

TRAINING REFERENCE ONLY — NOT A SUBSTITUTE FOR THE AFM

This summary is provided for training use. The approved Airplane Flight Manual for your airframe's serial number is the sole authority for operation of the airplane.

Source: DAHER TBM 910 Pilot's Information Manual, Section 2 — Limitations. Verified against BOTH editions in service: SN 1270 and UP, Edition 1 Revision 3, and SN up to 1269, Edition 0 Revision 5. Where the editions differ, both values are shown. The Ice Detection System is fitted to SN 1270 and UP only.

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1. GENERAL

2.1 - General

PIM 2.1.1

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

This airplane must be flown in compliance with the limits specified by placards or markings and with those given in this section and throughout the POH.

The GARMIN G1000 NXi Integrated Flight Deck Pilot's Guide, No. 190-02218-01 [SN up to 1269: No. 190-02218-00], or any later version as applicable, must be readily available to the pilot and permanently kept in the airplane with the POH.

The Pilot's Guide for the MD302 Standby Attitude Module P/N 9017846 Rev. G [SN up to 1269: Rev. E] or any later version as applicable, must be permanently kept in the airplane with the POH. [SN up to 1269: ...must be permanently kept in the airplane with the Pilot's Operating Handbook.]

Departure into IMC is not authorized if the MD302 battery fails its initial capacity check with associated message : [SN up to 1269: Departure into IMC is not authorized if the MD302 battery following message is displayed :]

WARNING

INTERNAL BATTERY MAY PROVIDE LESS THAN 60 MINUTES OF OPERATIONS

or if there is a red "X" over the battery symbol at MD302 initialization.

This section of the airplane POH 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 POH.

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

NOTE

Transcription note: the WARNING above is printed in the manual as a boxed WARNING block quoting the MD302 message text.

Minimum crew

PIM 2.7.1

- One pilot at L.H. front seat

Maximum occupancy

PIM 2.7.1

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

PIM 2.7.1

Flight with door open or ajar is prohibited.

Chemical toilet cabinet, if installed

PIM 2.7.1 (E0 only)

[SN up to 1269 ONLY] The cabinet must be stowed during takeoff and landing. No baggage on the top of the cabinet for the whole flight.

NOTE

This subheading and limitation are printed only in Edition 0 (SN up to 1269), page 2.7.1. There is no corresponding paragraph in Edition 1 (SN 1270 and UP).

2. AIRSPEED

2.2 - Airspeed limitations

PIM 2.2.1

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

Figure 2.2.1 - Airspeed limitations

	Speed	KCAS	KIAS	Remarks
Vmo	Maximum operating speed	271	266	Do not intentionally exceed this speed in normal flight category
Va	Maneuvering speed	160	158	Do not make abrupt or full control movements above this speed
Vfe	Maximum flaps extended speed : landing configuration	120	122	Do not exceed these speeds depending on flaps position
Vfe	Maximum flaps extended speed : takeoff configuration	180	178	Do not exceed these speeds depending on flaps position
Vlo	Maximum landing gear operating speed : extension	180	178	Do not extend or retract landing gear above this speed
Vlo	Maximum landing gear operating speed : retraction	151	150	Do not extend or retract landing gear above this speed
Vlo	Maximum landing gear operating speed : emergency extension	151	150	Do not extend or retract landing gear above this speed
Vle	Maximum landing gear extended speed	180	178	Do not exceed this speed with landing gear extended

3. POWER PLANT

Engine

PIM 2.3.1

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 limitation - Takeoff	850°C
ITT limitation - Maximum climb/cruise	840°C
ITT limitation - During start	< 840°C, no duration limitation < 870°C for 20 seconds max. < 1000°C for 5 seconds max.

CAUTION

When normally operating, refer to chapter 5.8 Engine operation tables.

Propeller

PIM 2.3.4

Number of propellers	1
Propeller manufacturer	HARTZELL
Propeller model number	HC-E5N-3C / NC8834K
Propeller diameter - Minimum	90 in (2.286 m)
Propeller diameter - Maximum	91 in (2.311 m)
Propeller blade setting at station 30 in - Low pitch	19.5°
Propeller blade setting at station 30 in - Feathering	85°
Propeller blade setting at station 30 in - Maximum reverse	- 9°

2.4 - Starter operation limits

PIM 2.4.1

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	

4. FUEL

Fuel

PIM 2.3.3

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

The quantity of usable fuel can be safely utilized during all normal airplane maneuvers. [SN up to 1269: 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 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. [SN up to 1269: ...Additive concentrations (EGME or DIEGME) shall be comprised between a minimum of 0.06 % and a maximum of 0.15 % by volume. Refer to section 8 Handling, servicing and maintenance for additional information.]

CAUTION

The use of aviation gasoline (AVGAS) must be restricted to emergency purposes only. AVGAS shall not be used for more than 150 cumulative hours during any period between engine overhaul periods.

NOTE

Use of AVGAS to be recorded in engine module logbook.

CAUTION

Maximum sideslip duration is 30 seconds.

Figure 2.3.1 - Recommended fuel types

PIM 2.3.4

Figure 2.3.1 - Recommended fuel types — Reference : Service Bulletin P & W C. No. 14004

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

5. OIL

Oil

PIM 2.3.2

CAUTION

Do not mix different viscosities or specifications of oil as their different chemical structure can make them incompatible.

Maximum oil temperature	104 °C
Oil pressure - Minimum	60 psi
Oil pressure - Maximum	135 psi, a transient oil pressure up to 170 psi is acceptable for maximum 20 seconds
Oil capacity - System total capacity	12.7 Quarts (12 litres), oil cooler included
Oil capacity - Usable capacity	6 Quarts (5.7 litres)

Normal oil pressure is 105 to 135 psi. Oil pressures under 105 psi are undesirable. Under emergency conditions, to complete a flight, a lower oil pressure of 60 psi is permitted 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.

6. INSTRUMENT MARKINGS

Airspeed indicator on PFD(s) and on standby airspeed indicator

PIM 2.8.1

Markings and their color code significance are shown in figure 2.8.1.

Figure 2.8.1 - Airspeed indicator markings

Marking	KIAS (Value or range)	Significance
Red strip	Below 65	/
White strip	65 - 122	Full flap operating range Lower limit is maximum weight V_{so} in landing configuration.
Green strip	122 - 266	Normal operating airspeed range
Red/white barber pole strip	Above 266	266 = V_{mo}

Pressurization

PIM 2.8.1

Figure 2.8.2 - Pressurization marking

Marking	Value	Significance
Red line	6.2 psi	Cabin Δ P limit

NOTE

Glyph note: E1 prints "Cabin Δ P limit" (Greek capital delta); E0 prints "Cabin Δ P limit" (increment sign). Value and meaning identical.

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

Figure 2.8.3 - Engine instrument markings

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 105 psi	105 to 135 psi	135 psi (red line) normal limit
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
ITT — Engine running	---	---	400 to 840 °C (752 to 1544 °F)	840 °C (1544 °F) normal limit
Torque (TRQ)	---	100 %	0 to 100 %	101 %

7. WEIGHT AND BALANCE

Weight limits

PIM 2.5.1

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)
Maximum baggage weight - in rear part of pressurized cabin (>> With 6-seat accommodation)	220 lbs (100 kg)
Maximum baggage weight - in rear part of pressurized cabin (>> With 4-seat accommodation)	396 lbs (180 kg), with small or large net, see sketch below

Figure 2.5.1 - Baggage limits : [Graphic — see PIM 2.5.1]

C.G. limits

PIM 2.5.2

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

Forward limit	181.3 in (4.604 m) aft of datum at 4409 lbs (2000 kg) or less (14 % of m.a.c)
Forward limit	183.6 in (4.664 m) aft of datum at 6250 lbs (2835 kg) (18 % of m.a.c)
Forward limit	185.3 in (4.707 m) aft of datum at 6579 lbs (2984 kg) (20.85 % of m.a.c)
Forward limit	187 in (4.752 m) aft of datum at all weights above 7024 lbs (3186 kg) (23.8 % of m.a.c)
Aft limit	193.65 in (4.921 m) aft of datum at 7394 lbs (3354 kg) (35 % of m.a.c.)
Aft limit	194 in (4.928 m) aft of datum at 6986 lbs (3169 kg) (35.5 % of m.a.c.)
Reference datum	118.1 in (3 m) in front of the firewall front face.
Variation between points	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 : [Graphic — see PIM 2.5.2]

Seating limits C.G.

PIM 2.7.1

2 front seats	178.5 in (4.534 m)
>> With 4-seat accommodation or 6-seat accommodation — 2 intermediate seats	224.8 in (5.710 m)
>> With 6-seat accommodation — Rear bench (2 seats)	267.1 in (6.785 m)

Baggage limits

PIM 2.7.1

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

Cargo net installation limits

PIM 2.7.1 (E1) / 2.7.2 (E0)

Small cargo net	maximum loading height = 28 in (710 mm)
Large cargo net	maximum loading height = 22 in (565 mm) in cabin, out of baggage compartment.

CAUTION

No item may extend forward of the cargo net system to protect door from obstruction.

8. FLIGHT AND OPERATING LIMITS

Maneuver limits

PIM 2.6.1

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°.

WARNING

Aerobatic maneuvers, including spins, are not approved.

Temperature limits

PIM 2.6.1

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

PIM 2.6.1

Flaps up - Weight below 6579 lbs (2984 kg)	- 1.5 < n < + 3.8 g
Flaps up - Weight above 6579 lbs (2984 kg)	- 1.5 < n < + 3.5 g
Flaps down	- 0 < n < + 2.0 g

CAUTION

Intentional negative load factors prohibited.

NOTE

Transcription note: the flaps-down line is printed as a bulleted entry reading “- 0 < n < + 2.0 g”; the leading “-” is the list bullet, not a minus sign. Reproduced here exactly as printed. Both editions print it identically.

Generator limits

PIM 2.6.2

Generator load must be below 200 A when the airplane is on the ground.

- 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) AGL in cruise or climb.
- Do not use autopilot in approach below 200 ft (60 m) AGL.
- Do not use autopilot for airspeeds below 85 KIAS.

NOTE

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

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 :

GIAs	two TSO--C145d Class 3 approved GARMIN GIAs [SN up to 1269: two TSO--C145a (or later) Class 3 approved GARMIN GIAs]
Display Units	TSO--C146d Class 3 approved GARMIN GDUs Display Units
Antennas	GARMIN GA36 and GA37 antennas
GPS software	GPS software version 7.0 or later approved version [SN up to 1269: GPS software version 5.1 or later approved version]

- is installed in this airplane in accordance with AC 20-138A.
- is, as installed in this airplane, approved for navigation using GPS and GPS/SBAS (within the coverage of a SBAS complying with ICAO Annex 10) for IFR enroute, terminal area, and RNP APCH operations (to LNAV, LNAV/VNAV and LPV minima).
- is, as installed in this airplane, complying with the equipment, performance, and functional requirements to conduct RNAV and RNP operations in accordance with the applicable requirements of the reference documents listed in the following table.

Table 2.6.1 - GNSS operational requirements

PIM 2.6.3 - 2.6.5

NOTE

Depending on the area of navigation, an operational approval may be required to use the navigation performance that are detailed in the table hereafter. The pilot is responsible to ensure compliance with current operational requirements.

This table is accurate at the time it was published.

Phase of flight	Approved PBN Capability	Operational limitations	Reference Documents	ICAO Flight Plan Code Item 10a Code	ICAO Flight Plan Code Item 18 PBN/	Notes
En-route, Oceanic and Remote continental (Class II Navigation)	RNAV 10 RNP 10	GNSS FDE availability must be verified prior to flight. Maximum predicted FDE unavailability is 34 minutes. 1 Two GNSS systems required to be operational. 2	FAA AC 90-105A	R	A1	Additional communication and surveillance equipment may be required to obtain operational approval to utilize RNP 10 / RNAV 10 performance.
En-route continental, Arrival	RNAV 5 (formerly designated as B-RNAV)	One GNSS system required to be operational.	JAA AMJ 20X2	R	B2	
En-route, Oceanic and Remote continental (Class II Navigation)	RNP 4	GNSS FDE availability must be verified prior to flight. Maximum predicted FDE unavailability is 25 minutes. 1 Two GNSS systems required to be operational. 2	FAA AC 90-105A	R	L1	Additional communication and surveillance equipment may be required to obtain operational approval to utilize RNP 4 performance.
Departure, En-route continental, Arrival	RNAV 2 / RNAV 1	One GNSS system required to be operational,	JAA TGL-10 FAA AC 90-105A	R	C2 / D2	

Phase of flight	Approved PBN Capability	Operational limitations	Reference Documents	ICAO Flight Plan Code Item 10a Code	ICAO Flight Plan Code Item 18 PBN/	Notes
Domestic, Offshore, Oceanic and Remote continental	RNP 2	GNSS FDE availability must be verified prior to oceanic or remote continental flight. Maximum predicted FDE unavailability is 5 minutes. Two GNSS systems required to be operational. 2 Only one operational GNSS system required for domestic and offshore operations areas.	FAA AC 90-105A	R	-	Additional communication and surveillance equipment may be required to obtain operational approval to utilize RNP 2 performance.
Departure, Arrival,	RNP 1 (with and without RF legs)	At a minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs.	FAA AC 90-105A	R	O2	Includes RNP terminal departure and arrival procedures. This includes procedures with Radius-to-Fix legs (RF legs).

Phase of flight	Approved PBN Capability	Operational limitations	Reference Documents	ICAO Flight Plan Code Item 10a Code	ICAO Flight Plan Code Item 18 PBN/	Notes
Approach	RNP APCH LNAV minima (with and without RF legs)	At a minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs.	EASA AMC 20-27 FAA AC 90-105A	R	S1	Includes non-precision approaches based on conventional navigation aids with “or GPS” in the title and area navigation approaches titled “GPS”, “RNAV (GPS)”, and “RNAV (GNSS)”. This includes procedures with RF legs. RF legs may be used in the initial and intermediate legs of the approach procedure or the final leg of the missed approach procedure only.

Phase of flight	Approved PBN Capability	Operational limitations	Reference Documents	ICAO Flight Plan Code Item 10a Code	ICAO Flight Plan Code Item 18 PBN/	Notes
Approach [ROW PRESENT IN E1 (SN 1270 and UP) ONLY — no RNP APCH LNAV/VNAV row is printed in the SN up to 1269 (E0) table]	RNP APCH LNAV/VNAV minima (with and without RF legs)	At a minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs. QNH shall be available at the destination airport when conducting a Baro-VNAV approach. Use of remote altimeter setting source is not allowed to conduct a Baro-VNAV approach. The two primary altimeters must be operational when flying a RNP APCH LNAV/VNAV with Baro-VNAV guidance	EASA AMC 20-27 FAA AC 90-105A	R	S2	Includes area navigation approaches titled “RNAV (GPS)” and “RNAV (GNSS)” This includes procedures with RF legs. Vertical guidance is based on GPS/SBAS and/or Baro-VNAV. RF legs may be used in the initial and intermediate legs of the approach procedure or the final leg of the missed approach procedure only.
Approach	RNP APCH LPV minima (with and without RF legs)	At a minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs.	EASA AMC 20-28	B		RF legs may be used in the initial and intermediate legs of the approach procedure or the final leg of the missed approach procedure only.

1 and 2, see Note 1 and Note 2 hereafter

NOTE

Note 1 — FDE/RAIM availability worldwide can be determined using the WFDE Prediction program, part number 006-A0154--01 or later approved version with GARMIN GA36 and GA37 antennas selected, or :

- Within the United States, using the FAA's en-route and terminal RAIM prediction website : www.raimprediction.net, or by contacting a Flight Service Station.
- Within Europe, using Europe's AUGUR GPS RAIM Prediction Tool at <http://augur.ecacnav.com/augur/app/home>.

(Printed on page 2.6.6 in E1 / page 2.6.5 in E0.)

NOTE

Note 2 — A BOTH ON GPS1 or BOTH ON GPS2 system annunciation does not necessarily mean that one GPS has failed. Refer to the MFD – GPS STATUS page to determine the state of the unused GPS.

(Printed on page 2.6.6 in E1 / page 2.6.5 in E0.)

General considerations

PIM 2.6.6 (E1) / 2.6.5 (E0)

The route planning and WFDE prediction program may be downloaded from the GARMIN website on the internet. For information on using the WFDE Prediction Program, refer to GARMIN WAAS FDE Prediction Program, part number 190--00643--01, 'WFDE Prediction Program Instructions'.

Garmin International holds an FAA Type 2 Letter of Acceptance (LOA) in accordance with RTCA/DO-200A and AC 20-153B for database integrity, quality, and database management processes for many of its aviation databases. LOA status and RTCA/DO-200A List of Applicable Avionics (190-01999-00) can be viewed at FlyGarmin.com.

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.

GNSS (GPS/SBAS) navigation system limitations — Navigation database limitations

PIM 2.6.7 (E1) / 2.6.6 (E0)

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

RNP APCH including "GPS", "or GPS", "RNAV (GPS)" and "RNAV (GNSS)" instrument approaches using the Garmin integrated flight deck 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 into the flight plan by its name. Not all published Instrument Approach Procedures (IAP) are in the Navigation database.

Manual entry of waypoints using latitude/longitude or place/bearing is prohibited for published RNP and RNAV routes.

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.

For flight planning purposes, in areas where SBAS coverage is not available, the pilot must check RAIM availability. 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, in Remote Continental and Oceanic areas, the pilot must check FDE availability. Refer to the Table 2.6.1 - GNSS operational requirements, to check maximum authorized FDE unavailability and WFDE Prediction program references.

Approach operations limitations

PIM 2.6.8 (E1) / 2.6.7 (E0)

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 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 shall be used.

Use of the GARMIN 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 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.

Use of Baro-VNAV to a DA is not authorized with a remote altimeter setting. A current altimeter setting for the landing airport is required. When using remote altimeter minima, the Baro-VNAV function may be used to the published LNAV MDA. [SN 1270 and UP (E1) ONLY — this paragraph is not printed in the SN up to 1269 (E0) manual]

Procedures with RF legs (Radius to Fix legs)

PIM 2.6.8 (E1) / 2.6.7 (E0)

At the minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs. [SN up to 1269: At a minimum, the flight director must be displayed and utilized when conducting procedures containing RF legs.]

Advisory visual approaches [SN up to 1269: Advisory visual approaches, if installed]

PIM 2.6.9 (E1) / 2.6.8 (E0)

WARNING

Use of advisory visual approaches in IMC is prohibited. Advisory visual approaches are intended to be used as an aid to situational awareness and do not guarantee terrain or obstruction clearance along the approach path.

Flap operating envelope

PIM 2.6.11 (E1) / 2.6.10 (E0)

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

Reverse utilization

PIM 2.6.11 (E1) / 2.6.10 (E0)

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

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

Weather radar [SN up to 1269: Weather radar GWX 70]

PIM 2.6.11 (E1) / 2.6.10 (E0)

On ground, the radar radiation is inhibited when the landing gear shock absorbers are compressed. However, it is important to obey the following restrictions :

- Do not operate the radar during refueling operations or in the vicinity of trucks or containers containing flammables or explosives.
- Do not allow personnel within 12 feet of area being scanned by antenna when system is transmitting.

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 is maintained in accordance with the airplane maintenance manual - refer to section List of equipment, paragraph List of critical RVSM equipment.

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

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

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

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

NOTE

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

The standby altimeter is not approved for RVSM operations.

In-flight breaker use limits

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

Enhanced mode S

The installed mode S system satisfies the data requirements of ICAO Doc 7030/4, regional supplementary procedures for SSR mode S enhanced surveillance in designated european airspace. The capability to transmit data parameters is shown in column 2 :

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

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.

9. ICE AND RAIN PROTECTION

Icing conditions

PIM 2.6.9 (E1) / 2.6.8 (E0)

Except for certain phases of flight where the POH specifies that deicing boots should not be used (e.g. take-off, final approach, and landing), compliance with the following is required.

Wing and Tail Leading Edge Pneumatic Deicing Boot System must be activated:

- At the first sign of ice formation anywhere on the aircraft, and
- The system must either be continued to be operated in the automatic cycling mode, if available; or the system must be manually cycled as needed to minimize the ice accretions on the airframe.

The wing and tail leading edge pneumatic deicing boot system may be deactivated only after leaving icing conditions and after the airplane is determined to be clear of ice.

APPLIES TO SN 1270 AND UP ONLY — The Ice Detection System is only an advisory system. The pilot must activate manually the ice protection systems as a preventive prior to entering icing conditions or when icing conditions are identified. [SN up to 1269: paragraph NOT printed — no Ice Detection System is addressed in the E0 manual]

In any case of icing conditions, first refer to Particular procedures described in chapter 4.5 and in case of unforeseen icing conditions, refer in addition to the Emergency procedure described in chapter 3.12.

NOTE

Ice Detection System limitation is printed only in Edition 1 (SN 1270 and UP). It must not be applied to SN up to 1269 airplanes.

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.

All wing icing inspection lights must be operative prior to flight into icing conditions at night.

NOTE

This supersedes any relief provided by the Master Minimum Equipment List (MMEL).

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 and in case of unforeseen icing conditions, refer in addition to the Emergency procedure described in chapter 3.12.

10. KINDS OF OPERATION

Equipment required depending on type of operation

PIM 2.6.11 (E1) / 2.6.10 (E0)

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).

1. Pilot instruments	- Airspeed indicator - Sensitive and adjustable altimeter - Stand-by heading reference instrument [SN up to 1269: - Magnetic compass with built-in compensator]
2. CAS warning and caution messages	- Oil pressure - Low fuel pressure - Fuel selector OFF - Fuel auxiliary pump ON - L.H. and R.H fuel tank low level - Non functioning of fuel timer - Battery stop - Main generator OFF - Low voltage - Ground power unit connected - Inertial separator - Starter - Ignition - Flaps - Landing gears and doors
3. Aural warning	- Vmo 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

PIM 2.6.14 (E1) / 2.6.13 (E0)

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

PIM 2.6.14 (E1) / 2.6.13 (E0)

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

PIM 2.6.15 (E1) / 2.6.14 (E0)

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

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"

11. PLACARDS

2.9 - Placards

PIM 2.9.1 - 2.9.10 (E1) / 2.9.1 - 2.9.11 (E0)

NOTE

The two editions do not use the same placard reference numbers. Edition 0 (SN up to 1269) carries placards that Edition 1 does not and vice versa, so the numbering diverges in both directions — it is NOT a uniform offset. Use the two reference columns in the table above, which give each edition's own number, rather than adding or subtracting a constant.

Placards — Section 2.9

Ref. E1 (SN 1270 and UP)	Ref. E0 (SN up to 1269)	Location (as printed)	Placard text — E1 (SN 1270 and UP)	Placard text — E0 (SN up to 1269)
(1)	(1)	Under L.H. front side window	[Graphic placard — see PIM 2.9.1]	[Graphic placard — see PIM 2.9.1]
— (not printed)	(2)	Calibration chart on compass and on windshield post [E0 only]	[Not present in E1]	For N 30 60 E 120 150 Steer (blank fill-in boxes) For S 210 240 W 300 330 Steer (blank fill-in boxes) DATE : RADIO ON
(2)	(3)	On pressurized baggage compartment partition wall	[Graphic placard — see PIM 2.9.1]	100 kg -- 220 lbs MAXIMUM IT IS THE PILOT'S RESPONSIBILITY TO CHECK THAT ALL THE BAGGAGES ARE PROPERLY SECURED FOR LOADING INSTRUCTIONS SEE WEIGHT AND BALANCE DATA IN PILOT'S OPERATING HANDBOOK
(2)a	(3)a	For the small cargo net, on the right lower upholstery panel	[Graphic placard — see PIM 2.9.2]	[Graphic placard — see PIM 2.9.2]
(2)b	(3)b	For the large cargo net, on R.H. side upholstery panel, in the rear baggage compartment	[Graphic placard — see PIM 2.9.2]	[Graphic placard — see PIM 2.9.2]

Ref. E1 (SN 1270 and UP)	Ref. E0 (SN up to 1269)	Location (as printed)	Placard text — E1 (SN 1270 and UP)	Placard text — E0 (SN up to 1269)
(2)c	(3)c	On FWD baggage compartment door frame (non pressurized)	[Graphic placard — see PIM 2.9.2]	50 kg -- 110 lbs MAXIMUM FOR LOADING INSTRUCTIONS SEE WEIGHT AND BALANCE DATA IN PILOT'S OPERATING HANDBOOK
(3)	(4)	On pedestal console	[Graphic placard — see PIM 2.9.3]	[Graphic placard — see PIM 2.9.3]
(4)	(5)	On fuel selector	[Graphic placard — see PIM 2.9.3]	[Graphic placard — see PIM 2.9.3]
(5)	(6)	Near fuel tank caps	[Graphic placard — see PIM 2.9.3]	[Graphic placard — see PIM 2.9.3]
(6)	(7)	On internal face of L.H. engine cowling	Oil system capacity 12 l 12.7 qt	Oil system capacity 12 l 12.7 qt
(7)	(8)	On landing gear emergency control access door	[Graphic placard — see PIM 2.9.4]	LDG GEAR EMERGENCY ACCESS PULL
(8)	(9)	Under window, at L.H. Intermediate seat	[Graphic placard — see PIM 2.9.4]	[Graphic placard — see PIM 2.9.4]
(9)	(10)	Above passenger's table [SN up to 1269: On rear passenger's table casing]	[Graphic placard — see PIM 2.9.4]	TABLE MUST BE STOWED DURING TAKEOFF AND LANDING
(10)	(11)	Under R.H. control wheel	[Graphic placard — see PIM 2.9.5]	[Graphic placard — see PIM 2.9.5]
(11)	(12)	On nose gear door	[Graphic placard — see PIM 2.9.5]	[Graphic placard — see PIM 2.9.5]
(12)	(13)	On nose gear leg	NOSE LANDING GEAR TIRE PRESSURE : 6,5 bar 94 psi	NOSE LANDING GEAR TIRE PRESSURE : 6,5 bar 94 psi
(13)	(14)	On main gear leg	MAIN LANDING GEAR TIRE PRESSURE : 8,96 bar 130 psi	MAIN LANDING GEAR TIRE PRESSURE : 8,96 bar 130 psi

Ref. E1 (SN 1270 and UP)	Ref. E0 (SN up to 1269)	Location (as printed)	Placard text — E1 (SN 1270 and UP)	Placard text — E0 (SN up to 1269)
(14)	(15)	On engine cowling, in front of compartment door	EXTERNAL POWER 28 VOLTS D.C. NOMINAL 800 AMP STARTING CAPACITY MIN DO NOT EXCEED 1000 AMP	EXTERNAL POWER 28 VOLTS D.C. NOMINAL 800 AMP STARTING CAPACITY MIN DO NOT EXCEED 1000 AMP
(15)	(16)	On pilot door - External side, if installed	[Graphic placard — see PIM 2.9.6]	[Graphic placard — see PIM 2.9.6]
(16)	(17)	On access door - External side	[Graphic placard — see PIM 2.9.7]	[Graphic placard — see PIM 2.9.7]
(17)	(18)	On outer fuselage skin aft of access door [SN up to 1269: On outer fuselage skin aft of access door and in the cabin forward of access door — E0 covers both locations under one reference]	[Graphic placard — see PIM 2.9.7]	[Graphic placard — see PIM 2.9.7]
(18)	(18) — combined with the row above	In the cabin forward of access door [E1 lists this as a separate reference; E0 combines it into (18)]	[Graphic placard — see PIM 2.9.7]	[Covered by E0 ref (18)]
(19)	(19)	On access door - Internal side	[Graphic placard — see PIM 2.9.8]	[Graphic placard — see PIM 2.9.7]
(20)	(20)	On pilot door - Internal side, if installed	[Graphic placard — see PIM 2.9.8]	[Graphic placard — see PIM 2.9.8]
(21)	(21)	On emergency exit handle — Marking on cover / Marking on handle	[Graphic placard — see PIM 2.9.8]	[Graphic placard — see PIM 2.9.8]
(22)	— (not printed)	Above emergency exit door [E1 only]	[Graphic placard — see PIM 2.9.9]	[Not present in E0]
(23)	(22)	On last step of stairs	[Graphic placard — see PIM 2.9.9]	STAIRS MAX LOAD : ONE PERSON
— (not printed)	(23)	On R.H. access door jamb [E0 only]	[Not present in E1]	[Graphic placard — see PIM 2.9.9]

Ref. E1 (SN 1270 and UP)	Ref. E0 (SN up to 1269)	Location (as printed)	Placard text — E1 (SN 1270 and UP)	Placard text — E0 (SN up to 1269)
— (not printed)	(24)	On R.H. side at front seat level and on the first rear passengers masks container (R.H. side on the ceiling) [E0 only]	[Not present in E1]	[Graphic placard — see PIM 2.9.9]
(24)	(25)	On rear passengers masks containers	[Graphic placard — see PIM 2.9.9]	[Graphic placard — see PIM 2.9.9]
(25)	(26)	On internal face of the oxygen cylinder service door	[Graphic placard — see PIM 2.9.9]	[Graphic placard — see PIM 2.9.10]
(26)	(27)	On the oxygen service door	[Graphic placard — see PIM 2.9.10]	[Graphic placard — see PIM 2.9.10]
(27)	(28)	On emergency locator transmitter inspection door	[Graphic placard — see PIM 2.9.10]	[Graphic placard — see PIM 2.9.10]
— (not printed)	(29)	On the potty seat curtain, if installed, on pilot's side [E0 only]	[Not present in E1]	CURTAIN MUST BE STOWED FOR TAKE--OFF AND LANDING
(28)	(30)	>> Airplane equipped with coat hanger (Post-MOD70-0641-25A) [SN up to 1269: >> Airplane equipped with coat hanger (Post-MOD70-0557-25B)] — On the L.H. rear cargo compartment panel upper edge	[Graphic placard — see PIM 2.9.10]	[Graphic placard — see PIM 2.9.11]
(29)	— (not printed)	>> Airplane equipped with coat and headset hanger (Post-MOD70-0683-25F) — On the L.H. rear cargo compartment panel upper edge [E1 only]	[Graphic placard — see PIM 2.9.10]	[Not present in E0]

NOTE

Most placards are reproduced in the PIM as artwork with no extractable text layer; these are marked [Graphic placard — see PIM 2.9.x] rather than transcribed, per the no-inference rule. Where one edition's text layer carried the placard wording and the other did not, only the wording actually printed/extractable is shown, in its own column.

12. V-SPEED DEFINITIONS (GENERAL REFERENCE)

Takeoff and Initial Climb

V-Speed	Name	Meaning
V1	Takeoff decision speed	Maximum speed at which a reject may be initiated; at or above it the takeoff must be continued.
Vr	Rotation speed	Speed at which the pilot rotates to raise the nose.
Vlof	Lift-off speed	Speed at which the aircraft first becomes airborne.
V2	Takeoff safety speed	Target climb speed with the critical engine inoperative.
V2min	Minimum takeoff safety speed	Lowest allowable V2 .
Vef	Engine-failure speed	Speed at which the critical engine is assumed to fail (certification).
Vmu	Minimum unstick speed	Slowest speed at which the aircraft can safely lift off.
Vfto	Final takeoff speed	Speed in the final takeoff / climb segment.

Climb Performance

V-Speed	Name	Meaning
Vx	Best angle of climb	Most altitude gained per distance over the ground.
Vy	Best rate of climb	Most altitude gained per unit of time.
Vxse	Best angle, single-engine	Vx with one engine inoperative (multiengine).
Vyse	Best rate, single-engine	Vy with one engine inoperative — the blue line .

Stall Speeds

V-Speed	Name	Meaning
Vs	Stall speed	Minimum steady flight speed at which the aircraft is controllable.
Vs0	Stall speed, landing configuration	Stall with full flaps and gear down — bottom of the white arc.
Vs1	Stall speed, clean configuration	Stall in a specified (usually clean) configuration — bottom of the green arc.
Vsr	Reference stall speed	Certification reference stall speed.
Vsse	Safe single-engine speed	Minimum speed for intentionally cutting one engine.
Vsw	Stall warning speed	Speed at which the stall warning activates.

Airspeed Indicator Limit Speeds

V-Speed	Name	Meaning
Va	Design maneuvering speed	Maximum speed for full or abrupt control inputs without overstress.
Vno	Maximum structural cruising speed	Normal operating limit — top of the green arc, start of the yellow arc.
Vne	Never-exceed speed	The red line — never exceed.
Vfe	Maximum flap-extended speed	Top of the white arc.
Vle	Maximum landing-gear-extended speed	Maximum speed flying with the gear down.
Vlo	Maximum landing-gear-operating speed	Maximum speed to extend or retract the gear.
Vmo / Mmo	Maximum operating limit speed / Mach	Maximum operating airspeed and Mach number.

Approach and Landing

V-Speed	Name	Meaning
Vref	Landing reference speed	Threshold-crossing speed, typically $1.3 \times V_{s0}$.
Vapp	Approach speed	Target speed on final approach.
Vbg	Best glide speed	Speed for maximum glide distance (best lift-to-drag ratio).

Multiengine Control

V-Speed	Name	Meaning
Vmc / Vmca	Minimum control speed (airborne)	Minimum speed to maintain control with the critical engine inoperative — red radial line.
Vmcg	Minimum control speed (ground)	Minimum control speed on the takeoff roll.
Vmcl	Minimum control speed (landing)	Minimum control speed in the landing configuration.
Vmbe	Maximum brake energy speed	Maximum speed from which the brakes can absorb a rejected takeoff.

Design and Certification Speeds

V-Speed	Name	Meaning
Vb	Design gust-intensity speed	Turbulence-penetration design speed.
Vc	Design cruising speed	Certification design cruising speed.
Vd / Vdf	Design / demonstrated diving speed	Certification dive speed.
Vf	Design flap speed	Certification design flap speed.
Vh	Maximum level-flight speed	Maximum speed in level flight at maximum continuous power.

NOTE

These are certification design speeds. They are rarely referenced in day-to-day operations.

Airspeed Indicator Colour Markings

CAUTION

GENERIC REFERENCE ONLY — these are the standard FAA airspeed-indicator markings and they do NOT describe this airplane. The TBM airspeed indicator has no yellow caution arc, no **Vne** red line, no **blue line** and no red radial: it reads red below 65 KIAS, white 65 to 122 KIAS, green 122 to 266 KIAS and a red/white barber pole above 266 KIAS (**Vmo**). For this airplane's actual markings see the Instrument Markings section of this document.

V-Speed	Name	Meaning
White arc	Flap operating range	Vs0 to Vfe .
Green arc	Normal operating range	Vs1 to Vno .
Yellow arc	Caution range	Vno to Vne — smooth air only.
Red line	Never exceed	Vne .
Blue line	Best rate, single-engine	Vyse (multiengine).
Red radial	Minimum control speed	Vmc (multiengine).

NOTE

The colour markings are defined by the V-speeds above, so a change to a limitation speed changes the arc.