>OPT70 or MOD70</td>
<td>Digital hourmeter (engine running time) CURTIS</td>
<td>0.412 (0.187)</td>
<td>148.62 (3.775)</td>
</tr>
<tr>
<td>S</td>
<td>0533-31A</td>
<td>Light weight Flight Data Recorder (ADRS - CARS), of which: L3 COMMUNICATIONS AVIONICS SYSTEM</td>
<td>5.659 (2.567)</td>
<td>256.50 (6.515)</td>
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<tr>
<td></td>
<td></td>
<td>- Light Data Recorder</td>
<td>4.982 (2.260)</td>
<td>260.63 (6.620)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- MK170 microphone</td>
<td>0.198 (0.090)</td>
<td>153.54 (3.900)</td>
</tr>
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<td></td>
<td>- Support (pre-installed)</td>
<td>0.478 (0.217)</td>
<td>260.63 (6.620)</td>
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</table>
# LIST OF EQUIPMENT

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<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>32-10</td>
<td>L.H. main landing gear D23767001 MESSIER DOWTY</td>
<td>53.79 (24.400)</td>
<td>200.39 (5.090)</td>
</tr>
<tr>
<td>R</td>
<td>32-10</td>
<td>R.H. main landing gear D23768001 MESSIER DOWTY</td>
<td>53.79 (24.400)</td>
<td>200.39 (5.090)</td>
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<tr>
<td>R</td>
<td>32-20</td>
<td>Nose gear D23766000 MESSIER DOWTY</td>
<td>53.57 (24.300)</td>
<td>93.70 (2.380)</td>
</tr>
<tr>
<td>O</td>
<td>32-30</td>
<td>Main locking actuator VSTS 083560 HL</td>
<td>13.228 (6.000)</td>
<td>208.07 (5.285)</td>
</tr>
<tr>
<td>O</td>
<td>32-30</td>
<td>Nose locking actuator VSTS 083560 HL</td>
<td>13.228 (6.000)</td>
<td>110.24 (2.800)</td>
</tr>
<tr>
<td>R</td>
<td>32-35</td>
<td>Hand pump 914-8D27 TELEDYNE</td>
<td>2.326 (1.055)</td>
<td>181.10 (4.600)</td>
</tr>
<tr>
<td>R</td>
<td>32-35</td>
<td>Hydraulic power pack 1118-04 LHC</td>
<td>10.362 (4.700)</td>
<td>84.65 (2.150)</td>
</tr>
</tbody>
</table>

## 32 - LANDING GEARS

### 32-10 - Main landing gear

- Left-hand main landing gear D23767001 MESSIER DOWTY
  - Weight: 53.79 lb (24.400 kg)
  - ARM: 200.39 in. (5.090 m)

- Right-hand main landing gear D23768001 MESSIER DOWTY
  - Weight: 53.79 lb (24.400 kg)
  - ARM: 200.39 in. (5.090 m)

### 32-20 - Nose landing gear

- Nose gear D23766000 MESSIER DOWTY
  - Weight: 53.57 lb (24.300 kg)
  - ARM: 93.70 in. (2.380 m)

### 32-30 - Extension and retraction

- Main locking actuator VSTS 083560 HL
  - Weight: 13.228 lb (6.000 kg)
  - ARM: 208.07 in. (5.285 m)

- Nose locking actuator VSTS 083560 HL
  - Weight: 13.228 lb (6.000 kg)
  - ARM: 110.24 in. (2.800 m)

- Hand pump 914-8D27 TELEDYNE
  - Weight: 2.326 lb (1.055 kg)
  - ARM: 181.10 in. (4.600 m)

### 32-35 - Hydraulic generation

- Hydraulic power pack 1118-04 LHC
  - Weight: 10.362 lb (4.700 kg)
  - ARM: 84.65 in. (2.150 m)
### 32-40 - Wheels and brakes

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
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<tbody>
<tr>
<td>R</td>
<td>Brake assembly 030-19100 PARKER</td>
<td>14.991 (6.800)</td>
<td>204.33 (5.190)</td>
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<tr>
<td>R</td>
<td>Main tire 18x5.5-10PR MICHELIN</td>
<td>13.50 (6.123)</td>
<td>204.33 (5.190)</td>
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<tr>
<td>R</td>
<td>0409-32 Main tire 18x5.5-10PR GOOD YEAR</td>
<td>14.396 (6.530)</td>
<td>204.33 (5.190)</td>
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<tr>
<td>R</td>
<td>Master cylinder 010-07802 PARKER</td>
<td>0.882 (0.400)</td>
<td>145.67 (3.700)</td>
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<td>R</td>
<td>Nose tire 5.00-5-10PR TL MICHELIN</td>
<td>5.600 (2.540)</td>
<td>89.57 (2.275)</td>
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<tr>
<td>R</td>
<td>0408-32 Nose tire 5.00-5-10PR GOOD YEAR</td>
<td>6.300 (2.858)</td>
<td>89.57 (2.275)</td>
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<tr>
<td>R</td>
<td>Nose wheel 40-262A PARKER</td>
<td>2.976 (1.350)</td>
<td>89.57 (2.275)</td>
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<tr>
<td>R</td>
<td>Main wheel (Model 40-434) PARKER</td>
<td>11.28 (5.120)</td>
<td>204.33 (5.190)</td>
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<tr>
<td>R</td>
<td>Parking brake valve T700A3240010 or T700B3240001 SOCATA</td>
<td>0.331 (0.150)</td>
<td>157.48 (4.000)</td>
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<th>ARM in. (m)</th>
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<td><strong>33 - LIGHTS</strong></td>
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<td><strong>33-10 - Instrument panel lighting</strong></td>
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<tr>
<td>S</td>
<td>Instruments emergency lighting 2240-3 WEMAC</td>
<td>0.110 (0.050)</td>
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<td></td>
<td>0322-00 PULSELITE unit WHELEN</td>
<td>Neglig.</td>
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<td><strong>33-40 - External lighting</strong></td>
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<td>S</td>
<td>Leading edge ice detection LED light 01-0771904-00 WHELEN</td>
<td>0.25 (0.113)</td>
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<td>S</td>
<td>0322-00 LED L.H. taxi and landing lights 01-0771674-01 WHELEN</td>
<td>1.400 (0.635)</td>
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<tr>
<td>S</td>
<td>0322-00 LED R.H. taxi and landing lights 01-0771674-01 WHELEN</td>
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<td>S</td>
<td>0322-00 NAV/Anticollision system (LED lights) :</td>
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<td>S</td>
<td>Central units :</td>
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<td>S</td>
<td>- L.H. strobe light power supply 01-0771234-07 WHELEN</td>
<td>0.609 (0.277)</td>
<td>191.38 (4.861)</td>
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<tr>
<td>S</td>
<td>- R.H. strobe light power supply 01-0771234-07 WHELEN</td>
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<td>S</td>
<td>- Rear strobe light power supply WHELEN</td>
<td>0.609 (0.277)</td>
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<td>S/R/A/O</td>
<td>ITEM OPT70 or MOD70</td>
<td>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</td>
<td>WEIGHT per unit lb (kg)</td>
<td>ARM in. (m)</td>
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<td>S</td>
<td>Lights :</td>
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<tr>
<td></td>
<td>- L.H. navigation/strobe/recognition lights 01-0771170-02 WHELEN</td>
<td>0.499 (0.227)</td>
<td>184.29 (4.681)</td>
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<tr>
<td>S</td>
<td>- R.H. navigation/strobe/recognition lights 01-0771170-01 WHELEN</td>
<td>0.499 (0.227)</td>
<td>184.29 (4.681)</td>
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<tr>
<td>S</td>
<td>- Rear tail navigation/strobe lights 01-0790667-00 WHELEN</td>
<td>0.499 (0.227)</td>
<td>444.21 (11.283)</td>
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<td>34 - NAVIGATION</td>
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<td>S</td>
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<td>34-11 - Air data systems</td>
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<td>S</td>
<td>Pitot L heated probe AN 5812-1 QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)</td>
<td>0.750 (0.340)</td>
<td>200.79 (5.100)</td>
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<tr>
<td>S</td>
<td>Pitot R heated probe AN 5812-1 QPL (AIRCRAFT APPLIANCES AND EQUI. LTD)</td>
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<td>R</td>
<td>Static reference plug T700A3415017 SOCATA</td>
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<td>S</td>
<td>Static reference selector TB30 77010000 SOCATA</td>
<td>0.220 (0.100)</td>
<td>157.48 (4.000)</td>
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<td>S</td>
<td>0160-34A Authorization to operate in RVSM area</td>
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<td>S</td>
<td>0423-34A Lift transducer and AoA computer installation, of which : SAFE FLIGHT INSTRUMENTS</td>
<td>1.66 (0.752)</td>
<td>242.01 (6.147)</td>
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<tr>
<td>R</td>
<td>Lift transducer P/N C-101-707-1 SAFE FLIGHT INSTRUMENTS</td>
<td>0.50 (0.226)</td>
<td>173.23 (4.400)</td>
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<td>S</td>
<td>AoA computer P/N C-101-706-1 SAFE FLIGHT INSTRUMENTS</td>
<td>0.74 (0.336)</td>
<td>273.62 (6.950)</td>
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<td>S</td>
<td>K59 and K590 relays SAFE FLIGHT INSTRUMENTS</td>
<td>0.25 (0.115)</td>
<td>265.55 (6.745)</td>
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<td>S</td>
<td>0462-34B Standby Attitude Module MD302 MID CONTINENT</td>
<td>1.61 (0.730)</td>
<td>154.53 (3.925)</td>
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<td>S</td>
<td>0544-34A Air Data Computer # 1 GDC 72 GARMIN</td>
<td>1.83 (0.830)</td>
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<td>S</td>
<td>0544-34A Air Data Computer # 2 GDC 72 GARMIN</td>
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<td>34-21 - Heading reference system</td>
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<td>Attitude and Heading Reference System #1 GRS 79 GARMIN</td>
<td>3.20 (1.45)</td>
<td>171.77 (4.363)</td>
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<td>Attitude and Heading Reference System #2 GRS 79 GARMIN</td>
<td>3.20 (1.45)</td>
<td>171.77 (4.363)</td>
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<td>34-23 - Magnetic compass</td>
<td>Stand-by compass C2350 L4.M23 AIRPATH</td>
<td>0.551 (0.250)</td>
<td>163.39 (4.150)</td>
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<td>R</td>
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<td>34-28 - Electronic flight instrumentation system</td>
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<tr>
<td>A</td>
<td>0226-00A</td>
<td>Synthetic Vision System GARMIN</td>
<td>Neglig.</td>
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<tr>
<td>S</td>
<td>0539-00A</td>
<td>Integrated Flight Deck System G1000 Nxi of which :</td>
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<td>- PFD1 GDU 1050A</td>
<td>GARMIN</td>
<td>6.31 (2.04)</td>
<td>155.63 (3.953)</td>
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<td>- PFD2 GDU 1050A</td>
<td>GARMIN</td>
<td>6.31 (2.04)</td>
<td>155.63 (3.953)</td>
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<td>- MFD GDU 1550</td>
<td>GARMIN</td>
<td>5.49 (2.49)</td>
<td>155.43 (3.948)</td>
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<td>- Engine/Airframe Interface</td>
<td>Unit #1 GEA 71 GARMIN</td>
<td>2.53 (1.15)</td>
<td>150.63 (3.826)</td>
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<td>- Engine/Airframe Interface</td>
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<td>2.53 (1.15)</td>
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<td>- Integrated Avionics Unit #1 GIA 63W</td>
<td>GARMIN</td>
<td>7.21 (3.27)</td>
<td>149.37 (3.794)</td>
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<td>- Integrated Avionics Unit #2 GIA 63W</td>
<td>GARMIN</td>
<td>7.21 (3.27)</td>
<td>149.37 (3.794)</td>
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<td>- GCU 475 keyboard with analog joystick (2)</td>
<td>GARMIN</td>
<td>0.79 (0.36)</td>
<td>157.68 (4.005)</td>
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<th>ARM in. (m)</th>
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<tbody>
<tr>
<td>S</td>
<td>34-31 - Marker</td>
<td>MARKER antenna DM N27-3 DORNE &amp; MARGOLIN</td>
<td>0.750 (0.340)</td>
<td>129.92 (3.300)</td>
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<td>O</td>
<td>0541-23A</td>
<td>MARKER antenna 6216-82-00 COBHAM</td>
<td>0.990 (0.450)</td>
<td>121.00 (3.065)</td>
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<td>A</td>
<td>34-41 - Stormscope</td>
<td>Stormscope WX 500, 1000 coupled : L3 COMMUNICATIONS AVIONICS SYSTEM</td>
<td>4.94 (2.24)</td>
<td>232.28 (5.900)</td>
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<td>- Antenna NY163 L3 COMMUNICATIONS AVIONICS SYSTEM</td>
<td>0.84 (0.38)</td>
<td>311.02 (7.900)</td>
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<td>- Processor WX500 L3 COMMUNICATIONS AVIONICS SYSTEM</td>
<td>2.27 (1.03)</td>
<td>255.91 (6.500)</td>
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<td>34-42 - Weather radar</td>
<td>Weather radar GWX 70, of which GARMIN</td>
<td>10.35 (4.47)</td>
<td>169.10 (4.295)</td>
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<td>- SAINT-GOBAI radome 4906-100-V2 GARMIN</td>
<td>2.82 (1.280)</td>
<td>169.10 (4.295)</td>
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<td>S</td>
<td>0430-34A</td>
<td>New SAINT-GOBAI radome 4906-100-V2 GARMIN</td>
<td>2.82 (1.280)</td>
<td>169.10 (4.295)</td>
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<td>34-43 - Radioaltimeter</td>
<td>GRA 55 radar altimeter, of which : GARMIN</td>
<td>4.127 (1.872)</td>
<td>220.47 (5.600)</td>
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<td>- Transceiver RA4500</td>
<td>3.527 (1.600)</td>
<td>228.82 (5.812)</td>
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<td>- Transmitting antenna S67-2002 and Receiving antenna S67-2002</td>
<td>0.300 (0.136)</td>
<td>182.09 (4.625)</td>
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<td>34-44 - Traffic advisory system</td>
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<td>0258-00B</td>
<td>TAWS system GARMIN</td>
<td>Neglig.</td>
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<td>TAS system GTS 820, G1000 coupled, of which :</td>
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<td>- Processor GTS 820 GARMIN</td>
<td>9.92 (4.500)</td>
<td>143.11 (3.635)</td>
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<td>- Power amplifier/low noise amplifier GPA 65 GARMIN</td>
<td>1.90 (0.860)</td>
<td>221.42 (5.624)</td>
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<td>- Antenna GA 58 (above fuselage) GARMIN</td>
<td>0.79 (0.360)</td>
<td>230.71 (5.860)</td>
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<td></td>
<td>- Antenna GA 58 (under fuselage) GARMIN</td>
<td>0.79 (0.360)</td>
<td>260.63 (6.620)</td>
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<td><strong>34-51 - NAV 1 installation</strong></td>
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<td>Receiver (integrated in the MOD70-0176-00A GIA 63W Integrated Avionics Unit # 1: refer to ATA 34-28)</td>
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<td><strong>34-52 - NAV 2 installation</strong></td>
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<td>Receiver (integrated in the MOD70-0176-00A GIA 63W Integrated Avionics Unit # 2: refer to ATA 34-28)</td>
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<td><strong>34-53 - Transponder</strong></td>
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<td>A</td>
<td>0264-34A</td>
<td>Transponder # 1 GTX 33D - Mode S diversity with extended squitter GARMIN</td>
<td>3.39 (1.54)</td>
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<td>+ Antenna KA 61 (under fuselage)</td>
<td>0.40 (0.18)</td>
<td>150.08 (3.812)</td>
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<tr>
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<td>+ Antenna KA 61 (above fuselage)</td>
<td>0.40 (0.18)</td>
<td>193.22 (4.908)</td>
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<td>0542-34D</td>
<td>Transponder # 1 GTX 345R - Full Mode S enhanced surveillance capability, without antenna diversity, with extended squitter and ADS-B IN acquisition (with Ethernet connection) GARMIN</td>
<td>2.40 (1.09)</td>
<td>147.20 (3.738)</td>
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<tr>
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<td>+ Antenna KA 61</td>
<td>0.40 (0.18)</td>
<td>150.08 (3.812)</td>
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<td>O</td>
<td>0542-34E</td>
<td>Transponder # 2 GTX 345R - Full Mode S enhanced surveillance capability, without antenna diversity, with extended squitter and ADS-B IN acquisition (without Ethernet connection) GARMIN</td>
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<td>150.08 (3.812)</td>
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## LIST OF EQUIPMENT

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<td>O</td>
<td>0542-34F</td>
<td>Transponder # 2 GTX 345R - Full Mode S enhanced surveillance capability, without antenna diversity, with extended squitter and ADS-B IN acquisition (with Ethernet connection) GARMIN</td>
<td>2.40 (1.09)</td>
<td>147.20 (3.738)</td>
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<td>7.61 (3.45)</td>
<td>214.65 (5.452)</td>
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<td>- Receiver RA3502 P/N 0505.757-912 BECKER</td>
<td>2.205 (1.000)</td>
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<td></td>
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<td>- Antenna AN3500 P/N 0832.601-912 BECKER</td>
<td>3.594 (1.630)</td>
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<td>- RMI converter AC3504 P/N 0856.010-912 BECKER</td>
<td>1.323 (0.600)</td>
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<td>A</td>
<td>34014E</td>
<td>DME KN63, G1000 coupled HONEYWELL</td>
<td>2.80 (1.27)</td>
<td>232.28 (5.900)</td>
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<td>+ Antenna KA 61</td>
<td>0.40 (0.18)</td>
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<td>S</td>
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<td>GPS/WAAS Antenna GA 36 GARMIN</td>
<td>0.48 (0.22)</td>
<td>204.84 (5.203)</td>
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<tr>
<td>S</td>
<td>0176-00A</td>
<td>GPS/WAAS + XM Antenna GA 37 GARMIN</td>
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<td>0176-00G</td>
<td>Chartview function</td>
<td>GARMIN</td>
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**ITEM 34-62** - Multifunction display
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<tr>
<td>S</td>
<td>0207-00</td>
<td>Gaseous oxygen system EROS/INTERTECHNIQUE with EROS oxygen masks</td>
<td>22.73 (10.310)</td>
<td>226.77 (5.760)</td>
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**35 - OXYGEN**
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<td>37 - VACUUM</td>
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<td>S</td>
<td>Air ejector valve 19E17-5A LUCAS</td>
<td>0.661 (0.300)</td>
<td>116.14 (2.950)</td>
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<tr>
<td>S</td>
<td>Regulator and relief valve 38E-96-2D LUCAS</td>
<td>1.323 (0.600)</td>
<td>116.14 (2.950)</td>
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<td>S</td>
<td>Vacuum relief valve 691-21A LUCAS</td>
<td>0.331 (0.150)</td>
<td>139.76 (3.550)</td>
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<td>S</td>
<td>Valve 557-18 E LUCAS</td>
<td>0.353 (0.160)</td>
<td>118.11 (3.000)</td>
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#### 46 - INFORMATION SYSTEMS

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<tr>
<td>S</td>
<td>0459-46A</td>
<td>Flight stream transceiver FS210 GARMIN</td>
<td>0.264 (0.120)</td>
<td>151.18 (3.840)</td>
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<td>S</td>
<td>0547-46A</td>
<td>Flight stream transceiver FS510 (SD Card) GARMIN</td>
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<td>O</td>
<td>0320-52B</td>
<td>New “Pilot” door SOCATA</td>
<td>45.607 (20.687)</td>
<td>173.23 (4.400)</td>
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<tr>
<td>S</td>
<td>0342-52</td>
<td>Additional landing gear doors SOCATA</td>
<td>6.613 (3.000)</td>
<td>204.33 (5.190)</td>
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<th>ARM in. (m)</th>
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<tr>
<td>S</td>
<td>OPT70 or MOD70</td>
<td>56 - WINDOWS Deiced R.H. windshield</td>
<td>$1.764 \text{ (0.800)}$</td>
<td>$158.27 \text{ (4.020)}$</td>
</tr>
</tbody>
</table>

**Legend:**
- **S:** Standard
- **R:** Required
- **A:** Optional
- **O:** Optional
- **SPS:** Specified Performance Standard
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<td></td>
<td>OPT70</td>
<td>Utilization on runways covered with melting snow SOCATA</td>
<td>- 7.716 (Δ - 3.500)</td>
<td>200.00 (5.080)</td>
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<td></td>
<td>MOD70</td>
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</table>

| 57         | WINGS      |                                                             |                        |             |
| 57001A     | Utilization on runways covered with melting snow SOCATA   | - 7.716 (Δ - 3.500)   | 200.00 (5.080) |
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### ITEM

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<td>PROPELLER</td>
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<td>61-10</td>
<td>Propeller assembly</td>
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<td>S</td>
<td>0345-61</td>
<td>Propeller (5-blade) HC-E5N-3C / NC 8834 K + spinner 104552P HARTZELL</td>
<td>171.08 (77.80)</td>
<td>43.11 (1.095)</td>
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<td>S</td>
<td>61-20</td>
<td>Controls</td>
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<tr>
<td>S</td>
<td>Propeller governor 8210.007 WOODWARD</td>
<td>2.646 (1.200)</td>
<td>59.06 (1.500)</td>
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<td>R</td>
<td>0445-72</td>
<td>Overspeed governor 1439292 JIHOSTROJ</td>
<td>2.535 (1.200)</td>
<td>52.38 (1.330)</td>
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**71 - POWER PLANT**

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<td>R</td>
<td>0359-71</td>
<td>Inertial separator actuator JA23372-1000-1 BEAVER</td>
<td>2.156 (0.978)</td>
<td>62.99 (1.600)</td>
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<td>S</td>
<td>Top silentblocks 95007-16 (Qty 2) BARRY</td>
<td>2.647 (1.201)</td>
<td>79.72 (2.025)</td>
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<td>S</td>
<td>Bottom silentblocks 95007-19 (Qty 2) BARRY</td>
<td>2.654 (1.204)</td>
<td>79.72 (2.025)</td>
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<tr>
<td>R</td>
<td>Turboprop engine PT6 A-66D P &amp; W CANADA</td>
<td>497.30 (226.00)</td>
<td>79.72 (2.025)</td>
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### LIST OF EQUIPMENT

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<td><strong>77 - ENGINE INDICATING</strong></td>
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<td>R</td>
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<td>Compressor turbine tacho-generator (Ng)</td>
<td>0.981 (0.445)</td>
<td>108.27 (2.750)</td>
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<td>APPLIANCES AND EQUI. LTD</td>
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<tr>
<td>R</td>
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<td>Power turbine tacho-generator (Np)</td>
<td>0.981 (0.445)</td>
<td>55.12 (1.400)</td>
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<td>R</td>
<td>0328-77</td>
<td>Torque transducer APTE-438-1000-75D KULITE</td>
<td>0.473 (0.215)</td>
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<td><strong>77-12 - Fuel management</strong></td>
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<td>Fuel flow transmitter 660 526AS SHADIN</td>
<td>0.683 (0.310)</td>
<td>110.20 (2.799)</td>
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<td>79 - LUBRICATION</td>
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<td>79-20 - Distribution</td>
<td>Oil cooler L8538233 LORI</td>
<td>10.472 (4.750)</td>
<td>90.55 (2.300)</td>
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<td>R</td>
<td>79-30 - Indicating</td>
<td>Oil pressure transmitter APT-369A-1000-150G (5 VDC) KULITE</td>
<td>0.337 (0.153)</td>
<td>105.35 (2.676)</td>
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<td>S</td>
<td>0169-79C</td>
<td>Chip detection system (2 detectors Interfaced with G1000 system PWC</td>
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### LIST OF SUPPLEMENTS AND VALIDITIES

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<td>WX-500 stormscope OPT70-34-056</td>
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<td>Engine fire detection system MOD70-0496-26A</td>
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<td>Mexico specifics MOD70-0212-11</td>
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<td>49</td>
<td>&quot;GARMIN&quot; TAWS SYSTEM MOD70-0176-00 Version F</td>
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<td>&quot;GARMIN&quot; SYNTHETIC VISION SYSTEM MOD70-0226-00</td>
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<td>56</td>
<td>&quot;GARMIN&quot; GSR 56 weather datalink and satellite phone MOD70-0331-23</td>
<td>Airplane equipped with MOD70-0476-00</td>
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<tr>
<td>63</td>
<td>Lavatory compartment MOD70-0505-25</td>
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SUPPLEMENT

WX-500 STORMSCOPE

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5 - PERFORMANCE ............................................. 9.6.3
6 - WEIGHT AND BALANCE .................................... 9.6.4
7 - DESCRIPTION .............................................. 9.6.4
8 - HANDLING, SERVICING AND MAINTENANCE .............. 9.6.4
SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option WX-500 STORMSCOPE.

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 when the airplane is equipped with the option WX-500 STORMSCOPE.

The WX-500 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.

CAUTION

THE STORMSCOPE MUST NOT BE USED FOR THUNDERSTORM PENETRATION

The WX-500 Pilot's guide, Series II, No. 009-11501-001 and the GARMIN Integrated Flight Deck Pilot's Guide, as applicable, at their latest revision shall be readily available to the pilot, whenever the operation of the WX-500 STORMSCOPE is predicted.
SECTION 3
EMERGENCY PROCEDURES

Installation and operation of WX-500 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 WX-500 STORMSCOPE are outlined in the WX-500 Pilot's Guide, Series II, No. 009-11501-001 at its last revision for WX-500 STORMSCOPE model WX-500.

SECTION 5
PERFORMANCE

Installation and operation of WX-500 STORMSCOPE 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 weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot's Operating Handbook when the airplane is equipped with the option WX-500 STORMSCOPE.

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<th>ARM in. (m)</th>
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<tr>
<td>A</td>
<td>34056</td>
<td>34 - NAVIGATION &lt;br&gt;Stormscope WX-500 &lt;br&gt;- shared with the integrated flight deck system</td>
<td>4.94 (2.240)</td>
<td>232.28 (5.900)</td>
</tr>
</tbody>
</table>

SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 Description of the basic Pilot's Operating Handbook when the airplane is equipped with the option WX-500 STORMSCOPE.

The WX-500 (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.

The WX-500 (Series II) stormscope, weather mapping system interfaces with the integrated flight deck system.

SECTION 8
HANDLING, SERVICING AND MAINTENANCE

Installation and operation of WX-500 STORMSCOPE do not change the handling, servicing and maintenance procedures of the airplane described in Section 8 Handling, Servicing and Maintenance of the basic Pilot's Operating Handbook.
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<td>8 - HANDLING, SERVICING AND MAINTENANCE</td>
<td>9.18.8</td>
</tr>
</tbody>
</table>
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 the option ENGINE FIRE DETECTION SYSTEM.

The general hereafter supplement or replace those of the standard airplane described in Section 1 General of the basic Pilot's Operating Handbook when the airplane is equipped with the option ENGINE FIRE DETECTION SYSTEM.

The fire detection system allows engine fire monitoring and indicating.

SECTION 2
LIMITATIONS

Installation and operation of ENGINE FIRE DETECTION SYSTEM do not change the basic 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 or replace those of the standard airplane described in Section 3 Emergency procedures of the basic Pilot's Operating Handbook when the airplane is equipped with the option ENGINE FIRE DETECTION SYSTEM.

ENGINE FIRE ON GROUND

Symptoms:ITT increasing, CAS message, FIRE CAS message, smoke, ...

1 - THROTTLE ............................................................... CUT OFF

Aircraft with G1000 avionics system

2 - BLEED switch ......................................................... OFF/RST

Aircraft with G3000 avionics system

2 - BLEED switch ......................................................... OFF

All

3 - A/C switch ............................................................. OFF

4 - Brakes ................................................................. As required

5 - FUEL TANK SELECTOR ........................................... OFF

6 - Warn ground assistance, if necessary

7 - Crash lever ......................................................... Pull down

8 - EVACUATE as soon as possible
ENGINE FIRE IN FLIGHT (1/2)

Symptoms: FIRE CAS message

Try to confirm the fire warning by looking for other indications such as ITT increase, ITT CAS message, smoke from engine cowls or air conditioning system.

**CAUTION**

NO AIR START ATTEMPT AFTER AN ENGINE FIRE

**FLY THE AIRPLANE**

If the fire warning is not confirmed:

1. Monitor the engine parameters, ITT in particular
2. Look for smoke coming from engine cowls or from air conditioning system
3. Land as soon as possible.

If the fire warning is confirmed:

1. THROTTLE .................................................. CUT OFF
2. AUX BP switch .............................................. OFF
3. FUEL TANK SELECTOR .................................. OFF
4. Oxygen mask .............................................. Use

Aircraft with G1000 avionics system

5. BLEED switch ............................................. OFF/RST

Aircraft with G1000 avionics system

5. BLEED switch ............................................. OFF
All

6 - A/C switch ................................................. OFF

7 - If necessary, ......................................... EMERGENCY DESCENT

8 - Perform ................................................ FORCED LANDING
SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement or replace 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 ENGINE FIRE DETECTION SYSTEM.

- Before starting the engine
  TEST push-button .......................................................... Press
  The FIRE CAS message lights on and causes the illumination of the MASTER WARNING light.

SECTION 5
PERFORMANCE

Installation and operation of ENGINE FIRE 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

The weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot’s Operating Handbook when the airplane is equipped with the option ENGINE FIRE DETECTION SYSTEM.

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0496-26A</td>
<td>Engine fire detection system L'HOTELLIER</td>
<td>1.464 (0.66)</td>
<td>96.06 (2.440)</td>
</tr>
</tbody>
</table>
SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 Description of the basic Pilot's Operating Handbook when the airplane is equipped with the option ENGINE FIRE DETECTION SYSTEM.

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 integrated flight deck 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 S86 TEST push-button is located on the PL45 panel.

DISPLAY

Refer to the GARMIN Integrated Flight Deck Pilot's Guide, as applicable, at its latest revision.

SECTION 8
HANDLING, SERVICING AND MAINTENANCE

Installation and operation of ENGINE FIRE DETECTION SYSTEM do not change the basic handling, servicing and maintenance procedures of the airplane described in Section 8 Handling, Servicing and Maintenance of the basic Pilot's Operating Handbook.
# SUPPLEMENT

## MEXICO SPECIFICS

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<td>5</td>
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<td>WEIGHT AND BALANCE</td>
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<td>7</td>
<td>DESCRIPTION</td>
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<td>8</td>
<td>HANDLING, SERVICING AND MAINTENANCE</td>
<td>9.45.19</td>
</tr>
</tbody>
</table>
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.

2.9 - PLACARDS

INTERNAL PLACARDS

1 - Rear pressurized baggage compartment (in cabin)
   On partition wall

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.
For the small cargo net, on frame C13bis

For the large cargo net, on R.H. Side upholstery panel, in the rear baggage compartment

2 - Non pressurized FWD baggage compartment
   On baggage compartment door frame
3 - On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling)

4 - On rear passengers masks containers (on R.H. side on the ceiling and left side)

5 - On rear passenger's table casing

LA MESA DEBE ESTAR GUARDADA DURANTE EL DESPEGUE Y ATERRIZAJE.
6 - Door internal side
   On access door

   ![Access Door Instruction Diagram]

   On pilot door (if installed)

   ![Pilot Door Instruction Diagram]

7 - On emergency exit handle

   ![Emergency Exit Handle Instruction Diagram]
8 - On landing gear emergency control access door

9 - At the upper corner of the window on each side of the cockpit

10 - On cabinet drawer (optional)

Aircraft equipped with coat hanger (MOD70-0557-25)

11 - On the upper edge of the L.H. Passenger access door panel
Aircraft equipped with lavatory compartment (MOD70-0505-25)

12 - On fixed panel, cabin side

13 - On fixed panel, toilet side

EL DIVISOR DEBE ESTAR ALMACENADO DURANTE EL DESPEGUE Y EL ATERRIZAJE

EL INODORO NO DEBE ESTAR OCUPADO DURANTE EL DEPEGUE Y EL ATERRIZAJE

CIERRE Y ASEGURE LA TAPA DEL INODORO CUANDO NO ESTÉ EN USO

NO CUELgue O GUARDE OBJETOS EN EL BAÑO O DIVISOR

EL DIVISOR DEBE ESTAR ALMACENADO DURANTE EL DESPEGUE Y EL ATERRIZAJE

USE LOS AURICULARES CUANDO EL DIVISOR ESTÉ DESPLEGADO
14 - On access door, cabin side and toilet side

EMERGENCY
STOWAGE
ALMACENADO
DE
EMERGENCIA

REMOVE
COVER
REMUEVA LA
CUBIERTA

15 - Behind access door, cabin side and toilet side

PUSH TO STOW
EMPUJE PARA ALMACENAR
16 - Front face of lavatory compartment, near opening/closing switches

17 - On the magazine rack

1.5 KG (3.3 LBS)
**EXTERNAL PLACARDS**

- **All**

- **18** - Under engine cowling and under each wing

- **19** - Near fuel tank caps
20 - Above brakes hydraulic fluid reservoir against firewall

![FRENOS]

MIL - H - 5606
AIR 3520
FLUIDO HIDRÁULICO

21 - On landing gear hydraulic fluid reservoir

![GEARS]

TRENES
MIL - H - 5606
AIR 3520
HYDRAULIC FLUID
FLUIDO HIDRÁULICO

22 - On fuse box in engine cowlng

![CAJA DE FUSIBLES Y FOCOS]
23 - On internal face of L.H. engine cowling

Capacidad del sistema de aceite
12 l.
12.7 qt

<table>
<thead>
<tr>
<th>OILS - ACEITES</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ AEROSHELL 560</td>
</tr>
<tr>
<td>☐ EXXON 2380 OR ESSO 2380 OR BP TO 2380</td>
</tr>
<tr>
<td>☐ MOBIL JET OIL II</td>
</tr>
<tr>
<td>☐ MOBIL JET OIL 254</td>
</tr>
<tr>
<td>☐ AERO SHELL TURBINE OIL 500</td>
</tr>
<tr>
<td>☐ ROYCO TURBINE OIL 500</td>
</tr>
<tr>
<td>☐ CASTROL 5000</td>
</tr>
<tr>
<td>☐ TURBONYCOIL 525 2A</td>
</tr>
</tbody>
</table>

24 - On front lower portion of firewall L.H. side

JACKING POINT
PUNTO DE APOYO
PARA LEVANTAMIENTO
25 - On engine cowling, in front of compartment door

ALIMENTACIÓN EXTERNA:
28 VOLTS C.D. NOMINAL.
CAPACIDAD MÍNIMA DE ARRANQUE:
800 AMPS
NO EXCEDER 1000 AMPS

26 - On nose gear door

WHEN TOWING A VEHICLE DO NOT EXCEED THE NOSE GEAR TURNING ANGLE. (28° MAXI)

DURANTE EL REMOLQUE CON VEHÍCULO, NO EXCEDER EL ÁNGULO DE Giro DEL TREN DE NARIZ (MÁXIMO 28°)

27 - On nose gear leg

TREN DE ATERrizaje DE NARIZ
PRESIÓN DE LLANTA: 6.5 bar
94 psi
28 - On main gear leg

TREN DE ATERRIZAJE
PRINCIPAL
PRESIÓN DE LLANTA: 8.96 bar
130 psi

29 - On internal face of the oxygen cylinder service door

30 - On the oxygen service door

PUNTO DE SERVICIO PARA
OXÍGENO. NO USAR LUBRICANTES
31 - Near air data system port

32 - On external side of emergency locator transmitter inspection door

33 - On emergency exit external side
34 - Door external side

On pilot door

On access door

On outer fuselage skin aft of access door and in the cabin forward of access door
35 - On last step of stairs

CARGA MÁXIMA SOBRE LA ESCALERA : UNA PERSONA

36 - On R.H. access door jamb

NO USAR EL PASAMANO PARA RETRAER O GUARDAR LA ESCALERA
SECTION 3
EMERGENCY PROCEDURES

No specifics

SECTION 4
NORMAL PROCEDURES

No specifics

SECTION 5
PERFORMANCE

No specifics

SECTION 6
WEIGHT AND BALANCE

The weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot’s Operating Handbook.

<table>
<thead>
<tr>
<th>S/R/A/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>0212-11</td>
<td>Mexico certification markings SOCATA</td>
<td>/</td>
<td>/</td>
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</tbody>
</table>
SECTION 7
DESCRIPTION

No specifics

SECTION 8
HANDLING, SERVICING AND MAINTENANCE

No specifics
# GARMIN TAWS SYSTEM

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<td>HANDLING, SERVICING AND MAINTENANCE</td>
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</tbody>
</table>
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 the option GARMIN TAWS SYSTEM.

The TAWS function enables to detect if the airplane path is in compliance with the overflown terrain relief.

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 when the airplane is equipped with the option GARMIN TAWS SYSTEM.

The TAWS 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, TAWS function must be inhibited for any landing on a terrain which is not mentioned in the data base.

The use of the terrain awareness warning and terrain display functions is prohibited during QFE (atmospheric pressure at airport elevation) operations.

The GARMIN Integrated Flight Deck Pilot’s Guide mentioned in Section 2 of the basic Pilot’s Operating Handbook, as applicable, or any further edition applicable to the latter, shall be readily available to the pilot, whenever the operation of TAWS system is predicted.
SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter supplement or replace those of the standard airplane described in Section 3 Emergency Procedures of the basic Pilot's Operating Handbook when the airplane is equipped with the option GARMIN TAWS SYSTEM.

TAWS FAIL ANNUNCIATION

The TAWS function is not operational.
SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement or replace 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 TAWS SYSTEM.

BEFORE TAKEOFF

- "TAWS System Test OK" voice message ....................... HEARD

4.1 - WARNINGS OF THE TAWS FUNCTION

"PULL UP" AURAL WARNING

The red PULL-UP PFD/MFD alert annunciation and PULL-UP MFD pop-up alert light on.

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 Pull up", "Obstacle Obstacle, Pull up Pull up", AURAL WARNINGS

The red PULL-UP PFD/MFD alert annunciation and TERRAIN/OBSTACLE PULL-UP pop-up alerts light on.

Adjust airplane path in order to make the warning disappear.
4.2 - CAUTIONS OF THE TAWS FUNCTION

"Caution terrain", "Caution obstacle", "Too low terrain"

AURAL WARNINGS

The amber TERRAIN PFD/MFD alert annunciation and CAUTION TERRAIN/OBSTACLE or TOO LOW TERRAIN pop-up alerts light on.

Adjust airplane path in order to make the warning disappear.

"Don't sink" AURAL WARNING

The amber TERRAIN PFD/MFD alert annunciation and DON'T SINK pop-up alert light on.

Re-establish a positive rate of climb.

"Sink rate" AURAL WARNING

The amber TERRAIN PFD/MFD alert annunciation and SINK RATE pop-up alert light on.

Reduce rate of descent.
SECTION 5
PERFORMANCE

Installation and operation of GARMIN TAWS 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

The weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot’s Operating Handbook when the airplane is equipped with the option GARMIN TAWS SYSTEM.

<table>
<thead>
<tr>
<th>ITEM REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPT70 or MOD70</td>
<td>GARMIN TAWS system</td>
<td>/</td>
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</tbody>
</table>
SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 Description of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the option GARMIN TAWS SYSTEM.

Aircraft with G3000 avionics system

TAWS-B TERRAIN AND OBSTACLE ALERTS

- Alerts include visual annunciations and voice alerts.
- Alerts are accompanied by visual annunciation on PFD’s and pop-up alerts on either Touchscreens Controllers
- Pilot acknowledges the Alert on the Touchscreen Controller

VOICE ALERTS INHIBITING

- TAWS Alerts can be inhibited by the pilot selecting Inhibit TAWS on Touchscreens Controllers
- Discretion should be used when inhibiting alerts and the system should be enabled when appropriate.

The TAWS function has 7 modes.

1. FORWARD LOOKING TERRAIN AVOIDANCE ALERT

The Forward Looking Terrain Avoidance (FLTA) alert is used by TAWS and is composed of:

- Reduced Required Terrain Clearance and Reduced Required Obstacle Clearance
  Reduced Required Terrain Clearance (RTC) and Reduced Required Obstacle Clearance (ROC) alerts are issued when the airplane flight path is above terrain, yet is projected to come within the minimum clearance values in table 9.49.1. When an RTC or ROC alert is issued, a potential impact point is displayed on the TAWS Page.
Imminent Terrain Impact and Imminent Obstacle Impact

Imminent Terrain Impact (ITI) and Imminent Obstacle Impact (IOI) alerts are issued when the airplane is below the elevation of a terrain or obstacle cell in the airplane’s projected path. ITI and IOI alerts are accompanied by a potential impact point displayed on the TAWS Page. The alert is annunciated when the projected vertical flight path is calculated to come within minimum clearance altitudes in table 9.49.1.

<table>
<thead>
<tr>
<th>Phase of flight</th>
<th>Minimum Clearance Altitude Level Flight (ft)</th>
<th>Minimum Clearance Altitude Descending (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enroute</td>
<td>700</td>
<td>500</td>
</tr>
<tr>
<td>Terminal</td>
<td>350</td>
<td>300</td>
</tr>
<tr>
<td>Approach</td>
<td>150</td>
<td>100</td>
</tr>
<tr>
<td>Departure</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 9.49.1 - Minimum Terrain and Obstacle Clearance values for FLTA alerts

During the final approach phase of flight, FLTA alerts are automatically inhibited when the airplane is below 200 feet AGL while within 0.5 Nm of the approach runway or below 125 feet AGL while within 1.0 Nm of the runway threshold.
The aural/displayed messages associated with the FLTA function are described in the table 9.49.2.

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>PFD/MFD TAWS Page Annunciation</th>
<th>MFD Map Page Pop-Up Alert</th>
<th>Aural Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Required Terrain Clearance Warning (RTC) (Red)</td>
<td><strong>PULL UP</strong></td>
<td><strong>TERRAIN - PULL UP</strong></td>
<td>“Terrain, Terrain ; Pull up, Pull up”</td>
</tr>
<tr>
<td>Imminent Terrain Impact Warning (ITI) (Red)</td>
<td><strong>PULL UP</strong></td>
<td><strong>TERRAIN AHEAD - PULL UP</strong></td>
<td>“Terrain Ahead, Pull up ; Terrain Ahead, Pull up”</td>
</tr>
<tr>
<td>Reduced Required Obstacle Clearance Warning (ROC) (Red)</td>
<td><strong>PULL UP</strong></td>
<td><strong>OBSTACLE - PULL UP</strong></td>
<td>“Obstacle, Obstacle ; Pull up, Pull up”</td>
</tr>
<tr>
<td>Imminent Obstacle Impact Warning (IOI) (Red)</td>
<td><strong>PULL UP</strong></td>
<td><strong>OBSTACLE AHEAD - PULL UP</strong></td>
<td>“Obstacle Ahead, Pull up ; Obstacle Ahead, Pull up”</td>
</tr>
<tr>
<td>Reduced Required Terrain Clearance Caution (RTC) (Amber)</td>
<td><strong>TERRAIN</strong></td>
<td><strong>CAUTION - TERRAIN</strong></td>
<td>“Caution, Terrain ; Caution, Terrain”</td>
</tr>
<tr>
<td>Imminent Terrain Impact Caution (ITI) (Amber)</td>
<td><strong>TERRAIN</strong></td>
<td><strong>TERRAIN AHEAD</strong></td>
<td>“Terrain Ahead ; Terrain Ahead”</td>
</tr>
<tr>
<td>Reduced Required Obstacle Clearance Caution (ROC) (Amber)</td>
<td><strong>TERRAIN</strong></td>
<td><strong>CAUTION - OBSTACLE</strong></td>
<td>“Caution, Obstacle ; Caution, Obstacle”</td>
</tr>
<tr>
<td>Imminent Obstacle Impact Caution (IOI) (Amber)</td>
<td><strong>TERRAIN</strong></td>
<td><strong>OBSTACLE AHEAD</strong></td>
<td>“Obstacle Ahead ; Obstacle Ahead”</td>
</tr>
</tbody>
</table>

Table 9.49.2 - FLTA alerts
2. PREMATURE DESCENT ALERTING

A Premature Descent Alert (PDA) is issued when the system detects that the airplane is significantly below the normal approach path to a runway (Figure 9.49.1).

PDA alerting begins when the airplane is within 15 Nm of the destination airport. PDA alerting ends when the airplane is either:

- 0.5 Nm from the runway threshold

or

- at an altitude of 125 feet AGL while within 1.0 Nm of the threshold.

The aural/displayed messages associated with the PDA function are described in the table 9.49.3.

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>PFD/MFD TAWS Page Annunciation</th>
<th>MFD Map Page Pop-Up Alert</th>
<th>Aural Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premature Descent Alert Caution (PDA) (Amber)</td>
<td><strong>TERRAIN</strong></td>
<td><strong>TOO LOW - TERRAIN</strong></td>
<td>&quot;Too low, Terrain&quot;</td>
</tr>
</tbody>
</table>

Figure 9.49.1 - PDA alerting threshold

Table 9.49.3 - PDA alerts
3. EXCESSIVE DESCENT RATE ALERT

The purpose of the Excessive Descent Rate (EDR) alert is to provide suitable notification when the airplane is determined to be closing (descending) upon terrain at an excessive speed. Figure 9.49.2 shows the parameters for the alert as defined by TSO-C151b.

Figure 9.49.2 - Excessive Descent Rate Alert Criteria
The aural/displayed messages associated with the EDR function are described in the table 9.49.4.

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>PFD/MFD TAWS Page Annunciation</th>
<th>MFD Map Page Pop-Up Alert</th>
<th>Aural Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive Descent Rate Warning (EDR) (Red)</td>
<td>PULL UP</td>
<td>PULL UP</td>
<td>&quot;Pull up&quot;</td>
</tr>
<tr>
<td>Excessive Descent Rate Caution (EDR) (Amber)</td>
<td>TERRAIN</td>
<td>SINK RATE</td>
<td>&quot;Sink rate&quot;</td>
</tr>
</tbody>
</table>

Table 9.49.4 - EDR alerts

4. NEGATIVE CLIMB RATE AFTER TAKEOFF ALERT (NCR)

The purpose of the Negative Climb Rate (NCR) After Takeoff alert (also referred to as Altitude Loss After Takeoff) is to provide suitable alerts to the pilot when the system determines that the airplane is loosing altitude (closing upon terrain) after takeoff. The aural message "Don't sink" is given for NCR alerts, accompanied by an annunciation and a pop-up terrain alert on the PFD's and Touchscreen Controllers. NCR alerting is only active when departing from an airport and when the following conditions are met:

- The height above the terrain is less than 700 feet.
- The distance from the departure airport is 5 Nm or less.
- The heading change from the heading at the time of departure is less than 110 degrees.
Figure 9.49.3 shows two figures which illustrate the NCR alerting parameters as defined by TSO-C151b.

The NCR alert is issued when the altitude loss and height are within the range in the first figure, or when the sink rate (negative vertical speed) and height are within the range in the second figure.

Figure 9.49.3 - Negative Climb Rate (NCR) Alert Criteria
The aural/displayed messages associated with the NCR function are described in the table 9.49.5.

<table>
<thead>
<tr>
<th>Alert Type</th>
<th>PFD/MFD TAWS Page Annunciation</th>
<th>MFD Map Page Pop-Up Alert</th>
<th>Aural Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Climb Rate Caution (NCR) (Amber)</td>
<td>TERRAIN</td>
<td>DONT’ SINK</td>
<td>&quot;Don’t sink&quot;</td>
</tr>
</tbody>
</table>

Table 9.49.5 - NCR alerts

5. “FIVE-HUNDRED” AURAL ALERT, ALTITUDE VOICE CALLOUT (VCO)

The purpose of the aural alert message “Five-Hundred” is to provide an advisory alert to the pilot that the airplane is 500 feet above terrain. When the airplane descends within 500 feet of terrain, the aural message “Five-Hundred” is generated. There are no display annunciations or pop-up alerts that accompany the aural message.

6. TAWS NOT AVAILABLE ALERT

TAWS requires a 3-D GPS navigation solution along with specific vertical accuracy minimums. Should the navigation solution become degraded or if the airplane is out of the database coverage area, the annunciation TAWS N/A is generated in the annunciation window and on the TAWS Page. The aural message “TAWS Not Available” is generated. When the GPS signal is re-established and the airplane is within the database coverage area, the aural message “TAWS Available” is generated.

7. TAWS Inhibit

TAWS also has an inhibit mode that deactivates the PDA/FLTA aural and visual alerts. Pilots should use discretion when inhibiting TAWS and always remember to enable the system when appropriate. Only the PDA and FLTA alerts are disabled in the inhibit mode.

SECTION 8
HANDLING, SERVICING AND MAINTENANCE

Installation and operation of GARMIN TAWS SYSTEM do not change the basic handling, servicing and maintenance procedures of the airplane described in Section 8 Handling, Servicing and Maintenance of the basic Pilot’s Operating Handbook.
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</tr>
</tbody>
</table>
SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option GARMIN SYNTHETIC VISION SYSTEM (SVS).

The SVS does not replace and is not intended to be used independently of the TAS and/or TAWS system(s).

The SVS does not replace and is not intended to be used independently of the horizontal and vertical primary flight instruments.

The SVS does not replace and is not intended to be used independently of the Course Deviation Indicator and the Vertical Deviation Indicator.

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 when the TBM airplane is equipped with the option GARMIN SYNTHETIC VISION SYSTEM.

The following document, or any further edition applicable to the latter, shall be readily available to the pilot, whenever operation of the SVS is predicted:

- **Airplane with G1000 avionics system**

- **Airplane with G3000 avionics system**

The use of the Synthetic Vision System display elements alone for airplane control without reference to the GXXXX primary flight instruments is prohibited.

The use of the Synthetic Vision System alone for vertical and/or horizontal navigation, or obstacle or terrain avoidance is prohibited.
Pathway boxes must be selected OFF when flying an instrument approach. Turn Pathways OFF when ACTIVATE VECTORS-TO-FINAL, ACTIVATE APPROACH is selected, or the airplane is established on any segment of the approach.

The use of the Synthetic Vision System traffic display alone to avoid other airplane is prohibited.

The Terrain Database has an area of coverage from North 75° latitude to South 60° latitude in all longitudes.

SECTION 3
EMERGENCY PROCEDURES

The emergency procedures hereafter supplement or replace 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 GARMIN SYNTHETIC VISION SYSTEM.

INCONSISTENT DISPLAY BETWEEN SVS AND GARMIN SYSTEM PRIMARY FLIGHT INSTRUMENTS

Airplane with G1000 avionics system

From PFD display unit

- PFD OPT softkey .............................. Press
- SVT softkey ...................................... Press
- Terrain softkey ................................. Press to disable
- SVS is removed from the PFD ...................... Verify
Airplane with G3000 avionics system

From PFD display unit
- PFD Settings softkey ........................................ Press
- Attitude Overlays softkey ................................. Press
- Synthetic Terrain softkey ................................. Press to disable
- SVS is removed from the PFD ........................... Verify

Use GARMIN system primary displays for navigation and airplane control.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement or replace 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 SYNTHETIC VISION SYSTEM.

CAUTION

SVS INFORMATION IS NOT A SUBSTITUTE FOR
STANDARD COURSE AND ALTITUDE DEVIATION
INFORMATION PROVIDED BY THE CDI, VSI, VDI AND
THE PRIMARY FLIGHT INSTRUMENTS, AS WELL AS
FOR THE TRAFFIC ADVISORY SYSTEM (TAS) OR THE
TERRAIN AWARENESS WARNING SYSTEM (TAWS).

SVS ACTIVATION

Refer to GARMIN Integrated Flight Deck Pilot's Guide, as applicable, listed in Section 2 Limitations of this supplement for further information.
SECTION 5
PERFORMANCE

Installation and operation of GARMIN SYNTHETIC VISION 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

The weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot’s Operating Handbook when the airplane is equipped with the option GARMIN SYNTHETIC VISION SYSTEM.

<table>
<thead>
<tr>
<th>S/R/O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0226-00</td>
<td>Synthetic Vision System GARMIN</td>
<td>/</td>
<td>/</td>
</tr>
</tbody>
</table>

SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 Description of the basic Pilot’s Operating Handbook when the airplane is equipped with the option GARMIN SYNTHETIC VISION SYSTEM.

SVS provides additional features on the primary flight display (PFD) - refer to GARMIN Integrated Flight Deck Pilot’s Guide, as applicable, listed in Section 2 Limitations of this supplement for further information.
Installation and operation of GARMIN SYNTHETIC VISION SYSTEM do not change the basic handling, servicing and maintenance procedures of the airplane described in Section 8 Handling, Servicing and Maintenance of the basic Pilot's Operating Handbook.
SUPPLEMENT
GARMIN GSR 56 WEATHER DATALINK
AND SATELLITE PHONE

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<td>7 - DESCRIPTION</td>
<td>9.56.7</td>
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<tr>
<td>8 - HANDLING, SERVICING AND MAINTENANCE</td>
<td>9.56.8</td>
</tr>
</tbody>
</table>
SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE.

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 when the TBM airplane is equipped with the option GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE.

Aircraft with G1000 avionics system

SATELLITE PHONE functions

- It is forbidden to activate Pilot In Command On-side GMA TEL button as long as the airplane is in the air or moving on the ground.

- Only the Pilot In Command cross side GMA 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

Aircraft with G3000 avionics system

SATELLITE PHONE functions

- It is forbidden to activate TEL button on Pilot Tab (located in NAV COM/Audio & Radios page) on GTC Touchscreens Controllers as long as the airplane is in the air or moving on the ground.

- Only the TEL button, on Copilot and Pass Tabs (located in NAV COM/Audio & Radios page) on GTC Touchscreens Controllers 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
All WEATHER DATALINK functions

- 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 an approved weather and NOTAM sources during flight planning.

The GARMIN Integrated Flight Deck Pilot's Guide mentioned in section 2 of the basic Pilot's Operating Handbook, as applicable, or any further edition applicable to the latter, shall be readily available to the pilot, whenever the operation of GSR 56 weather datalink and satellite phone system is predicted.

INTERNATIONAL TELECOMMUNICATION REGULATION

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

USE OF PHONE BY PIC PROHIBITED DURING ALL AIRCRAFT OPERATIONS
SECTION 3
EMERGENCY PROCEDURES

Installation and operation of GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE 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

The normal procedures hereafter supplement or replace 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 GSR 56 WEATHER DATALINK AND SATELLITE PHONE.

Normal operating procedures of the GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE system are outlined in the Pilot's Guide, the references of which are given in Section 2 Limitations of this Supplement.

Aircraft with G1000 avionics system

BEFORE STARTING ENGINE

On L.H. GMA audio panel

1 - TEL button ........................................................... OFF

BEFORE STARTING A PHONE CALL IN FLIGHT

On L.H. GMA audio panel

1 - TEL button ........................................................... OFF

If passengers intend to take part into a phone call:

2 - CABIN button ......................................................... OFF

If front passenger intends to take part into a phone call:

3 - INTRCOM button ...................................................... OFF
On R.H. GMA audio panel

4 - TEL button ................................. ON

If passengers intend to take part into a phone call:

5 - CABIN button ................................. ON

Aircraft with G3000 avionics system

BEFORE STARTING ENGINE

In one of the GTC’s NAV COM / Audio & Radio / pilot Tab

1 - TEL button ........................................ OFF

BEFORE STARTING A PHONE CALL IN FLIGHT

In one of the GTC’s NAV COM / Audio & Radio / pilot Tab

1 - TEL button ........................................ OFF

If passengers intend to take part into a phone call:

In one of the GTC’s NAV COM / Intercom Page

2 - Pilot/Passenger Link Arrow ........................ OFF

If front passenger intends to take part into a phone call:

In one of the GTC’s NAV COM / Intercom Page

3 - Pilot/Copilot Link Arrow ........................ OFF

In one of the GTC’s NAV COM / Audio & Radio / copilot Tab

4 - TEL button ........................................ ON

if necessary, switch off Sync to Pilot function

If passengers intend to take part into a phone call:

In one of the GTC’s NAV COM / Audio & Radio / Pass Tab

5 - TEL button ........................................ ON

if necessary, switch off Sync to Pilot function
SECTION 5
PERFORMANCE

Installation and operation of GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE 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 weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 Weight and balance of the basic Pilot's Operating Handbook when the airplane is equipped with the option GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE.

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<th>S/ R/ A/ O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0331-23</td>
<td>Weather datalink and satellite phone system GSR 56</td>
<td>3.82 (1.736)</td>
<td>58.03 (1.474)</td>
</tr>
</tbody>
</table>
SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 Description of the basic Pilot's Operating Handbook when the airplane is equipped with the option GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE.

GARMIN GSR 56 weather datalink and satellite phone system provides airborne low speed datalink and voice communication capability to Integrated Flight Deck 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 and on the PFD inset map.

**Aircraft with G1000 avionics system**

The satellite phone interface is embedded in the MFD: Phone communication and SMS can be received and sent through the dedicated pages on the MFD.

The controls for the MFD are located on both the MFD bezel and the keyboard (GCU 475 MFD control unit).

**Aircraft with G3000 avionics system**

The satellite phone interface is embedded in the GTC Touchscreens Controllers (GTC 580): Phone communication and SMS can be received and sent through the dedicated pages on the GTC Touchscreens Controllers (GTC 580).

**All**

Although it is possible to leave a message when calling the aircraft, as voice mail communication is not supported by the GSR 56:

- it is not possible to access the GSR 56 voice mail from the aircraft
- there is no indication on the Integrated Flight Deck system when a new message has been left on the GSR 56 voice mail.

**Aircraft with G1000 avionics system**

The telephone audio including the incoming call ringing is controlled by the TEL button on the GMA audio panels and can be played in the pilot, front passenger and passengers headphones.
Aircraft with G3000 avionics system

The telephone audio including the incoming call ringing is controlled by the GTC Touchscreens controllers & GMA36 Audio Processor and can be played in the pilot, front passenger and passengers headphones.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Installation and operation of GARMIN GSR 56 WEATHER DATALINK AND SATELLITE PHONE do not change the basic handling, servicing and maintenance procedures of the airplane described in Section 8 Handling, Servicing and Maintenance of the basic Pilot’s Operating Handbook.
# SUPPLEMENT

## LAVATORY COMPARTMENT

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SECTION 1
GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option "LAVATORY COMPARTMENT".

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 when the TBM airplane is equipped with the option "LAVATORY COMPARTMENT".

- TOILET SEAT MUST NOT BE OCCUPIED DURING TAKE-OFF AND LANDING
- DIVIDER MUST BE STOWED DURING TAKE-OFF AND LANDING
- HEADSET SHALL BE WORN AT ALL TIME WHEN SEAT IS OCCUPIED

2.1 - PLACARDS

On fixed panel, cabin side

DIVIDER MUST BE STOWED DURING TAKE-OFF AND LANDING
On fixed panel, toilet side

TOILET SEAT MUST NOT BE OCCUPIED DURING TAKE-OFF AND LANDING. CLOSE AND LOCK TOILET COVER WHEN NOT IN USE. DO NOT HANG OR STORE ITEMS ON TOILET OR DIVIDER. DIVIDER MUST BE STOWED DURING TAKE-OFF AND LANDING. HEADSET MUST BE USED WHEN DIVIDER IS DEPLOYED.

On access door, cabin side and toilet side

EMERGENCY STOWAGE REMOVE COVER

Behind access door, cabin side and toilet side

PUSH TO STOW
Inner face of toilet cover

Front face of lavatory compartment, near opening/closing switches

On the magazine rack

3.3 LBS (1.5 KG)
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.

Inform passengers to use emergency stowing of the divider and oxygen mask.

SECTION 4
NORMAL PROCEDURES

The normal procedures hereafter supplement or replace 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 "LAVATORY COMPARTMENT".

BRIEFING to passengers to be performed before entering the airplane

Normal and Emergency stowing operations of the divider.

In case of depressurization : emergency stowing of the divider, use oxygen mask, and remain seated unless otherwise instructed by the crew.

The headset must be used when the divider is deployed to allow communication with the crew in case of emergency.

SECTION 5
PERFORMANCE

Installation and operation of "LAVATORY COMPARTMENT" 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 weight and balance hereafter supplement or replace those of the standard airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook when the airplane is equipped with the option "LAVATORY COMPARTMENT."

6.1 - GENERAL

This paragraph is intended to provide the pilot with a simple and rapid means of determining weight and balance of the airplane when equipped with the lavatory compartment option.

IT IS THE PILOT'S RESPONSIBILITY TO ENSURE THAT THE AIRPLANE IS PROPERLY LOADED AND THE WEIGHT AND BALANCE LIMITS ARE ADHERED TO.

6.2 - DETERMINING THE NEW AIRPLANE EMPTY WEIGHT AND BALANCE AFTER THE APPLICATION OF THE LAVATORY COMPARTMENT OPTION

NOTE

The new empty weight determination after lavatory compartment installation shall be performed from the 6-seat configuration airplane characteristics.

1) Record the basic empty weight (1a) and moment (1b) and CG (MAC %) (1c) from the last Weight and Balance Report in 6-seat configuration (see samples Figures 6.4.1 and 6.4.2 of the basic Pilot's Operating Handbook).

2) Compute the new empty weight (2a) and moment (2b) as sum of all above weights (1a) [removed equipment + installed equipment] and associated moments (1b) [removed equipment + installed equipment]

3) Compute the new empty weight arm (3) and CG (MAC %) (3c) using given formulas.

4) Report the new empty weight arm (3) and CG (MAC %) (3c) into the WEIGHT AND BALANCE FORM AND DIAGRAM of the airplane loading form in order to perform the weight and balance determination with the lavatory compartment installed.
Moment = Weight x Arm

\[ CG \text{ (MAC %)} = \frac{(Arm \text{ (m)} - 4.392)}{1.51} \times 100 \]

### Post-MOD70-0553-25

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (MAC %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Seats (x 2)</td>
<td>-20.5 kg</td>
<td>-41</td>
<td>-278.185</td>
<td>-24 145.8</td>
</tr>
<tr>
<td>Cabin compartment carpet</td>
<td>-16 kg</td>
<td>-16</td>
<td>-85.920</td>
<td>-7 462.4</td>
</tr>
<tr>
<td>Installed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipped lavatory compartment option</td>
<td>+63 kg</td>
<td>+63</td>
<td>428.337</td>
<td>37 183.5</td>
</tr>
<tr>
<td>Lavatory compartment carpet</td>
<td>+13 kg</td>
<td>+13</td>
<td>69.810</td>
<td>6 067.2</td>
</tr>
<tr>
<td>New empty weight (ready for cargo preparation)</td>
<td>(kg)</td>
<td></td>
<td></td>
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</tr>
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</table>

<table>
<thead>
<tr>
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<th>Weight (lbs)</th>
<th>Arm (in)</th>
<th>Moment (in.lbs)</th>
<th>CG (MAC %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Seats (x 2)</td>
<td>-45.2 lbs</td>
<td>-90.4</td>
<td>-24 145.8</td>
<td></td>
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<tr>
<td>Cabin compartment carpet</td>
<td>-35.3 lbs</td>
<td>-35.3</td>
<td>-7 462.4</td>
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<tr>
<td>Installed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Equipped lavatory compartment option</td>
<td>+138.9 lbs</td>
<td>+138.9</td>
<td>37 183.5</td>
<td></td>
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<tr>
<td>Lavatory compartment carpet</td>
<td>+28.7 lbs</td>
<td>+28.7</td>
<td>6 067.2</td>
<td></td>
</tr>
<tr>
<td>New empty weight (ready for cargo preparation)</td>
<td>(lbs)</td>
<td></td>
<td></td>
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</table>
Moment = Weight x Arm  

\[ CG \ (MAC \%) = \frac{(Arm \ (m) - 4.392)}{1.51} \times 100 \]

### Pre-MOD70-0553-25

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (MAC %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Removed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Seats (x 2)</td>
<td>-24 kg</td>
<td>48</td>
<td>-325.680</td>
<td>-32.5</td>
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<td>16</td>
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<td></td>
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<tr>
<td>Equipped lavatory compartment option</td>
<td>+63 kg</td>
<td>63</td>
<td>428.337</td>
<td>64.8</td>
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<td>Lavatory compartment carpet</td>
<td>+13 kg</td>
<td>13</td>
<td>69.810</td>
<td>5.3</td>
</tr>
<tr>
<td>New empty weight (ready for cargo preparation)</td>
<td></td>
<td>(1a)</td>
<td>(1b)</td>
<td>(1c)</td>
</tr>
<tr>
<td>Item</td>
<td>Weight (lbs)</td>
<td>Arm (in)</td>
<td>Moment (in.lbs)</td>
<td>CG (MAC %)</td>
</tr>
<tr>
<td>Empty Weight</td>
<td></td>
<td>(1a)</td>
<td>(1b)</td>
<td>(1c)</td>
</tr>
<tr>
<td>Removed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rear Seats (x 2)</td>
<td>-52.9 lbs</td>
<td>-105.8</td>
<td>-28 259.2</td>
<td>-28.2</td>
</tr>
<tr>
<td>Cabin compartment carpet</td>
<td>-35.3 lbs</td>
<td>-35.3</td>
<td>-7 462.4</td>
<td>-7.4</td>
</tr>
<tr>
<td>Installed equipment for preparation of LAVATORY COMPARTMENT option installation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipped lavatory compartment option</td>
<td>+138.9 lbs</td>
<td>138.9</td>
<td>37 183.5</td>
<td>37.2</td>
</tr>
<tr>
<td>Lavatory compartment carpet</td>
<td>+28.7 lbs</td>
<td>28.7</td>
<td>6 067.2</td>
<td>6.1</td>
</tr>
<tr>
<td>New empty weight (ready for cargo preparation)</td>
<td></td>
<td>(1a)</td>
<td>(1b)</td>
<td>(1c)</td>
</tr>
</tbody>
</table>
6.3 - USING THE WEIGHT AND BALANCE FORM

CAUTION

EMPTY WEIGHT, ARM AND CG % POSITION TO BE CONSIDERED ARE THE ONES FROM THE LAST WEIGHT AND BALANCE REPORT ISSUED AFTER THE LAVATORY COMPARTMENT OPTION INSTALLATION.

Refer to POH Section 6.4 using the weight and balance form procedure to determine the weight and balance of the airplane equipped with the lavatory compartment option together with the use of the loading form hereafter.

<table>
<thead>
<tr>
<th>S/ R/ A/ O</th>
<th>ITEM</th>
<th>REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT</th>
<th>WEIGHT per unit lb (kg)</th>
<th>ARM in. (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O 0505-25C</td>
<td>25 - EQUIPMENT AND FURNISHINGS</td>
<td></td>
<td>138.9 (63)</td>
<td>267.7 (6.799)</td>
</tr>
<tr>
<td></td>
<td>Lavatory compartment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lavatory compartment carpet</td>
<td></td>
<td>28.7 (13)</td>
<td>211.4 (5.370)</td>
</tr>
</tbody>
</table>
WEIGHT AND BALANCE FORM AND DIAGRAM (m, kg) - ONLY APPLICABLE IF LAVATORY COMPARTMENT IS INSTALLED

Moment = Weight x Arm

\[ CG \ (MAC \%) = \left(\frac{Arm \ (m) - 4.392}{1.51}\right) \times 100 \]

<table>
<thead>
<tr>
<th>Post-MOD70-0553-25</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Item</strong></td>
</tr>
<tr>
<td>Empty Weight</td>
</tr>
<tr>
<td>Baggage FWD (&lt; 50 kg)</td>
</tr>
<tr>
<td>Front Seats</td>
</tr>
<tr>
<td>Inter. Seats</td>
</tr>
<tr>
<td>Baggage AFT (&lt; 100 kg)</td>
</tr>
<tr>
<td>Zero Fuel Weight (&lt; 2.736 kg)</td>
</tr>
<tr>
<td>Fuel</td>
</tr>
<tr>
<td>Ramp Weight (&lt; 3.370 kg)</td>
</tr>
<tr>
<td>Taxi Fuel</td>
</tr>
<tr>
<td>Takeoff Weight (&lt; 3.354 kg)</td>
</tr>
<tr>
<td>Trip Fuel</td>
</tr>
<tr>
<td>Landing Weight (&lt; 3.186 kg)</td>
</tr>
</tbody>
</table>
Moment = Weight x Arm

\[
CG (MAC \%) = \frac{(Arm (m) - 4.392)}{1.51} \times 100
\]

### Pre-MOD70-0553-25

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (kg)</th>
<th>Arm (m)</th>
<th>Moment (m.kg)</th>
<th>CG (MAC %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage FWD (≤ 50 kg)</td>
<td>3.250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Seats</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter. Seats -17 kg per seat removed</td>
<td>5.710</td>
<td>4.534</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pax</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage AFT (≤ 100 kg)</td>
<td>7.695</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zero Fuel Weight (≤ 2 736 kg)</td>
<td>4.820</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramp Weight (≤ 3 370 kg)</td>
<td>4.820</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxi Fuel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takeoff Weight (≤ 3 354 kg)</td>
<td>4.820</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trip Fuel</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Weight (≤ 3 186 kg)</td>
<td>4.820</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 9.63.1 - Weight and Balance diagram
WEIGHT AND BALANCE FORM AND DIAGRAM (in, lbs) - ONLY APPLICABLE IF LAVATORY COMPARTMENT IS INSTALLED

Moment = Weight x Arm

\[ CG \text{ (MAC %)} = \left( \frac{\text{Arm (in)} - 172.93}{59.45} \right) \times 100 \]

Post-MOD70-0553-25

<table>
<thead>
<tr>
<th>Item</th>
<th>Weight (lbs)</th>
<th>Arm (in)</th>
<th>Moment (in.lbs)</th>
<th>CG (MAC %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage FWD (&lt; 110 lbs)</td>
<td>128.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Seats (lbs)</td>
<td></td>
<td>178.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter. Seats (lbs-33.1 lbs per seat removed Pax)</td>
<td>224.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage AFT (&lt; 220 lbs)</td>
<td>303.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zero Fuel Weight (&lt; 6 032 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel (lbs)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramp Weight (&lt; 7 430 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxi Fuel (lbs)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takeoff Weight (&lt; 7 394 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trip Fuel (kg)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Weight (&lt; 7 024 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Moment = Weight x Arm

\[ CG \ (MAC \%) = \frac{(Arm \ (in) - 172.93)}{59.45} \times 100 \]

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<thead>
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<th>Item</th>
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<td>Empty Weight</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage FWD (&lt; 110 lbs)</td>
<td>128.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front Seats (lbs)</td>
<td></td>
<td>178.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter. Seats -37.5 lbs per seat removed Pax</td>
<td>224.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baggage AFT (&lt; 220 lbs)</td>
<td>303.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zero Fuel Weight (&lt; 6 032 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fuel (lbs)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramp Weight (&lt; 7 430 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taxi Fuel (lbs)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Takeoff Weight (&lt; 7 394 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trip Fuel (kg)</td>
<td></td>
<td>189.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landing Weight (&lt; 7 024 lbs)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 9.63.2 - Weight and Balance diagram
SECTION 7
DESCRIPTION

Information hereafter supplement or replace those of the standard airplane described in Section 7 "Description" of the basic Pilot's Operating Handbook when the airplane is equipped with the option "LAVATORY COMPARTMENT".

For operation, refer to equipment User's Guide.

The lavatory compartment is installed against right interior upholstery panel, facing large door. The lavatory compartment is installed at the place of the rear seats, removed to allow this installation. It is attached to the fuselage structure on the cabin floor, using the seats tracks with four pads and screws.

The lavatory compartment structure is made of composite panels.

The lavatory compartment assembly is composed of:

- A chemical toilet,
- Electrically deployable separating panels (divider),
- Two (2) actuating switches (DEPLOY, STOW),
- Two (2) emergency stowing buttons (PUSH TO STOW), accessible from inside or outside the lavatory compartment,
- One (1) mirror,
- One (1) electric power plug,
- One (1) headset allowing communication between the passenger and the crew.

When the lavatory compartment is not occupied, the divider is stored unfolded in the lavatory compartment structure.

A circuit breaker integrated into the lavatory compartment structure protects its electrical system. The circuit breaker is only accessible when the lavatory compartment is removed.

Two (2) switches, located on the seat front face, left side, hidden when latching strap snap fastener is locked, control the deployment/stowing of the moveable parts of the divider.
Two (2) access doors (Velcro tape attached), located on each side of the fixed part of the divider, give access to the emergency stowing push button, allowing the emergency (manual) retraction of the divider, using the application of a vertical force (by hand) on the upper edge of the divider.

Electric connection of the system is performed via a power plug:

Pre-MOD70-0174-25
- 28 volts

Post-MOD70-0174-25
- 12 volts

All power plugs are accessible when the lavatory compartment structure is unscrewed from the floor and moved slightly aside to access the plug.

Mirror is automatically illuminated during the deployment of the divider.

A safety anti pinching sensor stops the deployment of the divider in case an interference is detected.

To remove the chemical toilet system from the lavatory compartment structure, it is necessary to unlatch the toilet cover, remove the top frame (if installed), then lift upward the forward face of the structure and pull out the toilet from the structure.

A storage volume on the left side of the toilet is accessible when toilet cover is up.

A magazine rack is located on the forward side of the fixed part of the divider.
Figure 9.63.3 (1/2) - Lavatory compartment
Figure 9.63.3 (2/2) - Lavatory compartment
SECTION 8
HANDLING, SERVICING AND MAINTENANCE

Installation and operation of "LAVATORY COMPARTMENT" do not change the basic handling, servicing and maintenance procedures of the airplane described in Section 8 "Handling, Servicing and Maintenance" of the basic Pilot's Operating Handbook.