TBM 900

PILOT'S INFORMATION MANUAL

From S/N 1000

P/N T00.DMHPIPYEE0 - EDITION 0 - REVISION 1

CAUTION

THIS INFORMATION MANUAL IS A NON-OFFICIAL COPY OF THE PILOT'S OPERATING HANDBOOK AND MAY BE USED FOR GENERAL INFORMATION PURPOSES ONLY. IT IS NOT KEPT CURRENT AND THEREFORE CANNOT BE USED AS A SUBSTITUTE FOR AIRWORTHINESS AUTHORITIES APPROVED MANUAL WHICH IS THE ONLY ONE INTENDED FOR OPERATION OF THE AIRPLANE.

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Customer support

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SOCATA MODIFICATIONS - INDEX

NOTE

The standardized name for SOCATA modifications is : MODXXX-XX

MOD70 No.	SUBJECT	CLASSIF.
70-0234-24	Electrical distribution and primary distribution	Major
70-0322-00	Evolution of wing tips, tail cone and lights	Major
70-0323-71	Propulsion efficiency improvement	Major
70-0324-00	Modified pedestal and Single Lever Power Control Assy	Major
70-0325-21	Automatic altitude cabin selection	Major
70-0330-00	New metal-metal bonding	Major
70-0336-26	Fire extinguisher relocation in cockpit	minor
70-0341-32	New TBM700 Landing Gear Control and Display Panel	minor
70-0342-52	Lower main landing gear doors	minor
70-0346-55	New rudder ledge contour	minor
70-0347-53	Improved G1000 instrument panel	minor
70-0348-27	Control wheel CROUZET	minor
70-0357-71	Takeoff and landing at 850shp - Increase of takeoff power	Major
70-0359-71	Air inlet inertial separator actuator	minor
70-0361-32	Landing gear wide washer	minor
70-0364-25	Modified pylon upholstery	minor
70-0369-25	Obsolescence of cabin lighting LED and lenses	minor
70-0370-52	Wide door motor obsolescence	minor
70-0372-33	Back lighted panels	minor
70-0373-33	PL1 (Circuit breaker panel) lighting and label	minor
70-0374-33	Servicing plugs	minor
70-0375-28	Modification of MT40 fuel pressure sensor installation	minor
70-0376-33	Pedestal lighting improvement	minor
70-0379-23	Capability for future integration of the CPDLC (Controller Pilot Data Link Communication) antenna	minor
70-0381-31	M51 Hourmeter - Improvement of flight time calculation	minor
70-0383-00	Software V14.01 - G1000 Integrated Flight Deck for TBM 850/900	Major
70-0384-77	TORQUE & IGNITION functions maintained during switching of S1 from "NORMAL" position to "EMERGENCY" position	minor
70-0385-23	AVIONICS MASTER and GROUND CLEARANCE architecture modification	minor

MOD70 No.	SUBJECT	CLASSIF.
70-0393-25	Replacement of air circuit seal on pilot door	minor
70-0400-28	Removal of MT40 transducer	minor
70-0401-92	Illuminated push-buttons	minor
70-0402-28	Fuel sequencer evolution	minor
70-0403-24	Battery firewall modification	minor
70-0404-57	Aileron trimming	minor

NOTE

Optional modifications are integrated in the list of equipment - refer to the list of equipment available in SOCATA Report reference NAV No. 34/90-RJ-App 2, located at the end of this POH.

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SECTION 1

GENERAL

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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 900 airplane. It also contains supplemental data supplied by the manufacturer.

The "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900, No. 190-00708-05, or any later version as applicable, must be permanently kept in the airplane with the Pilot's Operating Handbook.

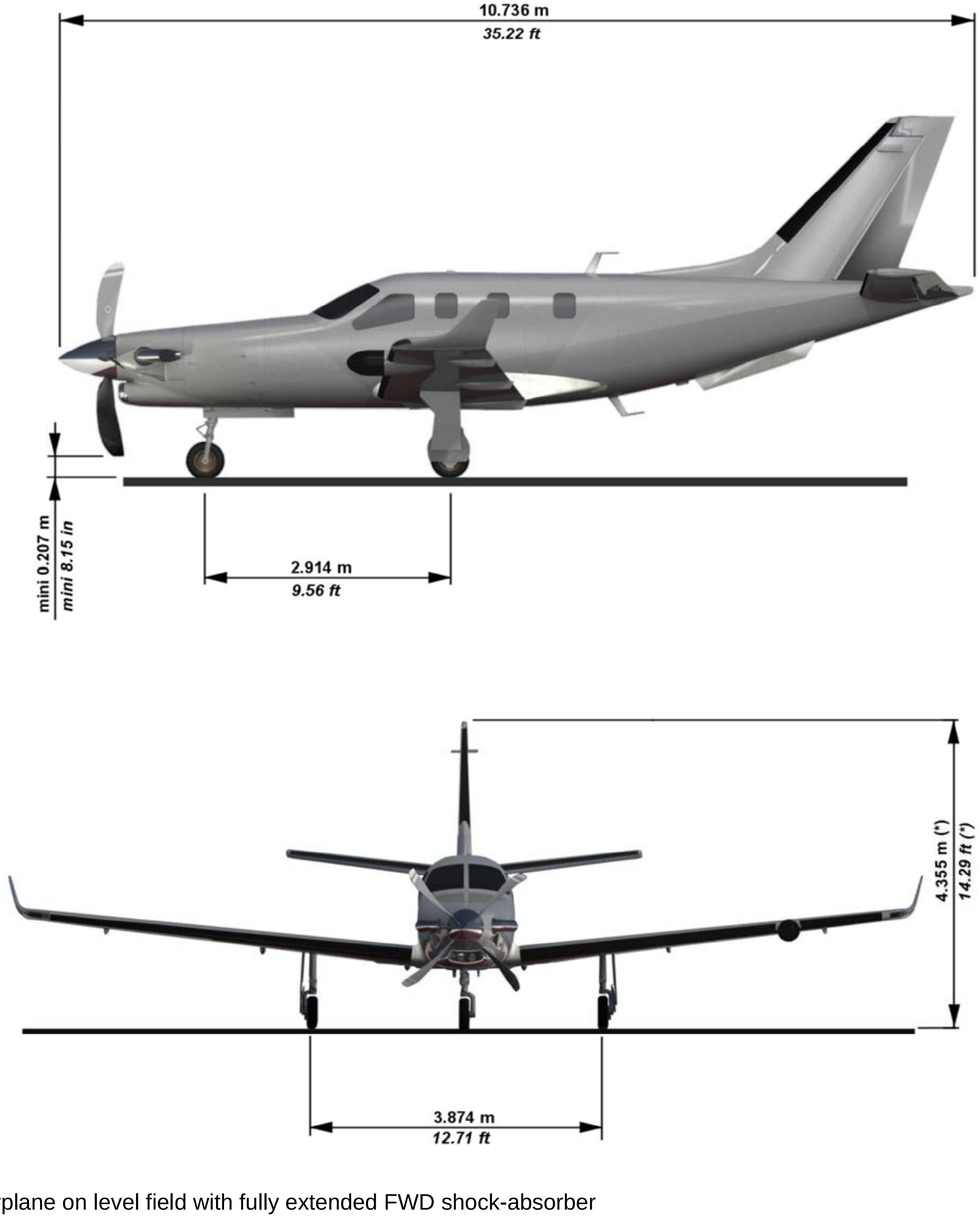
The Pilot's Guide for the Electronic Standby Indicator MODEL ESI-2000 P/N 0040-32500-01 Rev. E or any later version as applicable, must be permanently kept in the airplane with the Pilot's Operating Handbook.

Departure into IMC is not authorized if the battery symbol is present with an amber battery symbol (less than 1 hour remaining), or an amber or red "X" over the battery symbol or a "CAL DUE" message by the battery symbol.

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

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

1.2 - THREE VIEW DRAWING



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

Figure 1.2.1 (1/2) - THREE VIEW DRAWING

Figure 1.2.1 (2/2) - THREE VIEW DRAWING

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-E4N-3 / E9083S (K)

Number of blades : 4

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

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

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

Propeller governor : 8210.007 WOODWARD

FUEL

Total capacity : 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 COMPRISED BETWEEN A MINIMUM OF 0.06 % AND A MAXIMUM OF 0.15 % BY VOLUME. REFER TO SECTION 8 "HANDLING, SERVICING AND MAINTENANCE" FOR ADDITIONAL INFORMATION.

CAUTION

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

NOTE

Use of AVGAS to be recorded in engine module logbook

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

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

ENGINE OIL

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

Usable capacity : 6 Quarts (5.7 Litres)

Maximum consumption : 0.14 qt / hr (0.13 l / hr)
[0.3 lb/hr (0.136 kg/h)]

CAUTION

DO NOT MIX DIFFERENT BRANDS OR TYPES

Nominal Viscosity	US Specification (US)	French Specification (FR)	English Specification (UK)	NATO Code
Type 5cSt	MIL-L-23699C Amdt1	MIL-L-23699C Amdt1	DERD 2499 Issue 1	O.156

Figure 1.3.2 - RECOMMENDED ENGINE OIL TYPES
(Reference : Service Bulletin P & W C. No. 14001)

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' 11.64" (1.21 m)

Maximum cabin length : 13' 3.45" (4.05 m)

Maximum cabin height : 4' (1.22 m)

Number of cabin entries : 1 (standard) + 1 "pilot" door (if installed)

Entry width (standard) : 3' 6.52" (1.08 m)

Entry height (standard) : 3' 10.85" (1.19 m)

"Pilot" entry mean width : 2' 3.6" (0.70 m)

"Pilot" entry mean height : 3' 2.16" (0.97 m)

SPECIFIC LOADINGS

Wing loading : 38.16 lbs / sq.ft (186.3 kg / m^2)

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.

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

A : Ampere or Amber
ADC : Air Data Computer
AGL : Above ground level
ALT. SEL. : Altitude selector
ALTI : Altimeter
AMP. : Ampere
AP : Autopilot
AUTO SEL : Automatic selector
AUX BP : Auxiliary boost pump
BAT : Battery
BAT OVERHEAT: Battery overheat (only with Cadmium-Nickel battery)
BRT : Brightness
CAS : Crew Alerting System
°C : Celsius degree
CHiPS : Cable Harness Protection System
CONT. : Control
DIEGME : Diethylene glycol monomethyl ether
DISC : Disconnect
DN : Down
ECS : Environmental control system
EGME : Ethylene glycol monomethyl ether
EMER : Emergency
ENCOD. ALTI : Encoding altimeter
ESHP : Estimated shaft horsepower
ESS. BUS TIE : Essential BUS tie
EXT. LIGHTS : Exterior lightings
°F : Fahrenheit degree
FCU : Fuel control unit
FIRE EXTING : Fire extinguisher
FL : Flight level
FOB : Fuel On Board
FPL : Flight Plan
ft : Feet
ft/min : Feet per minute
G : Green
HI : High
HP : High pressure
hPa : Hectopascal
hr : Hour
HTR : Heater
IGNIT : Ignition
in : Inch
INERT SEP : Inertial separator
INDIC : Indicator
in.Hg : Inch of mercury
INT. LIGHTS : Interior lightings
INSTR. : Instrument
ITT : Interturbine temperature
kg : Kilogram
kt : Knot (1 nautical mile/hr - 1852 m/hr)
kW : Kilowatt

l	:	Litre
L	:	Left
l/h	:	Litre / hour
lb or lbs	:	Pound(s)
L / D	:	Lift-to-drag
LDG	:	Landing
LDG GR	:	Landing gear
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
PFD	:	Primary Flight Display
PHF	:	Plan Horizontal Fixe (Horizontal stabilizer)
PRESS	:	Pressure
PROP	:	Propeller
psi	:	Pounds per square inch
qt	:	Quart (¼ USG)
QTY	:	Quantity
R	:	Red or Right
RUD	:	Rudder
s or sec	:	Second
SEL	:	Selector
SIG	:	Signalization
SL	:	Sea level
S/N	:	Serial number
SPKR	:	Speaker
ST - BY	:	Stand-by
STALL HTR	:	Stall heater
Std	:	Standard
T°	:	Temperature
TEMP	:	Temperature
TO	:	Takeoff
TURN COORD	:	Turn coordinator

USG	:	Gallon U.S
V	:	Volt or Voltage
WARN	:	Warning
W / S	:	Windshield

RADIO - NAVIGATION ABBREVIATIONS

ADF	:	Automatic Direction Finder System
ADI	:	Attitude Director Indicator
AFCS	:	Automated Flight Control System
AHRS	:	Attitude and Heading Reference System
ATC	:	Transponder
B RNAV	:	Basic aRea NAVigation
CDI	:	Course Deviation Indicator
COM	:	Communications Transceivers
DME	:	Distance Measuring Equipment
ELT	:	Emergency Locator Transmitter
ESI	:	Electronic Standby Instrument
FMS	:	Flight Management System
GPS	:	Ground Positioning System
HF	:	High Frequency
IFR	:	Instrument Flight Rules
ILS	:	Instrument Landing System
IMC	:	Instrument Meteorological Conditions
L NAV	:	Lateral NAVigation
LPV	:	Localizer Precision Vertical
MKR	:	Marker Radio Beacon
NAV	:	Navigation Indicators or Receivers
P RNAV	:	Precision aRea NAVigation
R NAV	:	Area NAVigation
RNP	:	Required Navigation Performance
TAS	:	Traffic Advisory System
TAWS	:	Terrain Awareness Warning System
VFR	:	Visual Flight Rules
VHF	:	Very High Frequency
VMC	:	Visual Meteorological Conditions
V NAV	:	Vertical NAVigation
VOR	:	VHF Omnidirectional Range
VOR / LOC	:	VHF Omnidirectional Range LOCalizer
WAAS	:	Wide Area Augmentation System
WXR	:	Weather surveillance radar
XPDR	:	Transponder

1.5 - CONVERSION FACTORS

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

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

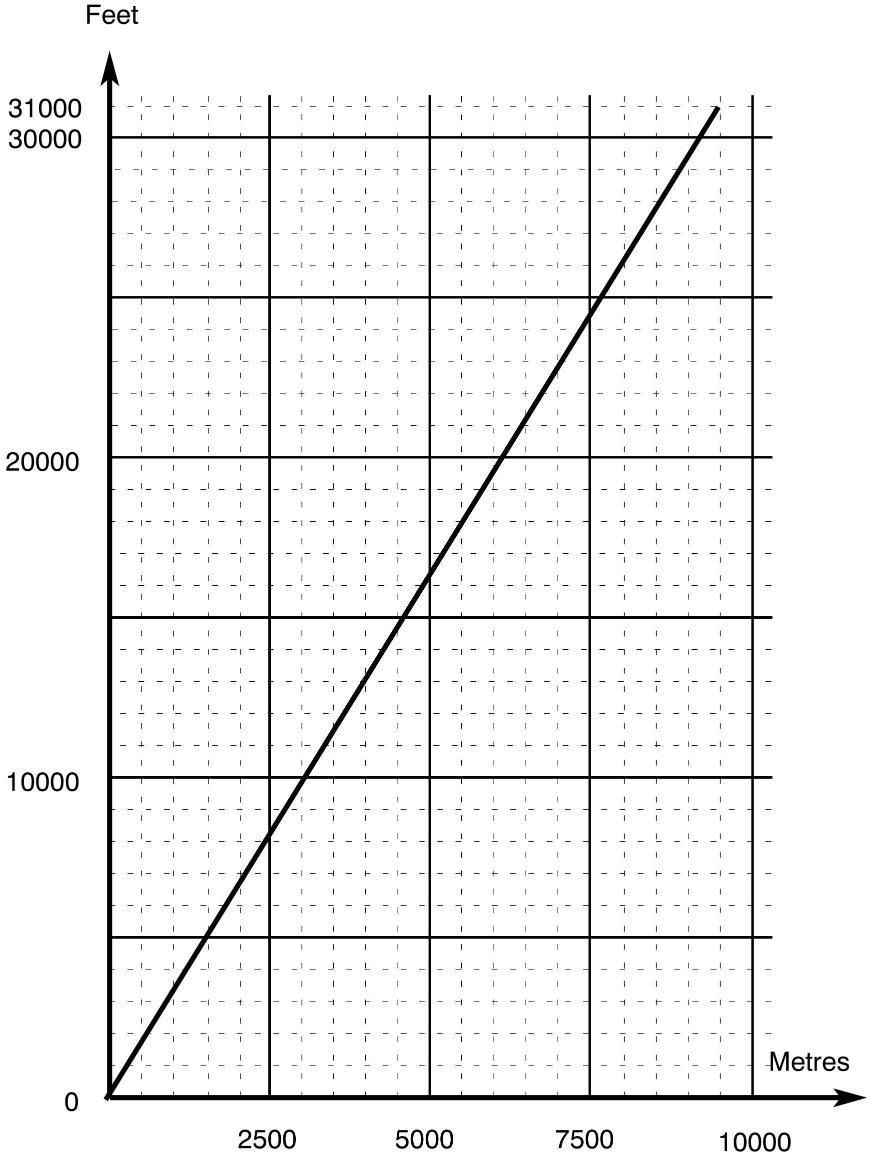


Figure 1.5.2 - FEET VERSUS METRES

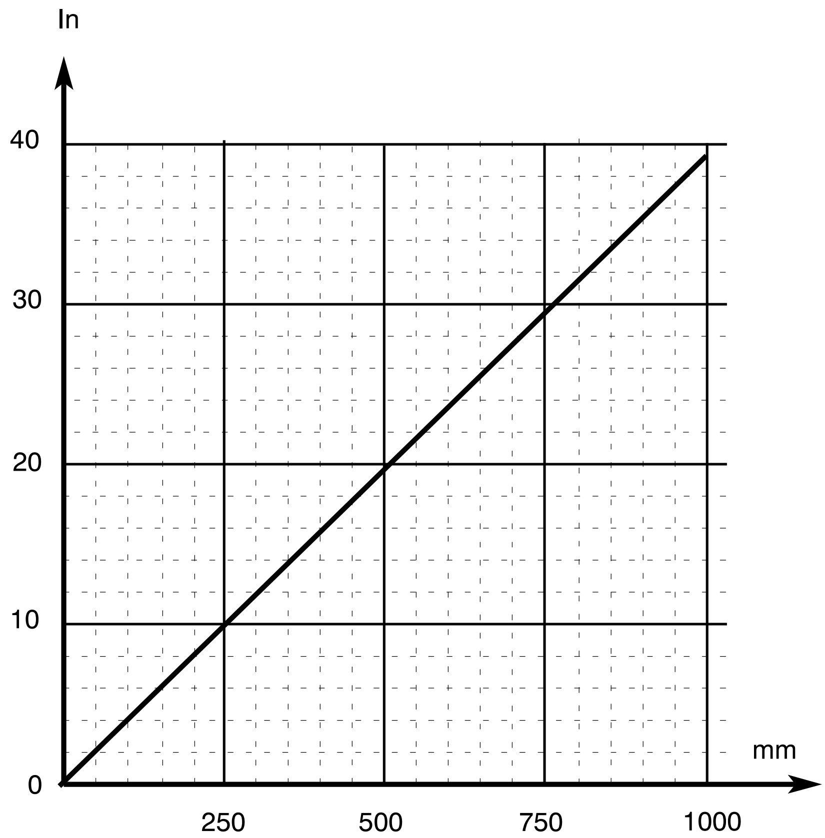


Figure 1.5.3 - INCHES VERSUS MILLIMETRES

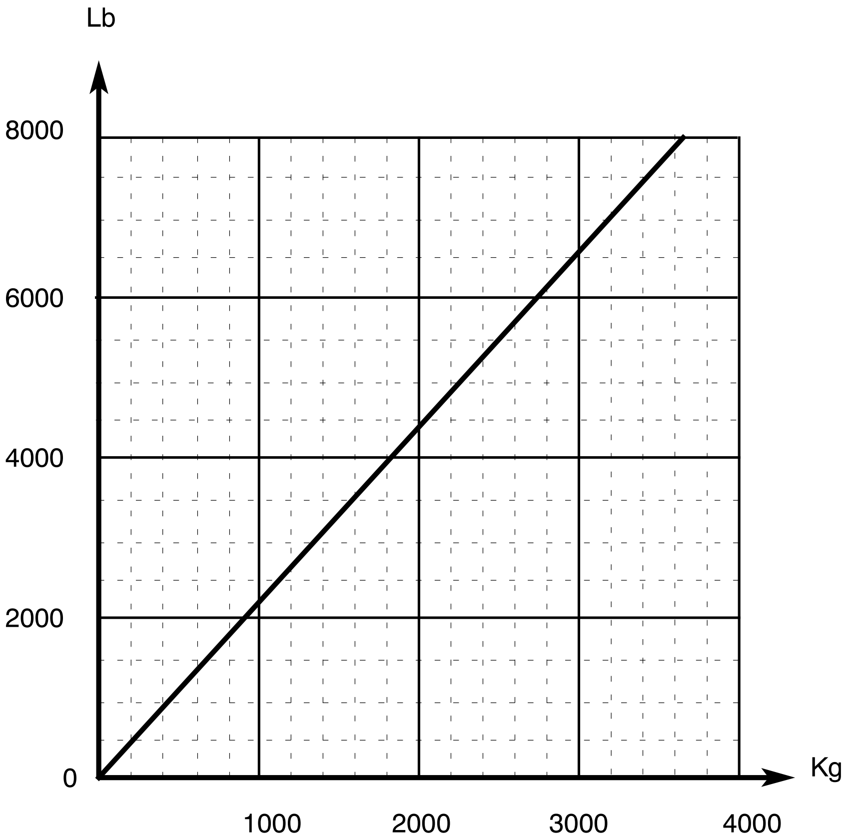


Figure 1.5.4 - POUNDS VERSUS KILOGRAMS

1.6 - PRESSURE AND STANDARD ATMOSPHERE

STANDARD ATMOSPHERE

Pressure altitude (ft)	Pressure (hPa)	°C	°F
0	1013.2	+ 15.0	+ 59.0
2000	942.1	+ 11.0	+ 51.8
4000	875.0	+ 7.0	+ 44.6
6000	811.9	+ 3.1	+ 37.6
8000	752.6	- 0.8	+ 30.5
10000	696.8	- 4.8	+ 23.4
12000	644.3	- 8.7	+ 16.2
14000	595.2	- 12.7	+ 9.2
16000	549.1	- 16.6	+ 2.2
18000	505.9	- 20.6	- 5.0
20000	465.6	- 24.6	- 12.4
22000	427.8	- 28.5	- 19.3
24000	392.6	- 32.5	- 26.5
26000	359.8	- 36.5	- 33.6
28000	329.3	- 40.4	- 40.7
30000	300.8	- 44.4	- 47.8
31000	287.4	- 46.4	- 51.6

Figure 1.6.1 - STANDARD ATMOSPHERE

PRESSURE CONVERSION TABLE

NOTE

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

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

Figure 1.6.2 - PRESSURE CONVERSION TABLE

SECTION 2

LIMITATIONS

TABLE OF CONTENTS

2.1 - GENERAL

"TBM 900" 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 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900, No. 190-00708-05, or any later version as applicable, must be readily available to the pilot.

The Pilot's Guide for the Electronic Standby Indicator MODEL ESI-2000 P/N 0040-32500-01 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 ESI-2000 battery symbol is present with an amber battery symbol (less than 1 hour remaining), or an amber or red "X" over the battery symbol or a "CAL DUE" message by the battery symbol.

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.

	SPEED	KCAS	KIAS	REMARKS
V_{MO}	Maximum operating speed	271	266	Do not intentionally exceed this speed in normal flight category
V_A	Maneuvering speed	160	158	Do not make abrupt or full control movements above this speed
V_{FE}	Maximum flaps extended speed : landing configuration takeoff configuration	 120 180	 122 178	Do not exceed these speeds depending on flaps position
V_{LO}	Maximum landing gear operating speed : extension retraction emergency extension	 180 151 151	 178 150 150	Do not extend or retract landing gear above this speed
V_{LE}	Maximum landing gear extended speed	180	178	Do not exceed this speed with landing gear extended

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 $\pm$ 40 RPM

ITT limitations :

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

CAUTION

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

OIL

CAUTION

DO NOT MIX DIFFERENT BRANDS OR TYPES OF OIL

Maximum oil temperature : 104 °C

Oil pressure :

- Minimum : 60 psi
- Maximum : 135 psi

Normal oil pressure is 100 to 135 psi. Oil pressures under 100 psi are undesirable. Under emergency conditions, to complete a flight, a lower oil pressure of 60 psi is permissable 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)

Oil grade (Specification) :

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

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

FUEL

Fuel 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.

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

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

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

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

Propeller diameter :

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

Propeller blade setting at 30 inches station :

- Low pitch : 21°
- Feathering : 86°
- Maximum reverse : - 11°

2.4 - STARTER OPERATION LIMITS

Starter operation sequence is limited as follows :

if Ng ≤ 30 % .... 30 seconds

if Ng > 30 % .... 60 seconds

Should several sequences be necessary, respect following spacing :

1st sequence

wait .... 1 minute

2nd sequence

wait .... 5 minutes

3rd sequence

wait .... 30 minutes

4th sequence

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)

With 6-seat accommodation

- in rear part of pressurized cabin : 220 lbs (100 kg)

With 4-seat accommodation

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

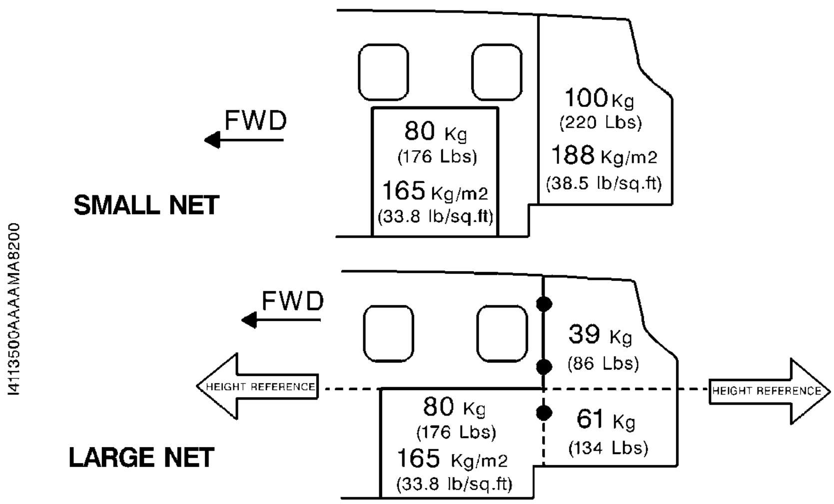


Figure 2.5.1 - Baggage limits

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

Aft limits :

193.65 inches (4.921 m) aft of datum at 7394 lbs (3354 kg) (35 % of m.a.c.)
194 inches (4.928 m) aft of datum at 6986 lbs (3169 kg) (35.5 % of m.a.c.)

Reference datum : 118.1 inches (3 m) in front of the firewall front face.

Straight line variation between points.

Leveling point : Cabin floor rails.

NOTE

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

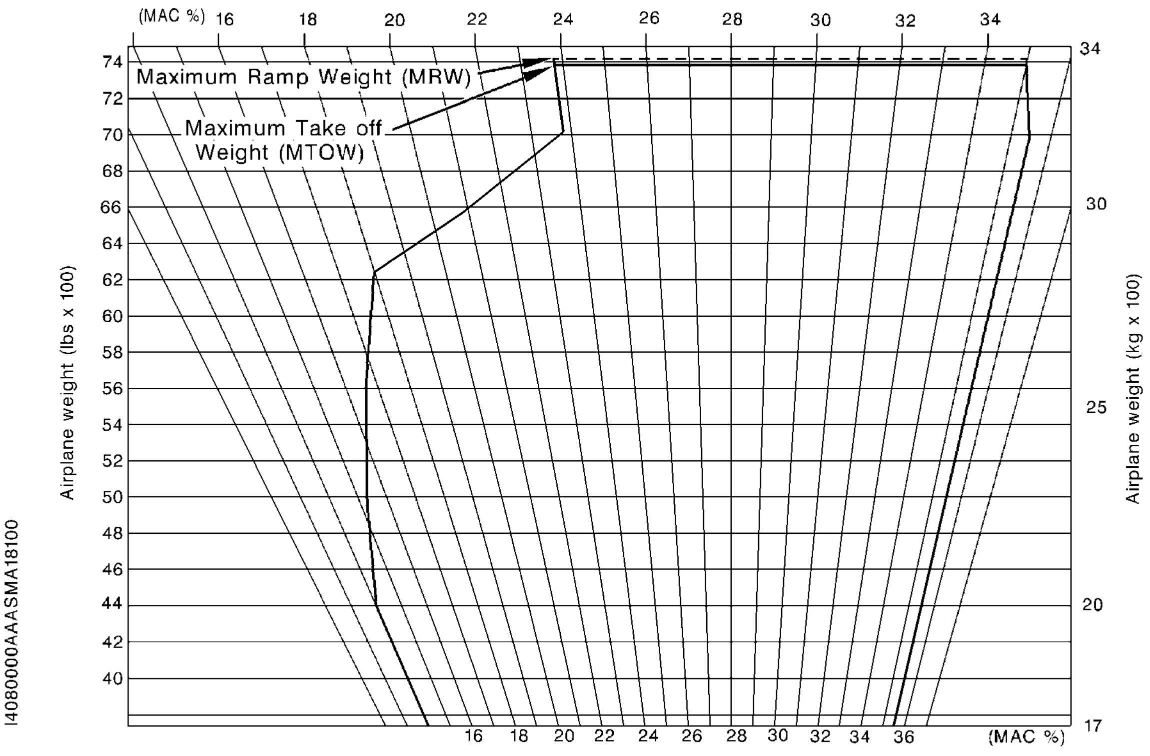


Figure 2.5.2 - C.G. limits

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) :

- $-1.5 \leq n \leq +3.8$ g

Weight above 6579 lbs (2984 kg) :

- $-1.5 \leq n \leq +3.5$ g

Flaps down

- $-0 \leq n \leq +2.0$ g

CAUTION

INTENTIONAL NEGATIVE LOAD FACTORS PROHIBITED

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 or right 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/mn.

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-C146a 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 en route, 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 G1000 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 en route and terminal RAIM prediction website: www.raimprediction.net, or by contacting a Flight Service Station.

Within Europe, RAIM availability can be determined using the G1000 WFDE Prediction program or Europe's AUGER GPS RAIM Prediction Tool at http://augur.ecacnav.com/augur/app/home.

For other areas, use the G1000 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 G1000 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 G1000 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 G1000 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 glidepath 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 3.13.

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 3.13.

FLAP OPERATING ENVELOPE

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

REVERSE UTILIZATION

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

- during flight,

- on ground, if the engine is not running.

EQUIPMENT REQUIRED DEPENDING ON TYPE OF OPERATION

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

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

CAUTION

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

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 overheat
   - Battery stop
   - Main generator OFF
   - Low voltage
   - Ground power unit connected
   - Inertial separator
   - Starter
   - Ignition
   - Flaps
   - Landing gears and doors
3) Aural warning
   - V_{MO} warning
   - Landing gear warning
   - Stall warning

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

5) Various indicators
   - Fuel gauge indicators (2)
   - 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) Pitot static 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 CIRCUIT BREAKER USE LIMITS

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

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 :

Parameter	**Available (A) / Not Available (NA)**
Magnetic Heading	A
Indicated Airspeed	A
Mach No	A
Vertical Rate	A
Roll Angle	A
True Airspeed	A
True Track Angle	A
Groundspeed	A
Selected Altitude	A
Barometric Pressure Setting	A

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)

<u>With 4-seat accommodation or 6-seat accommodation</u>

- 2 intermediate seats at 224.8 in. (5.710 m)

<u>With 6-seat accommodation</u>

- Rear bench (2 seats) at 267.1 in. (6.785 m)

BAGGAGE LIMITS

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

MINIMUM CREW

- One pilot

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.

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).

<u>CAUTION</u>

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.

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

Figure 2.8.1 - IAS AWARENESS BAR CUES

PRESSURIZATION

MARKING	VALUE	SIGNIFICANCE
Red line	6.2 psi	Cabin ΔP limit

Figure 2.8.2 - PRESSURIZATION MARKING

ENGINE INSTRUMENTS

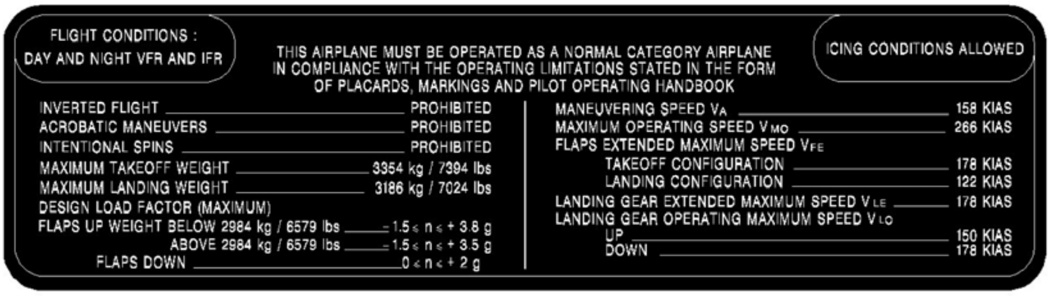
Engine instrument markings and their color code significance are shown in Figure 2.8.3.

INDICATION	Red Line or Arc --------- Minimum Limit	Yellow Line or Arc --------- Caution Range	Green Line or Arc --------- Normal Operating	Red Line --------- Maximum Limit
Oil temperature	- 40 °C (- 40 °F)	- 40 to 0 °C (- 40 to 32 °F) 104 to 110 °C (219.2 to 230 °F)	0 to 104 °C (32 to 219.2 °F)	110 °C (230 °F)
Oil pressure	60 psi	60 to 100 psi	100 to 135 psi	135 psi
Generator RPM (Ng)	---	---	51 to 104 %	104 %
Propeller RPM (Np)	---	450 to 1000 RPM	1950 to 2050 RPM	2050 RPM
ITT Engine start or off	---	840 to 1090 °C (1544 to 1994 °F)	400 to 840 °C (752 to 1544 °F)	840 °C (1544 °F) normal limit --------------- 870 °C (1598 °F) (< 20 seconds limit) --------------- 1090 °C (1994 °F) (red line) absolute limit
Engine running		---	400 to 840 °C (752 to 1544 °F)	840 °C (1544 °F) normal limit
Torque (TRQ)	---	100 %	0 to 100 %	101 %

Figure 2.8.3 - ENGINE INSTRUMENT MARKINGS

2.9 - PLACARDS

(1) Under L.H. front side window



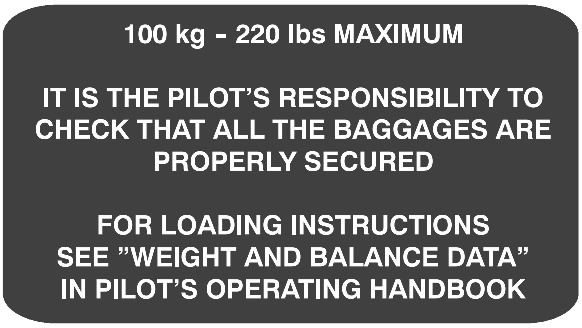
I4113004AAAKMA18200

(2) Calibration chart on compass and on windshield post

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

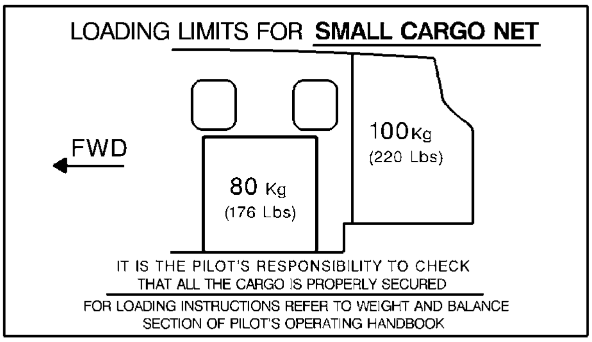
DATE : RADIO ON

(3) On pressurized baggage compartment partition wall



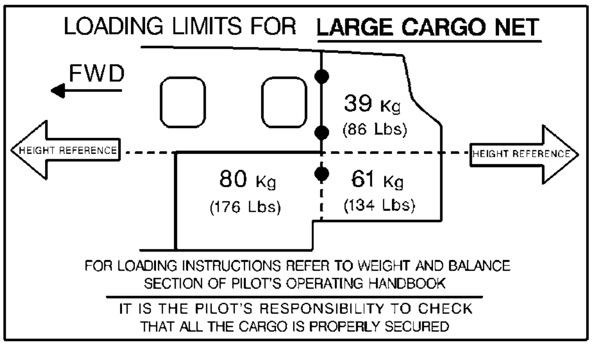
(3)a For the small cargo net, on frame C13bis

I4113500AAAAMA18000



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

I4113500AAAAMA18100



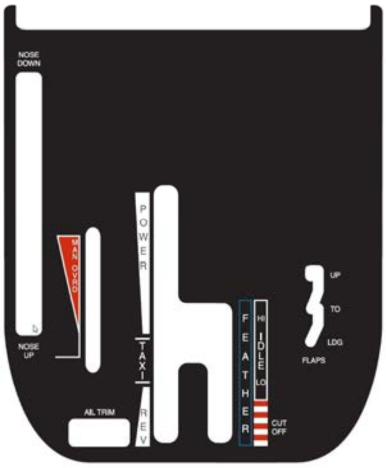
<u>All</u>

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

50 kg - 110 lbs MAXIMUM

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

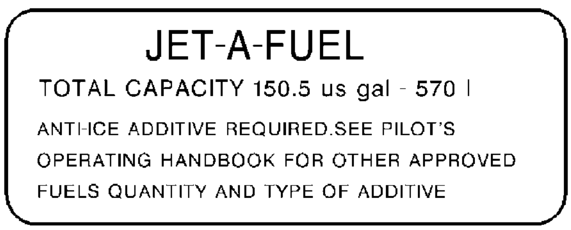
(4) Under GCU 475 control unit on pedestal console



(5) On fuel selector

I4113006AAALMA8300

(6) Near fuel tank caps



I4112004AAAAMA8200

(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

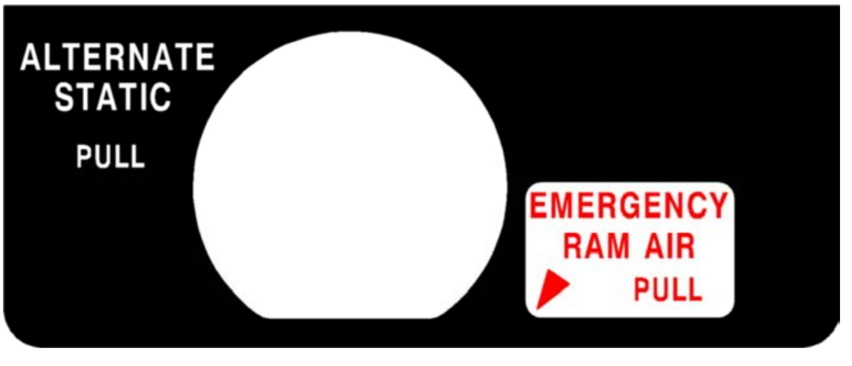
**LDG GEAR
EMERGENCY
ACCESS PULL**

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

(10) On rear passenger's table casing

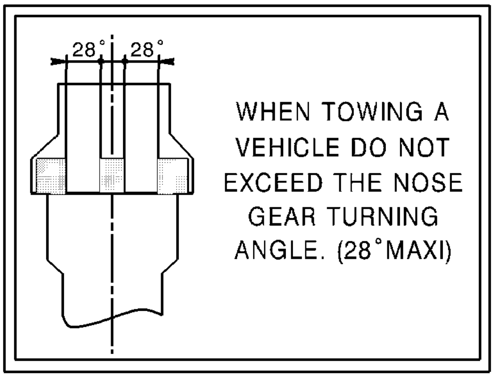
TABLE MUST BE STOWED DURING TAKEOFF AND LANDING

(11) Under R.H. control wheel



(12) On nose gear door

I4112001AAACMA8000



(13) On nose gear leg

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

(14) On main gear leg

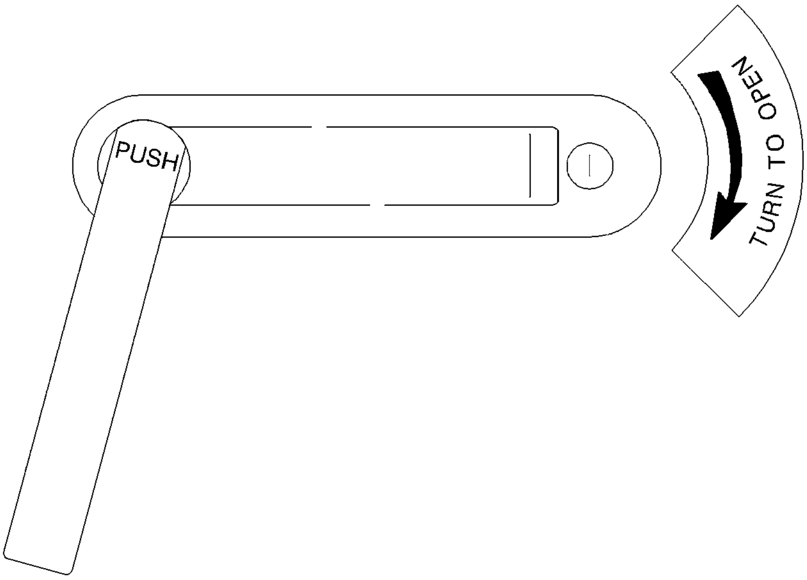
MAIN LANDING GEAR
TIRE PRESSURE : 8,96 bar
130 psi

(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

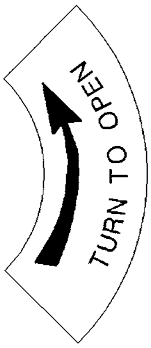
(16) On "pilot" door - External side (if installed)

I4112002AAAEMA8100



(17) On access door - External side

I4112002AAAEMA8000



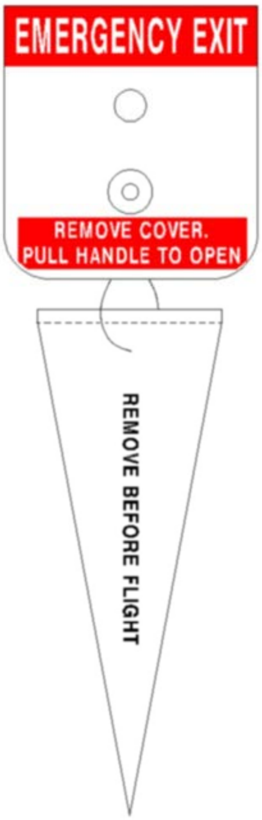
(18) On outer fuselage skin aft of access door and in the cabin forward of access door

(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)

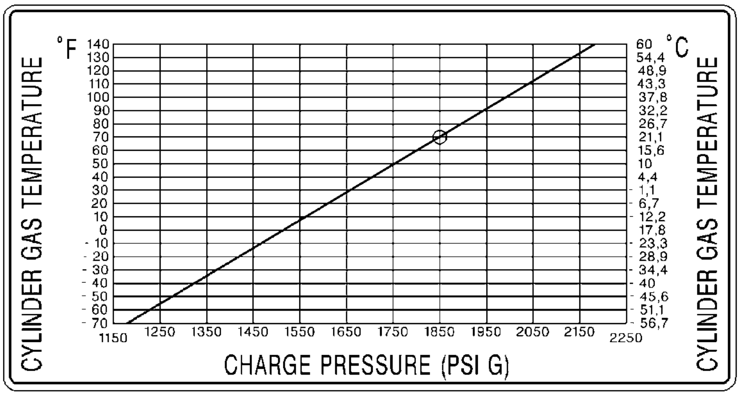
**WARNING
GREASY SUBSTANCES ARE CAPABLE
OF SPONTANEOUS COMBUSTION
ON CONTACT WITH OXYGEN
DO NOT SMOKE WHILE OXYGEN IS IN USE**

(25) On rear passengers masks containers

**OXYGEN MASKS INSIDE
PULL MASKS FOR
OXYGEN SUPPLY ↓**

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

I4112400AAAAMA8000



(27) On the oxygen service door

I4112400AAAAMA8100

OXYGEN SERVICE POINT USE NO LUBRICANTS

(28) On emergency locator transmitter inspection door

I4112200AAAAMA8000

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

CURTAIN MUST BE STOWED FOR TAKE-OFF AND LANDING

SECTION 3

EMERGENCY PROCEDURES

TABLE OF CONTENTS

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 includes **red** messages indicating failures which require an immediate action from the pilot, and **amber** messages indicating failures or discrepancies which require an action as soon as practical.

Red or amber failure warnings are coupled with the lighting of

- a flashing red indicator

or

- a fixed amber indicator

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

3.2 - FAILURES WITH IMMEDIATE ACTION REQUIRED AND RED CAS MESSAGES

ENGINE FIRE ON GROUND

Symptoms : ITT increasing, red warning CAS message **"ITT"** ON, smoke, ...

1 - **Throttle** . . . . **CUT OFF**

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

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

4 - **Brakes** . . . . **AS REQUIRED**

5 - **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, red warning CAS message **"ITT"** ON, smoke, ...

FLY THE AIRPLANE

1 - Throttle . . . . CUT OFF

2 - "AUX BP" fuel switch . . . . OFF

3 - Tank selector . . . . OFF

4 - "BLEED" switch . . . . OFF/RST

5 - "A/C" switch . . . . OFF

6 - If necessary, ... Set oxygen mask

7 - If necessary, ... EMERGENCY DESCENT

8 - Perform a . . . . **FORCED LANDING** (ENGINE CUT OFF)

WARNING

AFTER ENGINE FIRE, DO NOT ATTEMPT AN AIR START

CABIN ELECTRICAL FIRE

OR

SMOKE DURING FLIGHT

FLY THE AIRPLANE

1 - OXYGEN and GOGGLES . . . . USE AS REQUIRED

If the origin is known :

2 - CIRCUIT BREAKER . . . . (Defective equipment) . . . . **PULL**

3 - Using the on board EXTINGUISHER, ... extinguish fire

If the origin is unknown :

2 - "A/C" switch . . . . OFF

3 - Not necessary equipment . . . . OFF

EMERGENCY DESCENT at 10000 ft

4 - If necessary . . . . SMOKE ELIMINATION

5 - LAND as soon as possible

ENGINE FAILURE AT TAKE OFF

FLY THE AIRPLANE

BEFORE ROTATION

1 - Throttle . . . . Flight IDLE

2 - Braking . . . . AS REQUIRED

If the airplane cannot be stopped on the remaining runway :

3 - Throttle . . . . CUT OFF

4 - Tank selector . . . . OFF

5 - Crash lever . . . . PULL DOWN

ENGINE FAILURE AT TAKE OFF

FLY THE AIRPLANE

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

"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.

1 - Flaps .... TO

Maintain IAS > 100 KIAS

2 - Throttle .... CUT OFF

3 - Tank selector .... OFF

4 - Just before touch down :

Flaps .... **LDG**

5 - Crash lever .... PULL DOWN

If HEIGHT allows to reach a favourable runway :

1 - Landing gear control .... DN

2 - Flaps .... AS REQUIRED

3 - Maintain :

Flaps UP	**IAS > 105 KIAS**
Flaps TO	**IAS > 100 KIAS**
Flaps LDG	**IAS > 85 KIAS**

4 - Throttle .... CUT OFF

5 - Tank selector .... OFF

6 - Crash lever .... PULL DOWN

ENGINE FAILURE DURING FLIGHT

FLY THE AIRPLANE

1 - AUTOPILOT . . . . DISCONNECT

2 - Throttle . . . . CUT OFF

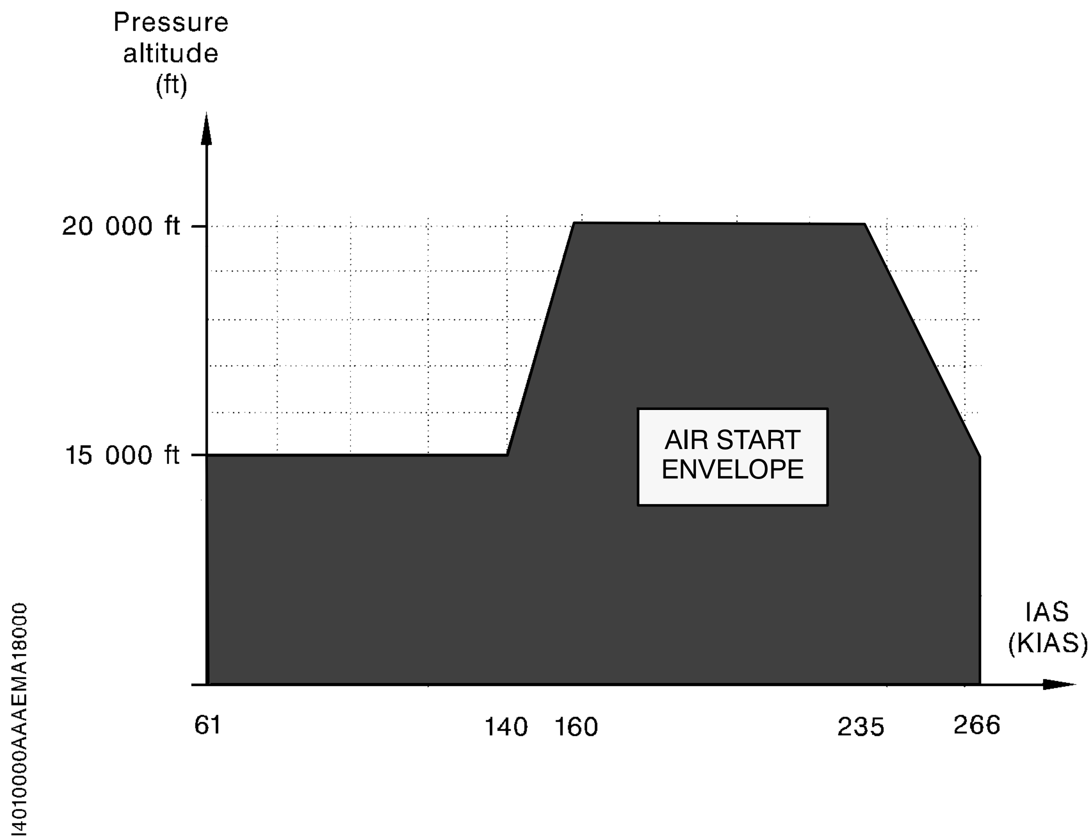
3 - Remaining fuel . . . . CHECK

4 - Tank selector . . . . SWITCH TANKS

5 - "AUX BP" switch . . . . CHECK / CORRECT

6 - Air start ENVELOPE . . . . CHECKED

AIR START ENVELOPE



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.

Figure 3.2.1 - AIR START ENVELOPE

AIR START

CAUTION

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

1 - **"BLEED"** switch . . . . . . **OFF/RST**

CAUTION

"BLEED" SWITCH SET TO "AUTO" MAY CAUSE OVERTEMPERATURE OR ABNORMAL ACCELERATION

2 - **"A/C"** switch . . . . . . **OFF**

3 - **Electric consumption** . . . . . . **Reduce**

4 - **Tank selector** . . . . . . **L or R checked**

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

6 - **"IGNITION"** switch . . . . . . **AUTO or ON**

7 - **Verify throttle** . . . . . . **CUT OFF**

8 - **"STARTER"** switch . . . . . . **ON, take a time**

CAUTION

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

When Ng around 13 % :

9 - **Throttle** . . . . . . **LO / IDLE**

10 - **ITT and Ng** . . . . . . **Monitor**

When Ng higher than 52 % :

11 - **Check starter is** . . . . . . **OFF automatically**

CAUTION

IF THE STARTER DOES NOT GO OFF AUTOMATICALLY, DO IT USING THE "ABORT" POSITION OF THE STARTER SWITCH

12 - **Throttle** . . . . . . **FLIGHT IDLE**

13 - **Throttle** . . . . . . **As required**

14 - **Electrical equipment** . . . . . . **As required**

15 - **"AUX BP" fuel switch** . . . . . . **AUTO**

16 - **"BLEED" switch** . . . . . . **As required**

17 - **If necessary,** . . . . . . **EMERGENCY DESCENT**

If AIR START not successful . . . . . . **FORCED LANDING**

FORCED LANDING

1 - Throttle . . . . CUT OFF

2 - Tank selector . . . . OFF

3 - "AUX BP" fuel switch . . . . OFF

4 - "BLEED" switch . . . . OFF/RST

5 - "A/C" switch . . . . OFF

6 - "DUMP" switch . . . . ACTUATED

7 - Glide speed . . . . 120 KIAS maintained until favourable ground approach

If ground allows it :

8 - "ESS BUS TIE" switch . . . . NORM in order to have GEAR and FLAPS available

9 - Landing gear control . . . . DN

If night conditions :

10 - "OFF/TAXI/LDG" switch . . . . LDG

If ground does not allow it :

11 - Keep landing gear . . . . UP

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

13 - Crash lever . . . . PULL DOWN

14 - Final approach . . . . IAS = 85 KIAS

15 - Land flaring out

16 - EVACUATE after stop

CRACK IN COCKPIT WINDOW OR WINDOW PANEL

FLY THE AIRPLANE

1 - DESCEND SLOWLY

2 - Reduce cabin ΔP .... by setting .... Landing Field Elevation to 10000 ft

RUNAWAY OF TRIM

FLY THE AIRPLANE

1 - "AP / TRIMS DISC" push-button . . . . PRESSED AND HELD

The three trim tabs are disconnected and runaway stops

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

3 - "AP / TRIMS DISC" push button . . . . RELEASED

4 - Pitch trim may be used manually

5 - Reduce airspeed if necessary to reduce control forces

If pitch trim runaway

6 - "AP / TRIMS" 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

6 - PULL circuit breaker . . . . corresponding to the defective trim tab

7 - "AP / TRIMS" switch . . . . ON

Two other trim tabs may be used again electrically

EMERGENCY DESCENTS

MAXIMUM RATE DESCENT

FLY THE AIRPLANE

1 - Throttle . . . . Flight IDLE

2 - OXYGEN . . . . USE if necessary

3 - DESCENT . . . . attitude . . . . from – 10° to – 20°

<u>Procedure in smooth air</u> :

4 - Flaps . . . . UP

5 - Landing gear control . . . . UP

6 - Speed . . . . VMO = 266 KIAS

<u>Procedure in rough air or in case of structure problem</u> :

7 - Reduce speed . . . . IAS ≤ 178 KIAS

8 - Landing gear control . . . . DN

9 - Flaps . . . . UP

10 - Maintain . . . . IAS ≤ 178 KIAS

EMERGENCY DESCENTS

MAXIMUM RANGE DESCENT

FLY THE AIRPLANE

1 - **Throttle** . . . . **CUT OFF**

2 - **Flaps** . . . . **UP**

3 - **Landing gear control** . . . . **UP**

4 - **Speed** . . . . **IAS = 120 KIAS**

5 - **Oxygen** . . . . **USE** if necessary

Check oxygen duration before reaching 12000 ft and check flow to passengers

6 - **"DUMP" switch** . . . . **Actuated**

7 - **"RAM AIR" control knob** . . . . **PULLED**

If conditions allow **: VMC and non icing** conditions

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

9 - **Prepare a forced landing** . . . . **Refer to Chapter 3.2**

If conditions do not allow :

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

11 - **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 SYST"** switches . . . . **OFF**
- **"STROBE"** switch . . . . **OFF**
- **"BLEED" "A/C"** switches . . . . **OFF**
- **"AUX BP"** switch . . . . **OFF**
- **"FUEL SEL"** switch . . . . **MAN**
- **"AP / TRIMS"** switch . . . . **OFF**
- **"PFD 2"** breaker . . . . **PULL**
- **"ADC 2"** breaker . . . . **PULL**

- **"CD" player** . . . . **OFF**
- **"INSTR / CABIN / ACCESS"** controls . . . . **OFF**
- **"XPDR 2"** breaker . . . . **PULL**

<u>If icing conditions</u> :

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

Flaps UP	**135 KIAS**
Flaps TO	**110 KIAS**
Flaps LDG	**90 KIAS**

<u>If time permits</u> :

- **"SVC PLUGS"** breaker **PULL**
- **"AIR COND"** breaker **PULL**

12 - Prepare a forced landing . . . . **Refer to Chapter 3.2**

EMERGENCY DESCENT PROFILES

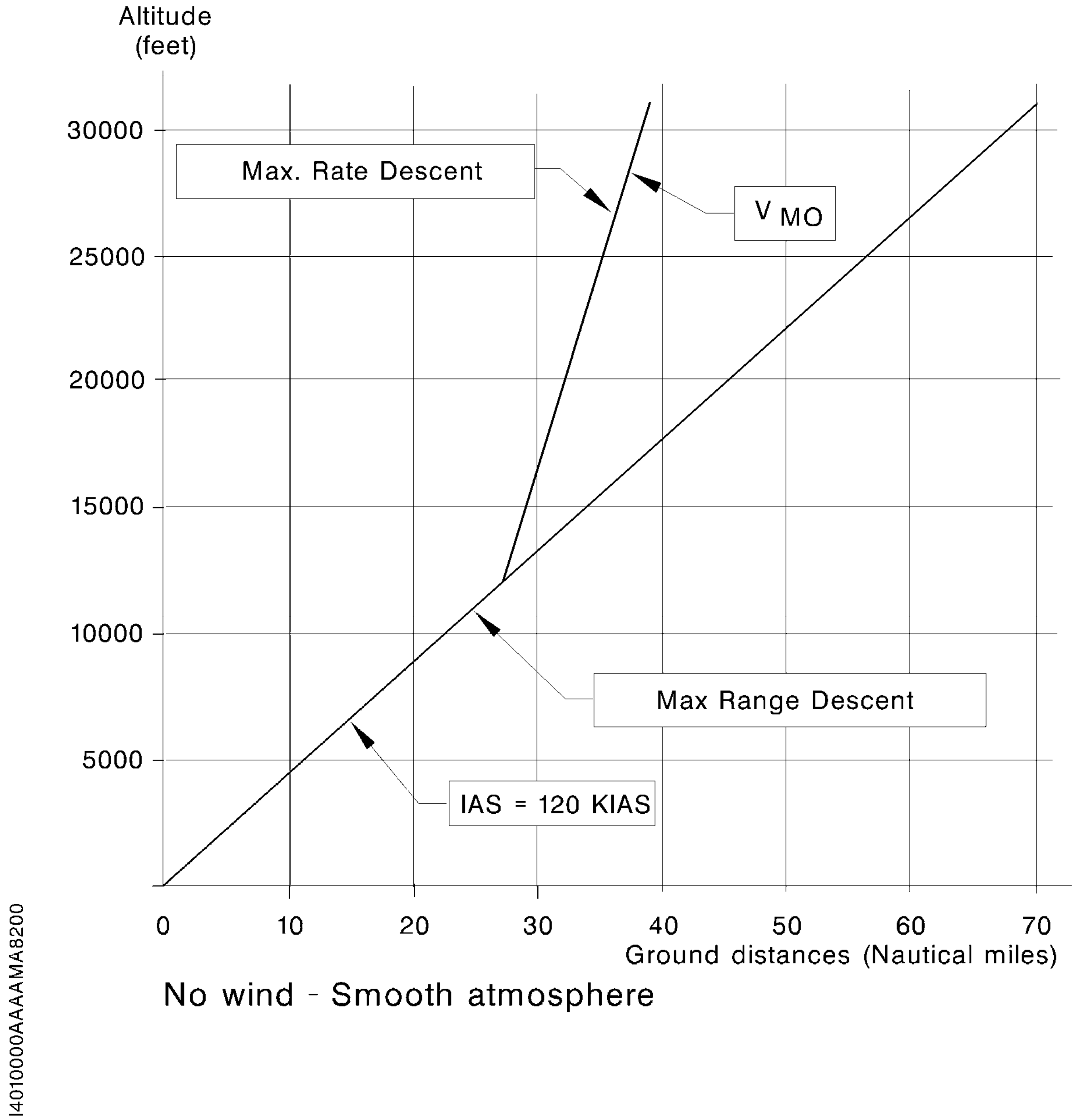


Figure 3.2.2 - EMERGENCY DESCENT PROFILES

INADVERTENT SPINS

(Voluntary spins are prohibited)

1 - **CONTROL WHEEL** . . . . **NEUTRAL :** PITCH ROLL

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

3 - **THROTTLE** . . . . **FLIGHT IDLE**

4 - Flaps . . . . UP

When rotation is stopped

5 - Level the wings and ease out of the dive

6 - THEN :

FLY THE AIRPLANE

STALL WARNING SOUND

1 - **AP/TRIMS switch** . . . . **PRESS twice**

2 - **Fly the aircraft, wings level and nose down until stall warning stops**

3 - **Power as required**

4 - **Return to the desired flight path**

LEFT PFD FAILURE

FLY THE AIRPLANE

AT TAKE OFF

1 - Fly the airplane manually . . . . **using Stand-by Instruments**

2 - "AP / TRIMS DISC" push-button . . . . **PRESS** (to mute aural tone)

IN FLIGHT

1 - Fly the airplane manually . . . . **using Stand-by Instruments**

2 - "AP / TRIMS DISC" push-button . . . . **PRESS** (to mute aural tone)

3 - "DISPLAY BACKUP" mode . . . . ENGAGED on "PFD2"

4 - "PFD 1" circuit breaker . . . . CHECKED "IN"

5 - "XFR" (on AFCS) . . . . PRESS / to right side

6 - Autopilot . . . . NORMAL USE

Lost systems :

- AUTOPILOT (AP) and FLIGHT DIRECTOR (FD)
- COM 1, NAV 1, DME 1, XPDR 1

7 - Land as soon as possible

8 - USE . . . . **COM 2, NAV 2, DME 2, XPDR 2**

SELECT . . . . **COM 2 MIC**

CAUTION

1 - IN CASE OF ILS APPROACH, DON'T FORGET TO SELECT "LOC2" ON CDI SOURCE (ON RIGHT PFD)

2 - USE OF REVERSIONARY MODE WILL REPORT LEFT PFD INFORMATION ON MFD AND DISABLE SUPPLEMENTARY FUNCTIONS AS WEATHER RADAR, STROMSCOPE,...

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**

SMOKE ELIMINATION

1 - Smoke origin . . . . IDENTIFY

2 - Oxygen and goggles . . . . USE AS REQUIRED

3 - If smoke persists, undertake an EMERGENCY DESCENT

FLY THE AIRPLANE

4 - ”BLEED” switch . . . . OFF/RST

5 - ”A/C” switch . . . . OFF

6 - ”DUMP” switch . . . . ACTUATE

Wait until the differential pressure drops

7 - ”EMERGENCY RAM AIR” control knob . . . . PULL

If smoke increases . . . . PUSH

8 - LAND as soon as possible

TOTAL LOSS OF ELECTRICAL POWER

1 - Maintain airplane control.

2 - PRESS ANY KEY on ESI-2000 . . . . **within 5 minutes**

(FOR BATTERY POWER)

3 - Use the ESI-2000 for . . . . **attitude, airspeed and/or altitude**

FLY THE AIRPLANE

4 - Land as soon as possible.

NOTE : *Aircraft power is provided to the ESI-2000 display for normal operation.*
Operation of the basic ESI system is automatic - the system is powered ON while airplane power is ON.
The internal battery *will provide power to the ESI-2000* ***if airplane power is lost****.*
Press any key *to allow the ESI-2000 to continue operation* ***using the internal battery****.*

CAUTION

IF NO KEY IS PRESSED, THE ESI-2000 WILL SHUT DOWN AUTOMATICALLY WITHIN (5) MINUTES

"BLEED TEMP"

Indicates overheat of bleed air system. Normally this leads to BLEED cut off and to **"BLEED OFF"** amber warning CAS message appearance.

FLY THE AIRPLANE

Should automatic cut off occur or not :

1 - If possible . . . . **REDUCE POWER**

2 - **"HOT AIR FLOW"** distributor . . . . **turn to the right**

3 - **"CONTROL"** selector . . . . **COCKPIT**

4 - **"TEMP/°C"** selector . . . . **MINI**

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

6 - As soon as warning **"BLEED TEMP"** OFF . . . . **"BLEED"** switch . . . . **AUTO**

If "BLEED TEMP" and "BLEED OFF" warnings still ON :

7 - If necessary . . . . **EMERGENCY DESCENT**

8 - Continue . . . . **FLY THE AIRPLANE** . . . at an **ALTITUDE < 10000 ft**

"CABIN ALTITUDE"

Indicates a cabin altitude over 10000 ft ± 500 ft.

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

If cabin altitude > 10000 ft ± 500 ft :

2 - OXYGEN . . . . **USE,** if necessary

FLY THE AIRPLANE

3 - "BLEED" switch . . . . **CHECK AUTO**

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

5 - "EMERGENCY RAM AIR" control knob . . . . **CHECK PUSHED**

6 - Limit flight altitude to maintain cabin altitude < 10000 ft

7 - If necessary . . . . **EMERGENCY DESCENT**

"CABIN DIFF PRESS"

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

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

If ΔP > 6.4 PSI ± 0.2 PSI :

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

3 - **OXYGEN** . . . . **USE**, if necessary

FLY THE AIRPLANE

4 - If necessary . . . . (no oxygen available) . . . . **EMERGENCY DESCENT**

"DOOR"

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 - "BLEED" switch . . . . OFF/RST

4 - "DUMP" switch . . . . ACTUATED

5 - If necessary . . . . (no oxygen available) . . . . EMERGENCY DESCENT

"ELEC FEATH FAULT"

Indicates a propeller feathering system malfunction.

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

2 - **LAND AS SOON AS POSSIBLE**

"FLAPS ASYM"

FLY THE AIRPLANE

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

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

2 - FLAPS . . . . control lever . . . . **UP**

3 - LAND as soon as possible . . . . **maintaining AIRSPEED :**

- *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**

BY FLYING THE AIRPLANE

"FUEL PRESS"

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

FLY THE AIRPLANE

1 - Remaining fuel . . . . CHECK

2 - Tank selector . . . . SWITCH TANKS

3 - "AUX BP" fuel switch . . . . AUTO

If "FUEL PRESS" alarm persists :

4 - "AUX BP" fuel switch . . . . ON

Check Warning CAS message "AUX BOOST PMP ON" ON

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

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

LAND AS SOON AS PRACTICAL

If "FUEL PRESS" remains ON :

6 - Tank selector . . . . SWITCH TANKS

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

If "FUEL PRESS" remains ON :

7 - Fullest 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

"ITT"

A - During engine start :

1 - **STOP** . . . . **the STARTING procedure.**

Indicates :

- ITT > 1000°C
- 1000°C > ITT > 870°C for more than 5 seconds
- 870°C > ITT > 840°C for more than 20 seconds

2 - Record the engine parameters displayed and OAT conditions.

3 - Cancel the flight, inform maintenance department.

B - After engine start :

In flight : FLY THE AIRPLANE

1 - **REDUCE POWER**

If ITT remains higher than 840°C :

1 - **REDUCE POWER** . . . . **to maintain ITT < 840°C**

2 - **LAND AS SOON AS POSSIBLE.**

3 - Record the airplane and engine parameters displayed in case of overtemperature.

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

"OIL PRESS"

RED WARNING CAS MESSAGE "OIL PRESS" ON

Indicates that oil pressure is below 60 PSI.

1 - Oil pressure indicator . . . . CHECK

If the indicated pressure is in the green sector :

2 - Land as soon as possible

FLY THE AIRPLANE

3 - MONITOR

If the indicated pressure is below 60 PSI :

1 - Failure is confirmed

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 :

2 - Throttle . . . . CUT OFF

Perform a FORCED LANDING

"OIL PRESS"

1 - Oil pressure indicator . . . . CHECK

If the indicated pressure is in the green sector :

2 - Land as soon as possible

FLY THE AIRPLANE

3 - MONITOR

If the indicated pressure is between 60 and 100 PSI :

1 - Failure is confirmed

2 - Torque . . . . Reduce to below 80 %

3 - Land as soon as possible

3.3 - AMBER CAS MESSAGES

"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 manuall**y as required

CAUTION
MAXIMUM IMBALANCE IS **15 USG**

"AUX BOOST PMP ON"

Indication is normal if "AUX BP" fuel switch is in ON position

FLY THE AIRPLANE

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

1 - **RESET** to . . . . **ON**

2 - **THEN** to . . . . **AUTO**

If **"AUX BOOST PMP ON"** warning CAS message GOES OFF :

continue the flight normally

If **"AUX BOOST PMP ON"** warning CAS message remains ON, mechanical booster pump has failed

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

4 - **LAND AS SOON AS POSSIBLE**

"BAT AMP"

BATTERY current over 50A while on ground.

After starting the engine with airplane power, a battery charge above 50 amperes is normal.

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 AMPERES

If this indication remains steady at a high value, it may be due to a battery or generation system failure.

”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 . . . . **BAT**

3 - **If warning persists** . . . . **LAND AS SOON AS POSSIBLE**

4 - **Monitor airplane mains voltage**

"BLEED OFF"

Indicates that the pressurization system is not running possibly due to :

- failure or
- "BLEED" switch on "OFF/RST" position

1 - CHECK "BLEED" switch position and . . . . CORRECT

2 - If possible, reduce power

FLY THE AIRPLANE

3 - "BLEED" switch . . . . OFF/RST

4 - "BLEED" switch . . . . AUTO

5 - If warning "BLEED OFF" displayed :

6 - Limit flight altitude to maintain **cabin altitude < 10000 ft**

7 - If necessary, ... (no oxygen available) . . . . **EMERGENCY DESCENT**

8 - Continue flight

"CHIP"

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 center

"FRONT 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.

"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.

"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**

<u>If not :</u>

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

”GPU DOOR”

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"

IGNITION EXCITER IS RUNNING

1 - CHECK .... IGNITION switch position

2 - If weather permits .... correct .... by switching to **AUTO**

FLY THE AIRPLANE

IGNITION switch may be left ON for a long period.

"INERT SEP FAIL"

Symptoms :

- *Warning* **"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.*
- Circuit breaker "INERT DE ICE" triggered.

1 - LEAVE icing conditions .... as soon as possible

FLY THE AIRPLANE

"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 . . . . **contact Maintenance Center**

"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 - Disconnect following ancillary electrical systems :

- **"A/C"** switch . . . . **OFF**
- **"STROBE"** switch . . . . **OFF**
- **"CABIN" lights** switch . . . . **OFF**
- **"AP / TRIMS"** switch . . . . **AP OFF**
- **Not necessary equipment** . . . . **OFF**
- **"WINDSHIELD"** switch **(above 15 000 ft)** . . . . **OFF**
- **"BLEED"** switch (before landing and on ground) . . . . **OFF/RST**
- **Only use landing lights briefly and if necessary.**

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

Maintain ST-BY load below 100A

"MAIN GEN"

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

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

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

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

In case of failure : **FLY THE AIRPLANE** and

4 - Disconnect following ancillary electrical systems to reduce battery loads **below 80A** :

- **"A/C"** switch . . . . **OFF**
- **"STROBE"** switch . . . . **OFF**
- **"CABIN" lights** switch . . . . **OFF**
- **"AP / TRIMS"** switch . . . . **AP OFF**
- **Not necessary equipment** . . . . **OFF**
- **"WINDSHIELD"** switch (above 15 000 ft) . . . . **OFF**
- **"BLEED"** switch (before landing and on ground) . . . . **OFF/RST**

Only use landing lights briefly and if necessary.

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

Maintain ST-BY loads below 100 A

"MAIN GEN" and "LOW VOLTAGE"

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 BAT"** 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 SYST"** switches .... **OFF**
- **"STROBE"** switch .... **OFF**
- **"BLEED" "A/C"** switches .... **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**
- **"CD" player** .... **OFF**
- **"INSTR / CABIN / ACCESS"** controls .... **OFF**
- **"XPDR 2"** breaker .... **PULL**

If icing conditions :

- **"PITOT L HTR"** switch .... **Checked 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 :

- **"SVC PLUGS"** breaker **PULL**
- **"AIR COND"** breaker **PULL**

14 - LAND as soon as possible

"OIL TEMP"

<u>With or without</u> :

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.

<u>CAUTION</u>
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

"PITOT NO HT L-R"

Indicates a heating failure of the corresponding probe.

"PITOT NO HT L" **LEFT**

Icing conditions may alter L.H. airspeed indications

1 - AVOID icing conditions

FLY THE AIRPLANE

<u>If it is not possible</u> :

2 - Perform moderate descent or climb attitudes
V_{MO} overshoot and stall warning system are always operating

---

"PITOT NO HT R" **RIGHT**

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

FLY THE AIRPLANE

Monitor maximum airspeed . . . . ≤ 266 KIAS

"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

"STALL NO HEAT"

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

"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

"BLEED" switch . . . . **OFF/RST**

3.4 - ENGINE MISCELLANEOUS

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

1 - If circumstances allow :

Throttle . . . . **Flight IDLE**

2 - Confirm engine still running

3 - Tank selector . . . . **SWITCH TANKS**

4 - Check that no parameter exceeds allowed values

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

If the available power is weak, extend the landing gear only on a glide path in final approach and extend full flaps only in short final.

Do not perform a go-around.

CAUTION

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

CAUTION

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

6 - Continue flight, LAND AS SOON AS POSSIBLE

7 - Perform a normal landing WITHOUT REVERSE

8 - Braking . . . . **AS REQUIRED**

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

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 control .... **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 - Braking .... **AS REQUIRED**

GOVERNOR REGULATION CONTROL NOT OPERATING

May indicate a failure of the governor control.

1 - Continue the flight.

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

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

EXCESSIVE PROPELLER ROTATION SPEED

Indicates :

- a propeller governor failure
  In that case, the propeller overspeed limiter will limit initially the rotation speed to 2100 RPM approximately.
- or a propeller governor and overspeed limiter failure
  In that case, only the torque limiter operates to limit the power.
  However, the pilot intervention is necessary to maintain Np ≤ 2000 RPM.
  The propeller reducer is designed for a max. Np of 2200 RPM.

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

2 - Land as soon as possible.

3 - Do not perform a go-around.

A go-around would damage the engine reduction gearbox

The airplane repair is mandatory before any other flight.

ENGINE DOES NOT STOP ON GROUND

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

1 - ”AP / TRIMS” switch . . . . **OFF**

2 - ”INT LIGHTS” panel

All switches . . . . **OFF**

3 - ”EXT LIGHTS” panel

All switches . . . . **OFF**

4 - ”ECS” panel

All switches . . . . **OFF**

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

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

6 - ”GENERATOR” selector . . . . **OFF**

7 - ”SOURCE” selector . . . . **OFF**

8 - Crash lever . . . . **PULL DOWN**

9 - Inform maintenance department

3.5 - GEAR AND FLAPS FAILURES

LANDING GEAR RETRACTION DISCREPANCY

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

Symptoms :

"GEAR UNSAFE" CAS message **and** "GEAR UNSAFE" red warning light ON.

Or

Amber light flashing **and** 3 green lights OFF.

Actions :

Maintain IAS ≤ 150 KIAS.

1 - "LDG GEAR" circuit breaker . . . . **PULL**

If the "GEAR UNSAFE" red warning light is off :

The flight may be continued without any restriction.

Before extending the landing gear, refer to "EMERGENCY GEAR EXTENSION".

If the "GEAR UNSAFE" red warning light is steady ON :

"LDG GEAR" circuit breaker . . . . **PUSH**

Refer to "EMERGENCY GEAR EXTENSION".

LANDING GEAR EXTENSION DISCREPANCY

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

Symptoms

"GEAR UNSAFE" CAS message **and** "GEAR UNSAFE" red warning light ON.

Or

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

Actions

Maintain IAS ≤ 150 KIAS.

Refer to "EMERGENCY GEAR EXTENSION".

EMERGENCY GEAR EXTENSION (1/2)

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

Maintain IAS ≤ 150 KIAS

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

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

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

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

CAUTION

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

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

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

Land.

CAUTION

**DO NOT ENTER ICING CONDITIONS (THIS COULD ADVERSELY INCREASE DRAG AND WEIGHT DUE TO ICE ACCUMULATION, AND LOCK WHEELS AND STRUTS).
CLIMB PERFORMANCE WILL BE DEGRADED BY 50 %.
INDICATED CRUISE AIRSPEED WILL BE REDUCED COMPARED TO A CLEAN AIRPLANE, BECAUSE OF THE DRAG.
THIS SHOULD BE TAKEN INTO ACCOUNT WHEN CALCULATING THE AIRPLANE RANGE.**

EMERGENCY GEAR EXTENSION (2/2)

If "GEAR UNSAFE" red warning light and* "GEAR UNSAFE" *CAS message and 0 to 3 green lights are illuminated :

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

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

If the hardening of the manual lever is marked and if :

- the normal indicating shows 3 green indicator lights

or

- the "CHECK DOWN" indicating shows 3 green indicator lights flickering :

8 - LAND.

If manual extension bar remains soft or if one (or more) green indicator light(s) does(do) not illuminate upon pressing "CHECK DOWN", then a gear unlock condition is confirmed.

Recycle the landing gear as follows :

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

10 - Wait one minute.

11 - Landing gear control (IAS ≤ 150 KIAS) . . . . **UP**

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

In case of failure, refer to "LANDING WITH UNLOCKED MAIN LANDING GEAR"

or "LANDING WITH DEFECTIVE NOSE LANDING GEAR".

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

LANDING WITH UNLOCKED MAIN LANDING GEAR

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

CAUTION

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

If defective gear is down but unlocked :

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

3 - "DUMP" switch . . . . **ACTUATED**

4 - Maintain 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 taxiing 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 - 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 . . . . **ACTUATED**

When runway is assured :

5 - Throttle . . . . **CUT OFF**

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

7 - Flare out

8 - After touch-down, crash lever . . . . **PULL DOWN**

9 - EVACUATE after airplane comes to a stop

FLAPS MALFUNCTION

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

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

2 - Flap control 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 from "UP" to "TO" position :

Proceed as for a normal landing, maintaining approach airspeed :

IAS = 105 KIAS

Provide for a landing distance increased up to about 60 %

For flaps deflections greater than "TO" position :

Proceed as for a normal landing, maintaining approach airspeed :

IAS = 100 KIAS

Provide for a landing distance increased up to about 50 %

3.6 - ELECTRICAL SYSTEM

ESI-2000 FAILURES (1/2)

1 - Battery indicator symbol meaning

BATTERY INDICATOR	DESCRIPTION
Not shown	Normal operation - No information needs to be conveyed
Green	More than one hour of operation remains
Amber	Less than one hour of operation remains
Amber ”X”	Battery is not available to power unit (over temperature or low battery voltage condition exists)
Red ”X”	Battery has failed - Service is required

2 - ESI-2000 Attitude invalid in flight

- Maintain straight and level flight at a constant airspeed.
- Press the M button twice.
- Press the S button once.
- The ESI-2000 will initiate the alignment process.
- When a normal attitude display is available, resume normal flight.
- If attitude information remains unvalid, use attitude information from the primary attitude display.

3 - Internal Battery Failure (red X'd battery indicator) in flight

- Remain clear of IMC.
- If in visual meteorological conditions :
  - Cycle power on ESI-2000 (including internal power).
  - Maintain straight and level while unit aligns.
  - If red ”X” reappears, remain clear of IMC.

4 - Internal Battery not available (amber X'd battery indicator) in flight (battery above 55°C)

- Reduce temperature of cockpit environment.
- Remain clear of IMC until amber ”X” is removed from the display.

5 - Internal Battery state of charge low (amber battery symbol displayed) in flight

- Remain clear of IMC until amber battery symbol is removed from display signifying battery is charged sufficiently to have one hour of discharge abilitiy.

ESI-2000 FAILURES (2/2)

6 - ESI-2000 in flight shutdown (Manual Procedure)

- Maintain control of the airplane using airplane primary instruments.
- Remove all airplane power to the ESI-2000 by opening the 3 Amps ”STBY INSTR” circuit breaker.
- Press any key (button) as stated by the on screen message.
- Press the M (Menu) button repeatedly until Shutdown menu is shown.
- Press and hold the + (Hold) button until ”SHUTTING DN” message is shown in the upper left corner of the screen.

3.7 - 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**

WINDSHIELD DEICING FAILURE

Symptoms :

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

Symptoms may result from overheat. In that case :

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

In case of total failure :

1 - "TEMP/°C" 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/°C" selector . . . . **Set to 21°C (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

3.8 - PRESSURIZATION MISCELLANEOUS

CABIN NOT DEPRESSURIZED AFTER LANDING

ΔP cabin > 0

1 - ”DUMP” switch . . . . **ACTUATED**

2 - ”BLEED” switch . . . . **OFF**

3 - ”EMERGENCY RAM AIR” control knob . . . . **PULLED if necessary**

4 - Wait for complete cabin depressurization before opening the door

DEFOG MALFUNCTION

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

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.

3.9 - MISCELLANEOUS

DITCHING

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

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

In heavy wind, land facing wind.

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

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

4 - Airspeed :

IAS ≥ 85 KIAS

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

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

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 . . . . **LANDING GEAR 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

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)

AUTOPILOT OR ELECTRIC PITCH TRIM MALFUNCTION

1 - "AP / TRIMS DISC" push-button . . . . **PRESSED and HELD**

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

3 - "AP / TRIMS DISC" push-button . . . . **RELEASED**

4 - If necessary, control wheel . . . . **RETRIM**

CAUTION

WHEN DISCONNECTING THE AUTOPILOT AFTER A PITCH TRIM MALFUNCTION, HOLD THE CONTROL WHEEL FIRMLY ; UP TO 30 POUNDS OF FORCE ON THE CONTROL WHEEL MAY BE NECESSARY TO HOLD THE AIRPLANE LEVEL

OXYGEN USE

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 - "PASSENGERS OXYGEN" switch . . . . **ON**

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" micro inverter . . . . **MASK**

7 - Perform an emergency descent to the "En route" 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" selector . . . . **PULL THOROUGHLY**

If symptoms persist, as well as on the electronic standby instrument ESI-2000 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.

DUAL GPS/SBAS FAILURE (AMBER "DR" OR "LOI") ON HSI (1/2)

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**

DUAL GPS/SBAS FAILURE (AMBER "DR" OR "LOI") ON HSI (2/2)

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 system message ”ABORT APPROACH loss of 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.

AHRS FAILURE

Symptoms : Autopilot is disconnected

- On PFD(S) : COMPARATOR WINDOW **(WHITE ANNUNCIATION**) :
  HDG NO COMP and/or **PIT NO COMP** and/or **ROL NO COMP**
- On PFD(S) : REVERSIONARY SENSOR WINDOW (**YELLOW ANNUNCIATION**) :
  BOTH ON AHRS1 or **BOTH ON AHRS2**

Lost systems :

- AHRS1 or AHRS2
- AUTOPILOT (AP)

Systems still operative :

- FLIGHT DIRECTOR (FD), when engaged again

Actions : AUTOPILOT IS NOT OPERATIVE

1 - AHRS1 and/or AHRS2 circuit breaker . . . . **CHECKED "IN"**

A - If **yellow** annunciation **BOTH ON AHRS1** or **BOTH ON AHRS2** <u>is associated</u> to **white** annunciation **HDG NO COMP** and/or **PIT NO COMP** and/or **ROL NO COMP** :

1 - Fly the airplane manually

2 - AHRS1 and/or AHRS2 circuit breaker . . . . **CHECKED "IN"**

If pilot wishes :

3 - "FD" (default mode : "PITCH" and ROLL") . . . . **ENGAGED**

4 - "FD" (specifics modes : "HDG", "NAV", "ALT", ...) . . . . **ENGAGED as DESIRED**

5 - Fly the airplane manually to follow Command Bars

If <u>ALL</u> **white** annunciations, (**HDG NO COMP** and/or **PIT NO COMP** and/or **ROL NO COMP**), go "OFF", refer to following "B" procedure.

B - If **yellow** annunciation **BOTH ON AHRS1** or **BOTH ON AHRS2** ONLY (<u>not associated</u> to **white** annunciation **HDG NO COMP** and/or **PIT NO COMP** and/or **ROL NO COMP**) :

1 - PFD1 and PFD2 "SENSOR" softkey's . . . . **PRESSED**

2 - AHRS1 on PFD1 and/or AHRS2 on PFD2 . . . . **RESET**

3 - **BOTH ON AHRS1** or **BOTH ON AHRS2** annunciation – **OFF** . . . . **CHECKED**

4 - **Autopilot** . . . . **NORMAL USE (as desired)**

ADC FAILURE

Symptoms :

- On PFD(S) : COMPARATOR WINDOW (**WHITE ANNUNCIATION**) :

  IAS NO COMP and/or **ALT NO COMP**

- On PFD(S) : REVERSIONARY SENSOR WINDOW (**YELLOW ANNUNCIATION**) :

  BOTH ON ADC1 or **BOTH ON ADC2**

Lost systems :

- ADC1 or ADC2

Actions : AUTOPILOT IS STILL OPERATIVE

1 - ADC1 and/or ADC2 circuit breaker . . . . **CHECKED "IN"**

A - If **yellow** annunciation **BOTH ON ADC1** or **BOTH ON ADC2** is associated to **white** annunciation **IAS NO COMP** and/or **ALT NO COMP** :

1 - NO action required

If ALL **white** annunciations, (**IAS NO COMP** and/or **ALT NO COMP**), go "OFF", refer to following "B" procedure.

B - If **yellow** annunciation **BOTH ON ADC1** or **BOTH ON ADC2** ONLY (not associated to **white** annunciation **IAS NO COMP** and/or **ALT NO COMP**), pilot may do following actions :

1 - PFD1 and PFD2 "SENSOR" softkey's . . . . **PRESSED**

2 - ADC1 on PFD1 and/or ADC2 on PFD2 . . . . **RESET**

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

3.10 - ANNEX

AIR START ENVELOPE

Air start may be attempted outside of the envelope. However, above 20000 ft, ITT tends to increase during start and prudence is recommended.

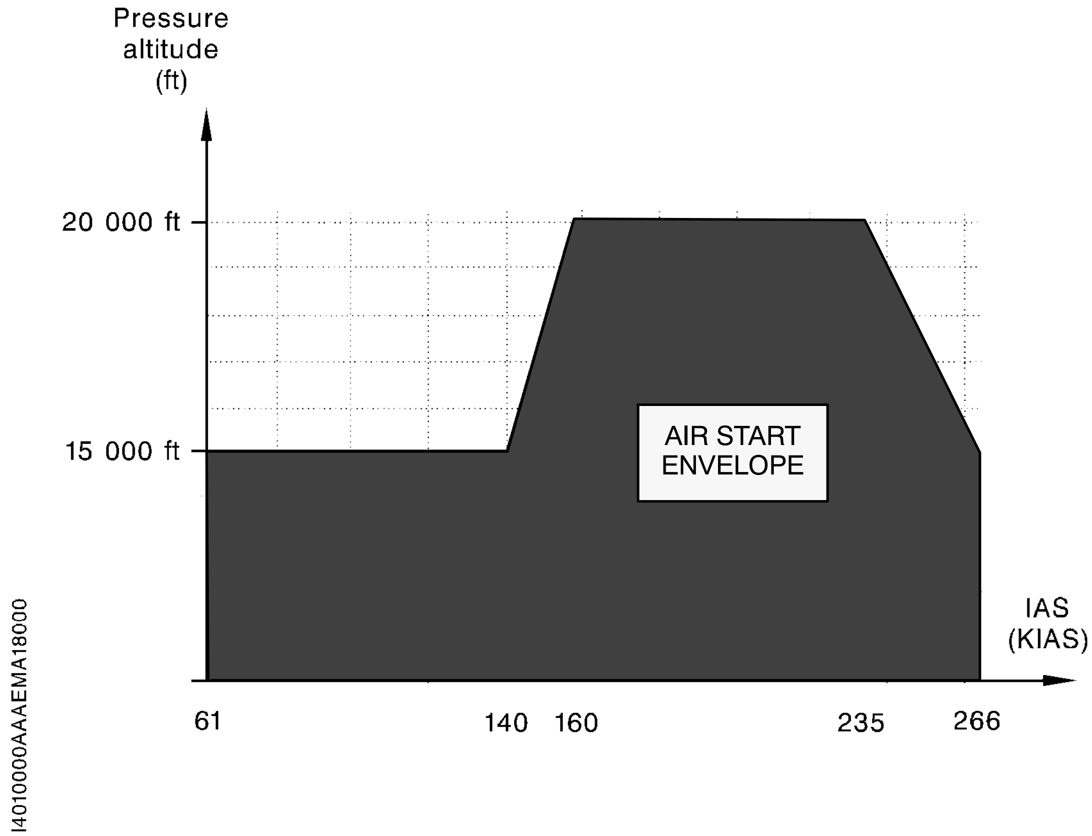


Figure 3.10.1 - AIR START ENVELOPE

AIR START

CAUTION

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

1 - **"BLEED"** switch . . . . **OFF/RST**

CAUTION

"BLEED" SWITCH SET TO "AUTO" MAY CAUSE OVERTEMPERATURE OR ABNORMAL ACCELERATION

2 - **"A/C"** switch . . . . **OFF**

3 - **Electric consumption** . . . . **Reduce**

4 - **Tank selector** . . . . **L or R checked**

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

6 - **"IGNITION"** switch . . . . **AUTO or ON**

7 - **Verify throttle** . . . . **CUT OFF**

8 - **"STARTER"** switch . . . . **ON, take a time**

CAUTION

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

When Ng around 13 % :

9 - **Throttle** . . . . **LO / IDLE**

10 - **ITT and Ng** . . . . **Monitor**

When Ng higher than 52 % :

11 - **Check starter is** . . . . **OFF automatically**

CAUTION

IF THE STARTER DOES NOT GO OFF AUTOMATICALLY, DO IT USING THE "ABORT" POSITION OF THE STARTER SWITCH

12 - **Throttle** . . . . **FLIGHT IDLE**

13 - **Throttle** . . . . **As required**

14 - **Electrical equipment** . . . . **As required**

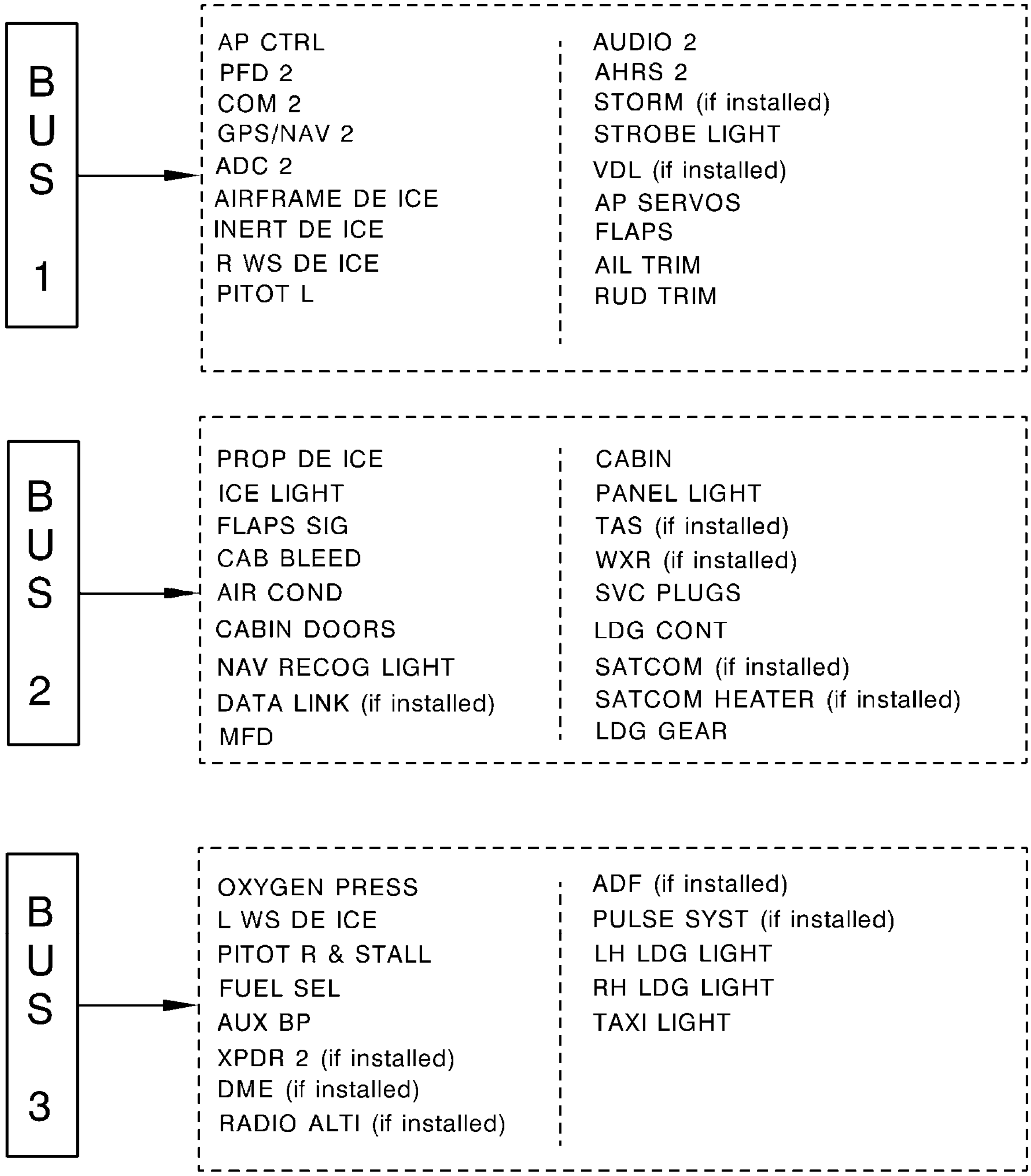
15 - **"AUX BP" fuel switch** . . . . **AUTO**

16 - **"BLEED" switch** . . . . **As required**

17 - **If necessary,** . . . . **EMERGENCY DESCENT**

If AIR START not successful, ... **FORCED LANDING**

BUS BAR

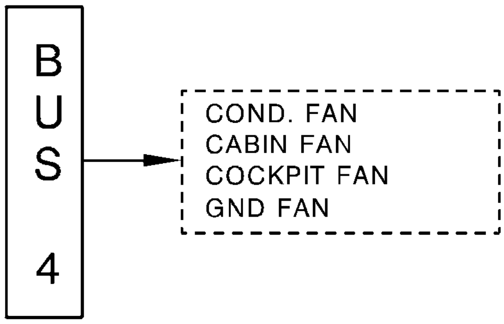


I4246000AAAGMA8000

Figure 3.10.2 (1/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

BUS BAR

I4246000AAAGMA8200



NOTE: CIRCUIT BREAKERS ON A1 SUPPORT PLATE

I4246000AAAGMA8300

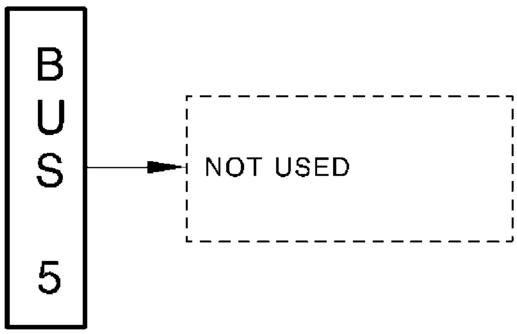


Figure 3.10.2 (2/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

ESS BUS BAR

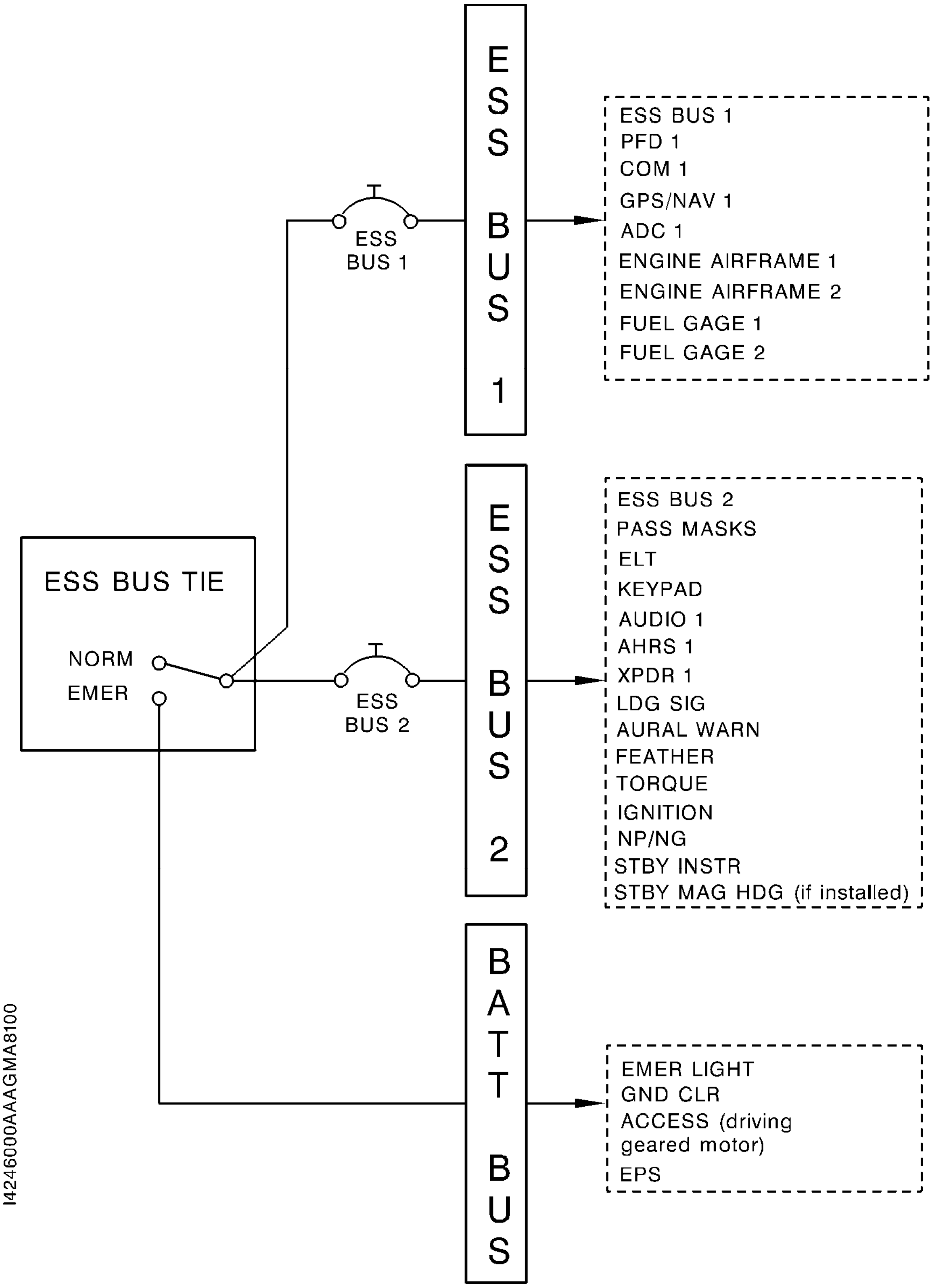


Figure 3.10.2 (3/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

IN-FLIGHT AVAILABLE OXYGEN QUANTITY

Oxygen pressure . . . . **Read**

Outside air temperature (OAT) . . . . **Read**

1 - Determine the usable oxygen percent using the chart Figure 3.10.3.

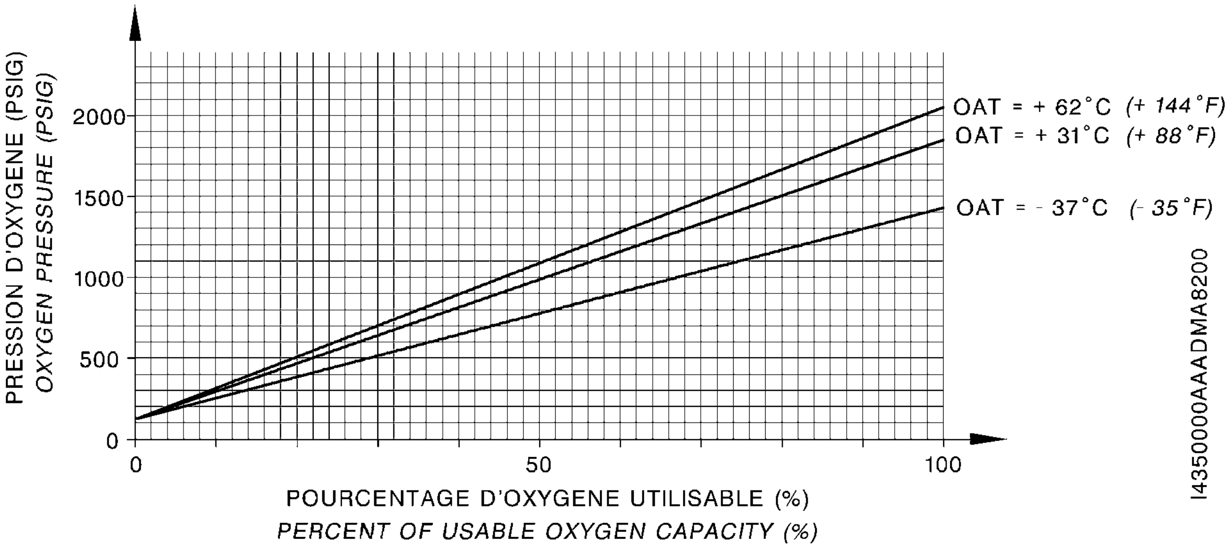


Figure 3.10.3 - Usable oxygen

2 - Determine the oxygen duration in minutes by multiplying the values read on table Figure 3.10.4 by the percent obtained with the chart Figure 3.10.3.

Number of passengers	**Duration : Passengers, plus 1 pilot**	**Duration : Passengers, plus 2 pilots**
0	226	113
1	162	94
2	127	81
3	104	71
4	88	65

Figure 3.10.4 - Oxygen duration

EMERGENCY DESCENT PROFILES

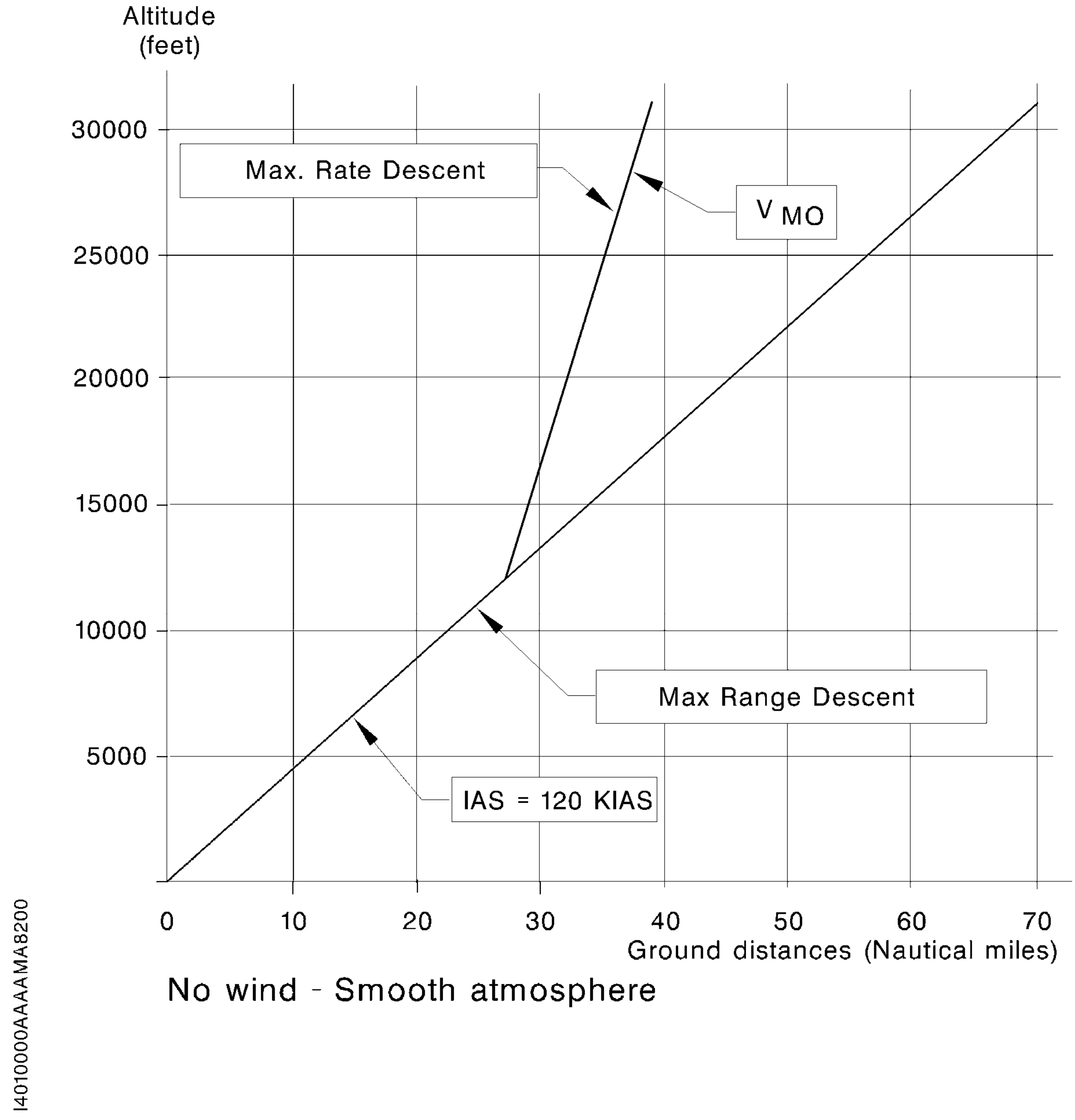


Figure 3.10.5 - EMERGENCY DESCENT PROFILES

FORCED LANDING

1 - **Throttle** . . . . **CUT OFF**

2 - **Tank selector** . . . . **OFF**

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

4 - **"BLEED" switch** . . . . **OFF/RST**

5 - **"A/C" switch** . . . . **OFF**

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

7 - **Glide speed** . . . . **120 KIAS maintained until favourable ground approach**

<u>If ground allows it</u> :

8 - **"ESS BUS TIE" switch** . . . . **NORM**
in order to have GEAR and FLAPS available

9 - **Landing gear control** . . . . **DN**

<u>If night conditions</u> :

10 - **"OFF/TAXI/LDG" switch** . . . . **LDG**

<u>If ground does not allow it</u> :

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

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

13 - **Crash lever** . . . . **PULL DOWN**

14 - **Final approach** . . . . **IAS = 85 KIAS**

15 - **Land flaring out**

16 - **EVACUATE after stop**

SECTION 4

NORMAL PROCEDURES

TABLE OF CONTENTS

4.1 - GENERAL

This Section provides procedures for the conduct of normal operation of TBM 900 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

4.3 - CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION (1/9) (See Figure 4.3.1)

IMPORTANT :

* During outside inspection, visually check inspection doors and airplane general condition.

* In cold weather, remove even small accumulations of frost, ice or snow from wing, tail and control surfaces.

* In case of night flight, check good operation of all navigation lights, landing lights, strobe lights and make sure that an emergency lamp is on board.

* If icing conditions are foreseen, particularly check good functioning of all electrical and pneumatic ice protection systems.

* Check that type and quantity of fuel used for refueling are correct.

* Remove covers on :

    - pitots (2)
    - static ports (3)
    - engine air inlet and propeller locking (1).

* Remove tie-downs.

* Refer to Section 8 for quantities, products and specifications of products and materials currently used.

PREFLIGHT INSPECTION (2/9)

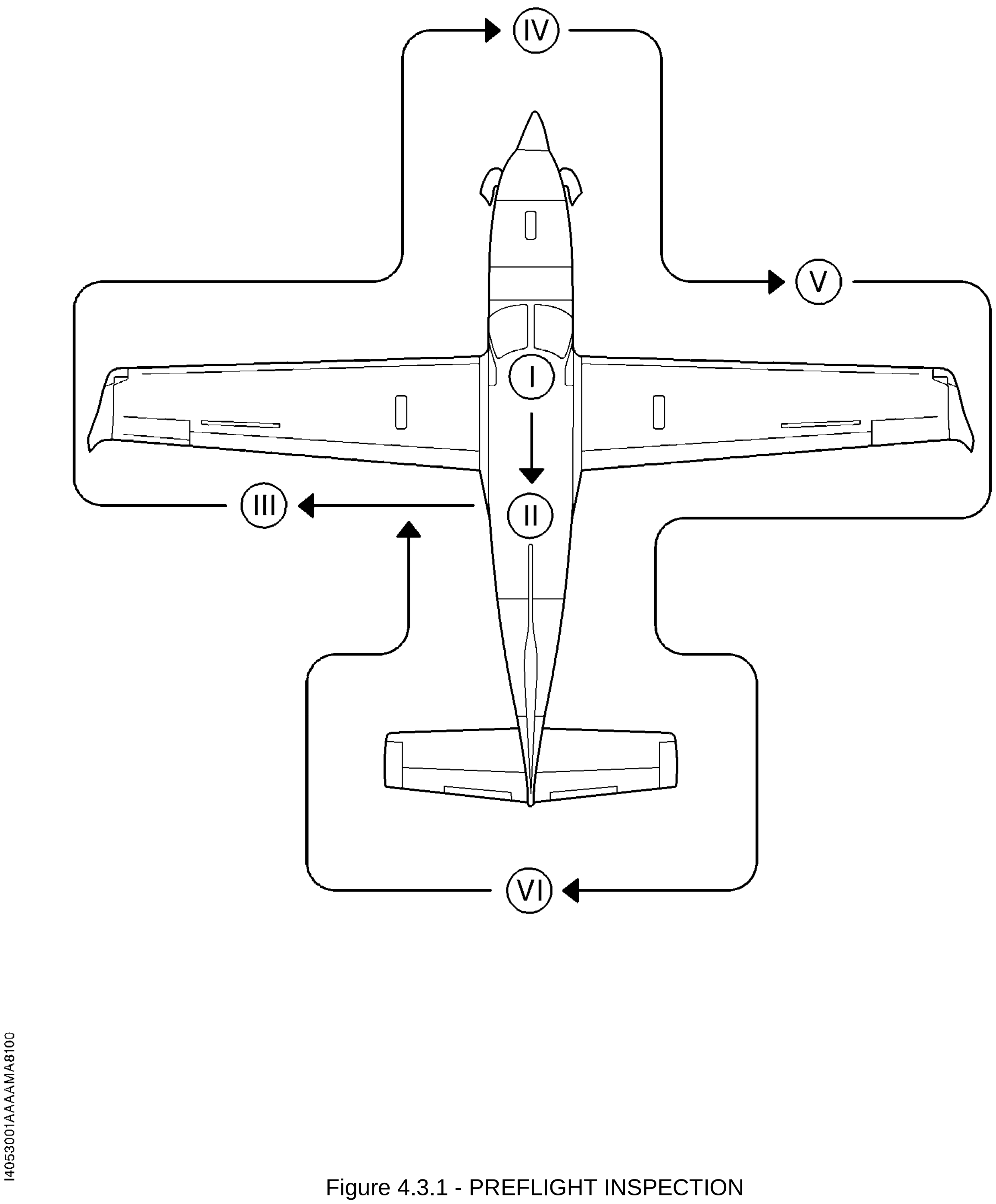


Figure 4.3.1 - PREFLIGHT INSPECTION

PREFLIGHT INSPECTION (3/9)

INSIDE INSPECTIONS

Cockpit (I)

1 - DE ICE SYSTEM panel

- All switches . . . . **OFF**

2 - ELT . . . . **ARM**

3 - "MICRO/MASK" micro inverter . . . . **MICRO**

4 - Flight control lock . . . . **Removed / Stowed**

5 - Flight controls . . . . **Deflections checked**

6 - Park brake . . . . **ON**

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

8 - 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**

9 - Flaps control . . . . **UP**

10 - Fuel tank selector . . . . **L or R**

11 - Landing gear emergency control

- Lever . . . . **Pulled down**
- By-pass selector . . . . **Pushed**
- Door . . . . **In place**

12 - ECS panel

- "BLEED" switch . . . . **OFF/RST**
- "A/C" switch . . . . **OFF**
- "DUMP" switch . . . . **Guarded**
- "PRES MODE" switch . . . . **AUTO**

13 - "ALTERNATE STATIC" selector . . . . **Pushed**

14 - "EMERGENCY RAM AIR" control knob . . . . **Pushed**

PREFLIGHT INSPECTION (4/9)

15 - Breakers panel

- All breakers .... **Engaged**

16 - "AP / TRIMS" switch .... **OFF**

17 - Fuel

- "FUEL SEL" selector .... **MAN**
- "AUX BP" switch .... **OFF**

18 - ENGINE START panel

- "IGNITION" switch .... **AUTO or OFF**
- "STARTER" switch .... **OFF**

19 - ELECTRIC POWER panel

- Crash lever .... **UP**
- "GENERATOR" selector .... **MAIN**
- "SOURCE" selector .... **OFF**

20 - Access lighting .... **Checked**

21 - INT LIGHTS panel .... **OFF**

22 - EXT LIGHTS panel

- All switches .... **OFF**

23 - Pilot's "OXYGEN" switch .... **OFF**

24 - "PASSENGERS OXYGEN" switch .... **OFF**

25 - Emergency lighting .... **Checked**

CAUTION

BEFORE SELECTING SOURCE, CHECK

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

27 - "STARTER" switch .... OFF

28 - Landing gear control .... **DN**

29 - "SOURCE" selector .... **BATT or GPU**

30 - ESI-2000 battery indicator symbol .... **Not displayed**

31 - Voltage .... **Checked**

- If BATT source .... **$\geq$ 24.5 Volts**
- If GPU source .... **$\simeq$ 28 Volts**

PREFLIGHT INSPECTION (5/9)

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.

32 - EXT LIGHTS panel

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

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

Reentering the airplane

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

34 - DE ICE SYSTEM panel

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

35 - CAS display . . . . **Checked**

36 - Left and right fuel quantities . . . . **Checked**

37 - Flaps control . . . . **LDG**

38 - Landing gear panel . . . . **Warning lights : 3 GREEN ON**
Light Test : all lights (red & green) FLASHING

39 - DE ICE SYSTEM panel

- "PITOT L HTR" switch . . . . **ON**
- "PITOT R & STALL HTR" switch . . . . **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.

40 - Crash lever . . . . **Down**

PREFLIGHT INSPECTION (6/9)

Cabin (II)

1 - Cabin fire extinguisher .... **Checked (Pressure / Attachment)**

2 - Seats / belts .... **Checked**

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

4 - Emergency exit .... **Closed / Locked**

- Anti-theft safety .... **Removed / Stowed**

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

6 - Partition net (if 6-seat accommodation) .... **In place Check general condition**

7 - Large net or small net (if 4-seat accommodation and if baggage transportation) .... **In place Check general condition**

8 - Doors operation .... **Checked**

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

AIRPLANE OUTSIDE

L.H. wing (III)

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

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

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

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

5 - OAT probe .... **Condition - Checked**

6 - Fuel tank .... **Cap Closed / Locked**

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

8 - Left pitot .... **Condition - Checked**

9 - Wing lower surface .... **Checked (No leak)**

10 - Wing deicer boots .... **Checked (Condition / Attachment)**

PREFLIGHT INSPECTION (7/9)

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

12 - L.H. main landing gear

- Shock absorber / doors / tire / wheel well . . . . **Checked**

Fuselage forward section IV

1 - Forward compartment

- Inside . . . . **Controlled**
- Door . . . . **Closed / Locked**

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

3 - Fuel circuit drain . . . . **Drained**
(Fuel free of water and contamination)

- Filter contamination indicator . . . . **Checked**

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

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

For the first flight of the day :

- Oil cap . . . . **Closed / Locked**
- Engine oil level . . . . **Checked**
- Fuel pipes . . . . **Checked**
(No leak, deterioration, wear)

6 - Engine cowls . . . . **Condition - Checked**
Closed / Locked

7 - Air inlets

- Main . . . . **No crack - Unobsctruted**
- Lateral / upper . . . . **Unobstructed**

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

9 - Nose gear

- Shock absorber / doors / tire / wheel well . . . . **Checked**

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

PREFLIGHT INSPECTION (8/9)

R.H. wing V

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

2 - Main landing gear

- Shock absorber / doors / tire / wheel well . . . . **Checked**

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

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

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

6 - Fuel tank . . . . **Cap Closed / Locked**

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

8 - Right pitot . . . . **Condition - Checked**

9 - Winglet / nav. light / strobe / landing light / recognition light / taxi light . . . . **Condition - Checked**

10 - Trailing edge static discharger . . . . **Checked (Condition / Number / Attachment)**

11 - Aileron / spoiler . . . . **Checked (Condition / Free movement / Deflection)**

12 - Flap . . . . **Checked (Condition / Play)**

13 - Rear R.H. karman

- Oxygen cylinder . . . . **OPEN**
- Oxygen quantity . . . . **Checked**

14 - Oxygen pressure . . . . **Checked**

Fuselage rear section / Empennages VI

1 - ELT . . . . **OFF**

- ELT door . . . . **Closed / Locked**

2 - Static pressure ports . . . . **Clean - Checked**

3 - Ventral fins . . . . **Checked (Condition / Attachments)**

4 - Inspection door under fuselage . . . . **Closed - Checked (Attachments)**

PREFLIGHT INSPECTION (9/9)

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

6 - Elevator and trim . . . . **Checked (Condition / Deflection free movement / Trim position)**

7 - Static dischargers . . . . **Checked (Condition)**

8 - Vertical stabilizer deicer boots . . . . **Checked (Condition / Attachments)**

9 - Rudder and trim . . . . **Checked (Condition / Trim position)**

10 - Static dischargers . . . . **Checked (Condition)**

11 - Tail cone / nav. lights / strobe . . . . **Condition - Checked**

12 - Static pressure ports . . . . **Clean - Checked**

BEFORE STARTING ENGINE (1/2)

1 - Preflight inspection . . . . **Completed**

2 - Cabin access door . . . . **Closed / Locked**

3 - ”Pilot” door (if installed) . . . . **Closed / Locked**

4 - Baggage . . . . **Stowed**

5 - Pilot seat and R.H. front seat (if occupied) . . . . **Adjusted**

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.

6 - L.H and R.H. pedals . . . . **Adjusted**

7 - Belts and harnesses (Pilot and passengers) . . . . **Fastened**

8 - Crash lever . . . . **Down**

9 - ELT . . . . **ARM**

10 - ”MICRO/MASK” micro inverter . . . . **MICRO**

11 - De-ice systems . . . . **All OFF**

12 - Park brake . . . . **ON**

13 - Landing gear control . . . . **DN**

14 - Pitch trim wheel . . . . **Checked**

15 - ”MAN OVRD” control . . . . **Backward**

CAUTION

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

CAUTION

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

16 - Throttle . . . . **CUT OFF**

17 - Flaps control . . . . **UP**

18 - Fuel tank selector . . . . **L or R**

19 - ”BLEED” switch . . . . **OFF/RST**

20 - ”DUMP” switch . . . . **Guarded**

21 - ”A/C” switch . . . . **OFF**

22 - ”ALTERNATE STATIC” selector . . . . **Pushed**

BEFORE STARTING ENGINE (2/2)

23 - "EMERGENCY RAM AIR" control knob . . . . **Pushed**

24 - Circuit breakers . . . . **All pushed**

25 - "ESS BUS TIE" switch . . . . **Guarded**

26 - "AP / TRIMS" switch . . . . **OFF**

27 - "FUEL SEL" selector . . . . **MAN**

28 - "AUX BP" switch . . . . **OFF**

29 - "IGNITION" switch . . . . **AUTO**

30 - "STARTER" switch . . . . **OFF**

31 - "DIMMER" switch . . . . **OFF**

32 - "CABIN" switch . . . . **OFF**

33 - "ACCESS" switch . . . . **OFF**

34 - "PANEL" rheostat . . . . **Fully turned to the left**

35 - All lights . . . . **OFF**

36 - Crash lever . . . . **UP**

37 - "GENERATOR" selector . . . . **MAIN**

38 - Battery voltage . . . . **Checked**

39 - "SOURCE" selector . . . . **BATT (battery start)**
GPU (GPU start)

40 - Park Brake . . . . **ON**

41 - "PASSENGERS OXYGEN" switch . . . . **OFF**

42 - Pilot's "OXYGEN" switch . . . . **ON**

43 - Front oxygen masks . . . . **Checked**

44 - Fuel . . . . **Checked**

45 - Engine parameters . . . . **Checked**

46 - LFE selection . . . . **Done**

STARTING ENGINE (1/2)

1 - Strobes .... **ON**

2 - G1000 .... **Composite mode**

3 - "AUX BP" switch .... **ON**

4 - Propeller area .... **Clear**

5 - "STARTER" switch .... **ON, take a time**

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 $\simeq$ 13 % and ITT below 150°C and time below 20 s :

6 - Throttle .... **LO / IDLE**

When Ng = 52 % (± 2 %)

7 - Check Starter is automatically OFF

CAUTION

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

8 - Engine parameters .... **Checked**

If GPU start,

9 - "SOURCE" selector .... **BATT**

10 - Electrical network .... **Checked**

11 - GPU disconnection done by ground team

When Ground team is cleared from propeller,

12 - Throttle .... **Flight IDLE**

13 - Engine parameters .... **Checked**

14 - "AUX BP" switch .... **AUTO**

STARTING ENGINE (2/2)

15 - "GENERATOR" selector . . . . **Checked MAIN**

<u>CAUTION</u> : IF

- **NO IGNITION 10 SECONDS AFTER HAVING POSITIONED THROTTLE TO LO/IDLE,**
- **OVERTEMPERATURE 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 . . . . AUTO**

WHEN ITT < 850°C :

- **"STARTER" SWITCH . . . . ABORT**

MOTORING

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 - Fuel

- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

3 - "IGNITION" switch . . . . **OFF**

To clear fuel and vapor internally trapped :

4 - "STARTER" switch . . . . **ON, take a time during 15 sec maxi**

5 - "STARTER" switch . . . . **ABORT**

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

4 - "STARTER" switch . . . . **ON, take a time during 30 sec**

5 - "STARTER" switch . . . . **ABORT**

6 - FUEL panel

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

MOTORING FOLLOWED BY AN ENGINE START (1/2)

Within starter operating limits (continuous max. 1 minute), it is possible to initiate a starting procedure from a motoring procedure.

1 - Engine controls

- "MAN OVRD" control .... **Backward**

CAUTION

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

- Throttle .... **CUT OFF**

2 - Fuel

- Tank selector .... **L or R**
- "AUX BP" switch .... **ON**

3 - "IGNITION" switch .... **OFF**

4 - "STARTER" switch .... **ON, take a time**

5 - After 20 seconds and ITT < 150°C :

- "IGNITION" switch .... **AUTO**
- Ng .... **Check > 13 %**
- Throttle .... **LO / IDLE**

6 - Monitor increase of :

- ITT .... **(max. ITT : ≤ 870°C for 20 seconds max.**
  ≤ 1000°C for 5 seconds max.)
- Ng
- Oil pressure

When Ng = 52 % (± 2 %)

7 - Check Starter is automatically 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 > 52 %**
(Oil pressure / ITT = green sector)

9 - Throttle .... **HI / IDLE**

MOTORING FOLLOWED BY AN ENGINE START (2/2)

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

11 - FUEL panel

- "AUX BP" switch . . . . **AUTO**

12 - Generator . . . . **RESET if necessary**

- Generator and battery ammeters . . . . **Charge checked**
- BAT and ESS voltmeters . . . . **Voltage checked (V $\simeq$ 28 Volts)**

AFTER STARTING ENGINE

CAUTION

GENERATOR LOAD < 200 AMPS

1 - PFD 1, MFD and PFD 2 . . . . NORMAL mode

2 - "GENERATOR" selector

- On "MAIN" . . . . **Voltage and current checked**

when current ≤ 50 amps :

- on "ST-BY" . . . . **Voltage and current checked (reset if necessary)**

- then again on "MAIN"

3 - "AP / TRIMS" switch . . . . **ON**

4 - Oxygen supply . . . . **Available for the planned flight (see tables of paragraph "IN-FLIGHT AVAILABLE OXYGEN QUANTITY" in Chapter 4.4 and Chapter 7.10 for a FAR 135 type operation)**

5 - PFD 1, MFD and PFD 2

- Brightness . . . . **Adjust if necessary**

- DISPLAY BACKUP button . . . . **Check then return to NORMAL mode**

When ammeter < 100 A :

6 - ECS panel

- "BLEED" switch . . . . **AUTO**

- "A/C" switch . . . . **AUTO**

- PRES MODE . . . . **AUTO**

- "CONTROL" selector . . . . **As required**

- "TEMP/° C" selectors . . . . **Adjust**

- "HOT AIR FLOW" distributor . . . . **As required**

7 - Stand-by instruments . . . . **Checked**

8 - Flight prepared on PFD, MFD

9 - Altimeter setting . . . . **Checked**

10 - AP / TRIMS . . . . **Checked / Set**

11 - DE ICE SYSTEM panel . . . . **Checked**

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

TAXIING

CAUTION

GENERATOR LOAD < 200 AMPS

1 - "TAXI" light . . . . **ON**

2 - Passenger briefing . . . . **As required**

3 - Park brake . . . . **OFF**

4 - L.H. brakes . . . . **Checked**

5 - Nose wheel steering . . . . **Checked**

6 - Throttle . . . . **As required**

CAUTION

AVOID USING REVERSE DURING TAXIING.

7 - Flight instruments . . . . **Check**

8 - CAS . . . . **Checked**

9 - LFE . . . . **Checked**

BEFORE TAKEOFF (1/2)

CAUTION

GENERATOR LOAD < 200 AMPS

1 - Park brake .... **ON**

2 - Throttle .... **Flight IDLE [Ng : 69 % (± 2 %)]**

3 - Throttle .... **Feather twice**

4 - Flaps .... **TO**

5 - DE ICE SYSTEM panel .... **As required**

- "INERT SEP" switch .... **As required**
- "PITOT L HTR" switch .... **ON**
- "PITOT R & STALL HTR" switch .... **ON**

6 - Flight controls .... **Deflections checked**

7 - Trims .... **SET**

8 - Pilot's / Passengers' belts .... **Check**

- Passengers' table .... **Stowed**

9 - "STROBE" switch .... **ON**

10 - CAS display .... **Checked**

11 - Fuel

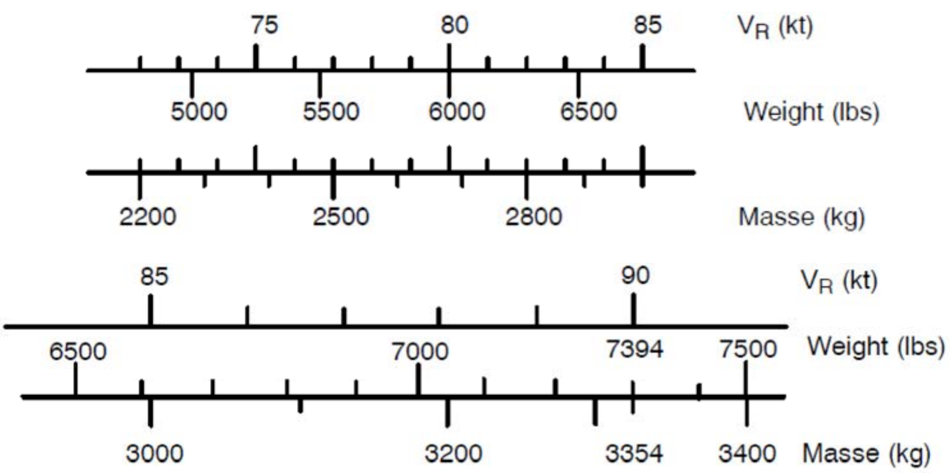
- Gages : quantity, symmetry .... **Checked**
- "FUEL SEL" switch .... **Check AUTO**
- "AUX BP" fuel switch .... **Check AUTO**

12 - Flight instruments .... **Checked**

- Altimeter setting .... **Adjusted/Checked**
- "LFE" .... **Adjusted/Checked**

13 - Takeoff distances .... **Checked**
See "Takeoff distances" Chapter 5.9

14 - Rotation speed (V_R) .... **Checked**



BEFORE TAKEOFF (2/2)

15 - Engine instruments .... **Check**

16 - Battery charge .... **< 50 Amperes**

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 Amperes

CAS MESSAGE "BAT AMP" .... **ON**

17 - Park brake .... **OFF**

TAKEOFF

WHEN LINED UP

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

IF ICING CONDITIONS ARE FORESEEN, REFER TO CHAPTER 4.5, PARAGRAPH "FLIGHT INTO KNOWN ICING CONDITIONS"

1 - Horizon . . . . **Check attitude ≃ + 2°**

2 - Heading - HSI - Stand-by compass . . . . **Check**

- Altimeter setting . . . . **Check**

3 - Lights

- "OFF/TAXI/LDG" switch . . . . **LDG**

4 - Engine instruments . . . . **CHECK (ITT = green sector)**

5 - CAS display . . . . **Check**
All messages OFF,
except "INERT SEP ON" if used
except "IGNITION" if used

6 - Apply brakes and increase power up to RPM in green range.

7 - Brakes . . . . **Released**

8 - Throttle . . . . **TRQ = 100 %**

9 - Takeoff attitudes

- Normal takeoff . . . . **Attitude : 10°**

- Short takeoff

. Weight < 6579 lbs (2984 kg) . . . . **Attitude : 15°**

. Weight ≥ 6579 lbs (2984 kg) . . . . **Attitude : 12°5**

10 - Vertical speed indicator . . . . **Positive**

11 - Brakes . . . . **Apply (Briefly)**

12 - Landing gear control (IAS < 150 KIAS) . . . . **UP**
At sequence end, check : All warning lights OFF

13 - Initial climb speed . . . . **115 KIAS**

14 - Flaps . . . . **UP**

CLIMB

Only when flaps are confirmed UP :

1 - Climb speed (recommended) .... **124 KIAS**

- Trims (Pitch, Roll and Yaw) .... **Adjusted**

2 - "YAW DAMPER" push-button .... **ON**

3 - Lights

- "OFF/TAXI/LDG" switch .... **As required**

4 - Throttle .... **Adjust**

CAUTION

OBSERVE TRQ / Ng / Np / ITT / T° AND OIL PRESSURE LIMITATIONS.

USE OPTIMUM TORQUE AND / OR REFER TO TABLES IN CHAPTER 5.8.

5 - Climb speed .... **As required**

6 - ECS panel

- "TEMP/° C" selectors .... **Adjust**

7 - Fuel tank gages .... **Check / correct (Quantity / Symmetry)**

8 - DE ICE SYSTEM .... **As required**
Refer to Chapter 4.5 "PARTICULAR PROCEDURES"

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

CRUISE

1 - Throttle . . . . **Adjust**

CAUTION

OBSERVE TRQ / Ng / Np / ITT / T° AND OIL PRESSURE LIMITATIONS.

USE OPTIMUM TORQUE AND / OR REFER TO TABLES IN CHAPTER 5.8.

2 - Pressurization . . . . **Check**

3 - Fuel

- Gages . . . . **Check**

REGULARLY CHECK :

. **consumption**

. **expected fuel at destination**

Pre-MOD70-0402-28

. **tank automatic change (every 10 minutes)**

Post-MOD70-0402-28

. **tank automatic change (every 5 minutes)**

All

. **symmetry [max. dissymmetry 15 USG (57 Litres)]**

4 - Cruise parameters / engine data . . . . **Check / Record**

5 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5 ”PARTICULAR PROCEDURES”

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

DESCENT

1 - Altimeter settings . . . . **Done**

2 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5 "PARTICULAR PROCEDURES"

<u>CAUTION</u>

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

3 - Windshield misting protection system . . . . **As required**

4 - Fuel

- Gages . . . . **(Check (Quantity / Symmetry)**

- Fullest tank . . . . **Select**

5 - Passengers briefing . . . . **As required**

6 - Seats, belts and harnesses . . . . **Locked**

7 - Passengers' table . . . . **Stowed**

BEFORE LANDING

Long final

1 - Altimeters . . . . **Check**

2 - Fuel

- Gages . . . . **(Check (Quantity / Symmetry)**
- Fullest tank . . . . **Select**

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

4 - Landing gear control (IAS ≤ 178 KIAS) . . . . **DN then 3 green ON**

5 - Flaps (IAS ≤ 178 KIAS) . . . . **TO**

6 - Lights

- "OFF/TAXI/LDG" switch . . . . **LDG**

Stabilized approach

7 - Flaps (IAS ≤ 122 KIAS) . . . . **LDG**

8 - Approach speed (Flaps LDG)

- Without AP engaged : . . . . **85 KIAS**
- With AP engaged : . . . . **≥ 85 KIAS**

9 - Autopilot (> 200 ft) . . . . **Disconnect**

10 - "YAW DAMPER" push-button . . . . **OFF**

LANDING

1 - Throttle . . . . **Flight IDLE**

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.

CAUTION

ON SNOWY OR DIRTY RUNWAY, IT IS BETTER NOT TO USE REVERSE BELOW 40 KIAS.

3 - Brakes . . . . **As required**

GO-AROUND

1 - GO AROUND push-button . . . . **Pushed**

2 - Simultaneously

- Throttle . . . . **T/O power**
- Attitude . . . . **10°**

3 - Flaps . . . . **TO**

<u>Weight below 6579 lbs (2984 kg)</u>

When the vertical speed is positive and when IAS is at or above 85 KIAS :

4 - Landing gear control . . . . **UP**
All warning lights OFF

When IAS is at or above 110 KIAS :

5 - Flaps . . . . **UP**

6 - Climb speed . . . . **As required**

<u>Weight above 6579 lbs (2984 kg)</u>

When the vertical speed is positive and when IAS is at or above 90 KIAS :

7 - Landing gear control . . . . **UP**
All warning lights OFF

When IAS is at or above 115 KIAS :

8 - Flaps . . . . **UP**

9 - Climb speed . . . . **As required**

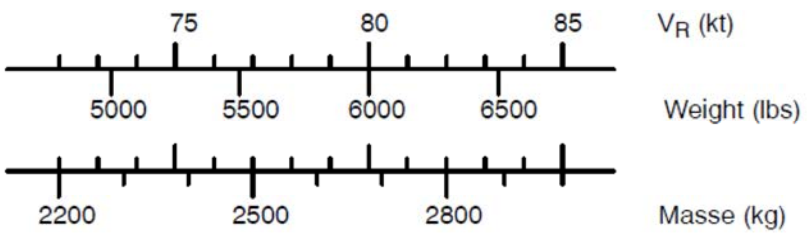
10 - Power . . . . **As required**

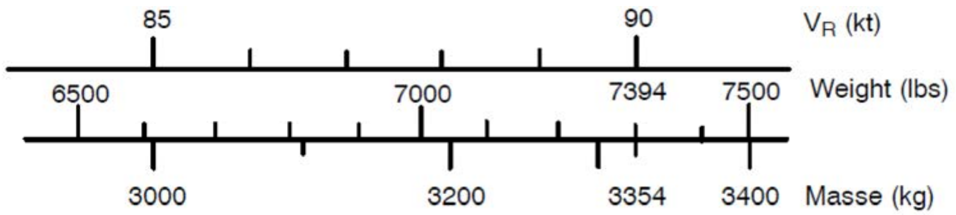
TOUCH AND GO

Before wheels touch

1 - Takeoff distances . . . . **Checked**
See "Takeoff distances" Chapter 5.9

2 - Rotation speed (V_R) . . . . **Checked**





After wheels touch

1 - Flaps . . . . **TO**

2 - Elevator trim . . . . **Green sector**

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**

AFTER LANDING

CAUTION

GENERATOR LOAD < 200 AMPS

RUNWAY CLEAR - AIRPLANE STOPPED

1 - DE ICE SYSTEM panel
- "AIRFRAME DE ICE" switch . . . . **OFF**
- "PROP DE ICE" switch . . . . **OFF**
- "INERT SEP" switch . . . . **Checked ON**
- "WINDSHIELD" switch . . . . **As required**
- "PITOT L HTR" switch . . . . **OFF**
- "PITOT R & STALL HTR" switch . . . . **OFF**
- "BLEED" switch . . . . **As required**

2 - Radar (if installed) . . . . **Checked Standby**

3 - Transponder . . . . **Checked Standby**

4 - Flaps . . . . **UP**

5 - "STROBE" switch . . . . **OFF**

6 - Lights
- "OFF/TAXI/LDG" switch . . . . **TAXI**

7 - Trims . . . . **TAKEOFF position**

SHUT-DOWN (1/2)

1 - Park brake .... **ON**

2 - ECS panel

- "BLEED" switch .... **OFF/RST**
- Check for cabin depressurization
- "A/C" switch .... **OFF**

3 - Throttle .... **Flight IDLE for 1 minute minimum**

4 - "TAXI" light .... **OFF**

5 - "AP / TRIMS" switch .... **OFF**

6 - Throttle .... **LO / IDLE for 15 seconds**

7 - Throttle .... **CUT OFF**

8 - "INERT SEP" switch .... **OFF**

9 - EXT LIGHTS panel

- All switches .... **OFF**

10 - INT LIGHTS panel

- All switches .... **OFF**

11 - Fuel

- "AUX BP" switch .... **OFF**
- "FUEL SEL" switch .... **MAN**
- Tank selector .... **OFF**

12 - "OXYGEN" switch .... **OFF**

13 - "GENERATOR" selector .... **OFF**

14 - "SOURCE" selector .... **OFF**

15 - Crash lever .... **Pulled down**

16 - Park brake .... **As required**

SHUT-DOWN (2/2)

CAUTION

IN CASE OF HIGH OAT [ABOVE 35° C (95° F)], IT IS RECOMMENDED TO PERFORM 30 SECONDS DRY MOTORING RUN AFTER SHUT-DOWN TO IMPROVE COOLING OF THE BEARING CAVITIES AND PREVENT OIL COKING (REFER TO PARAGRAPH "MOTORING").

- ESI-2000 - NORMAL PROCEDURE

  No pilot action required for normal shutdown. The ESI-2000 will shut down within 5 minutes.

- ESI-2000 - MANUAL PROCEDURE

  The ESI-2000 can be manually shut down when in the discharge mode to conserve battery power :

  . Remove all airplane power from the ESI.

  . Press any key (button) as stated by the on screen message.

  . Press the M (Menu) button repeatedly until shutdown menu is shown.

  . Press and hold the + (Hold) button until "SHUTTING DN" message is shown in the upper left corner of the screen.

4.4 - AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION (1/9)

INSIDE INSPECTIONS

Cockpit I

1 - DE ICE SYSTEM panel

- All switches .... **OFF**

2 - ELT .... **ARM**

3 - "MICRO/MASK" micro inverter .... **MICRO**

4 - Flight control lock .... **Removed / Stowed**

The flight control lock is normally stowed in the front cargo compartment with the towing bar and the blanking covers.

5 - Flight controls .... **Deflections checked**

6 - Park brake .... **ON**

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

8 - 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**

9 - Flaps control .... **UP**

10 - Fuel tank selector .... **L or R**

11 - Landing gear emergency control

Open door of emergency landing compartment :

- Lever .... **Pulled down**
- By-pass selector .... **Pushed**
- Door .... **In place**

By-pass selector must be pushed at its maximum stop, so as to have the door in place.

PREFLIGHT INSPECTION (2/9)

12 - ECS panel

- "BLEED" switch .... **OFF/RST**
- "A/C" switch .... **OFF**
- "DUMP" switch .... **Guarded**
- "PRES MODE" switch .... **AUTO**

13 - "ALTERNATE STATIC" selector .... **Pushed**

14 - "EMERGENCY RAM AIR" control knob .... **Pushed**

15 - Breakers panel

- All breakers .... **Engaged**

16 - "AP / TRIMS" switch .... **OFF**

17 - Fuel

- "FUEL SEL" selector .... **MAN**
- "AUX BP" switch .... **OFF**

18 - ENGINE START panel

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

  The "IGNITION" switch is normally selected to AUTO. This ensures ignition, whenever the "STARTER" switch is set to ON.

- "STARTER" switch .... **OFF**

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

19 - ELECTRIC POWER panel

- Crash lever .... **UP**
- "GENERATOR" selector .... **MAIN**
- "SOURCE" selector .... **OFF**

20 - Access lighting .... **Checked**

This check allows to ensure that the fuse of the "BATT BUS" operates correctly.

21 - INT LIGHTS panel .... **OFF**

22 - EXT LIGHTS panel

- All switches .... **OFF**

23 - Pilot's "OXYGEN" switch .... **OFF**

24 - "PASSENGERS OXYGEN" switch .... **OFF**

PREFLIGHT INSPECTION (3/9)

25 - Emergency lighting .... **Checked**

CAUTION

BEFORE SELECTING SOURCE, CHECK

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

27 - "STARTER" switch .... OFF

28 - Landing gear control .... **DN**

29 - "SOURCE" selector .... **BATT or GPU**

30 - ESI-2000 battery indicator symbol .... **Not displayed**

If a battery symbol appears on the ESI-2000 display, airplane take-off is not allowed until the situation is resolved. Refer to the battery details in the ESI-2000 Pilot's guide for further information.

31 - Voltage .... **Checked**

- If BATT source .... **$\geq$ 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 .... **$\simeq$ 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.

32 - EXT LIGHTS panel

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

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

Reentering the airplane

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

34 - DE ICE SYSTEM panel

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

PREFLIGHT INSPECTION (4/9)

35 - CAS display .... **Checked**

36 - Left and right fuel quantities .... **Checked**

37 - Flaps control .... **LDG**

38 - Landing gear panel .... **Warning lights : 3 GREEN ON**
Light Test : all lights (red & green) FLASHING

39 - 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**

<u>WARNING</u>

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

40 - Crash lever .... **Down**

Cabin (II)

1 - Cabin fire extinguisher .... **Checked**
(Pressure / Attachment)

2 - Seats / belts .... **Checked**

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

4 - Emergency exit .... **Closed / Locked**

- Anti-theft safety .... **Removed / Stowed**

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

6 - Partition net (if 6-seat accommodation) .... **In place**
Check general condition

7 - Large net or small net (if 4-seat accommodation
and if baggage transportation) .... **In place**
Check general condition

PREFLIGHT INSPECTION (5/9)

8 - Doors operation . . . . **Checked**

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

AIRPLANE OUTSIDE

The preflight inspection described in Figure 4.3.1 is recommended before each flight.

NOTE

If a preflight inspection is performed, just after the engine shut-off, be careful because the leading edge of engine air inlet, as well as exhaust stubs may be very hot.

If the airplane was in long term storage or if it has undergone major maintenance or if it has been used from emergency airfields, a thorough outside inspection is recommended.

When the airplane is stored outside, the use of the flight control lock and blanking covers is recommended. Propeller should be tied down to prevent rotation without oil pressure.

When the airplane is stored for extended periods of time, a thorough preflight inspection is recommended. Particular attention should be paid to possible blockages in airspeed sensing lines, foreign objects in engine intake and exhaust stubs and water contamination of the fuel system.

L.H. wing (III)

1 - Flap . . . . **Checked (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.

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

Ensure there are no foreign objects in the spoiler recess. When ailerons are in the neutral position, it is normal that spoilers are lightly extended at upper surface.

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

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

5 - OAT probe . . . . **Condition - Checked**

6 - Fuel tank . . . . **Cap Closed / Locked**

Fuel tank caps must be tight (which is characterized by a consequent exertion to lock and unlock them) to avoid water infiltration in case of rain on ground, and to avoid fuel loss in flight.

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

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

8 - Left pitot . . . . **Condition - Checked**

PREFLIGHT INSPECTION (6/9)

9 - Wing lower surface . . . . **Checked (No leak)**

- Check fuel tank access doors for leaks
- Check for surface damage.

10 - Wing deicer boots . . . . **Checked (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.

11 - Fuel tank drain (two on each wing) . . . . **Drained (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 . . . . **Checked**

  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 . . . . **Controlled**
- Door . . . . **Closed / Locked**

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

3 - Fuel circuit drain . . . . **Drained (Fuel free of water and contamination)**

- Filter contamination indicator . . . . **Checked**

PREFLIGHT INSPECTION (7/9)

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

Inspect if possible pressure port located inside exhaust stub. A missing port or a cracked port may hinder correct operation of continuous heating of air inlet lip.

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

For the first flight of the day :

- Oil cap . . . . **Closed / Locked**
- Engine oil level . . . . **Checked**
- Fuel pipes . . . . **Checked**
(No leak, deterioration, wear)

6 - Engine cowls . . . . **Condition - Checked**
Closed / Locked

7 - Air inlets

- Main . . . . **No crack - Unobsctruted**

  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 . . . . **Checked**
(No nicks, cracks or oil leaks / Attachment)

In case of operation from contaminated runways, it is necessary to carefully examine propeller blades, where traces of abrasion may be found. Propeller damage may reduce blade life time and degrade performance. Any propeller damage should be referred to maintenance personnel.

9 - Nose gear

- Shock absorber / doors / tire / wheel well . . . . **Checked**

  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 . . . . **Checked**
(Condition / No cracks)

PREFLIGHT INSPECTION (8/9)

R.H. wing V

Additional remarks are identical to those of L.H. wing.

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

2 - Main landing gear

- Shock absorber / doors / tire / wheel well .... **Checked**

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

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

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

6 - Fuel tank .... **Cap Closed / Locked**

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

8 - Right pitot .... **Condition - Checked**

9 - Winglet / nav. light / strobe / landing light / recognition light / taxi light .... **Condition - Checked**

10 - Trailing edge static discharger .... **Checked (Condition / Number / Attachment)**

11 - Aileron / spoiler .... **Checked (Condition / Free movement / Deflection)**

12 - Flap .... **Checked (Condition / Play)**

13 - Rear R.H. karman

- Oxygen cylinder .... **OPEN**
- Oxygen quantity .... **Checked**

14 - Oxygen pressure .... **Checked**

Fuselage rear section / Empennages VI

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

1 - ELT .... **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 - Checked**

PREFLIGHT INSPECTION (9/9)

3 - Ventral fins . . . . **Checked (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 . . . . **Closed - Checked (Attachments)**

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

6 - Elevator and trim . . . . **Checked (Condition / Deflection free movement / Trim position)**

To check the deflection, hold the two half-elevators near fuselage, inside both elevator trims to avoid stresses.

7 - Static dischargers . . . . **Checked (Condition)**

8 - Vertical stabilizer deicer boots . . . . **Checked (Condition / Attachments)**

9 - Rudder and trim . . . . **Checked (Condition / Trim position)**

10 - Static dischargers . . . . **Checked (Condition)**

11 - Tail cone / nav. lights / strobe . . . . **Condition - Checked**

12 - Static pressure ports . . . . **Clean - Checked**

BEFORE STARTING ENGINE (1/4)

Check that the weight and balance are within the correct limits. Brief passengers about use of seat belts and the emergency oxygen system, as well as opening the access door and the emergency exit.

1 - Preflight inspection . . . . **Completed**

2 - Cabin access door . . . . **Closed / Locked**

3 - "Pilot" door (if installed) . . . . **Closed / Locked**

4 - Baggage . . . . **Stowed**

5 - Pilot seat and R.H. front seat (if occupied) . . . . **Adjusted**

- Height adjustment . . . . **Max. UP**
- Fore and aft adjustment . . . . **Adjusted and check locking**
- Height adjustment . . . . **Adjusted**

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 ECS panel.

6 - L.H and R.H. pedals . . . . **Adjusted**

7 - Belts and harnesses (Pilot and passengers) . . . . **Fastened**

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.

8 - Crash lever . . . . **Down**

9 - ELT . . . . **ARM**

10 - "MICRO/MASK" micro inverter . . . . **MICRO**

11 - De-ice systems . . . . **All OFF**

12 - Park brake . . . . **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.

13 - Landing gear control . . . . **DN**

14 - Pitch trim wheel . . . . **Checked**

BEFORE STARTING ENGINE (2/4)

15 - ”MAN OVRD” control .... **Backward**

CAUTION

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

CAUTION

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

16 - Throttle .... **CUT OFF**

17 - Flaps control .... **UP**

18 - Fuel tank selector .... **L or R**

19 - ”BLEED” switch .... **OFF/RST**

20 - ”DUMP” switch .... **Guarded**

21 - ”A/C” switch .... **OFF**

22 - ”ALTERNATE STATIC” selector .... **Pushed**

23 - ”EMERGENCY RAM AIR” control knob .... **Pushed**

24 - Circuit breakers .... **All pushed**

25 - ”ESS BUS TIE” switch .... **Guarded**

26 - ”AP / TRIMS” switch .... **OFF**

27 - ”FUEL SEL” selector .... **MAN**

28 - ”AUX BP” switch .... **OFF**

29 - ”IGNITION” switch .... **AUTO**

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

30 - ”STARTER” switch .... **OFF**

If not, starter is going to operate as soon as ”SOURCE” selector is positioned on BATT or GPU.

31 - ”DIMMER” switch .... **OFF**

32 - ”CABIN” switch .... **OFF**

33 - ”ACCESS” switch .... **OFF**

34 - ”PANEL” rheostat .... **Fully turned to the left**

35 - All lights .... **OFF**

36 - Crash lever .... **UP**

BEFORE STARTING ENGINE (3/4)

37 - "GENERATOR" selector .... **MAIN**

Check **"MAIN GEN"** CAS message is illuminated.

38 - Battery voltage .... **Checked**

If Batt voltage < 24,5V, ask for a GPU and be ready to a GPU start.

39 - "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.

40 - Park Brake .... **ON**

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

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

41 - "PASSENGERS OXYGEN" switch .... **OFF**

42 - Pilot's "OXYGEN" switch .... **ON**

Set ON the pilot's "OXYGEN" switch after the "PASSENGERS Oxygen" switch position check to avoid passengers mask deployment.

Check the **"OXYGEN"** CAS message is off. If not, open isolation valve of the oxygen cylinder in R.H. Karman.

43 - Front oxygen masks .... **Checked**

Press push button "PRESS TO TEST" : the blinker shall turn red momentarily, then turns transparent.

44 - Fuel .... **Checked**

- Quantity .... **Checked**
- Tank selector .... **L or R**
- "FUEL SEL" switch .... **AUTO**

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

- "SHIFT" push-button .... **Pressed**

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

45 - Engine parameters .... **Checked**

A hot engine will have an ITT above 150°C, which will give a hot start up. Particular monitoring to ITT will have to be done, to stay within the ITT enveloppe.

BEFORE STARTING ENGINE (4/4)

46 - LFE selection . . . . **Done**

Landing Field Elevation selection is done using :

- destination airport of the flight plan, pressing ”SYSTEM” and then ”FMS LFE” on the MFD.
- a manual entry, pressing ”SYSTEM” then ”MAN LFE” on the MFD.

STARTING ENGINE (1/2)

1 - Strobes . . . . **ON**

2 - G1000 . . . . **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 - "AUX BP" switch . . . . **ON**

Check **"AUX BOOST PMP ON"** CAS message is illuminated.

Check **"FUEL PRESS"** CAS message is OFF.

4 - Propeller area . . . . **Clear**

5 - "STARTER" switch . . . . **ON, take a time**

Check **"STARTER"** CAS message is illuminated.

Check **"MAIN GEN"** CAS message is illuminated.

<u>CAUTION</u>

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 s :

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 enveloppe.

6 - 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.

When Ng = 52 % (± 2 %)

7 - Check Starter is automatically OFF

Check **"STARTER"** CAS message is OFF.

<u>CAUTION</u>

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

8 - Engine parameters . . . . **Checked**

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

If GPU start,

9 - "SOURCE" selector . . . . **BATT**

STARTING ENGINE (2/2)

10 - Electrical network . . . . **Checked**

11 - GPU disconnection done by ground team

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

When Ground team is cleared from propeller,

12 - Throttle . . . . **Flight IDLE**

13 - Engine parameters . . . . **Checked**

Check Ng = 6 9% (± 2%), oil pressure and ITT in green sector.

14 - "AUX BP" switch . . . . **AUTO**

15 - "GENERATOR" selector . . . . **Checked 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.

- Generator & Battery Ammeter . . . . **Charged Checked**
- BAT & ESS Voltmeters . . . . **Voltage around 28 VOLTS**.

<u>CAUTION</u> : IF

- **NO IGNITION 10 SECONDS AFTER HAVING POSITIONED THROTTLE TO LO / IDLE,**
- **OVERTEMPERATURE 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 . . . . AUTO**

WHEN ITT < 850°C :

- **"STARTER" SWITCH . . . . ABORT**

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 - 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.

3 - "IGNITION" switch . . . . **OFF**

WARNING CAS MESSAGE "IGNITION" . . . . OFF

To clear fuel and vapor internally trapped :

4 - "STARTER" switch . . . . **ON, take a time during 15 sec maxi**

WARNING CAS MESSAGE "STARTER" . . . . ON

5 - "STARTER" switch . . . . **ABORT**

WARNING CAS MESSAGE "STARTER" . . . . OFF

MOTORING (2/2)

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

4 - "STARTER" switch . . . . **ON, take a time during 30 sec**

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.

5 - "STARTER" switch . . . . **ABORT**

WARNING CAS MESSAGE "STARTER" . . . . OFF

6 - 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 (1/2)

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 - Fuel

- Tank selector . . . . **L or R**
- "AUX BP" switch . . . . **ON**

WARNING CAS MESSAGE "AUX BOOST PMP ON" . . . . ON

WARNING CAS MESSAGE "FUEL PRESS" . . . . OFF

3 - "IGNITION" switch . . . . **OFF**

4 - "STARTER" switch . . . . **ON, take a time**

5 - After 20 seconds and ITT < 150°C :

- "IGNITION" switch . . . . **AUTO**
- Ng . . . . **Check > 13 %**
- Throttle . . . . **LO / IDLE**

6 - Monitor increase of :

- ITT . . . . **(max. ITT : ≤ 870°C for 20 seconds max.**
  ≤ 1000°C for 5 seconds max.)
- Ng
- Oil pressure

WARNING 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

MOTORING FOLLOWED BY AN ENGINE START (2/2)

When Ng = 52 % (± 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 > 52 %**
(Oil pressure / ITT = green sector)

9 - Throttle .... **HI / IDLE**

10 - Engine instruments .... **Check : Ng ≃ 69 % (± 2 %)**
(Oil pressure / Oil temperature / ITT = green sector)

11 - FUEL panel

- "AUX BP" switch .... **AUTO**

WARNING CAS MESSAGE "AUX BOOST PMP ON" ...... OFF

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.

- Generator and battery ammeters .... **Charge checked**
- BAT and ESS voltmeters .... **Voltage checked**
(V ≃ 28 Volts)

AFTER STARTING ENGINE (1/3)

CAUTION

GENERATOR LOAD < 200 AMPS

1 - PFD 1, MFD and PFD 2 . . . . **NORMALmode**

2 - "GENERATOR" selector

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

- On "MAIN" . . . . **Voltage and current checked**

when current ≤ 50 amps :

- on "ST-BY" . . . . **Voltage and current checked (reset if necessary)**

If the indicated voltage on the "ST-BY" generator is low (close to 27 volts), reset the "ST-BY" generator and recheck the voltage.

The indicated voltage should be in the green range.

- then again on "MAIN"

3 - "AP / TRIMS" switch . . . . **ON**

4 - Oxygen supply . . . . **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)**

5 - PFD 1, MFD and PFD 2

Detailed control procedures of G1000 avionics system are described in the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900.

- Brightness . . . . **Adjust if necessary**
- DISPLAY BACKUP button . . . . **Check then return to NORMAL mode**

When ammeter < 100 A :

6 - ECS panel

- "BLEED" switch . . . . **AUTO**
- "A/C" switch . . . . **AUTO**

A cabin temperature good regulation will only be obtained, if "A/C" switch is set to AUTO.

- PRES MODE . . . . **AUTO**
- "CONTROL" selector . . . . **As required**
- "TEMP/° C" selectors . . . . **Adjust**
- "HOT AIR FLOW" distributor . . . . **As required**

Usually selected to CABIN. However, if canopy misting is evident, select DEFOG to increase demisting efficiency.

AFTER STARTING ENGINE (2/3)

7 - Stand-by instruments .... **Checked**

8 - ADI/HSI on PFD1 / PFD2 .... **Checked**

9 - Altimeter setting .... **Checked**

10 - VHF/VOR/GPS .... **Adjusted - Tested**

- Radar/Stormscope/TAS/TAWS/Radio altimeter (if installed) .... **Adjusted - Tested**

11 - MFD flight management

- Weight computing .... **Set/Checked**
- FOB synchro .... **Set**
- FPL (if requested) .... **Set**

12 - AP / TRIMS

- "AP / TRIMS" operation .... **Check**

Detailed control procedures of autopilot and electrical pitch trim are described in the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900.

- Pitch trim .... **UP / DN, then adjusted**

Adjust the indicator in green range (graduated from 12 to 37 %).

- Yaw trim .... **L / R, then adjusted**

Adjust the indicator in green range TO (TAKEOFF).

- Roll trim .... **L / R, then adjusted**

Adjust the indicator first at neutral position (horizontal marker).

13 - DE ICE SYSTEM panel .... **Checked**

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)

AFTER STARTING ENGINE (3/3)

This light may remain OFF, if cabin temperature is very high, for example after a prolonged parking in hot conditions (see Chapter 7.13 for operational principle).

- "WINDSHIELD" switch .... **OFF**

Increase power so as to get Ng ≥ 80% to check AIRFRAME DE ICE.

Theoretically, necessary air bleed to inflate wing and empennage leading edges, as well as depression necessary to their deflation are sufficient when throttle is positioned on Flight IDLE. However, it is advised for check to choose a Ng power ≥ 80 % in order to obtain operation design pressure, which enables illuminating surely the two green lights and avoiding **"VACUUM 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**
- "INERT SEP" switch .... **ON**

WARNING CAS MESSAGE "INERT SEP ON" .... **ON**
full deflection takes about 30 seconds

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

IN-FLIGHT AVAILABLE OXYGEN QUANTITY

Oxygen pressure . . . . **Read**

Outside air temperature (OAT) . . . . **Read**

1 - Determine the usable oxygen percent using the chart Figure 4.4.1.

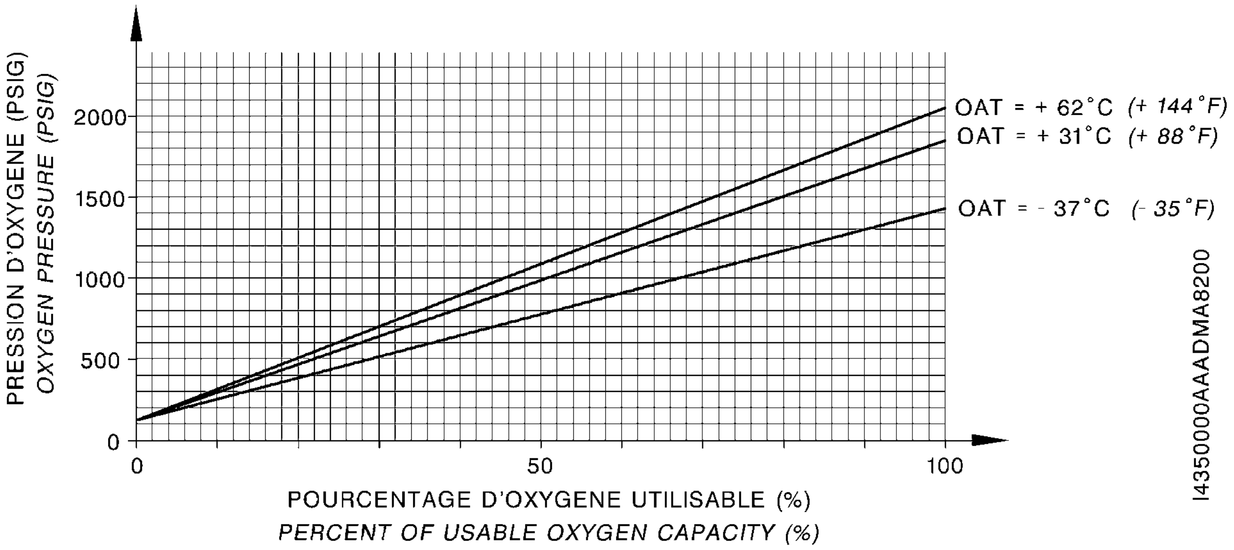


Figure 4.4.1 - Usable oxygen

2 - Determine the oxygen duration in minutes by multiplying the values read on table Figure 4.4.2 by the percent obtained with the chart Figure 4.4.1.

Number of passengers	Duration : Passengers, plus 1 pilot	Duration : Passengers, plus 2 pilots
0	226	113
1	162	94
2	127	81
3	104	71
4	88	65

Figure 4.4.2 - Oxygen duration

TAXIING

CAUTION

GENERATOR LOAD < 200 AMPS

1 - "TAXI" light .... **ON**

2 - Passenger briefing .... **As required**

3 - Park brake .... **OFF**

Make sure that chocks are removed (if used).

WARNING CAS MESSAGE **"PARK BRAKE"** .... **OFF**

4 - L.H. brakes .... **Checked**

5 - Nose wheel steering .... **Checked**

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

6 - 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.

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.

7 - Flight instruments .... **Check**

Check navigation and communication systems before or during taxiing, check gyroscopic instruments on PFDs 1 / 2 and stand-by ADI during ground turns.

8 - CAS .... **Checked**

9 - LFE .... **Checked**

BEFORE TAKEOFF (1/3)

CAUTION

GENERATOR LOAD < 200 AMPS

1 - Park brake . . . . **ON**

WARNING CAS MESSAGE **"PARK BRAKE"** . . . . **ON**

2 - Throttle . . . . **Flight IDLE [Ng : 69 % (± 2 %)]**

3 - Throttle . . . . **Flight IDLE to HI / IDLE twice, then Flight IDLE**

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

4 - Flaps . . . . **TO**

5 - DE ICE SYSTEM panel . . . . **As required**

- "AIRFRAME DE ICE" switch . . . . **As required**
- "PROP DE ICE" switch . . . . **As required**

If runway is in good condition, without icing conditions :

- "INERT SEP" switch . . . . **As required**

WARNING CAS MESSAGE "INERT SEP ON" . . . . . . As required

CAS message goes out immediately, but it takes 30 seconds to retract the separator.

If there is standing water or other contamination on the runway :

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

WARNING CAS MESSAGE "INERT SEP ON" . . . . ON

- "WINDSHIELD" switch . . . . **As required**
- "PITOT L HTR" switch . . . . **ON**
- "PITOT R & STALL HTR" switch . . . . **ON**

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

6 - Flight controls . . . . **Deflections checked**

BEFORE TAKEOFF (2/3)

7 - Trims . . . . **SET**

- Pitch . . . . **Adjusted**

Adjust inside green index sector, depending on the current balance condition.

- Yaw . . . . **Adjusted**

Adjust abeam "TO" index.

- Roll . . . . **Adjusted**

Adjust at neutral position.

8 - Pilot's / Passengers' belts . . . . **Check**

- Passengers' table . . . . **Stowed**

9 - "STROBE" switch . . . . **ON**

10 - CAS display . . . . **Checked**

All messages OFF, EXCEPT "PARK BRAKE" ON and, if used "INERT SEP ON" ON

11 - Fuel

- Gages : quantity, symmetry . . . . **Checked**

Maximum dissymmetry is 15 USG (57 litres). It is recommended to select the fullest tank (by pushing the "SHIFT" push-button) if the lift off is expected within 1 minute and 15 seconds.

- "FUEL SEL" switch . . . . **Check AUTO**

- "AUX BP" fuel switch . . . . **Check AUTO**

12 - Flight instruments . . . . **Checked**

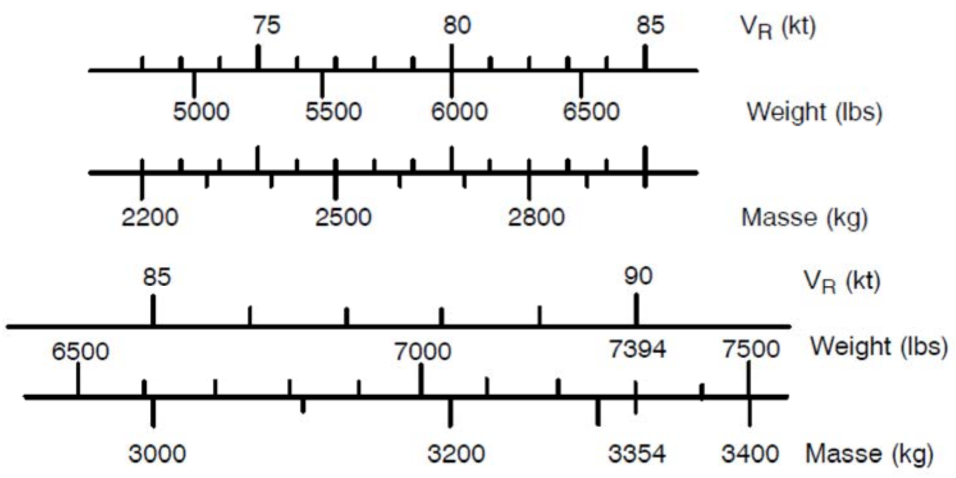
- Altimeter setting . . . . **Adjusted/Checked**

- "LFE" . . . . **Adjusted/Checked**

13 - Takeoff distances . . . . **Checked**

See "Takeoff distances" Chapter 5.9

14 - Rotation speed (V_R) . . . . **Checked**



BEFORE TAKEOFF (3/3)

15 - VHF/VOR/GPS/XPDR . . . . **ADJUSTED/CHECKED**

- Radar/Stormscope/TAS/TAWS/ADF (if installed) . . . . **ADJUSTED/CHECKED**

  On ground, maintain radar (if installed) on STANDBY in order not to generate radiations prejudicial to outside persons.

- Radio altimeter (if installed) . . . . **ADJUSTED/CHECKED**

- Transponder code . . . . **ADJUSTED/CHECKED**

16 - 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.

17 - Battery charge . . . . **< 50 Amperes**

CAUTION

DO NOT TAKE OFF IF BATTERY CHARGE > 50 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.

18 - Park brake . . . . **OFF**

WARNING CAS MESSAGE "PARK BRAKE" . . . . **OFF**

TAKEOFF (1/2)

WHEN LINED UP

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

IF ICING CONDITIONS ARE FORESEEN, REFER TO CHAPTER 4.5, PARAGRAPH "FLIGHT INTO KNOWN ICING CONDITIONS".

1 - Horizon . . . . **Check attitude ≃ + 2°**

Horizon has been set so as to indicate a 2° nose up attitude, when airplane center of gravity is at a middle average.

2 - Heading - HSI - Stand-by compass . . . . **Check**

The indication of the stand-by compass is disturbed when windshield deice systems are activated.

- Altimeter setting on PFDs 1/2 . . . . **Check**

3 - Lights

- "OFF/TAXI/LDG" switch . . . . **LDG**

4 - Engine instruments . . . . **CHECK (ITT = green sector)**

5 - CAS display . . . . **Check All messages OFF,**
except "INERT SEP ON" if used
except "IGNITION" if used

6 - Apply brakes and increase power up to RPM in green range.

7 - Brakes . . . . **Released**

Torque will be about 40 % to 60 % before brake release. For a normal takeoff, maximum torque (100 %) will be applied after brake release. On short runway, maximum torque will be applied before brake release.

8 - Throttle . . . . **TRQ = 100 %**

9 - Takeoff attitudes

- Normal takeoff . . . . **Attitude : 10°**
- Short takeoff
  . Weight < 6579 lbs (2984 kg) . . . . **Attitude : 15°**
  . Weight ≥ 6579 lbs (2984 kg) . . . . **Attitude : 12°5**

10 - Vertical speed indicator . . . . **Positive**

11 - Brakes . . . . **Apply (Briefly)**

TAKEOFF (2/2)

12 - Landing gear control (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 **"GEAR 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

13 - Initial climb speed . . . . **115 KIAS**

In case of initial climb at Vx,
it is recommended not to retract flaps to UP before 500 ft AGL . . . . **100 KIAS**

14 - Flaps . . . . **UP**

CLIMB

Only when flaps are confirmed UP :

1 - Climb speed (recommended) .... **124 KIAS**

- Trims (Pitch, Roll and Yaw) .... **Adjusted**

2 - ”YAW DAMPER” push-button .... **ON**

3 - Lights

- ”OFF/TAXI/LDG” switch .... **As required**

4 - Throttle .... **Adjust**
according to engine operation tables - Chapter 5.8
or to MXCL indicator on the PFDs

<u>CAUTION</u>

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 - ECS panel

- ”TEMP/° C” selectors .... **Adjust**

7 - Fuel tank gages .... **Check / correct**
(Quantity / Symmetry)

<u>Pre-MOD70-0402-28</u>

In spite of fuel selector automatic operation, a non-negligible dissymmetry may be observed at the end of climb, for example when 10 minutes of climb have been performed on the same fuel tank. Consequently, it is recommended to select the fullest tank by pushing the ”SHIFT” push-button, at the beginning of the climb. Tolerated maximum dissymmetry is 15 USG (57 Litres).

8 - DE ICE SYSTEM .... **As required**
Refer to Chapter 4.5 ”PARTICULAR PROCEDURES”

<u>CAUTION</u>

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

CRUISE

1 - Throttle . . . . **Adjust**
according to engine operation tables - Chapter 5.8
or to Cruise index on the PFDs

<u>CAUTION</u>

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.

2 - Pressurization . . . . **Check**

3 - Fuel

- Gages . . . . **Check**

  REGULARLY CHECK :

  . **consumption**

  . **expected fuel at destination**

  <u>Pre-MOD70-0402-28</u>

  . **tank automatic change (every 10 minutes)**

  <u>Post-MOD70-0402-28</u>

  . **tank automatic change (every 5 minutes)**

  <u>All</u>

  . **symmetry [max. dissymmetry 15 USG (57 Litres)]**

When the cruise parameters are stabilized (after 4 min minimum)

4 - Cruise parameters / engine data . . . . **Check / Record**

5 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5 "PARTICULAR PROCEDURES"

<u>CAUTION</u>

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

DESCENT

1 - Altimeter settings . . . . **Done**

2 - DE ICE SYSTEM . . . . **As required**
Refer to Chapter 4.5 "PARTICULAR PROCEDURES"

CAUTION

IF HEAVY PRECIPITATION, TURN IGNITION AND INERT SEP ON.

3 - 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 3.12 Paragraph "WINDSHIELD MISTING OR INTERNAL ICING".

4 - Fuel

- Gages . . . . **(Check (Quantity / Symmetry)**
- Fullest tank . . . . **Select**

5 - Passengers briefing . . . . **As required**

6 - Seats, belts and harnesses . . . . **Locked**

7 - Passengers' table . . . . **Stowed**

BEFORE LANDING (1/2)

Long final

1 - Altimeters . . . . **Check**

2 - Fuel

- Gages . . . . **Check (Quantity / Symmetry)**

- Fullest tank . . . . **Select**

Maximum tolerated dissymmetry is 15 USG (57 Litres).

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

4 - Landing gear control (IAS ≤ 178 KIAS) . . . . **DN**

- 3 green indicator lights . . . . **ON**

- Red warning light . . . . **OFF**

- **"GEAR UNSAFE"** CAS message . . . . **OFF**

- Amber light . . . . **OFF**

During the sequence :

- The amber light flashes ; it indicates that the landing gear pump is running. It goes off when the 3 landing gears are down locked. "GEAR UNSAFE" red warning light ON and **"GEAR UNSAFE"** CAS message indicates an anomaly (refer to EMERGENCY PROCEDURES).

- It is possible that the 3 landing gear position green indicator lights flash unevenly then come on at the end of the sequence.

5 - Flaps (IAS ≤ 178 KIAS) . . . . **TO**

6 - Lights

- "OFF/TAXI/LDG" switch . . . . **LDG**

Stabilized approach

7 - 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.

8 - 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 of 10 % torque be maintained on final approach until landing is assured.

BEFORE LANDING (2/2)

9 - Autopilot (> 200 ft) . . . . **Disconnect**

10 - "YAW DAMPER" push-button . . . . **OFF**

The pilot effort required to use the rudder pedals is reduced if the yaw damper is turned off. This is particularly significant when landing in a crosswind.

LANDING

1 - Throttle . . . . **Flight IDLE**

Avoid three-point landings. Adopt a positive flight attitude in order to touch runway first with main landing gear.

After wheels touch

2 - Reverse . . . . **As required**

(Reverse may be applied as soon as the wheels touch the ground.)

To avoid ingestion of foreign objects, come out 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

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**

<u>Weight below 6579 lbs (2984 kg)</u>

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 control .... **UP**
All warning lights OFF

When IAS is at or above 110 KIAS :

5 - Flaps .... **UP**

6 - Climb speed .... **As required**

<u>Weight above 6579 lbs (2984 kg)</u>

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 control .... **UP**
All warning lights OFF

When IAS is at or above 115 KIAS :

8 - Flaps .... **UP**

9 - Climb speed .... **As required**

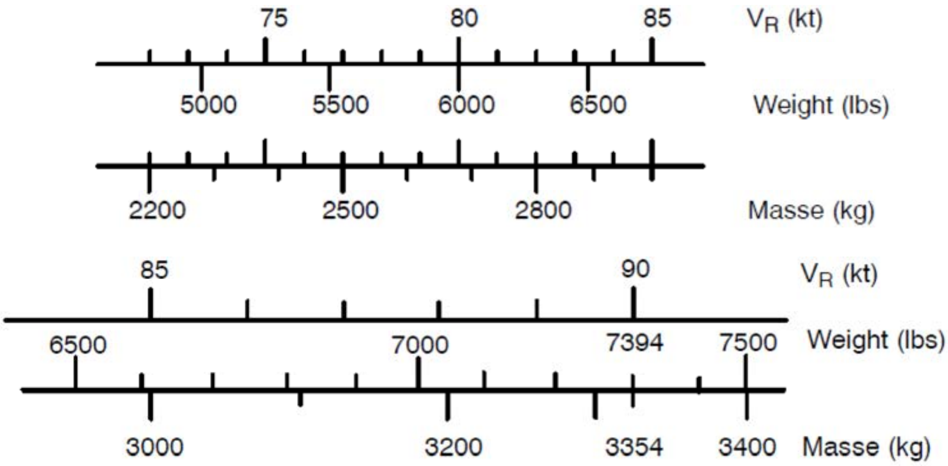
10 - Power .... **As required**

TOUCH AND GO

Before wheels touch

1 - Takeoff distances . . . . **Checked**
See "Takeoff distances" Chapter 5.9

2 - Rotation speed (V_R) . . . . **Checked**



After wheels touch

1 - Flaps . . . . **TO**

Check that flaps have well reached the TO position before increasing power. Do not increase power with full flaps, as airplane may lift off prematurely at low speed.

2 - Elevator trim . . . . **Green sector**

To use elevator trim manual control is faster than to use electric control. Ensure that runway length is sufficient to complete this sequence.

3 - 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.

AFTER LANDING

CAUTION

GENERATOR LOAD < 200 AMPS

RUNWAY CLEAR - AIRPLANE STOPPED

1 - DE ICE SYSTEM panel

- "AIRFRAME DE ICE" switch .... **OFF**
- "PROP DE ICE" switch .... **OFF**
- "INERT SEP" switch .... **Checked ON**
- "WINDSHIELD" switch .... **As required**
- "PITOT L HTR" switch .... **OFF**
- "PITOT R & STALL HTR" switch .... **OFF**
- "BLEED" switch .... **As required**

Taxiing with BLEED OFF may slightly help reduce the ITT, thus reducing the required stabilization time before shut-down. This should be applied only for short taxi duration and is left to the pilot judgement.

2 - Radar (if installed) .... **Checked STANDBY**

Maintain radar (if installed) on STANDBY in order not to generate radiations prejudicial to outside persons. The radar is automatically set to STANDBY after the touch-down.

3 - Transponder .... **Checked SBY**

The transponder is automatically set to SBY after the touch-down.

4 - Flaps .... **UP**

5 - "STROBE" switch .... **OFF**

6 - Lights

- "OFF/TAXI/LDG" switch .... **TAXI**

7 - Trims .... **TAKEOFF position**

SHUT-DOWN (1/2)

1 - Park brake . . . . **ON**

WARNING CAS MESSAGE "PARK BRAKE" . . . . ON

2 - ECS panel

- "BLEED" switch . . . . **OFF/RST**
- Check for cabin depressurization
- "A/C" switch . . . . **OFF**

3 - Throttle . . . . **Flight IDLE for 1 minute minimum**

This allows the engine to stabilize at minimum obtainable ITT in order to prevent the likelihood of oil coking in the #3 bearing area.

ITT is considered stabilized when variations are less than $\pm$ 5°C.

If BLEED was selected to OFF after landing and taxi was performed at Flight IDLE power, the taxi time is considered as cooling time. Therefore the above stabilization time can be reduced accordingly.

4 - "TAXI" light . . . . **OFF**

5 - "AP / TRIMS" switch . . . . **OFF**

6 - Throttle . . . . **LO / IDLE for 15 seconds**

Keep throttle on LO / IDLE position for 15 seconds minimum before shutting down engine.

7 - Throttle . . . . **CUT OFF**

8 - "INERT SEP" switch . . . . **OFF**

9 - EXT LIGHTS panel

- All switches . . . . **OFF**

10 - INT LIGHTS panel

- All switches . . . . **OFF**

11 - Fuel

Wait for "AUX BP" operation.

- "AUX BP" switch . . . . **OFF**
- "FUEL SEL" switch . . . . **MAN**
- Tank selector . . . . **OFF**

12 - "OXYGEN" switch . . . . **OFF**

13 - "GENERATOR" selector . . . . **OFF**

14 - "SOURCE" selector . . . . **OFF**

15 - Crash lever . . . . **Pulled down**

SHUT-DOWN (2/2)

16 - Park brake . . . . **As required**

CAUTION

IN CASE OF HIGH OAT [ABOVE 35° C (95° F)], IT IS RECOMMENDED TO PERFORM 30 SECONDS DRY MOTORING RUN AFTER SHUT-DOWN TO IMPROVE COOLING OF THE BEARING CAVITIES AND PREVENT OIL COKING (REFER TO PARAGRAPH "MOTORING").

- ESI-2000 - NORMAL PROCEDURE

  No pilot action required for normal shutdown. The ESI-2000 will shut down within 5 minutes.

- ESI-2000 - MANUAL PROCEDURE

  The ESI-2000 can be manually shut down when in the discharge mode to conserve battery power :

  . Remove all airplane power from the ESI.

  . Press any key (button) as stated by the on screen message.

  . Press the M (Menu) button repeatedly until shutdown menu is shown.

  . Press and hold the + (Hold) button until "SHUTTING DN" message is shown in the upper left corner of the screen.

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 (1/3)

CAUTION

THE AURAL 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.

General

1 - Icing conditions exist when the OAT on the ground or in flight is + 13°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 + 13°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°C on the ground.

3 - Flight into known icing conditions is authorized when all airplane equipment provided for ice protection is operating correctly. This includes :

- Pneumatic deice system for inboard and outboard wing, for stabilizers and for elevator horns.
- Propeller electrical deice system.
- Electrical heating system for both pitots and for the stall warning incidence sensor.
- Windshield electrical deice system.
- Inertial separator.

Description of deice systems is presented in Chapter 7.13.

Ice accumulation thickness is monitored by the pilot on the L.H. wing leading edge.

At night, a leading edge icing inspection light located on the fuselage L.H. side, activated by the "ICE LIGHT" switch, is provided.

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.

FLIGHT INTO KNOWN ICING CONDITIONS (2/3)

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.***

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 INCH).

This will avoid ice fragments coming from propeller spinner and being ingested by engine.

INERTIAL SEPARATOR POSITION AFFECTS ENGINE PARAMETERS (PARTICULARLY TRQ AND ITT). CARE MUST BE EXERCISED WHEN OPERATING THE INERTIAL SEPARATOR OR WHEN INCREASING POWER WITH THE INERTIAL SEPARATOR ON, TO AVOID EXCEEDING ENGINE LIMITATIONS.

NOTE

"IGNITION" switch may be left ON for a long period.
Standby compass indications are altered when windshield deicing system(s) operate(s).

FLIGHT INTO KNOWN ICING CONDITIONS (3/3)

3 - Procedures for holding, approach and landing in icing conditions :

- Minimum recommended speeds are :

	Weight	
	< 6579 lbs (2984 kg)	> 6579 lbs (2984 kg)
Flaps UP	130 KIAS	135 KIAS
Flaps TO	110 KIAS	110 KIAS
Flaps LDG	90 KIAS	95 KIAS

- If there is ice on the unprotected surfaces of the airplane, during flight end phase, conduct holding with the flaps up. Use flaps as required for final approach and landing at minimum speeds noted above.

Ice accumulation effects

When ice has accumulated on the unprotected surfaces of the airplane, aerodynamic characteristics may be changed.

Particularly stall speeds may increase by up to :

- Flaps UP 20 KIAS
- Flaps TO 15 KIAS
- Flaps LDG 10 KIAS

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 CONDUCIVE TO SEVERE IN-FLIGHT ICING :

- Visible rain at temperatures below 0°C ambient air temperature,
- Droplets that splash or splatter on impact at temperatures below 0°C ambient air temperature.

Procedures for exiting the severe icing environment

<u>**REMARK**</u> **: 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 TAMPED SNOW

Refer if required to paragraph "UTILIZATION BY COLD WEATHER AND VERY COLD WEATHER".

Preflight inspection

1 - Remove any snow or ice from the wings, stabilizers and movable surfaces, landing gear wells and gear doors, as well as flap tracks, actuators and their fairings.

2 - Spray anti-icing fluid on the wings, stabilizers and movable surfaces (upper and lower surfaces) and in the landing gear wells, shortly before takeoff.

Taxiing

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

2 - Taxi at very slow speed (max. 5 KIAS), flaps up, brake occasionally to maintain the brake pads warm (this will prevent any subsequent locking due to freezing after takeoff).

Before takeoff

1 - If the runway is long enough, takeoff should be performed with the flaps in the up position. In that case, rotation speed must be increased by 5 KIAS.

NOTE

Takeoff distances must be increased to take into account the flap position (+ 15 % compared to the takeoff position) and the runway condition.

The ground roll may be multiplied by 3 in some melting or not tamped snow cases.

2 - "IGNITION" switch . . . . **ON**

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

Takeoff

1 - Lightly lift up nose wheel during takeoff run in order to reduce the forward resistance due to snow accumulation against the wheel.

2 - After takeoff, normally retract the landing gear, then perform a complete cycle (extension / retraction) at IAS ≤ 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".

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**

Takeoff

1 - After takeoff, normally retract the landing gear, then perform a complete cycle (extension / retraction) at IAS $\leq$ 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.

UTILIZATION ON ICY OR COVERED WITH TAMPED SNOW RUNWAYS (2/2)

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) (1/9)

<u>REMARK</u> : The procedures hereafter supplement the normal procedures for the airplane use when operating under temperatures between 0° C and - 40° C on ground.

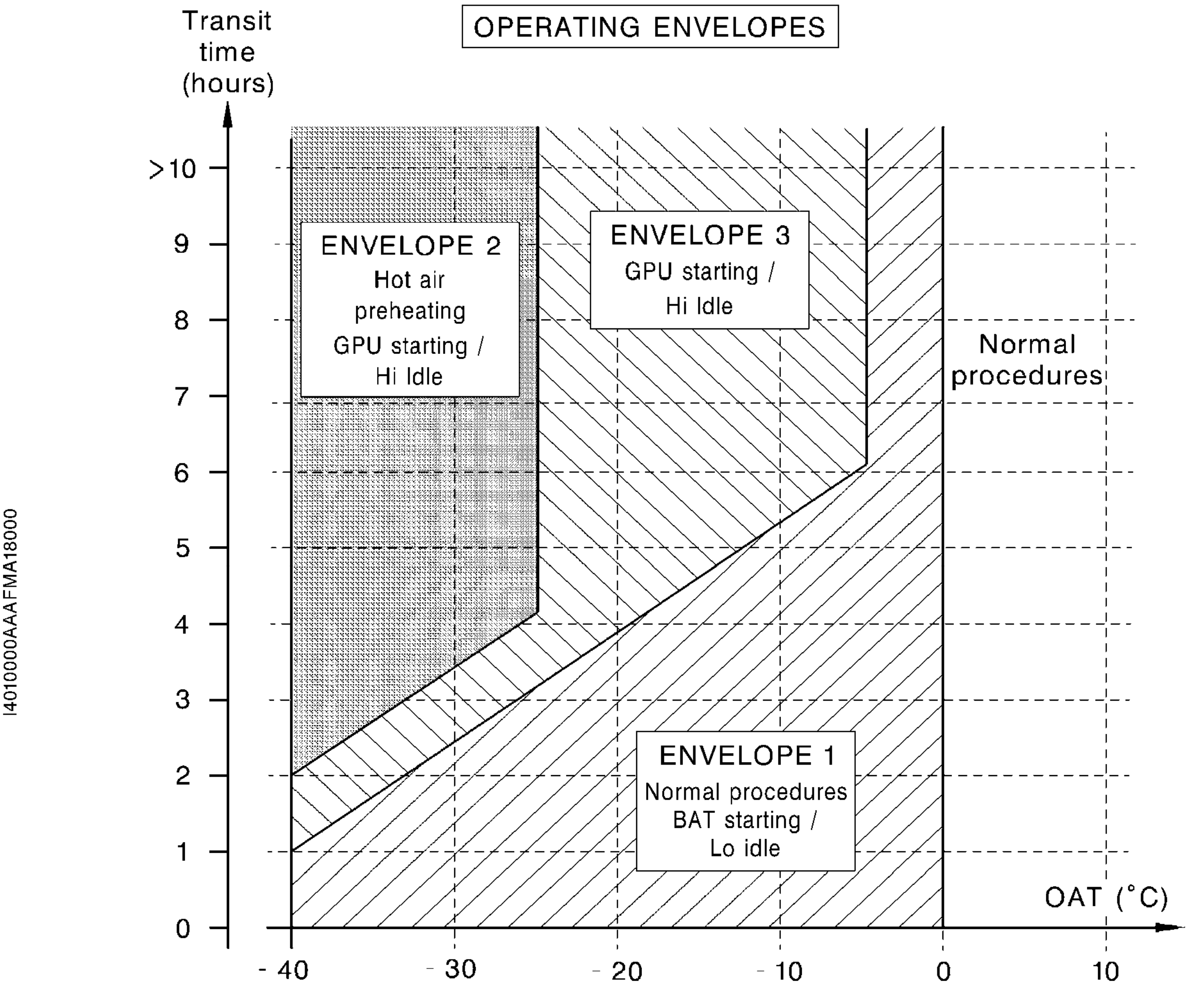


Figure 4.5.1 - OPERATING ENVELOPES BY COLD WEATHER (- 0° C to - 25° C) AND VERY COLD WEATHER (- 25° C to - 40° C)

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (2/9)

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**

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".

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (3/9)

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) (4/9)

ENVELOPE 2

The procedures hereafter supplement or replace the normal procedures for the airplane use when operating in the "envelope 2" defined in Figure 4.5.1.

Preflight inspection

1 - Preheat the engine and the cabin.

Preheating the engine and the cabin during at least 30 minutes is necessary using a heater (70°C mini). Hot air pipes must be installed :

- in the air inlet,
- on engine rear table by opening the upper cowling,
- in the cabin by half-opening the 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.

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**

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (5/9)

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**

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 - G1000 . . . . **Composite mode**

7 - "ENGINE START" panel

- "IGNITION" switch . . . . **ON**

WARNING CAS MESSAGE "IGNITION" . . . . ON

- "STARTER" switch . . . . **ON, take a time**

WARNING CAS MESSAGE "STARTER" . . . . ON

When Ng ≃ 13 %

- Throttle . . . . **HI / IDLE**

Move directly throttle to HI / IDLE

NOTE

The more the temperature is low, the more the selector is hard to move. Starter limits and checks of starting sequence are unchanged.

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (6/9)

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, DO IT USING THE "ABORT" POSITION OF THE STARTER SWITCH.

9 - Engine instruments .... **Check Ng = 69 % (± 2 %) (Oil pressure / ITT = green sector)**

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

WARNING CAS MESSAGE "BAT OFF" .... OFF

11 - "IGNITION" switch .... **AUTO**

WARNING CAS MESSAGE "IGNITION" .... OFF

12 - Ground power unit .... **HAVE IT DISCONNECTED**

WARNING CAS MESSAGE "GPU DOOR" .... OFF

13 - "FUEL" panel

- "AUX BP" switch .... **AUTO**

WARNING CAS MESSAGE "AUX BOOST PMP ON" ...... OFF

14 - Generator

WARNING CAS MESSAGE "MAIN GEN" .... OFF RESET if necessary

After starting the engine

1 - On "ECS" panel

As soon as the current flow is lower than 100 A :

- "BLEED" switch .... **AUTO**
- "CONTROL" selector .... **COCKPIT**
- "TEMP/° C" selector .... **FULL HOT**

As soon as the oil temperature is greater than 0°C :

2 - Throttle .... **Flight IDLE to HI / IDLE twice, then Flight IDLE**

3 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (7/9)

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) (8/9)

ENVELOPE 3

The procedures defined for the "envelope 2" are also applicable for the "envelope 3". However it is possible to start the engine using GPU **without preheating of the engine and the cabin** with a heater. In that case the procedure "After starting the engine" is modified as follows :

Preflight inspection / Before starting the engine / Starting the engine

Apply the procedures defined for the Envelope 2.

After starting the engine

1 - On "ECS" panel

As soon as the current flow is lower than 100 A :

- "BLEED" switch .... **AUTO**
- "CONTROL" selector .... **COCKPIT**
- "TEMP/° C" selector .... **FULL HOT**

Preheat the cabin respecting time defined in Figure 4.5.2 before switching on the navigation and monitoring systems. This allows to respect minimum temperatures necessary for the equipment operation.

As soon as the oil temperature is greater than 0°C :

2 - Throttle .... **Flight IDLE to HI / IDLE twice, then Flight IDLE**

3 - Apply normal procedures defined in Chapter(s) 4.3 and / or 4.4.

Taxiing / Before takeoff / Takeoff

Apply procedures defined for Envelope 1.

Landing / After landing / Shut down

Apply procedures defined for Envelope 1.

UTILIZATION BY COLD WEATHER (- 0° C TO - 25° C) AND VERY COLD WEATHER (- 25° C TO - 40° C) (9/9)

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.

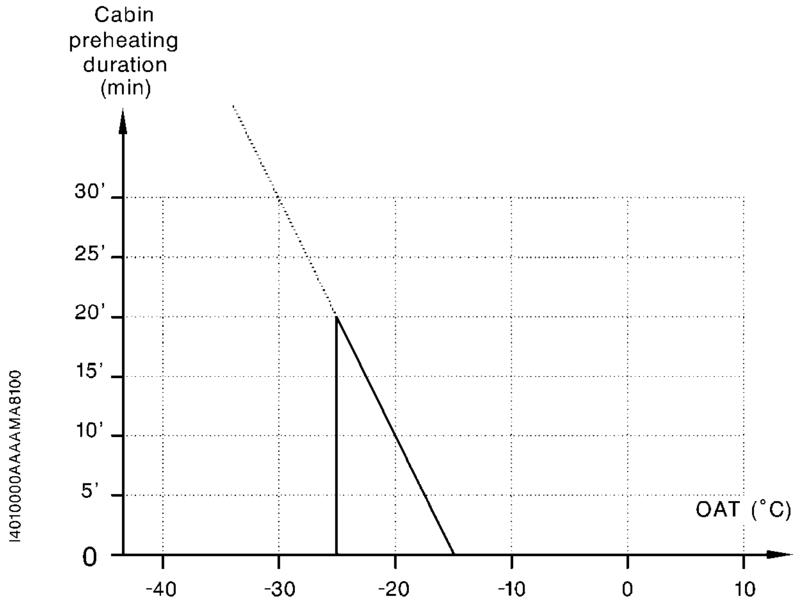


Figure 4.5.2 - PREHEATING DURATION

LANDING PROCEDURE WITH STRONG HEADWIND OR CROSSWIND

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. $\Delta V = 10$ 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 (ie left crosswind, left wing low).

Do not use or select the fuel tank on the low wing side during prolonged sideslips with a fuel low warning or gage indicating low.

Retract flaps immediately after landing.

Flap travel is slow and will not have an appreciable effect on landing performance.

Do not try to stabilize the airplane by pushing down the elevator control just after the touch ; this operation may provide pitch oscillations while increasing the yaw movement to the wind.

Do not deflect ailerons into wind while taxiing. This will raise spoilers and have a detrimental effect. A good solution is to maintain ailerons to neutral position during 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

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 G1000 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 G1000 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

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

TABLE OF CONTENTS

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

	Maximum noise level permissible	Demonstrated noise level
FAR PART 36, Appendix G - Amdt 28	88 dB(A)	77.8 dB(A)
ICAO, Annex 16, Vol. 1, 6th edition, Amdt 8 Chapter 10, Appendix 6	85 dB(A)	77.8 dB(A)

Approved noise levels for TBM airplanes are stated in EASA Noise Type Certificate Data Sheet A.010.

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).***

FLAPS UP LDG GR UP		FLAPS TO LDG GR DN		FLAPS LDG LDG GR DN	
KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
125	128	70	69	60	58
150	154	80	80	70	68
175	179	90	90	80	78
200	205	100	101	90	88
225	230	120	121	100	98
250	255	140	141	110	108
266	271	160	162	120	118
MPH IAS	MPH CAS	MPH IAS	MPH CAS	MPH IAS	MPH CAS
144	147	81	79	69	67
173	177	92	92	81	78
201	206	104	104	92	90
230	236	115	116	104	101
259	264	138	139	115	113
288	293	161	162	127	124
307	312	184	187	138	136

Figure 5.3.1 - NORMAL STATIC SOURCE

FLAPS UP LDG GR UP		FLAPS TO LDG GR DN		FLAPS LDG LDG GR DN	
KIAS	KCAS	KIAS	KCAS	KIAS	KCAS
125	124	70	70	60	59
150	149	80	80	70	69
175	174	90	90	80	79
200	199	100	100	90	90
225	224	120	120	100	100
250	249	140	139	110	110
271	270	160	159	120	120
MPH IAS	MPH CAS	MPH IAS	MPH CAS	MPH IAS	MPH CAS
144	142	81	81	69	68
173	171	92	92	81	79
201	200	104	104	92	91
230	229	115	115	104	104
259	258	138	138	115	115
288	287	161	160	127	127
312	311	184	183	138	138

Figure 5.3.2 - ALTERNATE STATIC SOURCE (BLEED AUTO)

5.4 - CABIN PRESSURIZATION ENVELOPE

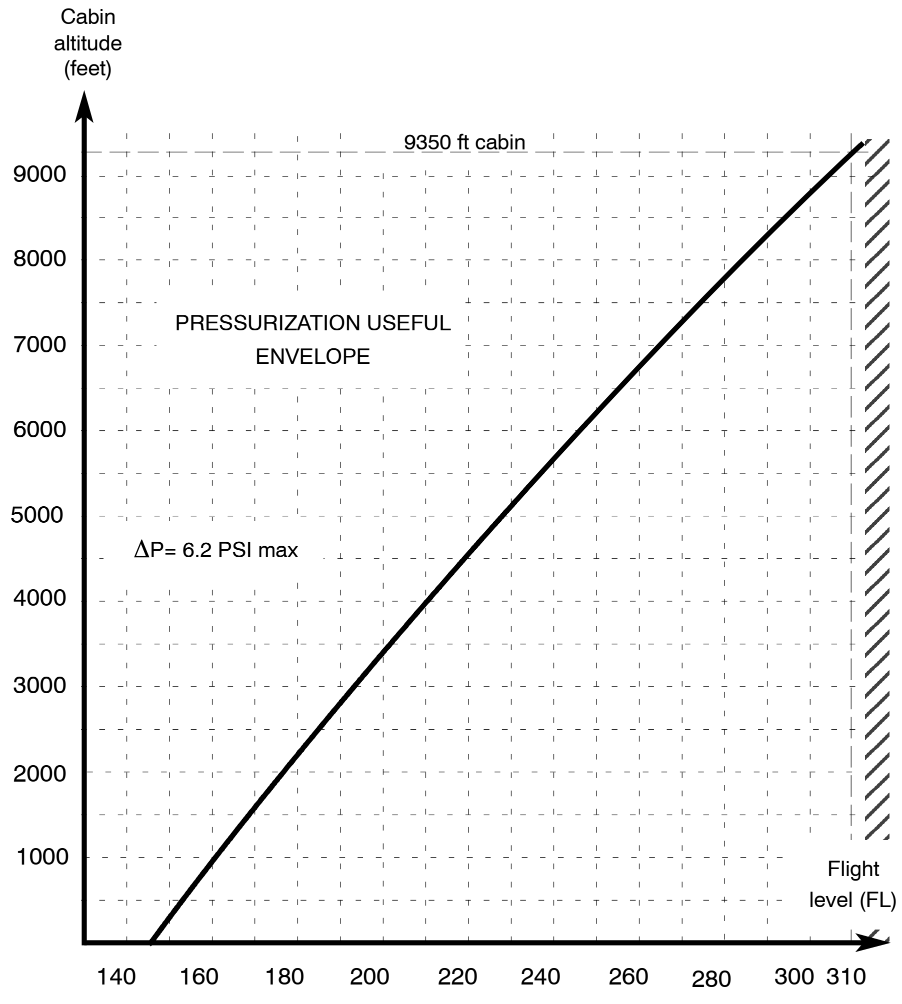


Figure 5.4.1 - CABIN PRESSURIZATION ENVELOPE

5.5 - SAT - OAT CONVERSIONS

NOTE

These indicated temperatures are available for stabilized cruise at normal operating power.

Pressure altitude (feet)	ISA – 20°C		ISA – 10°C		ISA		ISA + 10°C		ISA + 20°C	
	SAT	OAT	SAT	OAT	SAT	OAT	SAT	OAT	SAT	OAT
SL	– 05	– 04	05	06	15	16	25	26	35	36
2000	– 09	– 08	01	02	11	12	21	22	31	32
4000	– 13	– 12	– 03	– 02	07	08	17	18	27	28
6000	– 17	– 16	– 07	– 06	03	04	13	14	23	24
8000	– 21	– 20	– 11	– 10	– 01	00	09	10	19	20
10000	– 25	– 24	– 15	– 14	– 05	– 04	05	06	15	16
12000	– 29	– 28	– 19	– 18	– 09	– 08	01	02	11	12
14000	– 33	– 32	– 23	– 22	– 13	– 12	– 03	– 02	07	08
16000	– 37	– 36	– 27	– 26	– 17	– 16	– 07	– 06	03	04
18000	– 41	– 40	– 31	– 30	– 21	– 20	– 11	– 10	– 01	00
20000	– 45	– 44	– 35	– 34	– 25	– 24	– 15	– 14	– 05	– 04
22000	– 49	– 48	– 39	– 38	– 29	– 28	– 19	– 18	– 09	– 08
24000	– 53	– 52	– 43	– 42	– 33	– 32	– 23	– 22	– 13	– 12
26000	– 57	– 56	– 47	– 46	– 37	– 36	– 27	– 26	– 17	– 16
28000	– 61	– 60	– 51	– 50	– 41	– 40	– 31	– 30	– 21	– 20
30000	– 65	– 64	– 55	– 54	– 45	– 44	– 35	– 34	– 25	– 24
31000	– 67	– 66	– 57	– 56	– 47	– 46	– 37	– 36	– 27	– 26

Figure 5.5.1 - SAT - OAT CONVERSIONS

5.6 - STALL SPEEDS

AIRPLANE WEIGHT	CONFIG.		BANK											
	FLIGHT IDLE		0°			30°			45°			60°		
	LDG GR	Flaps	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS	KIAS	KCAS	MPH IAS
4850 lbs (2200 kg)	UP	UP	65	66	75	70	71	81	78	79	90	91	93	105
	DN	TO	62	63	71	67	68	77	73	75	84	87	89	100
	DN	LDG	53	53	61	57	57	66	63	63	73	75	75	86
5512 lbs (2500 kg)	UP	UP	70	71	81	75	76	86	82	84	94	98	100	113
	DN	TO	66	67	76	71	72	82	78	80	90	93	95	107
	DN	LDG	57	57	66	61	61	70	68	68	78	81	81	93
6579 lbs (2984 kg)	UP	UP	75	76	86	80	82	92	88	90	101	105	107	121
	DN	TO	71	72	82	75	77	86	84	86	97	100	102	115
	DN	LDG	61	61	70	66	66	76	73	73	84	86	86	99
7394 lbs (3354 kg)	UP	UP	81	83	93	88	89	101	97	99	112	119	117	137
	DN	TO	77	77	89	81	83	93	91	92	105	108	109	124
	DN	LDG	65	65	75	69	70	79	76	77	88	92	92	106

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

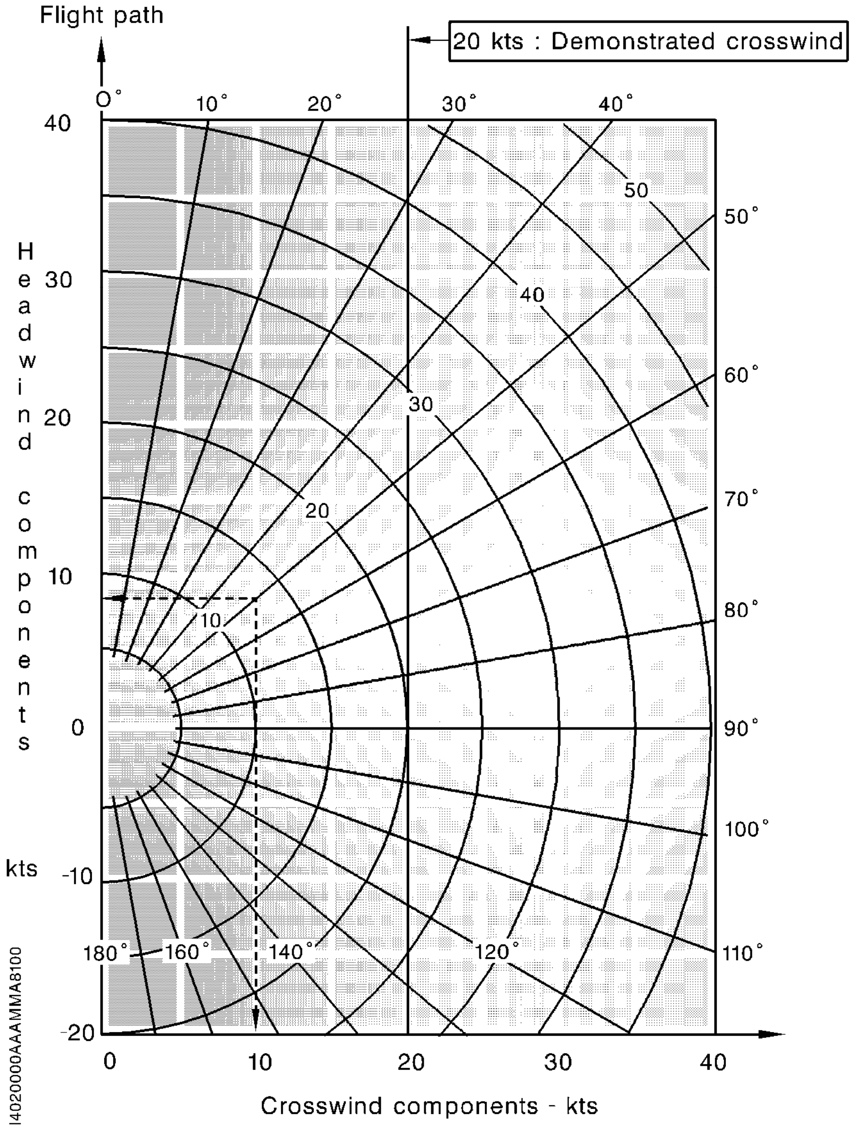


Figure 5.7.1 - WIND COMPONENTS

5.8 - ENGINE OPERATION

The following tables or/and the optimum torque indicator must be used during normal operation of the airplane.

<u>IMPORTANT</u> : **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 0719.10 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 = 82 % 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 = 96 % (cf. tables Figures 5.8.3 and 5.8.3A)

Recommended cruise power :

TRQ = 91 % (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 %

<u>REMARK</u> : **The engine ITT limit at 840°C during continuous operation may be used in case of operational need.**

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"

<u>NOTE</u> : ***Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22											
-20		**TRQ = 100 %**									
-18											
-16											
-14											
-12											100
-10											99
-8											97
-6										100	95
-4										98	94
-2									100	97	92
+0									99	94	90
+2								100	97	92	87
+4								99	94	89	84
+6							100	96	91	86	81
+8							99	93	88	84	79
+10						100	96	91	86	81	77
+12						98	93	88	83	79	74
+14					100	96	90	85	81	76	71
+16				100	97	93	87	83	78	73	
+18				99	94	90	85	80	75		
+20			100	96	91	87	82	77			
+22			98	93	88	84	79				
+24		100	95	90	85	81					
+26	100	97	92	87	83						
+28	98	93	89	84							
+30	95	90	86								
+32	92	87									
+34	89										

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

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.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68									99	95	90	86
-66									98	94	89	85
-64		**TRQ = 100 %**							97	93	88	84
-62									96	92	87	83
-60								100	95	91	86	82
-58								99	94	90	85	81
-56								98	93	89	84	80
-54								97	92	88	84	80
-52							100	96	91	87	83	79
-50							99	94	90	86	82	78
-48							98	93	89	85	81	77
-46							97	92	88	84	80	76
-44						100	96	91	87	83	79	76
-42						99	95	90	86	82	78	74
-40						98	94	89	85	81	77	73
-38						97	92	88	84	80	76	72
-36					100	96	91	87	83	79	75	71
-34					98	94	90	86	81	77	74	70
-32					97	93	89	84	80	76	72	69
-30				100	96	92	87	83	79	75	71	68
-28				99	95	91	86	82	78	74	70	67
-26				97	93	89	85	81	77	73	69	65
-24			100	96	92	88	84	79	75	72	68	64
-22			99	95	91	87	82	78	74	70	66	63
-20			98	94	89	85	81	77	73	69	65	61
-18		100	96	92	88	84	80	76	71	67	63	59
-16		99	95	91	87	82	78	74	70	65	61	58
-14		98	93	89	85	81	76	72	68	64	60	56
-12	100	96	92	88	84	79	74	70	66	62	58	54
-10	99	95	90	86	81	77	73	68	64	60	56	52
-8	97	93	88	84	80	75	71	66	62	58	54	50
-6	95	91	87	82	78	73	69	64	60	56	52	
-4	94	89	84	80	76	71	66	62	58	54		
-2	92	87	82	78	73	69	64	60	56			
+0	90	84	80	75	70	66	62	58				
+2	87	82	77	73	68	64	60					
+4	84	79	75	70	66	62						
+6	81	77	73	68	64							
+8	79	75	70	66								
+10	77	72	68									
+12	74	69										
+14	71											

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %

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.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22		**TRQ - 100 %**									
-20											
-18											
-16											
-14											
-12											
-10											
-8											100
-6											99
-4											97
-2										100	94
0									100	97	91
2									99	94	89
4								100	96	91	86
6								98	93	89	84
8							100	96	91	86	81
10							98	93	88	83	78
12						100	95	90	85	80	76
14					100	97	92	87	82	78	73
16					99	94	89	84	80	75	
18				100	96	91	86	81	77		
20				98	93	88	84	79			
22			100	95	90	85	81				
24		100	97	92	87	83					
26		98	94	89	84						
28	100	95	91	86							
30	97	92	88								
32	94	89									
34	91										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %

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.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68										98	93	88
-66										97	92	87
-64		TRQ = 100 %								96	91	86
-62									100	95	90	85
-60									99	94	89	84
-58									98	93	88	83
-56									97	92	87	82
-54								100	95	91	86	82
-52								99	94	89	85	81
-50								98	93	88	84	80
-48								97	92	88	83	79
-46							100	96	91	87	82	78
-44							99	95	90	85	81	77
-42							98	93	89	84	80	76
-40							97	92	87	83	79	75
-38						100	96	91	86	82	78	74
-36						99	94	90	85	81	77	72
-34						98	93	88	84	80	75	71
-32						96	92	87	83	78	74	70
-30					100	95	90	86	81	77	73	69
-28					98	94	89	85	80	76	72	68
-26					97	93	88	83	79	75	71	67
-24				100	96	91	87	82	78	74	70	65
-22				99	95	90	85	81	76	72	68	64
-20				98	93	89	84	79	75	71	66	62
-18			100	96	92	87	82	78	73	69	64	60
-16			99	95	90	85	81	76	71	67	63	59
-14			97	93	88	84	79	74	70	65	61	56
-12		100	95	91	86	82	77	72	68	63	59	54
-10		98	94	89	84	80	75	70	65	61	57	53
-8	100	96	92	87	82	78	72	67	63	59	55	51
-6	99	94	90	85	80	75	70	65	61	57	53	
-4	97	92	87	82	77	73	68	63	59	55		
-2	94	89	84	80	75	70	66	61	57			
+0	91	87	82	77	73	68	64	59				
+2	89	84	80	75	71	66	61					
+4	86	82	77	73	68	64						
+6	84	79	75	70	66							
+8	81	77	72	68								
+10	78	74	70									
+12	76	71										
+14	73											

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.2A - ENGINE OPERATION
[Maximum climb power (FL ≥ 200)]

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"

<u>NOTE</u> : ***Use preferably recommended cruise power.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22											
-20			**TRQ = 100 %**								
-18											
-16											
-14											
-12											
-10											
-8											
-6											
-4											
-2											
+0											
+2											100
+4											97
+6										100	94
+8									100	97	91
+10									99	94	88
+12								100	96	91	86
+14								99	93	88	83
+16							100	96	90	85	
+18							98	93	87		
+20						100	95	90			
+22					100	97	92				
+24					99	94					
+26				100	96						
+28				98							
+30			100								
+32		100									
+34	100										

<u>CAUTION</u>

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

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

<u>NOTE</u> : ***Use preferably recommended cruise power.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-62												100
-60			**TRQ = 100 %**									98
-58												97
-56											100	95
-54											99	94
-52											98	93
-50											97	92
-48										100	95	90
-46										99	94	89
-44										97	92	87
-42									100	96	91	86
-40									99	94	89	85
-38									98	93	88	83
-36									96	92	87	82
-34								100	95	90	85	81
-32								99	94	89	84	79
-30								97	92	87	82	78
-28							100	96	91	86	81	76
-26							99	94	89	84	80	75
-24							98	93	88	83	78	73
-22							96	91	86	81	76	71
-20						100	94	89	84	79	74	69
-18						98	93	87	82	77	72	67
-16					100	96	90	85	80	75	70	65
-14					99	94	88	83	78	73	68	63
-12					97	92	86	81	76	71	66	61
-10				100	94	89	84	79	73	68	63	59
-8				97	92	87	81	76	71	66	61	57
-6			100	95	89	84	79	73	68	64	59	
-4			97	92	87	81	76	71	66	62		
-2		100	95	89	84	79	74	69	64			
+0		97	92	86	81	76	72	67				
+2	100	94	89	84	79	74	69					
+4	97	92	87	82	76	72						
+6	94	89	84	79	74							
+8	91	86	81	76								
+10	88	83	78									
+12	86	80										
+14	83											

<u>CAUTION</u>

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) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

<u>NOTE</u> : ***This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.***

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22											
-20		**TRQ = 100 %**									
-18											
-16											
-14											
-12											
-10											
-8											
-6											
-4											100
-2											98
+0										100	95
+2										98	93
+4									100	95	90
+6									98	92	87
+8								100	94	89	84
+10							100	97	91	86	81
+12							99	94	88	83	78
+14						100	96	91	85	80	75
+16						98	93	88	82	78	
+18					100	95	90	85	80		
+20				100	97	92	87	82			
+22				99	94	89	84				
+24			100	96	91	86					
+26		100	98	92	88						
+28		99	94	89							
+30	100	96	91								
+32	98	93									
+34	95										

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.4 - ENGINE OPERATION
[Normal (recommended) cruise power (FL ≤ 200)]

ENGINE OPERATION

Conditions :

Normal (recommended) cruise power (FL ≥ 200) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

NOTE : ***This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.***

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68												100
-66												99
-64		**TRQ = 100 %**										98
-62												96
-60											100	95
-58											98	93
-56											97	92
-54										100	95	90
-52										99	94	89
-50										97	92	87
-48									100	96	91	86
-46									99	94	89	84
-44									98	93	88	83
-42									96	91	86	82
-40								100	95	90	85	80
-38								98	93	88	84	79
-36								97	92	87	82	78
-34							100	95	90	86	81	76
-32							99	94	89	84	80	75
-30							97	92	88	83	78	74
-28							96	91	86	81	77	72
-26						100	94	90	84	80	75	71
-24						98	93	88	83	78	73	69
-22					100	96	91	86	81	76	71	67
-20					99	94	89	84	79	74	69	65
-18					97	92	87	82	77	72	67	62
-16				100	95	90	85	80	75	70	65	60
-14				98	93	88	83	78	72	67	62	58
-12			100	96	91	86	80	75	70	65	60	56
-10			99	94	88	83	77	72	67	63	58	54
-8		100	96	91	85	80	75	70	65	61	56	52
-6		99	93	88	82	78	72	68	63	58	54	
-4	100	96	90	85	80	75	70	65	61	56		
-2	98	93	87	82	78	73	68	63	58			
+0	95	90	85	80	75	70	65	61				
+2	93	87	82	77	72	68	63					
+4	90	84	79	74	70	65						
+6	87	82	77	72	67							
+8	84	79	74	69								
+10	81	76	71									
+12	78	73										
+14	75											

CAUTION

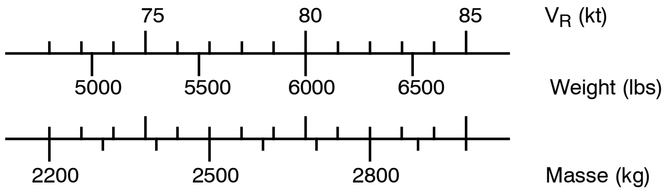
THE TRQ SETTING MUST NEVER EXCEED 100 %

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)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 5512 lbs (2500 kg) At 50 ft = 91 KIAS - 105 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	705	1140	780	1250	845	1330	875	1385
2000	780	1245	875	1375	910	1445	975	1545
4000	870	1370	950	1500	1035	1610	1110	1720
6000	945	1495	1075	1670	1160	1795	1255	1925
8000	1 070	1665	1210	1865	1315	2010	1440	2160
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	935	1475	995	1570	1075	1665	1120	1735
2000	1060	1645	1130	1750	1205	1860	1265	1940
4000	1190	1835	1280	1960	1390	2090	1455	2180
6000	1370	2060	1470	2200	1580	2345	1660	2445
8000	1560	2315	1675	2470	1800	2630	1890	2745

Figure 5.9.1 - TAKEOFF DISTANCES - 5512 lbs (2500 kg)

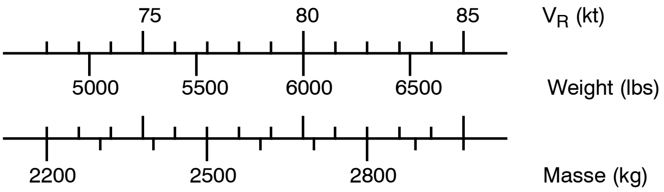
Corrections :
- Reduce total distances of 10 % every 10 kts of headwind
- Increase total distances of 30 % every 10 kts of rear wind
- Increase by : 7 % on hard sod, 25 % on high grass, 10 % on short grass, 30 % on slippery runway, 15 % on wet runway

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.***

NOTE : ***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)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 6579 lbs (2984 kg) At 50 ft = 94 KIAS - 108 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1055	1525	1175	1680	1230	1765	1320	1885
2000	1175	1675	1280	1830	1390	1965	1495	2105
4000	1275	1825	1445	2045	1560	2200	1695	2355
6000	1440	2035	1630	2285	1780	2460	1925	2650
8000	1620	2275	1860	2565	2025	2770	2190	2980
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1420	2015	1520	2145	1625	2280	1710	2375
2000	1600	2250	1730	2400	1855	2560	1945	2670
4000	1830	2525	1965	2700	2110	2880	2215	3005
6000	2080	2840	2255	3035	2415	3235	2535	3375
8000	2380	3190	2565	3405	2750	3625	2880	3780

Figure 5.9.2 - TAKEOFF DISTANCES - 6579 lbs (2984 kg)

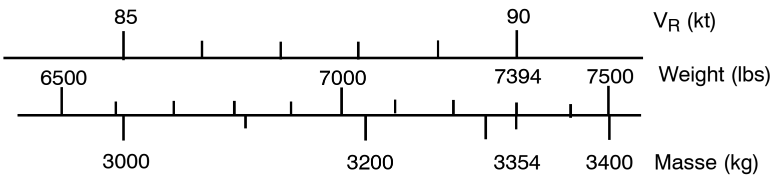
Corrections :
. Reduce total distances of 10 % every 10 kts of headwind
. Increase total distances of 30 % every 10 kts of rear wind
. Increase by : 7 % on hard sod, 25 % on high grass, 10 % on short grass, 30 % on slippery runway, 15 % on wet runway

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.***

NOTE : ***In SL ISA conditions, nominal Np is of 1985 RPM.***

WEIGHT : 7394 lbs (3354 kg)

Associated conditions :
- Landing gear DN and flaps TO
- 12°5 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)



WEIGHT : 7394 lbs (3354 kg) At 50 ft = 99 KIAS - 114 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1440	2030	1580	2215	1705	2380	1845	2555
2000	1575	2205	1790	2480	1935	2665	2085	2860
4000	1770	2470	2020	2775	2185	2985	2380	3210
6000	2010	2765	2300	3110	2500	3360	2715	3620
8000	2285	3095	2620	3505	2850	3785	3115	4075
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1985	2730	2125	2915	2290	3100	2405	3240
2000	2260	3060	2430	3275	2610	3495	2740	3655
4000	2570	3450	2770	3690	2995	3935	3145	4110
6000	2950	3885	3180	4150	3415	4425	3580	4615
8000	3365	4365	3620	4660	3880	4960	4070	5170

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

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.***

NOTE : ***In SL ISA conditions, nominal Np 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

Airplane weight	Pressure Altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
5794 lbs (2628 kg)	SL	3050	2915	2800	2685	2580	2480
	2000	3025	2890	2765	2655	2545	2445
	4000	2995	2860	2735	2615	2505	2405
	6000	2960	2820	2695	2575	2465	2360
	8000	2930	2790	2655	2535	2425	2320
6594 lbs (2991 kg)	SL	2585	2470	2365	2270	2175	2090
	2000	2560	2445	2335	2240	2145	2055
	4000	2530	2415	2305	2205	2110	2020
	6000	2500	2380	2265	2165	2070	1980
	8000	2465	2345	2230	2125	2035	1945
7394 lbs (3354 kg)	SL	2195	2095	2005	1920	1840	1765
	2000	2170	2070	1975	1890	1810	1730
	4000	2140	2035	1945	1855	1770	1695
	6000	2110	2005	1905	1820	1735	1660
	8000	2075	1970	1870	1780	1700	1620

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

Airplane weight	Pressure Altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
5794 lbs (2628 kg)	SL	2410	2380	2350	2320	2290	2265
	2000	2370	2335	2305	2275	2245	2210
	4000	2325	2295	2260	2225	2190	2160
	6000	2285	2250	2210	2175	2140	2105
	8000	2235	2200	2165	2125	2085	2050
6594 lbs (2991 kg)	SL	2070	2040	2015	1985	1960	1935
	2000	2030	2000	1970	1945	1915	1885
	4000	1990	1965	1935	1900	1870	1840
	6000	1955	1920	1885	1855	1825	1790
	8000	1910	1875	1845	1805	1775	1740
7394 lbs (3354 kg)	SL	1795	1765	1740	1715	1695	1670
	2000	1760	1730	1705	1680	1650	1625
	4000	1720	1695	1665	1635	1610	1580
	6000	1685	1655	1625	1595	1565	1535
	8000	1645	1615	1585	1550	1520	1485

Figure 5.10.2 - MXCL - SPEEDS (IAS - 170 KIAS / M 0.40)

NOTE : ***In SL ISA conditions, nominal Np is of 1985 RPM.***

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" MSG ON selected, fuel consumptions increased by 1 %***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.0	1	00:45	5	4	1.2	2	01:00	5	4	1.4	2
4000	01:30	8	6	2.1	3	01:45	9	7	2.4	3	02:00	11	8	2.9	4
6000	02:15	12	9	3.0	4	02:30	14	11	3.6	5	03:00	16	13	4.2	6
8000	03:00	15	12	4.0	6	03:30	18	14	4.7	7	04:00	21	17	5.6	9
10000	03:45	19	15	5.0	8	04:30	22	17	5.9	9	05:15	26	21	6.9	11
12000	04:30	22	18	5.9	10	05:15	26	21	7.0	11	06:15	31	25	8.3	14
14000	05:15	26	20	6.9	11	06:15	31	24	8.1	14	07:15	36	29	9.6	16
16000	06:00	30	23	7.8	13	07:15	35	27	9.2	16	08:30	41	33	11.0	19
18000	06:45	33	26	8.7	15	08:00	39	31	10.4	18	09:30	47	37	12.3	22
20000	07:45	37	29	9.7	17	09:00	43	34	11.5	21	10:45	52	41	13.6	25
22000	08:30	40	32	10.6	20	10:00	48	37	12.6	24	12:00	57	45	15.0	28
24000	09:15	44	34	11.6	22	11:00	52	41	13.7	26	13:15	62	49	16.4	32
26000	10:15	47	37	12.5	25	12:15	56	44	14.9	30	14:30	67	53	17.8	35
28000	11:00	51	40	13.5	27	13:15	61	48	16.1	33	15:45	73	57	19.3	40
30000	12:00	55	43	14.5	30	14:30	66	52	17.4	37	17:30	79	62	20.8	44
31000	12:45	57	45	15.1	32	15:15	68	54	18.0	39	18:15	82	64	21.7	47

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" MSG ON selected,***
  - ***. Fuel consumptions increased by 2 %***
  - ***. Time to climb increased up to 1 % above FL 280***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.1	2	00:45	5	4	1.3	2	01:00	6	4	1.5	2
4000	01:30	8	6	2.1	3	01:45	10	7	2.5	4	02:00	11	9	3.0	4
6000	02:15	12	9	3.2	5	02:45	14	11	3.7	6	03:15	17	13	4.4	7
8000	03:00	16	12	4.2	6	03:30	19	15	4.9	8	04:15	22	17	5.8	9
10000	03:45	20	15	5.2	8	04:30	23	18	6.1	10	05:15	27	22	7.2	12
12000	04:30	23	18	6.2	10	05:30	28	22	7.3	12	06:30	33	26	8.6	14
14000	05:15	27	21	7.1	12	06:15	32	25	8.5	14	07:30	38	30	10.1	17
16000	06:15	31	24	8.1	14	07:15	36	29	9.6	17	08:45	43	34	11.5	20
18000	07:00	34	27	9.1	16	08:15	41	32	10.8	20	10:00	49	38	12.9	23
20000	07:45	38	30	10.1	19	09:15	45	36	12.0	22	11:00	54	43	14.3	27
22000	08:45	42	33	11.1	21	10:15	50	39	13.2	25	12:15	60	47	15.8	30
24000	09:30	46	36	12.1	24	11:30	55	43	14.4	28	13:45	65	51	17.3	34
26000	10:30	50	39	13.1	27	12:30	59	47	15.7	32	15:15	71	56	18.8	39
28000	11:30	54	42	14.2	30	14:00	64	50	17.0	36	16:45	77	61	20.5	44
30000	12:45	58	45	15.3	34	15:30	70	55	18.4	41	18:45	84	66	22.3	50
31000	13:30	60	47	15.9	36	16:15	72	57	19.1	44	19:45	88	69	23.2	54

Figure 5.10.4 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 124 KIAS) / ISA

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" MSG ON selected :***
  - ***Fuel consumptions increased by***
    - ***1 % below FL 240***
    - ***Up to 3 % from FL 240 to FL 310***
  - ***Time to climb increased by 1 % to 5 % from FL 200 to FL 310***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.1	2	01:00	5	4	1.3	2	01:00	6	5	1.6	2
4000	01:30	8	7	2.2	3	01:45	10	8	2.6	4	02:00	12	9	3.1	5
6000	02:15	12	10	3.3	5	02:45	15	12	3.9	6	03:15	17	14	4.6	7
8000	03:00	16	13	4.3	7	03:30	19	15	5.1	8	04:15	23	18	6.1	10
10000	03:45	20	16	5.4	9	04:30	24	19	6.4	10	05:30	29	22	7.6	12
12000	04:45	24	19	6.4	11	05:30	29	23	7.6	13	06:30	34	27	9.0	15
14000	05:30	28	22	7.4	13	06:30	33	26	8.8	15	07:45	40	31	10.5	18
16000	06:15	32	25	8.5	15	07:30	38	30	10.1	18	09:00	45	36	12.0	22
18000	07:15	36	28	9.5	17	08:30	43	34	11.3	21	10:15	51	40	13.5	25
20000	08:00	40	31	10.5	20	09:30	48	37	12.6	24	11:30	57	45	15.1	29
22000	09:00	44	34	11.6	23	10:45	53	41	13.9	27	13:00	63	50	16.7	33
24000	10:00	48	38	12.7	26	12:00	58	45	15.2	32	14:45	70	55	18.4	38
26000	11:15	52	41	13.9	30	13:30	63	50	16.7	36	16:30	76	60	20.2	44
28000	12:45	57	45	15.1	34	15:15	69	54	18.2	42	18:45	84	66	22.2	52
30000	14:15	62	49	16.4	40	17:15	75	59	19.9	49	21:30	93	73	24.5	61
31000	15:00	65	51	17.1	43	18:30	79	62	20.8	53	23:15	98	77	25.8	67

Figure 5.10.5 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 124 KIAS) / ISA + 20°C

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" MSG ON selected, fuel consumptions increased by 1 %***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.2	2	01:00	5	4	1.4	3	01:00	6	5	1.6	3
4000	01:45	9	7	2.3	5	02:00	10	8	2.7	5	02:15	12	9	3.2	6
6000	02:30	13	10	3.5	7	03:00	15	12	4.1	8	03:30	18	14	4.7	10
8000	03:30	18	14	4.6	10	04:00	20	16	5.4	11	04:30	24	19	6.3	13
10000	04:15	22	17	5.8	13	05:00	25	20	6.7	15	05:45	29	23	7.8	17
12000	05:15	26	20	6.9	16	06:00	30	24	8.0	18	07:00	35	28	9.3	21
14000	06:15	30	24	8.0	19	07:15	35	28	9.4	22	08:15	41	32	10.9	25
16000	07:15	35	27	9.2	22	08:15	40	32	10.7	26	09:45	47	37	12.4	30
18000	08:00	39	31	10.3	25	09:30	46	36	12.0	30	11:00	53	42	14.0	35
20000	09:15	43	34	11.5	29	10:45	51	40	13.4	34	12:30	59	46	15.6	40
22000	10:15	48	38	12.6	33	12:00	56	44	14.8	39	14:00	65	51	17.3	45
24000	11:15	52	41	13.8	37	13:15	61	48	16.2	43	15:30	72	56	18.9	51
26000	12:15	56	44	14.8	41	14:15	66	52	17.4	48	16:45	77	61	20.4	56
28000	13:00	60	47	15.8	44	15:30	70	55	18.6	52	18:00	83	65	21.8	61
30000	14:00	64	50	16.9	48	16:30	75	59	19.8	56	19:30	88	69	23.3	66
31000	14:30	66	52	17.4	50	17:15	77	61	20.4	59	20:15	91	72	24.1	69

Figure 5.10.6 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 170 KIAS / M 0.40) / ISA - 20°C

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 - "BLEED" switch on "AUTO"

NOTE :

- ***Time, consumption and distance from the 50 ft***
- ***If "BLEED HI" MSG ON selected :***
  - . ***Fuel consumptions increased by 2 %***
  - . ***Time to climb increased up to 2 % above FL 280***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	5	4	1.2	2	01:00	5	4	1.4	3	01:15	6	5	1.7	3
4000	01:45	9	7	2.5	5	02:00	11	9	2.9	6	02:15	13	10	3.3	7
6000	02:30	14	11	3.7	8	03:00	16	13	4.3	9	03:30	19	15	5.0	10
8000	03:30	18	14	4.9	11	04:00	22	17	5.7	12	04:45	25	20	6.6	14
10000	04:30	23	18	6.1	14	05:15	27	21	7.1	16	06:00	31	24	8.2	18
12000	05:30	27	22	7.3	17	06:15	32	25	8.5	19	07:15	37	29	9.9	23
14000	06:30	32	25	8.5	20	07:30	37	29	9.9	23	08:45	44	34	11.5	27
16000	07:30	37	29	9.7	24	08:45	43	34	11.3	28	10:00	50	39	13.2	32
18000	08:30	41	32	10.9	27	09:45	48	38	12.8	32	11:30	57	44	14.9	38
20000	09:30	46	36	12.2	31	11:15	54	42	14.2	37	13:00	63	50	16.7	43
22000	10:30	51	40	13.4	36	12:30	60	47	15.7	42	14:30	70	55	18.5	49
24000	11:45	56	44	14.7	40	13:45	65	51	17.2	47	16:15	77	60	20.2	56
26000	12:45	60	47	15.8	44	15:00	70	55	18.6	52	17:45	83	65	21.9	62
28000	14:00	64	50	17.0	49	16:15	76	59	20.0	58	19:15	89	70	23.5	68
30000	15:00	69	54	18.1	54	18:00	81	64	21.4	64	21:15	96	75	25.3	76
31000	15:45	71	56	18.7	56	18:45	84	66	22.1	67	22:15	99	78	26.3	80

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" MSG ON 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***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	5	4	1.3	3	01:00	6	4	1.5	3	01:15	7	5	1.8	3
4000	01:45	10	8	2.6	5	02:00	11	9	3.0	6	02:30	13	10	3.5	7
6000	02:45	15	11	3.9	8	03:15	17	13	4.5	10	03:45	20	16	5.2	11
8000	03:45	19	15	5.1	11	04:15	23	18	6.0	13	05:00	26	21	7.0	15
10000	04:30	24	19	6.4	14	05:15	28	22	7.5	17	06:15	33	26	8.7	20
12000	05:30	29	23	7.7	18	06:30	34	27	9.0	21	07:45	40	31	10.5	24
14000	06:30	34	27	8.9	21	07:45	40	31	10.5	25	09:00	46	36	12.2	30
16000	07:45	39	30	10.2	25	09:00	45	36	12.0	30	10:30	53	42	14.1	35
18000	08:45	44	34	11.6	30	10:15	51	40	13.6	35	12:00	60	47	15.9	41
20000	10:00	49	38	12.9	34	11:45	57	45	15.2	40	13:45	67	53	17.8	47
22000	11:15	54	43	14.4	39	13:15	64	50	16.9	47	15:30	76	59	20.0	55
24000	12:45	60	47	16.0	46	15:00	71	56	18.8	54	17:45	84	66	22.3	64
26000	14:15	66	52	17.4	52	17:00	78	61	20.6	62	20:15	93	73	24.5	74
28000	16:00	72	56	18.9	59	19:00	85	67	22.5	70	22:45	102	80	26.9	85
30000	17:45	77	61	20.4	66	21:15	92	73	24.4	80	25:45	112	88	29.5	97
31000	18:45	80	63	21.2	70	22:30	96	76	25.5	85	27:30	117	92	30.9	105

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**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
Airplane weight	Pressure altitude (feet)	ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
6594 lbs (2991 kg)	SL	1550	1520	1495	1465	1440	1410	1385
	2000	1525	1485	1455	1425	1395	1370	1340
	4000	1490	1440	1410	1380	1350	1320	1290
	6000	1450	1400	1365	1335	1305	1270	1240
	8000	1410	1355	1320	1285	1255	1215	1180

Conditions :
- Landing gear DN and flaps LDG
- **IAS = 95 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
7394 lbs (3354 kg)	SL	1285	1245	1220	1195	1165	1140	1115
	2000	1250	1210	1180	1155	1125	1100	1075
	4000	1215	1170	1140	1110	1085	1055	1020
	6000	1175	1130	1100	1065	1035	1000	970
	8000	1135	1090	1050	1015	980	945	910

Figure 5.10.9 - CLIMB PERFORMANCE AFTER GO-AROUND

CLIMB PERFORMANCE - FLAPS TO

Conditions :
- Landing gear UP and flaps TO
- **IAS = 110 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
6594 lbs (2991 kg)	SL	2240	2210	2190	2175	2160	2140	2125
	2000	2220	2190	2170	2150	2135	2115	2095
	4000	2195	2165	2145	2125	2105	2080	2060
	6000	2170	2140	2120	2095	2070	2050	2025
	8000	2150	2115	2085	2060	2035	2010	1985

Conditions :
- Landing gear UP and flaps TO
- **IAS = 115 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
7394 lbs (3354 kg)	SL	1940	1915	1895	1880	1865	1850	1830
	2000	1920	1890	1875	1860	1840	1815	1800
	4000	1900	1870	1850	1830	1805	1785	1765
	6000	1880	1845	1820	1800	1775	1755	1735
	8000	1850	1815	1790	1765	1745	1720	1695

Figure 5.10.10 - CLIMB PERFORMANCE - FLAPS TO

5.11 - CRUISE PERFORMANCE

MAXIMUM CRUISE

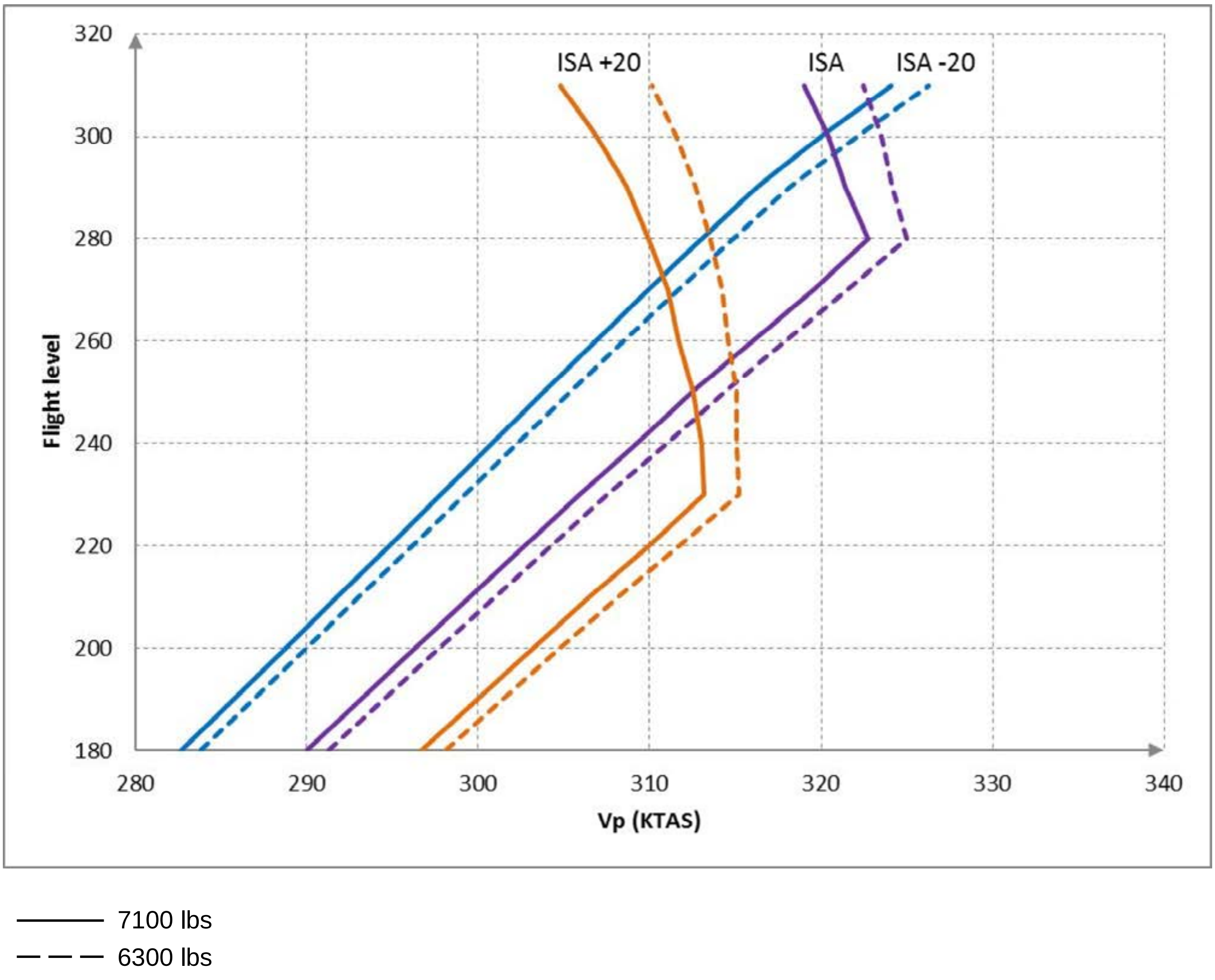


Figure 5.11.1 - CRUISE PERFORMANCE (Maximum cruise)

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%.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	-4	100	325	255	85.9	240	237	240	236	239	236
5000	-14	100	299	234	78.9	235	249	235	248	234	248
10000	-24	100	278	218	73.3	230	262	230	261	229	260
15000	-34	100	265	208	70.1	225	276	225	275	224	274
18000	-40	100	256	201	67.7	222	285	221	284	220	283
20000	-44	100	251	197	66.2	220	291	219	290	218	289
21000	-46	100	248	195	65.6	219	294	218	293	217	292
22000	-48	100	246	193	65.1	218	297	217	296	216	295
23000	-50	100	244	192	64.5	217	300	216	299	215	298
24000	-52	100	243	191	64.1	215	303	214	302	213	301
25000	-54	100	241	189	63.8	214	307	213	305	212	304
26000	-56	100	240	188	63.3	213	310	212	308	211	307
27000	-57	100	239	188	63.3	212	313	211	312	209	310
28000	-59	100	239	187	63.1	210	316	209	315	208	313
29000	-61	100	238	187	63.0	209	320	208	318	207	316
30000	-63	100	238	187	63.0	208	324	207	322	206	320
31000	-65	100	239	187	63.1	207	328	206	326	205	324

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	6	100	329	258	86.9	239	239	238	239	238	239
5000	-4	100	302	237	79.7	234	252	233	251	233	251
10000	-14	100	281	220	74.2	229	265	228	264	227	264
15000	-24	100	268	210	70.8	224	279	223	279	222	278
18000	-30	100	259	203	68.4	220	289	220	288	219	286
20000	-34	100	253	199	66.9	218	295	217	294	216	293
21000	-36	100	251	197	66.2	217	298	216	297	215	296
22000	-38	100	249	195	65.7	216	301	215	300	214	299
23000	-40	100	247	194	65.2	215	305	214	304	213	302
24000	-42	100	245	192	64.7	214	308	213	307	212	305
25000	-44	100	244	191	64.4	212	311	212	310	210	308
26000	-46	100	242	190	63.9	211	315	210	313	209	312
27000	-47	100	242	190	63.9	210	318	209	317	208	315
28000	-49	100	241	189	63.7	209	322	208	320	206	318
29000	-51	100	240	189	63.5	208	326	207	324	205	322
30000	-53	99	238	187	63.0	207	329	205	327	203	324
31000	-55	95	229	180	60.6	202	328	201	326	199	323

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	11	100	331	259	87.3	238	241	238	241	237	240
5000	1	100	304	238	80.2	233	253	232	253	232	252
10000	-9	100	282	221	74.5	228	267	227	266	227	265
15000	-19	100	269	211	71.2	223	281	222	280	221	279
18000	-25	100	260	204	68.7	219	290	219	290	218	288
20000	-29	100	255	200	67.2	217	297	216	296	215	294
21000	-31	100	252	198	66.6	216	300	215	299	214	298
22000	-33	100	250	196	66.0	215	303	214	302	213	301
23000	-35	100	248	195	65.5	214	307	213	306	212	304
24000	-37	100	246	193	65.0	213	310	212	309	211	307
25000	-39	100	245	192	64.6	212	314	211	312	209	311
26000	-41	100	243	191	64.3	210	317	210	316	208	314
27000	-42	100	243	191	64.2	209	320	208	319	207	317
28000	-44	100	242	190	64.0	208	324	207	323	206	321
29000	-46	100	241	189	63.7	207	328	206	327	204	324
30000	-48	96	232	182	61.4	203	328	202	326	200	323
31000	-50	92	224	176	59.2	199	327	198	325	196	322

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	16	100	333	261	87.9	237	242	237	242	236	241
5000	6	100	305	240	80.7	232	255	232	254	231	254
10000	-4	100	284	223	74.9	227	268	226	268	226	267
15000	-14	100	271	213	71.5	222	283	221	282	220	281
18000	-20	100	261	205	69.0	219	292	218	291	217	290
20000	-24	100	256	201	67.6	216	299	216	298	215	296
21000	-26	100	253	199	66.9	215	302	215	301	213	300
22000	-28	100	251	197	66.4	214	305	213	304	212	303
23000	-30	100	249	196	65.8	213	309	212	308	211	306
24000	-32	100	247	194	65.3	212	312	211	311	210	309
25000	-34	100	246	193	64.9	211	316	210	314	209	312
26000	-36	100	244	192	64.5	210	319	209	318	207	316
27000	-37	100	244	192	64.5	209	323	208	322	206	320
28000	-39	99	242	190	64.0	207	327	206	325	205	323
29000	-41	96	234	183	61.7	203	326	202	324	200	321
30000	-43	92	225	177	59.6	200	326	198	323	196	320
31000	-45	89	217	171	57.4	196	325	194	322	192	319

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	21	100	334	263	88.4	237	244	236	243	236	243
5000	11	100	307	241	81.1	231	256	231	256	230	255
10000	1	100	285	224	75.3	226	270	226	269	225	268
15000	-9	100	272	214	71.9	221	285	220	284	219	283
18000	-15	100	263	206	69.4	218	294	217	293	216	292
20000	-19	100	257	202	67.9	216	301	215	300	214	298
21000	-21	100	255	200	67.2	215	304	214	303	213	301
22000	-23	100	252	198	66.7	213	307	212	306	211	305
23000	-25	100	250	197	66.1	212	311	211	310	210	308
24000	-27	100	249	195	65.7	211	314	210	313	209	311
25000	-29	100	247	194	65.2	210	318	209	316	208	315
26000	-31	100	245	193	64.9	209	321	208	320	206	318
27000	-32	99	244	192	64.5	208	325	207	323	205	321
28000	-34	96	235	185	62.2	204	325	202	323	201	320
29000	-36	92	227	178	60.0	200	324	198	322	196	319
30000	-38	89	219	172	57.8	196	323	194	321	192	318
31000	-40	85	211	165	55.7	192	323	190	320	188	316

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 2 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	26	100	336	264	88.9	236	245	235	245	235	244
5000	16	100	309	242	81.6	231	258	230	257	230	256
10000	6	100	287	225	75.7	225	271	225	271	224	270
15000	-4	100	274	215	72.3	220	286	219	285	219	284
18000	-10	100	264	207	69.8	217	296	216	295	215	293
20000	-14	100	259	203	68.3	215	302	214	301	213	300
21000	-16	100	256	201	67.6	214	306	213	305	212	303
22000	-18	100	254	199	67.0	213	309	212	308	210	306
23000	-20	100	252	198	66.5	211	313	211	312	209	310
24000	-22	100	250	196	66.0	210	316	209	315	208	313
25000	-24	100	248	195	65.5	209	320	208	318	207	316
26000	-26	100	247	194	65.1	208	324	207	322	206	320
27000	-27	96	237	186	62.7	204	323	202	321	201	318
28000	-29	92	229	180	60.4	200	322	198	320	197	317
29000	-31	89	221	173	58.3	196	322	194	319	192	316
30000	-33	85	212	167	56.1	192	321	190	318	188	314
31000	-35	82	205	161	54.0	188	320	186	317	184	313

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 4 %, leading to airspeed reduction by 3 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	36	100	340	267	89.8	234	248	234	247	233	247
5000	26	100	312	245	82.5	229	260	229	260	228	259
10000	16	100	290	227	76.5	224	274	223	274	223	273
15000	6	100	276	217	73.0	219	289	218	289	217	287
18000	0	100	267	209	70.4	215	299	214	298	213	297
20000	-4	100	261	205	69.0	213	306	212	305	211	303
21000	-6	100	259	203	68.3	212	309	211	308	210	306
22000	-8	100	256	201	67.7	211	313	210	312	209	310
23000	-10	100	254	199	67.1	210	317	209	315	207	313
24000	-12	97	245	193	64.8	206	317	205	315	204	313
25000	-14	94	238	186	62.8	203	317	202	315	200	313
26000	-16	90	229	180	60.6	199	317	198	315	196	312
27000	-17	87	222	174	58.6	195	316	194	314	192	311
28000	-19	84	214	168	56.6	192	316	190	313	188	310
29000	-21	81	207	162	54.6	188	316	186	313	184	309
30000	-23	78	199	156	52.6	184	315	182	312	180	307
31000	-25	75	192	150	50.6	181	314	178	310	175	305

Figure 5.11.8 - CRUISE PERFORMANCE
Maximum cruise / ISA + 20°C

NORMAL CRUISE (Recommended)

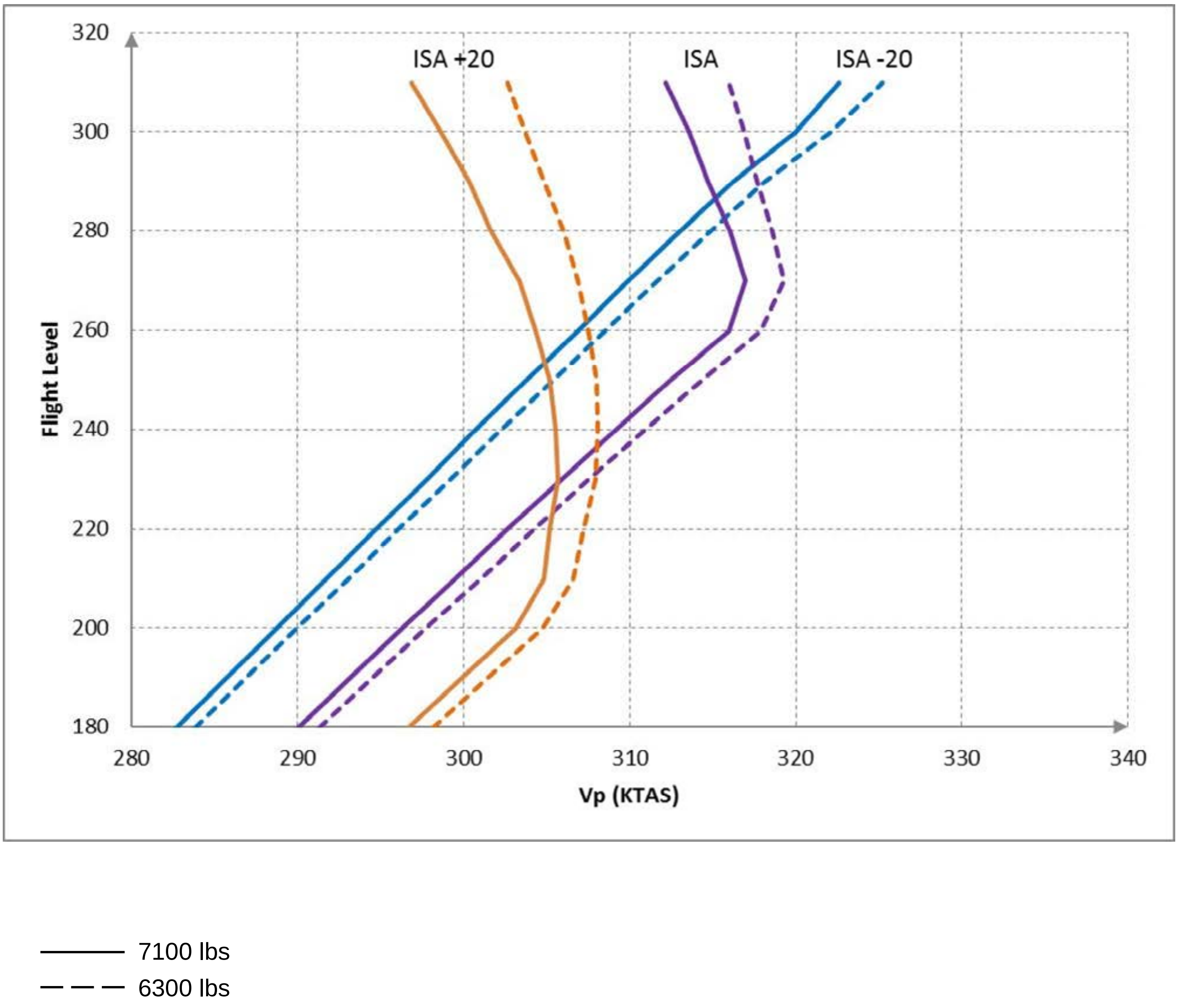


Figure 5.11.9 - CRUISE PERFORMANCE (Recommended cruise)

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 310 : fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.
. FL 310 : reduce the torque value mentioned in the table below by 1 %, leading to airspeed reduction by 1 KIAS.

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	-4	100	325	255	85.9	240	237	240	236	239	236
5000	-14	100	299	234	78.9	235	249	235	248	234	248
10000	-24	100	278	218	73.3	230	262	230	261	229	260
15000	-34	100	265	208	70.1	225	276	225	275	224	274
18000	-40	100	256	201	67.7	222	285	221	284	220	283
20000	-44	100	251	197	66.2	220	291	219	290	218	289
21000	-46	100	248	195	65.6	219	294	218	293	217	292
22000	-48	100	246	193	65.1	218	297	217	296	216	295
23000	-50	100	244	192	64.5	217	300	216	299	215	298
24000	-52	100	243	191	64.1	215	303	214	302	213	301
25000	-54	100	241	189	63.8	214	307	213	305	212	304
26000	-56	100	240	188	63.3	213	310	212	308	211	307
27000	-57	100	239	188	63.3	212	313	211	312	209	310
28000	-59	100	239	187	63.1	210	316	209	315	208	313
29000	-61	100	238	187	63.0	209	320	208	318	207	316
30000	-63	100	238	187	63.0	208	324	207	322	206	320
31000	-65	99	237	186	62.6	207	327	206	325	204	323

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 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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	6	100	329	258	86.9	239	239	238	239	238	239
5000	-4	100	302	237	79.7	234	252	233	251	233	251
10000	-14	100	281	220	74.2	229	265	228	264	227	264
15000	-24	100	268	210	70.8	224	279	223	279	222	278
18000	-30	100	259	203	68.4	220	289	220	288	219	286
20000	-34	100	253	199	66.9	218	295	217	294	216	293
21000	-36	100	251	197	66.2	217	298	216	297	215	296
22000	-38	100	249	195	65.7	216	301	215	300	214	299
23000	-40	100	247	194	65.2	215	305	214	304	213	302
24000	-42	100	245	192	64.7	214	308	213	307	212	305
25000	-44	100	244	191	64.4	212	311	212	310	210	308
26000	-46	100	242	190	63.9	211	315	210	313	209	312
27000	-47	100	242	190	63.9	210	318	209	317	208	315
28000	-49	100	241	189	63.7	209	322	208	320	206	318
29000	-51	99	238	187	62.8	207	324	206	322	204	320
30000	-53	95	229	180	60.6	203	324	202	322	200	319
31000	-55	92	221	174	58.4	199	323	197	321	195	318

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	11	100	331	259	87.3	238	241	238	241	237	240
5000	1	100	304	238	80.2	233	253	232	253	232	252
10000	-9	100	282	221	74.5	228	267	227	266	227	265
15000	-19	100	269	211	71.2	223	281	222	280	221	279
18000	-25	100	260	204	68.7	219	290	219	290	218	288
20000	-29	100	255	200	67.2	217	297	216	296	215	294
21000	-31	100	252	198	66.6	216	300	215	299	214	298
22000	-33	100	250	196	66.0	215	303	214	302	213	301
23000	-35	100	248	195	65.5	214	307	213	306	212	304
24000	-37	100	246	193	65.0	213	310	212	309	211	307
25000	-39	100	245	192	64.6	212	314	211	312	209	311
26000	-41	100	243	191	64.3	210	317	210	316	208	314
27000	-42	100	243	191	64.2	209	320	208	319	207	317
28000	-44	98	239	188	63.1	207	323	206	321	204	319
29000	-46	95	230	181	60.8	203	322	202	320	200	317
30000	-48	91	222	175	58.8	199	322	198	319	196	316
31000	-50	88	214	168	56.7	195	321	194	318	192	315

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

<u>NOTE</u> :
- ***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 3 %, leading to airspeed reduction by 2 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	16	100	333	261	87.9	237	242	237	242	236	241
5000	6	100	305	240	80.7	232	255	232	254	231	254
10000	-4	100	284	223	74.9	227	268	226	268	226	267
15000	-14	100	271	213	71.5	222	283	221	282	220	281
18000	-20	100	261	205	69.0	219	292	218	291	217	290
20000	-24	100	256	201	67.6	216	299	216	298	215	296
21000	-26	100	253	199	66.9	215	302	215	301	213	300
22000	-28	100	251	197	66.4	214	305	213	304	212	303
23000	-30	100	249	196	65.8	213	309	212	308	211	306
24000	-32	100	247	194	65.3	212	312	211	311	210	309
25000	-34	100	246	193	64.9	211	316	210	314	208	312
26000	-36	100	244	192	64.5	210	319	209	318	207	316
27000	-37	98	240	189	63.5	207	321	206	319	204	317
28000	-39	95	232	182	61.3	203	321	202	319	200	316
29000	-41	91	223	175	59.0	199	320	198	318	196	315
30000	-43	88	216	169	56.9	195	319	194	317	192	314
31000	-45	84	208	163	54.9	192	319	190	316	188	312

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 250 : fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.***
  . ***FL 250 and above : reduce the torque value mentioned in the table below by 3 %, leading to airspeed reduction by 2 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	21	100	334	263	88.4	237	244	236	243	236	243
5000	11	100	307	241	81.1	231	256	231	256	230	255
10000	1	100	285	224	75.3	226	270	226	269	225	268
15000	-9	100	272	214	71.9	221	284	220	284	219	283
18000	-15	100	263	206	69.4	218	294	217	293	216	292
20000	-19	100	257	202	67.9	216	301	215	300	214	298
21000	-21	100	255	200	67.2	215	304	214	303	213	301
22000	-23	100	252	198	66.7	213	307	212	306	211	305
23000	-25	100	250	197	66.1	212	311	211	310	210	308
24000	-27	100	249	195	65.7	211	314	210	313	209	311
25000	-29	100	247	194	65.2	210	318	209	316	208	315
26000	-31	98	242	190	63.9	207	319	206	318	205	315
27000	-32	95	234	183	61.7	204	319	202	317	200	315
28000	-34	91	225	177	59.5	200	319	198	316	196	313
29000	-36	87	217	170	57.2	196	318	194	315	192	312
30000	-38	84	209	164	55.3	192	317	190	315	188	311
31000	-40	81	202	158	53.2	188	317	186	313	184	309

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	26	100	336	264	88.9	236	245	235	245	235	244
5000	16	100	309	242	81.6	231	258	230	257	230	256
10000	6	100	287	225	75.7	225	271	225	271	224	270
15000	-4	100	274	215	72.3	220	286	219	285	219	284
18000	-10	100	264	207	69.8	217	296	216	295	215	293
20000	-14	100	259	203	68.3	215	302	214	301	213	300
21000	-16	100	256	201	67.6	214	306	213	305	212	303
22000	-18	100	254	199	67.0	213	309	212	308	210	306
23000	-20	100	252	198	66.5	211	313	211	312	209	310
24000	-22	100	250	196	66.0	210	316	209	315	208	313
25000	-24	98	244	192	64.5	208	318	207	316	205	314
26000	-26	94	235	185	62.1	204	317	203	316	201	313
27000	-27	91	227	178	60.0	200	317	199	315	197	312
28000	-29	88	219	172	57.8	196	316	195	314	193	311
29000	-31	84	211	166	55.7	192	316	191	313	188	309
30000	-33	81	203	159	53.6	189	315	187	312	184	308
31000	-35	78	196	153	51.7	185	314	183	311	180	306

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 200 : fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.
. FL 200 and above : reduce the torque value mentioned in the table below by 5 %, leading to airspeed reduction by 4 KIAS.

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	36	100	340	267	89.8	234	248	234	247	233	247
5000	26	100	312	245	82.5	229	260	229	260	228	259
10000	16	100	290	227	76.5	224	274	223	274	223	273
15000	6	100	276	217	73.0	219	289	218	289	217	287
18000	0	100	267	209	70.4	215	299	214	298	213	297
20000	-4	100	261	205	69.0	213	306	212	305	211	303
21000	-6	99	256	201	67.6	211	308	210	307	209	305
22000	-8	96	248	195	65.6	208	309	207	307	205	305
23000	-10	94	241	189	63.8	205	309	204	308	202	306
24000	-12	91	234	183	61.7	202	310	200	308	199	306
25000	-14	88	226	178	59.7	198	310	197	308	195	305
26000	-16	85	218	171	57.7	195	310	193	308	191	304
27000	-17	82	211	166	55.7	191	310	189	307	187	303
28000	-19	79	204	160	53.8	187	309	186	306	183	302
29000	-21	76	196	154	51.8	184	308	182	305	179	300
30000	-23	73	189	148	49.9	180	308	178	304	175	299
31000	-25	71	182	143	48.2	176	307	174	303	170	297

Figure 5.11.16 - CRUISE PERFORMANCE
Normal cruise / ISA + 20°C

LONG RANGE CRUISE (5500 LBS - 2495 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA − 20° C	ISA − 10° C	ISA	ISA + 10° C	ISA + 20° C
15000	37	**-34** **154** 40.6 121 **190**	**-24** **153** 41.1 122 **193**	**-14** **151** 41.4 123 **194**	**-4** **149** 41.6 124 **196**	**6** **148** 42.2 125 **198**
18000	37	**-40** **150** 37.9 113 **194**	**-30** **149** 38.5 114 **197**	**-20** **147** 38.7 115 **199**	**-10** **145** 38.9 116 **200**	**0** **144** 39.5 117 **202**
19000	37	**-42** **149** 37.1 110 **196**	**-32** **147** 37.4 111 **198**	**-22** **146** 37.9 113 **201**	**-12** **145** 38.4 114 **203**	**-2** **143** 38.7 115 **204**
20000	37	**-44** **147** 36.1 107 **197**	**-34** **146** 36.6 109 **200**	**-24** **145** 37.2 111 **203**	**-14** **144** 37.7 112 **205**	**-4** **142** 38.0 113 **206**
21000	37	**-46** **148** 35.8 107 **201**	**-36** **147** 36.4 108 **204**	**-26** **145** 36.7 109 **206**	**-16** **143** 37.0 110 **207**	**-6** **141** 37.2 111 **209**
22000	37	**-48** **146** 34.9 104 **202**	**-38** **145** 35.4 105 **205**	**-28** **143** 35.7 106 **207**	**-18** **142** 36.3 108 **209**	**-8** **141** 36.8 109 **212**
23000	37	**-50** **145** 34.1 101 **204**	**-40** **144** 34.7 103 **207**	**-30** **143** 35.2 105 **210**	**-20** **142** 35.8 106 **213**	**-10** **140** 36.1 107 **214**
24000	37	**-52** **147** 34.1 101 **210**	**-42** **144** 34.2 102 **211**	**-32** **142** 34.6 103 **212**	**-22** **140** 34.8 104 **214**	**-12** **139** 35.4 105 **217**

Figure 5.11.17 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (5500 lbs - 2495 kg) (Altitude $\leq$ 24000 ft)

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

Pressure altitude (feet)	TRQ (%)	ISA − 20°C		ISA − 10°C		ISA		ISA + 10°C		ISA + 20°C	
24 000	37	**-52** 34.1 101	**147** **210**	**-42** 34.2 102	**144** **211**	**-32** 34.6 103	**142** **212**	**-22** 34.8 104	**140** **214**	**-12** 35.4 105	**139** **217**
25 000	39	**-54** 34.0 101	**148** **215**	**-44** 34.3 102	**146** **217**	**-34** 34.8 103	**145** **220**	**-24** 35.2 104	**143** **222**	**-14** 35.7 106	**142** **225**
26 000	42	**-56** 34.5 102	**151** **223**	**-46** 35.0 104	**150** **226**	**-36** 35.3 105	**148** **228**	**-26** 35.6 106	**146** **230**	**-16** 35.9 107	**144** **232**
27 000	44	**-57** 34.7 103	**153** **229**	**-47** 35.1 104	**151** **232**	**-37** 35.7 106	**150** **235**	**-27** 35.9 107	**148** **237**	**-17** 36.5 108	**147** **241**
28 000	45	**-59** 34.8 103	**154** **235**	**-49** 35.4 105	**153** **239**	**-39** 35.7 106	**151** **241**	**-29** 36.0 107	**149** **243**	**-19** 36.3 108	**147** **245**
29 000	45	**-61** 34.6 103	**154** **239**	**-51** 34.9 104	**152** **241**	**-41** 35.2 105	**150** **244**	**-31** 35.8 106	**149** **247**	**-21** 36.1 107	**147** **249**
30 000	46	**-63** 34.5 102	**154** **243**	**-53** 34.8 103	**152** **246**	**-43** 35.0 104	**150** **248**	**-33** 35.3 105	**148** **250**	**-23** 35.6 106	**146** **252**
31 000	46	**-65** 34.1 101	**153** **246**	**-55** 34.4 102	**151** **248**	**-45** 34.7 103	**149** **251**	**-35** 35.0 104	**147** **253**	**-25** 35.2 105	**145** **255**

Figure 5.11.17 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (5500 lbs - 2495 kg) (Altitude $\geq$ 24000 ft)

LONG RANGE CRUISE (6300 LBS - 2858 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA – 20°C		ISA – 10°C		ISA		ISA + 10°C		ISA + 20°C	
15 000	40	**-34**	**156**	**-24**	**154**	**-14**	**152**	**-4**	**151**	**6**	**150**
		42.0		42.4		42.6		43.2		43.8	
		125	**193**	126	**194**	127	**196**	128	**198**	130	**200**
18 000	42	**-40**	**155**	**-30**	**154**	**-20**	**153**	**-10**	**151**	**0**	**149**
		40.1		40.7		41.3		41.6		42.0	
		119	**201**	121	**204**	123	**207**	124	**208**	125	**209**
19 000	42	**-42**	**155**	**-32**	**154**	**-22**	**153**	**-12**	**151**	**-2**	**149**
		39.5		40.1		40.7		41.1		41.5	
		117	**204**	119	**207**	121	**210**	122	**211**	123	**213**
20 000	42	**-44**	**153**	**-34**	**152**	**-24**	**151**	**-14**	**150**	**-4**	**149**
		38.5		39.1		39.7		40.4		41.0	
		114	**205**	116	**208**	118	**211**	120	**214**	122	**216**
21 000	42	**-46**	**153**	**-36**	**151**	**-26**	**150**	**-16**	**149**	**-6**	**148**
		38.0		38.3		39.0		39.6		40.2	
		113	**208**	114	**210**	116	**213**	118	**216**	119	**218**
22 000	42	**-48**	**151**	**-38**	**150**	**-28**	**149**	**-18**	**148**	**-8**	**147**
		37.0		37.6		38.2		38.9		39.5	
		110	**209**	112	**212**	114	**215**	115	**218**	117	**221**
23 000	42	**-50**	**150**	**-40**	**149**	**-30**	**148**	**-20**	**147**	**-10**	**146**
		36.3		36.9		37.5		38.2		38.8	
		108	**211**	110	**214**	112	**217**	113	**220**	115	**223**
24 000	42	**-52**	**148**	**-42**	**147**	**-32**	**146**	**-22**	**145**	**-12**	**144**
		35.4		36.0		36.6		37.2		37.9	
		105	**212**	107	**215**	109	**218**	111	**221**	113	**224**

Figure 5.11.18 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (6300 lbs - 2858 kg) (Altitude $\leq$ 24000 ft)

LONG RANGE CRUISE (6300 LBS - 2858 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

Pressure altitude (feet)	TRQ (%)	ISA − 20°C		ISA − 10°C		ISA		ISA + 10°C		ISA + 20°C	
24 000	42	**-52**	**148**	**-42**	**147**	**-32**	**146**	**-22**	**145**	**-12**	**144**
		35.4		36.0		36.6		37.2		37.9	
		105	**212**	107	**215**	109	**218**	111	**221**	113	**224**
25 000	42	**-54**	**149**	**-44**	**147**	**-34**	**145**	**-24**	**143**	**-14**	**142**
		35.3		35.7		36.0		36.3		37.0	
		105	**216**	106	**218**	107	**220**	108	**222**	110	**225**
26 000	45	**-56**	**152**	**-46**	**151**	**-36**	**149**	**-26**	**147**	**-16**	**145**
		35.8		36.5		36.8		37.2		37.5	
		106	**224**	108	**228**	109	**230**	111	**232**	112	**233**
27 000	46	**-57**	**154**	**-47**	**152**	**-37**	**150**	**-27**	**149**	**-17**	**147**
		36.1		36.5		36.9		37.5		37.9	
		107	**231**	108	**233**	110	**235**	111	**239**	113	**241**
28 000	48	**-59**	**156**	**-49**	**154**	**-39**	**152**	**-29**	**150**	**-19**	**148**
		36.5		36.9		37.2		37.6		38.0	
		109	**238**	110	**240**	111	**243**	112	**245**	113	**246**
29 000	48	**-61**	**155**	**-51**	**153**	**-41**	**151**	**-31**	**149**	**-21**	**147**
		36.1		36.5		36.8		37.2		37.5	
		107	**240**	108	**243**	109	**245**	111	**247**	112	**249**
30 000	49	**-63**	**155**	**-53**	**153**	**-43**	**151**	**-33**	**149**	**-23**	**147**
		35.9		36.3		36.7		37.1		37.5	
		107	**244**	108	**247**	109	**250**	110	**252**	111	**254**
31 000	49	**-65**	**154**	**-55**	**152**	**-45**	**150**	**-35**	**148**	**-25**	**146**
		35.6		36.0		36.3		36.7		37.1	
		106	**247**	107	**250**	108	**252**	109	**255**	110	**257**

Figure 5.11.18 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (6300 lbs - 2858 kg) (Altitude $\geq$ 24000 ft)

LONG RANGE CRUISE (7100 LBS - 3220 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA – 20°C	ISA – 10°C	ISA	ISA + 10°C	ISA + 20°C
15 000	46	**-34** **162** 44.6 133 **200**	**-24** **161** 45.3 135 **203**	**-14** **160** 45.9 136 **206**	**-4** **159** 46.6 138 **208**	**6** **158** 47.2 140 **211**
18 000	47	**-40** **160** 42.3 126 **207**	**-30** **159** 43.0 128 **210**	**-20** **158** 43.7 130 **213**	**-10** **157** 44.4 132 **216**	**0** **155** 44.8 133 **217**
19 000	47	**-42** **159** 41.5 123 **209**	**-32** **158** 42.2 125 **212**	**-22** **157** 43.0 128 **215**	**-12** **156** 43.6 130 **218**	**-2** **155** 44.3 132 **221**
20 000	47	**-44** **159** 41.0 122 **212**	**-34** **157** 41.5 123 **214**	**-24** **156** 42.2 125 **217**	**-14** **155** 42.8 127 **220**	**-4** **154** 43.5 129 **223**
21 000	47	**-46** **157** 40.0 119 **213**	**-36** **156** 40.7 121 **216**	**-26** **155** 41.4 123 **220**	**-16** **154** 42.1 125 **223**	**-6** **153** 42.8 127 **226**
22 000	47	**-48** **155** 39.1 116 **214**	**-38** **154** 39.8 118 **217**	**-28** **153** 40.4 120 **221**	**-18** **152** 41.1 122 **224**	**-8** **151** 41.8 124 **226**
23 000	47	**-50** **153** 38.3 114 **215**	**-40** **152** 38.9 116 **218**	**-30** **151** 39.6 118 **221**	**-20** **150** 40.3 120 **225**	**-10** **149** 40.9 122 **227**
24 000	47	**-52** **152** 37.7 112 **217**	**-42** **151** 38.4 114 **220**	**-32** **150** 39.0 116 **224**	**-22** **149** 39.7 118 **227**	**-12** **147** 40.1 119 **228**

Figure 5.11.19 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (7100 lbs - 3220 kg) (Altitude $\leq$ 24000 ft)

LONG RANGE CRUISE (7100 LBS - 3220 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

Pressure altitude (feet)	TRQ (%)	ISA − 20°C		ISA − 10°C		ISA		ISA + 10°C		ISA + 20°C	
24 000	47	**-52**	**152**	**-42**	**151**	**-32**	**150**	**-22**	**149**	**-12**	**147**
		37.7		38.4		39.0		39.7		40.1	
		112	**217**	114	**220**	116	**224**	118	**227**	119	**228**
25 000	47	**-54**	**152**	**-44**	**150**	**-34**	**149**	**-24**	**148**	**-14**	**147**
		37.3		37.8		38.5		39.2		39.9	
		111	**221**	112	**223**	114	**226**	116	**229**	118	**232**
26 000	49	**-56**	**153**	**-46**	**152**	**-36**	**151**	**-26**	**149**	**-16**	**147**
		37.3		38.1		38.8		39.2		39.6	
		111	**226**	113	**229**	115	**233**	117	**235**	118	**236**
27 000	50	**-57**	**155**	**-47**	**153**	**-37**	**151**	**-27**	**149**	**-17**	**147**
		37.7		38.1		38.6		39.0		39.5	
		112	**232**	113	**235**	115	**237**	116	**239**	117	**241**
28 000	52	**-59**	**158**	**-49**	**155**	**-39**	**153**	**-29**	**151**	**-19**	**149**
		38.4		38.6		39.1		39.5		39.9	
		114	**241**	115	**242**	116	**244**	117	**246**	119	**248**
29 000	52	**-61**	**156**	**-51**	**154**	**-41**	**152**	**-31**	**150**	**-21**	**148**
		37.8		38.2		38.7		39.1		39.6	
		112	**242**	114	**244**	115	**247**	116	**249**	118	**251**
30 000	52	**-63**	**156**	**-53**	**153**	**-43**	**151**	**-33**	**149**	**-23**	**147**
		37.8		37.9		38.3		38.8		39.3	
		112	**246**	113	**247**	114	**250**	115	**252**	117	**254**
31 000	53	**-65**	**155**	**-55**	**152**	**-45**	**150**	**-35**	**147**	**-25**	**145**
		37.5		37.6		38.0		38.3		38.7	
		111	**249**	112	**250**	113	**252**	114	**253**	115	**255**

Figure 5.11.19 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (7100 lbs - 3220 kg) (Altitude $\geq$ 24000 ft)

5.12 - TIME, CONSUMPTION AND DESCENT DISTANCE

Conditions :

- Power as required to maintain constant Vz
- Landing gear and flaps UP
- CAS = 230 KIAS - "BLEED" switch on "AUTO" and "BLEED HI" MSG OFF

Pressure altitude (f t)	Vz = 1500 ft/min					Vz = 2000 ft/min					Vz = 2500 ft/min				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
31000	20:40	70	55	18.6	101	15:30	47	37	12.4	75	12:25	35	27	9.1	60
30000	20:00	68	53	18.0	97	15:00	46	36	12.1	72	12:00	34	26	8.9	58
28000	18:40	64	50	16.8	89	14:00	43	34	11.3	66	11:10	32	25	8.4	53
26000	17:20	59	47	15.7	81	13:00	40	32	10.6	61	10:25	30	23	7.9	48
24000	16:00	55	43	14.6	74	12:00	37	29	9.9	55	09:35	28	22	7.4	44
22000	14:40	51	40	13.4	66	11:00	35	27	9.2	50	08:50	26	20	6.9	40
20000	13:20	47	37	12.3	59	10:00	32	25	8.4	44	08:00	24	19	6.4	35
18000	12:00	42	33	11.2	53	09:00	29	23	7.7	39	07:10	22	17	5.9	31
16000	10:40	38	30	10.0	46	08:00	26	21	6.9	34	06:25	20	16	5.3	27
14000	09:20	33	26	8.8	40	07:00	23	18	6.1	30	05:35	18	14	4.7	24
12000	08:00	29	23	7.6	33	06:00	20	16	5.4	25	04:50	16	12	4.1	20
10000	06:40	24	19	6.4	27	05:00	17	14	4.6	21	04:00	13	10	3.5	16
8000	05:20	20	16	5.2	22	04:00	14	11	3.7	16	03:10	11	9	2.9	13
6000	04:00	15	12	4.0	16	03:00	11	9	2.9	12	02:25	9	7	2.3	10
4000	02:40	10	8	2.7	11	02:00	8	6	2.0	8	01:35	6	5	1.6	6
2000	01:20	5	4	1.4	5	01:00	4	3	1.0	4	00:50	3	2	0.8	3
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0

Figure 5.12.1 - TIME, CONSUMPTION AND DESCENT DISTANCE

5.13 - HOLDING TIME

Conditions :
- Landing gear and flaps UP
- IAS = 120 KIAS - "BLEED" switch on "AUTO" and "BLEED HI" MSG OFF
- TRQ ≃ 25 %

Pressure altitude (feet)	FUEL USED DURING HOLDING TIME											
	Weight 5500 lbs (2495 kg)						Weight 6300 lbs (2858 kg)					
	10 min			30 min			10 min			30 min		
	l	kg	USG	l	kg	USG	l	kg	USG	l	kg	USG
SL	29	23	7.7	88	69	23.2	30	23	7.9	89	70	23.6
5000	26	20	6.8	77	61	20.5	27	21	7.0	80	63	21.1
10000	23	18	6.1	70	55	18.4	24	19	6.4	72	57	19.2
15000	22	17	5.7	65	51	17.1	23	18	6.0	68	53	17.9
20000	20	16	5.3	60	47	15.8	21	16	5.5	63	49	16.6

Figure 5.13.1 - HOLDING TIME

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)

PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1575	2135	1675	2265	1740	2330	1840	2430
2000	1675	2265	1805	2395	1870	2495	1970	2590
4000	1805	2395	1940	2560	2035	2660	2135	2790
6000	1940	2560	2100	2725	2200	2855	2300	2955
8000	2100	2725	2265	2920	2360	3020	2495	3180
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1905	2530	2000	2625	2070	2690	2135	2790
2000	2070	2690	2135	2790	2230	2890	2300	2955
4000	2230	2890	2330	2985	2430	3085	2495	3185
6000	2395	3050	2530	3215	2625	3315	2690	3380
8000	2590	3280	2725	3410	2855	3570	2920	3640

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 rear wind

Other runway surfaces require the following correction factors :

Increase by : 7 % on hard grass
10 % on short grass
15 % on wet runway
25 % on high grass
30 % on slippery runway

WEIGHT : 6250 lbs (2835 kg)

Associated conditions :
- Landing gear DN and flaps LDG
- Approach speed IAS = 80 KIAS
- Touch-down speed IAS = 65 KIAS
- Maximum braking without reverse
- Hard, dry and level runway
- GR = Ground roll (in ft)
- D_{50} = Landing distance (clear to 50 ft) (in ft)

PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1050	1900	1115	2000	1180	2070	1215	2135
2000	1115	2000	1215	2100	1245	2200	1310	2265
4000	1180	2100	1280	2230	1345	2330	1410	2395
6000	1280	2230	1380	2360	1445	2460	1510	2525
8000	1380	2360	1475	2490	1540	2590	1610	2690
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1280	2200	1310	2300	1380	2360	1445	2430
2000	1345	2330	1410	2430	1475	2495	1540	2560
4000	1445	2460	1510	2560	1575	2655	1640	2755
6000	1575	2645	1640	2720	1705	2820	1770	2920
8000	1705	2790	1770	2885	1835	2985	1900	3085

Figure 5.14.2 - 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 rear wind

Other runway surfaces require the following correction factors :

Increase by :
7 % on hard grass
10 % on short grass
15 % on wet runway
25 % on high grass
30 % on slippery runway

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)

PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	885	1900	950	2000	1000	2070	1030	2135
2000	950	2000	1030	2100	1065	2200	1115	2265
4000	1000	2100	1080	2230	1150	2330	1200	2395
6000	1080	2230	1180	2360	1230	2460	1280	2525
8000	1180	2360	1245	2490	1310	2590	1360	2690
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1080	2200	1115	2300	1180	2360	1230	2430
2000	1150	2330	1200	2430	1245	2495	1310	2560
4000	1230	2460	1280	2560	1345	2655	1395	2755
6000	1345	2645	1395	2720	1445	2820	1510	2920
8000	1445	2790	1510	2885	1560	2985	1610	3085

Figure 5.14.3 - 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 rear wind

Other runway surfaces require the following correction factors :

Increase by : 7 % on hard grass
10 % on short grass
15 % on wet runway
25 % on high grass
30 % on slippery runway

SECTION 6

WEIGHT AND BALANCE

TABLE OF CONTENTS

6.1 - GENERAL

This section contains the procedure for determining the basic empty weight and the balance corresponding to the TBM 900 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.

All

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. Empty weight and the corresponding balance allow to calculate the airplane basic index.

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).

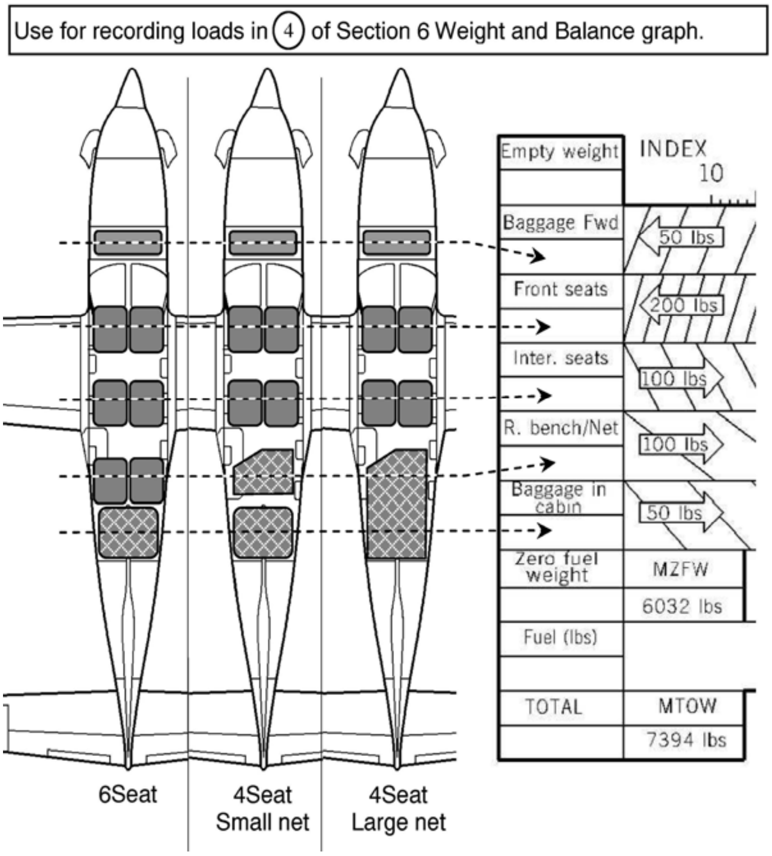
UTILIZATION OF WEIGHT AND BALANCE GRAPH (FIGURES 6.4.1, 6.4.1A AND 6.4.2, 6.4.2A)

EXAMPLES :

	SAMPLE 1 Fig. 6.4.1		**SAMPLE 2** Fig. 6.4.1A	
1 - Airplane basic characteristics :				
W = Empty weight :	2079	kg	4583	lbs
CG = Balance (m.a.c. %) :	23.5	%	23.5	%
2 - Foreseen loading :				
1 Pilot and 1 front Passenger :	200	kg	400	lbs
2 Intermediate Passengers :	150	kg	300	lbs
2 Rear Passengers :	50	kg	100	lbs
Cargo in pressurized cabin :	20	kg	50	lbs
Fuel :	516	kg	1135	lbs

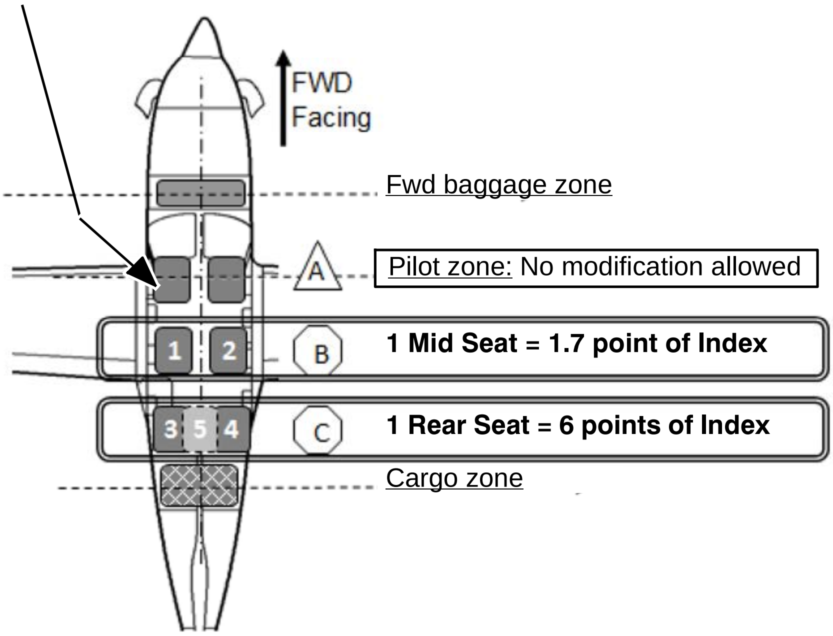
3 - Utilization of weight and balance graph :

- Record airplane basic characteristics in ①.
- Compute basic index with the formula described in ② and record the result in ③.
- Record foreseen loading in ④ and compute total weight of the loaded airplane.



ONLY zone B and zone C can be modified for seat configurations.

For all configurations, verify that your luggages are stowed and attached in the appropriate areas



1) Configuration 6 seats standard=Basic Index and Basic Empty Weight

2) Configuration Modified=Basic Index Modified and Empty Weight Modified

   1 Mid Seat is equal to **1.7 point of Index and 37.47 lbs (17 Kg)**

   1 Rear Seat is equal to **6 points of Index and 52.91 lbs (24 Kg)**

   Remove or add the number of index point for each item removed or added.

   Remove or add the weight for each item removed or added.

3) From the new empty weight and new basic index, perform the weight and balance graph.

Choose the configuration you want to apply from your basic 6-Seat Standard configuration, then substract the point of index and weight from your 6-Seat standard configuration following the table:

Configuration name	Location number					Delta Index points from 6pax Basic Configuration (2)	Delta Weight from 6pax Basic Configuration (3)	
	1	2	3	4	5			
C1	X	X	X	X		0	0 lbs	(0 kg)
C2	X	X			X	- 6	- 52.91 lbs	(-24 kg)
C3	X	X		X		- 6	- 52.91 lbs	(-24 kg)
C4 (1)	X	X				- 12	- 105.82 lbs	(-48 kg)
C5	X	X	X			- 6	- 52.91 lbs	(-24 kg)
C6	X		X	X		- 1.7	- 37.47 lbs	(-17 kg)
C7	X		X			- 7.7	- 90.38 lbs	(-41 kg)
C8	X			X		- 7.7	- 90.38 lbs	(-41 kg)
C9	X				X	- 7.7	- 90.38 lbs	(-41 kg)
C10 (1)	X					- 13.7	- 143.29 lbs	(-65 kg)
C11		X	X	X		- 1.7	- 37.47 lbs	(-17 kg)
C12		X			X	- 7.7	- 90.38 lbs	(-41 kg)
C13		X	X			- 7.7	- 90.38 lbs	(-41 kg)
C14		X		X		- 7.7	- 90.38 lbs	(-41 kg)
C15 (1)		X				- 13.7	- 143.29 lbs	(-65 kg)
C16			X	X		- 3.4	- 74.94 lbs	(-34 kg)
C17			X			- 9.4	- 127.85 lbs	(-58 kg)
C18				X		- 9.4	- 127.85 lbs	(-58 kg)
C19					X	- 9.4	- 127.85 lbs	(-58 kg)
C20 (1)						- 15.4	- 180.76 lbs	(-82 kg)
	Zone B		Zone C					

(1) This configuration accepts small net or large net

(2) Cabinet delta index insignificant

(3) Cabinet weight must be included in the delta weight as required (to be removed by a Service Center)

Example 1:
Basic Airplane Configuration: 6 Seats Standard (no cabinet)
Basic Index = 65
Basic Empty Weight = 4500 lbs
If you remove 1 Mid Seat &1 Rear Seat you have (config "C13" from table) :

New Basic Index	=	Basic Index	-	Mid Seat Index	-	Rear Seat Index
New Basic Index	=	65	-	1,7	-	6
New Basic Index	=	57,3				

New Empty Weight	=	Basic Weight	-	Mid Seat Weight	-	Rear Seat Weight
New Empty Weight	=	4500	-	37,47	-	52,91
New Empty Weight	=	4409,62 lbs				

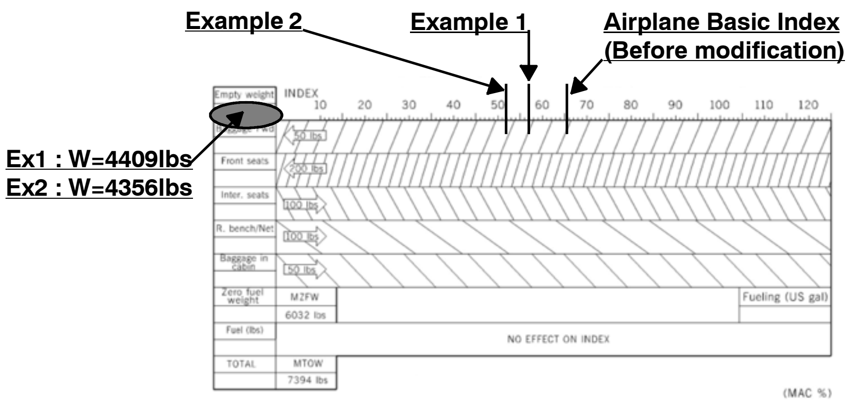
Perform the weight and balance graph with Index 57,3 and Empty Weight 4409,62 lbs.

Example 2:
Basic Airplane Configuration: 6 Seats Standard (no cabinet)
Basic Index = 65
Basic Empty Weight = 4500 lbs
If you remove 1 Mid Seat and 2 Rear Seats you have (config "C15" from table) :

New Basic Index	=	Basic Index	-	Mid Seat Index	-	2 Rear Seats Index
New Basic Index	=	65	-	1,7	-	2 x 6
New Basic Index	=	51,3				

New Empty Weight	=	Basic Weight	-	Mid Seat Weight	-	2 Rear Seats Weight
New Empty Weight	=	4500	-	37,47	-	2 x 52,91
New Empty Weight	=	4356,7 lbs				

Perform the weight and balance graph with Index 51,3 and Empty Weight 4356,7 lbs.



NOTE

Intermediate calculation of total weight without fuel allows, taking into account the "Maximum Weight" limit, computing rapidly fuel quantity liable to be loaded.
A conversion scale (lb / USG) allows quick computation from fuel pounds to us gallons.

- Note computed index ③ on upper index scale and proceed as follows :

  a) Vertically mark a line downwards up to interception of oblique lines of first heading "Front seats".

  b) Then continue the line horizontally following direction given by arrow according to indicated value of loading (400 lbs or 200 kg) in example **(the weight indicated in the arrow gives pitch value between two oblique lines)**.

  c) Then continue the line vertically downwards up to interception of oblique lines of second heading and work in the same way as before (procedure described in b).

  d) Proceed in the same way for remaining headings.

- Draw then a vertical line ⑤ corresponding to final index (loaded airplane) up to interception of horizontal line representing airplane total weight ⑥.

- Read corresponding balance (30,3 % in examples) by checking that obtained point is inside the weight and balance envelope.
  Check also that the total zero fuel weight does not exceed the max. zero fuel weight of 6032 lbs (2736 kg). If not, reconsider airplane loading.

- Record these data on your navigation log.

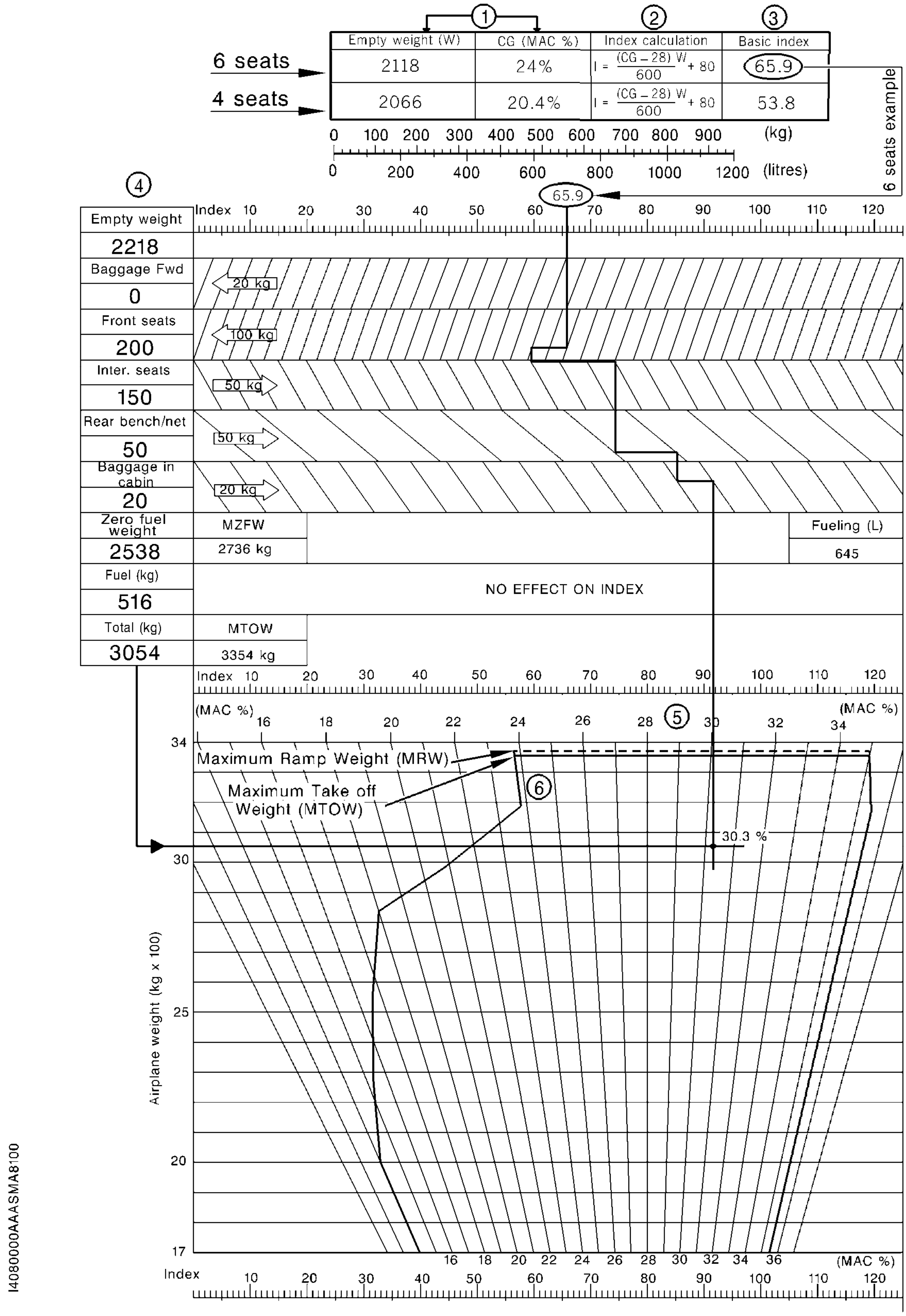
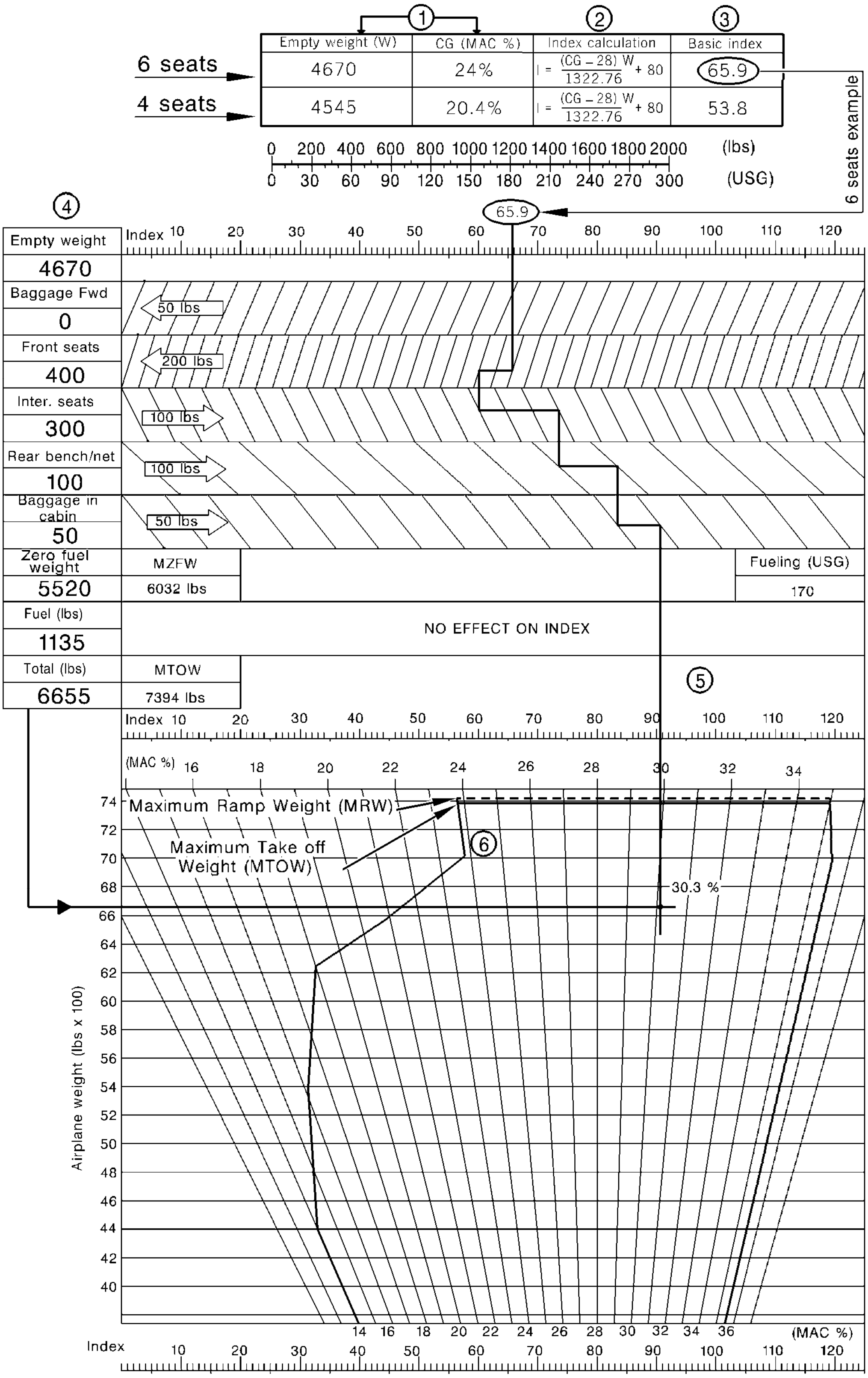


Figure 6.4.1 - LOADING SAMPLE (In Kg and Litres)



I4080000AAASMA18000

Figure 6.4.1A - LOADING SAMPLE (In lbs and USG)

① Empty weight (W)	① CG (MAC %)	② Index calculation	③ Basic index
		$I = \frac{(CG - 28)\ W}{600} + 80$	
		$I = \frac{(CG - 28)\ W}{600} + 80$	

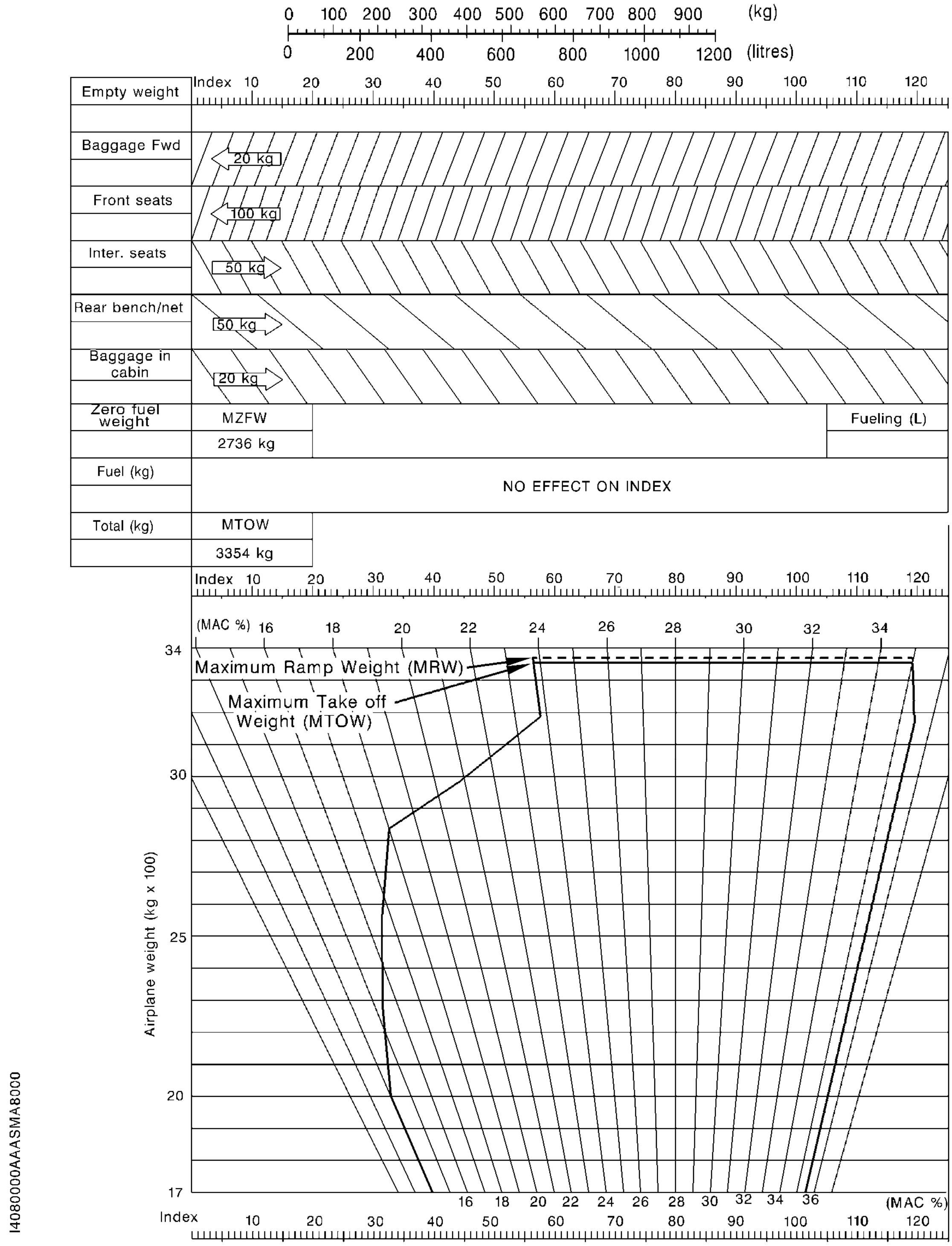


Figure 6.4.2 - WEIGHT AND BALANCE GRAPH (In Kg and Litres)

① Empty weight (W)	① CG (MAC %)	② Index calculation	③ Basic index
		$I = \frac{(CG - 28)\,W}{1322.76} + 80$	
		$I = \frac{(CG - 28)\,W}{1322.76} + 80$	

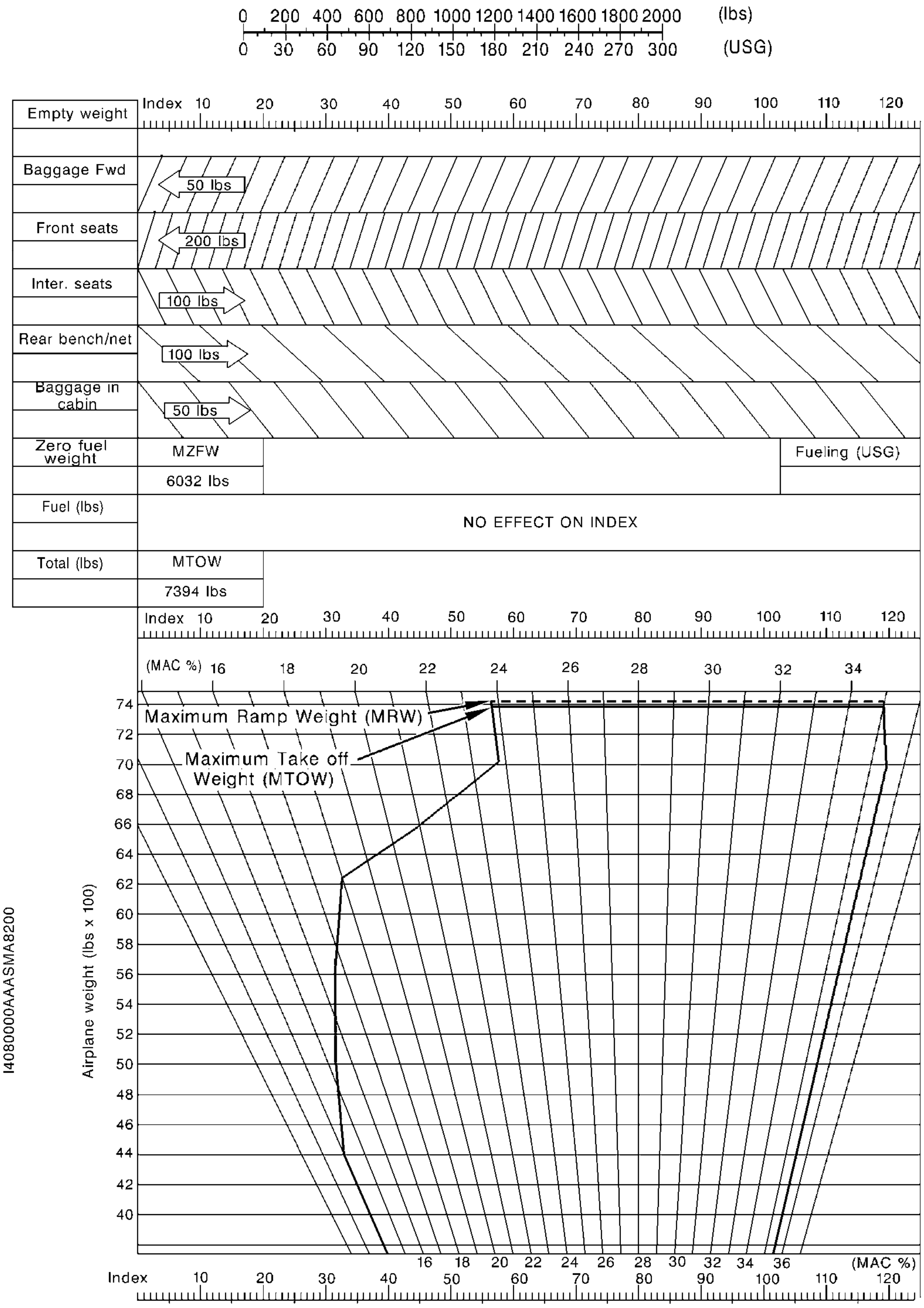


Figure 6.4.2A - WEIGHT AND BALANCE GRAPH (In lbs and USG)

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.

DATE	EQUIPMENT OR MODIFICATION DESCRIPTION	(+) (-)	WEIGHT MODIFICATION			BASIC EMPTY WEIGHT		
			Weight lb	Arm in.	Moment lb.in/1000	Weight W	Arm "d_o"	Moment
	According to delivery							

Figure 6.4.3 - SAMPLE WEIGHT AND BALANCE RECORD

$$\boxed{\text{CG m.a.c.\%} = \frac{(do - 172.93)}{59.45} \times 100}$$

Use the above formula to express arm "d_o" in % of mean aerodynamic chord.

NOTE

Arm expressed in inches with regard to reference.

FWD baggage compartment : 128.0 in. (3.250 m)

Baggage compartment in pressurized cabin : 303.0 in. (7.695 m)

Fuel : 189.8 in. (4.820 m)

A or O	ITEM OPT70 or MOD70	OPTIONAL EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		10 - PARKING, MOORING, STORAGE AND RETURN TO SERVICE		
		Board kit		
S		- Blanking caps bag	8.27 (3.75)	128.00 (3.250)
S		- Towing bar	8.77 (3.98)	128.00 (3.250)
S		- Control lock device	0.90 (0.41)	133.86 (3.400)
		25 - EQUIPMENT AND FURNISHINGS (PARTIAL)		
A	0171-25	**Cabinets**		
		- Version A : L.H. low cabinet	9.48 (4.300)	203.74 (5.175)
		- Version B : R.H. low cabinet	9.48 (4.300)	203.74 (5.175)
		- Version C : Removable (low) insulated picnic bag	9.48 (4.300)	203.74 (5.175)
		- Version D : L.H. top storage cabinet	7.72 (3.500)	203.74 (5.175)
		- Version E : R.H. top storage cabinet	7.72 (3.500)	203.74 (5.175)
		- Version F : R.H. top storage cabinet + audio	7.94 (3.600)	203.74 (5.175)
		- Version G : L.H. top baggage cabinet	3.09 (1.400)	203.74 (5.175)
		- Version H : R.H. top baggage cabinet	3.09 (1.400)	203.74 (5.175)
S	0207-00	Carpet	35.27 (16.000)	211.42 (5.370)
		- Cabin furnishings	302.45 (137.19)	211.42 (5.370)
A	0207-00	2nd carpet (cargo use)	35.27 (16.000)	211.42 (5.370)

A or O	ITEM OPT70 or MOD70	OPTIONAL EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		Leather seats		
S		- L.H. intermediate seat (back to flight direction) T700G2500005000	37.48 (17.00)	224.80 (5.710)
S		- R.H. Intermediate seat (back to flight direction) T700G2500005001	37.48 (17.00)	224.80 (5.710)
S		- Double chair		
		. L.H. Seat T700C2500005012	52.91 (24.00)	278.19 (7.066)
		. R.H. Seat T700C2500005013	52.91 (24.00)	278.19 (7.066)
		Nets		
S	0315-25	- Small cargo net GP SOCT704CC−10	15.00 (7.00)	/
S	0315-25	- Large cargo net GP SOCT704CS−10	13.00 (6.00)	/
S		- Partition net at Frame 14 T700B259000100000	1.70 (0.77)	287.80 (7.310)

6.5 - LIST OF EQUIPMENT

The list of equipment is available in SOCATA Report reference NAV No.34/90-RJ-App 2, 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.

SECTION 7

DESCRIPTION

TABLE OF CONTENTS

7.1 - GENERAL

This Section provides description and operation of the TBM 900 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 G1000 integrated flight deck are detailed in the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900, No.190-00708-05, 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 900 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.

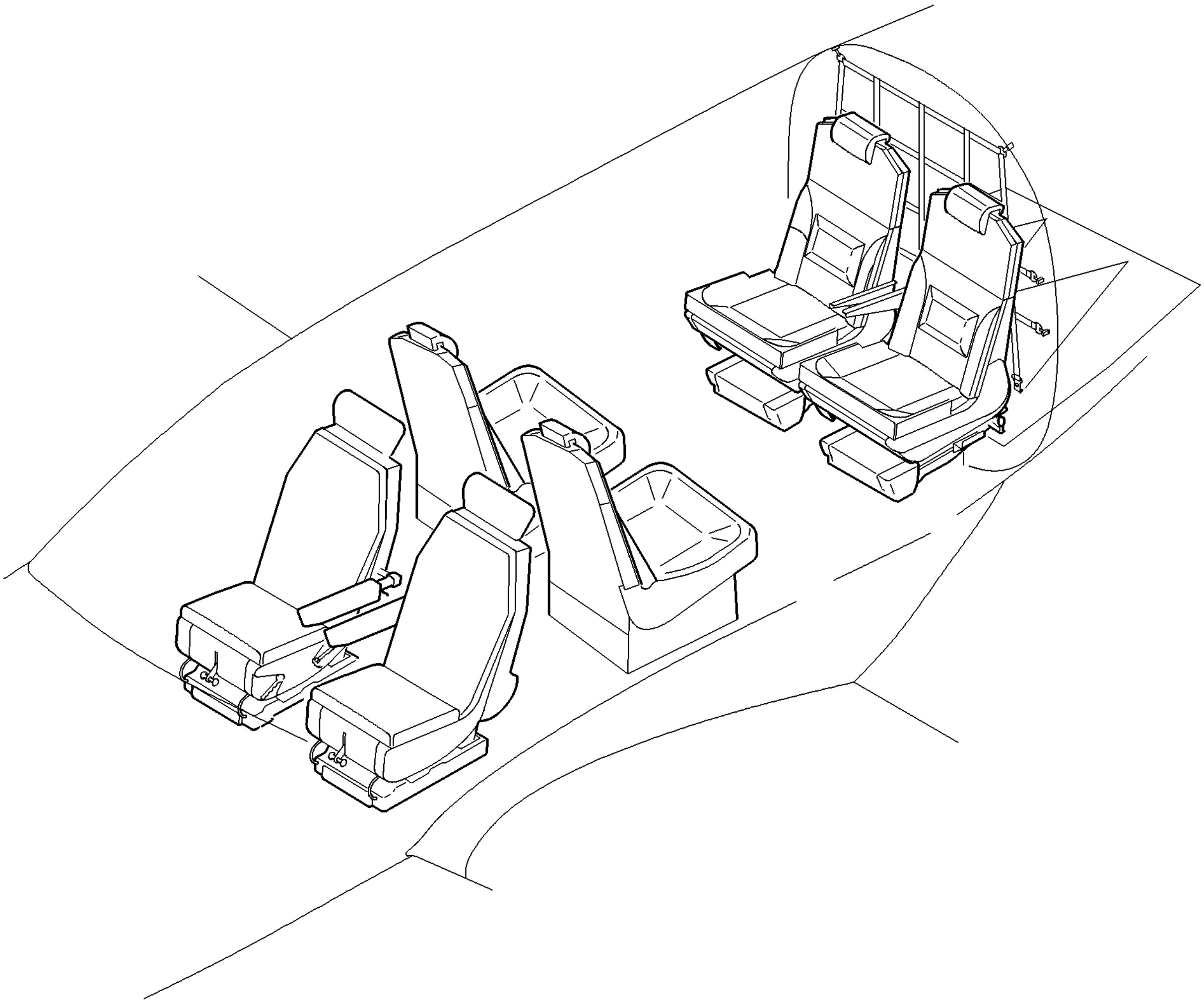


Figure 7.2.1 - CABIN ARRANGEMENT
6-seat accommodation

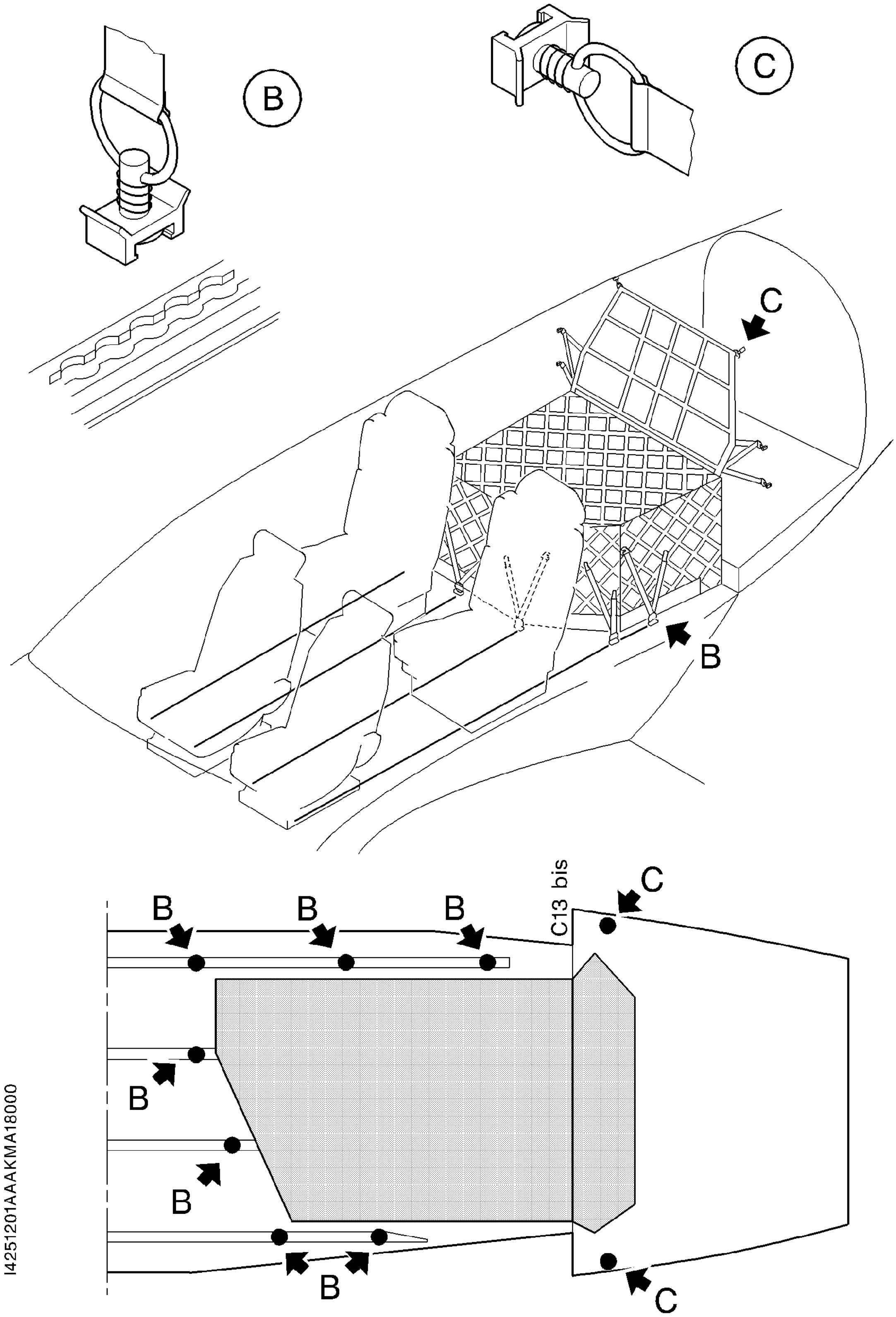


Figure 7.2.1A - CABIN ARRANGEMENT
4-seat accommodation with large securing net

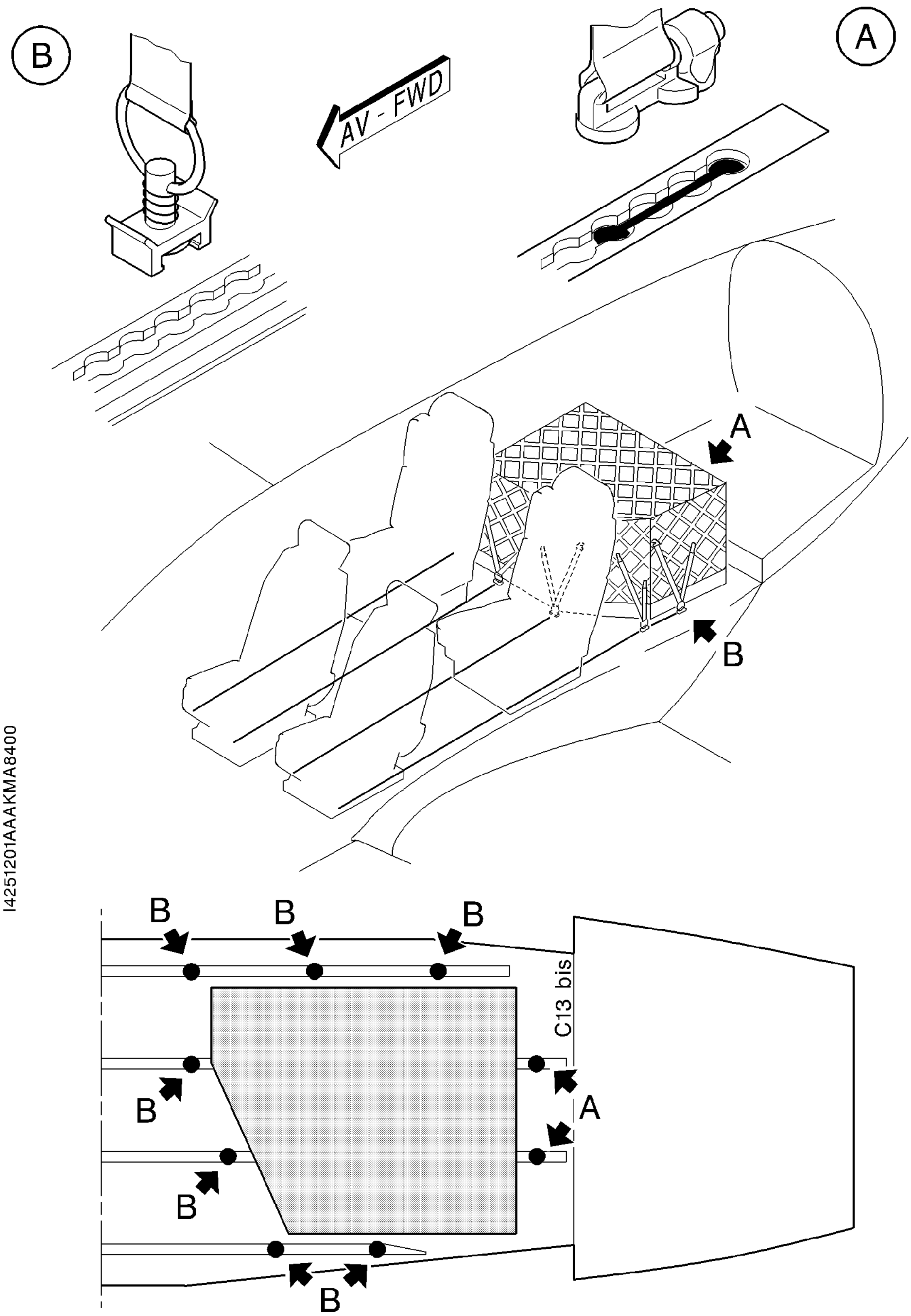


Figure 7.2.1B - CABIN ARRANGEMENT
4-seat accommodation with small securing net

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.

1) Geared motor
2) Internal actuator
3) Intermediate bearings
4) Wing flap
5) External actuator
6) Rods
7) Control selector

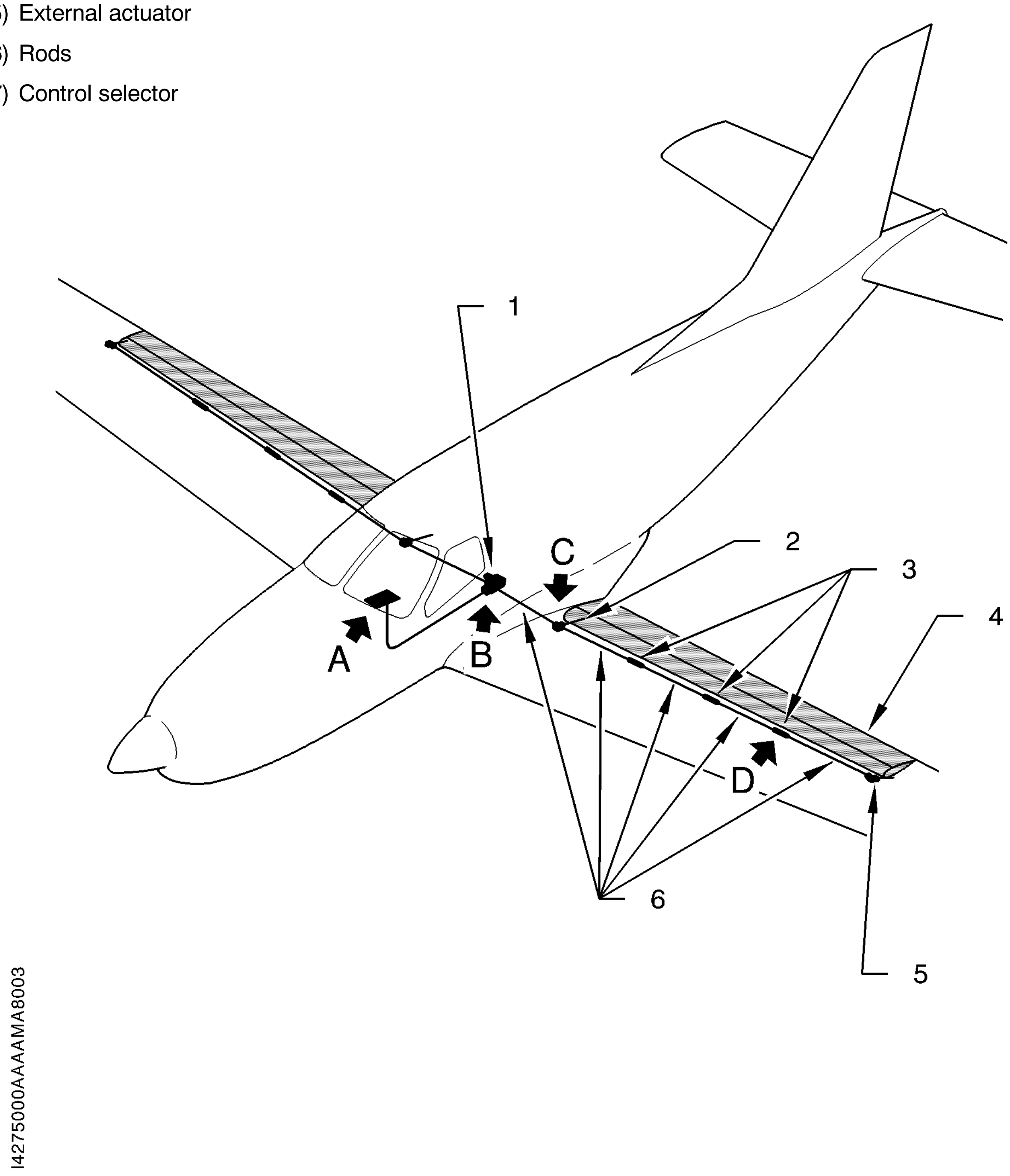


Figure 7.2.2 (1/2) - WING FLAPS

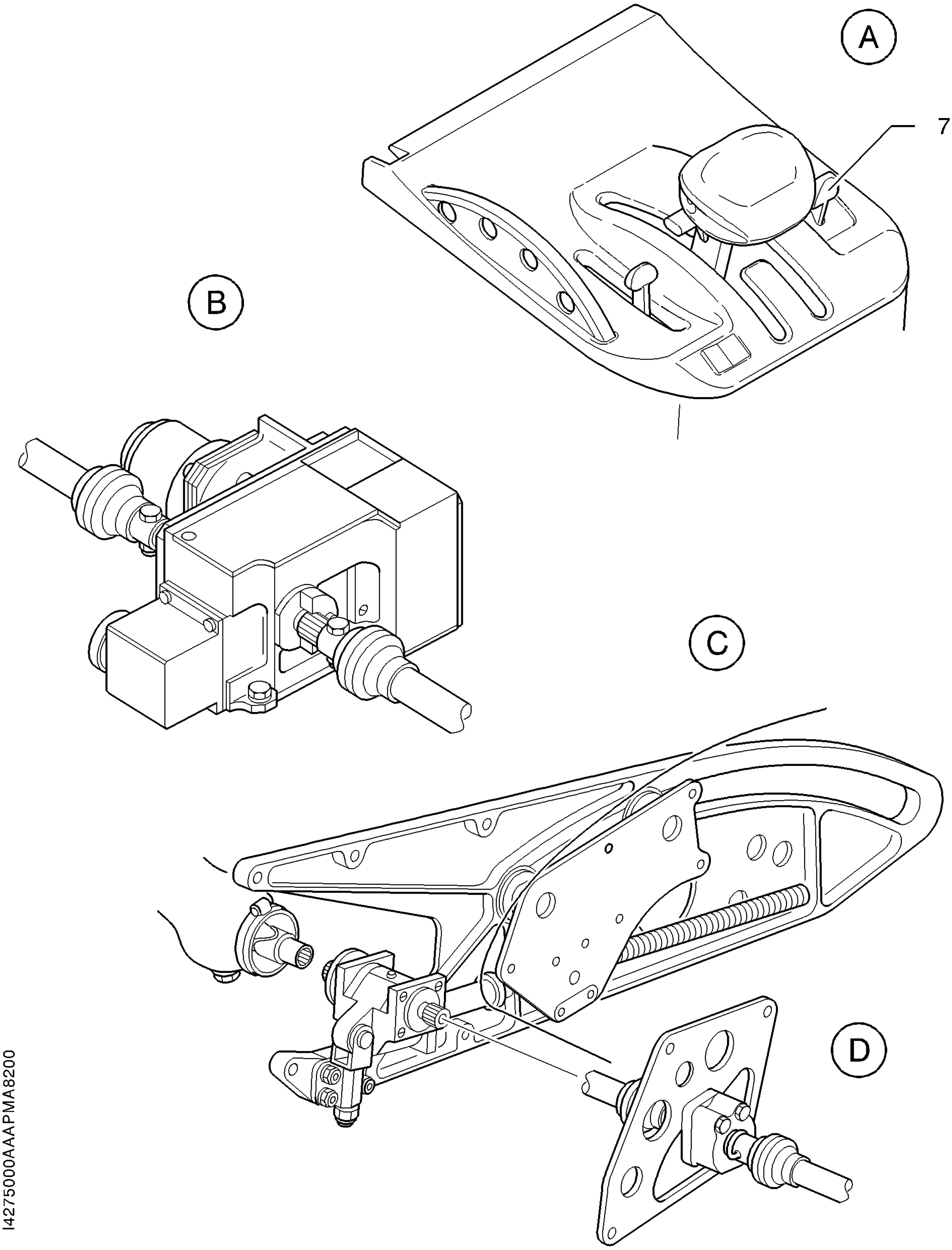


Figure 7.2.2 (2/2) - WING FLAPS

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-speakers, a warning buzzer 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" G1000 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 : ESI-2000, MASTER CAUTION and MASTER WARNING,
  - . at bottom : deicing controls and indicators, NORMAL/MASK inverter, 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,
  - . at bottom : GCU 475 control unit and "ECS" control panel.
- Right area instrument panel includes (Figure 7.3.5) :
  - . on top : locations for optional equipment,
  - . at bottom : alternate static source selector, hour meter 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 control unit, comprises flaps controls, pitch trim tab control wheel, aileron trim switch, engine controls and fuel tank selector.

Circuit breakers panel (Figures 7.3.7 and 7.8.3)

Circuit 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 GDU 1500 MFD CAS display to alert crew about monitored systems discrepancies. As a message appears, an aural tone is heard. Refer to the GARMIN G1000 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 aural tones.

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-speakers or the buzzer installed in cockpit overhead panel.

The aural warnings consist of :

- the aural warning box,
- the buzzer and loud-speakers.

The system uses :

- the stall warning horn,
- the VMO alarm,
- the landing gear control unit,
- the flap geared motor.

Aural warning box

The aural warning box consists of a box including logic circuits, which create the signals heard in the aural warning loud-speakers.

According to the airplane configuration, different signals are produced by the logic circuits :

- gear up and idle → high-pitched sound
- gear up and extended flaps → high-pitched sound
- stall → low-pitched sound
- gear up, idle and stall → alternate high-pitched and low-pitched sounds
- gear up, extended flaps and stall → alternate high-pitched and low-pitched sounds

The aural warning box is fixed under cabin floor, on L.H. side, between frames C5 and C6.

It is electrically supplied by "ESS BUS 2" bar and protected by "AURAL WARN" circuit breaker.

Cockpit overhead panel (Figure 7.3.2)

This panel includes following elements :

- the loud-speaker of GMA # 1,
- the loud-speaker of GMA # 2,
- the VMO alarm buzzer,
- the ”HORN TEST” knob,
- the emergency lighting rheostat.

It is attached to the cabin upper part between frames C6 and C7.

The VMO alarm buzzer is electrically supplied by ”ESS BUS 2” bar and protected by ”AURAL WARN” circuit breaker and the emergency lighting rheostat is electrically supplied by ”BATT BUS” bar and protected by ”PANEL EMER” circuit breaker.

Aural warning operation

The GMA # 1 and # 2 audio control panels receive signals from the aural warning box. According to the airplane configuration, these signals are low-pitched and / or high-pitched.

The ”HORN TEST” knob allows to test the correct operation of aural warnings :

- Set the ”SOURCE” selector to BATT or to GPU.
- Push and hold the ”HORN TEST” knob :
  . the VMO buzzer emits ”bips”,
  . the loud-speakers emit alternate low-pitched and high-pitched sounds.
- Release the knob to stop the alarms.

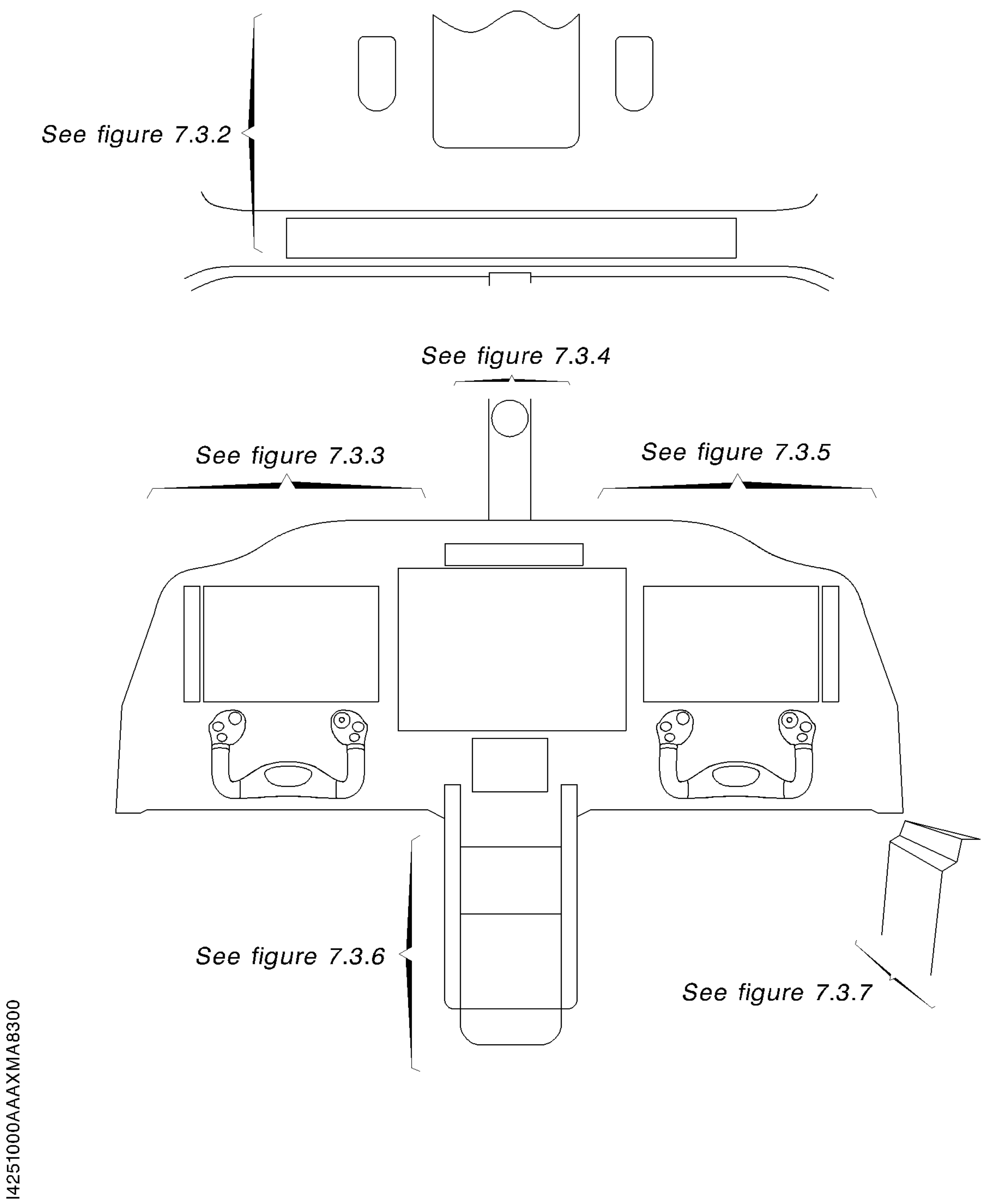


Figure 7.3.1 - INSTRUMENT PANEL ASSEMBLY
(Typical arrangement)

1) L.H. instrument panel emergency lighting
2) Buzzer (V_{MO} alarm)
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 7.8.4)
12) "INT LIGHTS" internal lighting switches (Figure 7.8.6)
13) "EXT LIGHTS" external lighting switches (Figure 7.8.5)
14) L.H. cockpit floodlight
15) "HORN TEST" aural warning test knob
16) Loud-speaker of GMA # 1

Figure 7.3.2 (1/2) - UPPER PANEL AND COCKPIT OVERHEAD PANEL

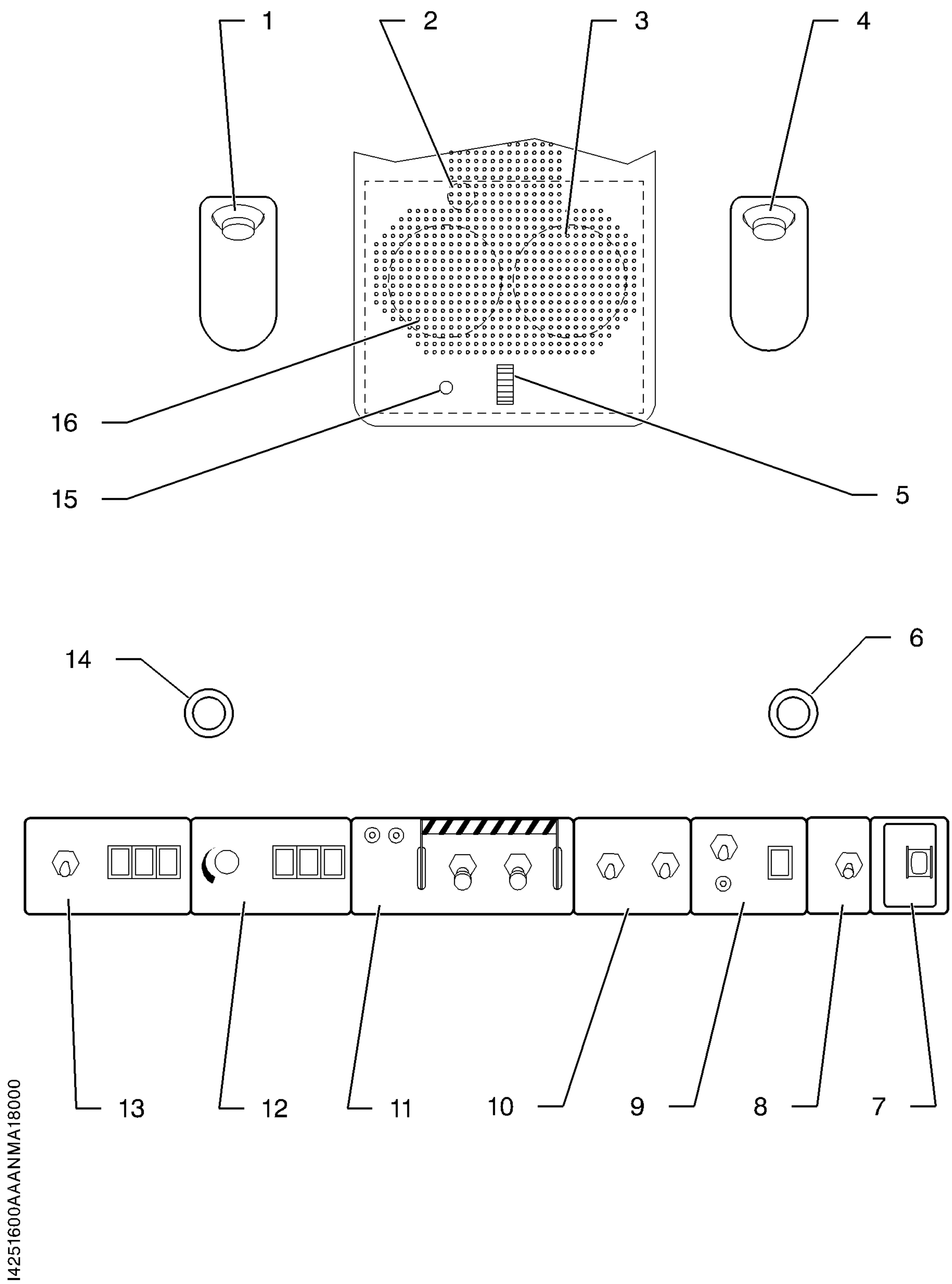


Figure 7.3.2 (2/2) - UPPER PANEL AND COCKPIT OVERHEAD PANEL

1) L.H. GMA 1347 audio panel
2) General alarm red and amber indicators
3) GDU 1040 PFD1
4) ESI-2000
5) Landing gear configuration and control panel (Figure 7.5.1)
6) Parking brake control (Figure 7.5.6)
7) Left station control wheel tube
8) Deicing 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 / TRIMS 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) Circuit breaker panel lighting switch
23) Oxygen mask microphone switch (Figure 7.10.1)

Figure 7.3.3 (1/2) - LEFT INSTRUMENT PANEL

Figure 7.3.3 (2/2) - LEFT INSTRUMENT PANEL
(Typical arrangement)

1) Stand-by compass
2) GMC 710 AFCS mode controller
3) Registration
4) "ECS" air conditioning control panel (Figure 7.9.2)
5) GCU 475 remote controller
6) GDU 1500 MFD

Figure 7.3.4 (1/2) - CENTRAL INSTRUMENT PANEL

Figure 7.3.4 (2/2) - CENTRAL INSTRUMENT PANEL
(Typical arrangement)

1) GDU 1040 PFD2
2) R.H. GMA 1347 audio panel
3) Right station control wheel tube
4) Crew music
5) Adjustable air outlet
6) Right station reception-micro jacks
7) Hour meter
8) R. H. station rudder pedals adjusting handle
9) Circuit breakers panel postlight
10) Cigar lighter and two USB servicing plugs
11) Cabin emergency air control (”EMERGENCY RAM AIR” control knob)
12) Static source selector
13) COM 2 (Stand-by / active)
14) Stormscope clear
15) Tansponder Ident sequence
16) Chronometer management
17) Paper clip
18) CWS
19) ”AP / TRIMS DISC” red push-button
20) Push To Talk button (PTT)
21) Pitch & Yaw trim setting management

Figure 7.3.5 (1/2) - RIGHT INSTRUMENT PANEL

Figure 7.3.5 (2/2) - RIGHT INSTRUMENT PANEL
(Typical arrangement)

1) Throttle
2) Flaps control
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 7.3.6 (1/2) - PEDESTAL CONSOLE

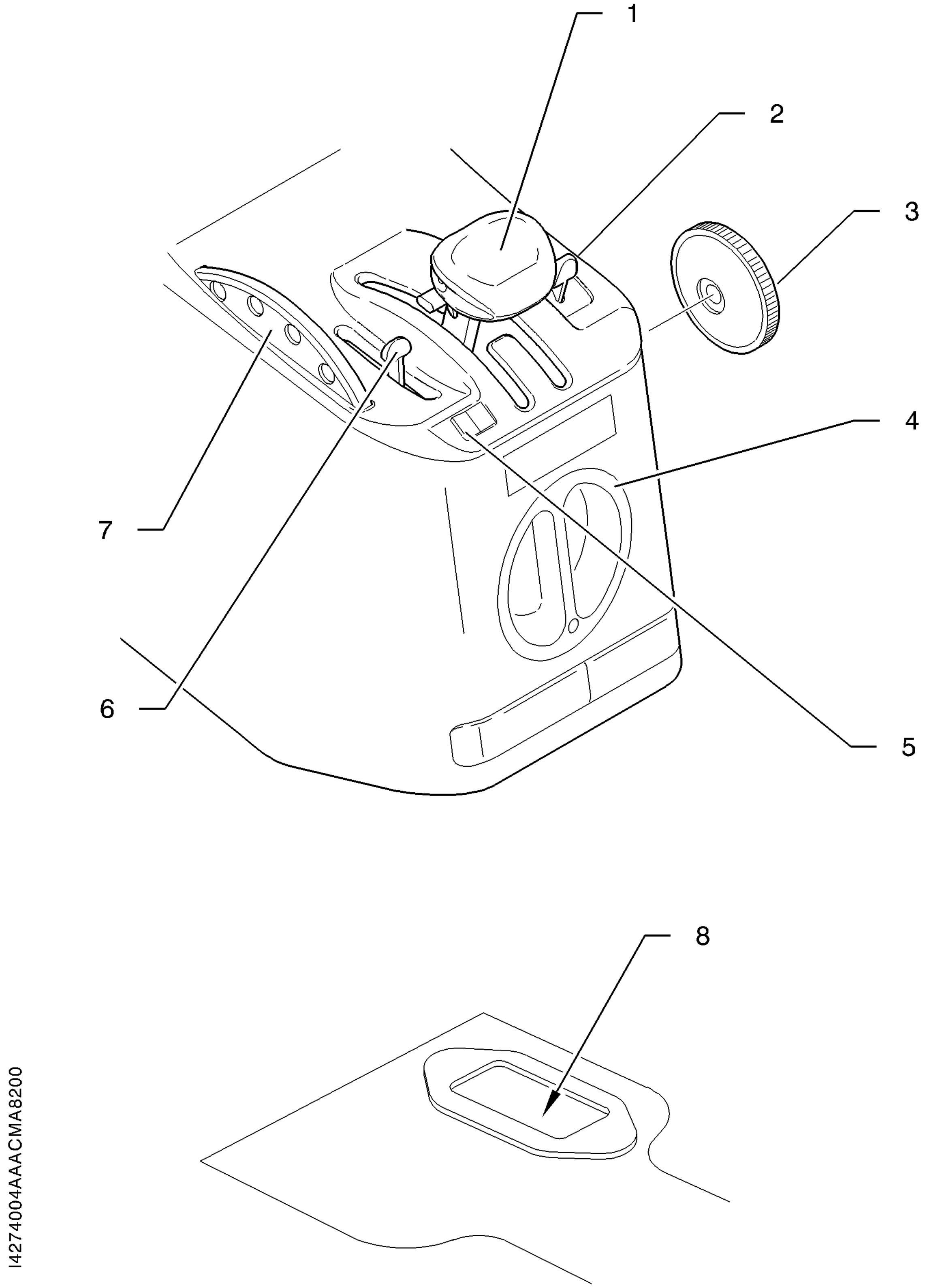


Figure 7.3.6 (2/2) - PEDESTAL CONSOLE
(Typical arrangement)

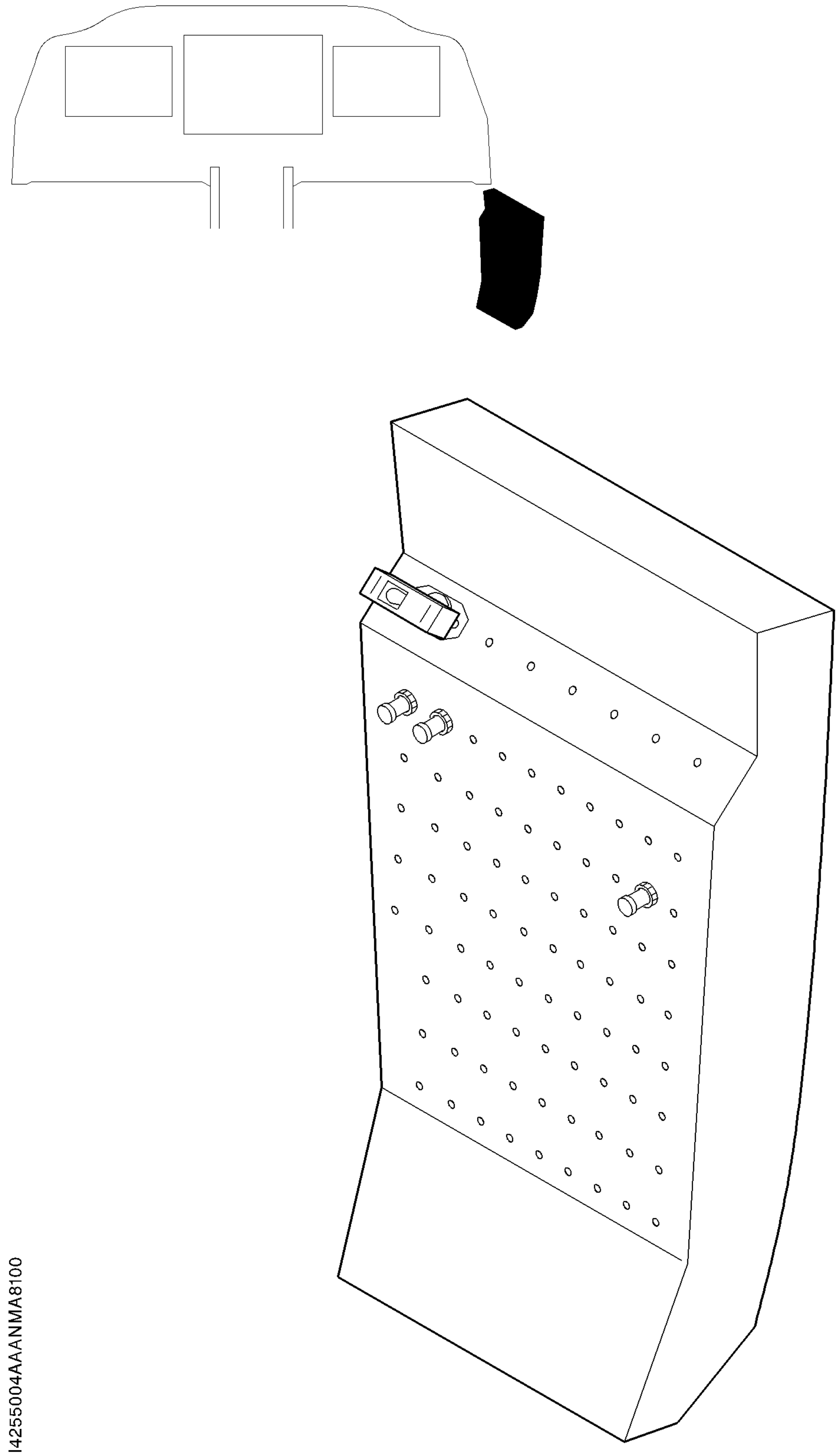


Figure 7.3.7 - CIRCUIT BREAKERS PANEL

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.

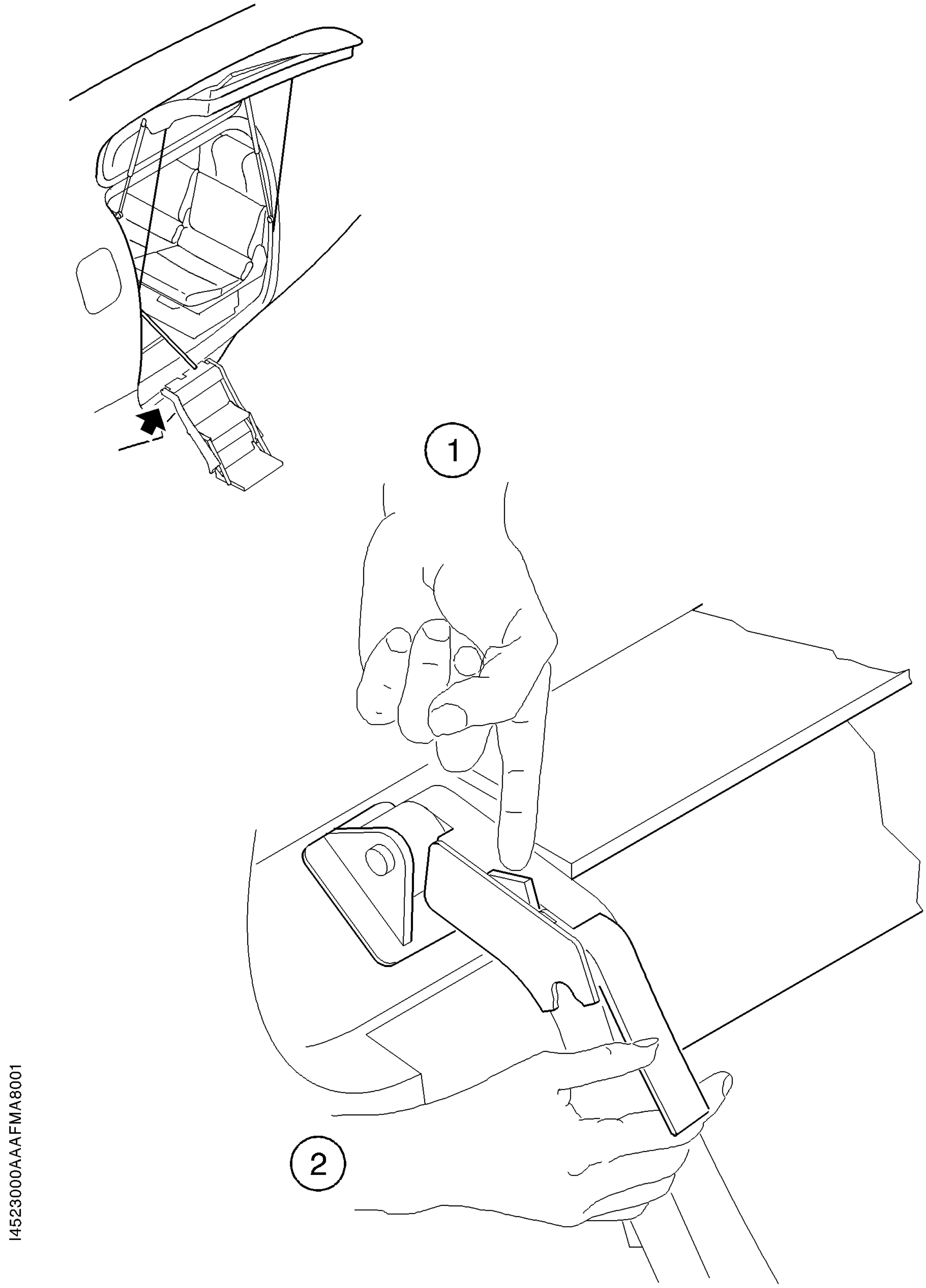


Figure 7.3.9 - CABIN ACCESS DOOR

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.

Windows

Windows do not open. The windshield consists of two parts electrically deiced.

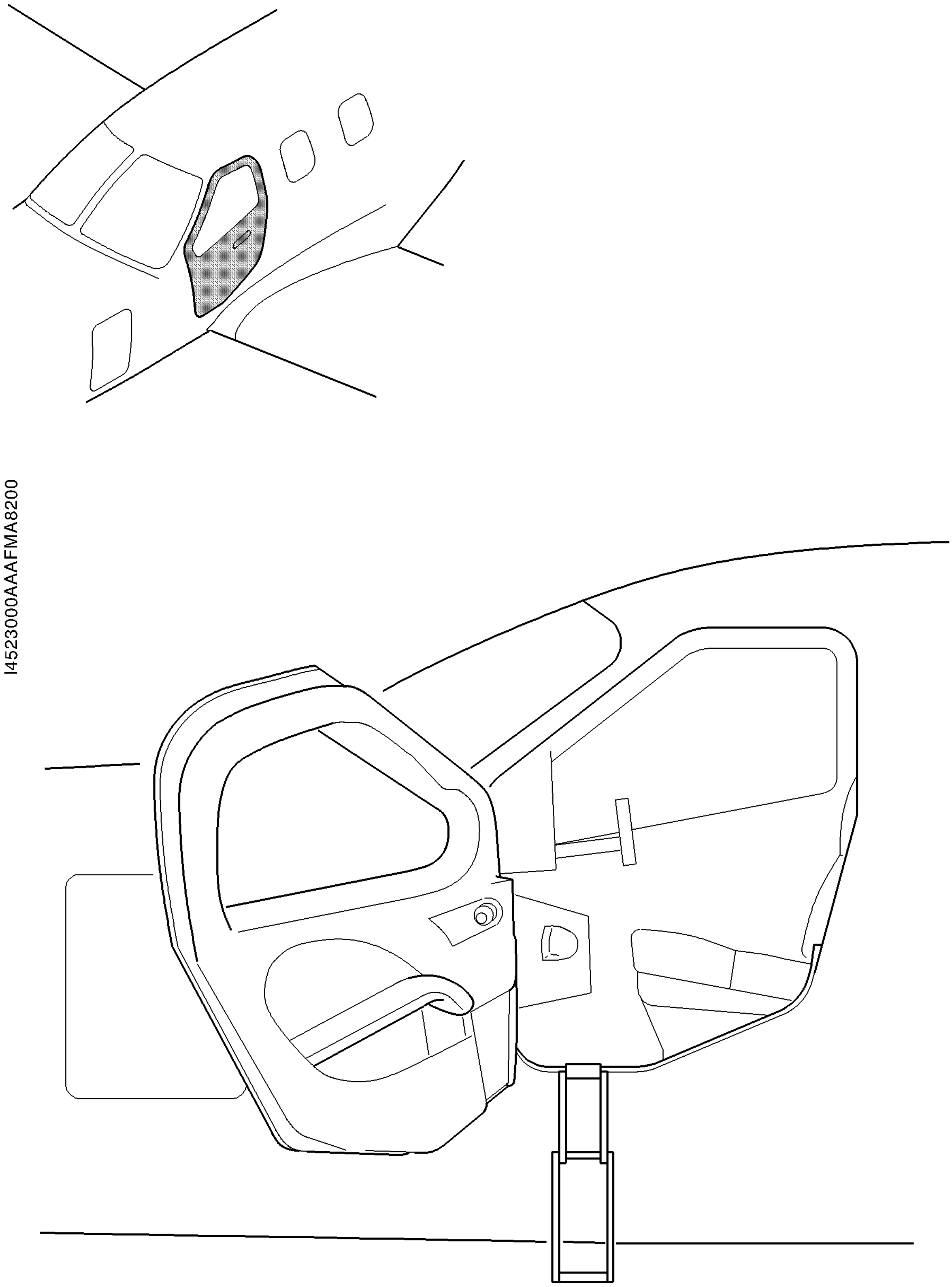


Figure 7.3.9A - COCKPIT ACCESS DOOR ("PILOT" DOOR)

Emergency exit (Figure 7.3.10)

The emergency exit is installed on the right side of the fuselage and opens towards the inside. It is equipped with two handles, one inside and the other outside, each located on the upper frame.

When the airplane is parked, the closing system may be locked by a safety pin provided with a flag marker. The handle is then inoperable.

WARNING

TAXIING AND FLYING WITH THIEF-PROOF SAFETY PIN INSTALLED IS FORBIDDEN.

To open the emergency exit, pull one of the two handles and tilt the emergency exit from top to bottom towards inside of airplane.

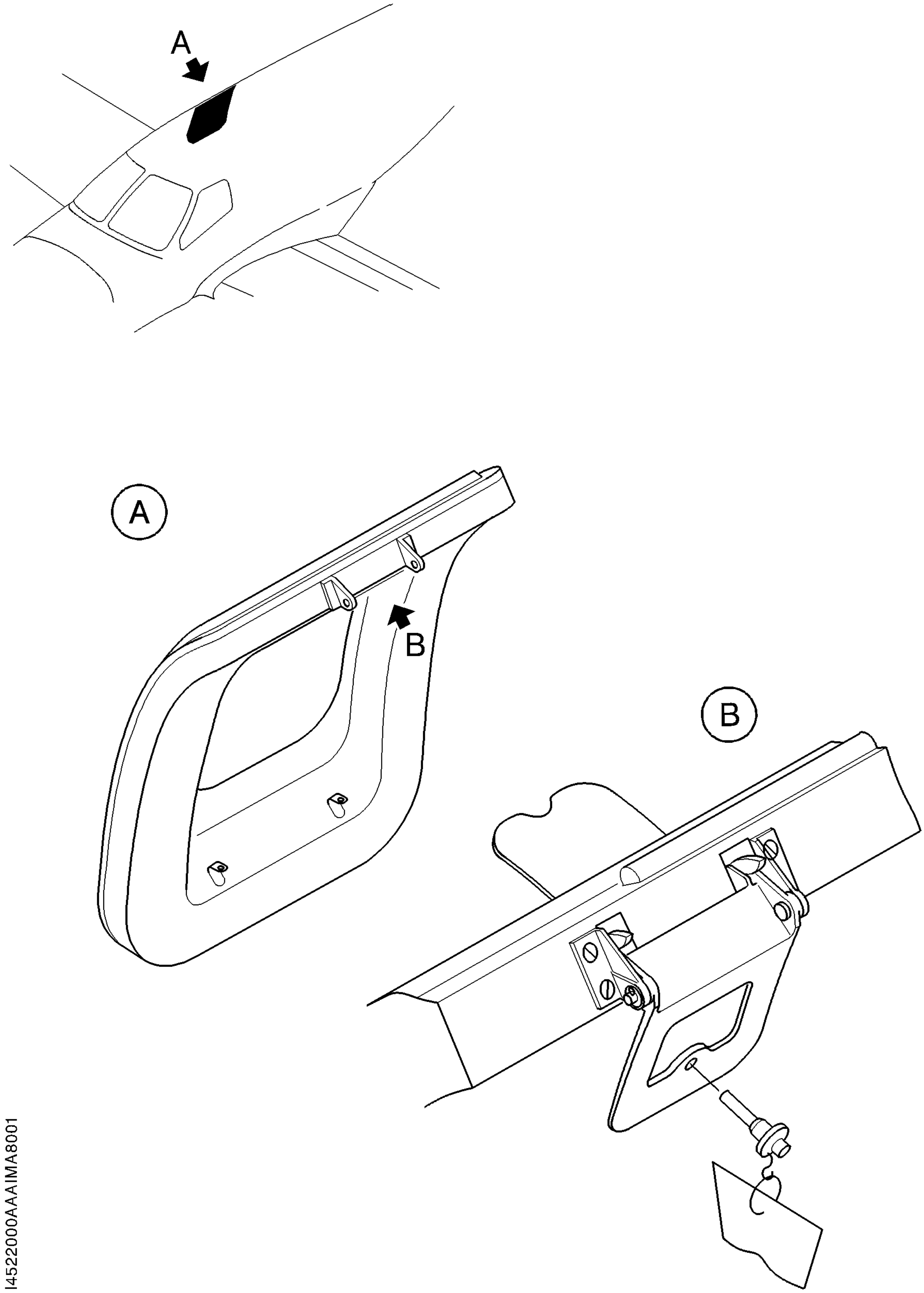


Figure 7.3.10 - EMERGENCY EXIT

SEATS, BELTS AND HARNESSES

Cockpit seats (Figure 7.3.11)

L.H. and R.H. front seats are mounted on rails attached to the structure. Longitudinal position, height and back-rest tilting of each seat can be adjusted and the arm-rest is hinged.

Pull up the handle located 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)

<u>With 6-seat accommodation</u>

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.

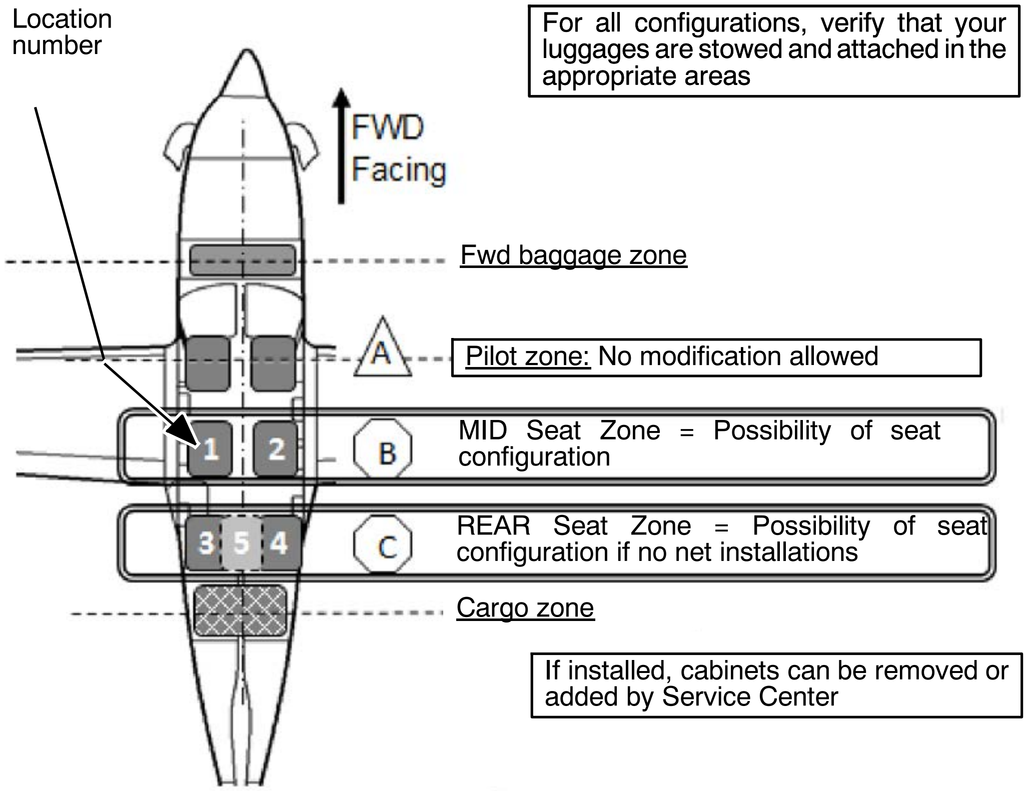
<u>With 4-seat accommodation</u>

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

ONLY zone B and zone C can be modified for seat configurations



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).

Location number	FWD Facing	AFT Facing	Number of seat can be installed
1	YES	YES	1 or 0
2	YES	YES	1 or 0

For the REAR Seat zone C

ONLY the Rear Seat can be installed in Rear Seat Zone.

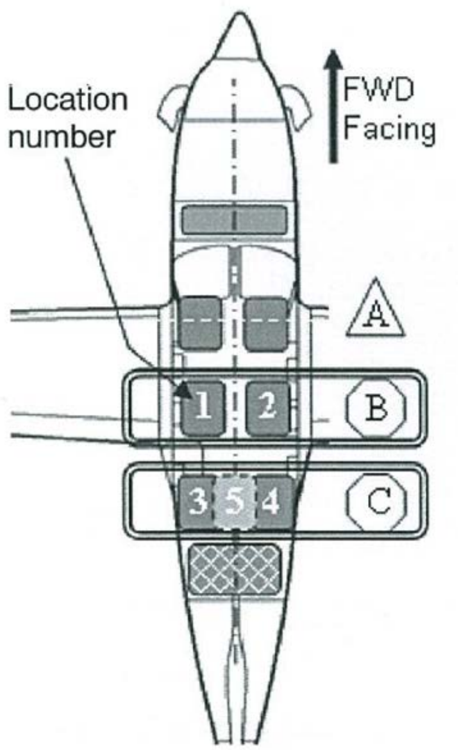
The Zone C accepts zero or 1 or 2 seats.

Location number	FWD Facing	Number of seat can be installed
3	YES	1 or 0
4	YES	1 or 0
5 *(1)	YES *(1)	1 or 0 *(1)

*(1) Centered on the fuselage axis

Here are all the configurations possibilities

Configuration name	Location number				
	1	2	3	4	5
C1	X	X	X	X	
C2	X	X			X
C3	X	X		X	
C4 (1)	X	X			
C5	X	X	X		
C6	X		X	X	
C7	X		X		
C8	X			X	
C9	X				X
C10 (1)	X				
C11		X	X	X	
C12		X			X
C13		X	X		
C14		X		X	
C15 (1)		X			
C16			X	X	
C17			X		
C18				X	
C19					X
C20 (1)					
	Zone B		Zone C		



(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.

Each passenger seat is equipped with a three-point restraint system consisting of an adjustable lap belt and an inertia reel-type shoulder harness.

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.

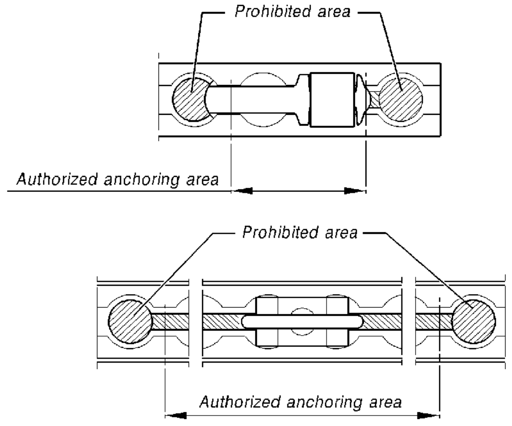
IN CASE OF TRANSPORT OF DANGEROUS MATERIALS, RESPECT THE LAW CONCERNING TRANSPORT OF DANGEROUS MATERIALS AND ANY OTHER APPLICABLE REGULATION

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).

I4113500AAAAMA8000



- 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.

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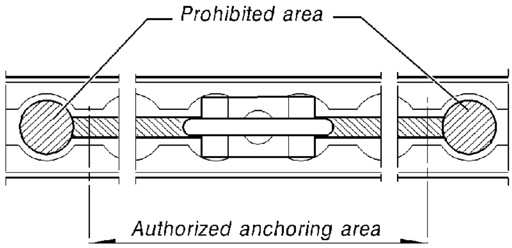


Authorized anchoring points are identified with green self-adhesive labels affixed to the inside of the seat rail.

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 (back to flight direction)
4) L. H. intermediate passenger's seat (back to flight direction)
5) R. H. rear passenger's seat } Rear bench
6) L. H. rear passenger's seat }
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

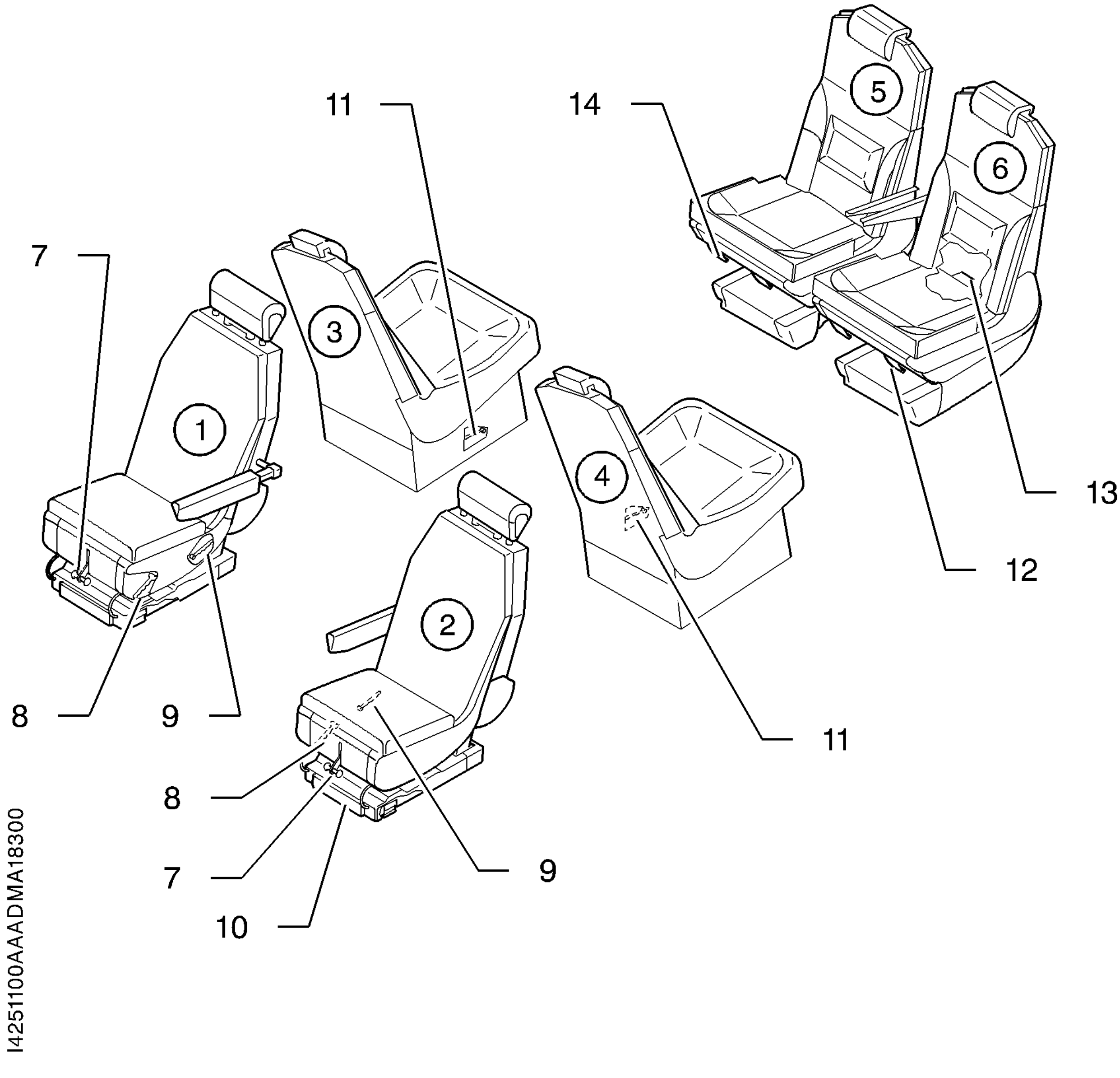


Figure 7.3.11 (2/2) - SEATS
With 6-seat accommodation

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 (1/2) - SEATS
With 4-seat accommodation

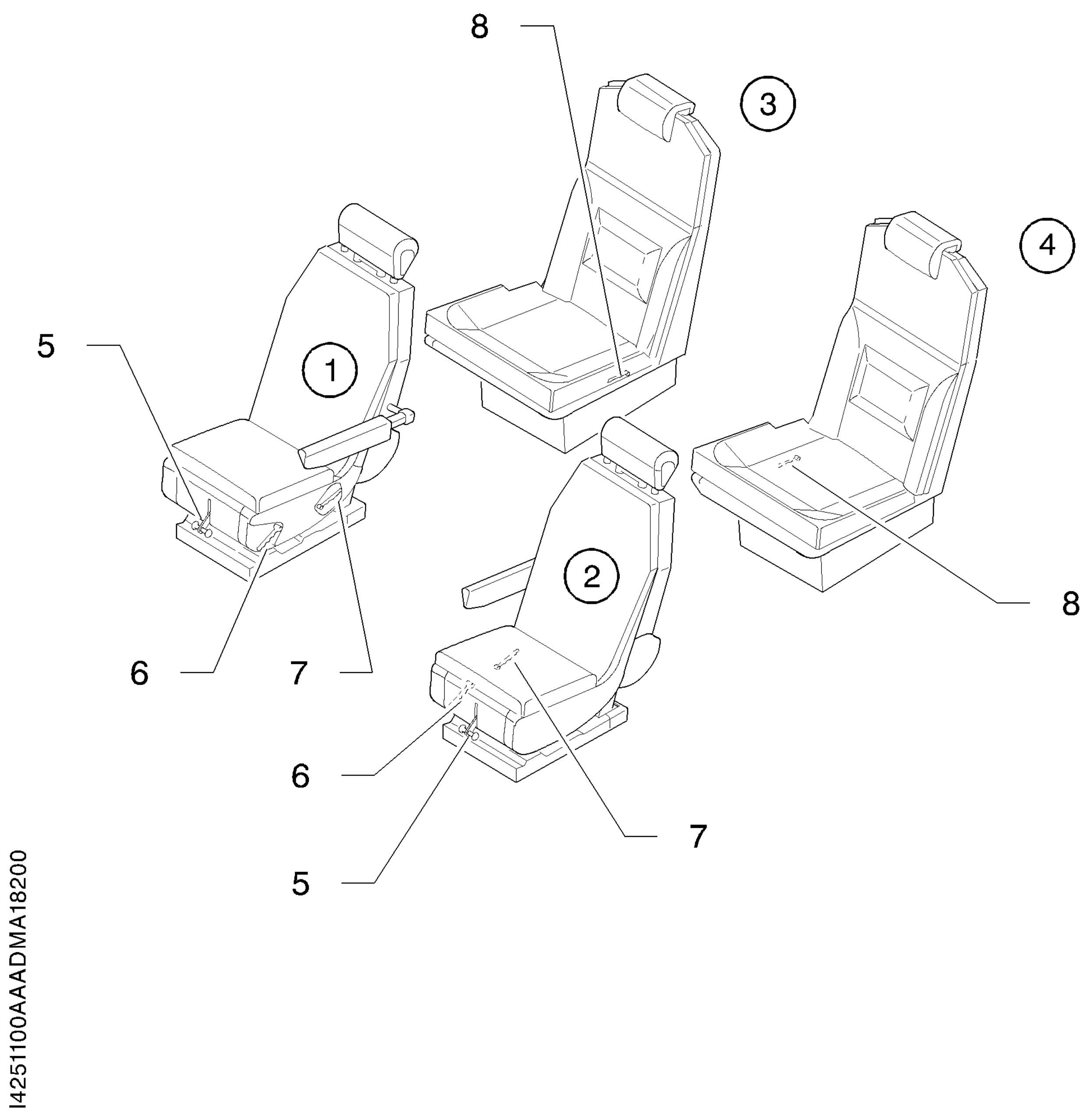


Figure 7.3.11A (2/2) - SEATS
With 4-seat accommodation

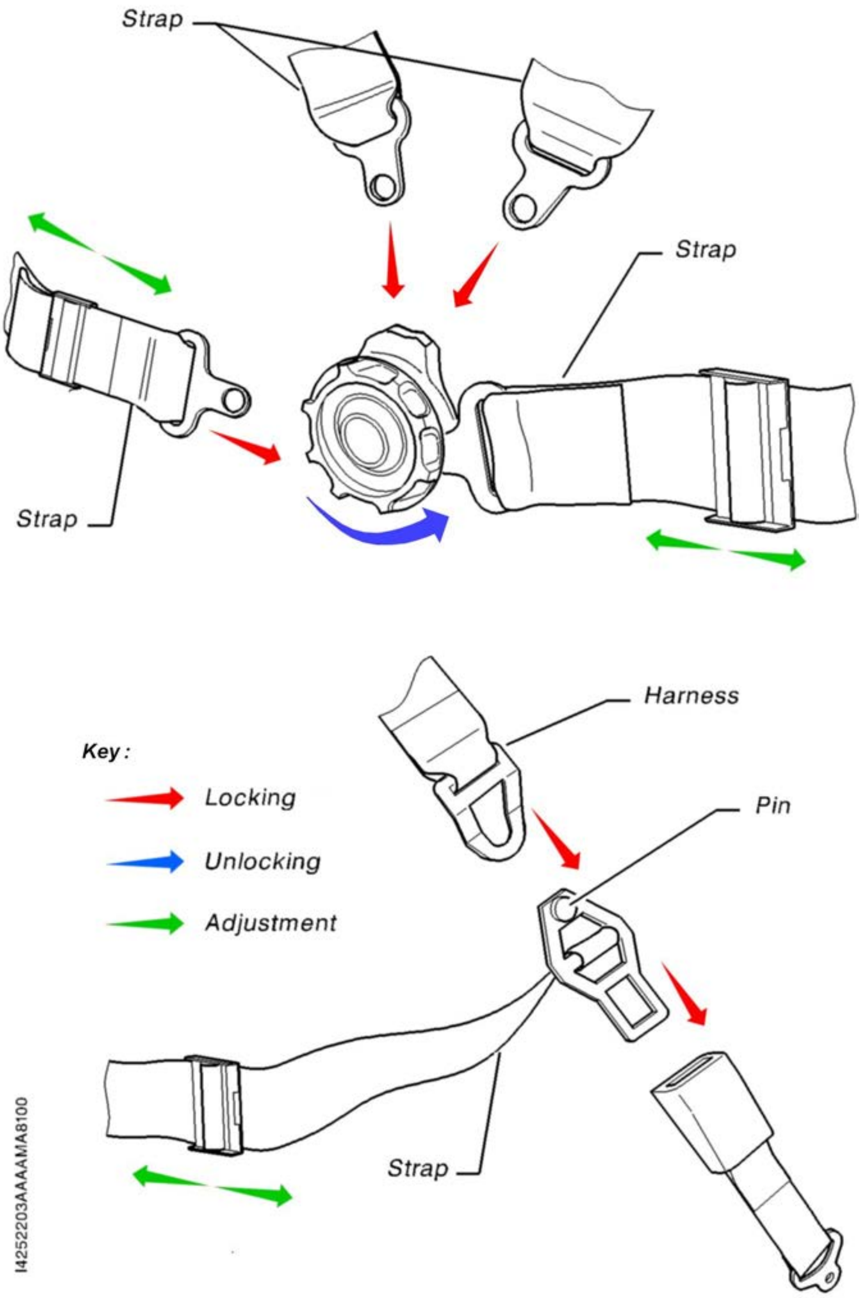


Figure 7.3.12 - FRONT AND REAR SEAT BELTS (with movable straps)
AND HARNESSES

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" circuit breaker.

1) Pedestal assembly
2) Control wheels
3) Fuselage roll lever
4) Spoiler
5) Aileron
6) Aileron control in wing
7) Spoiler control

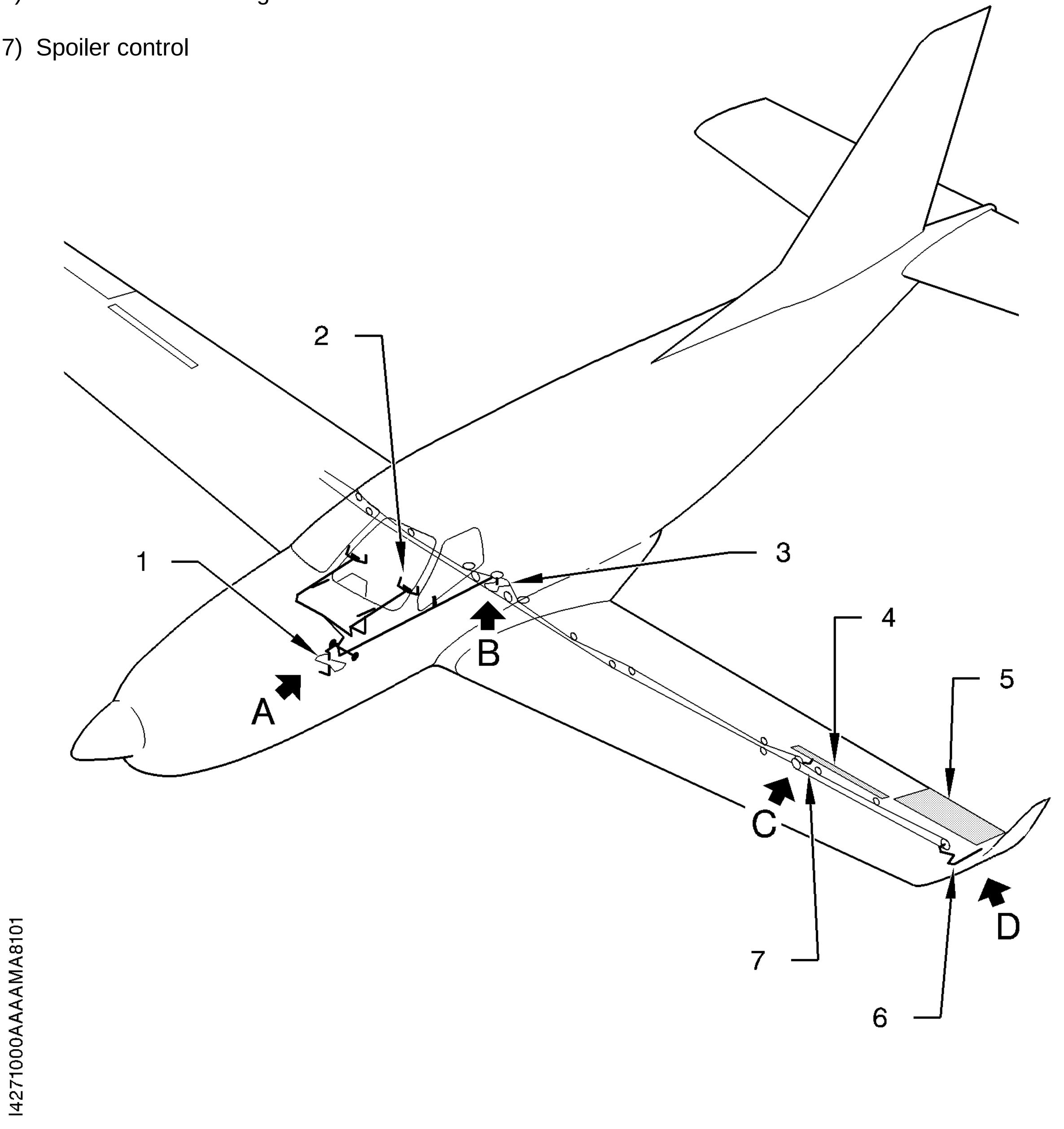


Figure 7.4.1 (1/2) - ROLL

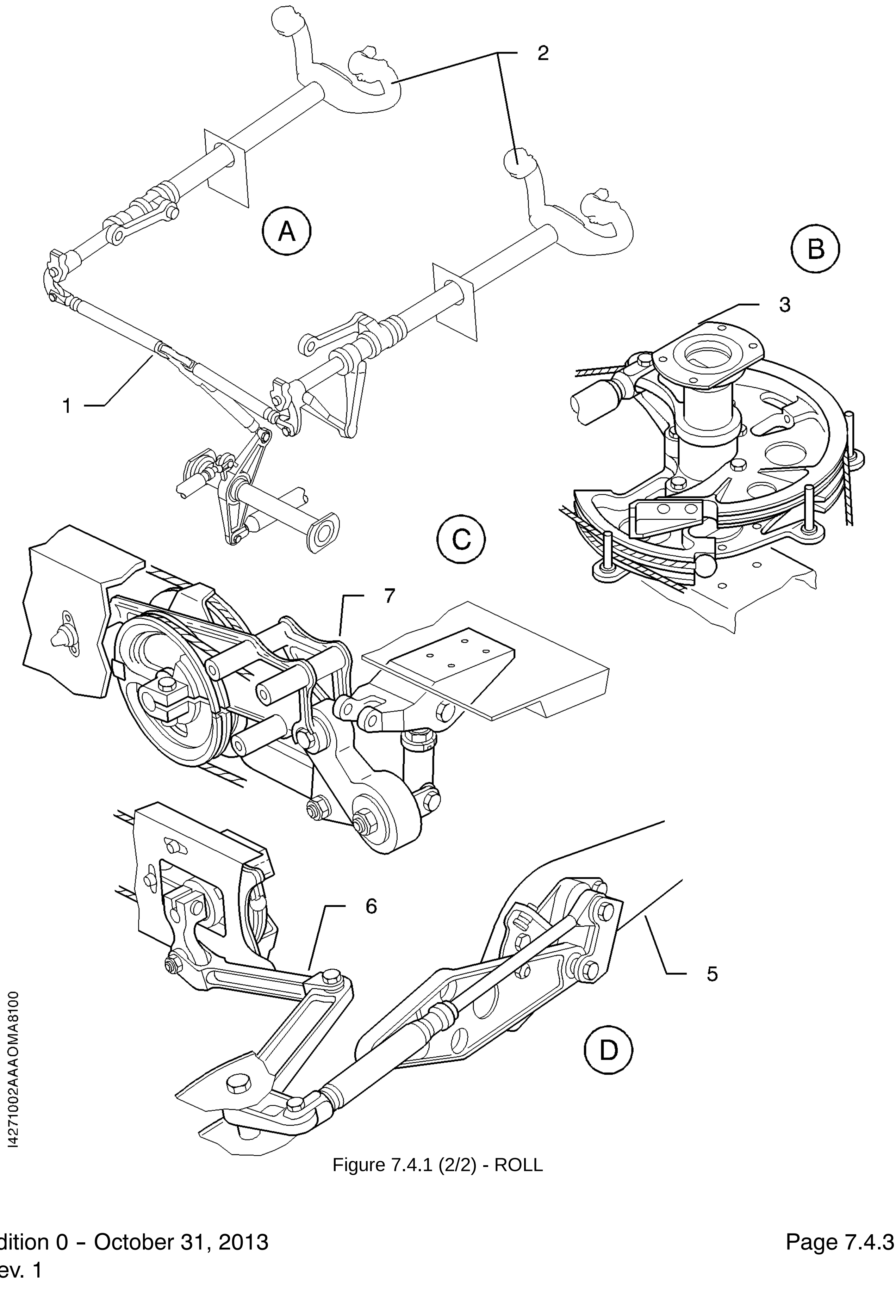


Figure 7.4.1 (2/2) - ROLL

1) Roll trim tab
2) Aileron
3) Adjustable rods
4) Actuator
5) Trim tab control wiring
6) Trim switch on pedestal console

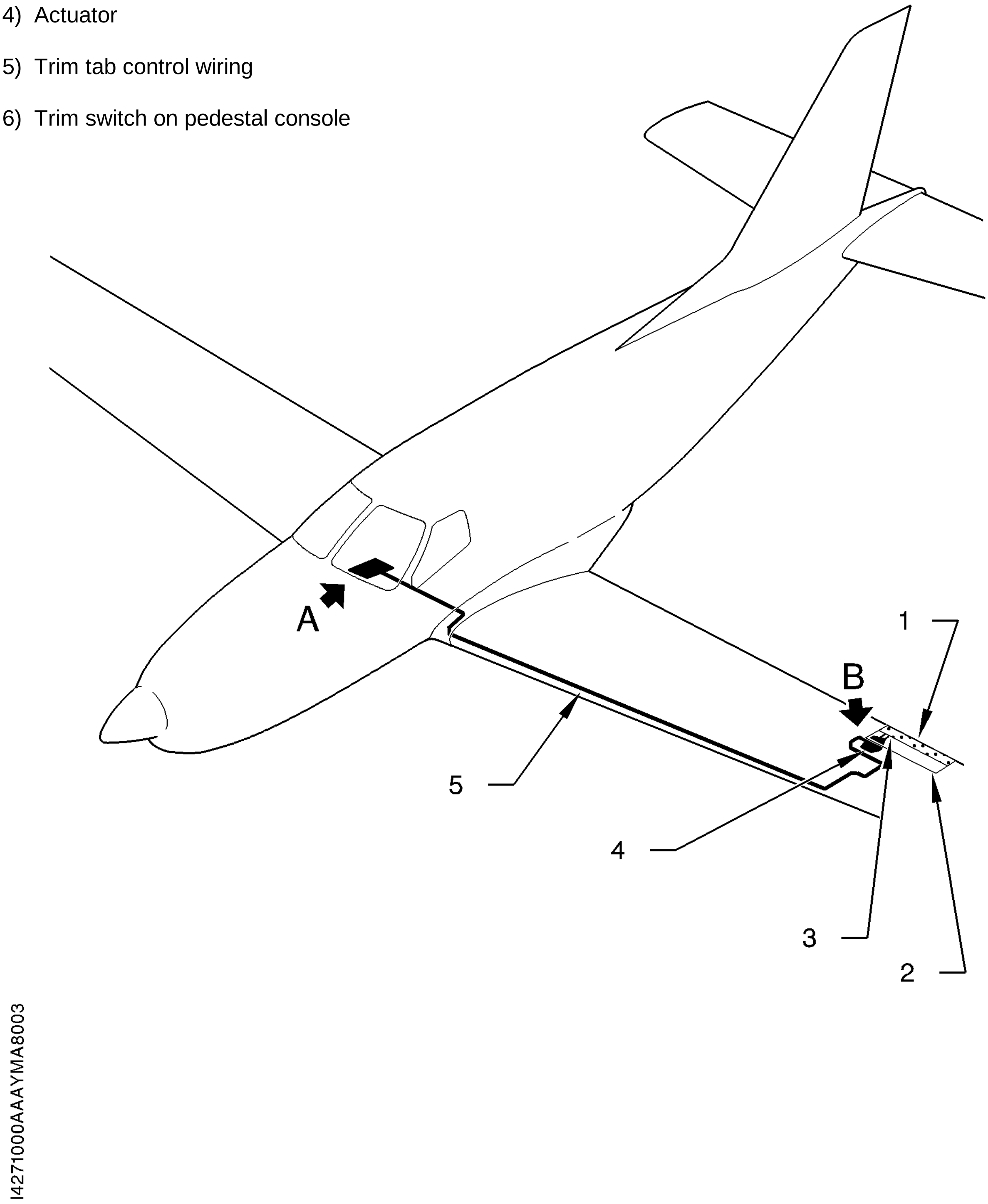


Figure 7.4.2 (1/2) - LATERAL TRIM

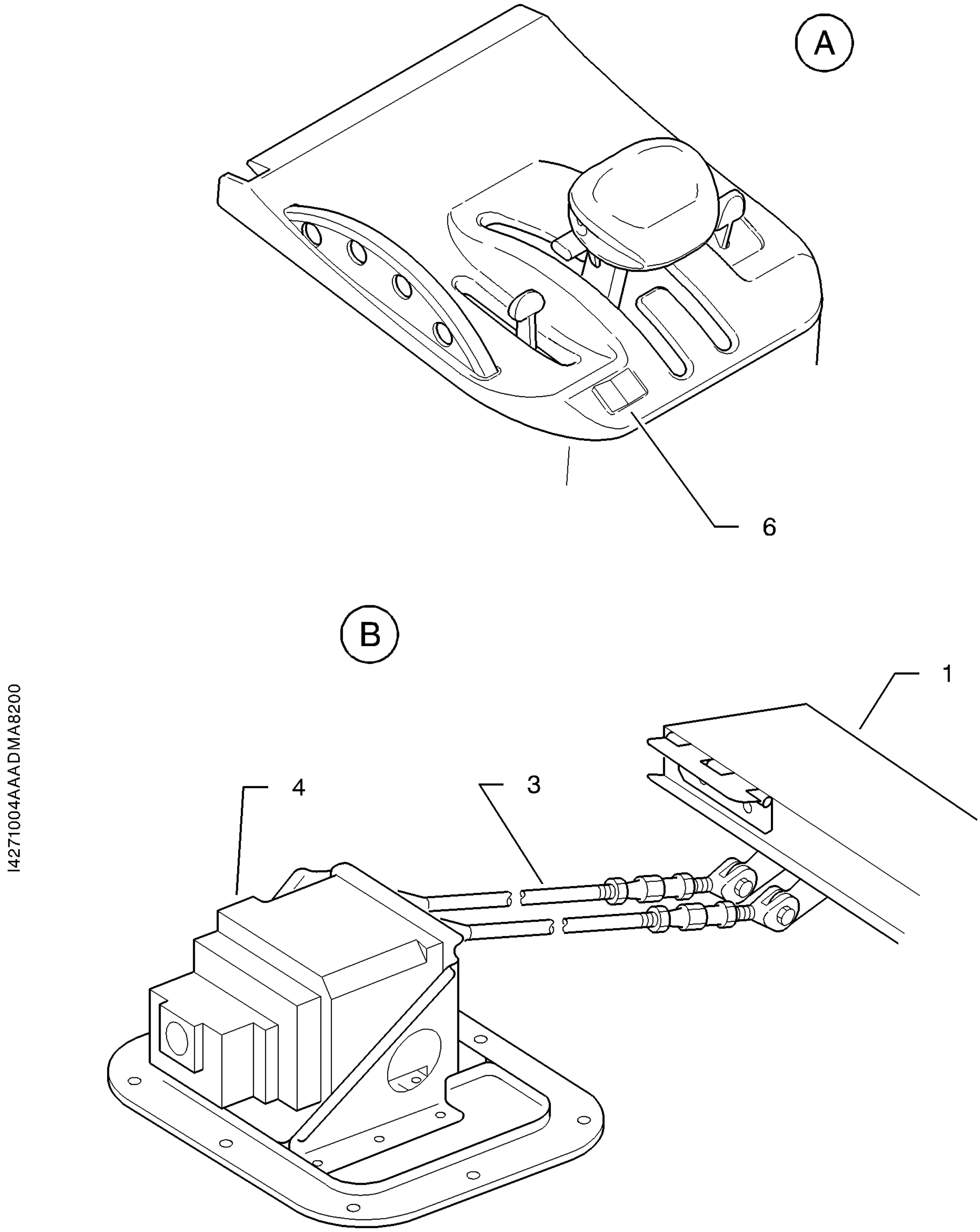


Figure 7.4.2 (2/2) - LATERAL TRIM

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 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" circuit breaker.

Manual control wheel is installed vertically on left side of pedestal console.

1) Control wheel assembly

2) Elevators

3) Lever assembly, fuselage rear part

4) Elevator bellcrank

5) Rod with presseal connection

6) Lever assembly under floor

7) Pedestal assembly

8) Actuator

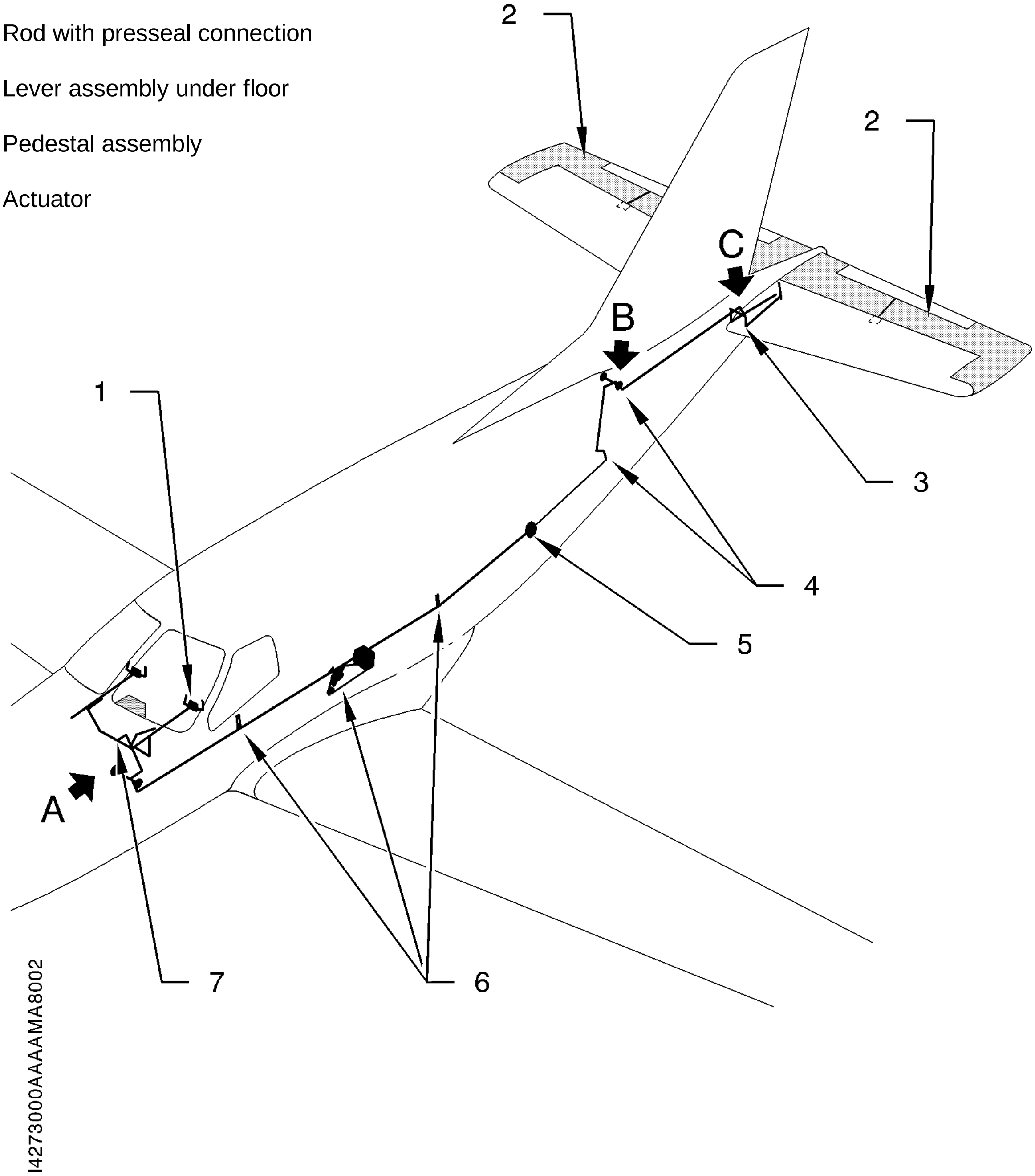


Figure 7.4.3 (1/2) - ELEVATOR

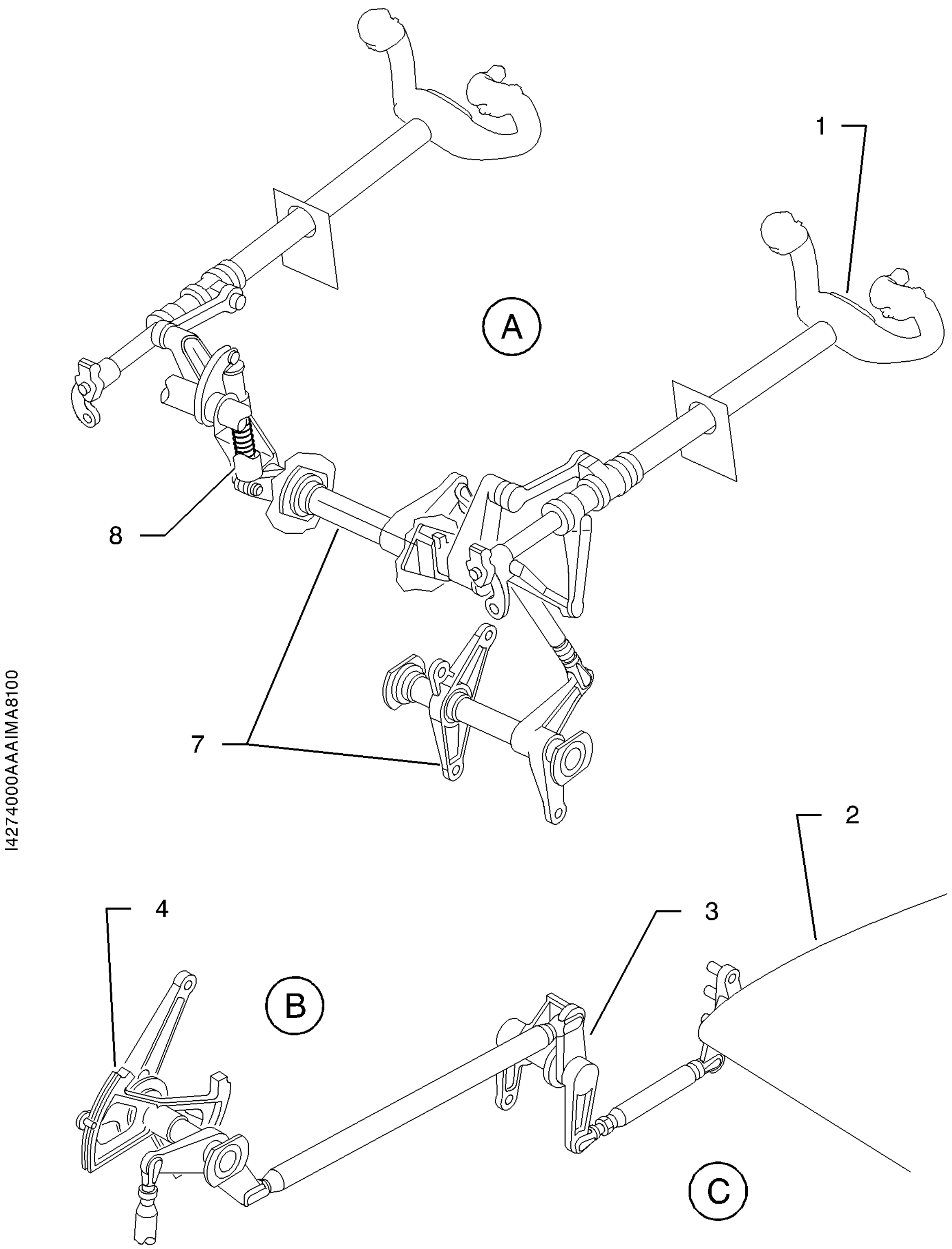


Figure 7.4.3 (2/2) - ELEVATOR

1) Cables

2) Pulleys

3) Pitch trim tabs

4) Actuating rods

5) Actuator

6) Pitch trim manual control wheel

7) Electric pitch trim control

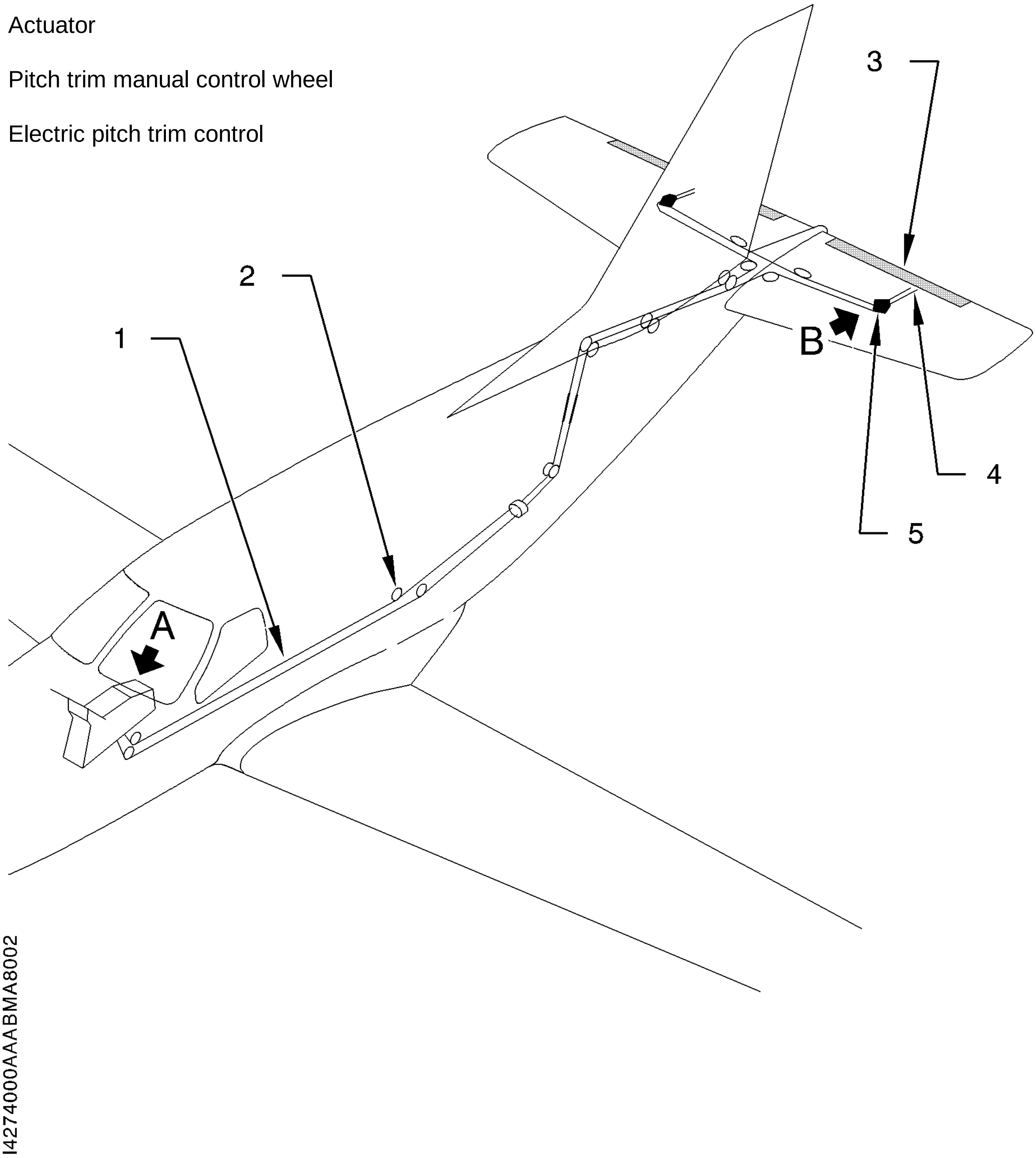


Figure 7.4.4 (1/2) - PITCH TRIM

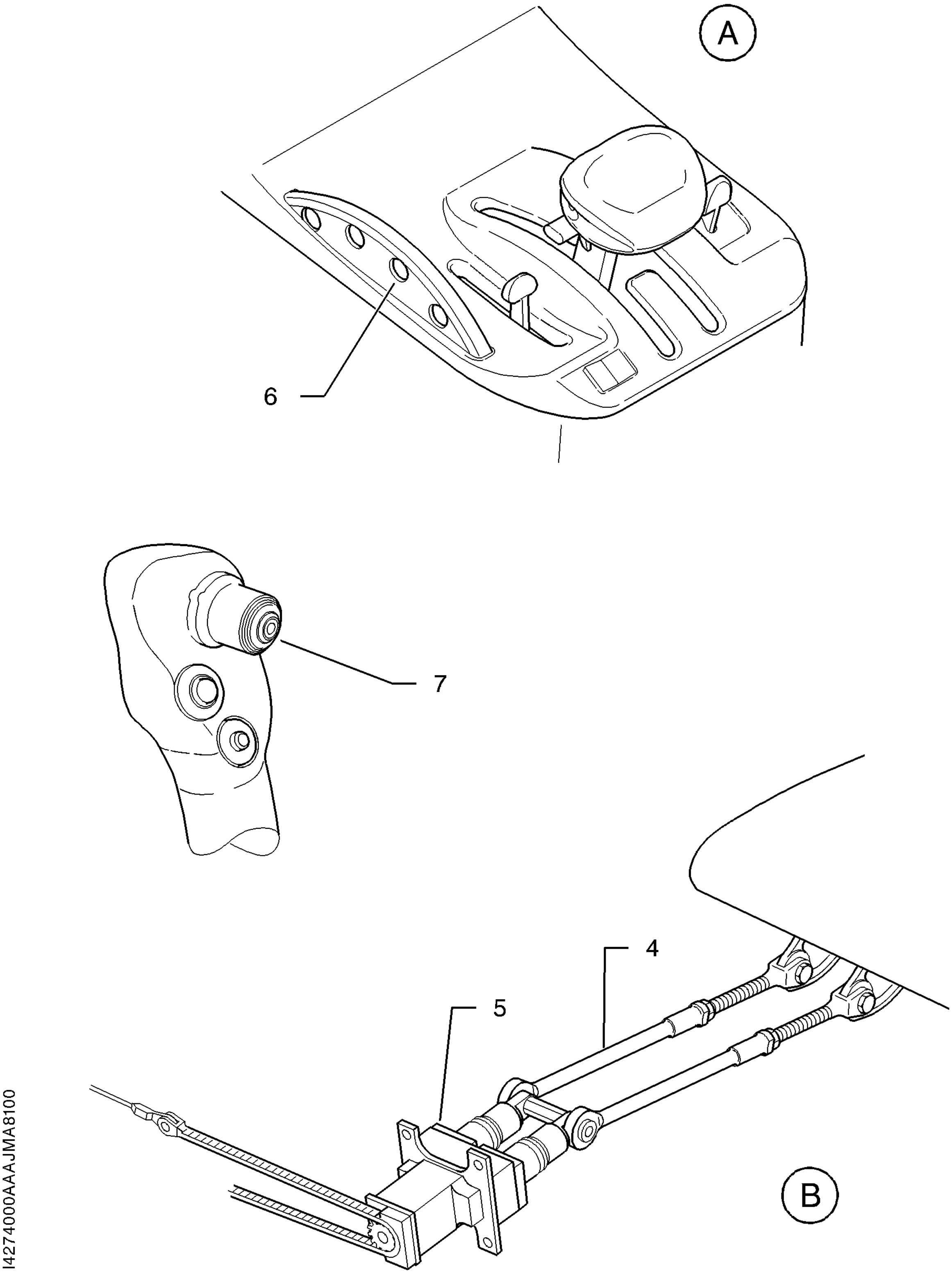


Figure 7.4.4 (2/2) - PITCH TRIM

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" circuit breaker.

1) Roll / rudder combination bellcrank installation
2) Rudder pedals assembly
3) Control cables
4) Pulleys
5) Rudder lever assembly
6) Rod
7) Rudder
8) Nose gear steering rod

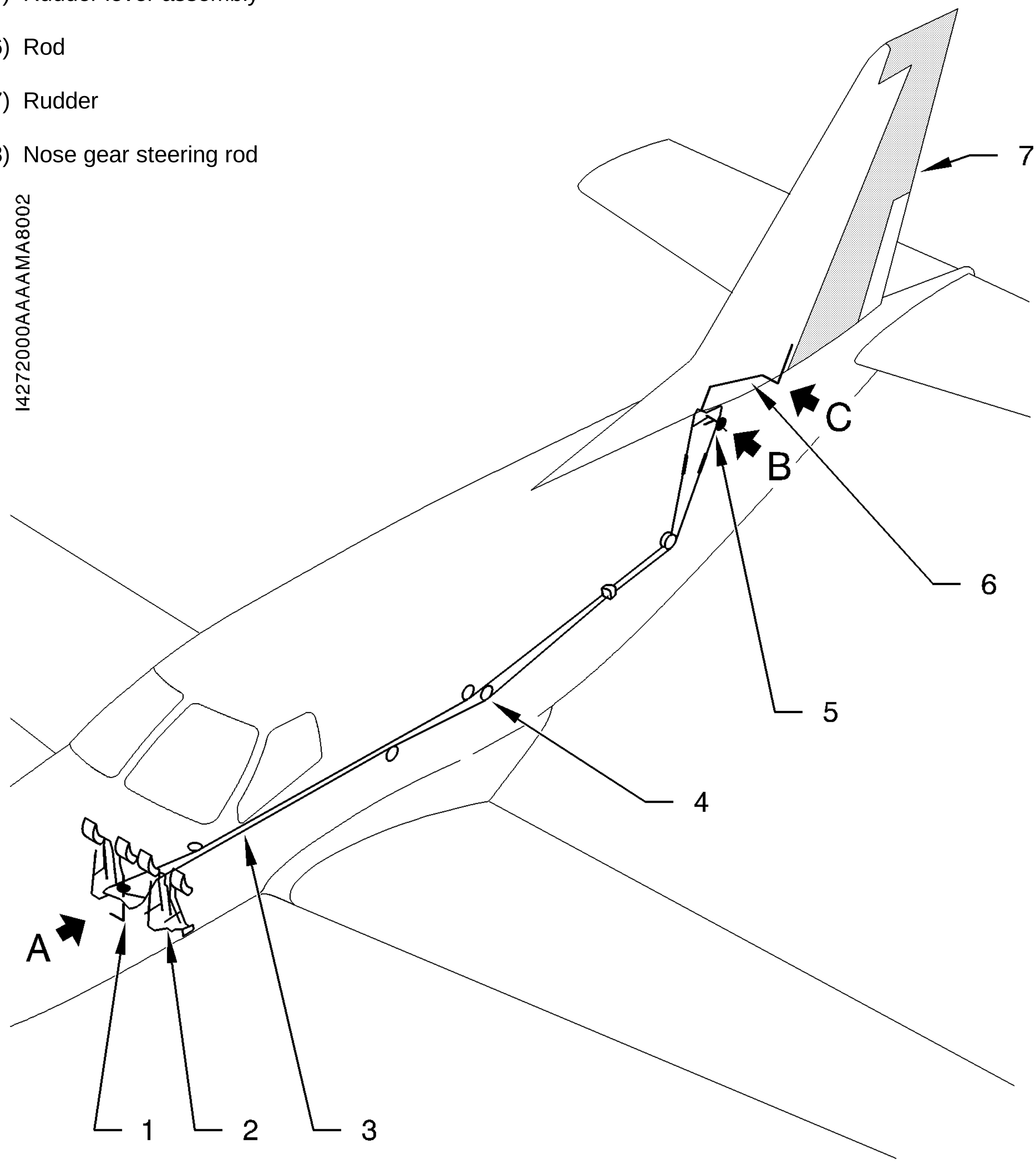


Figure 7.4.5 (1/2) - RUDDER

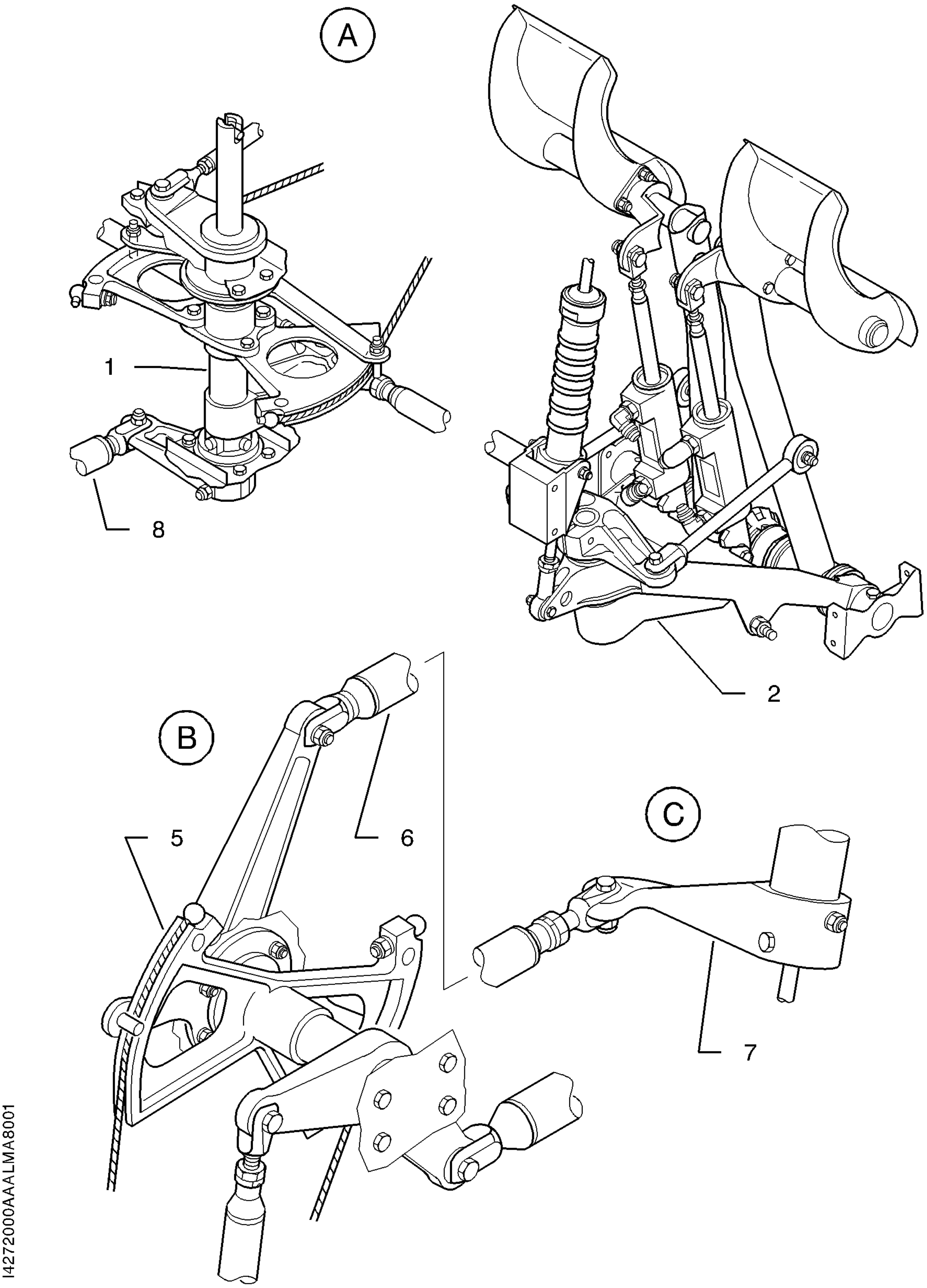


Figure 7.4.5 (2/2) - RUDDER

1) Trim switch on control wheel

2) Actuator

3) Rudder trim tab

4) Rods

5) Rudder trim control wiring

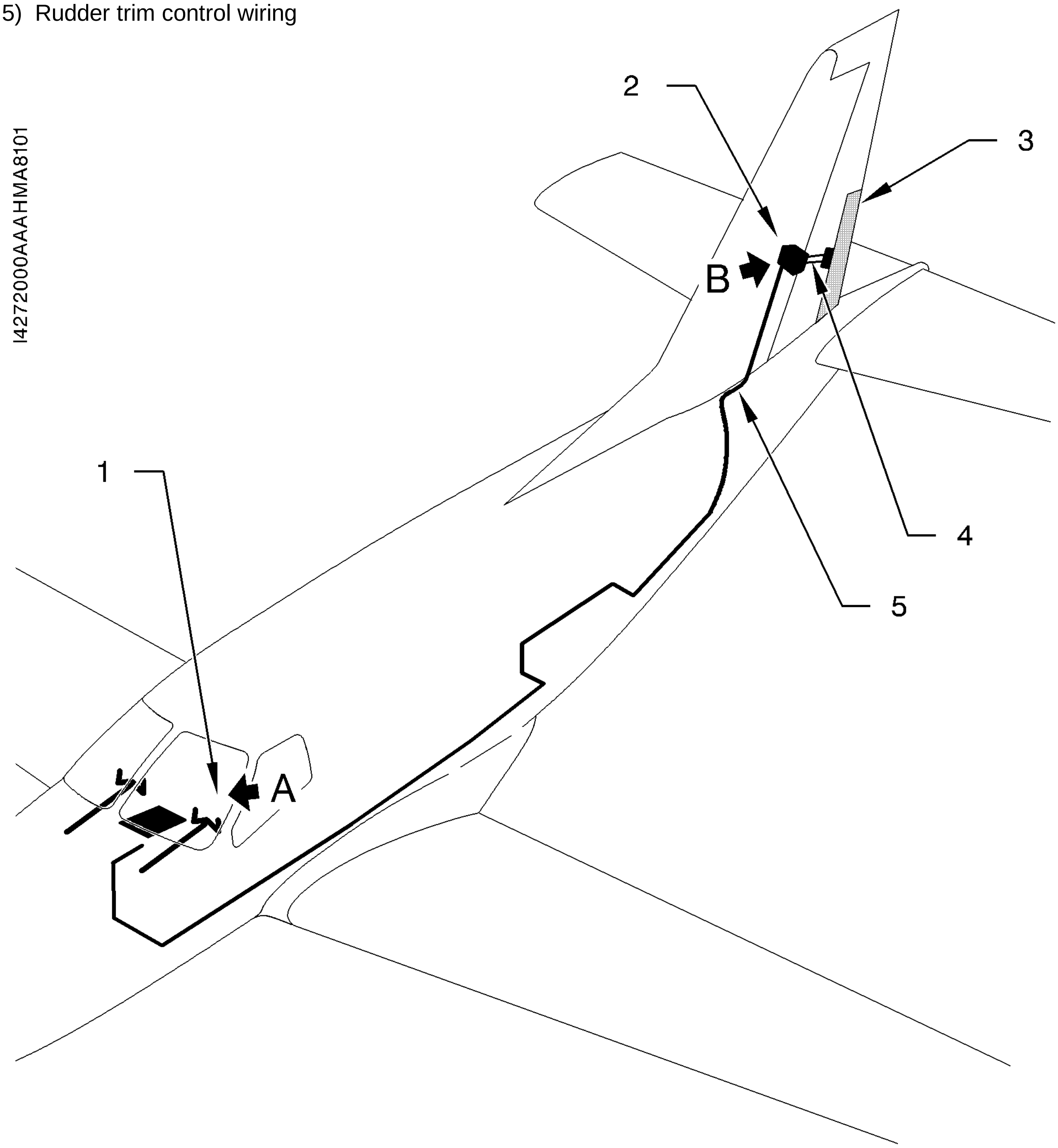


Figure 7.4.6 (1/2) - RUDDER TRIM

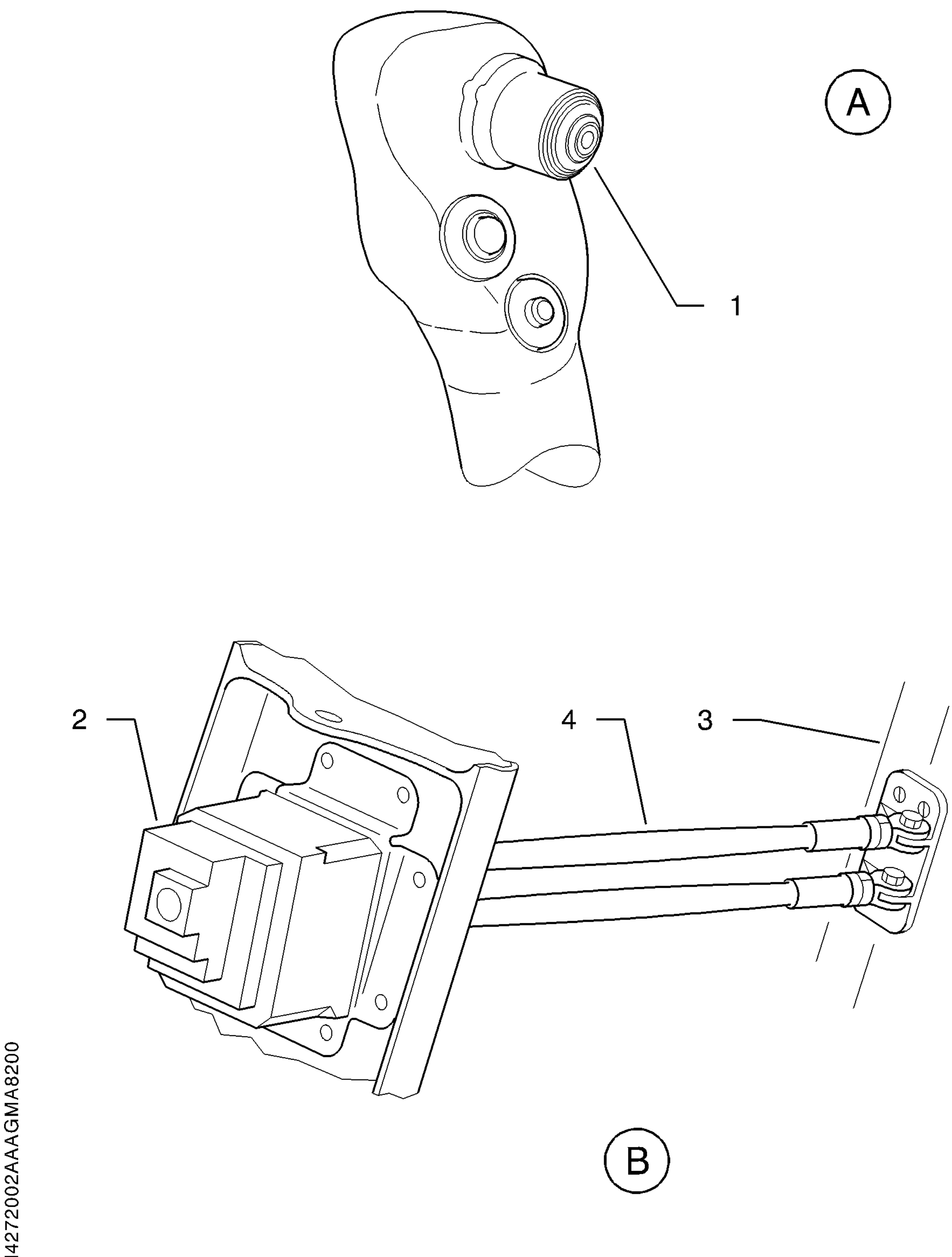


Figure 7.4.6 (2/2) - RUDDER TRIM

7.5 - LANDING GEAR

The TBM 900 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, one 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 CONTROL (Figure 7.5.1)

Landing gear control, located on "LANDING GEAR" panel at the bottom of instrument panel left part, is accomplished by an electric selector actuated through a lever ending with a knob representing a wheel. Operation is carried out by pulling on lever and by putting it in the desired "UP" (retracted) or "DN" (extended) position. This selector controls hydraulic generator.

LANDING GEAR 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 on the lever knob.
- On MFD CAS window :
  . 1 warning CAS message : **"GEAR UNSAFE"**

NOTE

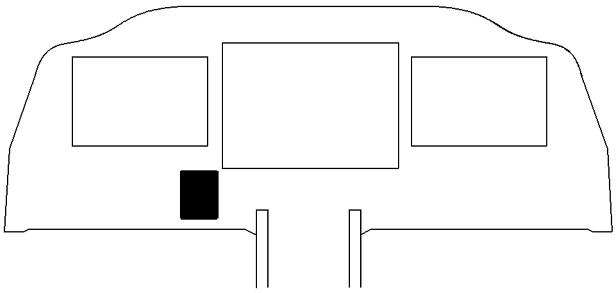
The amber light flashes while the hydraulic pump is operating to extend or retract the landing gear.

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 control selector
4) Check-down test push-button
5) Light test push-button
6) Amber light

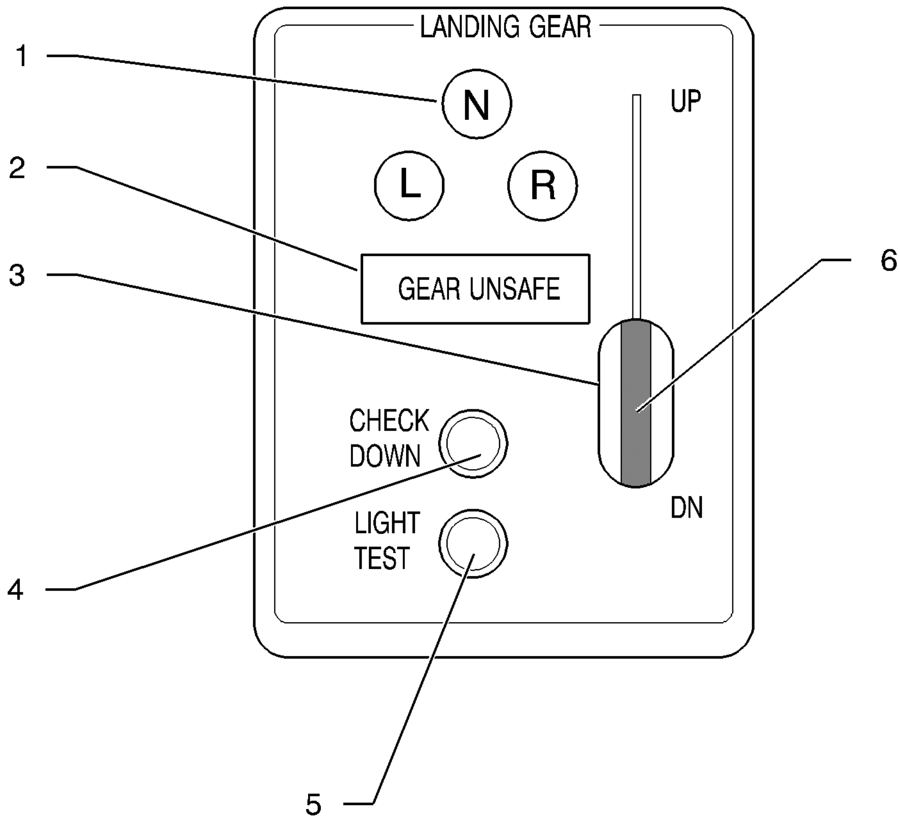


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Figure 7.5.1 - CONTROL PANEL AND LANDING GEAR INDICATING

SAFETY

Safety switch (landing gear retraction)

A safety switch installed on each main landing gear prevents, by detecting shock strut compression, landing gear accidental retraction when airplane is on ground.

Landing gear horn

Landing gear horn is controlled by throttle and / or flaps. It sounds (continuous high-pitched sound) 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 audio-warning signal becomes alternated (high-pitched sound / low-pitched sound).

Emergency landing gear extension control (Figure 7.5.2)

Emergency landing gear extension control consists of a hand pump and a by-pass selector.

This control is accessible by removing the floor panel located aft of the pedestal.

After bypass selector closing, hand pump operation sends hydraulic fluid directly into landing gear actuators ; landing gear full extension and locking requires about 65 cycles.

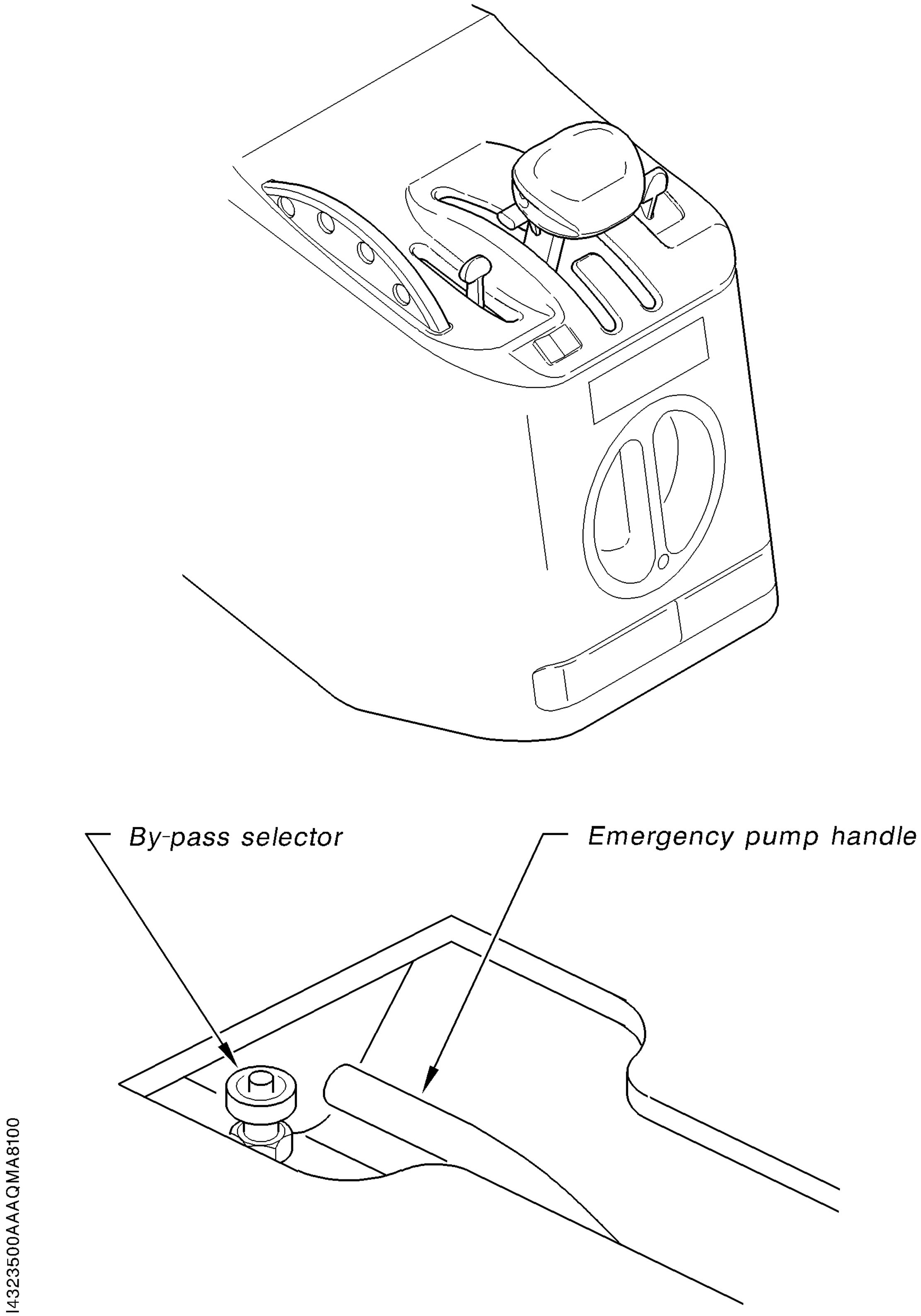

Figure 7.5.2 - EMERGENCY LANDING GEAR EXTENSION CONTROL

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.

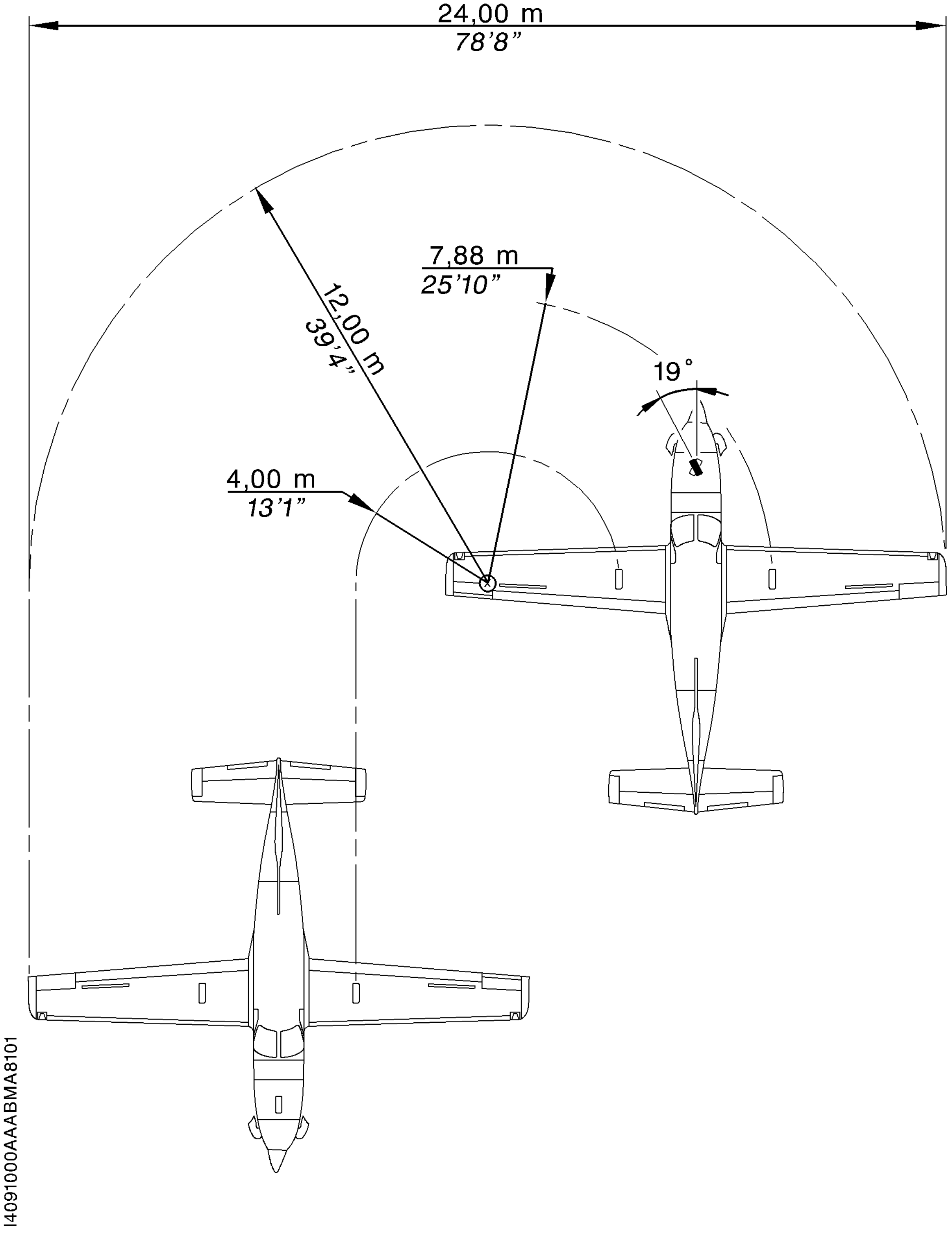

Figure 7.5.3 - MINIMUM TURN DIAMETER
(Full rudder pedals travel <u>without</u> using differential braking)

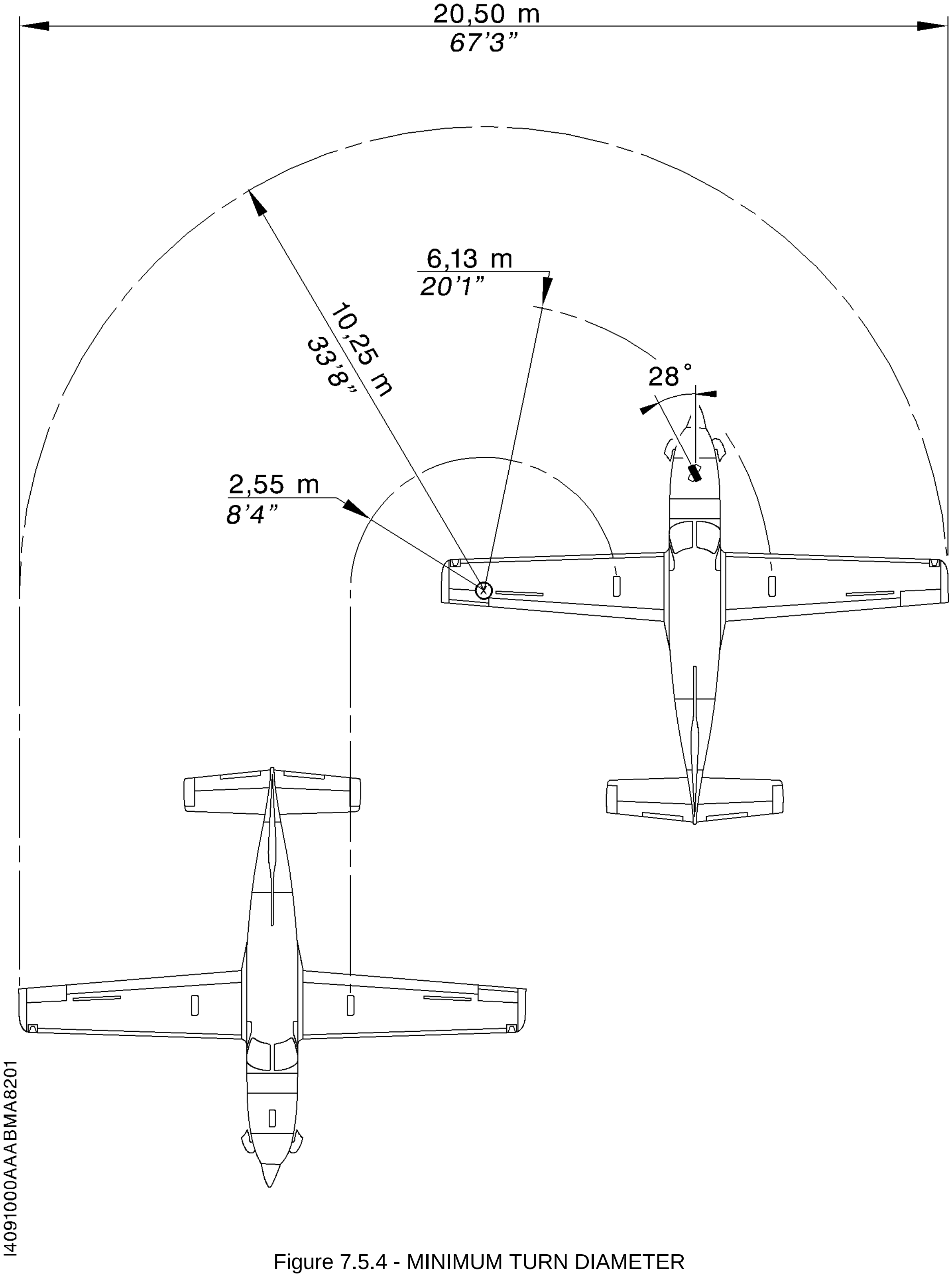

Figure 7.5.4 - MINIMUM TURN DIAMETER
(Full rudder pedals travel by using differential braking)

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) Parking brake control knob
5) Parking brake valve
6) Drain
7) Pilot's station master cylinders
8) L.H. brake assembly
9) R.H. brake assembly

Figure 7.5.5 (1/2) - BRAKE SYSTEM

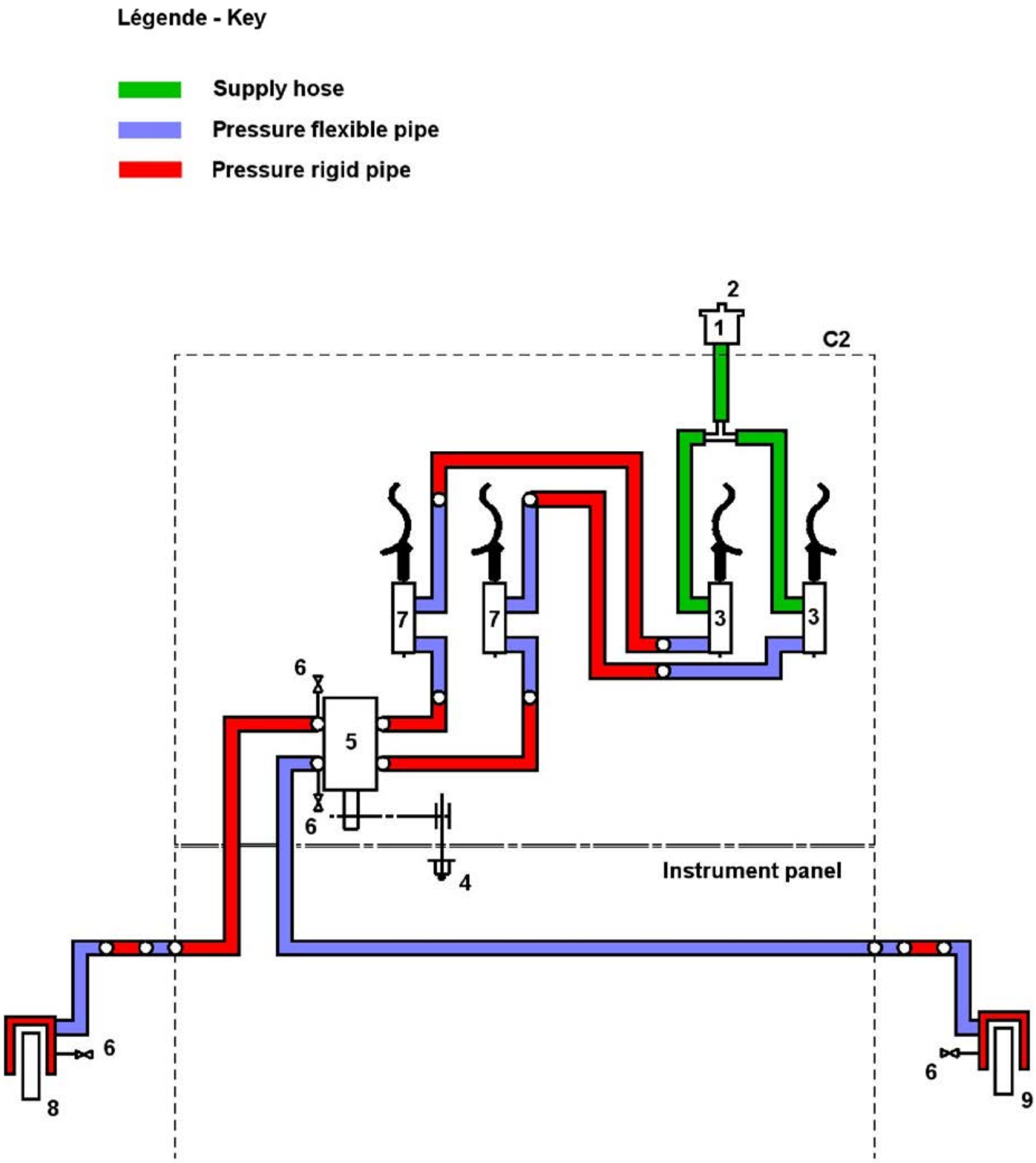

Figure 7.5.5 (2/2) - BRAKE SYSTEM

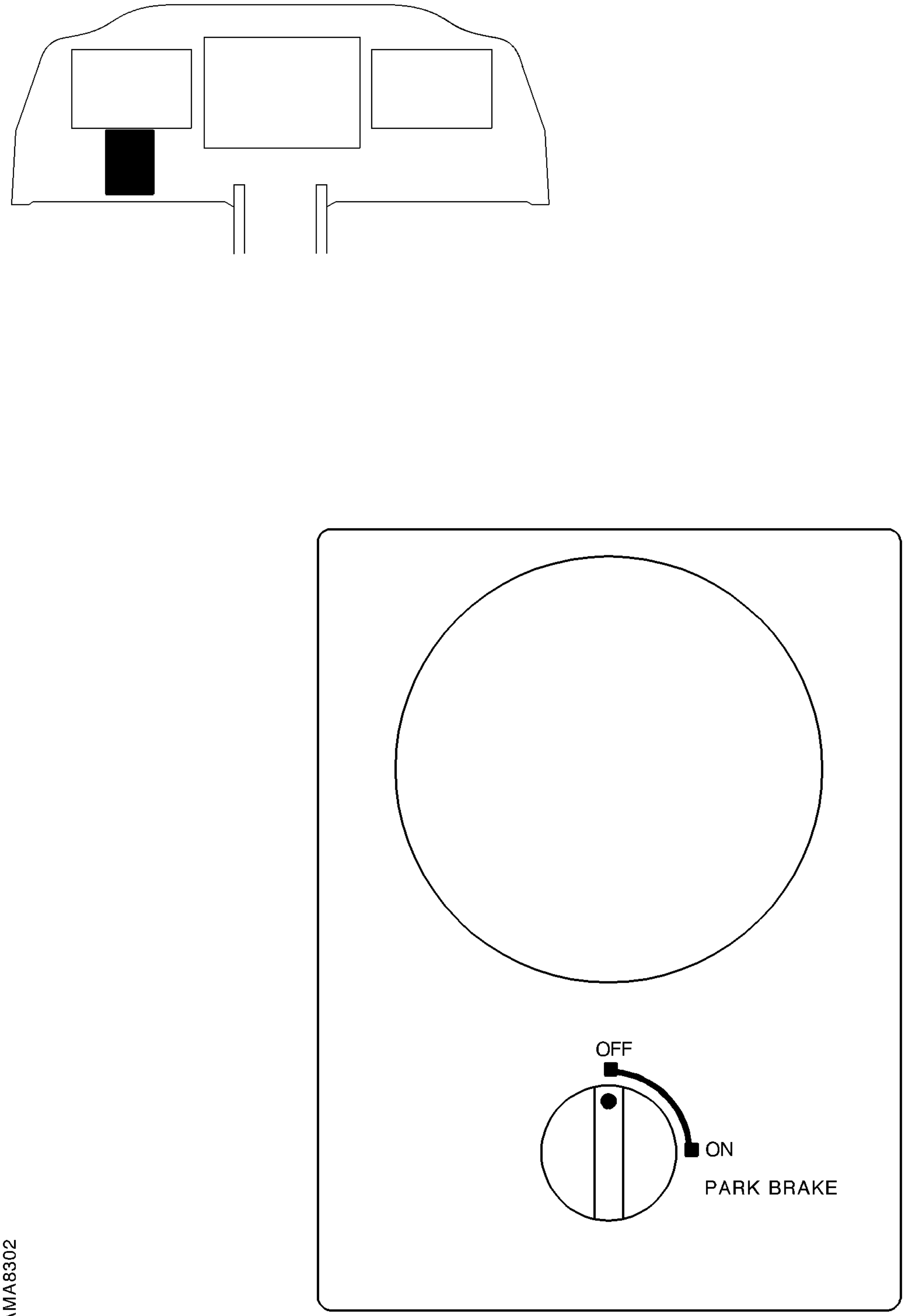

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Figure 7.5.6 - PARKING BRAKE

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

Figure 7.6.1 (1/2) - POWERPLANT

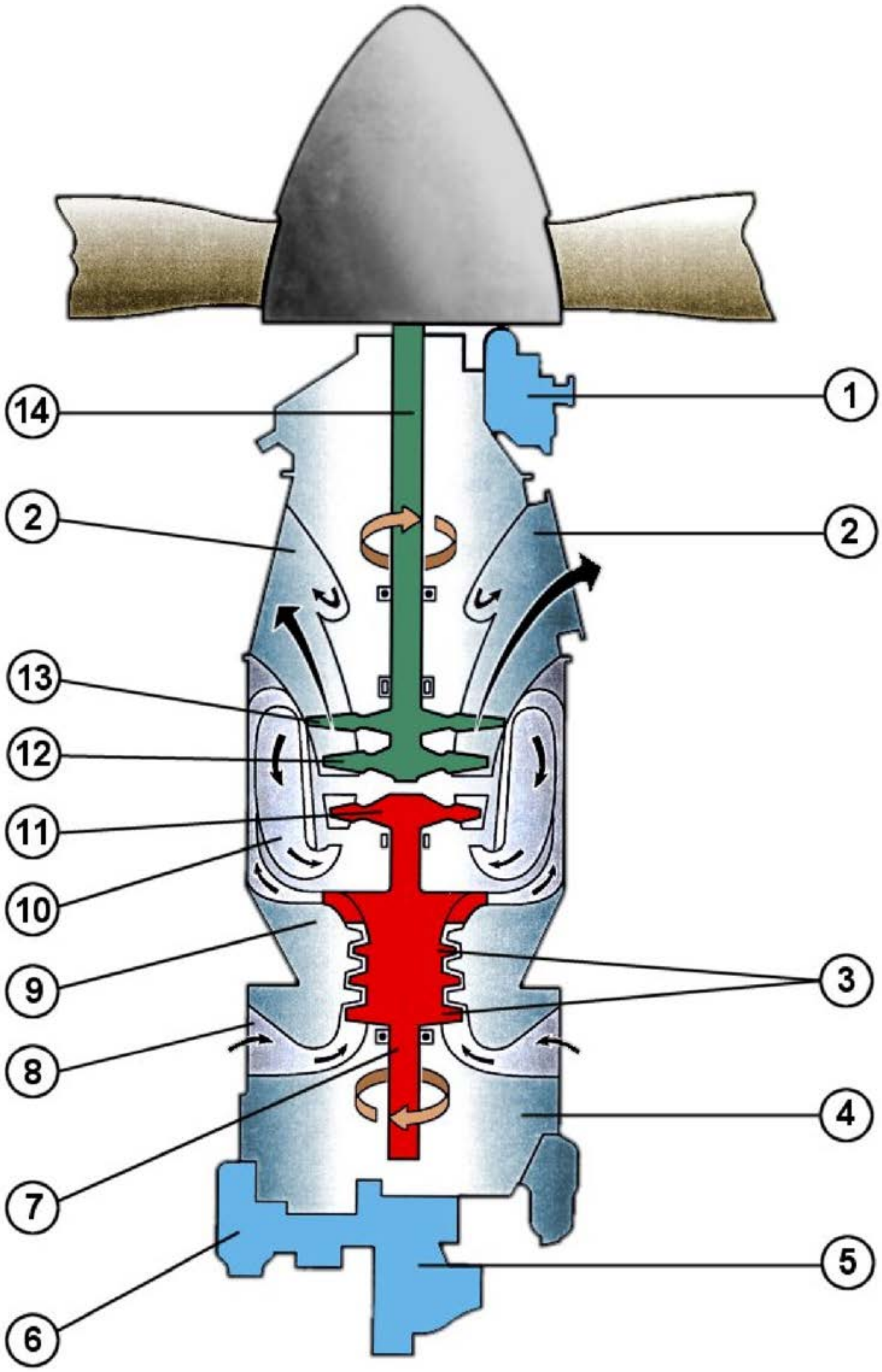

Figure 7.6.1 (2/2) - POWERPLANT

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)

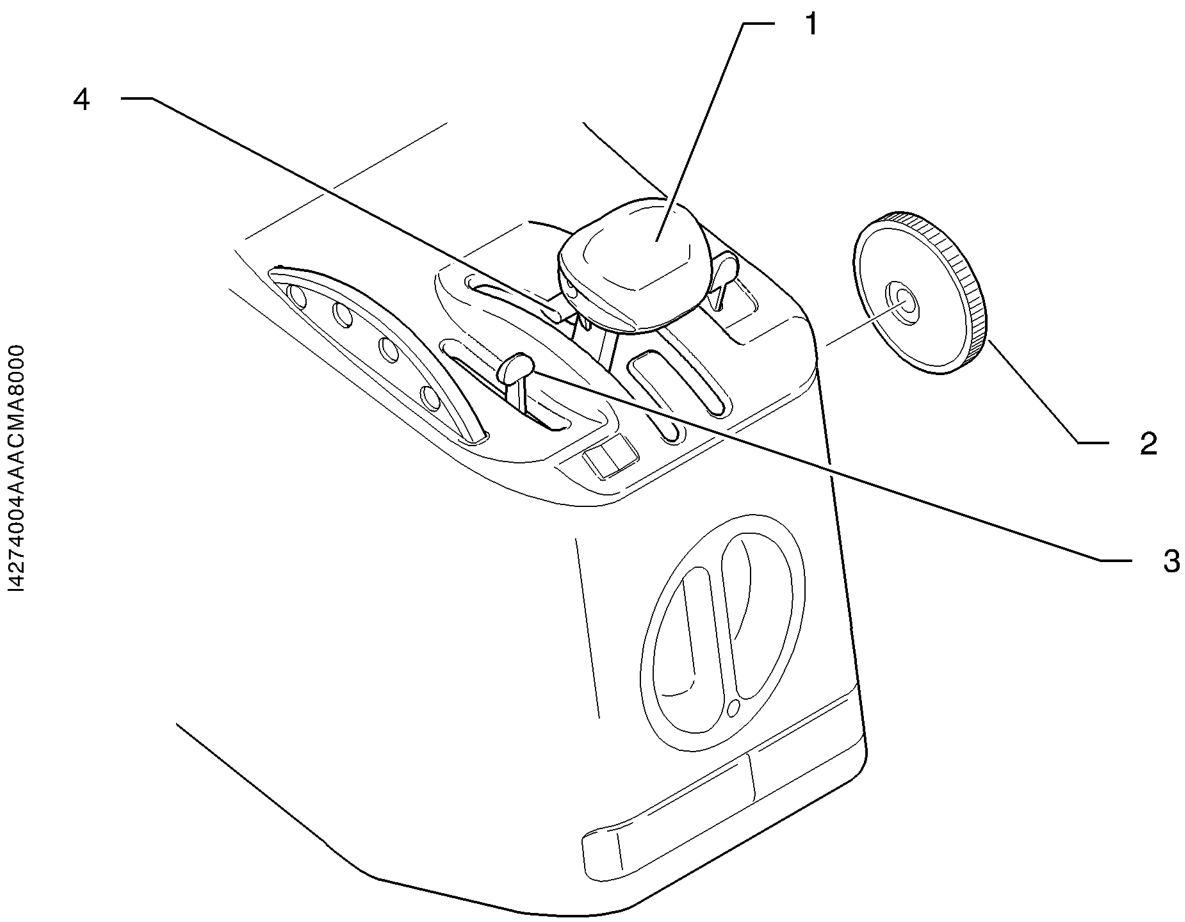

Figure 7.6.2 - ENGINE CONTROLS (LEVERS)

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.

All 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.

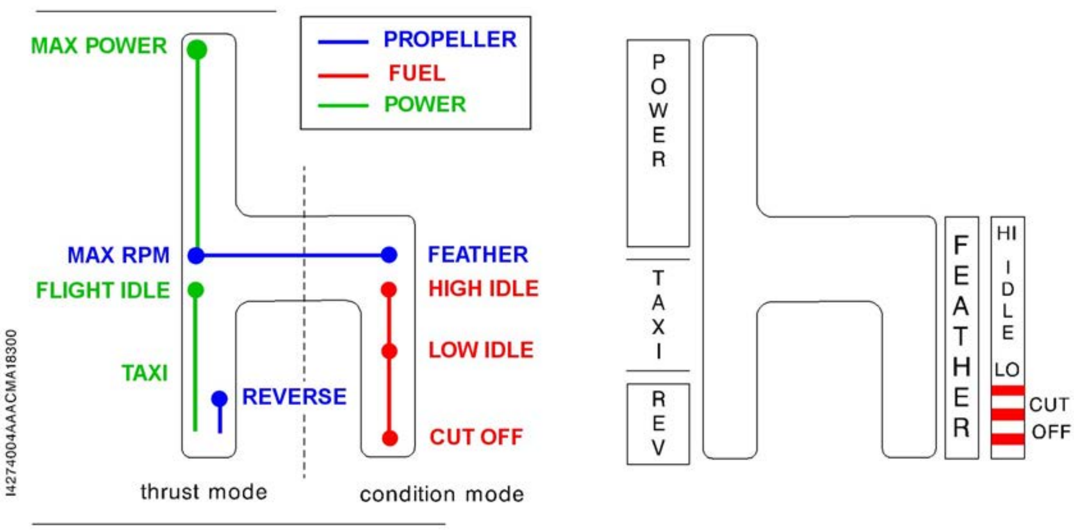

Figure 7.6.3 - THROTTLE

"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 (%),
- propeller speed in RPM,
- generator rotation speed expressed in percent (%),
- 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" G1000 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 G1000 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"

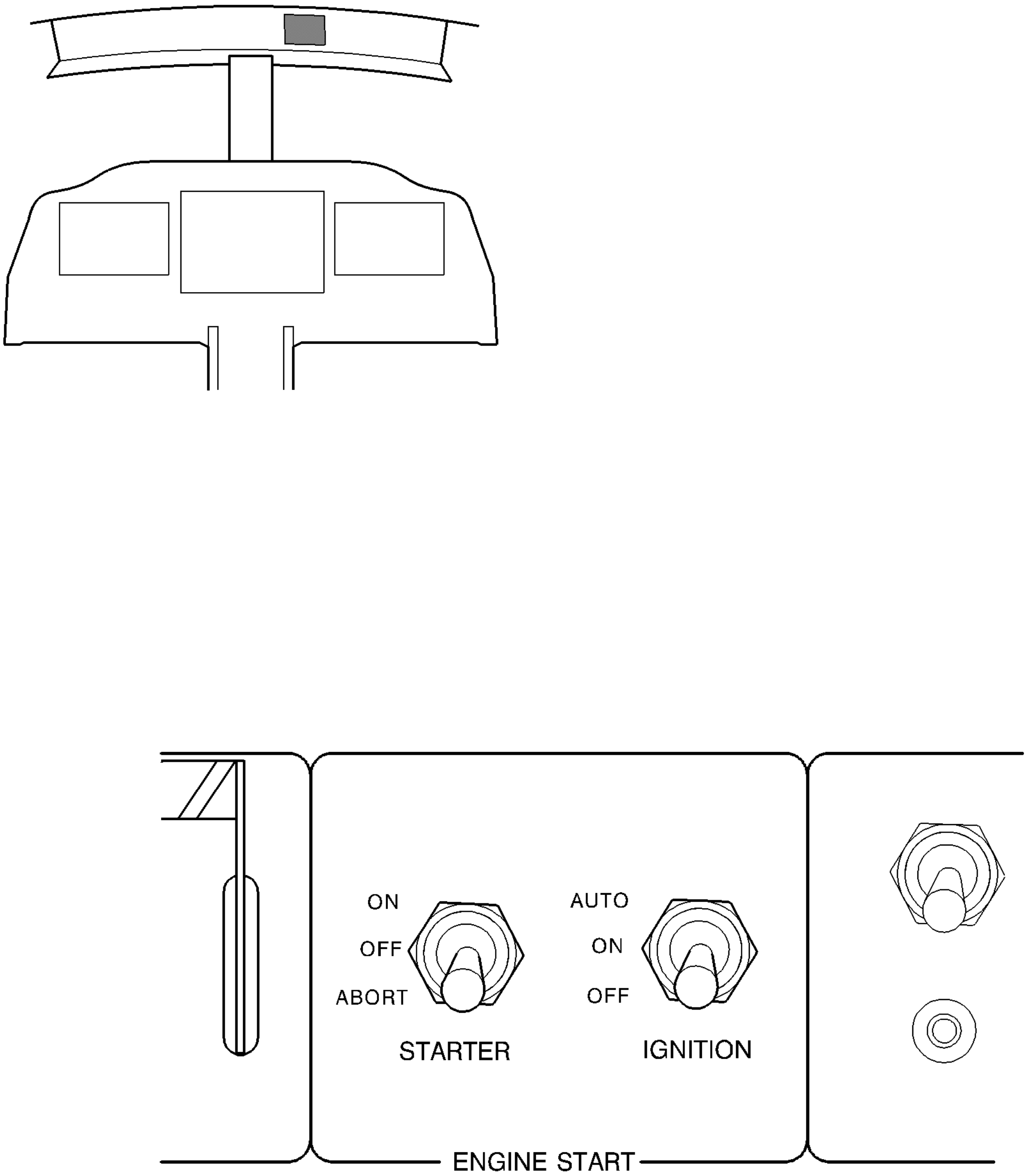

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Figure 7.6.4 - ENGINE STARTING

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 solenoïd 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 % at sea level.

PROPELLER

Airplane is equipped with an all-metal, four-bladed, constant-speed and full-feathering propeller.

Regulation

Propeller governor located on engine maintains rotation speed 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.

1) Flow divider
2) Flowmeter
3) Collector tank
4) Fuel regulator
5) High pressure pump (HP)
6) Oil to fuel heater
7) Low pressure switch
8) Fuel jet
9) Main mechanical boost pump
10) Electric boost pump
11) Fuel filter
12) Filter clogging by-pass valve
13) Filter clogging indicator
14) Fuel unit
15) Filter drain
16) Fuel return pipe
17) Filling port
18) NACA scoop
19) Tank vent valve
20) Fuel level gages
21) Tank drain valve
22) Check-valve
23) Low level detector
24) Suction strainer
25) Fuel amplifier
26) Sequencer

Figure 7.7.1 (1/2) - FUEL SYSTEM

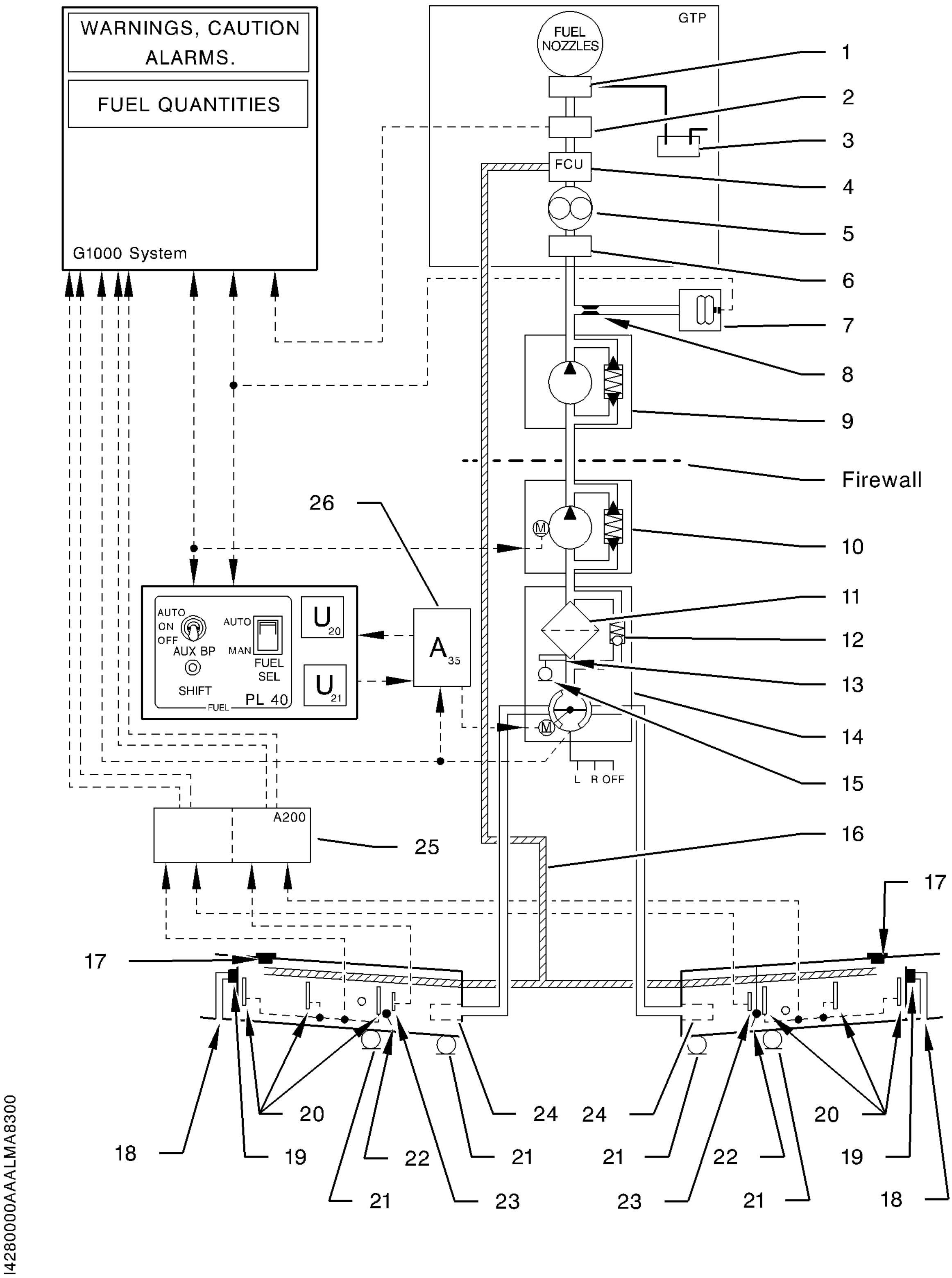

Figure 7.7.1 (2/2) - FUEL SYSTEM

AUTOMATIC TANK SELECTOR (Figures 7.7.2 and 7.7.3)

Automatic tank selection allows, without pilot's intervention, feeding the engine from one tank 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.

Pre-MOD70-0402-28

Airplane in flight : tank is changed every ten 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.

Post-MOD70-0402-28

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.

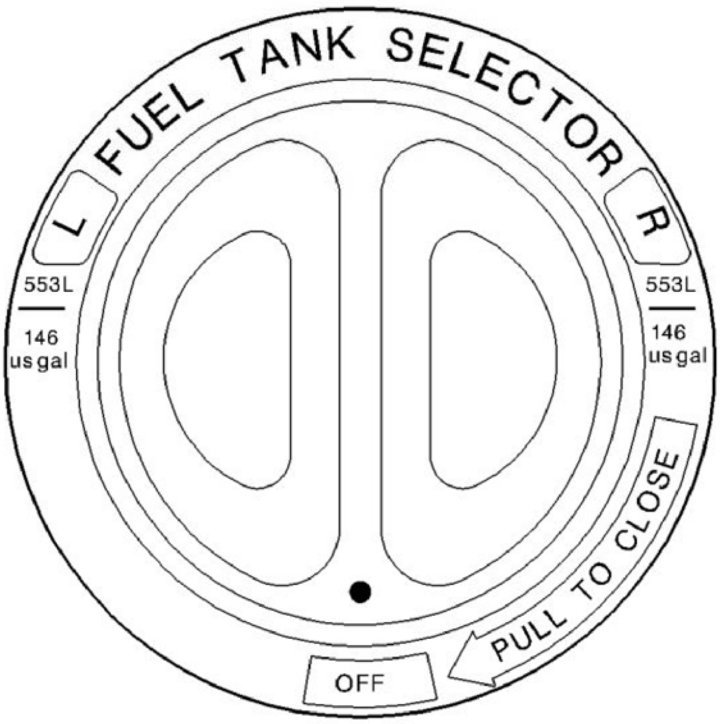

Figure 7.7.2 - MANUAL SELECTOR OF FUEL TANKS

1) Electric boost pump switch

2) Fuel selector

3) "SHIFT" push-knob

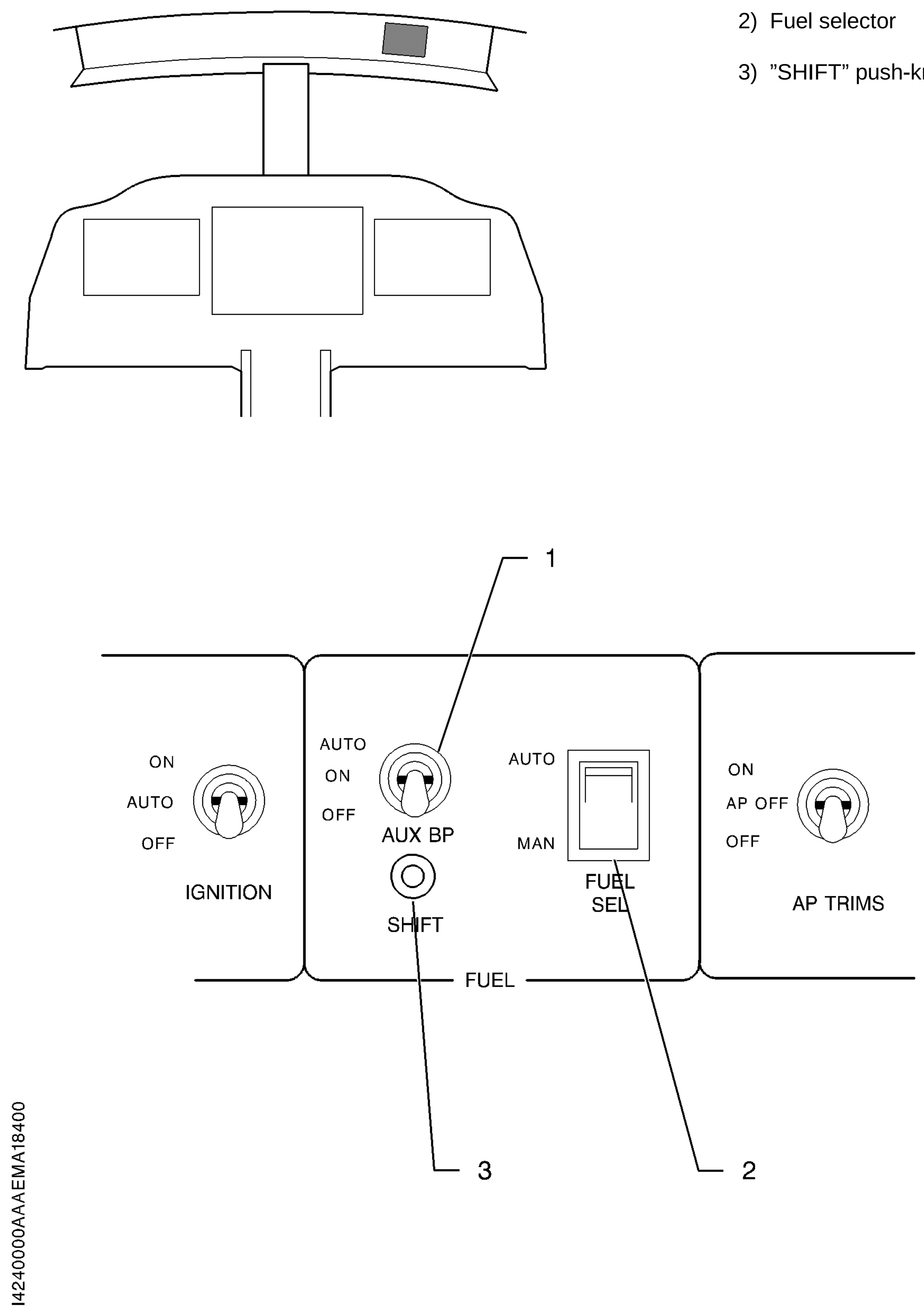

Figure 7.7.3 - FUEL CONTROL PANEL

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
- **"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.

1) Lighting switch
2) Mirror door
3) Clogging indicator
4) Central access door
5) Filter drain
6) Tank drain
7) Drain bowl

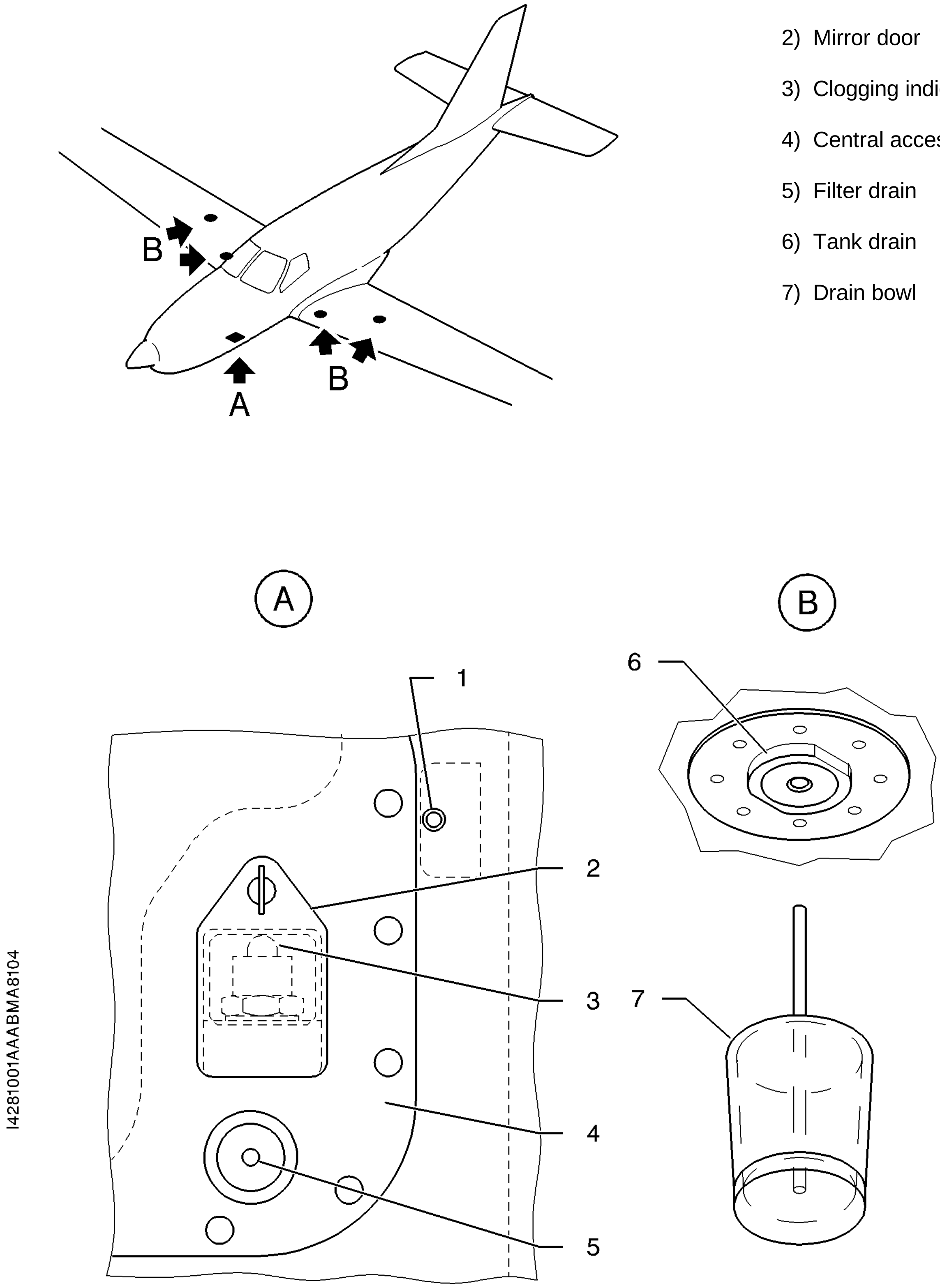

Figure 7.7.4 - FUEL SYSTEM DRAINING POINTS AND CLOGGING INDICATOR

7.8 - ELECTRICAL SYSTEM (Figures 7.8.1 and 7.8.4)

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 GDU 1500 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 RECEPTACLE

The ground power receptacle allows connection to a ground power unit.

Ground power receptacle connection with main bus bar is controlled through "SOURCE" selector when set to GPU position, it will be effective when connection conditions are met.

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 circuit breakers located on R.H. side panel (See Figure 7.8.3). In case of overload of a system, the circuit breaker triggers and switches the system off.

If a circuit breaker corresponding to a non essential system trips, do not reset in flight.

If a circuit breaker corresponding to an essential system trips:

- allow it to cool for about three minutes, then the circuit breaker may be reengaged (pressed down)
- if the circuit 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 circuit breaker panel ; NORM position is protected and locked by a cover. Common power supply to both essential bus bars is protected by a fuse (located in EPS box) and a circuit breaker (located in the front cargo compartment on C2 frame right side), each bar being individually protected by a circuit breaker.

"BATT BUS" bar is directly connected to the battery ; it is protected by a fuse (located in EPS box) and a circuit breaker (located in the front cargo compartment on C2 frame left side).

NOTE

The electrical distribution of bus bars is described in Figure 7.8.2.

EMERGENCY USE

With both generators de-activated in flight, it is still possible to use battery power to supply all airplane systems maintaining ”SOURCE” selector on ”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.

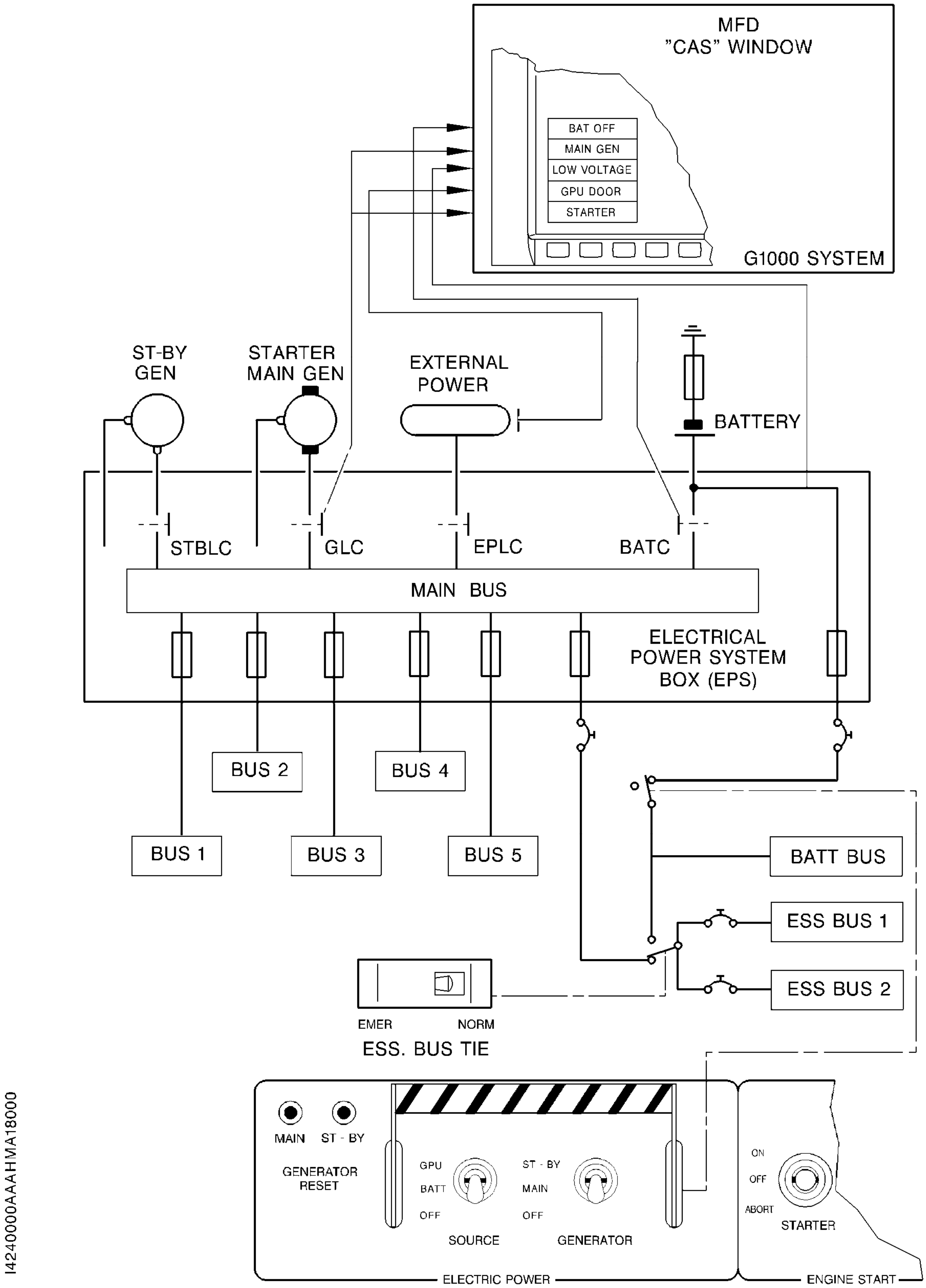

Figure 7.8.1 - ELECTRICAL DIAGRAM

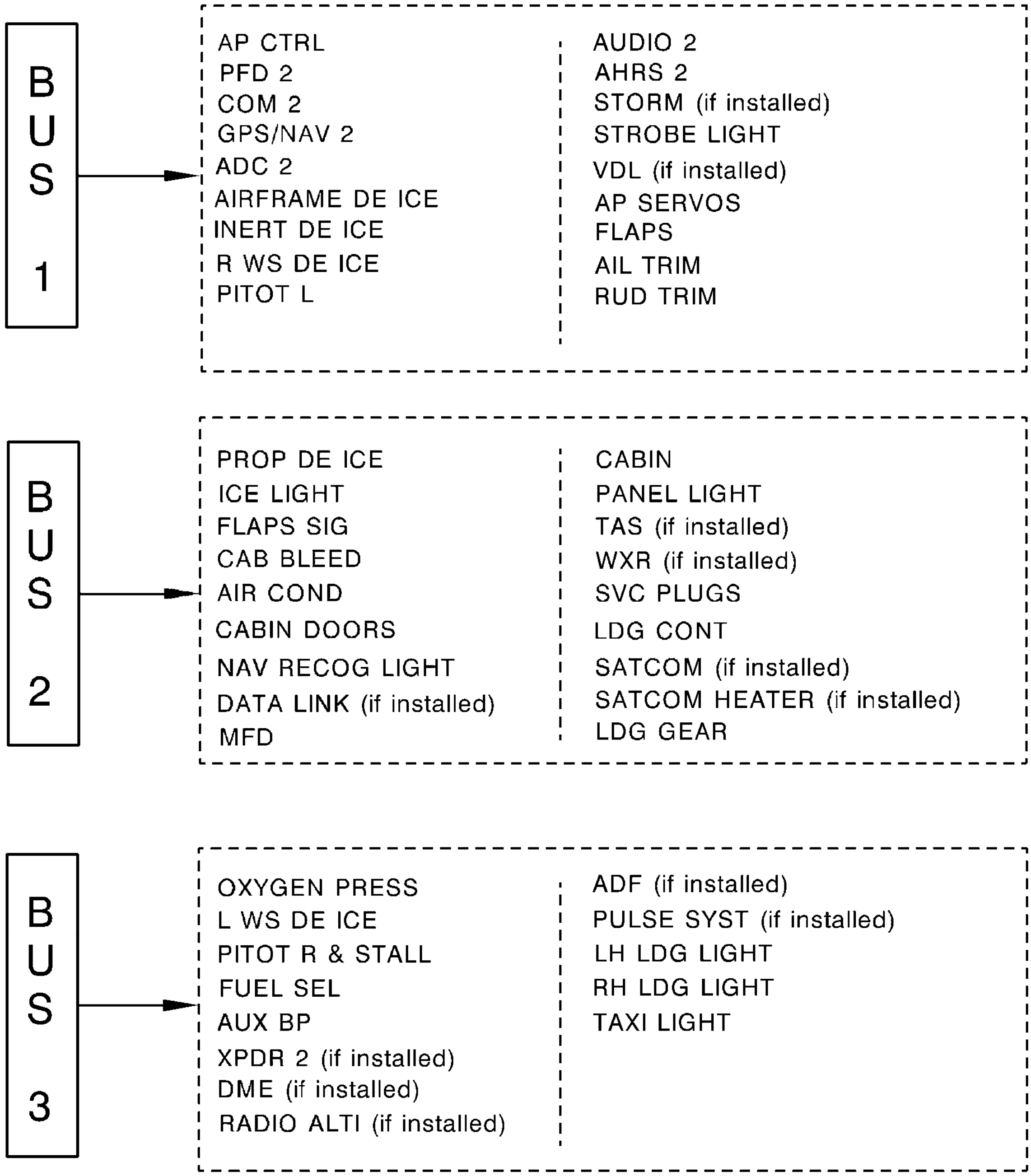

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Figure 7.8.2 (1/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

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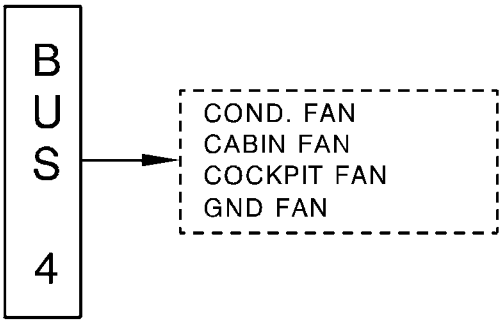

NOTE: CIRCUIT BREAKERS ON A1 SUPPORT PLATE

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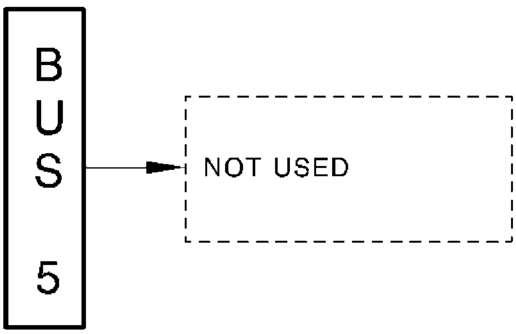

Figure 7.8.2 (2/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

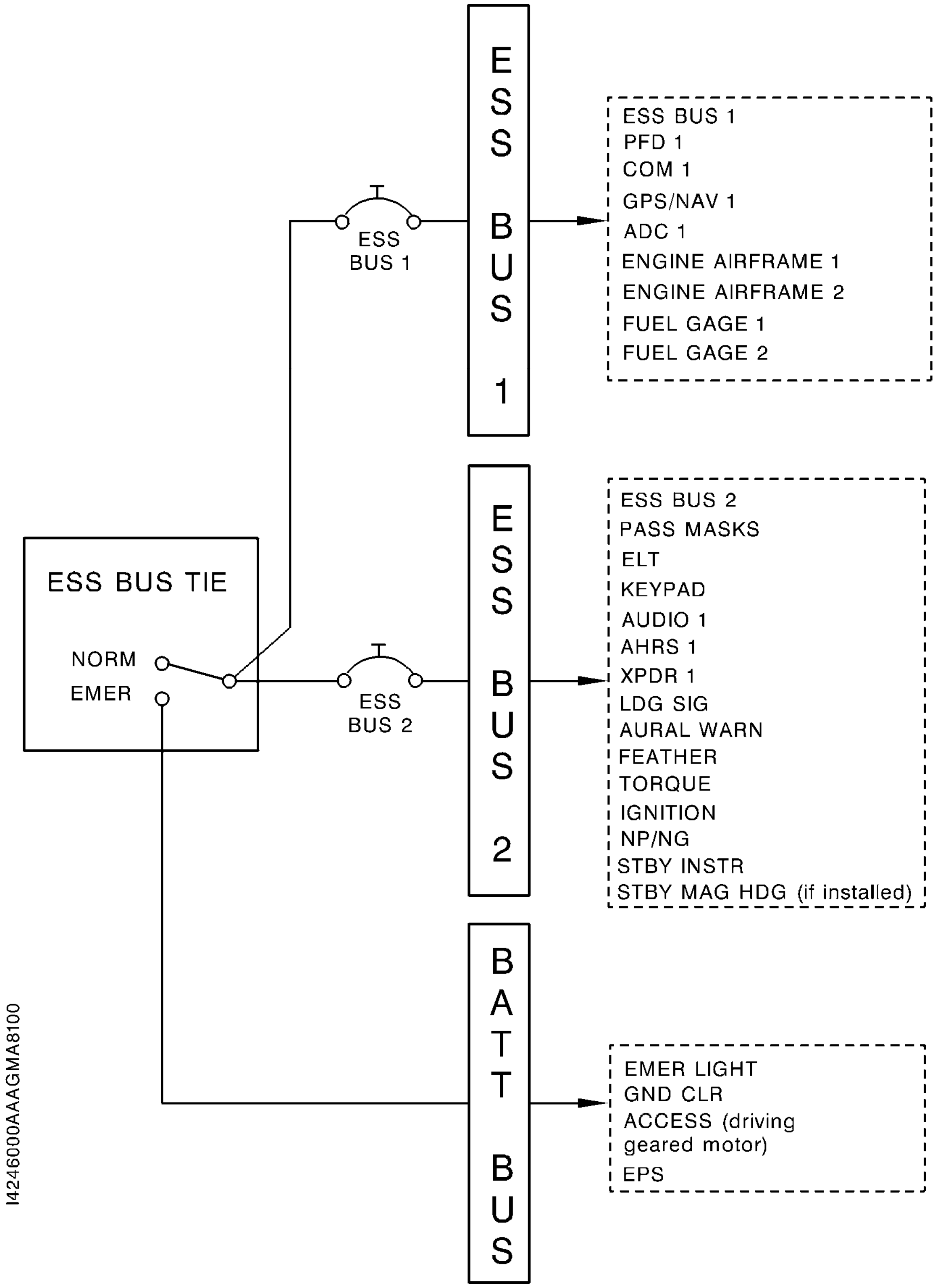

Figure 7.8.2 (3/3) - ELECTRICAL DISTRIBUTION OF BUS BARS

ESS BUS TIE	Essential bus NORM & EMER switch
BUS 1	
AP SERVOS	Autopilot servo protection
FLAPS	Flaps protection
AIL TRIM	Aileron trim protection
RUD TRIM	Pitch trim protection
BUS 2	
LDG GEAR	Landing gear general supply protection
ESS BUS 1	
ESS BUS 1	Essential bus 1 circuit protection
PFD 1	Primary Flight Display 1 protection
COM 1	VHF 1 protection
GPS/NAV 1	GPS NAV 1 protection
ADC 1	Air Data Computer 1 protection
ENGINE AIRFRAME 1	Powerplant cont. protec. : Oil temp. & pres., torque, propeller
ENGINE AIRFRAME 2	Powerplant cont. protection : Ng, flowmeter & ITT
FUEL GAGE 1	L.H. fuel gage protection
FUEL GAGE 2	R.H fuel gage protection
ESS BUS 2	
ESS BUS 2	Essential bus 2 circuit protection
PASS MASKS	Passengers' oxygen masks protection
ELT	Emergency Locator Transmitter 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
AURAL WARN	Aural warnings protection
FEATHER	Propeller feather protection
TORQUE	Torque control protection
IGNITION	Powerplant iginition protection
NP/NG	Tachometer signal conditioner protection
STBY INSTR	Electronic Standby Indicator (ESI-2000) protection
STBY MAG HDG	Standby magnetometer heading (if installed)
BUS 1	
AP CTRL	Flight controller protection
PFD 2	Primary Flight Display 2 protection
COM 2	VHF 2 & radio protection
GPS/NAV 2	GPS NAV 2 protection
ADC 2	Air Data Computer 2 protection
AIRFRAME DE ICE	Empennage and wing leading edges deicing
INERT DE ICE	Inertial separator protection
R WS DE ICE	R.H. windshield deicing protection
PITOT L	Pitot L heating protection
AUDIO 2	Audio control panel 2 protection
AHRS 2	Attitude and Heading Reference System 2 protection
STORM	Stormscope protection (if installed)
STROBE LIGHT	Strobe lights protection
VDL	VHF Data Link (if installed)

(Cont'd on next page)

Figure 7.8.3 (1/3) - CIRCUIT BREAKER PANEL (Typical arrangement)

BUS 2	
PROP DE ICE	Propeller deicing protection
ICE LIGHT	L.H. wing leading edge lighting and lighting test protection
FLAPS SIG	Trim and flaps regulator protection
CAB BLEED	Cabin pressurization protection
AIR COND	Cabin ventilation and vapor cycle system protection
CABIN DOORS	Cabin doors opening protection
NAV/RECOG LIGHT	Navigation and recognition lights protection
DATA LINK	Data Link (if installed) protection
MFD	Multifunction display protection
CABIN	Passenger's reading lamps protection
PANEL LIGHT	Instruments lighting protection
TAS	TAS (if installed) protection
WXR	Weather radar (if installed) protection
SVC PLUGS	28 VDC plugs (std) or 12 VDC plugs (optional) protection
LDG CONT	Landing gear control protection
SATCOM	SATCOM protection (if installed)
SATCOM HEATER	SATCOM heater protection (if installed)
BUS 3	
OXYGEN PRESS	Oxygen/Pressure indication protection
L WS DE ICE	L.H. windshield deicing protection
PITOT R & STALL	Pitot R and stall warning heating protection
FUEL SEL	Tank selector timer protection
AUX BP	Electrical fuel pump protection
XPDR 2	Transponder 2 (if installed) protection
DME	DME protection (if installed)
RADIO ALTI	RADIO ALTI (if installed) protection
ADF	ADF protection (if installed)
PULSE SYST	Pulse lite system protection (if installed)
LH LDG LIGHT	L.H. landing light protection
RH LDG LIGHT	R.H. landing light protection
TAXI LIGHT	Taxi light protection
BATT BUS	
EMER LIGHT	Instrument panel emergency lighting protection
GND CLR	Ground clearance protection
ACCESS	Cabin access lighting protection
EPS	Electrical power system protection

Figure 7.8.3 (2/3) - CIRCUIT BREAKER PANEL (Typical arrangement)

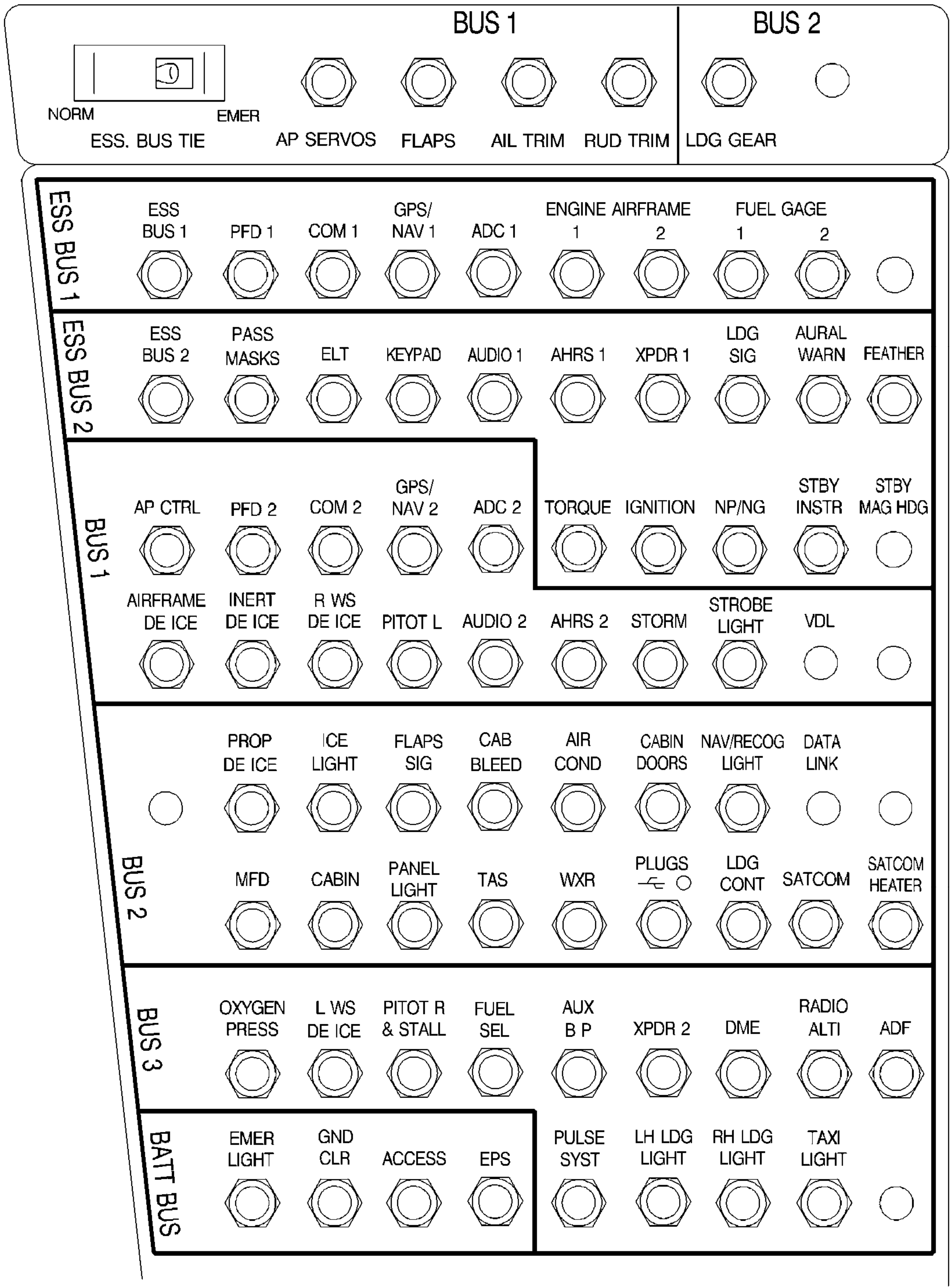

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Figure 7.8.3 (3/3) - CIRCUIT BREAKER PANEL (Typical arrangement)

INDICATING

Electrical system indicating consists of voltage and ampere indicating - refer to GARMIN G1000 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 (Figure 7.8.4)

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 "MAIN" or "ST-BY" knob.

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 "SOURCE" and "GENERATOR" selectors when lowered. In this case all bus bars are isolated from generators.

1) "MAIN" reset knob
2) "ST-BY" reset knob
3) Crash lever
4) "SOURCE" selector
5) "GENERATOR" selector

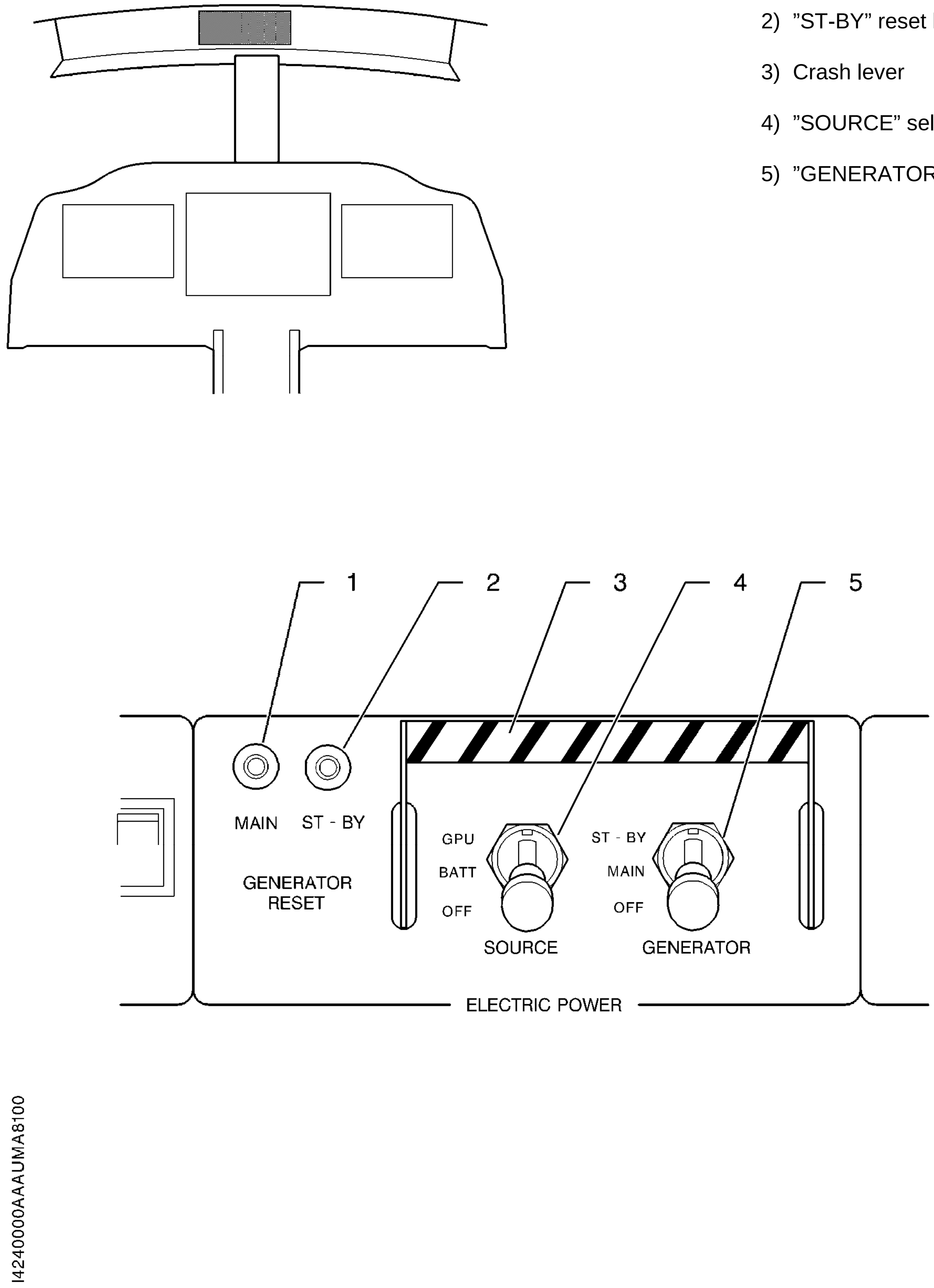


Figure 7.8.4 - ELECTRICAL CONTROL

EXTERIOR LIGHTING (Figure 7.8.5)

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

Recongnition lights are embedded in the winglets.

They are automatically switched on when the airplane is on ground.

Leading edge icing inspection light

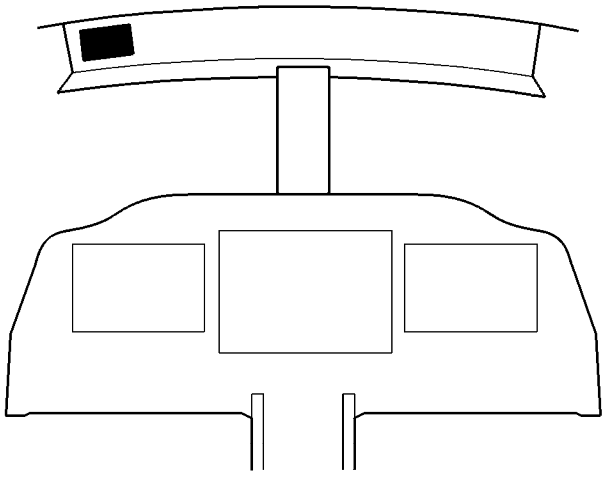
The leading edge icing inspection light is installed on fuselage L.H. side, its beam illuminates the wing leading edge. It is controlled by the ”ICE LIGHT” switch installed on ”DE-ICE SYSTEM” panel (Figure 7.13.1).

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

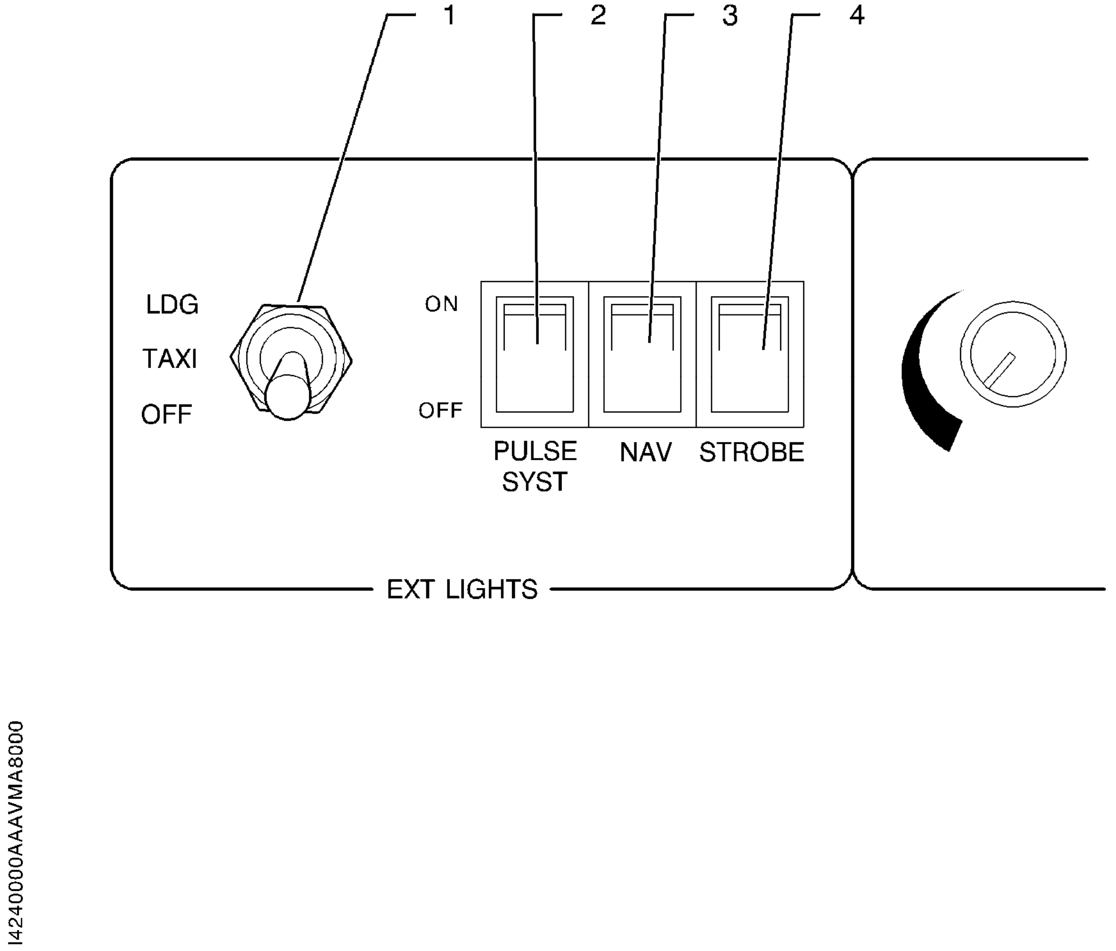


Figure 7.8.5 - EXTERNAL LIGHTING CONTROLS

INTERIOR LIGHTING (Figure 7.8.6)

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.

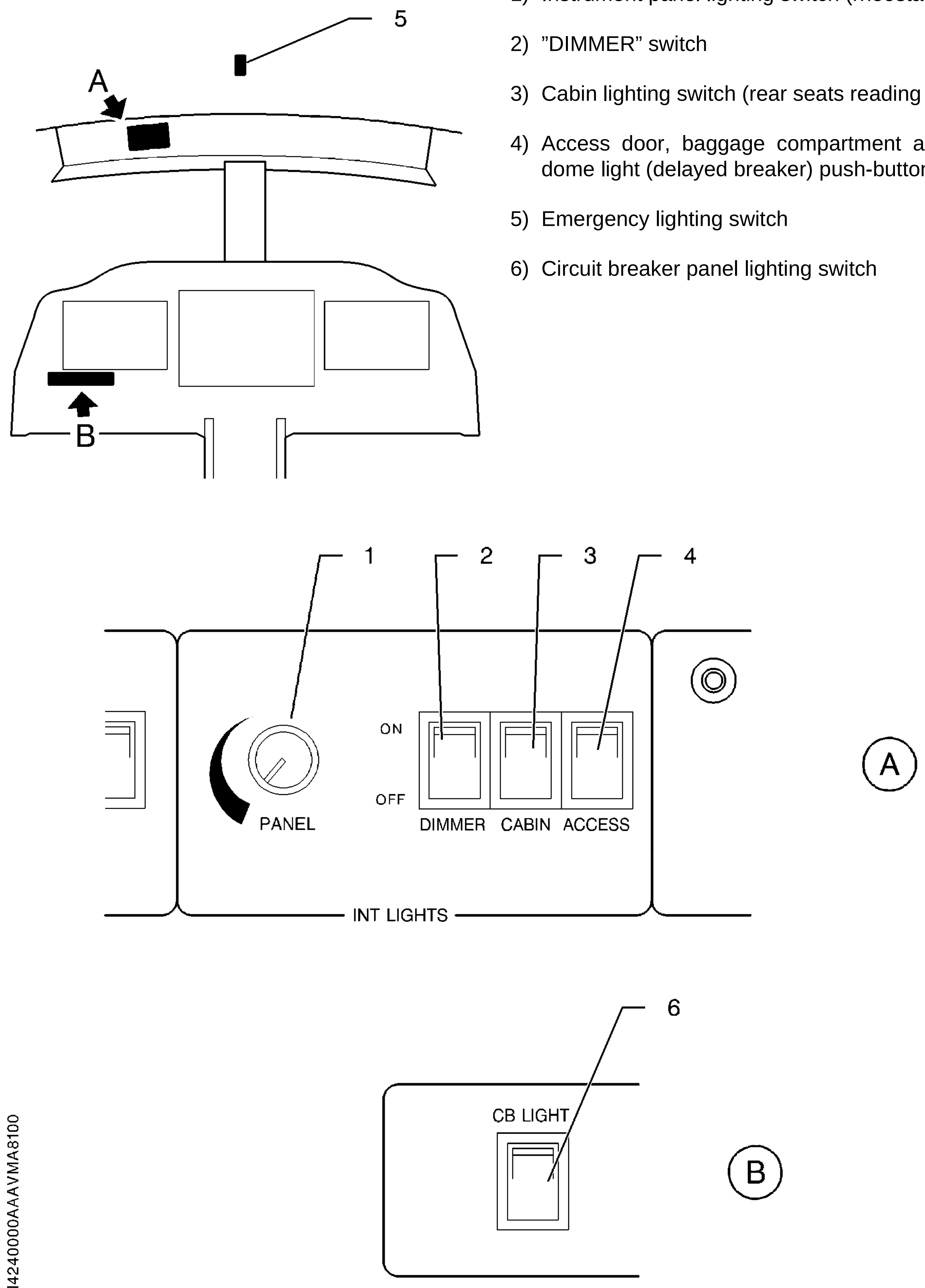
Circuit breaker panel lighting

Circuit 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) Circuit breaker panel lighting switch

Figure 7.8.6 - 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 "ECS" 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 1500 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 **"BLEED TEMP"** CAS message appears in the GDU 1500 MFD "CAS" window (in display normal conditions), when the "BLEED" switch is set to AUTO and when the Bleed Temperature switch (BTSW) or the Overheat Thermal Switch (OTSW) triggers on.

The **"BLEED OFF"** CAS message appears in the GDU 1500 MFD "CAS" window (in display normal conditions), when the engine is running and the Flow Control Shut Off Valve (FCSOV) is closed.

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, including bleed AUTO/bleed OFF/RST controls, 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 circuit 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 circuit breaker. Four fans are supplied by "BUS 4" bar and protected respectively by following circuit 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. The compressor clutch and the condenser fan are controlled by the GASC.

In automatic mode, the temperature of each zone is controlled independently by the system according to the settings of the "TEMP/° C" and "CABIN TEMP/° C" selectors, which can vary from 17°C to 27°C. In this mode, the speed of each fan is automatically controlled.

In manual mode, the blown air temperature is controlled by the system according to the settings of each temperature selector. In this mode, the speed of each fan is set manually from Off to maximum speed position.

The "A/C" switch allows to switch on or off the Vapor Cycle System.

- If set to AUTO position :
  . on "ECS" panel, the "TEMP/° C" selector enables to select requested temperature of the cockpit zone,
  . above arm rest of L.H. passenger's seat, the "CABIN TEMP/° C" selector enables to select requested temperature of the cabin zone.
- If set to MANUAL position :
  . on "ECS" panel, the "TEMP/° C" selector enables to select requested temperature and the "FAN SPEED" selector enables to choose blown air speed in the cockpit zone,
  . above arm rest of L.H. passenger's seat, the "CABIN TEMP/° C" selector enables to select requested temperature and the "FAN SPEED" selector enables to choose blown air speed in the cabin zone.

The "CONTROL" selector set to COCKPIT position inhibits the operation of the controls located in the cabin zone ; only the cockpit controls settings are taken into account. If set to CABIN 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 entered by the pilot in the MFD 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 using :

- Destination airport of the flight plan pressing "SYSTEM" and then "FMS LFE" on the MFD
- 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 GDU 1500 MFD.

In flight, the GASC controls the opening of the OFV in order to reach the automatic computed cabin altitude. The "PRES MODE" 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 ΔP or negative ΔP
- 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 GDU 1500 MFD shows landing field altitude, cabin climb speed in Sea Level ft/min and cabin-atmosphere differential pressure (ΔP) 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 "ECS" 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 **"CABIN ALTITUDE"** CAS message appears in the GDU 1500 MFD "CAS" window (in display normal conditions) when the cabin altitude is over 10000 ft.

The **"CABIN DIFF PRESS"** CAS message appears in the GDU 1500 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 **"CPCS BACK UP MODE"** CAS message appears in the GDU 1500 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.

1) Demisting outlets
2) Front vents
3) Cockpit ventilated temperature sensor (CKVTS)
4) Cabin ventilated temperature sensor (CBVTS)
5) Air ports
6) Cabin control panel
7) Global air system controller (GASC)
8) Out-flow valve (OFV)
9) Safety valve (SFV)
10) Condenser fan
11) Condenser
12) High pressure switch
13) Drier filter
14) Cabin fan
15) Cabin evaporator
16) Cabin blown temperature sensor (CBBTS)
17) Cabin thermostatic valve
18) Low pressure switch
19) ECS panel
20) Cockpit thermostatic valve
21) Cockpit fan
22) Cockpit evaporator
23) Cockpit blown temperature sensor (CKBTS)
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 (1/2) - GLOBAL AIR SYSTEM ITEMS LIST AND ABBREVIATIONS

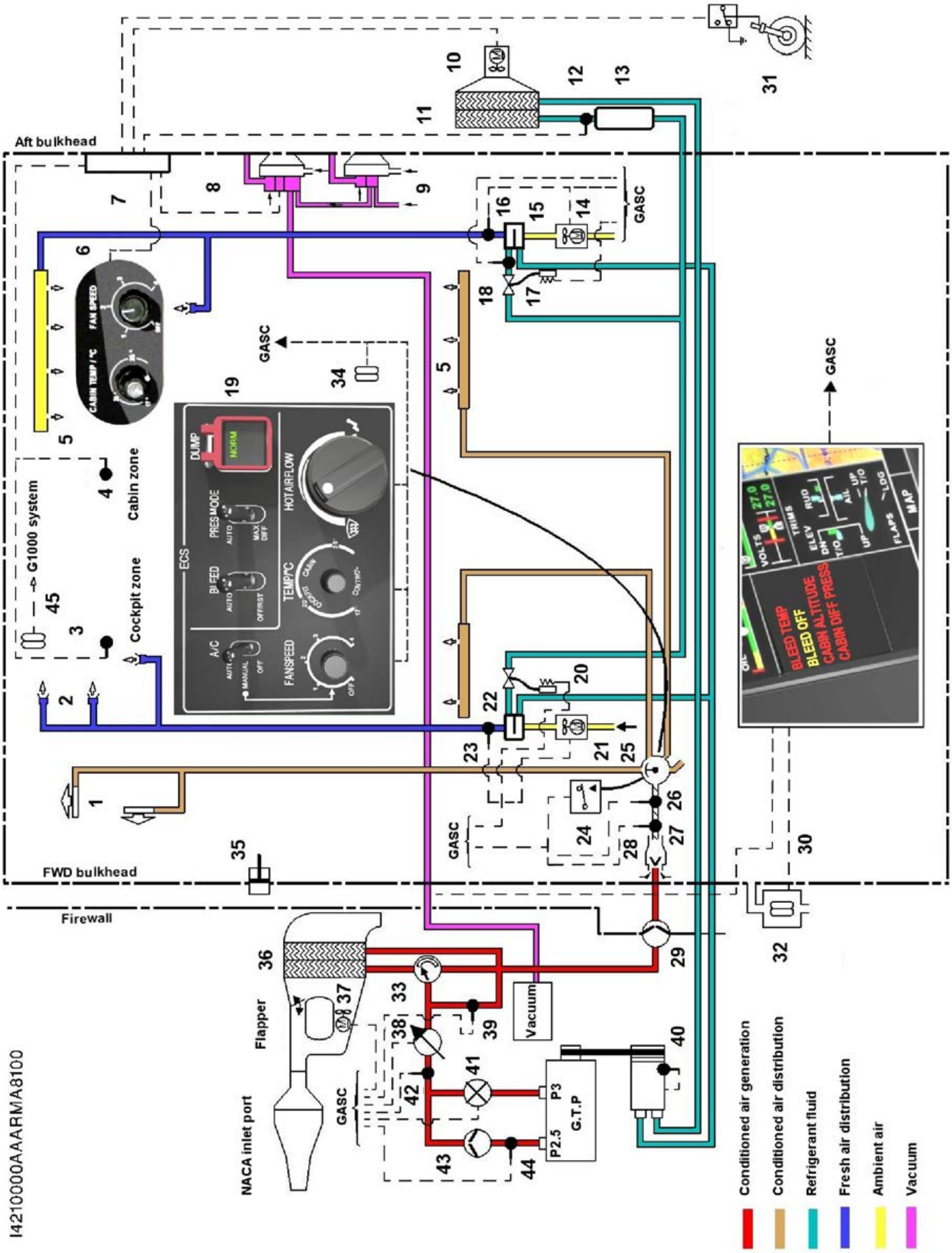


Figure 7.9.1 (2/2) - Global Air System

1) ”A/C” switch
2) ”BLEED” switch
3) ”PRES MODE” switch
4) ”DUMP” switch
5) ”HOT AIR FLOW” distributor
6) ”TEMP/° C” selector (cockpit/cabin)
7) ”CONTROL” selector
8) ”FAN SPEED” selector (cockpit)
9) ”FAN SPEED” selector (cabin)
10) ”CABIN TEMP/° C” selector (cabin)

Figure 7.9.2 (1/2) - GAS controls

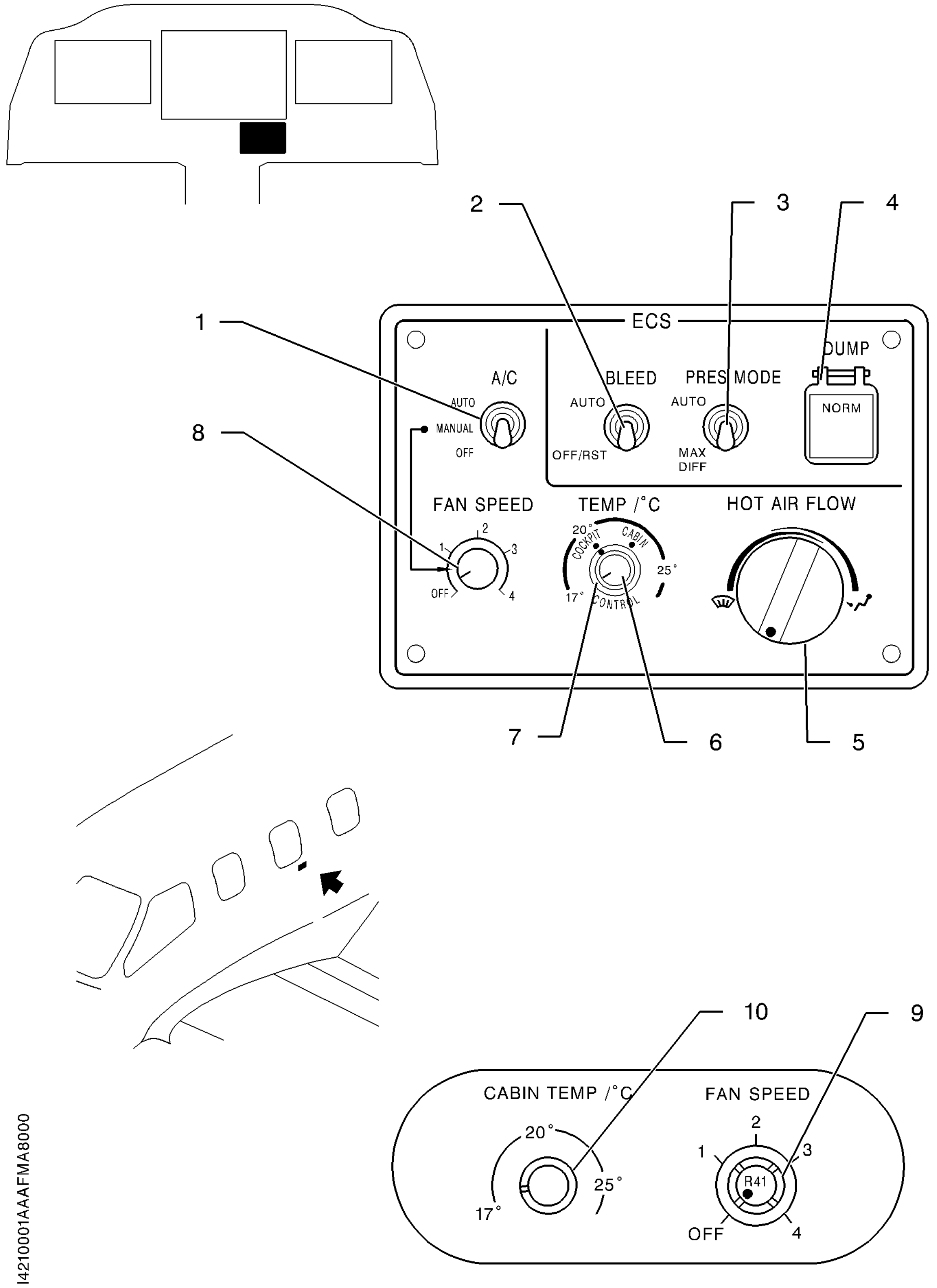


Figure 7.9.2 (2/2) - GAS controls

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 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 **"OXYGEN"** 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

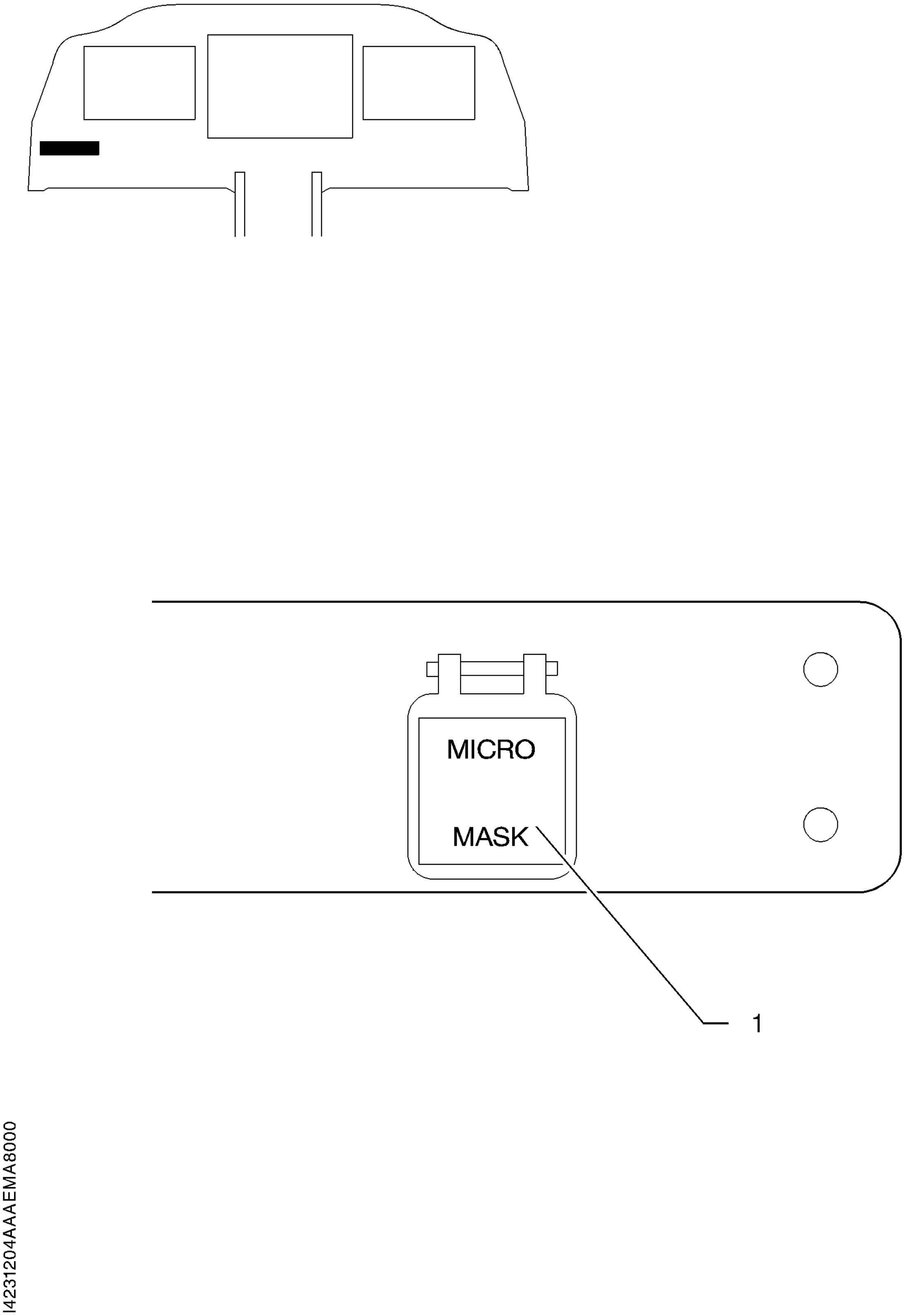


Figure 7.10.1 - EMERGENCY OXYGEN SYSTEM

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 occupiers masks,
- a two-position valve ON/OFF (”PASSENGERS 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 GDU 1500 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

NUMBER OF OCCUPANTS		OUTSIDE TEMPERATURE						
COCKPIT	**CABIN**	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ -1° C	10° F/ -12° C	-10° F/ -23° C
1	0	631	614	**597**	580	563	546	529
1	1	759	736	**713**	691	668	646	623
1	2	885	856	**828**	799	771	743	715
1	3	1010	976	**941**	907	873	839	806
1	4	1137	1096	**1056**	1015	975	935	897
2	0	1037	1001	**965**	930	894	859	825
2	1	1164	1122	**1080**	1038	997	956	916
2	2	1289	1241	**1192**	1144	1097	1050	1004
2	3	1416	1361	**1306**	1252	1198	1145	1093
2	4	1541	1480	**1418**	1357	1297	1238	1180

(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 "EN ROUTE" ALTITUDE

NUMBER OF OCCUPANTS		OUTSIDE TEMPERATURE						
COCKPIT	CABIN	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ -1° C	10° F/ -12° C	-10° F/ -23° C
1	0	618	602	**585**	569	552	536	520
1	1	842	816	**789**	763	736	710	685
1	2	1067	1029	**992**	955	918	882	846
1	3	1513	1240	**1192**	1144	1097	1050	1004
1	4	1513	1452	**1392**	1333	1275	1217	1161
2	0	992	958	**925**	891	858	825	793
2	1	1215	1170	**1125**	1081	1037	994	952
2	2	1439	1382	**1326**	1270	1215	1161	1108
2	3	1662	1593	**1525**	1457	1391	1326	1262
2	4	1888	1807	**1725**	1645	1567	1490	1415

(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 %.

FLIGHT BETWEEN 15000 FT AND 10000 FT

NUMBER OF OCCUPANTS		OUTSIDE TEMPERATURE						
COCKPIT	CABIN	110° F/ 43° C	90° F/ 32° C	**70° F/ 21° C**	50° F/ 10° C	30° F/ -1° C	10° F/ -12° C	-10° F/ -23° C
1	0	618	602	**585**	569	552	536	520
1	1	961	929	**896**	864	833	801	770
1	2	961	929	**896**	864	833	801	770
1	3	961	929	**896**	864	833	801	770
1	4	961	929	**896**	864	833	801	770
2	0	992	958	**925**	891	858	825	793
2	1	1333	1282	**1231**	1181	1131	1083	1035
2	2	1333	1282	**1231**	1181	1131	1083	1035
2	3	1333	1282	**1231**	1181	1131	1083	1035
2	4	1333	1282	**1231**	1181	1131	1083	1035

(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 ΔP 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) Electronic Standby Indicator (ESI-2000)
4) GDC 74B ADC
5) GDC 74B 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

Figure 7.11.1 (1/2) - AIR DATA SYSTEM

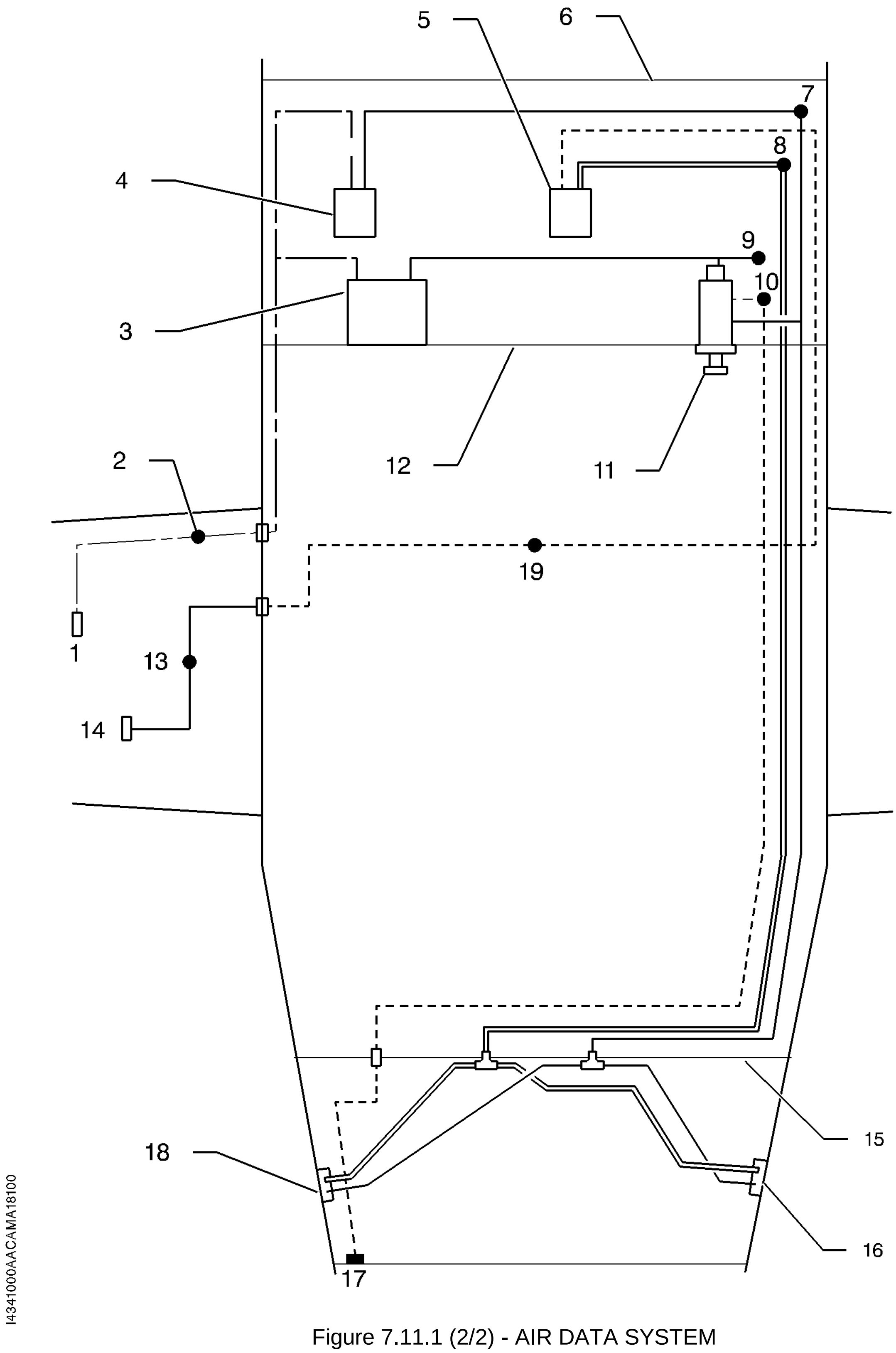


Figure 7.11.1 (2/2) - AIR DATA SYSTEM

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.

ELECTRONIC STANDBY INDICATOR (ESI-2000)

The L-3 Communications Avionics Systems ESI-2000 Electronic Standby Instrument System consists of an AMLCD display. An air data sensor is integral to the ESI-2000 housing. A replaceable battery assembly provides back up power. The Electronic Standby Indicator displays attitude (pitch and roll), along with altitude and airspeed. The ESI-2000 is powered from the "ESSENTIAL BUS 2", or internal battery ensuring that the airplane can continue safe flight and landing in the event of a loss of primary attitude and air data displays. Pitot and static pressures are provided to the ESI-2000 using the airplane pitot probe and static sources.

1) Pressure regulator
2) Ejector
3) Valve
4) Regulating and relief valve
5) Pressure switch
6) Failure CAS message

Figure 7.12.1 (1/2) - VACUUM SYSTEM

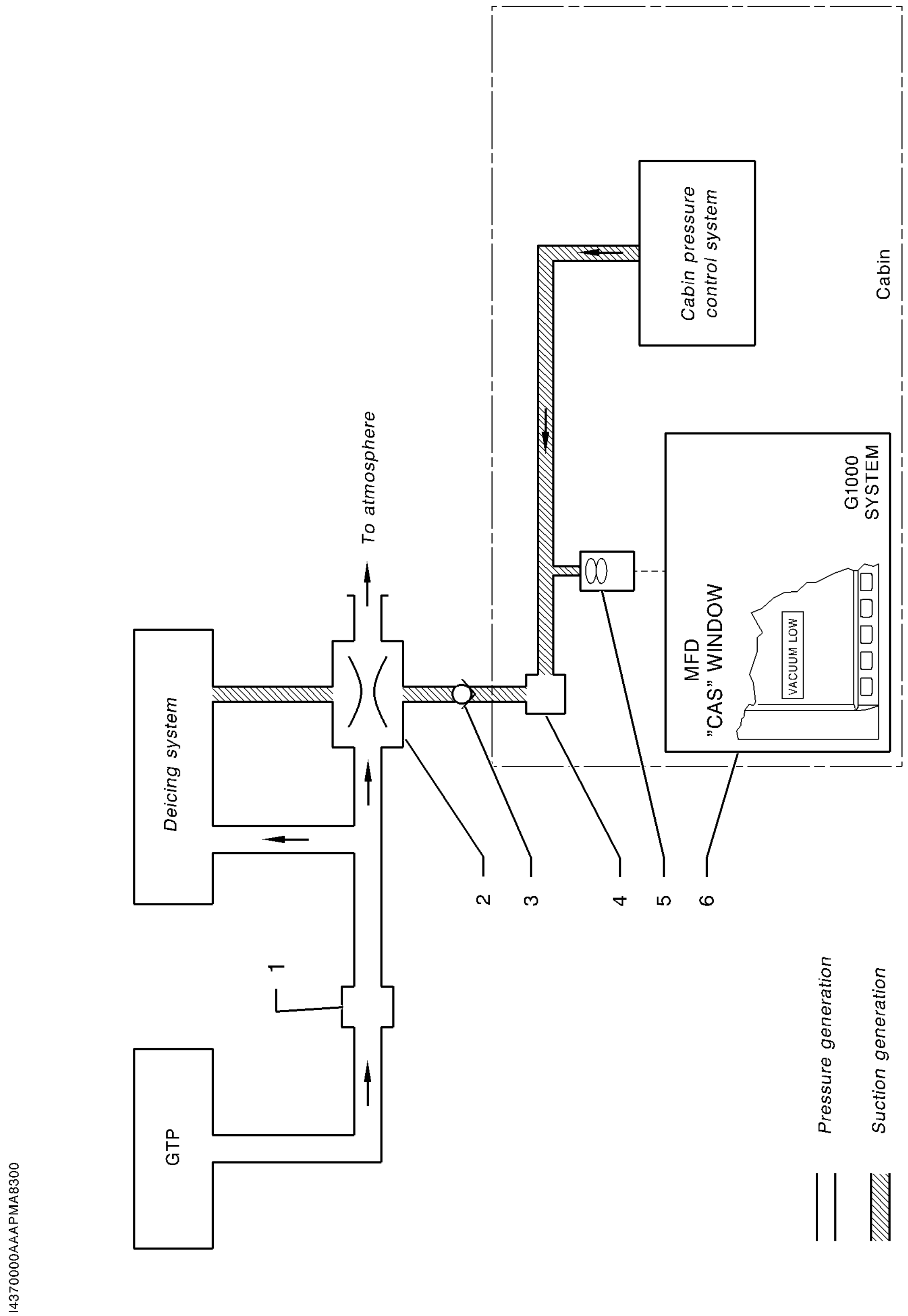


Figure 7.12.1 (2/2) - VACUUM SYSTEM

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 horizontal stabilizer, elevator horns, vertical stabilizer and wing inboard section,
- the second cycle induces inflation of leading edges deicer boots in wing central and outboard sections.

During each inflation cycle, one of the two corresponding warning lights located above "AIRFRAME DE-ICE" switch, remains illuminated.

Wing leading edge icing inspection light - see Chapter 7.8 Paragraph "EXTERIOR LIGHTING".

PROPELLER DEICING

Propeller deicing is accomplished through electrical heating of blade roots. This system operates cyclically and alternately on two opposite blades at the same time. Each cycle is 180 seconds long. The system operation is correct when green warning light located above "PROP DE ICE" switch illuminates. The cycles continue as long as the switch remains set to ON.

WINDSHIELD DEICING

The 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 GDU 1500 MFD CAS window. Refer to the ”GARMIN” G1000 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”.

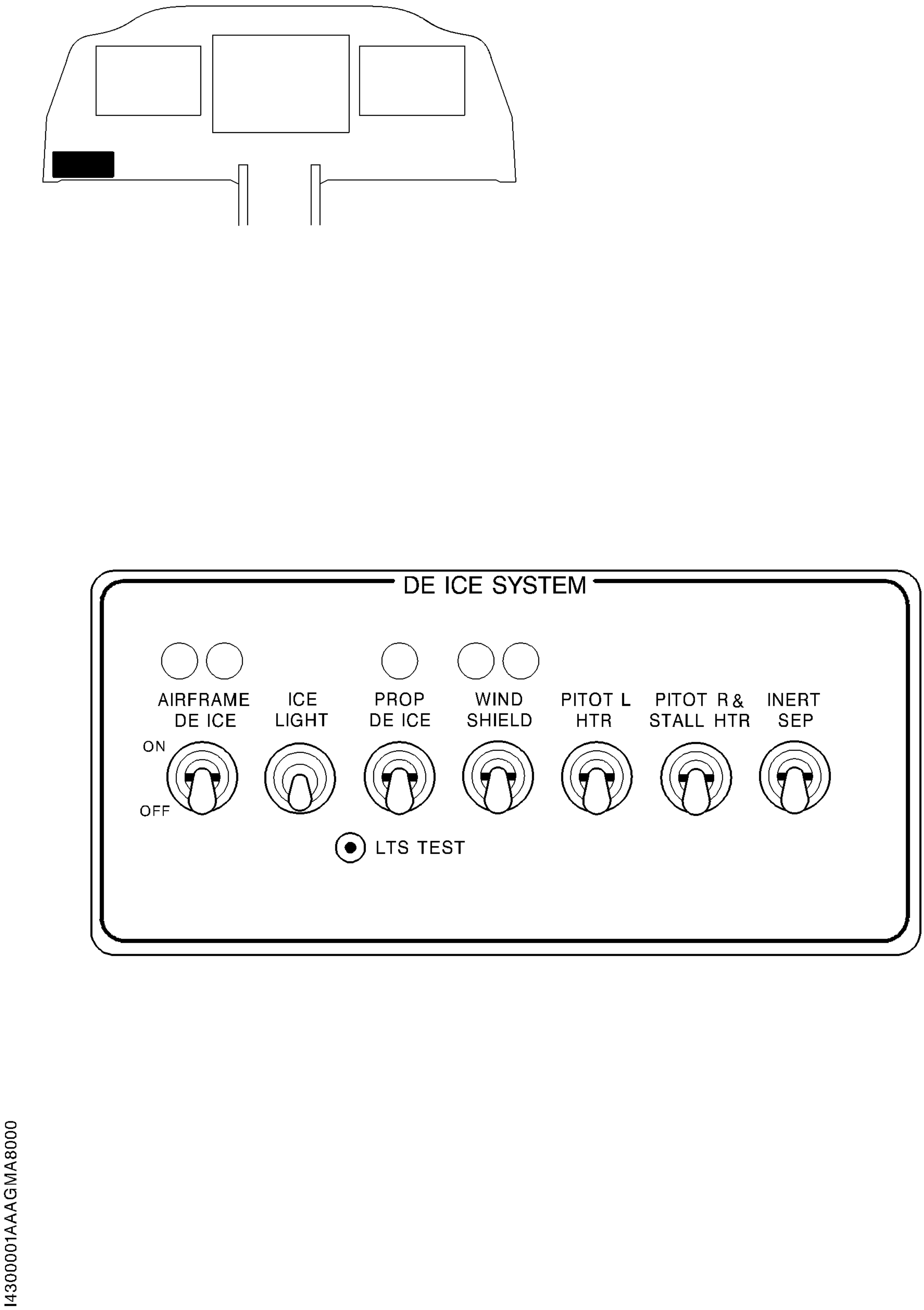


Figure 7.13.1 - DEICING CONTROL AND CHECK PANEL

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 a tone over the alarm speaker. This warning tone begins between 5 and 10 knots above the stall in all configurations.

The stall warning system should be checked during the preflight inspection by momentarily turning on the "SOURCE" selector and by manipulating the vane in the wing. The system is operational if a continuous tone (low-pitched sound) is heard on the alarms speaker.

NOTE

The audible stall warning may be altered by severe or prolonged icing.

STATIC DISCHARGERS

As an aid in flight, static dischargers are installed to improve radio communications during flight by reducing interference from dust or various forms of precipitations (rain, snow or ice crystals).

Under these conditions, the build-up and discharge of static electricity from the trailing edges of the wings (flaps and ailerons), rudder, stabilator, propeller tips and radio antennas can result in loss of usable radio signals on all communications and navigation radio equipment. Usually, the ADF is first and VHF communication equipment is the last to be affected.

Installation of static dischargers reduces interference from precipitation static, but it is possible to encounter severe precipitation static conditions which might cause the loss of radio signals, even with static dischargers installed. Whenever possible, avoid known severe precipitation areas to prevent loss of dependable radio signals. If avoidance is impractical, minimize airspeed and anticipate temporary loss of radio signals while in these areas.

CABIN FIRE EXTINGUISHER

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 GDU 1500 MFD. Refer to Section 2 "Limitations" of this Pilot's Operating Handbook and to GARMIN G1000 Cockpit Reference Guide for further details.

GPS

GPS navigation is performed through the GARMIN G1000 system. Refer to Section 2 "Limitations" and Section 4 "Normal procedures" of this Pilot's Operating Handbook and to GARMIN G1000 Cockpit Reference Guide for further details.

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 C406-1

Operation of the emergency locator transmitter is obtained as follows :

- from the instrument panel by setting "ON/ARM" remote control switch to "ON" (locator transmitter "ON/OFF" switch set to "OFF"),
- from the locator transmitter by setting its "ON/OFF" control switch to "ON",
- automatically in case of shock, when remote control switch is set to "ARM" and locator transmitter switch is set to "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" or ELT switch to "OFF".	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.

ELT ARTEX ME 406

Operation of the emergency locator transmitter is obtained as follows :

- from the instrument panel by setting "ON/ARM" remote control switch to "ON" (locator transmitter "ON/ARM" switch set to "ARM"),
- from the locator transmitter by setting its "ON/ARM" control switch to "ON",
- automatically in case of shock, when remote control switch is set to "ARM" and locator transmitter switch is set to "ARM".

A red indicator light located on "ELT" remote control switch in the cockpit indicates to the pilot the emergency locator transmitter is transmitting.

A red indicator light located on R.H. side of 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" or ELT switch to "ARM".	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.

OPTIONAL EQUIPMENT

For optional equipment such as weather radar, stormscope, TAWS or TAS system, five-bladed propeller, refer to Section 9 "Supplements".

Other optional equipment such as radio altimeter or chartview system are described in the GARMIN G1000 Cockpit Reference Guide.

NOTE

Refer to Section 2 "Limitations" for chartview system operating limitations.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

TABLE OF CONTENTS

8.1 - GENERAL

This section contains the procedures recommended by the manufacturer for the proper ground handling and routine care and servicing of TBM 900 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.

8.3 - PUBLICATIONS

When the airplane is delivered from the factory, it is supplied with a Pilot's Operating Handbook, the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 900, No. 190-00708-05, or any later version as applicable, and supplemental data covering optional equipment installed in the airplane (refer to Section 9 "Supplements" and pilot's guides).

In addition, the owner may purchase the following :

- Maintenance Manual
- Illustrated Parts Catalog (Bilingual)
- Catalog of Service Bulletins, Service Letters and Service Information 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.

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, air/oil NACA, 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.

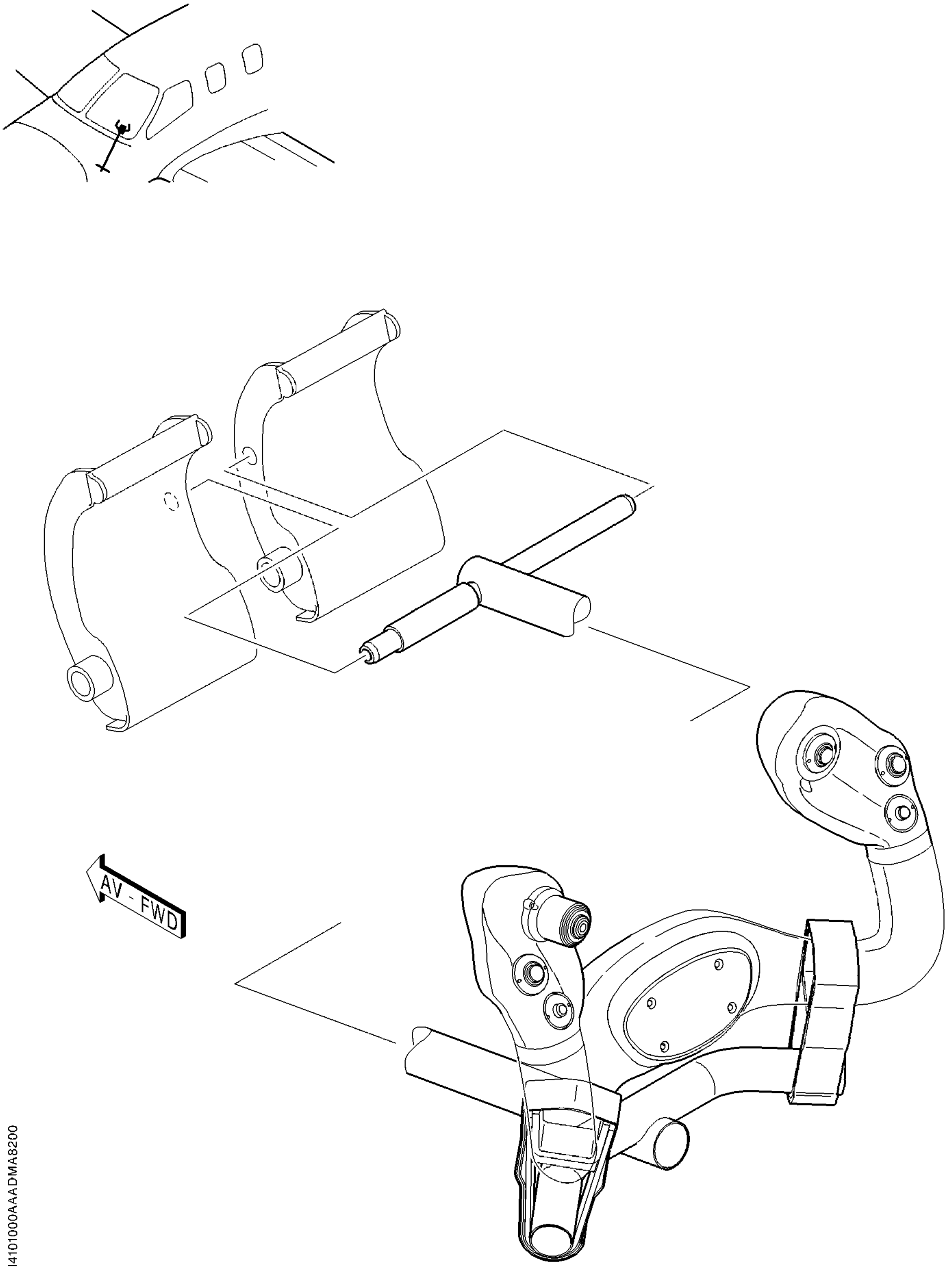


Figure 8.6.2 - CONTROL LOCK DEVICE

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 :

CAUTION

DO NOT MIX DIFFERENT BRANDS OR TYPES

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

Figure 8.7.1 - RECOMMENDED ENGINE OIL TYPES
(Reference : Service Bulletin P & W C. No. 14001)

Oil capacity :

System total capacity :

12.7 Quarts (12 Litres) (oil cooler included)

Usable capacity :

6 Quarts (5.7 Litres)

The engine oil should be changed and the oil filter cleaned at intervals recommended in Pratt & Whitney Canada Service Bulletin No. 14001 which has been updated with revisions and / or Supplements.

Refill through the system filling inlet which is located on the engine upper rear part. A gage located on the filling cap indicates oil level and is calibrated in quarts to maximum level under cold conditions "MAX COLD" and to maximum level under hot conditions "MAX HOT". Normal oil level is approximately one quart below maximum level.

To avoid over servicing of oil tank and high oil consumption, check oil level within 10 minutes after engine shutdown.

If more than 10 minutes but less than 30 minutes have passed and the dipstick indicates that oil is needed, carry out a normal dry motoring cycle and reverify level before adding oil.

If more than 30 minutes have passed and the dipstick indicates that oil is needed, start the engine and run at ground idle (low idle) for 5 minutes. Reverify oil level before adding oil.

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

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

Figure 8.7.2 - RECOMMENDED FUEL TYPES
(Reference : Service Bulletin P & W C. No. 14004)

Fuel additives

Fuel used must contain an anti-ice additive conforming to MIL-I-27686 or MIL-I-85470 specification.

Strict adherence to recommended preflight draining instructions as called for in Section 4 will eliminate any free water accumulations from the tank sumps. While small amounts of water may still remain emulsified in the gasoline, it will normally be consumed and go unnoticed in the operation of the engine.

One exception to this can be encountered when operating under the combined effect of use of certain fuels, with high humidity conditions on the ground followed by flight at high altitude and low temperature. Under these unusual conditions, small amounts of water emulsified can precipitate from the fuel stream and freeze in sufficient quantities to induce partial icing of the engine fuel system.

While these conditions are quite rare and will not normally be a problem to owners and operators, they do exist in certain areas of the world and consequently must be dealt with, when encountered.

Therefore, to alleviate the possibility of fuel icing occurring under these unusual conditions, it is required to add an ethylene glycol monomethyl ether (EGME or DIEGME) compound to the fuel supply.

The introduction of an EGME or DIEGME compound into the fuel provides two distinct effects :

- it absorbs the dissolved water from the fuel
- alcohol has a freezing temperature depressant effect.

EGME or DIEGME must be carefully mixed with the fuel in concentration, it must be between a minimum of 0.06 % and a maximum of 0.15 % by volume. Figure 8.7.3 provides EGME or DIEGME / fuel mixing ratio information.

CAUTION

DO NOT PERMIT THE CONCENTRATE OF EGME OR DIEGME TO COME IN CONTACT WITH THE AIRPLANE FINISH OR FUEL TANK

MIXING OF THE EGME OR DIEGME WITH THE FUEL IS EXTREMELY IMPORTANT. AN EXCESSIVE CONCENTRATION (GREATER THAN 0.15 % BY VOLUME MAXIMUM) WILL RESULT IN DETRIMENTAL EFFECTS TO THE FUEL TANKS BY DETERIORATION OF PROTECTIVE PRIMER, SEALANTS AND SEALS OF SYSTEM AND ENGINE COMPONENTS. USE ONLY BLENDING EQUIPMENT RECOMMENDED BY THE MANUFACTURER TO OBTAIN PROPER PROPORTIONING.

Prolonged storage of the airplane will result in a water buildup in the fuel which "leeches out" the additive. An indication of this is when an excessive amount of water accumulates in the fuel tank sumps. The concentration can be checked using a differential refractometer. It is imperative that the technical manual for the differential refractometer be followed explicitly when checking the additive concentration.

Fuel and fuel additives in Ukraine and CIS countries

It is possible to use kerosene GOST 10227 RT with addition of anti-icing liquid :

- 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

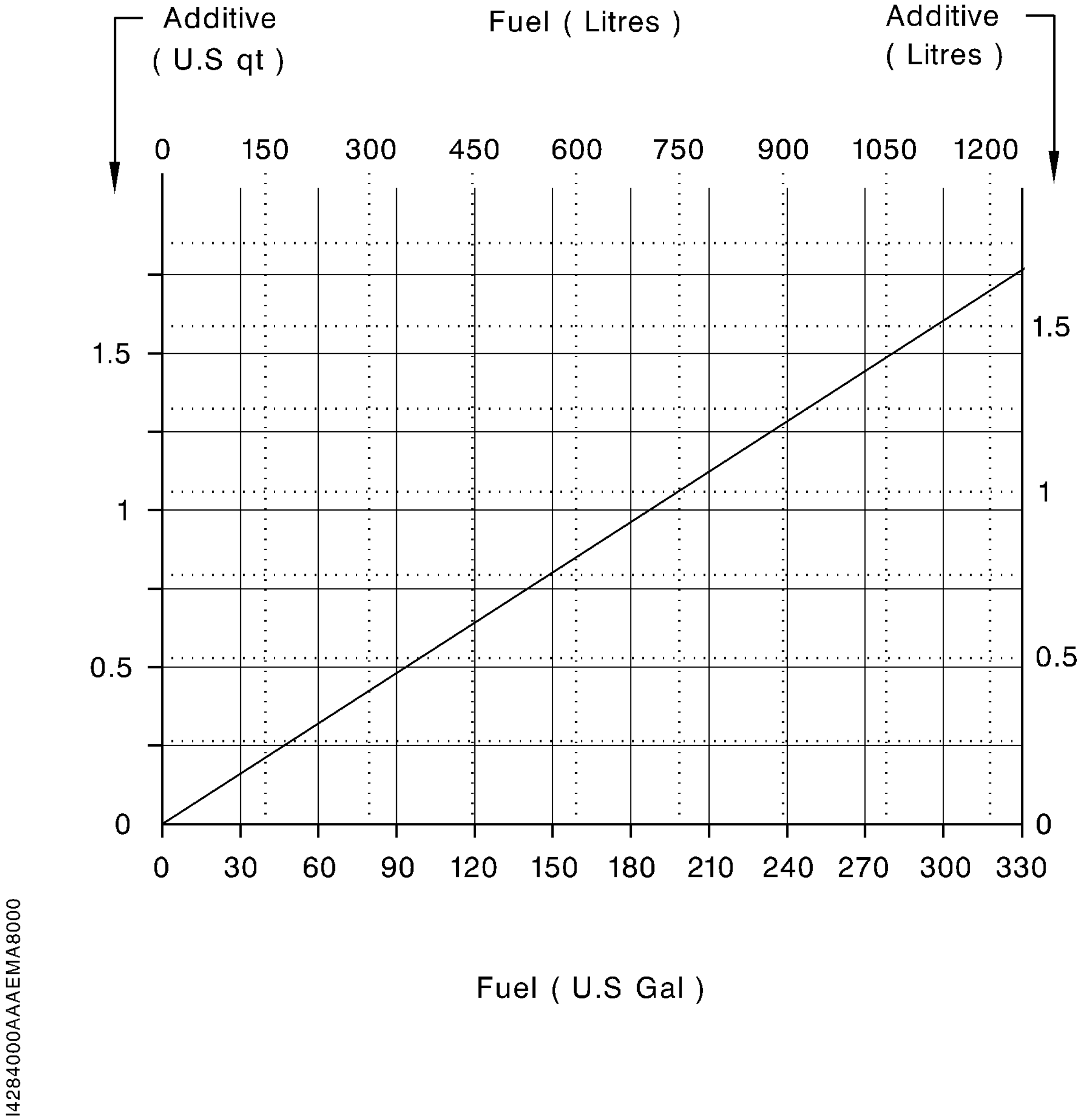


Figure 8.7.3 - ADDITIVE MIXING RATIO (EGME or DIEGME)

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.

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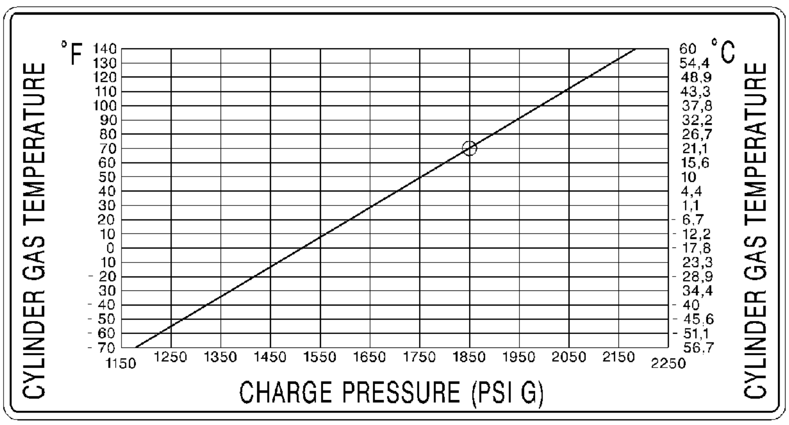


Figure 8.7.4 - CHARGE PRESSURE CHART

Replenishment procedure

WARNING

MAKE SURE THAT THE AIRPLANE IS FITTED WITH A GROUDING 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

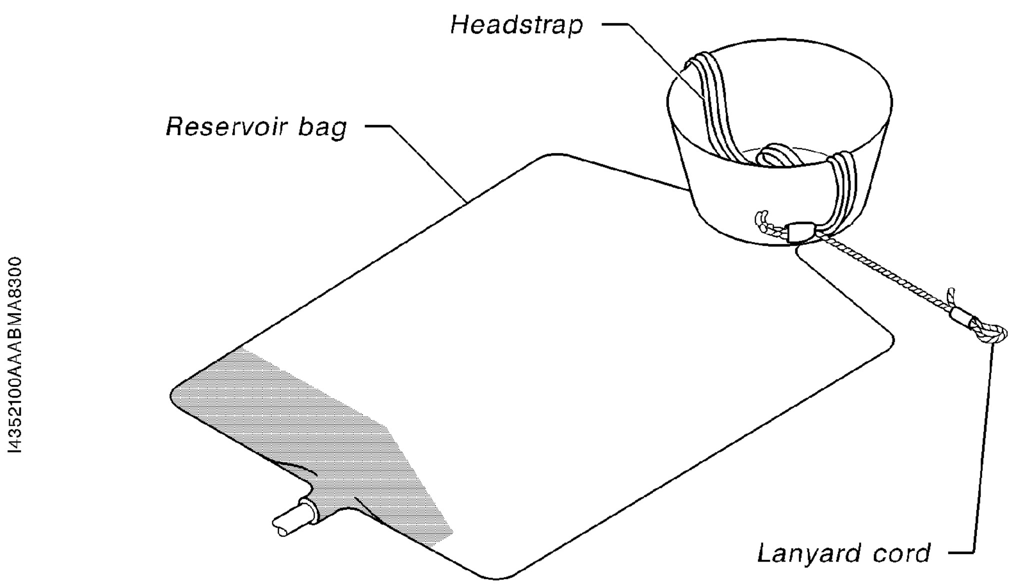
WARNING

MASKS SHALL BE REPACKED IN AN AREA FREE OF OIL, GREASE, FLAMMABLE SOLVENTS OR OTHER CONTAMINANTS

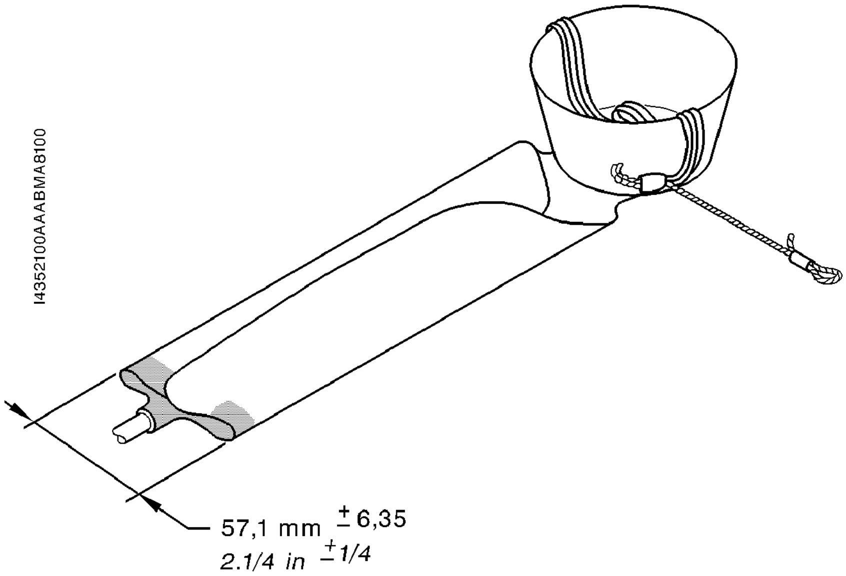
Inspect and disinfect mask and deployment container with an aqueous solution of Zephiran Chloride ("Scott Aviation" P/N 00-2572) or with disinfection cleaners ("EROS" P/N SAN50). After disinfecting and thoroughly drying the mask, lightly dust the outside of the facepiece with Neo-Novacite powder ("Scott 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.

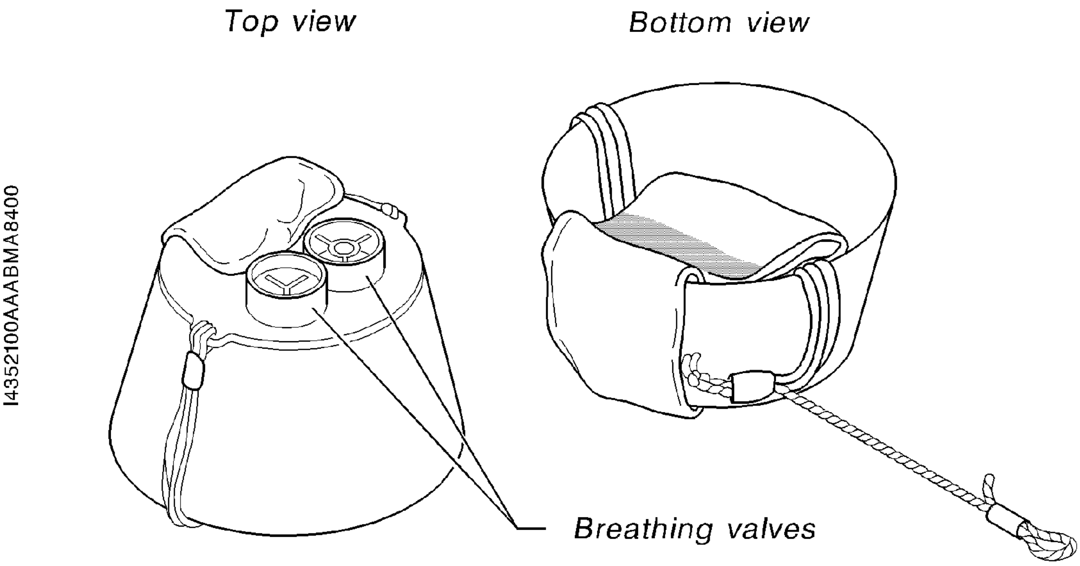
Lay reservoir bag on flat surface and smooth out wrinkles.



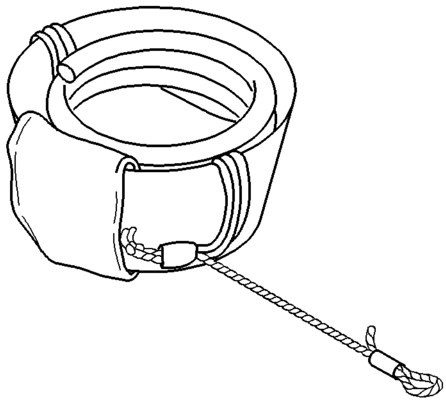
Gently fold reservoir bag lengthwise into thirds (outside edges folded inward over center of bag). Do not crease bag.



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.



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Connect oxygen tubing to manifold oxygen fitting.

<u>WARNING</u>

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.

PROPELLER CARE

Preflight inspection of propeller blades for nicks and cleaning them occasionally with a cloth soaked with soapy water to clean off grass and bug stains will assure long blade life. Small nicks on the propeller, particularly near the tips and on the leading edges, should be dressed out as soon as possible since these nicks produce stress concentrations, and if not removed, may result in cracks. Never use an alkaline cleaner on the blades ; remove grease and dirt.

ENGINE CARE

Refer to Maintenance Manual for the procedures to follow.

INTERIOR CARE

To remove dust and loose dirt from the upholstery and carpet, clean the interior regularly with a vacuum cleaner.

For additional information, refer to Maintenance Manual.

8.9 - UTILIZATION BY COLD WEATHER (- 0°C TO - 25°C) OR VERY COLD WEATHER (- 25°C TO - 40°C)

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 - Inflate 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 :

	OAT (°C)	- 40°	- 30°	- 20°	- 10°	+ 15°
PRESSURES psi (bars)	Main landing gear shock absorber	189 (13)	196 (13.5)	203 (14)	218 (15)	247 (17)
	Nose gear shock absorber	102 (7)	109 (7.5)	116 (8)	123 (8.5)	138 (9.5)
	Main landing gear tire	144 (9.96)	144 (9.96)	130 (8.96)	130 (8.96)	130 (8.96)
	Nose gear tire	94 (6.5)	94 (6.5)	102 (7)	102 (7)	102 (7)

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 Socata. 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 loosing 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 WICH 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 index (refer to Section 6).

EQUIPMENT	ACTION	DESCRIPTION OPERATION
REAR SEAT	REMOVAL	Paragraph 1.C.
	INSTALLATION	Paragraph 2. F.
INTERMEDIATE SEAT	REMOVAL	Paragraph 1.D.
	INSTALLATION	Paragraph 1.G.
CARGO NET	INSTALLATION	SECTION 7

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 (1/2) - Removal/Installation of rear seat

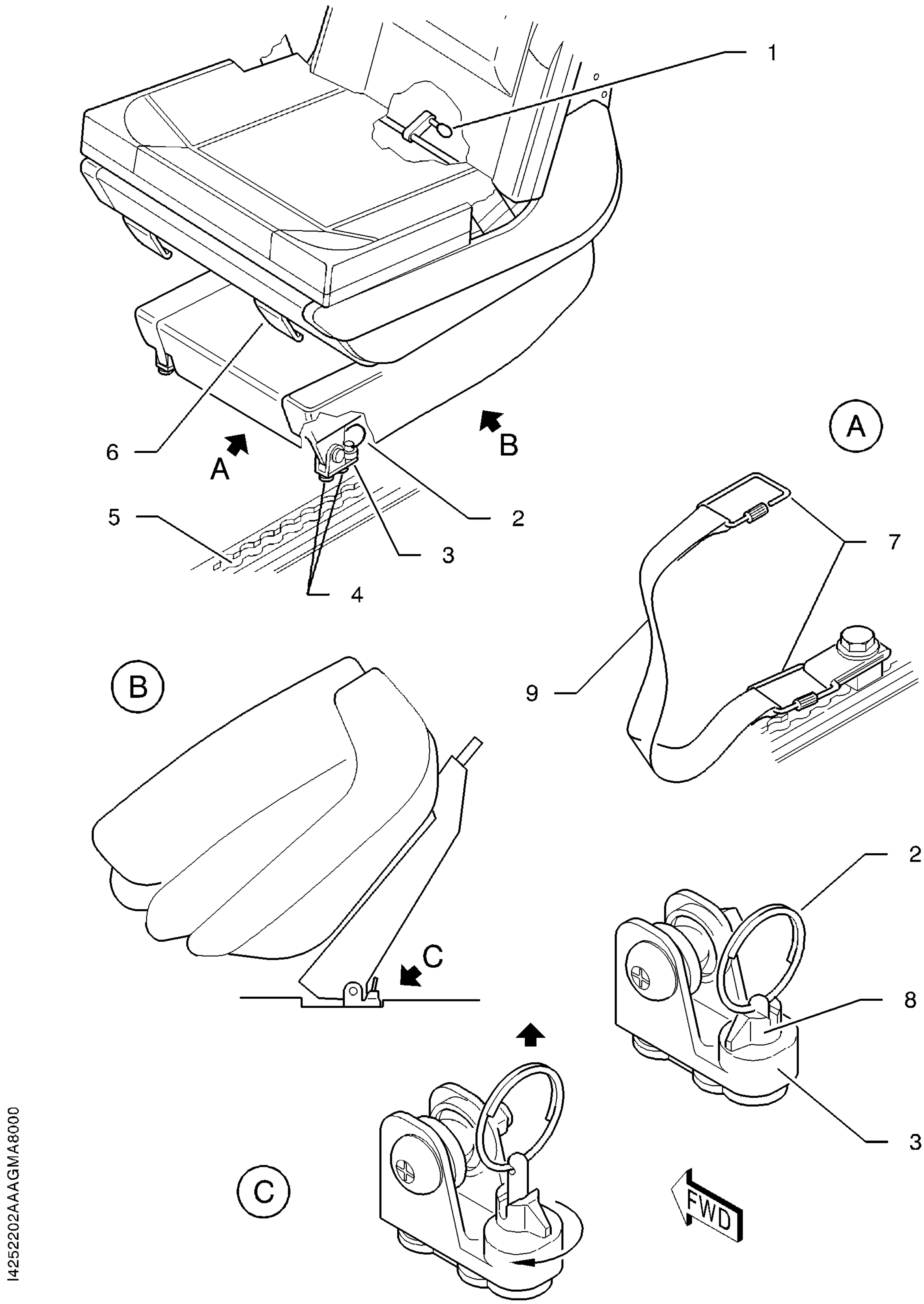


Figure 8.10.1 (2/2) - Removal/Installation of rear seat

21 - Locking handle

22 - Lock

23 - Pad

24 - Rail

25 - Backrest bottom upholstery

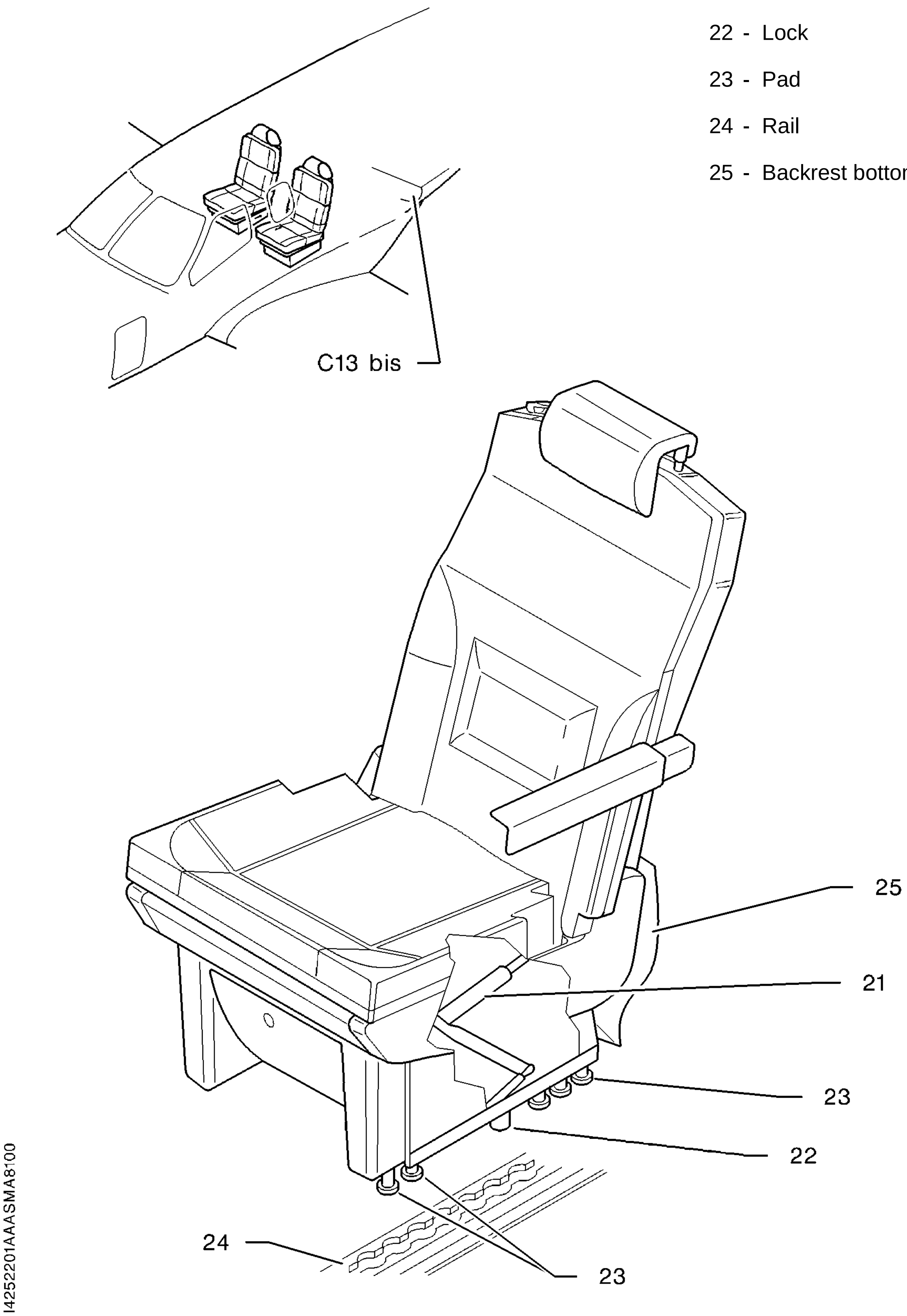


Figure 8.10.2 - Removal/Installation of intermediate seat

31 - Blanking plug

32 - Blanking plug

33 - Blanking device assy

34 - Deflector

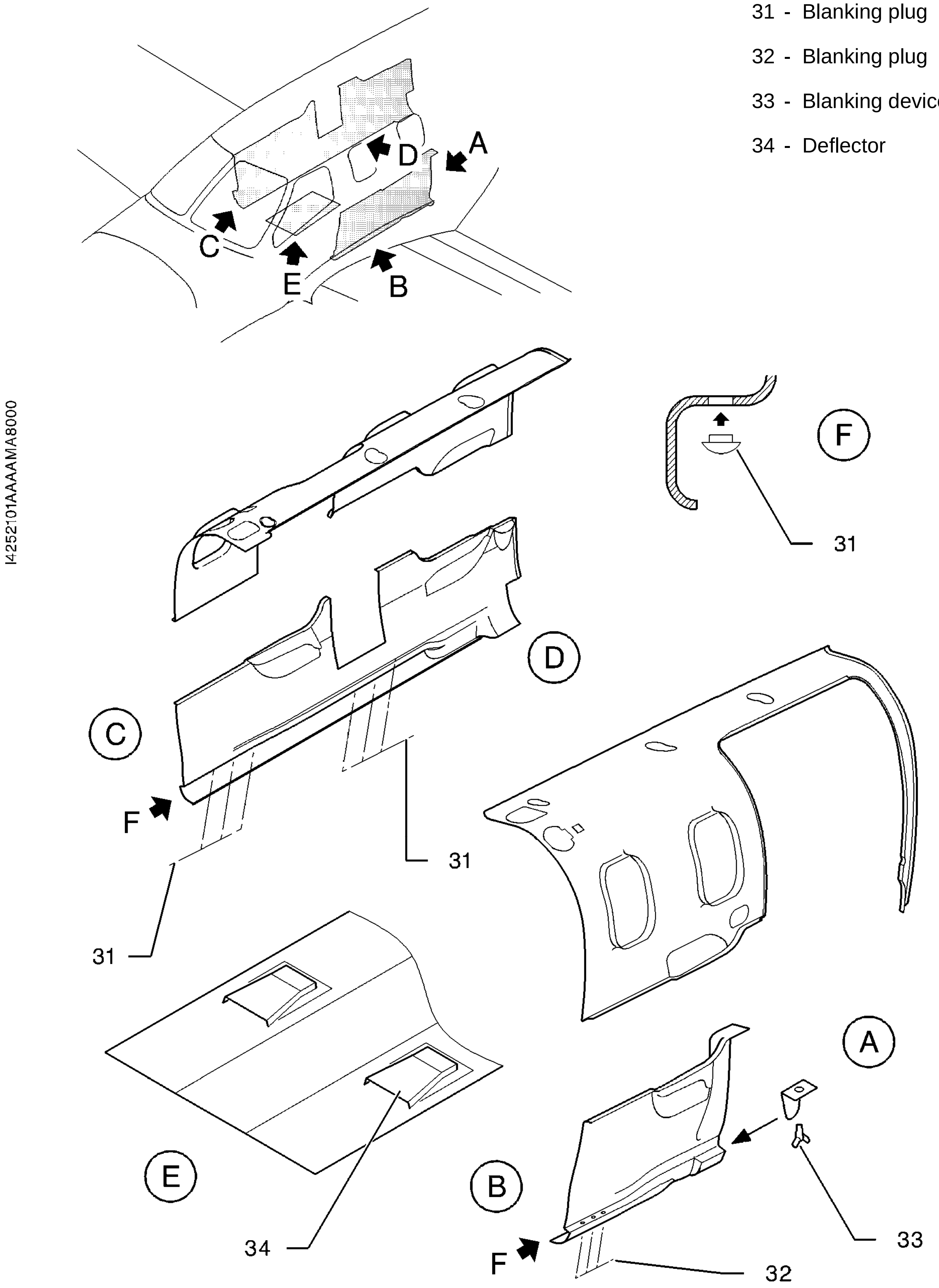


Figure 8.10.3 - Cabin comfort – Installation of blanking plugs and deflector

34 - Deflector

35 - Deflector hole

36 - Red mark

37 - Color mark

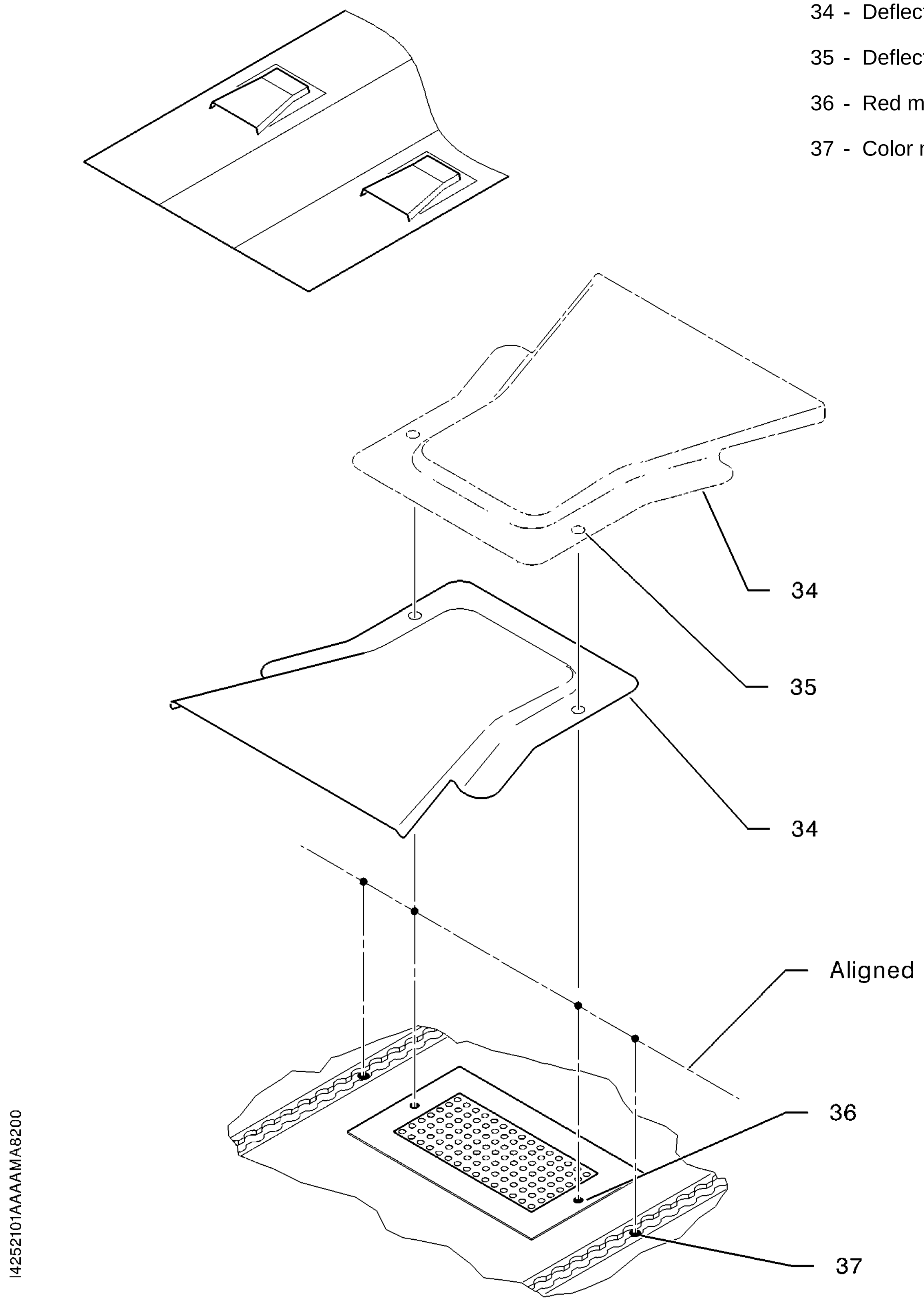


Figure 8.10.4 - Cabin comfort – Installation of deflector

TBM 900

LIST OF EQUIPMENT

Report NAV No. 34/90-RJ-App2
From S/N 1000

DAHER-SOCATA
Customer support
65921 TARBES CEDEX 9
FRANCE

Printed in FRANCE

TABLE OF CONTENTS

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.

Equipment	*	* *	P/N
Barometric altimeter : - GDC74B (Air data computer) - GDU1XXX (Display)	 2 3	 2 2	 P/N 011-01110-00 P/N 011-00916-00 or P/N 011-01108-00
Autopilot Altitude Hold function : - GMC710 (AFCS mode controller) - GIA63W (Integrated Avionics Computer) - GRS77	 1 2 2	 1 2 2	 P/N 011-01020-10 P/N 011-01105-40 P/N 011-00868-10
ATC : - Altitude reporting transponder	 1	 1	 TSO C-74c

(*) Quantity installed

(**) Quantity required

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		01 - SPECIFIC OPTIONAL EQUIPMENT			
S	01026A	Flight ceiling at 31000 ft	SOCATA	/	/

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		21 - ENVIRONMENTAL SYSTEM		
S		General Air System Controller (GASC) 82024A040601 LIEBHERR	1.98 (0.900)	311.02 (7.900)
		21-20 - Distribution		
S		Mixing unit 9723A010001 LIEBHERR	0.53 (0.240)	151.57 (3.850)
S		Hot Air Distributor 6044A010001 LIEBHERR	4.06 (0.840)	153.54 (3.900)
S		Bleed temperature switch 92244B010002 LIEBHERR	0.13 (0.060)	153.54 (3.900)
		21-30 - Pressurization control		
S		Cabin altitude warn switch 214 C40.3.261 CONDEC/EATON	0.077 (0.035)	153.94 (3.910)
S		Cabin ΔP warn switch 17-600-01 UMA	0.143 (0.065)	139.76 (3.550)
S		Outflow valve 81146A010101 LIEBHERR	3.97 (1.800)	317.32 (8.060)
S		Safety valve 81147A010101 LIEBHERR	3.31 (1.500)	317.32 (8.060)
		21-50 - Temperature conditioning system		
S		Flow control shut-off valve 6784A010001 LIEBHERR	4.74 (2.500)	114.17 (2.900)
S		Non-return valve 7085A010002 LIEBHERR	0.11 (0.050)	102.36 (2.600)
S		Shut-off valve 4589A010001 LIEBHERR	2.37 (1.075)	114.17 (2.900)
S		Intermediate pressure sensor 93557A010001 LIEBHERR	0.33 (0.150)	110.24 (2.800)
S		Overheat thermal switch A042010300-5 LIEBHERR	0.18 (0.080)	110.24 (2.800)
S		Main heat exchanger 81249A010001 LIEBHERR	7.72 (3.500)	108.27 (2.750)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
S		Non-return valve 52704A010001	LIEBHERR	0.66 (0.300)	118.11 (3.000)
S		Ground Fan 8031A020	LIEBHERR	3.95 (1.790)	90.55 (2.300)
		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)
S		Cockpit ventilated sensor 92279A010002	LIEBHERR	0.18 (0.080)	182.09 (4.625)
S		Cabin ventilated sensor 92279A010002	LIEBHERR	0.18 (0.080)	250.00 (6.350)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		22 - AUTO FLIGHT			
S	0305-22	Upgrading of AFCS GFC 700 composed of :	GARMIN		
		- Pitch servo GSA 81 + Servo mount GSM 86	GARMIN	4.08 (1.85)	247.40 (6.284)
		- Roll servo GSA 81 + Servo mount GSM 86	GARMIN	4.08 (1.85)	231.10 (5.870)
		- Yaw servo GSA 81 + Servo mount GSM 86	GARMIN	4.08 (1.85)	253.70 (6.444)
		- Pitch trim servo GSA 81 + Servo mount GSM 86	GARMIN	4.14 (1.88)	157.87 (4.010)
		- Trim adapter GTA 82	GARMIN	1.30 (0.59)	240.87 (6.118)
		- AFCS Control Unit GMC 710	GARMIN	0.91 (0.41)	156.61 (3.978)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		23 - COMMUNICATIONS		
S	0176-00A	Dual audio system with integrated Marker Beacon Receiver # 1 GMA 1347C GARMIN	2.59 (1.17)	153.35 (3.895)
S	0176-00A	Dual audio system with integrated Marker Beacon Receiver # 2 GMA 1347C GARMIN	2.59 (1.17)	153.35 (3.895)
S	0176-00A	G1000 COM # 1 system GARMIN		
		- Transceiver (integrated in GIA 63W Integrated Avionics Unit # 1 - refer to ATA 34-28) GARMIN		
		- VHF antenna (under fuselage) 16-21B-P3 CHELTON	0.86 (0.390)	271.65 (6.900)
S	0176-00A	G1000 COM # 2 system GARMIN		
		- Transceiver (integrated in GIA 63W Integrated Avionics Unit # 2 - refer to ATA 34-28) GARMIN		
		- VHF antenna (above fuselage) 16-21B-P3 CHELTON	0.86 (0.390)	271.65 (6.900)
S		Static dischargers DSC 740049 (Qty : 4) DAYTON GRANGER	Neglig.	/
S		Static dischargers 2-5 SCY (Qty : 2) CHELTON	Neglig.	/
S		Static dischargers 2-9 SCY (Qty : 3) CHELTON	Neglig.	/
O	0287-23A	Radio stereo-headset A20 with bluetooth BOSE	Neglig.	/
A	0176-00B	Data link GDL 69A (interfaced with G1000 system) GARMIN	2.55 (1.16)	150.67 (3.827)
O	0331-23	Weather Data Link and Satellite Phone GSR 56 GARMIN	3.80 (1.736)	58.00 (1.474)
		- Version C : With capability (GSR unit support pre-installed), with antenna CI 490-1		
		- Version D : With capability (GSR 56 unit support and antenna CI 490-1 pre-installed)		

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
A	0353-23	GDR 66 for CPDLC using, of which :	GARMIN	6.01 (2.728)	125.59 (3.190)
		Version A (capability already installed)			
		- GDR 66 (transceiver + rack)	GARMIN	4.85 (2.200)	121.77 (3.093)
		- CPDLC antenna VF10-605	DAYTON-GRANGER	0.79 (0.360)	145.59 (3.698)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		24 - ELECTRICAL POWER		
		24-30 - DC generation		
R	0234-24	Electric power system (EPS) 1408-1-1 ASTRONICS	14.330 (6.500)	128.15 (3.255)
R		Stand-by alternator ES10024B-5 HARTZELL ENGINEERING TECHNOLOGY (HET)	13.000 (5.897)	104.84 (2.663)
R		Starter generator MG94K-1 ADVANCED INDUSTRIES	31.989 (14.510)	118.83 (2.815)
S	24002A	Lead-acid battery RG-380E/44 CONCORDE	85.979 (39.000)	112.20 (2.850)
A	0303-24	Charger/Maintainer for lead acid battery	0.220 (0.100)	114.17 (2.900)
		24-40 - External power supply		
S		Ground power receptacle MS 3506-1 CORSAIR ELECTRICAL CONNECTORS INC	0.794 (0.360)	114.17 (2.900)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		25 - EQUIPMENT AND FURNISHINGS			
A	25004D	Leather upholstering - version D "Autolux"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	0386-25	Leather upholstering "Vulcain"	SOCATA	6.614 (3.000)	212.60 (5.400)
A	25032	Front seats ease covers	SOCATA	2.756 (1.250)	183.78 (4.668)
A	25035	JetFly type cabin arrangement	SOCATA	/	/
A	25036	Cabin furnishings - "Loupe d'Orme" wood	SOCATA	/	/
A	0151-25	CD reader PCD 7100	PS ENGINEERING	2.20 (1.00)	205.04 (5.208)
A	0304-25	Cabin fitting out ("Autolux" leather upholstering variants)	SOCATA		
		- Version A : Heather-leather light blue-coloured seats		/	/
		- Version B : Blue jeans-coloured carpets		/	/
		- Version C : Sateen Chocolate-coloured seats and cabinets		/	/
		- Version D : Carbon-coloured Finishing		/	/
		- Version E : Grey-coloured seats and cabinets		/	/
S	0374-25	Servicing plugs unit, of which :	AIR SYSTEM	4.41 (2.000)	/
		- 12 VDC servicing plugs (Qty : 2) unit, of which : . 28-5VDC Converter USB-04-13	AIR SYSTEM	3.31 (1.500)	195.28 (4.960)
		. 28-12VDC Converter AK-551-18S	AIR SYSTEM	2.98 (1.350)	195.28 (4.960)
		- 5 VDC servicing plugs (USB type) (Qty : 2) unit, of which :	AIR SYSTEM	1.10 (0.500)	141.73 (3.600)
		. 28-5VDC Converter USB-04-13	AIR SYSTEM	0.76 (0.343)	141.73 (3.600)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		Leather seats - Belts		
S		Reels ANJOU AERONAUTIQUE	1.79 (0.810)	192.91 or 287.40 (4.900 or 7.300)
S		- Pilot's seat T700C2500002012 SOCATA	55.12 (25.00)	183.90 (4.671)
S		- Front R.H. seat T700C2500002013 SOCATA	55.12 (25.00)	183.90 (4.671)
		25-61 - Emergency locator transmitter		
A	25030F	Three-frequency emergency locator transmitter C406-1 (with base) (with G1000 system GPS source) (airplanes equipped with reinforcement), of which : ARTEX	7.77 (3.523)	349.92 (8.888)
		- ELT C406-1 ARTEX	3.36 (1.525)	354.72 (9.010)
		- ELT/NAV interface box 453-6500 ARTEX	2.69 (1.220)	353.15 (8.970)
		- Antenna 110-338 ARTEX	0.449 (0.204)	318.70 (8.095)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		26 - FIRE PROTECTION			
S	26002E	Engine fire detection system - capability installation	L'HOTELLIER	/	/
A	26002F	Engine fire detection system	L'HOTELLIER	1.455 (0.660)	96.06 (2.440)
A	0391-26	Portable fire extinguisher unit 74-00	AIR TOTAL	4.85 (2.200)	170.11 (4.321)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		27 - FLIGHT CONTROLS			
		27-10 - Roll control			
R		Roll trim actuator 145700.02	LPMI	1.543 (0.700)	212.60 (5.400)
		27-20 - Yaw control			
R		Rudder trim actuator 145700.02	LPMI	1.543 (0.700)	395.27 (10.040)
S	0348-27	New control wheels	CROUZET		
S		- L.H. equipped control wheel 83912112	CROUZET	2.535 (1.150)	157.98 (4.000)
S		- RH. equipped control wheel 83912113	CROUZET	2.535 (1.150)	157.98 (4.000)
		27-30 - Pitch control			
S		Pitch trim actuator 145400-02	LPMI	1.213 (0.550)	425.20 (10.800)
		27-50 - Wing flaps (control)			
R		Flap control including :	AVIAC	15.520 (7.040)	218.50 (5.550)
		- Flap motor 6157-1	AVIAC	2.866 (1.300)	216.54 (5.500)
		- Flap actuator 1-5297 / 2-5297	AVIAC	1.830 (0.830)	220.47 (5.600)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		28 - FUEL SYSTEM			
		28-20 - Fuel supply			
R		Electric boost pump 1B9-5	AIRBORNE	4.409 (2.000)	129.92 (3.300)
R		Engine driven fuel pump 1127-02	IN-LHC	1.543 (0.700)	110.24 (2.800)
R		Fuel unit L88A15-651	INTERTECHNIQUE	4.586 (2.080)	133.07 (3.380)
R		A35 fuel sequencer unit	TFE	1.102 (0.500)	125.98 (3.200)
		28-40 - Fuel indication			
R	0158-28C	Fuel gage amplifier (in us gal) 738574-1-0	INTERTECHNIQUE	1.08 (0.49)	278.74 (7.080)
R		Inboard L.H. gage 762 438.1.0	INTERTECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Inboard R.H. gage 762 439.1.0	INTERTECHNIQUE	0.331 (0.150)	183.07 (4.650)
R		Intermediate gage 762 440.1.0	INTERTECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Outboard gage 762 441.1.0	INTERTECHNIQUE	0.220 (0.100)	190.94 (4.850)
R		Low level sensor 722-447	INTERTECHNIQUE	0.110 (0.050)	183.07 (4.650)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		30 - ICE AND RAIN PROTECTION			
S		Deicer T700A3013003000, L.H. horizontal stabilizer	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer T700A3013003001, R.H. horizontal stabilizer	SOCATA	4.189 (1.900)	398.42 (10.120)
S		Deicer T700A3014003000, vertical stabilizer	SOCATA	3.968 (1.800)	374.02 (9.500)
S		Deicer T700A3010001002, inboard L.H. wing	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer T700A3010001003, inboard R.H. wing	SOCATA	5.732 (2.600)	173.23 (4.400)
S		Deicer T700A3010001004, middle L.H. wing	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer T700A3010001005, middle R.H. wing	SOCATA	3.748 (1.700)	173.23 (4.400)
S		Deicer T700A3010012000, outboard L.H. wing	SOCATA	2.65 (1.200)	173.23 (4.400)
S		Deicer T700A3010001007, outboard R.H. wing	SOCATA	3.307 (1.500)	173.23 (4.400)
S		Dual port distribution valve 1532-10C	LUCAS	2.425 (1.100)	125.98 (3.200)
S		Timer 42E25-2A	LUCAS	0.772 (0.350)	177.17 (4.500)
S		Water separator and filter 44E21-2A	LUCAS	1.102 (0.500)	125.98 (3.200)
		30-60 - Propeller deicing			
S		Timer 3E2311-4	BF GOODRICH	0.44 (0.200)	200.79 (5.100)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		31 - INDICATING/RECORDING SYSTEMS			
		31-20 - Independent instruments			
O	31002A	Hourmeter 56457-3 (engine running time)	DATCON	0.551 (0.250)	156.30 (3.970)
S		Hourmeter 56457-3 (flying time)	DATCON	0.551 (0.250)	156.30 (3.970)
		31-50 - Aural warning			
R		Aural warning system T700A3155011000	SOCATA	0.661 (0.300)	183.07 (4.650)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		32 - LANDING GEARS			
		32-10 - Main landing gear			
R	0190-32	L.H. main landing gear D23767001	MESSIER DOWTY	53.79 (24.400)	200.39 (5.090)
R	0190-32	R.H. main landing gear D23768001	MESSIER DOWTY	53.79 (24.400)	200.39 (5.090)
		32-20 - Nose landing gear			
R	0134-32	Nose gear D23766000	MESSIER DOWTY	53.57 (24.300)	93.70 (2.380)
		32-30 - Extension and retraction			
R		Door actuator EC 6230	HRL	1.345 (0.610)	192.91 (4.900)
O	0334-32	Main locking actuator VSTS 083560	HL	13.228 (6.000)	208.07 (5.285)
O	0334-32	Nose locking actuator VSTS 083560	HL	13.228 (6.000)	110.24 (2.800)
R		Hand pump 914-8D27	TELEDYNE	2.326 (1.055)	181.10 (4.600)
S	0342-52	Lower main landing gear doors (R.H. and L.H.)		6.614 (3.000)	204.33 (5.190)
		32-35 - Hydraulic generation			
R	060-32	Hydraulic power pack 1118-04	LHC	10.362 (4.700)	84.65 (2.150)
		32-40 - Wheels and brakes			
R		Brake assembly 030-19100	PARKER	14.991 (6.800)	204.33 (5.190)
R		Main tire 18x5.5-10PR	MICHELIN	13.50 (6.123)	204.33 (5.190)
R		Master cylinder 010-07802	PARKER	0.882 (0.400)	145.67 (3.700)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
R		Nose tire 5.00-5-10PR TL	MICHELIN	5.600 (2.540)	89.57 (2.275)
			GOOD YEAR	6.300 (2.858)	89.57 (2.275)
O		Nose wheel 40-262A	PARKER	2.976 (1.350)	89.57 (2.275)
O		Main wheel (Model 40-434)	PARKER	11.28 (5.120)	204.33 (5.190)
R		Parking brake valve T700A3240010 or T700B3240001	SOCATA	0.331 (0.150)	157.48 (4.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		33 - LIGHTS			
		33-10 - Instrument panel lighting			
S		Instruments emergency lighting 2240-3	WEMAC	0.110 (0.050)	181.10 (4.600)
S	0372-33	Back lighted panels	SOCATA	2.132 (0.967)	/
S	0322-00	PULSELITE unit	WHELEN	Neglig.	/
		33-40 - External lighting			
S		L.H. wing inspection light (icing detection) T700G3340020	SOCATA	0.20 (0.090)	151.57 (3.850)
S	0322-00	L.H. taxi and landing lights 01-0771674-01	WHELEN	1.400 (0.635)	181.10 (4.600)
S	0322-00	R.H. taxi and landing lights 01-0771674-01	WHELEN	1.400 (0.635)	181.10 (4.600)
S	0322-00	NAV/Anticollision system (LED lights) :			
S		Central units :			
S		- L.H. strobe light power supply 01-0771234-07	WHELEN	0.609 (0.277)	191.38 (4.861)
S		- R.H. strobe light power supply 01-0771234-07	WHELEN	0.609 (0.277)	191.38 (4.861)
S		- Rear strobe light power supply 01-0771234-07	WHELEN	0.609 (0.277)	397.87 (10.106)
S		Lights :			
S		- L.H. navigation/strobe/recognition lights 01-0771170-02	WHELEN	0.499 (0.227)	184.29 (4.681)
S		- R.H. navigation/strobe/recognition lights 01-0771170-01	WHELEN	0.499 (0.227)	184.29 (4.681)
S		- Rear tail navigation/strobe lights 01-0790667-00	WHELEN	0.499 (0.227)	444.21 (11.283)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION		
		34-11 - Air data systems		
R		Lift transducer 799-13 SAFE FLIGHT INSTRUMENTS	0.882 (0.400)	173.23 (4.400)
S		Pitot L heated probe AN 5812-1 AIRCRAFT APPLIANCES AND EQUI. LTD)	0.750 (0.340)	200.79 (5.100)
S		Pitot R heated probe AN 5812-1 AIRCRAFT APPLIANCES AND EQUI. LTD)	0.750 (0.340)	200.79 (5.100)
R		Static reference plug T700A3415017 SOCATA	Neglig.	/
S		Static reference selector TB30 77010000 SOCATA	0.220 (0.100)	157.48 (4.000)
S	0160-34A	Autorisation to operate in RVSM area	/	/
S	0176-00A	Air Data Computer # 1 GDC 74B GARMIN	2.31 (1.05)	150.24 (3.816)
S	0176-00A	Air Data Computer # 2 GDC 74B GARMIN	2.31 (1.05)	150.24 (3.816)
O	0335-34	Electronic Standby Instrument ESI-2000 (replacing altimeter, airspeed indicator and stand-by horizon) L-3 Communication Avionics Systems		
S		- Version A (refer to 34-24)	2.75 (1.250)	154.29 (3.919)
		34-21 - Heading reference system		
S	0176-00A	Attitude and Heading Reference System # 1 GRS 77 GARMIN	3.46 (1.57)	171.77 (4.363)
S	0176-00A	Attitude and Heading Reference System # 2 GRS 77 GARMIN	3.46 (1.57)	171.77 (4.363)
S	0176-00A	Magnetometer # 1 GMU 44 GARMIN	0.48 (0.22)	180.98 (4.597)
S	0176-00A	Magnetometer # 2 GMU 44 GARMIN	0.48 (0.22)	180.98 (4.597)
		34-23 - Magnetic compass		
R		Stand-by compass C2350 L4.M23 AIRPATH	0.551 (0.250)	163.39 (4.150)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		34-24 - ADI and standby horizon		
S		Electronic stand-by indicator (integrated in MOD70-0335-34 ESI 2000 : see 34-11) L-3 COMMUNICATION AVIONICS SYSTEMS	2.75 (1.250)	154.29 (3.919)
		34-28 - Electronic flight instrumentation system		
S	0176-00A	Integrated Flight Deck System G1000 composed of :		
		- PFD1 GDU 1040A GARMIN	6.53 (2.96)	155.71 (3.955)
		- PFD2 GDU 1040A GARMIN	6.53 (2.96)	155.71 (3.955)
		- MFD GDU 1500A GARMIN	8.66 (3.93)	155.20 (3.942)
		- Engine/Airframe Interface Unit # 1 GEA 71 GARMIN	2.53 (1.15)	150.63 (3.826)
		- Engine/Airframe Interface Unit # 2 GEA 71 GARMIN	2.53 (1.15)	150.63 (3.826)
		- Integrated Avionics Unit # 1 GIA 63W GARMIN	7.21 (3.27)	149.37 (3.794)
		- Integrated Avionics Unit # 2 GIA 63W GARMIN	7.21 (3.27)	149.37 (3.794)
		- MFD remote controller GCU 475 GARMIN	0.82 (0.37)	157.83 (4.009)
A	0226-00A	G1000 Synthetic Vision System GARMIN	/	/
		34-31 - Marker		
S		MARKER antenna DM N27-3 DORNE & MARGOLIN	0.750 (0.340)	129.92 (3.300)
S		Receiver (integrated in the GMA 1347C dual audio systems : refer to ATA 23)	/	/

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		34-41 - Stormscope			
A	34056B	Stormscope WX 500, G1000 coupled :	BFG	4.94 (2.24)	232.28 (5.900)
		- Antenna NY163	BFG	0.84 (0.38)	311.02 (7.900)
		- Processor WX500	BFG	2.27 (1.03)	255.91 (6.500)
		34-42 - Weather radar			
A	0176-00C	Weather radar GWX 68	GARMIN	9.36 (4.25)	173.46 (4.406)
A	0394-34	Weather radar GWX 70	GARMIN	10.35 (4.47)	169.1 (4.295)
		34-43 - Radioaltimeter			
A	0270-34A	Radioaltimeter RA4500, G1000 coupled, of which :		2.500 (1.134)	220.47 (5.600)
		- Transceiver RA4500	FREEFLIGHT	1.900 (0.862)	228.82 (5.812)
		- Antennas S67-2002	SENSOR SYSTEMS	0.300 (0.136)	182.09 and 205.83 (4.625 and 5.228)
		34-44 - Traffic advisory system			
A	0176-00F	G1000 TAWS system	GARMIN	/	/
A	0258-00B	TAS system GTS 820, G1000 coupled, of which :	GARMIN	22.53 (10.220)	177.68 (4.513)
		- Processor GTS 820	GARMIN	9.92 (4.500)	143.11 (3.635)
		- Power amplifier/low noise amplifier GPA 65	GARMIN	1.90 (0.860)	221.42 (5.624)
		- Antenna GA 58 (above fuselage)	GARMIN	0.79 (0.360)	230.71 (5.860)
		- Antenna GA 58 (under fuselage)	GARMIN	0.79 (0.360)	260.63 (6.620)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		34-51 - NAV 1 installation		
S		VHF GS-NAV antenna DM N4-17N DORNE & MARGOLIN	3.307 (1.500)	401.57 (10.200)
S		Receiver (integrated in the GIA 63W Integrated Avionics Unit # 1 : refer to ATA 34-28)	/	/
		34-52 - NAV 2 installation		
S		Receiver (integrated in the GIA 63W Integrated Avionics Unit # 2 : refer to ATA 34-28)		
		34-53 - Transponder		
S	0176-00D	Transponder # 1 GTX 33D - Mode S diversity GARMIN	4.12 (1.87)	149.65 (3.801)
		+ Antenna KA 61 (under fuselage)	0.40 (0.18)	150.08 (3.812)
		+ Antenna KA 61 (above fuselage)	0.40 (0.18)	193.22 (4.908)
A	0176-00E	Transponder # 2 GTX 33 - Mode S non diversity GARMIN	3.87 (1.75)	149.65 (3.801)
		+ Antenna KA 61	0.40 (0.18)	193.22 (4.908)
A	0264-34	Transponder # 1 GTX 33D - Mode S diversity with extended squitter GARMIN	4.12 (1.87)	149.65 (3.801)
		+ Antenna KA 61 (under fuselage)	0.40 (0.18)	150.08 (3.812)
		+ Antenna KA 61 (above fuselage)	0.40 (0.18)	193.22 (4.908)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		34-54 - Automatic Direction Finder (ADF)			
A	0176-00H	ADF RA 3500 system, of which :	BECKER	7.61 (3.45)	214.65 (5.452)
		- Receiver RA3502 P/N 0505.757-912	BECKER	2.205 (1.000)	/
		- Antenna AN3500 P/N 0832.601-912	BECKER	3.594 (1.630)	/
		- RMI converter AC3504 P/N 0856.010-912	BECKER	1.323 (0.600)	/
		34-55 - DME installation			
A	34014E	DME KN63, G1000 coupled	HONEYWELL	2.80 (1.27)	232.28 (5.900)
		+ Antenna KA 61		0.40 (0.18)	238.82 (6.066)
		34-57 - Global Positioning System (GPS)			
S	0176-00A	GPS/WAAS Antenna GA 36	GARMIN	0.46 (0.21)	204.84 (5.203)
S	0176-00A	GPS/WAAS + XM Antenna GA 37	GARMIN	0.50 (0.23)	204.84 (5.203)
		34-62 - Multifunction display			
A	0176-00G	G1000 Chartwiew function	GARMIN	/	/

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		35 - OXYGEN		
S	0207-00	Gaseous oxygen system EROS/INTERTECHNIQUE	22.73 (10.310)	226.77 (5.760)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		37 - VACUUM			
S		Air ejector valve 19E17-5A	LUCAS	0.661 (0.300)	116.14 (2.950)
S		Regulator and relief valve 38E-96-2D	LUCAS	1.323 (0.600)	116.14 (2.950)
S		Vacuum relief valve 691-21A	LUCAS	0.331 (0.150)	139.76 (3.550)
S		Valve 557-18 E	LUCAS	0.353 (0.160)	118.11 (3.000)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		52 - DOORS			
A	52002A	”Pilot” door	SOCATA	44.092 (20.000)	171.26 (4.350)
O	0320-52	New ”Pilot” door	SOCATA	44.864 (20.350)	173.23 (4.400)
S	0342-52	Additional landing gear doors	SOCATA	6.613 (3.000)	204.33 (5.190)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		56 - WINDOWS		
S	56001A	Deiced R.H. windshield SPS	∆1.764 (∆ 0.800)	158.27 (4.020)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		57 - WINGS		
S	57001A	Utilization on runways covered with melting snow SOCATA	Δ- 7.716 (Δ- 3.500)	200.00 (5.080)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		61 - PROPELLER		
		61-10 - Propeller assembly		
S		Propeller (4-blade) HC-E4N.3 / E 9083 S (K) + spinner HARTZELL	154.76 (70.20)	43.11 (1.095)
A		Propeller (5-blade) HC-E5N-3C / NC 8834 K + spinner 104552P HARTZELL	171.08 (77.60)	43.11 (1.095)
		61-20 - Controls		
S		Propeller governor 8210.007 WOODWARD	2.646 (1.200)	59.06 (1.500)
R		Overspeed governor 1439230 JIHOSTROJ	2.535 (1.150)	59.06 (1.500)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		71 - POWER PLANT			
R		Turboprop engine PT6 A-66D	P & W CANADA	497.30 (226.00)	79.72 (2.025)
S		Silentblocks 95007-16	BARRY	2.92 (1.325)	79.72 (2.025)
S		Silentblocks 95007-19	BARRY	2.92 (1.325)	79.72 (2.025)
		71-60 - Air inlet			
R	0359-71	Inertial separator actuator JA23372-1000-2	BEAVER	2.156 (0.978)	62.99 (1.600)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		77 - ENGINE INDICATING		
R		Compressor turbine tacho-generator (Ng) MIL-G-26611C GEU-7/A AIRCRAFT APPLIANCES AND EQUI. LTD	0.981 (0.445)	108.27 (2.750)
R		Propeller turbine tacho-generator (Np) MIL-G-26611 GEU-7/A AIRCRAFT APPLIANCES AND EQUI. LTD	0.981 (0.445)	55.12 (1.400)
R		Torque transducer 8107.200.00.10 THALES	0.463 (0.210)	53.54 (1.360)
		77-12 - Fuel management		
S		Fuel flow transmitter 660 526A SHADIN	1.000 (0.454)	110.20 (2.799)

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		79 - LUBRICATION		
		79-20 - Distribution		
R		Oil cooler L8538233 LORI	10.472 (4.750)	90.55 (2.300)
		79-30 - Indicating		
R		Oil pressure transmitter 8107-400-00-10 SEXTANT	0.441 (0.200)	106.30 (2.700)
S	0169-79	Chip detection system (2 detectors) interfaced with G1000 system PWC	Neglig.	/

SECTION 9

SUPPLEMENTS

This section consists of a series of supplements, each covering a single system which may be installed in the TBM 900 airplane.

Each supplement contains a brief description, and when applicable, operating limitations, emergency and normal procedures, performance, weight and balance, handling, servicing and maintenance information. The supplements are arranged numerically (See "List of Supplements and Validities") to make it easier to locate a particular supplement.

Some installed items of optional equipment, whose function and operational procedures do not require detailed instructions, are discussed in Section 7.

Limitations contained in the following supplements are Airworthiness Authorities approved and adherence to these limitations is mandatory.

NOTE

The Supplement Section must include all the approved Supplements required for the optional equipment installed on the airplane.

LIST OF EFFECTIVE PAGES AND VALIDITIES

ORIGINAL ISSUE OF OCTOBER 31, 2013

From S / N 1000

P/N Z00.DMHFM0AEE3R1EN

Page No.	Edit./Rev. No.	Rev. Date	Page No.	Edit./Rev. No.	Rev. Date
9.A.A	3-1	FEB 14			
9.A.B	3-1	FEB 14			
9.A.C	3-1	FEB 14			
9.A.D	3-1	FEB 14			
9.A.1	3-1	FEB 14			
9.A.2	3-1	FEB 14			

LIST OF AMENDMENTS

Revision 1 dated February 2014

Pages	Description
All pages	Page heading change to introduce the TBM700 trade name associated to the airplane serial numbers concerning the content of this POH : ”TBM850” becomes ”TBM900”
9.A.1	Modification of ”Engine fire detection system” option number

LIST OF SUPPLEMENTS AND VALIDITIES

SUP No.	Description	OPT/MOD	Validity	Edition Date
A	General	/	From S/N 1000	31.10.13
6	”BFG” WX-500 stormscope	OPT70-34-056 WX-500	From S/N 1000	31.10.13
18	Engine fire detection system	OPT70-34-26-002F	From S/N 1000	31.10.13
47	”AIRBORNE” GWX 68 or GWX 70 color weather radar	MOD70-0176-00 Version C (GWX 68) MOD70-0394-34 (GWX 70)	From S/N 1000	31.10.13
49	”GARMIN” G1000 TAWS SYSTEM	MOD70-0176-00 Version F	From S/N 1000	31.10.13
50	”GARMIN” G1000 SYNTHETIC VISION SYSTEM	MOD70-0226-00	From S/N 1000	31.10.13
56	“GARMIN“ GSR 56 weather datalink and satellite phone	MOD70-0331-23	From S/N 1000	31.10.13
57	Public transportation for French-registered airplanes	MOD70-0352-11	From S/N 1000	31.10.13
58	Five-bladed propeller	MOD70-0345-61	From S/N 1000	31.10.13

SUPPLEMENT

"BFG" WX-500 STORMSCOPE

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option "”BFG” 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 ””BFG” WX-500 STORMSCOPE”.

The ”BFG” stormscope systems signal displays are not intended for the purpose of penetrating thunderstorm areas or areas of severe turbulence ; such intentional use is prohibited.

NOTE

Range selection determines receiver sensitivity and therefore relative range. Displayed range is based on signal strength and is not to be used for accurate determination of thunderstorm location.

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” G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 850, No. 190-00708-05, at their latest revision shall be readily available to the pilot, whenever the operation of the ”BFG” stormscope is predicted.

SECTION 3

EMERGENCY PROCEDURES

Installation and operation of ””BFG” 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 ”BFG” stormscope are outlined in the WX-500 Pilot's Guide, Series II, No. 009-11501-001 at its last revision for ”BFG” stormscope model WX-500.

SECTION 5

PERFORMANCE

Installation and operation of ””BFG” 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 ""BFG" WX-500 STORMSCOPE".

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
A		**34 - NAVIGATION**		
A	OPT70 34056C	Stormscope WX-500 - shared with the GARMIN G1000 system	4.94 (2.240)	232.28 (5.900)

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 ""BFG" WX-500 STORMSCOPE".

The "BFG" (Series II) stormscope, weather mapping system provides a visual screen readout of the electrical discharges associated with thunderstorms. This information with proper interpretation, will allow the pilot to detect severe thunderstorm activity. A series of green dots or of strike points will be displayed on the screen to indicate the electrical discharge areas.

Dots or strike points may be displayed on two selectable views : 360° view of surrounding airspace and 120° view of forward airspace only.

The display scope provides full scale selectable ranges of 200, 100, 50 and 25 NM.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Installation and operation of ""BFG" 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.

SUPPLEMENT

ENGINE FIRE DETECTION SYSTEM

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary 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, **"ITT"** CAS message, **"FIRE"** CAS message, smoke, ...

1 - Throttle . . . . **CUT OFF**

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

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

4 - Brakes . . . . **AS REQUIRED**

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

6 - Warn ground assistance, if necessary

7 - Crash lever . . . . **PULL DOWN**

8 - EVACUATE as soon as possible

ENGINE FIRE IN FLIGHT

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.

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" fuel switch . . . . OFF

3 - Tank selector . . . . OFF

4 - "BLEED" switch . . . . OFF/RST

5 - "A/C" switch . . . . OFF

6 - If necessary, ... Set oxygen mask

7 - If necessary, ... EMERGENCY DESCENT

8 - Perform a . . . . **FORCED LANDING** (ENGINE CUT OFF)

WARNING

AFTER ENGINE FIRE, DO NOT ATTEMPT AN AIR START

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

  "FIRE TEST" push-button . . . . DEPRESS

  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".

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		26 - FIRE PROTECTION		
A	26002F	Engine fire detection system L'HOTELLIER	1.455 (0.66)	96.06 (2.440)

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 G1000 system.

DETECTORS

The 7 detectors are secured on supports positioned in the most sensitive engine areas. They consist of thermal switches detecting a temperature greater than 200°C.

PUSH-BUTTON

The push-button enables the pilot to test the detection system by opening the grounding circuit. It is connected in series with the 7 detectors. The push-button is located on the L.H. side instrument panel near the "FIRE TEST" indication.

DISPLAY

Refer to the "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 850, No. 190-00708-05, 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

”GARMIN” GWX 68 OR GWX 70 COLOR WEATHER RADAR

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the airplane is equipped with the option "”GARMIN” GWX 68 OR GWX 70 COLOR WEATHER RADAR".

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” GWX 68 OR GWX 70 COLOR WEATHER RADAR”.

On ground, the radar radiation is inhibited, when the landing gear shock absorbers are compressed. However, it is important to obey the following restrictions :

- Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.

- Do not allow personel within 12 feet of area being scanned by antenna when system is transmitting.

The "GARMIN" G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 850 No. 190-00708-05 at its latest revision shall be readily available to the pilot whenever the operation of the radar 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” GWX 68 OR GWX 70 COLOR WEATHER RADAR”.

CAUTION

IN REVERSIONARY MODE, THE WEATHER RADAR SYSTEM AUTOMATICALLY SWITCHES TO STANDBY MODE. THE SYSTEM REMAINS IN STANDBY MODE UNTIL BOTH DISPLAYS ARE RESTORED.
IN REVERSIONARY MODE, THE WEATHER RADAR SYSTEM CANNOT BE CONTROLLED

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 ""GARMIN" GWX 68 OR GWX 70 COLOR WEATHER RADAR".

Normal operating procedures for "GARMIN" GWX 68 OR GWX 70 COLOR WEATHER RADAR are outlined in the Pilot's Guide, the references of which are given in Section 2 "Limitations" of this Supplement.

CAUTION

IN REVERSIONARY MODE, THE WEATHER RADAR SYSTEM AUTOMATICALLY SWITCHES TO STANDBY MODE. THE SYSTEM REMAINS IN STANDBY MODE UNTIL BOTH DISPLAYS ARE RESTORED.
IN REVERSIONARY MODE, THE WEATHER RADAR SYSTEM CANNOT BE CONTROLLED

AFTER STARTING ENGINE

- Radar Mode Softkey .... **STANDBY**
  (A one-minute warm up period is initiated. The count down is displayed on the screen)

AFTER TAKE OFF

- Radar Mode Softkey .... **As required**

BEFORE LANDING

- Radar Mode Softkey .... **STANDBY**

ENGINE SHUT-DOWN

- Radar Mode Softkey .... **OFF**

SECTION 5

PERFORMANCE

Installation of "GARMIN" GWX 68 OR GWX 70 COLOR WEATHER RADAR system results in a 5 KIAS decrease in maximum cruise performance and a 3 KIAS decrease in Long Range cruise performance described in Section 5 "Performance" of the basic Pilot's Operating Handbook or in any other applicable Section 5 "Performance" depending on installed option.

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” GWX 68 OR GWX 70 COLOR WEATHER RADAR”.

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT		WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION			
A	0176-00 Version C	Weather radar GWX 68	GARMIN	9.36 (4.246)	173.46 (4.406)
A	0394-34	Weather radar GWX 70	GARMIN	9.85 (4.468)	172.55 (4.383)

SECTION 7

DESCRIPTION

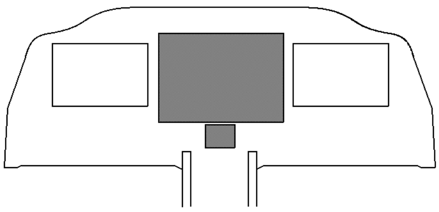
Information hereafter supplement or replace those of the standard airplane described in Section 7 ”Description” of the basic Pilot’s Operating Handbook when the TBM airplane is equipped with the option ””GARMIN” GWX 68 OR GWX 70 COLOR WEATHER RADAR”.

The weather information are displayed only on the MFD (GDU 1500).

The controls for the MFD are located on both the MFD bezel and the MFD control unit (keyboard GCU 475).

1) GDU 1500 MFD
2) Radar mode
3) Area of weather display
4) Antenna stabilization status
5) MFD bezels
6) GCU 475 MFD control unit
7) Changes radar range, TILT and bearing
8) Scale for weather display

Figure 9.47.1 (1/2) - GWX 68 or GWX 70 weather radar display and controls



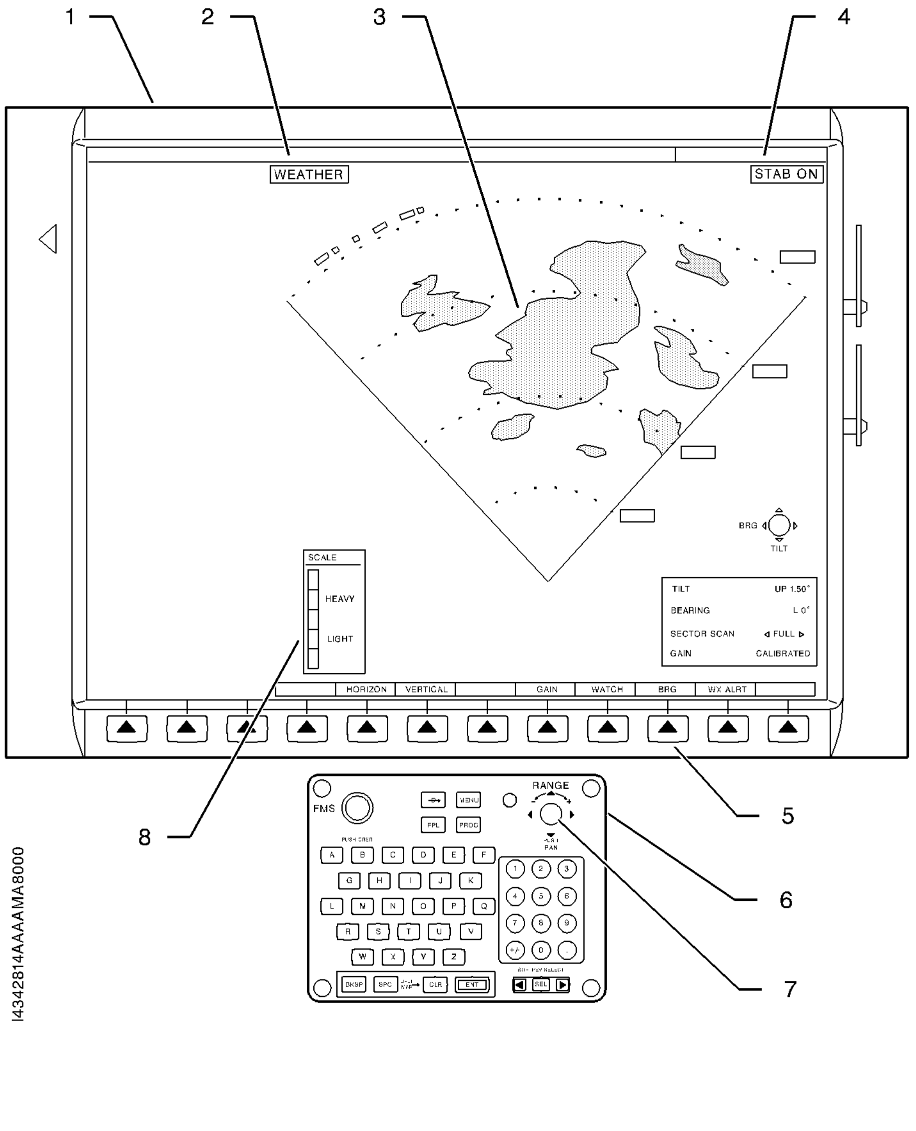


Figure 9.47.1 (2/2) - GWX 68 or GWX 70 weather radar display and controls

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Installation and operation of ””GARMIN” GWX 68 OR GWX 70 COLOR WEATHER RADAR” 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" G1000 TAWS SYSTEM

TABLE OF CONTENTS

Page

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” G1000 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” G1000 TAWS SYSTEM”.

The G1000 TAWS function provides terrain proximity alerting and detection to the pilot. It must not be used for airplane vertical and horizontal navigation.

<u>AC 2318 recommendation</u> : 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 following document or any further edition applicable to the latter, shall be readily available to the pilot, whenever the operation of TAWS system is predicted:

- ”GARMIN” G1000 Integrated Flight Deck Cockpit Reference Guide for the Socata TBM 850 No. 190-00708-05.

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” G1000 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" G1000 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" G1000 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" G1000 TAWS SYSTEM".

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION		
A	0176-00 Version F	G1000 TAWS system GARMIN	/	/

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" G1000 TAWS SYSTEM".

The G1000 TAWS function has 7 modes.

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.

Phase of flight	Minimum Clearance Altitude Level Flight (ft)	Minimum Clearance Altitude Descending (ft)
Enroute	700	500
Terminal	350	300
Approach	150	100
Departure	100	100

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.

Alert Type	PFD/MFD TAWS Page Annunciation	MFD Map Page Pop-Up Alert	Aural Message
Reduced Required Terrain Clearance Warning (RTC) (Red)	PULL UP	TERRAIN - PULL-UP	"Terrain, Terrain ; Pull up, Pull up"
Imminent Terrain Impact Warning (ITI) (Red)	PULL UP	TERRAIN AHEAD - PULL-UP	"Terrain Ahead, Pull up ; Terrain Ahead, Pull up"
Reduced Required Obstacle Clearance Warning (ROC) (Red)	PULL UP	OBSTACLE - PULL-UP	"Obstacle, Obstacle ; Pull up, Pull up"
Imminent Obstacle Impact Warning (IOI) (Red)	PULL UP	OBSTACLE AHEAD - PULL-UP	"Obstacle Ahead, Pull up ; Obstacle Ahead, Pull up"
Reduced Required Terrain Clearance Caution (RTC) (Amber)	TERRAIN	CAUTION - TERRAIN	"Caution, Terrain ; Caution, Terrain"
Imminent Terrain Impact Caution (ITI) (Amber)	TERRAIN	TERRAIN AHEAD	"Terrain Ahead ; Terrain Ahead"
Reduced Required Obstacle Clearance Caution (ROC) (Amber)	TERRAIN	CAUTION - OBSTACLE	"Caution, Obstacle ; Caution, Obstacle"
Imminent Obstacle Impact Caution (IOI) (Amber)	TERRAIN	OBSTACLE AHEAD	"Obstacle Ahead ; Obstacle Ahead"

Table 9.49.2 - FLTA alerts

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.

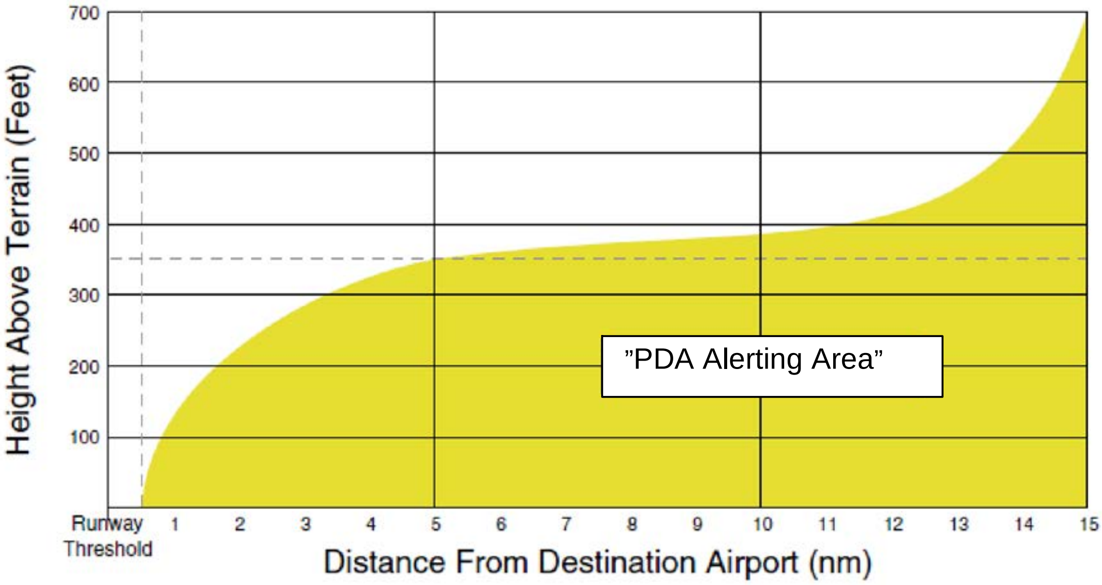


Figure 9.49.1 - PDA alerting threshold

The aural/displayed messages associated with the PDA function are described in the table 9.49.3.

Alert Type	PFD/MFD TAWS Page Annunciation	MFD Map Page Pop-Up Alert	Aural Message
Premature Descent Alert Caution (PDA) (Amber)	TERRAIN	TOO LOW - TERRAIN	"Too low, Terrain"

Table 9.49.3 - PDA alerts

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.

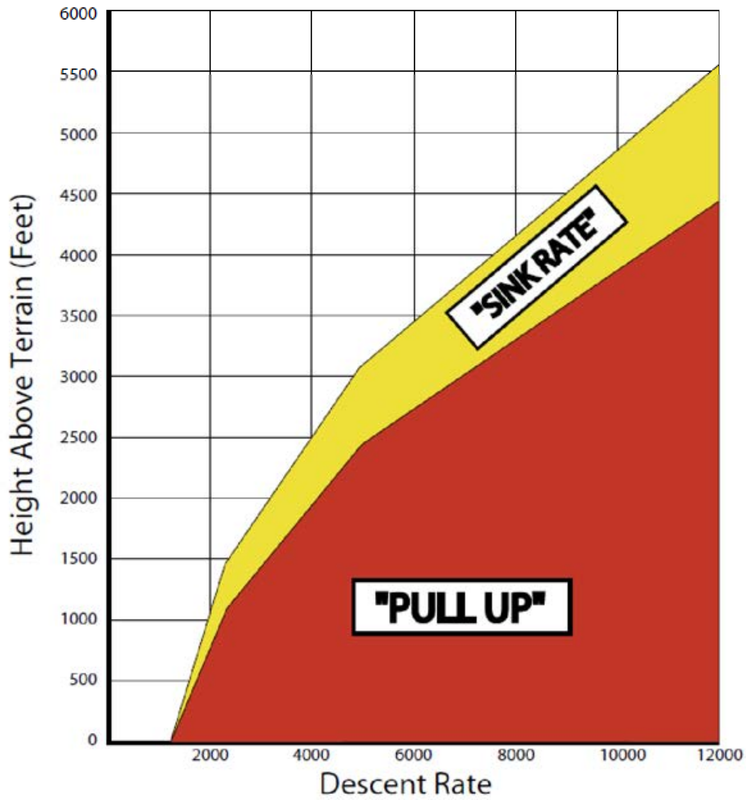


Figure 9.49.2 - Excessive Descent Rate Alert Criteria

The aural/displayed messages associated with the EDR function are described in the table 9.49.4.

Alert Type	PFD/MFD TAWS Page Annunciation	MFD Map Page Pop-Up Alert	Aural Message
Excessive Descent Rate Warning (EDR) (Red)	PULL UP	PULL-UP	"Pull up"
Excessive Descent Rate Caution (EDR) (Amber)	TERRAIN	SINK RATE	"Sink rate"

Table 9.49.4 - EDR alerts

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 display. 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 2 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.

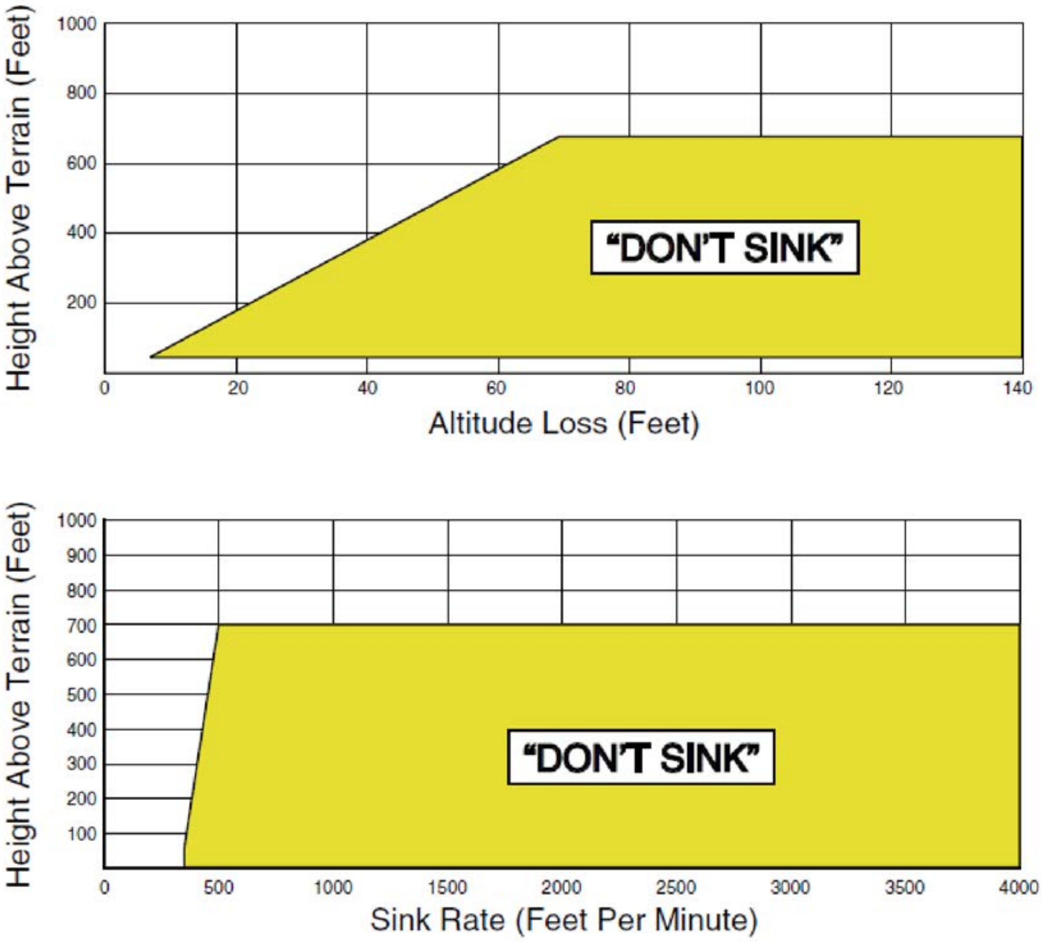


Figure 9.49.3 - Negative Climb Rate (NCR) Alert Criteria

The aural/displayed messages associated with the NCR function are described in the table 9.49.5.

Alert Type	PFD/MFD TAWS Page Annunciation	MFD Map Page Pop-Up Alert	Aural Message
Negative Climb Rate Caution (NCR) (Amber)	TERRAIN	DON'T SINK	”Don't sink”

Table 9.49.5 - NCR alerts

”FIVE-HUNDRED” AURAL ALERT

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.

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.

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” G1000 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.

SUPPLEMENT

"GARMIN" G1000 SYNTHETIC VISION SYSTEM

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option "”GARMIN” G1000 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” G1000 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 :

- ”GARMIN” G1000 Integrated Flight Deck Pilot’s Guide for the Socata TBM 850, No. 190-00709-05.

The use of the Synthetic Vision system display elements alone for aircraft control without reference to the G1000 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 aircraft 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” G1000 SYNTHETIC VISION SYSTEM”.

INCONSISTENT DISPLAY BETWEEN SVS

AND

G1000 PRIMARY FLIGHT INSTRUMENTS

- “PFD” key .... **Press**
- “SYN VIS” key .... **Press**
- “SYN TERR” key .... **Press**
- SVS is removed from the PFD .... **Verify**

Use G1000 primary displays for navigation and aircraft 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” G1000 SYNTHETIC VISION SYSTEM”.

CAUTION

SVS INFORMATION IS NOT A SUBSITUTE 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 (1/2)

1 - If SVS is desired :

. “PFD” key .... **Press**

. “SYN VIS” key .... **Press**

. “SYN TERR” key .... **Press**

. The synthetic vision system will cycle on or off with each press of the “SYN TERR” key. The Flight Path Marker is displayed anytime “SYN TERR” is selected for display.

SVS ACTIVATION (2/2)

(a) If Pathway is desired :

- “PATHWAY” key .... **Press**

The Pathway display will cycle on or off with each press of the “PATHWAY” key. The Pathway can be displayed separately or in conjunction with the flight director.

NOTE

The utilization of the PATHWAYS is bound by limitations mentioned in Section 2 of this Supplement.

(b) If Horizon Heading is desired :

- - “HRZN HDG” key .... **Press**

The horizon heading display will cycle on or off with each press of the “HRZN HDG” key.

(c) If Airport Signs are desired :

- “APTSIGNS” key .... **Press**

The airport signs display will cycle on or off with each press of the “APTSIGNS” key.

NOTE

For PATHWAY, HRZN HDG and APTSIGNS : “SYN TERR” must be activated first.

When display backup mode is selected, the display of the SVS is active within 1 minute after SVS selection.

SECTION 5
PERFORMANCE

Installation and operation of ””GARMIN” G1000 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” G1000 SYNTHETIC VISION SYSTEM”.

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		34 - NAVIGATION		
A	0226-00	G1000 Synthetic Vision System GARMIN	/	/

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" G1000 SYNTHETIC VISION SYSTEM".

SVS provides additional features on the G1000 primary flight display (PFD) which display the following information :

- **Synthetic Terrain** : an artificial, database derived, three dimensional view of the terrain ahead of the aircraft within a field of view of approximately 30 degrees left and 35 degrees right of the aircraft heading. The terrain data has a resolution of 9 arc seconds.
- **Obstacles** : obstacles such as towers, including buildings over 200 AGL that are within the depicted synthetic terrain field of view.
- **Flight Path Marker (FPM)** : an indication of the current lateral and vertical path of the aircraft. The FPM is always displayed when synthetic terrain is selected for display.
- **Pathway** : a pilot selectable three dimensional representation of the programmed flight plan path that can be selected for display alone or with the flight director anytime synthetic terrain is selected for display.
- **Traffic** : a display on the PFD indicating the position of other aircraft detected by the Traffic Information System (TIS) component of the G1000 system.
- **Horizon Line** : a white line indicating the true horizon is always displayed on the SVS display.
- **Horizon Heading** : a pilot selectable display of heading marks displayed just above the horizon line on the PFD.
- **Airport Signs** : pilot selectable "signposts" displayed on the synthetic terrain display indicating the position of nearby airports that are in the G1000 database.
- **Runway Highlight** : a highlighted presentation of the location and orientation of the runway(s) at the departure and destination airports.

Use of Pathway

If Synthetic Terrain is displayed on the PFD, the Pathway may be used to assist the pilot's awareness of the programmed lateral and vertical navigation path. The following sections describe the basic use of the Pathway in various flight segments. For more detailed information, consult the G1000 Pilot's Guide.

- **Departure**

  Prior to departure, load and activate the desired flight plan into the G1000 FMS, set the initial altitude on the G1000 altitude selector and select GPS on the HSI display just as you would without the SVS system.

  The programmed flight path will be displayed as a series of magenta boxes along the path at the flight plan altitude subject to the following conditions :

  - If the first segment of the flight plan is a heading to altitude leg, the Pathway will not be displayed for that segment. The first Pathway segment displayed will be the first GPS course leg.
  - The Pathway must be within the SVS field of view of 30 degrees left and 35 degrees right. If the programmed path is outside that field of view, the Pathway will not be visible on the display until the aircraft has turned toward the course.
  - The Pathway will be displayed at either the altitude selected on the G1000 selector OR the altitude published for the procedure (e.g. SID) WHICHEVER IS HIGHER.

After departure, the primary aircraft control must be by reference to the primary aircraft instruments. The SVS and Pathway displays should be used to aid in awareness of the terrain and programmed flight path.

Prior to intercepting the programmed course, the Pathway will be displayed as a series of magenta "boxes" with pointers at each corner that point in the direction of the programmed course. The Pathway boxes will not be displayed on portions of the course line that would lead the pilot to intercept the course in the wrong direction.

As the aircraft approaches the center of the programmed course and altitude, the number of Pathway boxes will decrease to a minimum of four.

- **Enroute**

When enroute, the Pathway will be displayed along the lateral path defined by the flight plan, at the altitude selected on the G1000 altitude selector.

Flight plan changes in altitude that require a climb will be indicated by the Pathway being displayed as a level path at the altitude entered for the current flight plan leg. Because the G1000 system does not have information available to it about aircraft performance, climb profiles are not displayed by the Pathway.

If the programmed flight plan includes one or more defined VNAV descent segments, the descent path(s) will be displayed by the Pathway as prompted by the G1000 FMS.

If the flight plan includes a significant change in course at a waypoint, the Pathway boxes toward the currently active waypoint will be magenta in color. The boxes defining the next flight plan segment may be visible, but will be displayed in a white color.

- **Approach**

During approach, the SVS and Pathway displays should only be used to maintain awareness with regard to the surrounding terrain and the programmed flight path. Primary aircraft control must be accomplished by reference to the primary flight instruments and, if desired, the flight director.

- **GPS approach**

During a GPS approach, the lateral path and altitude will be displayed by the Pathway in magenta along each segment including the path required to track course reversals that are part of the approach procedure (such as a holding pattern). Approach descent segments will be displayed by the Pathway as published in the approach procedure.

If Vectors-To-Final is selected as the approach transition, the Pathway will display the final approach course inbound to the Missed Approach Point (MAP). The Pathway will be shown level at the altitude set in the G1000 altitude selector, or the Final Approach Fix (FAF) crossing altitude (whichever is higher), up to the point along the final approach course where that altitude intercepts the extended VPTH or GP. If the altitude selector indicates an altitude below the airplane's current altitude, the Pathway will appear below the airplane altitude and the pilot must use normal descent techniques to intercept the VPTH or GP.

If the altitude selector is left at an altitude above the current airplane altitude, the airplane will intercept the final approach course below the extended VPTH or GP, such that the Pathway will be displayed above the airplane until the aircraft intercepts the VPTH or GP. From the VPTH or GP intercept point, the pathway will be shown inbound to the MAP along the published lateral and vertical descent path.

- **ILS approach**

When an ILS approach is programmed into the G1000 FMS, the initial approach segments will be displayed by the Pathway in magenta at the procedure segment altitudes if they are being flown by reference to a GPS path. When the G1000 system switches to the localizer inbound to the final approach fix, the Pathway will be displayed along the localizer inbound path and glideslope in green.

If Vectors-To-Final is selected as the approach transition, the Pathway will display the final approach course inbound to the Missed Approach Point (MAP). The Pathway will be shown level at the altitude set in the G1000 altitude selector, or the Final Approach Fix (FAF) crossing altitude (whichever is higher), up to the point along the final approach course where that altitude intercepts the extended GS. If the altitude selector indicates an altitude below the airplane's current altitude, the Pathway will appear below the airplane altitude and the pilot must use normal descent techniques to intercept the GS. If the altitude selector is left at an altitude above the current airplane altitude, the airplane will intercept the final approach course below the extended GS, such that the Pathway will be displayed above the airplane until the aircraft intercepts the GS. From the GS intercept point, the pathway will be shown inbound to the MAP along the published localizer and glideslope.

- **VOR, LOC BC or other approach**

  Approach segments for a VOR, LOC BC, ADF or other approach that are approved to be flown by reference to GPS will be displayed by the Pathway in a magenta color. Approach segments that are defined by other than a GPS or ILS, such as heading legs or VOR defined final approach course, will not be displayed by the Pathway.

- **Missed approach**

  When the missed approach is selected on the G1000 FMS, the Pathway to the Missed Approach Holding Point will be displayed just as described for the departure segment.

  The pilot must assure that the aircraft path will, at all times, comply with the requirements of the published missed approach procedure.

  If the initial missed approach leg is heading-to-altitude or a leg defined by other than a GPS course, the Pathway will not be displayed for that segment.

  If the course to the Missed Approach Holding Point is out of the SVS field of view during the initial missed approach climb, the Pathway will not be visible on the PFD until the aircraft is turned toward the course.

  The Pathway will be displayed at the published missed approach altitude OR the altitude set on the G1000 altitude selector WHICHEVER IS HIGHER. If the G1000 altitude selector is set to MDA on the final approach segment and not reset during the initial missed approach, the Pathway will still be displayed at the published missed approach altitude.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Installation and operation of ""GARMIN" G1000 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

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the 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".

<u>SATELLITE PHONE functions</u>

- 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

<u>WEATHER DATALINK functions</u>

- The GSR 56 weather datalink is only an advisory weather source, it does not relieve the pilot to comply with the applicable operational regulation in terms of flight preparation especially with regard to the use of an approved weather and NOTAM sources during flight planning.

The "GARMIN" G1000 Integrated Flight Deck Pilot's Guide for the Socata TBM 850, No. 190-00709-05 at its latest revision shall be readily available to the pilot whenever the operation of the GSR 56 weather datalink and satellite phone system is predicted.

<u>INTERNATIONAL TELECOMMUNICATION REGULATION</u>

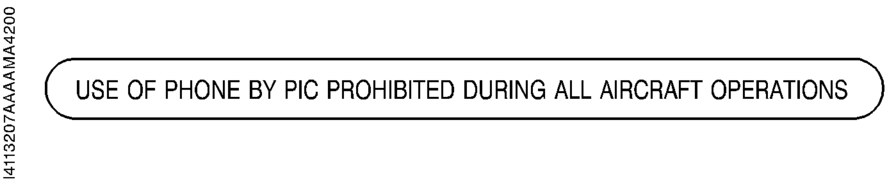
The GSR 56 is a telecommunication device approved under FCC ID Q639522B and registered by the ITU (International Telecommunication Union) for international use according to the GMPCS-MoU.

The receiver transmitter RF module embedded in the GSR 56 is a 9522 B manufactured by Iridium Satellite LLC.

Terms of use are subject to changes and are available from the ITU website.

2.1 - PLACARDS

Under L.H. front side window, under instruction plate



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.

BEFORE STARTING ENGINE

On L.H. GMA 1347 audio panel

1 - "TEL" button . . . . **OFF**

BEFORE STARTING A PHONE CALL IN FLIGHT

On L.H. GMA 1347 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 1347 audio panel

4 - "TEL" button . . . . **ON**

If passengers intend to take part into a phone call :

5 - "CABIN" button . . . . **ON**

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”.

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		23- COMMUNICATIONS		
A	0331-23	Weather datalink and satellite GARMIN phone system GSR 56 coupled with "GARMIN" G1000 system	3.82 (1.736)	58.03 (1.474)

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 "GARMIN" G1000 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 (GDU 1500) maps and on the PFD (GDU 1040) inset map.

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.

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 G1000 system when a new message has been left on the GSR 56 voice mail.

The controls for the MFD are located on both the MFD bezel and the MFD control unit (keyboard GCU 475).

The telephone audio including the incoming call ringing is controlled by the TEL button on the GMA 1347 audio panels 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

PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES

TABLE OF CONTENTS

SECTION 1
GENERAL

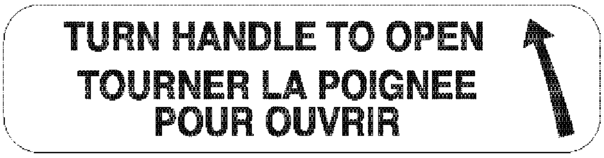
This supplement supplies information necessary for the operation of the TBM airplane when used for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES".

SECTION 2
LIMITATIONS

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 used for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES".

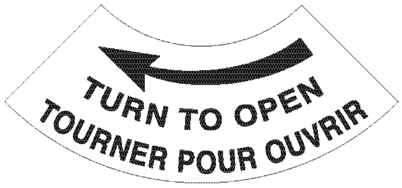
2.9 - PLACARDS

(1) On access door - Internal side

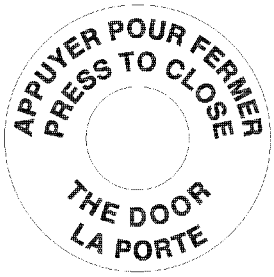


(2) On access door - External side

(3) On "pilot" door - External side (if installed)



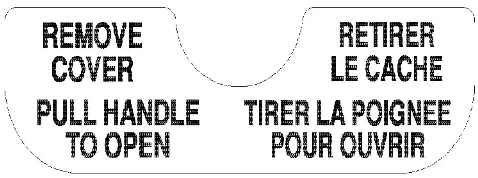
(4) On outer fuselage skin aft of access door and in the cabin, forward of access door



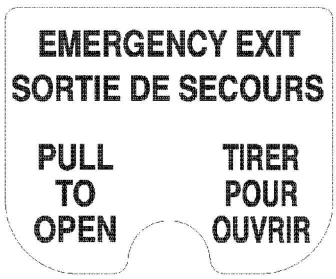
(5) On emergency exit handle - Internal side

Marking on cover

Marking on handle



(6) On emergency exit handle - External side



(7) On R.H. access door jamb

NE PAS UTILISER
LA RAMPE
POUR RENTRER
OU ESCAMOTER
L'ESCALIER

(8) On last step of stairs

CHARGE MAXI SUR ESCALIER : UNE PERSONNE

(9) On rear passengers masks containers

OXYGEN MASKS INSIDE	MASQUES A OXYGENE A L'INTERIEUR
PULL MASKS FOR OXYGEN SUPPLY	TIRER SUR LES MASQUES POUR OBTENIR DE L'OXYGENE

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

WARNING	ATTENTION
GREASY SUBSTANCES ARE CAPABLE OF SPONTANEOUS COMBUSTION ON CONTACT WITH OXYGEN	LES SUBSTANCES GRAISSEUSES PEUVENT S'ENFLAMMER SPONTANEMENT AU CONTACT DE L'OXYGENE
DO NOT SMOKE WHILE OXYGEN IS IN USE	NE PAS FUMER LORSQU'ON UTILISE L'OXYGENE

(11) Under window, at L.H. intermediate seat

(12) On rear passenger's table edge

LA TABLETTE DOIT ETRE RABATTUE LORS DU DECOLLAGE ET DE L'ATTERRISSAGE

(13) On the chemical toilet cabinet curtain (if installed)

LE RIDEAU DOIT ETRE RANGE LORS DU DECOLLAGE ET DE L'ATTERRISSAGE

SECTION 3
EMERGENCY PROCEDURES

Use of TBM 850 airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic emergency procedures of the airplane described in Section 3 "Emergency procedures" of the basic Pilot's Operating Handbook.

SECTION 4
NORMAL PROCEDURES

Use of TBM 850 airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic normal procedures of the airplane described in Section 4 ”Normal procedures" of the basic Pilot's Operating Handbook.

SECTION 5
PERFORMANCE

Use of TBM 850 airplane for “PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES” does not change the basic performance of the airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook.

SECTION 6

WEIGHT AND BALANCE

Use of TBM 850 airplane for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES" does not change the weight and balance of the airplane described in Section 6 "Weight and balance" of the basic Pilot's Operating Handbook.

SECTION 7

DESCRIPTION

Use of TBM 850 airplane for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES" does not change the description of the airplane described in Section 7 "Description" of the basic Pilot's Operating Handbook.

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Use of TBM 850 airplane for "PUBLIC TRANSPORTATION FOR FRENCH-REGISTERED AIRPLANES" does 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

FIVE-BLADED PROPELLER

TABLE OF CONTENTS

SECTION 1

GENERAL

This supplement is intended to inform the pilot about the equipment limitations, description and operations necessary for operation when the TBM airplane is equipped with the option "FIVE-BLADED PROPELLER".

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 "FIVE-BLADED PROPELLER".

1.3 - DESCRIPTIVE DATA

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

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

Number of blades : 5

Propeller diameter :

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

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

Propeller blade setting at 30 inches station

Low pitch : 19.5°
Feathering : 85°
Maximum reverse : - 9°

Propeller governor : 8210.007 WOODWARD

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 "FIVE-BLADED PROPELLER".

2.3 - POWER LIMITATIONS

PROPELLER

Number of propellers : 1

Propeller manufacturer : HARTZELL

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

Propeller diameter :

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

Propeller blade setting at 30 inches station :

- Low pitch : 19.5°
- Feathering : 85°
- Maximum reverse : - 9°

SECTION 3
EMERGENGY PROCEDURES

Installation and operation of "FIVE-BLADED PROPELLER" 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 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 "FIVE-BLADED PROPELLER".

4.3 - CHECK-LIST PROCEDURES

PREFLIGHT INSPECTION

CAUTION

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

LANDING

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A MORE PRONONCED DECELERATION THAN WITH THE 4 BLADES PROPELLER, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

TOUCH AND GO

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A MORE PRONONCED DECELERATION THAN WITH THE 4 BLADES PROPELLER, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

4.4 - AMPLIFIED PROCEDURES

PREFLIGHT INSPECTION

CAUTION

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

LANDING

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A MORE PRONONCED DECELERATION THAN WITH THE 4 BLADES PROPELLER, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

TOUCH AND GO

WARNING

QUICKLY REDUCING THE POWER TO IDLE DURING THE FLARE MAY INDUCE A MORE PRONONCED DECELERATION THAN WITH THE 4 BLADES PROPELLER, WHICH MAY LEAD TO A DROP DOWN OF THE AIRCRAFT. REDUCE POWER SMOOTHLY.

4.5 - PARTICULAR PROCEDURES

CAUTION

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

SECTION 5

PERFORMANCE

The performance hereafter supplement or replace those of standard airplane described in Section 5 "Performance" of the basic Pilot's Operating Handbook when the airplane is equipped with the option "FIVE-BLADED PROPELLER".

5.2 - NOISE LEVEL

	Maximum noise level permissible	Demonstrated noise level
FAR PART 36, Appendix G - Amdt 28	88 dB(A)	76.4 dB(A)
ICAO, Annex 16, Vol. 1, 6th edition, Amdt 8 Chapter 10, Appendix 6	85 dB(A)	76.4 dB(A)

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.***

5.8 - 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 0719.10 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 = 82 % 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 = 96 % (cf. tables Figures 5.8.2 and 5.8.2A)

Recommended cruise power :

TRQ = 91 % (cf. tables Figures 5.8.3 and 5.8.3A)

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.**

ENGINE OPERATION

Conditions :

Maximum climb power (FL ≤ 200) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- IAS = 124 KIAS - "BLEED" switch on "AUTO"

<u>NOTE</u> : ***Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22		**TRQ = 100 %**									
-20											
-18											
-16											
-14											
-12											100
-10											99
-8											97
-6										100	95
-4										98	94
-2									100	97	92
+0									99	94	90
+2								100	97	92	87
+4								99	94	89	84
+6							100	96	91	86	81
+8							99	93	88	84	79
+10						100	96	91	86	81	77
+12						98	93	88	83	79	74
+14					100	96	90	85	81	76	71
+16				100	97	93	87	83	78	73	
+18				99	94	90	85	80	75		
+20			100	96	91	87	82	77			
+22			98	93	88	84	79				
+24		100	95	90	85	81					
+26	100	97	92	87	83						
+28	98	93	89	84							
+30	95	90	86								
+32	92	87									
+34	89										

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.1 - ENGINE OPERATION
[Maximum climb power (FL ≤ 200)]

ENGINE OPERATION

Conditions :

Maximum climb power (FL ≥ 200) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- IAS = 124 KIAS - "BLEED" switch on "AUTO"

NOTE : ***Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68									99	95	90	86
-66									98	94	89	85
-64		TRQ = 100 %							97	93	88	84
-62									96	92	87	83
-60								100	95	91	86	82
-58								99	94	90	85	81
-56								98	93	89	84	80
-54								97	92	88	84	80
-52							100	96	91	87	83	79
-50							99	94	90	86	82	78
-48							98	93	89	85	81	77
-46							97	92	88	84	80	76
-44						100	96	91	87	83	79	76
-42						99	95	90	86	82	78	74
-40						98	94	89	85	81	77	73
-38						97	92	88	84	80	76	72
-36					100	96	91	87	83	79	75	71
-34					98	94	90	86	81	77	74	70
-32					97	93	89	84	80	76	72	69
-30				100	96	92	87	83	79	75	71	68
-28				99	95	91	86	82	78	74	70	67
-26				97	93	89	85	81	77	73	69	65
-24			100	96	92	88	84	79	75	72	68	64
-22			99	95	91	87	82	78	74	70	66	63
-20			98	94	89	85	81	77	73	69	65	61
-18		100	96	92	88	84	80	76	71	67	63	59
-16		99	95	91	87	82	78	74	70	65	61	58
-14		98	93	89	85	81	76	72	68	64	60	56
-12	100	96	92	88	84	79	74	70	66	62	58	54
-10	99	95	90	86	81	77	73	68	64	60	56	52
-8	97	93	88	84	80	75	71	66	62	58	54	50
-6	95	91	87	82	78	73	69	64	60	56	52	
-4	94	89	84	80	76	71	66	62	58	54		
-2	92	87	82	78	73	69	64	60	56			
+0	90	84	80	75	70	66	62	58				
+2	87	82	77	73	68	64	60					
+4	84	79	75	70	66	62						
+6	81	77	73	68	64							
+8	79	75	70	66								
+10	77	72	68									
+12	74	69										
+14	71											

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.1A - ENGINE OPERATION
[Maximum climb power (FL ≥ 200)]

ENGINE OPERATION

Conditions :

Maximum climb power (FL ≤ 200) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- IAS = 170 KIAS (M 0.40) - "BLEED" switch on "AUTO"

NOTE : ***Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22		TRQ = 100 %									
-20											
-18											
-16											
-14											
-12											
-10											
-8											100
-6											99
-4											97
-2										100	94
0									100	97	91
2									99	94	89
4								100	96	91	86
6								98	93	89	84
8							100	96	91	86	81
10							98	93	88	83	78
12						100	95	90	85	80	76
14					100	97	92	87	82	78	73
16					99	94	89	84	80	75	
18				100	96	91	86	81	77		
20				98	93	88	84	79			
22			100	95	90	85	81				
24		100	97	92	87	83					
26		98	94	89	84						
28	100	95	91	86							
30	97	92	88								
32	94	89									
34	91										

CAUTION

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.2 - ENGINE OPERATION
[Maximum climb power (FL ≤ 200)]

ENGINE OPERATION

Conditions :

Maximum climb power (FL ≤ 200) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- IAS = 170 KIAS (M 0.40) - "BLEED" switch on "AUTO"

<u>NOTE</u> : ***Add 0.5 % of TRQ for each additional 10 KIAS on climb airspeed.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68										98	93	88
-66										97	92	87
-64		TRQ = 100 %								96	91	86
-62									100	95	90	85
-60									99	94	89	84
-58									98	93	88	83
-56									97	92	87	82
-54								100	95	91	86	82
-52								99	94	89	85	81
-50								98	93	88	84	80
-48								97	92	88	83	79
-46							100	96	91	87	82	78
-44							99	95	90	85	81	77
-42							98	93	89	84	80	76
-40							97	92	87	83	79	75
-38						100	96	91	86	82	78	74
-36						99	94	90	85	81	77	72
-34						98	93	88	84	80	75	71
-32						96	92	87	83	78	74	70
-30					100	95	90	86	81	77	73	69
-28					98	94	89	85	80	76	72	68
-26					97	93	88	83	79	75	71	67
-24				100	96	91	87	82	78	74	70	65
-22				99	95	90	85	81	76	72	68	64
-20				98	93	89	84	79	75	71	66	62
-18			100	96	92	87	82	78	73	69	64	60
-16			99	95	90	85	81	76	71	67	63	59
-14			97	93	88	84	79	74	70	65	61	56
-12		100	95	91	86	82	77	72	68	63	59	54
-10		98	94	89	84	80	75	70	65	61	57	53
-8	100	96	92	87	82	78	72	67	63	59	55	51
-6	99	94	90	85	80	75	70	65	61	57	53	
-4	97	92	87	82	77	73	68	63	59	55		
-2	94	89	84	80	75	70	66	61	57			
0	91	87	82	77	73	68	64	59				
2	89	84	80	75	71	66	61					
4	86	82	77	73	68	64						
6	84	79	75	70	66							
8	81	77	72	68								
10	78	74	70									
12	76	71										
14	73											

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.2A - ENGINE OPERATION
[Maximum climb power (FL ≥ 200)]

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.***
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22											
-20		**TRQ = 100 %**									
-18											
-16											
-14											
-12											
-10											
-8											
-6											
-4											
-2											
+0											
+2											100
+4											97
+6										100	94
+8										97	91
+10									100	94	88
+12								100	96	91	86
+14								98	93	88	83
+16							100	96	90	85	
+18							98	93	87		
+20						100	95	90			
+22						97	92				
+24					100	94					
+26				100	96						
+28				98							
+30			100								
+32		100									
+34	100										

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

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

NOTE : *Use preferably recommended cruise power.*
This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.

T° (°C)	FLIGHT LEVEL (FL)										
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-64												
-62												100
-60		TRQ = 100 %										99
-58												97
-56												96
-54											100	95
-52											98	93
-50											97	92
-48										100	96	91
-46										99	94	89
-44										98	93	88
-42										96	91	86
-40									100	95	90	85
-38									98	93	88	84
-36									97	92	87	82
-34								100	95	90	85	81
-32								99	94	89	84	79
-30								97	92	87	83	78
-28								96	91	86	81	77
-26							100	94	89	84	80	75
-24							98	93	88	83	78	73
-22							96	91	86	81	76	71
-20						100	95	89	84	79	74	69
-18						98	93	87	82	77	72	67
-16					100	96	91	85	80	75	70	66
-14					99	94	88	83	78	73	68	63
-12					97	92	86	81	76	71	66	61
-10				100	95	89	84	79	73	68	63	59
-8				98	92	87	81	76	71	66	61	57
-6			100	95	89	84	79	73	68	64	59	
-4			98	92	87	81	76	71	66	62		
-2		100	95	89	84	79	74	69	64			
+0		97	92	86	81	76	72	67				
+2	100	94	89	84	79	74	69					
+4	97	92	87	81	76	72						
+6	94	89	84	79	74							
+8	91	86	81	76								
+10	88	83	78									
+12	86	80										
+14	83											

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) ☐ ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

<u>NOTE</u> : ***This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.***

T° (°C)	FLIGHT LEVEL (FL)										
OAT	100	110	120	130	140	150	160	170	180	190	200
-24											
-22											
-20		**TRQ = 100 %**									
-18											
-16											
-14											
-12											
-10											
-8											
-6											
-4											100
-2											98
+0										100	95
+2										98	93
+4									100	95	90
+6									98	92	87
+8								100	94	89	84
+10							100	97	91	86	81
+12							99	94	88	83	78
+14						100	96	91	85	80	76
+16						98	93	88	83	78	
+18					100	95	90	85	80		
+20				100	97	92	87	82			
+22				99	94	89	84				
+24			100	96	91	86					
+26		100	98	92	88						
+28		99	94	89							
+30	100	96	91								
+32	98	93									
+34	95										

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

Figure 5.8.4 - ENGINE OPERATION
[Normal (recommended) cruise power (FL ≤ 200)]

ENGINE OPERATION

Conditions :

Normal (recommended) cruise power (FL ≥ 200) ISA

If "BLEED HI" MSG ON, reduce TRQ by 5 %

- Landing gear and flaps UP
- "BLEED" switch on "AUTO"

<u>NOTE</u> : ***This table is not valid if INERTIAL SEPARATOR ON and/or "BLEED HI" MSG ON.***

T° (°C)	FLIGHT LEVEL (FL)											
OAT	200	210	220	230	240	250	260	270	280	290	300	310
-68												
-66												100
-64		**TRQ = 100 %**										98
-62												97
-60											100	95
-58											99	94
-56											97	92
-54										100	95	91
-52										99	94	89
-50										97	92	88
-48									100	96	91	86
-46									99	94	90	85
-44									98	93	88	83
-42									96	91	86	82
-40								100	95	90	85	81
-38								98	93	89	84	79
-36								97	92	87	82	78
-34							100	95	91	86	81	77
-32							99	94	89	84	80	75
-30							98	93	88	83	78	74
-28							96	91	86	81	77	72
-26						100	95	90	85	80	75	71
-24						98	93	88	83	78	73	69
-22					100	96	91	86	81	76	71	67
-20					99	94	89	84	79	74	69	65
-18					97	92	87	82	77	72	67	63
-16				100	95	90	85	80	75	70	65	60
-14				98	93	88	83	78	72	67	62	58
-12			100	96	91	86	80	75	70	65	60	56
-10			99	94	88	83	77	72	67	63	58	54
-8		100	96	91	85	80	75	70	65	61	56	52
-6		99	93	88	83	78	73	68	63	58	54	
-4	100	96	90	85	80	75	70	65	61	56		
-2	98	93	88	82	78	73	68	63	58			
+0	95	90	85	80	75	70	65	61				
+2	93	87	82	77	72	68	63					
+4	90	84	79	74	70	65						
+6	87	82	77	72	67							
+8	84	79	74	69								
+10	81	76	71									
+12	78	73										
+14	76											

<u>CAUTION</u>

THE TRQ SETTING MUST NEVER EXCEED 100 %

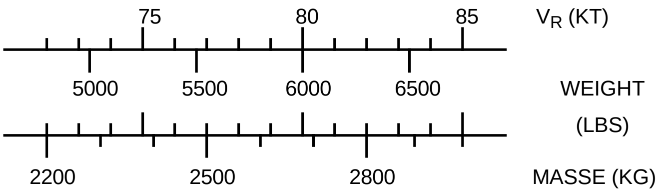
Figure 5.8.4A - ENGINE OPERATION
[Normal (recommended) cruise power (FL ≥ 200)]

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)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 5512 lbs (2500 kg) At 50 ft = 91 KIAS - 105 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	665	1085	740	1190	780	1255	820	1295
2000	735	1185	800	1265	850	1340	905	1415
4000	800	1260	885	1380	935	1460	990	1545
6000	880	1375	965	1505	1025	1595	1090	1690
8000	965	1500	1060	1645	1140	1765	1220	1880
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	865	1365	920	1435	965	1505	1000	1555
2000	955	1490	1005	1565	1060	1645	1100	1705
4000	1050	1625	1110	1720	1180	1825	1230	1895
6000	1165	1800	1240	1910	1320	2020	1380	2100
8000	1305	2000	1390	2120	1480	2245	1565	2330

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

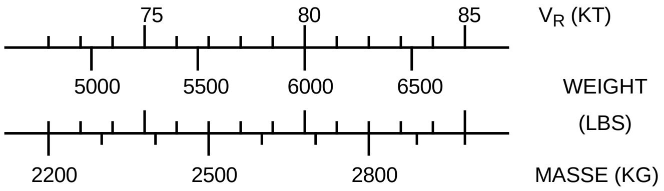
NOTE : ***Between ISA + 30°C and ISA + 37°C, it may be necessary to cut-off the "BLEED" in order to set TRQ = 100 % during takeoff while respecting the engine limitations. In this case, reduce power after takeoff to set the "BLEED" switch to AUTO.***

NOTE : ***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)
- D_{50} = Takeoff distance (clear to 50 ft) (in ft)
- Rotation speed choice (V_R)



WEIGHT : 6579 lbs (2984 kg) At 50 ft = 94 KIAS - 108 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1020	1470	1115	1600	1185	1680	1245	1765
2000	1115	1595	1220	1730	1285	1820	1355	1915
4000	1215	1725	1325	1875	1400	1975	1475	2075
6000	1320	1865	1445	2030	1545	2160	1645	2305
8000	1435	2020	1600	2240	1715	2400	1850	2570
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
0	1310	1855	1375	1940	1440	2030	1490	2090
2000	1425	2010	1500	2110	1595	2235	1660	2320
4000	1580	2205	1675	2345	1790	2485	1865	2590
6000	1755	2455	1880	2615	2005	2780	2095	2895
8000	1980	2745	2115	2925	2275	3110	2380	3245

Figure 5.9.2 - TAKEOFF DISTANCES - 6579 lbs (2984 kg)

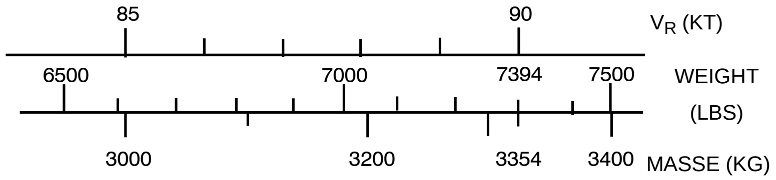
Corrections :
. Reduce total distances of 10 % every 10 kts of headwind
. Increase total distances of 30 % every 10 kts of rear wind
. Increase by : 7 % on hard sod; 10 % on short grass; 15 % on wet runway; 25 % on high grass; 30 % on slippery runway

NOTE : ***Between ISA + 30°C and ISA + 37°C, it may be necessary to cut-off the "BLEED" in order to set TRQ = 100 % during takeoff while respecting the engine limitations. In this case, reduce power after takeoff to set the "BLEED" switch to AUTO.***

NOTE : ***In SL ISA conditions, nominal Np is of 1985 RPM.***

WEIGHT : 7394 lbs (3354 kg)

Associated conditions :
- Landing gear DN and flaps TO
- 12°5 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)



WEIGHT : 7394 lbs (3354 kg) At 50 ft = 99 KIAS - 114 MPH IAS								
PRESSURE ALTITUDE ft	ISA - 35°C		ISA - 20°C		ISA - 10°C		ISA	
	GR	D50	GR	D50	GR	D50	GR	D50
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
PRESSURE ALTITUDE ft	ISA + 10°C		ISA + 20°C		ISA + 30°C		ISA + 37°C	
	GR	D50	GR	D50	GR	D50	GR	D50
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

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

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.***

NOTE : ***In SL ISA conditions, nominal Np 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

Airplane weight	Pressure Altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
5794 lbs (2628 kg)	SL	2885	2870	2855	2845	2830	2810
	2000	2860	2845	2830	2810	2795	2775
	4000	2840	2820	2805	2785	2765	2750
	6000	2810	2790	2770	2750	2735	2710
	8000	2775	2755	2735	2710	2690	2665
6594 lbs (2991 kg)	SL	2440	2425	2410	2400	2380	2365
	2000	2415	2400	2385	2365	2350	2330
	4000	2395	2375	2360	2340	2325	2305
	6000	2365	2345	2330	2310	2290	2270
	8000	2335	2315	2290	2270	2250	2230
7394 lbs (3354 kg)	SL	2080	2065	2050	2040	2020	2005
	2000	2055	2040	2025	2005	1990	1975
	4000	2035	2015	1995	1980	1965	1945
	6000	2005	1985	1970	1950	1930	1910
	8000	1975	1955	1935	1910	1890	1870

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

Airplane weight	Pressure Altitude (feet)	RATE OF CLIMB (ft/min)					
		ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
5794 lbs (2628 kg)	SL	2 420	2 390	2 365	2 335	2 310	2 285
	2000	2 385	2 355	2 325	2 295	2 265	2 235
	4000	2 345	2 315	2 280	2 250	2 220	2 190
	6000	2 305	2 270	2 235	2 205	2 170	2 140
	8000	2 260	2 225	2 190	2 155	2 120	2 085
6594 lbs (2991 kg)	SL	2 075	2 050	2 025	2 000	1 975	1 955
	2000	2 045	2 015	1 990	1 965	1 935	1 910
	4000	2 010	1 985	1 950	1 920	1 895	1 865
	6000	1 975	1 940	1 910	1 880	1 850	1 820
	8000	1 930	1 900	1 870	1 835	1 805	1 770
7394 lbs (3354 kg)	SL	1 800	1 775	1 755	1 730	1 710	1 685
	2000	1 770	1 745	1 720	1 695	1 670	1 645
	4000	1 735	1 710	1 685	1 655	1 630	1 605
	6000	1 705	1 670	1 645	1 615	1 590	1 560
	8000	1 660	1 635	1 605	1 575	1 545	1 515

Figure 5.10.2 - MXCL - SPEEDS (IAS - 170 KIAS/M 0.40)

NOTE : ***In SL ISA conditions, nominal Np is of 1985 RPM.***

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 %***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.0	1	00:45	5	4	1.2	2	01:00	5	4	1.4	2
4000	01:30	8	6	2.0	3	01:45	9	7	2.4	3	02:00	11	8	2.8	4
6000	02:15	11	9	3.0	4	02:30	13	10	3.5	5	03:00	16	12	4.1	6
8000	03:00	15	12	3.9	6	03:30	18	14	4.6	7	04:00	21	16	5.5	8
10000	03:30	18	14	4.9	8	04:15	22	17	5.7	9	05:00	26	20	6.8	11
12000	04:15	22	17	5.8	9	05:15	26	20	6.8	11	06:00	30	24	8.0	13
14000	05:00	25	20	6.7	11	06:00	30	23	7.9	13	07:15	35	28	9.3	16
16000	05:45	29	23	7.6	13	07:00	34	27	9.0	15	08:15	40	32	10.6	18
18000	06:30	32	25	8.5	15	07:45	38	30	10.0	18	09:15	45	35	11.9	21
20000	07:30	35	28	9.4	17	08:45	42	33	11.1	20	10:30	50	39	13.2	24
22000	08:15	39	30	10.3	19	09:45	46	36	12.2	23	11:30	55	43	14.4	27
24000	09:00	42	33	11.1	21	10:45	50	39	13.2	25	12:45	60	47	15.7	30
26000	09:45	46	36	12.0	24	11:45	54	43	14.3	28	13:45	64	51	17.0	34
28000	10:30	49	38	13.0	26	12:45	58	46	15.4	31	15:00	70	55	18.4	38
30000	11:30	53	41	13.9	29	13:45	63	49	16.6	35	16:30	75	59	19.8	42
31000	12:00	54	43	14.4	31	14:30	65	51	17.2	37	17:15	78	61	20.6	44

Figure 5.10.5 - 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***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.0	1	00:45	5	4	1.2	2	01:00	6	4	1.5	2
4000	01:30	8	6	2.1	3	01:45	9	7	2.4	4	02:00	11	9	2.9	4
6000	02:15	12	9	3.1	5	02:30	14	11	3.6	5	03:00	16	13	4.3	6
8000	03:00	15	12	4.1	6	03:30	18	14	4.8	7	04:00	21	17	5.7	9
10000	03:45	19	15	5.0	8	04:15	22	18	5.9	10	05:15	27	21	7.0	11
12000	04:30	23	18	6.0	10	05:15	27	21	7.1	12	06:15	32	25	8.4	14
14000	05:15	26	21	6.9	12	06:15	31	24	8.2	14	07:15	37	29	9.7	17
16000	06:00	30	23	7.9	14	07:00	35	28	9.3	16	08:15	42	33	11.0	19
18000	06:45	33	26	8.8	16	08:00	39	31	10.4	19	09:30	47	37	12.4	22
20000	07:30	37	29	9.7	18	09:00	44	34	11.5	21	10:45	52	41	13.7	26
22000	08:15	40	32	10.6	20	10:00	48	38	12.7	24	11:45	57	45	15.1	29
24000	09:15	44	34	11.6	23	11:00	52	41	13.8	27	13:00	62	49	16.5	32
26000	10:00	47	37	12.5	25	12:00	57	44	14.9	30	14:15	68	53	17.9	37
28000	11:00	51	40	13.5	28	13:15	61	48	16.2	34	16:00	73	58	19.4	41
30000	12:15	55	43	14.6	32	14:30	66	52	17.5	39	17:45	80	63	21.1	47
31000	12:45	57	45	15.1	34	15:30	69	54	18.2	41	18:45	83	65	21.9	51

Figure 5.10.6 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 124 KIAS) / ISA

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 2 % below FL 260 and 3 % above FL 260***
  - ***. Time to climb increased by 1 % to 5 % from FL 200 to FL 310***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.1	2	00:45	5	4	1.3	2	01:00	6	4	1.5	2
4000	01:30	8	6	2.1	3	01:45	10	8	2.5	4	02:00	11	9	3.0	4
6000	02:15	12	9	3.2	5	02:30	14	11	3.8	6	03:00	17	13	4.5	7
8000	03:00	16	12	4.2	7	03:30	19	15	5.0	8	04:15	22	17	5.9	9
10000	03:45	20	15	5.2	8	04:30	23	18	6.2	10	05:15	28	22	7.3	12
12000	04:30	23	18	6.2	10	05:15	28	22	7.3	12	06:15	33	26	8.7	15
14000	05:15	27	21	7.2	12	06:15	32	25	8.5	15	07:30	38	30	10.1	18
16000	06:00	31	24	8.1	14	07:15	37	29	9.7	17	08:30	44	34	11.5	21
18000	06:45	34	27	9.1	17	08:15	41	32	10.8	20	09:45	49	38	12.9	24
20000	07:45	38	30	10.1	19	09:15	46	36	12.0	23	11:00	54	43	14.4	27
22000	08:30	42	33	11.1	22	10:15	50	39	13.2	26	12:15	60	47	15.9	31
24000	09:45	46	36	12.1	25	11:30	55	43	14.5	30	14:00	66	52	17.5	36
26000	10:45	50	39	13.2	28	13:00	60	47	15.9	34	15:45	73	57	19.2	42
28000	12:00	54	43	14.4	33	14:30	66	51	17.3	40	17:45	80	63	21.0	49
30000	13:30	59	46	15.6	38	16:30	72	56	18.9	46	20:15	88	69	23.2	58
31000	14:15	62	48	16.3	41	17:30	75	59	19.8	50	21:45	92	72	24.4	63

Figure 5.10.7 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 124 KIAS) / ISA + 20°C

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 1 %***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	4	3	1.2	2	01:00	5	4	1.4	3	01:00	6	5	1.6	3
4000	01:45	9	7	2.3	5	02:00	10	8	2.7	5	02:15	12	9	3.1	6
6000	02:30	13	10	3.5	7	03:00	15	12	4.0	8	03:30	18	14	4.7	10
8000	03:30	17	14	4.6	10	04:00	20	16	5.4	11	04:30	23	18	6.2	13
10000	04:15	22	17	5.7	12	05:00	25	20	6.7	15	05:45	29	23	7.7	17
12000	05:15	26	20	6.8	15	06:00	30	24	7.9	18	07:00	35	27	9.2	21
14000	06:00	30	24	7.9	18	07:00	35	27	9.3	22	08:15	41	32	10.8	25
16000	07:00	34	27	9.1	22	08:15	40	31	10.6	25	09:30	47	37	12.3	29
18000	08:00	39	30	10.2	25	09:15	45	35	11.9	29	11:00	52	41	13.8	34
20000	09:00	43	34	11.3	29	10:30	50	39	13.2	33	12:15	58	46	15.4	39
22000	10:00	47	37	12.4	32	11:45	55	43	14.6	38	13:45	64	50	17.0	44
24000	11:00	51	40	13.6	36	13:00	60	47	15.9	43	15:00	70	55	18.6	50
26000	12:00	55	43	14.6	40	14:00	65	51	17.0	47	16:30	76	59	20.0	55
28000	12:45	59	46	15.5	43	15:00	69	54	18.2	51	17:30	81	63	21.3	59
30000	13:45	62	49	16.5	46	16:00	73	57	19.3	55	19:00	86	67	22.7	64
31000	14:15	64	50	16.9	48	16:45	75	59	19.9	57	19:45	89	70	23.4	67

Figure 5.10.8 - MXCL - TIME, CONSUMPTION AND CLIMB DISTANCE
(IAS = 170 KIAS/M 0.40) / ISA - 20°C

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 - "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 2 % above FL 260***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)	Time (min. s)	Consump. l	Consump. kg	Consump. USG	Dist. (NM)
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	5	4	1.2	2	01:00	5	4	1.4	3	01:15	6	5	1.7	3
4000	01:45	9	7	2.4	5	02:00	11	8	2.8	6	02:15	12	10	3.3	7
6000	02:30	14	11	3.6	8	03:00	16	13	4.2	9	03:30	19	15	4.9	10
8000	03:30	18	14	4.8	10	04:00	21	17	5.6	12	04:45	25	19	6.5	14
10000	04:30	23	18	6.0	13	05:15	26	21	7.0	16	06:00	31	24	8.1	18
12000	05:15	27	21	7.2	16	06:15	32	25	8.4	19	07:15	37	29	9.7	22
14000	06:15	32	25	8.4	20	07:15	37	29	9.8	23	08:30	43	34	11.4	27
16000	07:15	36	28	9.5	23	08:30	42	33	11.2	27	10:00	49	39	13.0	32
18000	08:15	41	32	10.7	27	09:45	48	37	12.6	32	11:15	56	44	14.7	37
20000	09:15	45	36	11.9	31	11:00	53	42	14.0	36	12:45	62	49	16.4	42
22000	10:30	50	39	13.2	35	12:15	58	46	15.4	41	14:15	68	54	18.1	48
24000	11:30	54	43	14.4	39	13:30	64	50	16.9	46	15:45	75	59	19.8	54
26000	12:30	59	46	15.5	43	14:45	69	54	18.2	51	17:15	81	63	21.3	60
28000	13:30	63	49	16.5	48	16:00	74	58	19.5	56	18:45	87	68	22.9	66
30000	14:45	67	52	17.6	52	17:15	79	62	20.8	62	20:30	93	73	24.6	73
31000	15:15	69	54	18.2	55	18:15	81	64	21.5	65	21:30	96	76	25.5	77

Figure 5.10.9 - 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***

Pressure altitude (f t)	WEIGHT 5794 lbs (2628 kg)					WEIGHT 6579 lbs (2984 kg)					WEIGHT 7394 lbs (3354 kg)				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0
2000	00:45	5	4	1.3	3	01:00	6	4	1.5	3	01:15	7	5	1.7	3
4000	01:45	10	8	2.6	5	02:00	11	9	3.0	6	02:30	13	10	3.5	7
6000	02:45	14	11	3.8	8	03:00	17	13	4.5	9	03:30	20	15	5.2	11
8000	03:30	19	15	5.1	11	04:15	22	18	5.9	13	05:00	26	20	6.9	15
10000	04:30	24	19	6.3	14	05:15	28	22	7.4	17	06:15	33	26	8.6	19
12000	05:30	29	22	7.5	18	06:30	33	26	8.8	21	07:30	39	31	10.3	24
14000	06:30	33	26	8.8	21	07:30	39	31	10.3	25	09:00	46	36	12.0	29
16000	07:30	38	30	10.1	25	08:45	45	35	11.8	29	10:15	52	41	13.8	34
18000	08:30	43	34	11.3	29	10:00	50	40	13.3	34	11:45	59	46	15.6	40
20000	09:45	48	38	12.7	33	11:30	56	44	14.8	39	13:15	66	52	17.4	46
22000	11:00	53	42	14.1	38	13:00	63	49	16.5	45	15:15	74	58	19.5	53
24000	12:30	59	46	15.6	45	14:45	70	55	18.4	53	17:15	82	64	21.7	62
26000	13:45	64	50	17.0	51	16:30	76	60	20.1	60	19:30	90	71	23.8	72
28000	15:30	70	55	18.4	57	18:15	83	65	21.9	68	22:00	99	77	26.1	82
30000	17:15	75	59	19.8	64	20:30	90	70	23.7	77	25:00	108	85	28.5	94
31000	18:00	78	61	20.6	68	21:45	93	73	24.7	82	26:30	113	89	29.8	101

Figure 5.10.10 - 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**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
6594 lbs (2991 kg)	SL	1635	1610	1590	1565	1545	1525	1505
	2000	1615	1580	1555	1535	1510	1490	1470
	4000	1585	1545	1525	1500	1480	1455	1435
	6000	1555	1515	1490	1465	1440	1420	1395
	8000	1520	1480	1455	1430	1400	1375	1345

Conditions :
- Landing gear DN and flaps LDG
- **IAS = 95 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
7394 lbs (3354 kg)	SL	1350	1320	1295	1275	1255	1235	1215
	2000	1325	1290	1265	1245	1225	1205	1180
	4000	1295	1255	1235	1210	1190	1165	1140
	6000	1265	1225	1200	1175	1150	1120	1095
	8000	1230	1190	1160	1135	1105	1075	1050

Figure 5.10.17 - CLIMB PERFORMANCE AFTER GO-AROUND

CLIMB PERFORMANCE - FLAPS TO

Conditions :
- Landing gear UP and flaps TO
- **IAS = 110 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
6594 lbs (2991 kg)	SL	2295	2275	2260	2250	2240	2225	2215
	2000	2280	2260	2245	2230	2220	2210	2190
	4000	2265	2245	2230	2215	2200	2180	2165
	6000	2250	2225	2210	2190	2175	2155	2135
	8000	2235	2205	2185	2165	2145	2130	2110

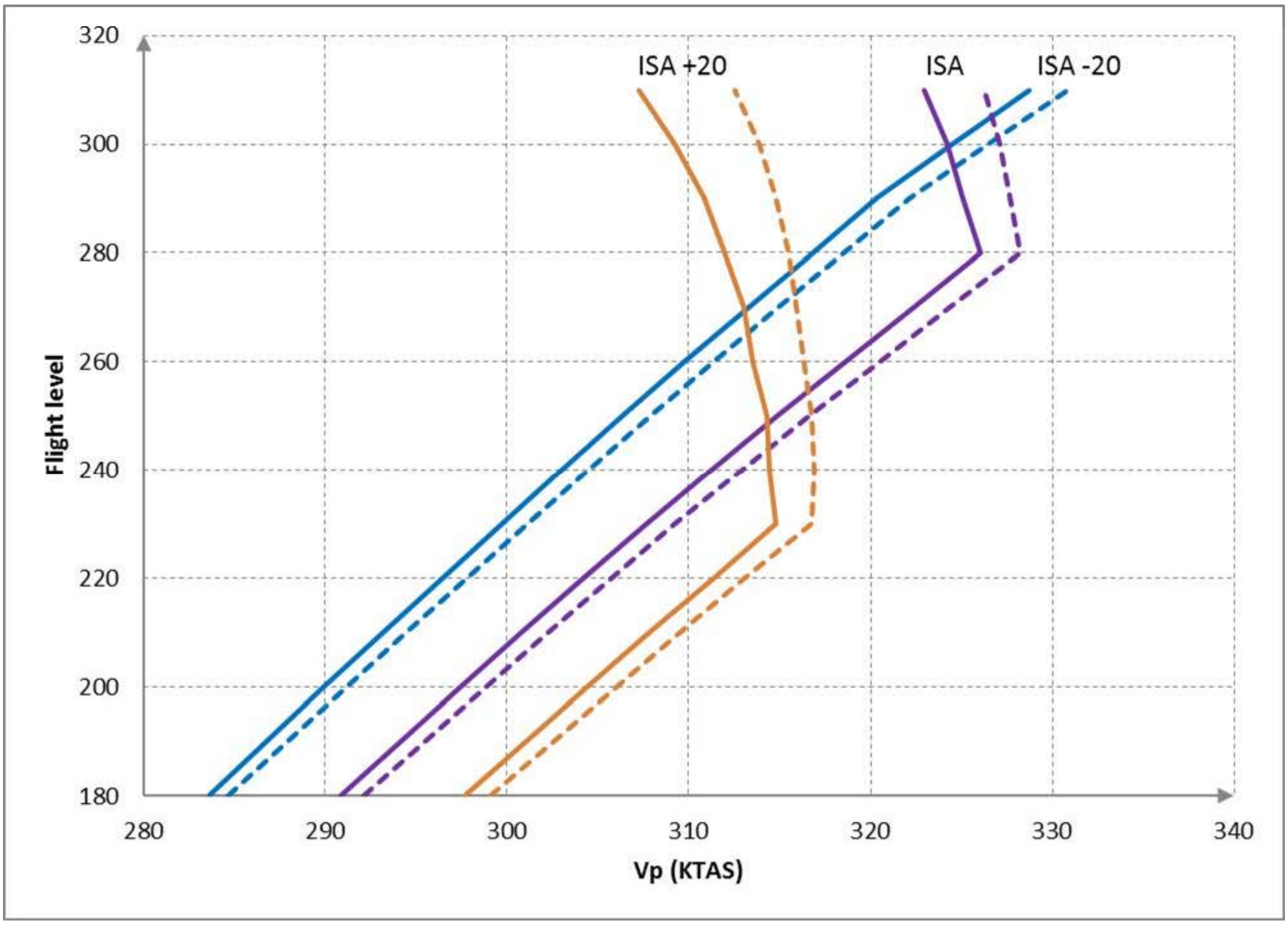
Conditions:
- Landing gear UP and flaps TO
- **IAS = 115 KIAS**

Airplane weight	Pressure altitude (feet)	RATE OF CLIMB (ft/min)						
		ISA - 35°C	ISA - 20°C	ISA - 10°C	ISA	ISA + 10°C	ISA + 20°C	ISA + 30°C
7394 lbs (3354 kg)	SL	1985	1965	1955	1940	1930	1915	1900
	2000	1970	1950	1940	1925	1910	1890	1875
	4000	1955	1935	1920	1900	1885	1865	1850
	6000	1940	1910	1895	1875	1860	1840	1825
	8000	1915	1890	1870	1850	1835	1815	1795

Figure 5.10.18 - CLIMB PERFORMANCE - FLAPS TO

5.11 - CRUISE PERFORMANCE

MAXIMUM CRUISE



——— 7100 lbs
— — — 6300 lbs

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%.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG	IAS	TAS	IAS	TAS	IAS	TAS
SL	-4	100	325	255	85.9	240	236	239	236	239	235
5000	-14	100	299	234	78.9	235	248	235	248	234	247
10000	-24	100	278	218	73.3	230	262	230	261	229	260
15000	-34	100	265	208	70.1	226	276	225	275	224	275
18000	-40	100	256	201	67.7	223	285	222	285	221	284
20000	-44	100	251	197	66.2	221	292	220	291	219	290
21000	-46	100	248	195	65.6	220	295	219	294	218	293
22000	-48	100	246	193	65.0	219	299	218	298	217	296
23000	-50	100	244	192	64.5	218	302	217	301	216	300
24000	-52	100	243	190	64.1	217	306	216	304	215	303
25000	-54	100	241	189	63.7	216	309	215	308	214	306
26000	-56	100	240	188	63.3	215	313	214	311	213	310
27000	-57	100	239	188	63.2	214	316	213	315	212	313
28000	-59	100	238	187	63.0	213	320	212	318	211	317
29000	-61	100	238	187	62.9	212	324	211	322	209	320
30000	-63	100	238	187	62.8	211	328	210	326	209	324
31000	-65	100	238	187	63.0	210	332	209	331	208	329

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	6	100	329	258	86.9	238	239	238	239	237	238
5000	-4	100	302	237	79.7	234	252	233	251	233	250
10000	-14	100	281	220	74.2	229	265	228	265	228	264
15000	-24	100	268	210	70.8	224	280	223	279	222	278
18000	-30	100	259	203	68.4	221	289	220	288	219	287
20000	-34	100	253	199	66.9	219	296	218	295	217	294
21000	-36	100	251	197	66.2	218	299	217	298	216	297
22000	-38	100	249	195	65.7	217	303	216	302	215	300
23000	-40	100	247	194	65.1	216	306	215	305	214	304
24000	-42	100	245	192	64.7	215	310	214	309	213	307
25000	-44	100	243	191	64.3	214	314	213	312	212	311
26000	-46	100	242	190	63.9	213	317	212	316	211	314
27000	-47	100	242	190	63.8	212	321	211	320	210	318
28000	-49	100	241	189	63.6	211	325	210	323	209	322
29000	-51	100	240	189	63.5	210	329	209	328	208	326
30000	-53	100	239	188	63.2	209	333	208	332	207	329
31000	-55	96	230	181	60.8	205	333	204	331	202	328

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	11	100	331	259	87.3	238	240	237	240	237	240
5000	1	100	304	238	80.2	233	253	232	253	232	252
10000	-9	100	282	221	74.5	228	267	227	266	227	265
15000	-19	100	269	211	71.2	223	282	222	281	222	280
18000	-25	100	260	204	68.7	220	291	219	290	218	289
20000	-29	100	254	200	67.2	218	298	217	297	216	296
21000	-31	100	252	198	66.5	217	301	216	300	215	299
22000	-33	100	250	196	66.0	216	305	215	304	214	302
23000	-35	100	248	195	65.5	215	308	214	307	213	306
24000	-37	100	246	193	65.0	214	312	213	311	212	309
25000	-39	100	244	192	64.6	213	316	212	315	211	313
26000	-41	100	243	191	64.2	212	320	211	318	210	316
27000	-42	100	243	191	64.1	211	323	210	322	209	320
28000	-44	100	242	190	64.0	210	328	209	326	208	324
29000	-46	100	242	190	63.8	210	332	209	330	207	328
30000	-48	96	233	183	61.5	206	332	205	330	203	327
31000	-50	93	224	176	59.3	202	332	200	329	199	326

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	16	100	333	261	87.9	237	242	237	242	236	241
5000	6	100	305	240	80.7	232	255	232	254	231	253
10000	-4	100	284	223	74.9	227	268	227	268	226	267
15000	-14	100	271	213	71.5	222	283	222	283	221	282
18000	-20	100	261	205	69.0	219	293	219	292	218	291
20000	-24	100	256	201	67.6	217	300	216	299	215	297
21000	-26	100	253	199	66.9	216	303	215	302	214	301
22000	-28	100	251	197	66.3	215	307	214	306	213	304
23000	-30	100	249	195	65.8	214	310	213	309	212	308
24000	-32	100	247	194	65.3	213	314	212	313	211	311
25000	-34	100	246	193	64.9	212	318	211	317	210	315
26000	-36	100	244	192	64.5	211	322	210	320	209	319
27000	-37	100	244	191	64.4	210	326	209	324	208	322
28000	-39	100	242	190	64.1	210	330	208	328	207	326
29000	-41	96	234	184	61.8	206	330	204	328	203	325
30000	-43	93	226	177	59.7	202	329	200	327	199	324
31000	-45	89	218	171	57.5	198	329	196	326	194	323

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	21	100	334	263	88.4	236	243	236	243	235	242
5000	11	100	307	241	81.1	231	256	231	256	230	255
10000	1	100	285	224	75.3	226	270	226	269	225	269
15000	-9	100	272	214	72.0	221	285	221	284	220	283
18000	-15	100	263	206	69.4	218	295	218	294	217	293
20000	-19	100	257	202	67.9	216	302	216	301	215	299
21000	-21	100	254	200	67.2	215	305	215	304	213	303
22000	-23	100	252	198	66.6	214	309	214	308	212	306
23000	-25	100	250	196	66.1	213	312	213	311	211	309
24000	-27	100	248	195	65.7	212	316	212	315	210	313
25000	-29	100	247	194	65.2	211	320	210	319	209	317
26000	-31	100	245	192	64.8	210	324	209	322	208	320
27000	-32	100	244	192	64.6	210	328	209	326	207	324
28000	-34	96	236	185	62.3	206	328	204	326	203	323
29000	-36	92	227	178	60.0	202	327	200	325	199	322
30000	-38	89	219	172	57.9	198	327	196	324	194	321
31000	-40	86	211	166	55.8	194	326	192	323	190	320

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			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	26	100	336	264	88.9	236	245	235	244	235	244
5000	16	100	309	242	81.6	231	258	230	257	230	256
10000	6	100	287	225	75.7	226	272	225	271	224	270
15000	-4	100	274	215	72.3	221	287	220	286	219	285
18000	-10	100	264	207	69.7	218	297	217	296	216	294
20000	-14	100	258	203	68.3	216	303	215	302	214	301
21000	-16	100	256	201	67.6	215	307	214	306	213	304
22000	-18	100	254	199	67.0	214	311	213	309	211	308
23000	-20	100	252	197	66.5	212	314	212	313	210	311
24000	-22	100	250	196	66.0	212	318	211	317	209	315
25000	-24	100	248	195	65.5	211	322	210	320	208	319
26000	-26	100	246	193	65.1	210	326	209	325	207	323
27000	-27	96	238	187	62.8	206	325	204	324	203	321
28000	-29	92	229	180	60.5	202	325	200	323	198	320
29000	-31	89	221	173	58.3	198	325	196	322	194	319
30000	-33	85	213	167	56.2	194	324	192	321	190	317
31000	-35	82	205	161	54.1	190	323	188	320	186	316

Figure 5.11.7 - CRUISE PERFORMANCE
Maximum cruise / ISA + 10°C

MAXIMUM CRUISE

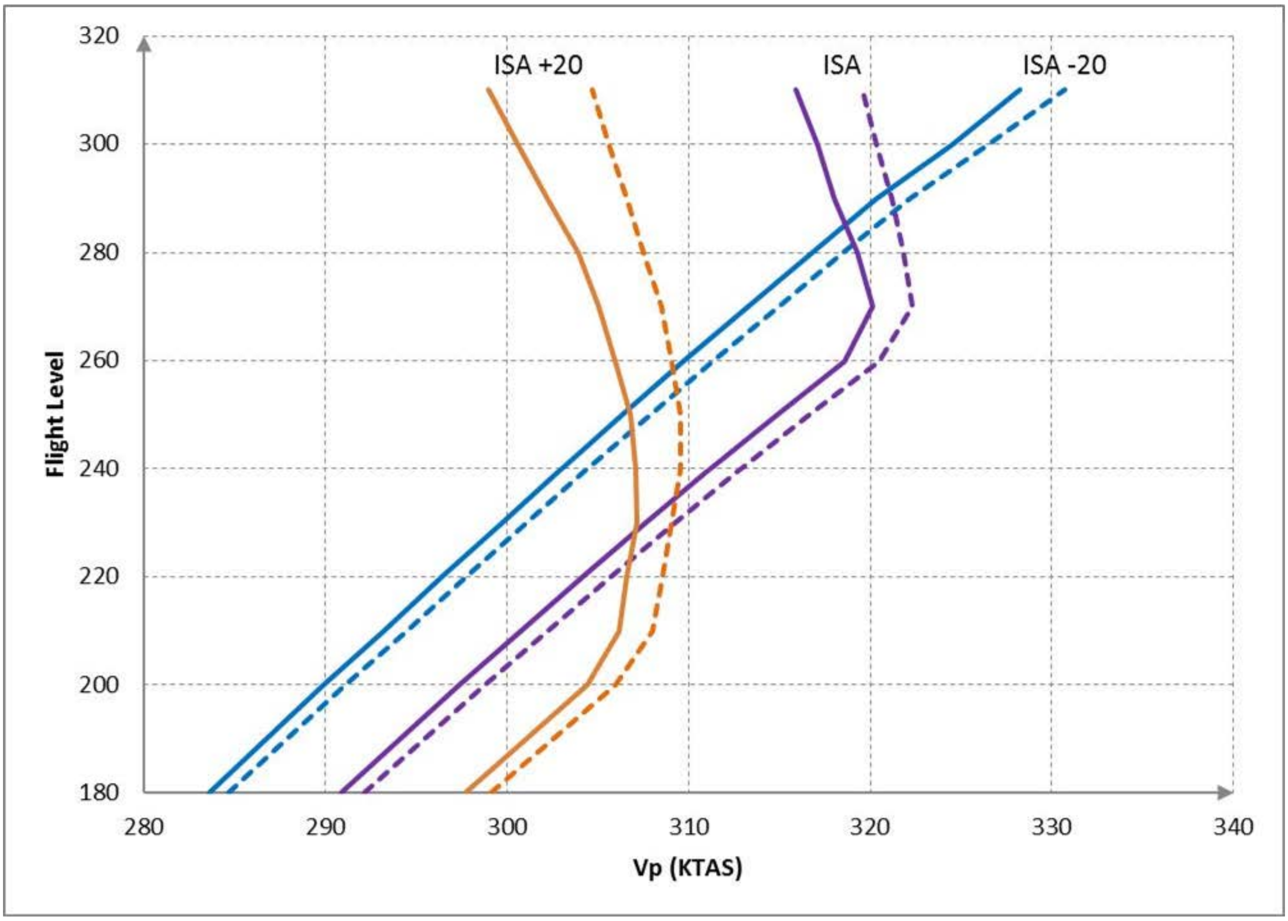
Conditions :
- ***ISA + 20°C***
- Landing gear and flaps UP
- "BLEED" switch on "AUTO" and "BLEED HI" MSG OFF

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	36	100	340	267	89.8	234	247	234	247	233	246
5000	26	100	312	245	82.5	229	261	229	260	228	259
10000	16	100	290	227	76.5	224	275	224	274	223	273
15000	6	100	276	217	73.0	219	290	218	289	217	288
18000	0	100	266	209	70.4	216	300	215	299	214	298
20000	-4	100	261	205	69.0	214	307	213	306	212	304
21000	-6	100	258	203	68.3	213	311	212	309	211	308
22000	-8	100	256	201	67.6	212	314	211	313	210	311
23000	-10	100	254	200	67.1	211	318	210	317	209	315
24000	-12	97	246	193	65.0	208	319	206	317	205	314
25000	-14	94	238	187	62.8	204	319	203	317	201	314
26000	-16	91	230	180	60.7	200	318	199	316	197	314
27000	-17	87	222	174	58.6	197	318	195	316	193	313
28000	-19	84	214	168	56.6	193	318	192	316	189	312
29000	-21	81	207	162	54.6	190	318	188	315	185	311
30000	-23	78	199	156	52.7	186	317	184	314	181	309
31000	-25	75	192	151	50.7	182	316	180	313	177	307

Figure 5.11.8 - CRUISE PERFORMANCE
Maximum cruise / ISA + 20°C

NORMAL CRUISE (Recommended)



——— 7100 lbs
— — — 6300 lbs

Figure 5.11.9 - CRUISE PERFORMANCE (Recommended cruise)

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 310 : fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.***
  - ***FL 310 : reduce the torque value mentioned in the table below by 1 %, leading to airspeed reduction by 1 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	-4	100	325	255	85.9	240	236	239	236	239	235
5000	-14	100	299	234	78.9	235	248	235	248	234	247
10000	-24	100	278	218	73.3	230	262	230	261	229	260
15000	-34	100	265	208	70.1	226	276	225	275	224	275
18000	-40	100	256	201	67.7	223	285	222	285	221	284
20000	-44	100	251	197	66.2	221	292	220	291	219	290
21000	-46	100	248	195	65.6	220	295	219	294	218	293
22000	-48	100	246	193	65.0	219	299	218	298	217	296
23000	-50	100	244	192	64.5	218	302	217	301	216	300
24000	-52	100	243	190	64.1	217	306	216	304	215	303
25000	-54	100	241	189	63.7	216	309	215	308	214	306
26000	-56	100	240	188	63.3	215	313	214	311	213	310
27000	-57	100	239	188	63.2	214	316	213	315	212	313
28000	-59	100	238	187	63.0	213	320	212	318	211	317
29000	-61	100	238	187	62.9	212	324	211	322	209	320
30000	-63	100	238	187	62.8	211	328	210	326	209	324
31000	-65	100	238	187	62.9	210	332	209	331	208	328

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	6	100	329	258	86.9	238	239	238	239	237	238
5000	-4	100	302	237	79.7	234	252	233	251	233	250
10000	-14	100	281	220	74.2	229	265	228	265	228	264
15000	-24	100	268	210	70.8	224	280	223	279	222	278
18000	-30	100	259	203	68.4	221	289	220	288	219	287
20000	-34	100	253	199	66.9	219	296	218	295	217	294
21000	-36	100	251	197	66.2	218	299	217	298	216	297
22000	-38	100	249	195	65.7	217	303	216	302	215	300
23000	-40	100	247	194	65.1	216	306	215	305	214	304
24000	-42	100	245	192	64.7	215	310	214	309	213	307
25000	-44	100	243	191	64.3	214	314	213	312	212	311
26000	-46	100	242	190	63.9	213	317	212	316	211	314
27000	-47	100	242	190	63.8	212	321	211	320	210	318
28000	-49	100	241	189	63.6	211	325	210	323	209	322
29000	-51	99	238	187	62.9	210	328	209	327	207	324
30000	-53	95	230	180	60.7	206	328	204	326	203	323
31000	-55	92	222	174	58.6	202	328	200	325	198	322

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	11	100	331	259	87.3	238	240	237	240	237	240
5000	1	100	304	238	80.2	233	253	232	253	232	252
10000	-9	100	282	221	74.5	228	267	227	266	227	265
15000	-19	100	269	211	71.2	223	282	222	281	222	280
18000	-25	100	260	204	68.7	220	291	219	290	218	289
20000	-29	100	254	200	67.2	218	298	217	297	216	296
21000	-31	100	252	198	66.5	217	301	216	300	215	299
22000	-33	100	250	196	66.0	216	305	215	304	214	302
23000	-35	100	248	195	65.5	215	308	214	307	213	306
24000	-37	100	246	193	65.0	214	312	213	311	212	309
25000	-39	100	244	192	64.6	213	316	212	315	211	313
26000	-41	100	243	191	64.2	212	320	211	318	210	316
27000	-42	100	243	191	64.1	211	323	210	322	209	320
28000	-44	99	239	188	63.2	210	326	208	324	207	322
29000	-46	95	231	181	61.0	206	326	204	324	202	321
30000	-48	92	223	175	58.9	202	325	200	323	198	320
31000	-50	88	215	169	56.8	198	325	196	322	194	319

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	16	100	333	261	87.9	237	242	237	242	236	241
5000	6	100	305	240	80.7	232	255	232	254	231	253
10000	-4	100	284	223	74.9	227	268	227	268	226	267
15000	-14	100	271	213	71.5	222	283	222	283	221	282
18000	-20	100	261	205	69.0	219	293	219	292	218	291
20000	-24	100	256	201	67.6	217	300	216	299	215	297
21000	-26	100	253	199	66.9	216	303	215	302	214	301
22000	-28	100	251	197	66.3	215	307	214	306	213	304
23000	-30	100	249	195	65.8	214	310	213	309	212	308
24000	-32	100	247	194	65.3	213	314	212	313	211	311
25000	-34	100	246	193	64.9	212	318	211	317	210	315
26000	-36	100	244	192	64.5	211	322	210	320	209	319
27000	-37	98	241	189	63.6	209	324	208	322	207	320
28000	-39	95	232	182	61.4	205	324	204	322	202	319
29000	-41	91	224	176	59.2	201	323	200	321	198	318
30000	-43	88	216	170	57.0	198	323	196	320	194	317
31000	-45	85	208	164	55.0	194	322	192	320	190	316

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 250 : fuel flow will increase by 1 %, reduce the torque only to respect the maximum power of 100 %.***
  . ***FL 250 and above : reduce the torque value mentioned in the table below by 2 %, leading to airspeed reduction by 2 KIAS.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	21	100	334	263	88.4	236	243	236	243	235	242
5000	11	100	307	241	81.1	231	256	231	256	230	255
10000	1	100	285	224	75.3	226	270	226	269	225	269
15000	-9	100	272	214	72.0	221	285	221	284	220	283
18000	-15	100	263	206	69.4	218	295	218	294	217	293
20000	-19	100	257	202	67.9	216	302	216	301	215	299
21000	-21	100	254	200	67.2	215	305	215	304	213	303
22000	-23	100	252	198	66.6	214	309	214	308	212	306
23000	-25	100	250	196	66.1	213	312	213	311	211	309
24000	-27	100	248	195	65.7	212	316	212	315	210	313
25000	-29	100	247	194	65.2	211	320	210	319	209	317
26000	-31	98	242	190	64.0	209	322	208	320	207	318
27000	-32	95	234	184	61.8	205	322	204	320	202	317
28000	-34	91	226	177	59.6	202	321	200	319	198	316
29000	-36	88	217	171	57.4	198	321	196	319	194	315
30000	-38	84	209	164	55.3	194	320	192	318	190	314
31000	-40	81	202	158	53.3	190	320	188	317	186	313

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	26	100	336	264	88.9	236	245	235	244	235	244
5000	16	100	309	242	81.6	231	258	230	257	230	256
10000	6	100	287	225	75.7	226	272	225	271	224	270
15000	-4	100	274	215	72.3	221	287	220	286	219	285
18000	-10	100	264	207	69.7	218	297	217	296	216	294
20000	-14	100	258	203	68.3	216	303	215	302	214	301
21000	-16	100	256	201	67.6	215	307	214	306	213	304
22000	-18	100	254	199	67.0	214	311	213	309	211	308
23000	-20	100	252	197	66.5	212	314	212	313	210	311
24000	-22	100	250	196	66.0	212	318	211	317	209	315
25000	-24	98	244	192	64.6	209	320	208	318	207	316
26000	-26	95	236	185	62.3	205	320	204	318	203	316
27000	-27	91	227	178	60.1	202	319	200	317	198	315
28000	-29	88	219	172	57.9	198	319	196	317	194	313
29000	-31	84	211	166	55.8	194	318	192	316	190	312
30000	-33	81	203	160	53.7	190	318	188	315	186	311
31000	-35	78	196	154	51.7	186	317	184	313	182	309

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.***

Pressure altitude (feet)	OAT (°C)	TRQ (%)	Fuel flow			AIRSPEEDS (kt)					
						5500 lbs (2495 kg)		6300 lbs (2858 kg)		7100 lbs (3220 kg)	
			l / h	kg / h	USG/l	IAS	TAS	IAS	TAS	IAS	TAS
SL	36	100	340	267	89.8	234	247	234	247	233	246
5000	26	100	312	245	82.5	229	261	229	260	228	259
10000	16	100	290	227	76.5	224	275	224	274	223	273
15000	6	100	276	217	73.0	219	290	218	289	217	288
18000	0	100	266	209	70.4	216	300	215	299	214	298
20000	-4	100	261	205	69.0	214	307	213	306	212	304
21000	-6	99	256	201	67.6	212	309	211	308	210	306
22000	-8	96	248	195	65.6	209	310	208	309	206	307
23000	-10	94	241	189	63.7	206	311	205	309	203	307
24000	-12	91	234	184	61.8	203	311	201	310	200	307
25000	-14	88	226	178	59.8	199	312	198	310	196	307
26000	-16	85	219	172	57.7	196	311	194	309	192	306
27000	-17	82	211	166	55.7	192	311	190	308	188	305
28000	-19	79	203	160	53.7	188	310	187	308	184	304
29000	-21	76	196	154	51.8	185	310	183	307	180	302
30000	-23	73	189	148	50.0	181	309	179	306	176	301
31000	-25	71	183	143	48.2	178	309	175	305	172	299

Figure 5.11.16 - CRUISE PERFORMANCE
Normal cruise / ISA + 20°C

LONG RANGE CRUISE (5500 LBS - 2495 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA − 20° C		ISA − 10° C		ISA		ISA + 10° C		ISA + 20° C	
15000	37	**-34**	**153**	**-24**	**152**	**-14**	**150**	**-4**	**148**	**6**	**147**
		40.7		41.2		41.4		41.6		42.2	
		121	**189**	122	**192**	123	**193**	124	**194**	125	**197**
18000	38	**-40**	**150**	**-30**	**149**	**-20**	**148**	**-10**	**147**	**0**	**146**
		38.2		38.7		39.2		39.7		40.2	
		113	**194**	115	**197**	116	**200**	118	**203**	119	**205**
19000	38	**-42**	**149**	**-32**	**148**	**-22**	**147**	**-12**	**145**	**-2**	**143**
		37.4		37.9		38.4		38.7		38.9	
		111	**196**	113	**199**	114	**202**	115	**203**	116	**204**
20000	38	**-44**	**150**	**-34**	**148**	**-24**	**147**	**-14**	**146**	**-4**	**144**
		37.0		37.3		37.9		38.4		38.7	
		110	**201**	111	**202**	112	**205**	114	**208**	115	**209**
21000	38	**-46**	**148**	**-36**	**147**	**-26**	**146**	**-16**	**145**	**-6**	**144**
		36.0		36.6		37.1		37.6		38.2	
		107	**201**	109	**204**	110	**207**	112	**210**	113	**213**
22000	38	**-48**	**147**	**-38**	**146**	**-28**	**145**	**-18**	**143**	**-8**	**142**
		35.3		35.8		36.4		36.6		37.2	
		105	**203**	106	**206**	108	**209**	109	**211**	111	**214**
23000	38	**-50**	**146**	**-40**	**145**	**-30**	**144**	**-20**	**142**	**-10**	**141**
		34.5		35.1		35.6		35.9		36.4	
		103	**205**	104	**209**	106	**212**	107	**213**	108	**216**
24000	39	**-52**	**146**	**-42**	**145**	**-32**	**144**	**-22**	**142**	**-12**	**141**
		34.1		34.6		35.2		35.4		36.0	
		101	**209**	103	**212**	104	**215**	105	**217**	107	**219**

Figure 5.11.17 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (5500 lbs - 2495 kg) (Altitude $\leq$ 24000 ft)

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

Pressure altitude (feet)	TRQ (%)	ISA - 20° C		ISA - 10° C		ISA		ISA + 10° C		ISA + 20° C	
24 000	39	**-52**	**146**	**-42**	**145**	**-32**	**144**	**-22**	**142**	**-12**	**141**
		34.1		34.6		35.2		35.4		36.0	
		101	**209**	103	**212**	104	**215**	105	**217**	107	**219**
25 000	40	**-54**	**148**	**-44**	**146**	**-34**	**145**	**-24**	**144**	**-14**	**142**
		34.1		34.4		34.9		35.5		35.8	
		101	**215**	102	**217**	104	**220**	105	**223**	106	**225**
26 000	42	**-56**	**151**	**-46**	**150**	**-36**	**148**	**-26**	**146**	**-16**	**145**
		34.6		35.1		35.4		35.6		36.2	
		103	**223**	104	**226**	105	**228**	106	**230**	108	**233**
27 000	44	**-57**	**152**	**-47**	**151**	**-37**	**150**	**-27**	**148**	**-17**	**147**
		34.6		35.1		35.7		36.0		36.5	
		103	**228**	104	**232**	106	**235**	107	**237**	108	**241**
28 000	45	**-59**	**153**	**-49**	**152**	**-39**	**151**	**-29**	**149**	**-19**	**147**
		34.5		35.1		35.7		36.0		36.3	
		103	**233**	104	**237**	106	**241**	107	**243**	108	**245**
29 000	45	**-61**	**153**	**-51**	**151**	**-41**	**150**	**-31**	**148**	**-21**	**146**
		34.3		34.6		35.2		35.5		35.7	
		102	**237**	103	**240**	104	**244**	105	**246**	106	**248**
30 000	45	**-63**	**153**	**-53**	**151**	**-43**	**149**	**-33**	**148**	**-23**	**146**
		34.2		34.4		34.7		35.3		35.6	
		101	**241**	102	**244**	103	**246**	105	**250**	106	**252**
31 000	45	**-65**	**152**	**-55**	**150**	**-45**	**148**	**-35**	**147**	**-25**	**145**
		33.7		34.0		34.3		34.8		35.1	
		100	**244**	101	**247**	102	**249**	103	**253**	104	**255**

Figure 5.11.17 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (5500 lbs - 2495 kg) (Altitude $\geq$ 24000 ft)

LONG RANGE CRUISE (6300 LBS - 2858 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA − 20°C		ISA − 10°C		ISA		ISA + 10°C		ISA + 20°C	
15 000	41	**-34**	**156**	**-24**	**155**	**-14**	**154**	**-4**	**153**	**6**	**152**
		42.3		42.9		43.5		44.0		44.6	
		126	**193**	128	**195**	129	**198**	131	**201**	133	**203**
18 000	41	**-40**	**154**	**-30**	**152**	**-20**	**151**	**-10**	**150**	**0**	**149**
		40.0		40.4		41.0		41.6		42.1	
		119	**199**	120	**201**	122	**204**	124	**207**	125	**209**
19 000	42	**-42**	**156**	**-32**	**154**	**-22**	**152**	**-12**	**151**	**-2**	**150**
		40.0		40.3		40.7		41.3		41.9	
		119	**205**	120	**207**	121	**209**	123	**211**	124	**214**
20 000	42	**-44**	**154**	**-34**	**153**	**-24**	**151**	**-14**	**150**	**-4**	**149**
		38.9		39.5		39.9		40.5		41.1	
		116	**206**	117	**209**	118	**211**	120	**214**	122	**216**
21 000	43	**-46**	**153**	**-36**	**152**	**-26**	**151**	**-16**	**150**	**-6**	**149**
		38.2		38.7		39.4		39.9		40.6	
		113	**208**	115	**211**	117	**214**	119	**217**	121	**220**
22 000	43	**-48**	**152**	**-38**	**151**	**-28**	**150**	**-18**	**149**	**-8**	**148**
		37.4		38.0		38.6		39.2		39.8	
		111	**210**	113	**213**	115	**216**	117	**219**	118	**222**
23 000	43	**-50**	**152**	**-40**	**151**	**-30**	**149**	**-20**	**148**	**-10**	**147**
		36.9		37.5		37.9		38.5		39.1	
		110	**213**	111	**217**	113	**219**	114	**222**	116	**225**
24 000	43	**-52**	**150**	**-42**	**149**	**-32**	**148**	**-22**	**147**	**-12**	**146**
		36.0		36.6		37.2		37.8		38.4	
		107	**214**	109	**218**	111	**221**	112	**224**	114	**227**

Figure 5.11.18 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (6300 lbs - 2858 kg) (Altitude $\leq$ 24000 ft)

LONG RANGE CRUISE (6300 LBS - 2858 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

Pressure altitude (feet)	TRQ (%)	ISA - 20° C		ISA - 10° C		ISA		ISA + 10° C		ISA + 20° C	
24 000	43	-52	**150**	-42	**149**	-32	**148**	-22	**147**	-12	**146**
		36.0		36.6		37.2		37.8		38.4	
		107	**214**	109	**218**	111	**221**	112	**224**	114	**227**
25 000	43	-54	**149**	-44	**148**	-34	**147**	-24	**145**	-14	**143**
		35.4		36.0		36.6		36.9		37.2	
		105	**216**	107	**220**	109	**223**	110	**225**	111	**226**
26 000	44	**-56**	**152**	**-46**	**150**	**-36**	**148**	**-26**	**147**	**-16**	**146**
		35.9		36.2		36.6		37.2		37.8	
		107	**224**	108	**226**	109	**228**	111	**232**	112	**235**
27 000	46	**-57**	**154**	**-47**	**152**	**-37**	**150**	**-27**	**148**	**-17**	**147**
		36.2		36.5		36.9		37.2		37.8	
		107	**231**	108	**233**	109	**235**	111	**237**	112	**241**
28 000	48	**-59**	**156**	**-49**	**154**	**-39**	**152**	**-29**	**151**	**-19**	**149**
		36.5		36.8		37.2		37.8		38.2	
		108	**238**	109	**240**	111	**243**	112	**246**	113	**248**
29 000	48	**-61**	**155**	**-51**	**153**	**-41**	**151**	**-31**	**149**	**-21**	**147**
		36.1		36.4		36.8		37.1		37.4	
		107	**240**	108	**243**	109	**245**	110	**247**	111	**249**
30 000	49	**-63**	**155**	**-53**	**153**	**-43**	**151**	**-33**	**149**	**-23**	**147**
		35.9		36.2		36.6		37.0		37.3	
		107	**244**	108	**247**	109	**250**	110	**252**	111	**254**
31 000	49	**-65**	**154**	**-55**	**152**	**-45**	**150**	**-35**	**148**	**-25**	**146**
		35.5		35.8		36.2		36.6		37.0	
		105	**247**	106	**250**	108	**252**	109	**255**	110	**257**

Figure 5.11.18 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (6300 lbs - 2858 kg) (Altitude $\geq$ 24000 ft)

LONG RANGE CRUISE (7100 LBS - 3220 KG)

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

Pressure altitude (feet)	TRQ (%)	ISA − 20°C		ISA − 10°C		ISA		ISA + 10°C		ISA + 20°C	
15 000	47	**-34**	**164**	**-24**	**163**	**-14**	**162**	**-4**	**161**	**6**	**160**
		45.4		46.0		46.7		47.4		48.0	
		135	**202**	137	**205**	139	**208**	141	**211**	143	**213**
18 000	48	**-40**	**161**	**-30**	**160**	**-20**	**159**	**-10**	**158**	**0**	**157**
		42.7		43.5		43.9		44.8		45.5	
		127	**208**	129	**211**	130	**214**	133	**217**	135	**220**
19 000	48	**-42**	**160**	**-32**	**159**	**-22**	**158**	**-12**	**157**	**-2**	**156**
		42.0		42.6		43.3		44.0		44.6	
		125	**210**	127	**213**	129	**217**	131	**219**	133	**222**
20 000	48	**-44**	**160**	**-34**	**159**	**-24**	**157**	**-14**	**156**	**-4**	**155**
		41.4		42.1		42.5		43.2		43.9	
		123	**214**	125	**217**	126	**219**	128	**222**	130	**225**
21 000	48	**-46**	**158**	**-36**	**157**	**-26**	**156**	**-16**	**155**	**-6**	**154**
		40.4		41.1		41.8		42.4		43.1	
		120	**214**	122	**218**	124	**221**	126	**224**	128	**227**
22 000	48	**-48**	**157**	**-38**	**156**	**-28**	**155**	**-18**	**153**	**-8**	**152**
		39.8		40.4		41.0		41.4		42.1	
		118	**217**	120	**220**	122	**223**	123	**225**	125	**228**
23 000	48	**-50**	**155**	**-40**	**154**	**-30**	**153**	**-20**	**150**	**-10**	**148**
		38.9		39.5		40.1		40.3		40.7	
		116	**217**	117	**221**	119	**224**	120	**225**	121	**226**
24 000	48	**-52**	**154**	**-42**	**153**	**-32**	**152**	**-22**	**150**	**-12**	**149**
		38.3		38.9		39.6		40.0		40.6	
		114	**220**	116	**223**	118	**227**	119	**228**	121	**231**

Figure 5.11.19 (1/2) - CRUISE PERFORMANCE
Long Range Cruise (7100 lbs - 3220 kg) (Altitude $\leq$ 24000 ft)

LONG RANGE CRUISE (7100 LBS - 3220 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

Pressure altitude (feet)	TRQ (%)	ISA - 20° C		ISA - 10° C		ISA		ISA + 10° C		ISA + 20° C	
24 000	48	**-52**	**154**	**-42**	**153**	**-32**	**152**	**-22**	**150**	**-12**	**149**
		38.3		38.9		39.6		40.0		40.6	
		114	**220**	116	**223**	118	**227**	119	**228**	121	**231**
25 000	48	**-54**	**153**	**-44**	**152**	**-34**	**151**	**-24**	**149**	**-14**	**147**
		37.7		38.3		39.0		39.4		39.8	
		112	**222**	114	**226**	116	**229**	117	**231**	118	**232**
26 000	48	**-56**	**153**	**-46**	**151**	**-36**	**150**	**-26**	**149**	**-16**	**148**
		37.4		37.9		38.5		39.2		39.8	
		111	**226**	113	**228**	114	**231**	117	**235**	118	**238**
27 000	50	**-57**	**155**	**-47**	**153**	**-37**	**151**	**-27**	**149**	**-17**	**148**
		37.7		38.1		38.5		39.0		39.6	
		112	**232**	113	**235**	114	**237**	116	**239**	118	**242**
28 000	51	**-59**	**157**	**-49**	**154**	**-39**	**152**	**-29**	**150**	**-19**	**149**
		38.1		38.2		38.7		39.1		39.8	
		113	**239**	114	**240**	115	**243**	116	**245**	118	**248**
29 000	52	**-61**	**156**	**-51**	**154**	**-41**	**152**	**-31**	**150**	**-21**	**148**
		37.7		38.1		38.6		39.0		39.5	
		112	**242**	113	**244**	115	**247**	116	**249**	117	**251**
30 000	52	**-63**	**155**	**-53**	**153**	**-43**	**151**	**-33**	**149**	**-23**	**147**
		37.3		37.8		38.2		38.7		39.1	
		111	**244**	112	**247**	113	**250**	115	**252**	116	**254**
31 000	52	**-65**	**155**	**-55**	**153**	**-45**	**150**	**-35**	**148**	**-25**	**146**
		37.3		37.7		37.9		38.3		38.8	
		111	**249**	112	**251**	113	**252**	114	**255**	115	**257**

Figure 5.11.19 (2/2) - CRUISE PERFORMANCE
Long Range Cruise (7100 lbs - 3220 kg) (Altitude $\geq$ 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"

Pressure altitude (f t)	Vz = 1500 ft/min					Vz = 2000 ft/min					Vz = 2500 ft/min				
	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)	Time (min. s)	Consump.			Dist. (NM)
		l	kg	USG			l	kg	USG			l	kg	USG	
31000	20:40	70	55	18.5	101	15:30	47	37	12.4	75	12:25	34	27	9.0	60
30000	20:00	68	53	17.9	97	15:00	45	36	12.0	72	12:00	33	26	8.8	58
28000	18:40	64	50	16.8	89	14:00	43	34	11.3	66	11:10	31	25	8.3	53
26000	17:20	59	47	15.7	81	13:00	40	31	10.6	61	10:25	29	23	7.8	48
24000	16:00	55	43	14.5	73	12:00	37	29	9.8	55	09:35	28	22	7.3	44
22000	14:40	51	40	13.4	66	11:00	34	27	9.1	50	08:50	26	20	6.8	40
20000	13:20	47	37	12.3	59	10:00	32	25	8.4	44	08:00	24	19	6.3	35
18000	12:00	42	33	11.1	53	09:00	29	23	7.6	39	07:10	22	17	5.8	31
16000	10:40	38	30	10.0	46	08:00	26	20	6.8	34	06:25	20	15	5.2	27
14000	09:20	33	26	8.8	40	07:00	23	18	6.1	30	05:35	18	14	4.6	24
12000	08:00	29	23	7.6	33	06:00	20	16	5.3	25	04:50	15	12	4.1	20
10000	06:40	24	19	6.4	27	05:00	17	13	4.5	21	04:00	13	10	3.4	16
8000	05:20	20	15	5.2	22	04:00	14	11	3.7	16	03:10	11	8	2.8	13
6000	04:00	15	12	3.9	16	03:00	11	8	2.8	12	02:25	8	6	2.2	10
4000	02:40	10	8	2.7	10	02:00	7	6	1.9	8	01:35	6	4	1.5	6
2000	01:20	5	4	1.4	5	01:00	4	3	1.0	4	00:50	3	2	0.8	3
SL	00.00	0	0	0	0	00.00	0	0	0	0	00.00	0	0	0	0

Figure 5.12.1 - TIME, CONSUMPTION AND DESCENT DISTANCE

5.13 - HOLDING TIME

Conditions :
- Landing gear and flaps UP
- IAS = 120 KIAS - "BLEED" switch on "AUTO"
- TRQ ≃ 26 %

Pressure altitude (feet)	FUEL USED DURING HOLDING TIME											
	Weight 5500 lbs (2495 kg)						Weight 6300 lbs (2858 kg)					
	10 min			30 min			10 min			30 min		
	l	kg	USG	l	kg	USG	l	kg	USG	l	kg	USG
SL	30	23	7.8	89	70	23.5	30	24	8.0	91	71	24.1
5000	26	21	6.9	79	62	20.8	27	21	7.1	81	64	21.4
10000	24	18	6.2	71	55	18.7	24	19	6.5	73	58	19.4
15000	22	17	5.8	66	51	17.3	23	18	6.0	69	54	18.1
20000	20	16	5.3	60	47	15.9	21	17	5.6	63	50	16.7

Figure 5.13.1 - HOLDING TIME

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 "FIVE-BLADED PROPELLER".

S/ R/ A/ O	ITEM OPT70 or MOD70	REQUIRED (R) OR STANDARD (S) OR OPTIONAL (A or O) EQUIPMENT	WEIGHT per unit lb (kg)	ARM in. (m)
		61 - PROPELLER		
		61-10 - Propeller assembly		
O	0345-61	Propeller HC-E5N-3C / NC8834K + spinner 104552P	171.08 (77.60)	43.11 (1.095)

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 "FIVE-BLADED PROPELLER".

7.6 - POWERPLANT

PROPELLER

Airplane is equipped with a composite five-bladed, constant-speed and full-feathering propeller.

7.13 - ICE PROTECTION EQUIPMENT

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.

CAUTION

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

SECTION 8

HANDLING, SERVICING AND MAINTENANCE

Information hereafter supplement or replace those of the standard airplane described in Section 8 "Handling, servicing and maintenance" of the basic Pilot's Operating Handbook when the airplane is equipped with the option "FIVE-BLADED PROPELLER".

8.8 - AIRPLANE CLEANING AND CARE

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.