Limitations

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General Limitations

Audio Checklist (with or without Cabin Briefer)

- The audio checklist must contain FAA-approved operating procedures. It is the operator's responsibility to ensure checklist contents are consistent with current AFM revisions.

Authorized Operations

- Day and night
- VFR and IFR flight
- Flight into icing conditions

Baggage

Nose Baggage Compartment . . . . . 350 LBS

Aft Cabin Storage Compartment . . . . . 600 LBS

Aft Cabin Storage Floor Load Limit . . . . . 120 LBS/SQ FT

Tailcone Baggage Compartment . . . . . 500 LBS TOTAL

Forward Section . . . . . 300 LBS

Aft Section . . . . . 200 LBS

Blade Antenna (E-Field) Installation

Used with Global GNS-X VLF/OMEGA

- Flight in P-static conditions (e.g., snow, rain, dust) causes VLF/OMEGA signal degradation. An associated decrease in position certainty may occur during these encounters.

Center Panel Mounted Single Clock

- Single pilot operation is prohibited when a center panel mounted single clock is installed.

Certification Status

- FAR, Part 25

Emergency Exit Door Pin

- Remove the emergency exit door pin prior to flight.

Maneuvers

- Acrobatic maneuvers, including spins, are prohibited.
- Intentional stalls above 25,000 ft are prohibited.

Minimum Flight Crew

- Pilot and copilot

Noise Levels

The Effective Perceived Noise Levels (EPNL) established in compliance with FAR 36, Amendment 12 (Stage 3) are shown in **Table 3-A**.The ICAO Annex 16 Chapter 3 noise values are the same as those for FAR Part 36, Amendment 12, and were obtained with the procedures used to establish compliance with FAR Part 36, Amendment 12. See **Table 3-A**.

The takeoff weight for these figures was 15,900 lbs; the landing weight was 15,200 lbs. Takeoff and sideline noise levels were established with a climb speed of 125 KIAS and with 7° flaps. The thrust was reduced at 3,565 ft AGL from the takeoff N_1% RPM to 82.7 N_1% RPM. Approach noise levels were obtained at 116 KIAS and FULL flaps.

No determination has been made by the FAA that the noise levels in the AFM are or should be acceptable or unacceptable for operation at, into, or out of any airport.

ICAO data applies only after approval of the Civil Aviation Authority of the country of the aircraft's registration (including approval of equivalent procedures used to establish FAR 36, Amendment 12 compliance).

Noise Reference	FAR 36 (EPNdB)	ICAO Annex 16, Chapter 3 (EPNdB)
Takeoff	83.7	68.7
Sideline	94.7	—
Approach	88.9	80.5

Table 3-A; Effective Perceived Noise Levels

Passenger Seat Position

- For all takeoffs and landings, the following apply.
  - Seats must be fully upright and outboard.
  - The seat just aft of emergency exit must be in most aft position to allow unobstructed access to the emergency exit.

Operational Limitations

Weight Limits

Maximum Ramp Weight . . . . . 16,100 LBS

Maximum Takeoff Weight . . . . . 15,900 LBS

- Takeoff weight is limited by the most restrictive of:
  - maximum certified takeoff weight
  - maximum takeoff weight permitted by climb requirements
  - takeoff field length.

Maximum Landing Weight . . . . . 15,200 LBS

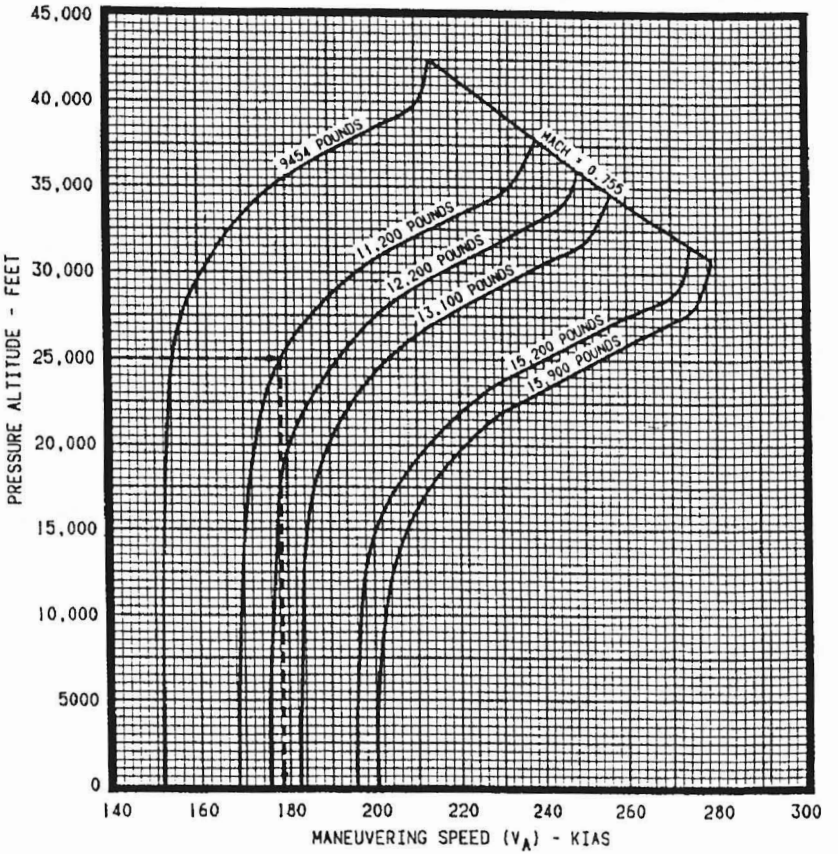
- Landing weight is limited by the most restrictive of:
  - maximum certified landing weight
  - maximum landing weight permitted by climb requirements or brake energy limit
  - landing distance.

Maximum Zero Fuel Weight:

Standard . . . . . 11,200 LBS

Optional . . . . . 12,200 LBS

Maximum Maneuvering Speeds



3-1

Speed Limits

V_A, Maximum Maneuvering . . . . . SEE CHART (**Figure 3-1**)

- Full application of rudder and aileron controls, as well as maneuvers that involve angles-of-attack near stall, should be confined to speeds below maximum maneuvering speed.

V_{FE}, Maximum Flap Extended:

Full Flaps, LAND Position (35°) . . . . . 173 KIAS

Partial Flaps, T.O.,
and T.O. & APPR. Position . . . . . 200 KIAS

V_{LE}, Maximum Landing Gear Extended . . . . . 292 KIAS

V_{LO}, Maximum Landing Gear Operating:

Extending . . . . . 250 KIAS

Retracting . . . . . 200 KIAS

V_{MCA}, Minimum Control, Air . . . . . 85 KIAS

V_{MCG}, Minimum Control, Ground . . . . . 86 KIAS

V_{MO}/M_{MO}, Maximum Operating (Zero Fuel Weight 11,200 Lbs):

V_{MO} Below 8,000 Ft . . . . . 261 KIAS

V_{MO} Between 8,000 and 28,907 Ft . . . . . 292 KIAS

M_{MO} Above 28,907 Ft . . . . . 0.755 M

- Do not deliberately exceed the maximum operating limit speeds in any regime of flight (climb, cruise, or descent) unless a higher speed is authorized for flight test or pilot training.
- The center-of-gravity envelope is shown in **Figure 3-2**.

V_{MO}/M_{MO}, Maximum Operating (Zero Fuel Weight 12,200 Lbs):

V_{MO} Below 8,000 Ft . . . . . 261 KIAS

V_{MO} Between 8,000 and 31,400 Ft . . . . . 276 KIAS

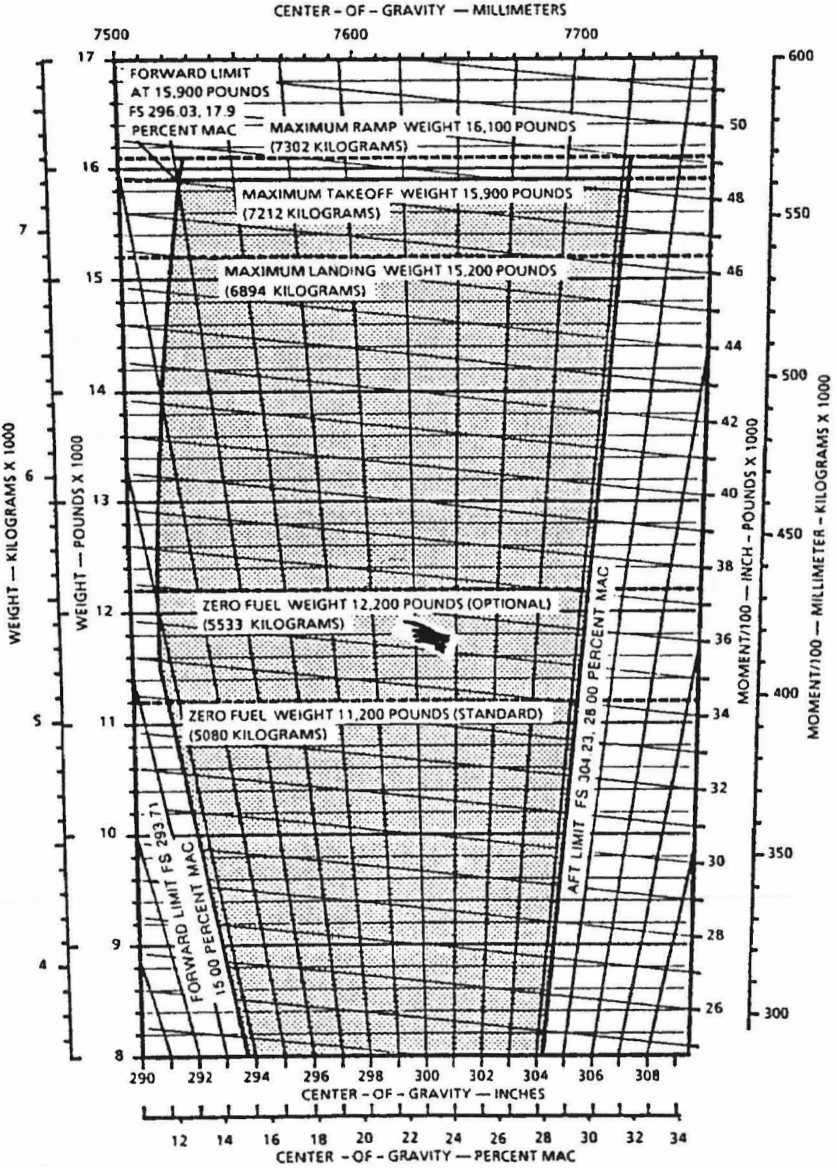
M_{MO} Above 31,400 Ft . . . . . 0.755 M

- Do not deliberately exceed the maximum operating limit speeds in any regime of flight (climb, cruise, or descent) unless a higher speed is authorized for flight test or pilot training.

V_{SB}, Maximum Speedbrake Operation . . . . . NO LIMIT

Autopilot Operation . . . . . 292 KIAS/0.755 M

Center of Gravity Moment Envelope



3-2

Takeoff and Landing Operational Limits

Maximum Altitude . . . . . 14,000 FT

Maximum Ambient Temperature (**Figure 3-3**) . . ISA + 39°C

Minimum Ambient Temperature . . . . . -54°C

Maximum Demonstrated Crosswind . . . . . 20 KTS

Maximum Tailwind Component . . . . . 10 KTS

Maximum Tire Groundspeed . . . . . 165 KTS

Maximum Water/Slush on Runway . . . . . 0.5 INCH

Nose Tire Pressure . . . . . 120 ± 5 PSI

- Goodrich nose tire P/N 031-613-8 is the only nose tire approved.
- The autopilot and yaw damper must be off for takeoff and landing.
- Vertical navigation system must be off below 500 ft AGL.

Gravel Runway Modification

For aircraft equipped for gravel runway operations, the following limitations apply.

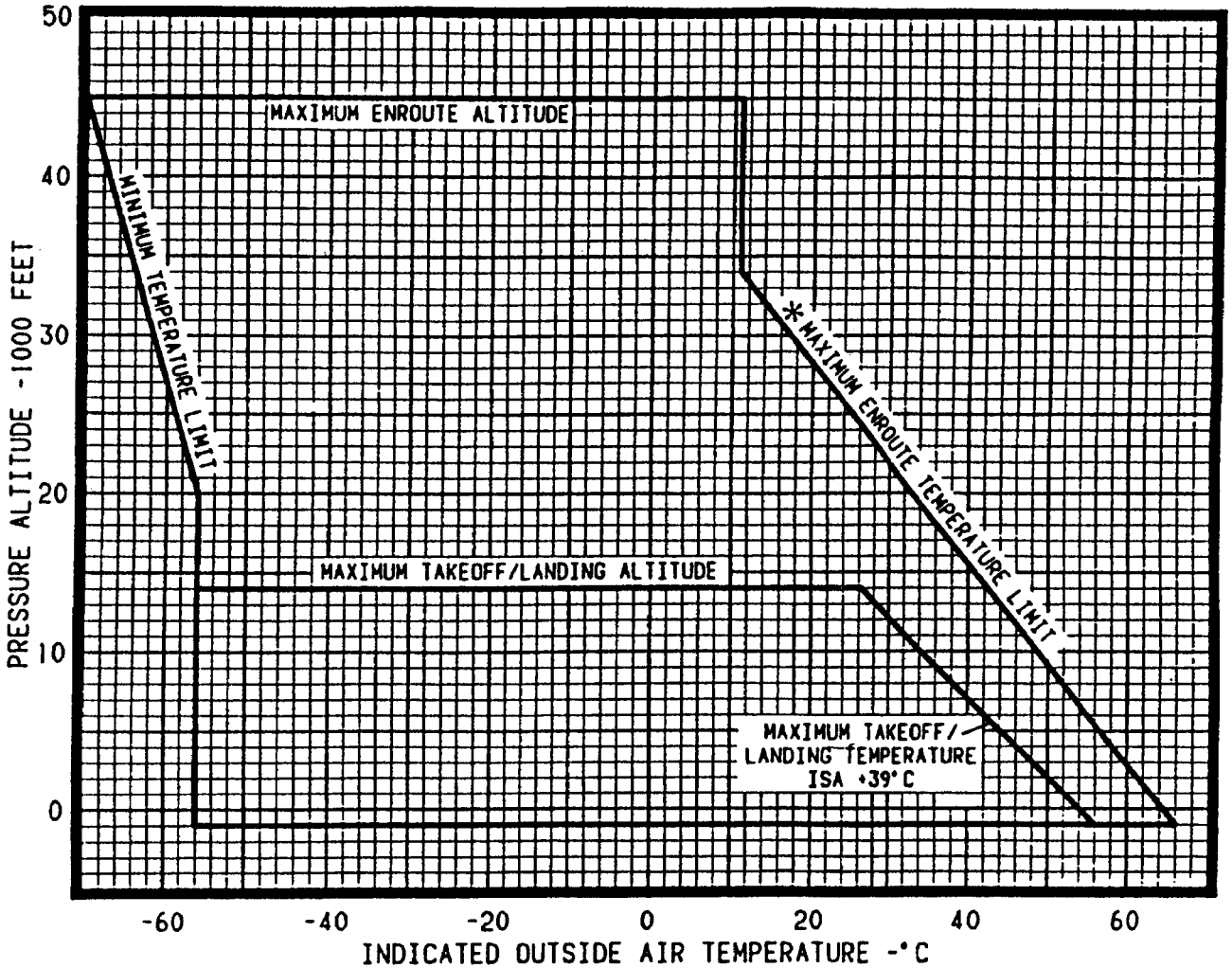
V_{LE}, Maximum Landing Gear Extended . . . . . 200 KIAS

V_{LO}, Maximum Landing Gear Operating
(Extending or Retracting) . . . . . 200 KIAS

- The anti-skid system must be operational and on for takeoff and landing on gravel runways.
- The nosewheel spin-up system shall be operational and on for landing on a gravel runway.
- Single pilot operation, per Exemption 4050A, is prohibited when operating from gravel runways.
- The nosewheel steering must be disengaged for takeoff and/or landing operation on gravel runways.

Information shown in italics is not included in the AFM Limitations chapter.

Takeoff/Landing/Enroute Temperature Limitations



* Maximum enroute operating temperature limit is ISA + 39°C ambient temperature adjusted for ram rise (refer to Figures 4-2 and 4-3, AFM, Performance Section) or the indicated outside air temperature from the above chart (AFM, Section 2), whichever is less.

3-3

Thrust reverser operation is prohibited on gravel runways.

CAUTION: Damage to the aircraft structure and engines may occur when operations are conducted on gravel. Exercise extreme care in maintaining proper approach speeds. High speeds during touchdown may cause gravel damage from the nose wheel.

Enroute Operational Limits

Maximum Operating Altitude . . . . . 45,000 FT

Maximum Ambient Temperature . . . . . SEE CHART (**Figure 3-3**, previous page)

Minimum Ambient Temperature . . . . . SEE CHART (**Figure 3-3**, previous page)

Generator Load 300A

Load Factors

In Flight

Flaps Up Position (0°) . . . -1.52 TO +3.8 G AT 15,900 LBS

Flaps T.O., T.O. & APPR to LAND Position (7 to 35°) . . . . . 0.0 TO +2.0 G AT 15,900 LBS

These accelerations limit the angle-of-bank in turns and severity of pullup maneuvers.

Landing

Flaps T.O. & APPR to LAND Position (15 to 35°) . . . . . +3.5 G AT 15,200 LBS

Systems Limitations

Avionics and Communications

Angle-of-Attack/Stick Shaker

- Use the angle-of-attack (AOA) indicating system as a reference, but do not use it to replace the airspeed indicator as a primary instrument.
- Use the AOA system as a reference for approach speed (1.3 V_{S1}) at all aircraft weights and center-of-gravity locations at zero, takeoff, takeoff/approach, and landing flap positions.
- If the stick shaker does not operate during the warning system test, or the AOA system is otherwise inoperative, it must be repaired before flight, except when operating the aircraft according to an approved Minimum Equipment List (MEL).

Autopilot

- One pilot must remain in his seat with seat belt fastened during all autopilot operations.
- Functionally test the autopilot torque monitor and roll monitor per procedures in the AFM, Section III prior to inflight use of the autopilot.
- Autopilot operation is prohibited above 14,500 ft if the torque monitor does not test (AP TORQUE annunciator illuminated) per normal procedures in the AFM, Section III.
- Autopilot operation is prohibited if the roll monitor annunciator illuminates in flight.
- Turn off the autopilot and yaw damper for takeoff and landing.
- Turn off the vertical navigation system below 500 ft AGL.

Global Airborne Flight Information System (AFIS)

- The Global System, Incorporated, Operator's Manual GNS-X (Report Number 1280, dated April 1, 1988, or later revision) and AFIS Operator's Manual Supplement for Global-Wulfsburg Systems GNS-X (Report Number 1278, dated March, 1989, revision 2 or later revision) must be immediately available to the flight crew for aircraft equipped with the Global AFIS.
- Navigation predicated on the GNS-X is prohibited until the navigation program is verified to be version PROG 02.
- The pilot in command must exercise reasonable and prudent judgment in the use of the advisory services of AFIS.

Global GNS-X Flight Management System

- The GNS Operator's Manual, Report No. 1280 with the applicable or later revisions, must be available to the flight crew whenever navigation is predicated on the use of the GNS-X.

  Refer to the applicable AFM supplement for pertinent program and report number information. Program version must be verified on the system's initialization page.

- Whenever operation is predicated on the use of the optional AFIS, the respective operator's manual, report number xxxx with the applicable or later revisions, must be available to the flight crew.

  Refer to the applicable AFM supplement for pertinent program and report number information.

- The GNS-X is not approved as the sole means of navigation. Other navigation equipment appropriate to the ground facilities along the intended route must be installed and operable, as required by the FARs applicable to the specific type of operation (i.e., VOR, DME, etc).

Information shown in italics is not included in the AFM Limitations chapter.

- The GNS-X position information must be checked for accuracy (reasonableness) prior to use as a means of navigation. The GNS-X position should be updated when a cross-check with other approved navigation equipment reveals an error greater than 3 NM, along-track or cross-track.
- Navigation within the national aerospace system shall not be predicated upon the GNS-X during periods of dead reckoning (DR).
- Following a period of dead reckoning, position should be verified by visually sighting ground reference points and/or using other navigation equipment such as NDB, VOR, DME, or radar fix.
- The GNS-X is not to be used as the primary reference in terminal areas, during approaches to or departures from airports unless the VPU sensor is operating and contributing to the position solution.
- When latitude/longitude transferred from the internal database (IDB) is displayed on the CDU, the pilot will ensure that it is a reasonable position for the requested identifier.
- The internal data base (IDB) must be updated to the latest revision every 28 days; updating to be accomplished with the Global Wulfsberg Systems update disk or equivalent. Update disks will be received by mail (to subscribers) or obtained from authorized Global Wulfsberg installation centers or update centers.
- The fuel management mode is for advisory purposes only and it does not replace the airplane primary fuel flow and fuel quantity systems.
- When operating outside the magnetic variation model (north of 70° north latitude or south of 60° south latitude), the pilot must manually insert magnetic variation.

- The GNS-X with LORAN-C and/or VLF/OMEGA sensors may be used in the North Atlantic - Minimum Navigation Performance Specification (NAT-MNPS) Airspace provided the proper documentation and approval is obtained and dual navigation systems are installed in accordance with Advisory Circular 91-49.
- It is the responsibility of the pilot in command to exercise reasonable and prudent judgement in the use of the advisory services of the optional AFIS.

Global GNS-X with LORAN-C

- Navigation may not be predicated on LORAN-C when operating outside the approved LOA boundaries as shown in the GNS-X Operator's Manual, or when the LORAN-C sensor is in DR.

Global GNS-X with VLF/OMEGA

- Navigation may not be predicated on VLF/OMEGA when the VLF/OMEGA sensor is in DR.
- The GNS-X with only the VLF/OMEGA sensor operating is not approved for operation into valleys (e.g., between peaks in mountainous terrain).

Global GNS-X with GPS

- The Global Positioning System (GPS) sensor is approved as a contributing sensor for navigation if one of the following is true.
  - the GPS sensor is not the only sensor selected for use; it receives four or more satellites; the GDOP is six or less, and the sensor is not using altitude
  - the system is receiving three or more satellites and the GDOP, using altitude, is 10 or less.
- Use manually entered altitude only after failure of the automatic inputs; update it every five minutes.

High Frequency (HF) Automatic Direction Finder (ADF) System

- The ADF bearing information may be erratic when keying the HF transmitter. If this occurs, disregard the ADF bearing during periods of transmission.

Honeywell FMZ-600/800/900 Flight Management System (FMS) with VLF/ OMEGA Sensor and Optional AFIS

- The Honeywell FMS Pilot's Manual (Report Number 5400-0154 with the following applicable or later revisions) must be immediately available to the flight crew for aircraft equipped with the Honeywell FMZ-600/800/900 FMS. The AFM supplement is intended for use with the following FMS program versions:
  - FMS Program Version – NZ-8803, NZ-8804, NZ-9002
  - FMS Pilot's Manual – F/4-25-88, G/1-27-89, H/1-8-90.
- The FMZ, with either one VOR/DME or two DMEs available for navigation, is approved for VFR/IFR RNAV operation within the contiguous U.S. and Alaska according to the enroute, terminal, and approach criteria of AC 90-45A and AC 20-130.
- If the Honeywell OZ-800 VLF/OMEGA sensor is receiving usable signals from at least two OMEGA navigation stations, the Honeywell OZ-800 VLF/OMEGA sensor is capable of and meets the requirements of the following:
  - VFR/IFR RNAV operation within the contiguous U.S. and Alaska according to the enroute criteria of AC 20-101C
  - flight in the NAT-MNPS airspace according to AC 120-33 or AC 91-49 with dual independent system installations
  - operation as sole means of lateral navigation according to AC 120-37 in the areas between latitudes 70°N and 55°S with the exceptions of that area above 45°N bounded by longitudes 30°E and 120°E extended across the Asian continent.

- The FMZ is not approved as the sole means of navigation. Therefore, when the FMZ with the Honeywell OZ-800 VLF/OMEGA sensor is to be used as the primary means of navigation, or when coupled to the autopilot, flight director, or HSI, the navigation equipment required by the FAR applicable to the specific type of operation must be installed and operating.
- Check the OZ-800 VLF-OMEGA position information for accuracy (reasonableness) prior to use as a means of navigation and under the following conditions:
  - prior to compulsory reporting points during IFR operation when not under radar surveillance or control
  - at or prior to arrival at each enroute waypoint during VLF/OMEGA operation along approved RNAV routes
  - prior to requesting off-airway routing, and at hourly intervals thereafter during VLF operation off of approved RNAV routes.
- Navigation shall not be predicated on the use of the OZ-800 VLF/OMEGA sensor during periods of sensor DR (annunciated as DR on VLF/OMEGA status).
- Following a period of DR (annunciated as NO POSITION SENSORS), visually sight ground reference points and/or use other navigation equipment (e.g., RNAV, NDB, VOR/DME, radar fix) to verify position fix.
- The OZ-800 VLF/OMEGA sensor is not to be used as the primary reference during any operation in a terminal area or during departures from or approaches to airports or into valleys (e.g., between peaks in mountainous terrain).

- The FMZ is approved for IFR RNAV approach operation if the following conditions are true:
  - the pilot confirms the tuned navaid used for VOR/DME updating and/or display
  - both the EHSI and FMZ CDU annunciate the approach mode (EHSI annunciates APP in blue and FMZ CDU annunciates APRCH in white)
  - the FMZ is programmed with data from the current published instrument approach procedures only
  - the FMZ CDU degrade annunciator is not illuminated
  - the last waypoint in the active flight plan is the destination airport.
- The use of manually inserted runway coordinates (place/bearing/distance, place/bearing/place/bearing, or latitude and longitude) is approved for VFR operations only.
- The FMS data base information must be kept current by monthly updates obtained from Honeywell – Commercial Flight Systems Division.
- When transferring latitude/longitude and vertical waypoint altitude from the data base, ensure that it is a reasonable position and correct vertical waypoint altitude for the requested identifier.
- When using previously stored flight plans and waypoints, verify them for reasonable position prior to use.
- During terminal area operation with the degrade annunciator illuminated on the FMZ CDU, verify the VOR/DME position.
- Fuel display parameters are advisory only; they do not replace the primary fuel quantity and flow indicators.

- The pilot's and copilot's altimeters are the primary altitude reference during all vertical navigation (VNAV) operations.
- Navigation data from the FMZ during periods of DR as indicated by the illumination of the CDU DR light above the CRT are not reliable; therefore, their use is prohibited for navigation.
- FMS vertical navigation data is advisory only and is limited to FMS CDU and EFIS. It cannot be coupled to the autopilot or EFIS.
- The pilot in command must exercise reasonable and prudent judgment in the use of the advisory services of AFIS.

Honeywell LSZ-850 Lightning Sensor System

- The Honeywell LSZ-850 Lightning Sensor System Pilot's Operating Manual (Publication Number 28-1146-54-00, dated June, 1988, or later revision) must be immediately available to the flight crew for aircraft equipped with the Honeywell LSZ-850 Lightning Sensor System.
- Do not base thunderstorm avoidance solely upon the use of the LSZ-850 Lightning Sensor System.

Honeywell Primus II SRZ-850 Integrated Radio System

- The Honeywell Pilot's Operating Handbook, SRZ-850 (Publication Number 28-1146-50-01, dated June, 1988, or later revision) must be immediately available to the flight crew for aircraft equipped with the Honeywell Primus II SRZ-850 Integrated Radio System.
- The aircraft must be equipped with an independent operational auxiliary COM 1/NAV 2 control display unit.

Honeywell Single EDZ-605 Electronic Flight Instrument System (EFIS) with Multifunction Display (MFD)

- The Honeywell SPZ-500C Integrated Flight Control System Pilot's Manual for the Citation II/V (Publication Number 28-1146-63-00, dated November, 1989, or later revision) must be immediately available to the flight crew for aircraft equipped with the single EDZ-605 EFIS.
- Both flight director and autopilot-coupled Category II approaches are approved using the Honeywell EDZ-605 EFIS displays.
- Category II approaches are not approved in the composite mode (REV SELECTED).

NOTE: Crew qualification is required to conduct Category II approaches. The Honeywell EDZ-605 EFIS is compatible with the Sperry SPZ-500 Flight Guidance System.

- Operating in the composite mode (REV SELECTED) is approved only with the flight director selected.
- Limit EFIS ground operation with the pilot's DISP FAN annunciator illuminated to 10 minutes or until either EADI HOT or EHSI annunciator illuminates (whichever occurs first).
- Do not dispatch with any EADI HOT or EHSI HOT annunciator illuminated.
- Do not dispatch in instrument meteorological conditions with the pilot's DISP FAN annunciator illuminated. Dispatch in visual meteorological conditions is allowed with the DISP FAN annunciator illuminated if the DISP FAN Illuminated on Ground abnormal procedures are followed.

- Do not dispatch following a flight where either an EADI HOT or EHSI HOT annunciator is illuminated until the condition is identified and corrected.
- The pilot's EADI and EHSI must be installed and operational in the normal (non-reversionary) mode for takeoff.
- Verify the EDZ-605 system is operational with a satisfactory preflight test per AFM normal procedures.
- Use the "T" speed display in the EADI for reference, but do not use it to replace the airspeed indicator as a primary instrument.
- The radar checklist must contain FAA-approved operating procedures. The operator must ensure the checklist contents are consistent with current AFM revisions.

On **units 001 to 074 with the Honeywell Single EDZ-605 EFIS**, limit ground operation with engines inoperative to ambient temperatures below ISA + 34°C as shown below.

Below 45°C . . . . . NO LIMIT
Between 45°C and 51°C . . . . . ONE HOUR LIMIT
Above 51°C . . . . . NO OPERATIONS PERMITTED

Honeywell SPZ-500 Flight Guidance System – Category II

- Equipment operation must be according to the Category II Manual. Category II operation is approved only from the left seat with the SPZ-500 system mounted for use from the pilot's instrument panel.
- The autopilot must be off at 80 ft AGL for approaches with the flaps in the landing position.
- Do not activate the marker beacon audio muting at the middle marker on a Category II approach. If it is activated, the inner marker audio remains muted because of the short time between markers.
- Prior to initiating a coupled Category II approach, verify autopilot is functioning.

- Make Category II approaches in the following configurations only: flaps in LAND, gear down, and both engines operating.

Honeywell Single EDZ-605 Electronic Flight Instrument System (EFIS)

- The Honeywell SPZ-500C Integrated Flight Control System Pilot's Manual for the Cessna Citation II/V (Publication EDZ-605/805, number 28-1146-63-00, dated November, 1989, or later revision) must be immediately available to the flight crew for aircraft equipped with the Honeywell Single EDZ-605/805 Electronic Flight Instrument System.
- Both flight director- and autopilot-coupled Category II approaches are approved for using the Honeywell EDZ-605 EFIS displays.
- Category II approaches are not approved in the composite mode (REV selected).

NOTE: Crew qualification is required to conduct Category II approaches. The Honeywell EDZ-605 EFIS is compatible with the Sperry SPZ-500 Flight Guidance System.

- Operating in the composite mode (REV selected) is approved only with the flight director selected.
- Limit EFIS ground operation with the pilot's DISP FAN annunciator illuminated to 10 minutes or until either EADI HOT or EHSI HOT annunciator illuminates (whichever occurs first).
- Do not dispatch if either the EADI HOT, EHSI HOT, or SG HOT annunciators illuminate.
- Do not dispatch in instrument meteorological conditions with the pilot's DISP FAN annunciator illuminated. Dispatch in visual meteorological conditions is allowed with the DISP FAN annunciator illuminated if the DISP FAN Illuminated on Ground abnormal procedures are followed.

- Do not dispatch following a flight where either an EADI HOT or EHSI HOT annunciator illuminates until identifying and correcting the condition.
- The pilot's EADI and EHSI must be installed and operational in the normal (non-reversionary) mode for takeoff.
- Verify the EDZ-605 system as operational per a satisfactory preflight test.
- On **units 001 to 074**, limit operations on the ground with or without engines operating as shown below.

  Below 45°C . . . . . NO LIMIT

  Between 45 and 51°C . . . . . ONE HOUR LIMIT

  Above 51°C . . . . . NO OPERATIONS PERMITTED

Honeywell Dual EDZ-605 Electronic Flight Instrument System (EFIS) with Multifunction Display (MFD)

- The Honeywell SPZ-500C Integrated Flight Control System Pilot's Manual for the Cessna Citation II/V (Publication Number 28-1146-63-00, dated November, 1989, or later revision) must be immediately available to the flight crew for aircraft with the Honeywell Dual EDZ-605 EFIS.
- Both flight director- and autopilot-coupled Category II approaches are approved using the Honeywell EDZ-605 EFIS displays.
- Category II approaches are not approved in the composite mode (REV selected).

NOTE: Crew qualification is required to conduct Category II approaches. The Honeywell EDZ-605 EFIS is compatible with the Sperry SPZ-500 Flight Guidance System.

- Operating in the composite mode (REV selected) is approved only with the flight director (single cue or cross-pointer) selected.
- Limit EFIS ground operation with either pilot's or copilot's DISP FAN annunciator illuminated to 10 minutes or until either EADI HOT or EHSI HOT annunciator illuminates (whichever occurs first).
- Dispatch is approved with any combination of two of the following symbol generators (SG) operational: pilot's SG, copilot's SG, or MFD SG. The hot annunciator associated with the two operational symbol generators must be extinguished.
- Do not dispatch with either the EADI HOT or EHSI HOT annunciator illuminated.
- Do not dispatch with both pilot's and copilot's DISP FAN annunciators illuminated.
- If the DISP FAN Light Illuminated on Ground abnormal procedures are followed, dispatch in visual meteorological conditions is allowed with one EFIS FAN (pilot or copilot) annunciator illuminated.
- Do not dispatch following a flight where either an EADI HOT or EHSI HOT annunciator illuminates until the condition is identified and corrected.
- Both the pilot's and the copilot's EADIs and EHSIs must be installed and operational in the normal (non-reversionary) mode for takeoff and flight into instrument meteorological conditions (IMC).
- The EDZ-605 system must be operational per a satisfactory preflight test as contained in the AFM normal procedures.
- The aircraft must have an operational, independently powered attitude gyro.
- Use the "T" speed display in the EADI for reference but do not use it to replace the airspeed indicator as a primary instrument. The copilot's "T" speed references the pilot's pitot/static system.

- The radar checklist must contain FAA-approved operating procedures. It is the operator's responsibility to ensure the checklist contents are consistent with current AFM revisions.
- On **units 001 to 074**, limit ground operation with or without engines operating when ambient temperatures are as shown below.

  Below 45°C . . . . . NO LIMIT

  Between 45°C and 51°C . . . . . ONE HOUR LIMIT

  Above 51°C . . . . . NO OPERATIONS PERMITTED

J.E.T. ADI-330 Attitude Indicator

- Navigation information is limited to ILS localizer and glide-slope or BC localizer (NAV 1 or 2 only).
- Unless installed in place of the AI-804 standby gyro, the ADI-330 attitude indicator does not meet the instrument panel location requirements of FAR 121.305(j) for a third attitude instrument.

Standby Gyro Horizon

- Accomplish a satisfactory preflight test on the standby gyro system.

UNS-1 A/B Flight Management System

NOTE: The following are specific and individual limitations applicable to the various sensor modes of the UNS-1 Flight Management System. When all sensors are operating normally, composite navigation information is output. In this case, the limitations that apply are a composite of the limitations listed below.

- The UNS-1A or UNS-1B Operator's Manual, as applicable to the software version, must be available to the flight crew whenever navigation is predicated on the use of the UNS-1 FMS.

  Please refer to the applicable AFM supplement for pertinent software version and manual numbers.

- IFR FMS approaches must be performed in the FMS Approach Mode only, and in accordance with published area navigation approach procedures.
- The UNS-1 installation is not approved as the sole means of navigation. Therefore, when the UNS-1 is to be used as a primary means of navigation, or when coupled to the autopilot, flight director, or HSI, the navigation equipment required by the Federal Air Regulations (FARs) applicable to the specific type of operation must be installed and operating.
- The UNS-1 position information must be checked for accuracy (reasonableness) prior to use as a means of navigation and when a cross-check with other approved navigation equipment reveals an error greater than 3 NM, along-track or cross-track.
- Navigation shall not be predicated on the use of the UNS-1 during periods of Dead Reckoning.

Information shown in italics is not included in the AFM Limitations chapter.

- Following a period of dead reckoning (annunciated as POS UNCERTAIN on MSG page), position fix should be verified by visually sighting ground reference points and/or by using other navigation equipment such as RNAV, NDB, VOR/DME, or radar fix.
- The UNS-1 is not to be used as a primary reference during any operation in a terminal area or during departures from or approaches to airports unless the DME or Radio Reference Sensor (RRS) is operating and contributing to the solution.
- Jeppesen Data Base information must be kept current by monthly updates distributed by Universal Navigation Corporation or Jeppesen Incorporated.
- When longitude/latitude is transferred from the Jeppesen Data Base, the pilot must assure that is a reasonable position for the requested identifier.
- UNS-1 displayed VNAV information is advisory information only and is not valid below 18,000 ft unless it is barometrically corrected by interface to a digital air data computer or other source. With optional symbol generators, UNS-1 VNAV data can be displayed in the EFIS but cannot be coupled to the autopilot.
- If TAS input is not provided, VNAV information is not available and manual TAS entry is required for wind computations.
- Fuel display parameters are advisory only, and do not replace the primary fuel quantity and flow indicators.
- When using the HOLD function of the UNS-1, the airplane must be established on the final heading to the holding fix prior to activating the HOLD function.
- If the UNS-1 is configured to display VNAV data in the EFIS, the vertical angle limits on the UNS-1 configuration page must be set to 6° for approach and 8° for enroute.

OMEGA/VLF

- Provided the UNS-1 OMEGA/VLF sensor is receiving usable signals from at least two OMEGA navigation stations, the UNS-1 OMEGA/VLF sensor is demonstrated to be capable of and has been shown to meet the requirements of:
  - VFR/IFR RNAV operation within the conterminous United States and Alaska in accordance with enroute criteria of AC 20-130 or the criteria of AC 20-101C.
  - Flight in the NAT-MNPS Airspace in accordance with AC 120-33 or AC 91-49.
- The UNS-1 with OMEGA/VLF only operating is not to be used as a primary reference during operation into valleys, i.e., between peaks in mountainous terrain.

GPS

- The Global Positioning System (GPS) sensor is approved as a contributing sensor for navigation provided:
  - The GPS sensor is not the only sensor selected for use.
  - It is receiving four or more satellites.

CAUTION: When operating the UNS-1 GPS/OMEGA/VLF system, proximity to buildings, hangars, power lines, etc., may cause interference with the operation of the system. Verify position coordinates prior to departure.

Electrical and Lighting

Battery Limitations

- Limit engine starts to three per hour.
- If the BATT O'TEMP annunciator illuminates during ground operation, do not take off until after the proper maintenance procedures have been accomplished.
- If a battery limitation is exceeded, accomplish a deep cycle (including a capacity check) to detect possible cell damage.
- Three generator-assisted cross-starts equal one battery start. If using a GPU for start, do not count a battery cycle.

CAUTION: Use of a GPU with voltage in excess of 28V DC or current in excess of 1,000A may damage the starter.

Prolonged Ground Operation

- Continuous ground operation of generator above 125A at ground idle speed (46% N_2) or 225A at flight idle speed (52% N_2) is prohibited.

Starter Cycle Limitations

GPU or Generator-Assisted Cross-Start:

Engine Starts . . . . . TWO PER 30 MINUTES

Cycles of Operation . . . . . TWO WITH A 30-SECOND REST PERIOD BETWEEN CYCLES

Battery Start:

Engine Starts . . . . . THREE PER 30 MINUTES

Cycles of Operation . . . . . THREE WITH A 30-SECOND REST PERIOD BETWEEN CYCLES

Fuel

Anti-Ice Additive

WARNING: Anti-icing additives containing ethylene glycol monomethyl ether (EGME) or diethylene glycol monomethyl ether (DIEGME) are harmful if inhaled, swallowed or absorbed through the skin, and cause eye irritation. Also, they are combustible. Before using this material, refer to all safety information on the container.

- The minimum additive concentration for EGME shall be 0.06% by volume, and maximum concentration shall be 0.15% by volume. Fuel, when added to the tank, should have a minimum concentration of 0.06% by volume.
- Use not less than 20 fluid ounces of EGME additive per 260 gallons of fuel or more than 20 fluid ounces of EGME additive per 104 gallons of fuel.
- The minimum additive concetration for DIEGME shall be 0.10% by volume, and maximum concentration shall be 0.15% by volume. Fuel, when added to the tank, should have a minimum concentration of 0.10% by volume.
- Use not less than 20 fluid ounces of DIEGME additive per 156 gallons of fuel or more than 20 fluid ounces of DIEGME additive per 104 gallons of fuel.

CAUTION: Ensure that the additive is directed into the flowing fuel stream and that the additive flow is started after the fuel flow starts and is stopped before fuel flow stops. Do not allow concentrated additive to contact coated interior of fuel tank or aircraft painted surface.

NOTE: Military JP-4, JP-5, and JP-8 have refinery pre-blended anti-icing.

Approved Fuels

- Observe the limits shown in **Table 3-C**.

Condition	Per Canadian Pratt and Whitney Specification 204		Aviation Gasoline Per MIL-G-5572
	Jet A, A-1, A-2, JP-5, and JP-8	Jet B and JP-4	
Min. Fuel Temp. – Takeoff (°C)	-40	-54	-54
Min. Fuel Temp. ñ Starting (°C)	-40	-54	-54
Max. Fuel Temp. – (°C)	+50	+50	+32
Max. Altitude (ft)	45,000	45,000	18,000
Max. Asymmetric Fuel Differential for Normal Operations (lbs)	200	200	200
Emergency Asymmetric Fuel Differential (lbs) [1]	600	600	600
Fuel Control Density Adjustment for Optimum Engine Acceleration	0.81	0.79	0.73

Table 3-C; Approved Fuels and Associated Conditions

[1] Flight characteristic requirements were not demonstrated with a fuel imbalance above 200 lbs.

Aviation Gasoline

- All grades of MIL-G-5572 avgas are permitted for a maximum of 50 hours or 3,500 gallons between overhauls if the following occur.
  - Fuel temperature is within limits.
  - Maximum ambient air temperature at takeoff is +32°C.
  - Boost pumps are on. (To crossfeed, turn the boost pump off on the side opposite the selected tank.)
  - The hours avgas used are entered in the engine logbook. (For record-keeping purposes, assume one hour of engine operation equals 70 gallons of gasoline.)
  - Maximum operating altitude is 18,000 ft.

Boost Pumps

- The boost pumps must be on when the FUEL LOW LEVEL annunciators illuminate or when indicated fuel is 185 lbs or less.

Differential

Maximum Asymmetric
Fuel Differential in Flight . . . . . 200 LBS

Maximum Asymmetric Fuel
Differential in an Emergency . . . . . 600 LBS

Flight characteristic requirements were not demonstrated with fuel imbalance above 200 lbs.

Unusable Fuel

- Fuel remaining in the fuel tanks when the fuel quantity indicator reads zero is not usable in flight.

Hydraulics

Approved Fluids

- Hyjet, Hyjet W, III, or IV
- Skydrol 500A, B, B-4, C or LD-4

Ice and Rain Protection

Prolonged Ground Operation

- Limit ground operation of pitot/static heat to two minutes to preclude damage to angle-of-attack system.

Windshield Ice Protection Fluid

- Use TT-I-735 isopropyl alcohol for windshield anti-ice.

Landing Gear

Nose Tires

- Goodrich nose tire P/N 031-613-8 is the only nose tire approved.
- The nose tire must be inflated to 120 ± 5 PSI.

Oxygen

- The pressure-demand, sweep-on oxygen mask must be properly stowed to qualify as a quick-donning oxygen mask.

> **CAUTION**: Headsets, eyeglasses, or hats worn by the crew may interfere with the quick-donning capabilities of the optional oxygen masks.

- Continuous use of the supplemental oxygen system is prohibited above the following cabin altitudes:

  Carrying Passengers . . . . . 25,000 FT

  Crew Only . . . . . 37,000 FT

EROS Oxygen Mask

- Prior to flight, check the EROS oxygen mask and properly stow it in its receptacle to qualify it as a quick-donning oxygen mask.
- Continuous use of the supplemental oxygen system is prohibited above the following cabin altitudes:

  Carrying Passengers . . . . . 25,000 FT

  Crew Only . . . . . 40,000 FT

> **CAUTION**: Headsets, eyeglasses, or hats worn by the crew may interfere with the quick-donning capabilities of the oxygen mask. Unless carefully trimmed, mustaches and/or beards worn by crewmembers may interfere with proper sealing of the oxygen mask. Check mask fit and seal while on the ground prior to flight.

Powerplant – Pratt and Whitney Turbofan JT15D-5A

Approved Oils

- Use only the following oils:
  - Aero Shell Turbine Oil 500 and 560
  - Castrol 5000
  - Exxon Turbo Oil 2380
  - Mobil Jet Oil II and 254
  - Royco Turbine Oil 500 and 560
  - Oils listed in Pratt and Whitney Canada Inc. SB No. 7001.
- If oil replenishment with a dissimilar oil is necessary, it is permissible to use any approved oil brand if the total quantity of added oil does not exceed two U.S. quarts in any 400-hour period.
- If more than two U.S. quarts of oil is needed, and a dissimilar oil brand must be used, drain and flush the complete oil system, then refill with a single brand of approved oil according to engine Maintenance Manual instructions.

If oils of nonapproved brands or of different viscosities become intermixed, drain and flush the complete oil system, then refill with an approved oil according to the Engine Maintenance Manual instructions.

CAUTION: The engine manufacturer strongly recommends that when changing from an existing lubricant formulation to a third generation lubricant formulation a change be made only when an engine is new or freshly overhauled. For additional information on use of third generation oils, refer to the engine manufacturer's pertinent oil service bulletins.

Engine Fan Inspection

To ensure accurate fan speed thrust indication, inspect fan for damage prior to each flight.

Engine Operating Limits

Observe the limits shown in **Table 3-D**.

Thrust Setting		Operating Limits					
		Time Limit (minutes)	ITT (°C)	% Turbine RPM (N_2)	% Fan RPM (N_1)	Oil Pressure (PSIG) [2]	Oil Temperature (°C)
Takeoff		5	700	96	104 [4]	60 to 83 [3]	10 to 121
Maximum Continuous		Continuous	680	96	104 [4]	60 to 83	10 to 121
Idle	**Flight**	Continuous	580	52 minimum		40 minimum	-40 to 121
	Ground	Continuous	580	46 minimum		40 minimum	-40 to 121
Start			See Note 1				-40 minimum
Transient			700	96	106	See Note 3	-18 to 129

Table 3-D; Engine Operating Limits

[1] The maximum start limit is 700°C for two seconds. See **Figure 3-5**, page 3-43.

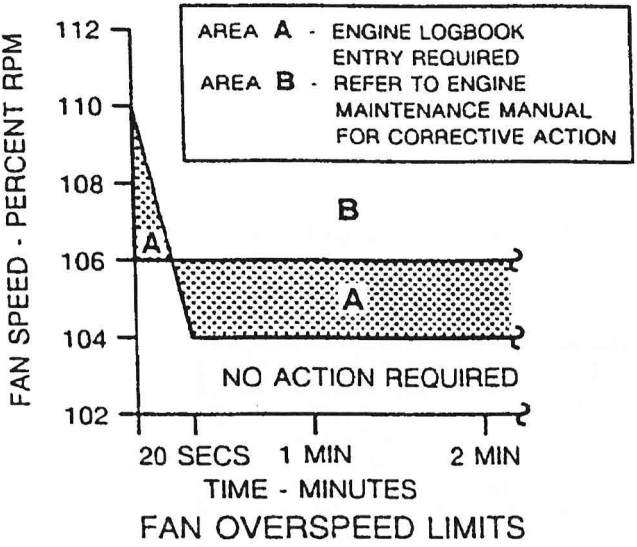
[2] Normal oil pressures are 60 to 83 PSIG above 52% turbine RPM. Oil pressures below 60 PSIG are undesirable and should be tolerated only for completion of the flight, preferably at a reduced power setting. Oil pressures below 40 PSIG are unsafe and require that either the engine be shut down or a landing be made as soon as possible using the minimum power required to sustain flight.

[3] The maximum transient oil pressure can be 95 PSIG for 90 seconds.

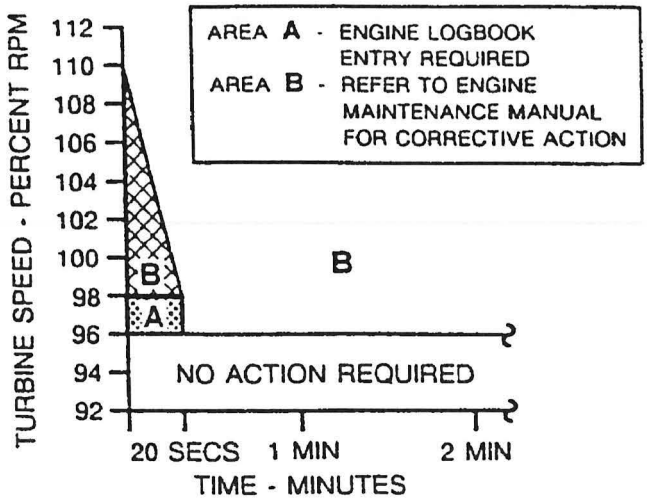
[4] Refer to the appropriate thrust setting charts in AFM Section IV for percent Fan RPM setting.

Engine Overspeed Limits

- Observe the limits shown in **Figure 3-4.**



FAN OVERSPEED LIMITS



TURBINE OVERSPEED LIMITS

3-4

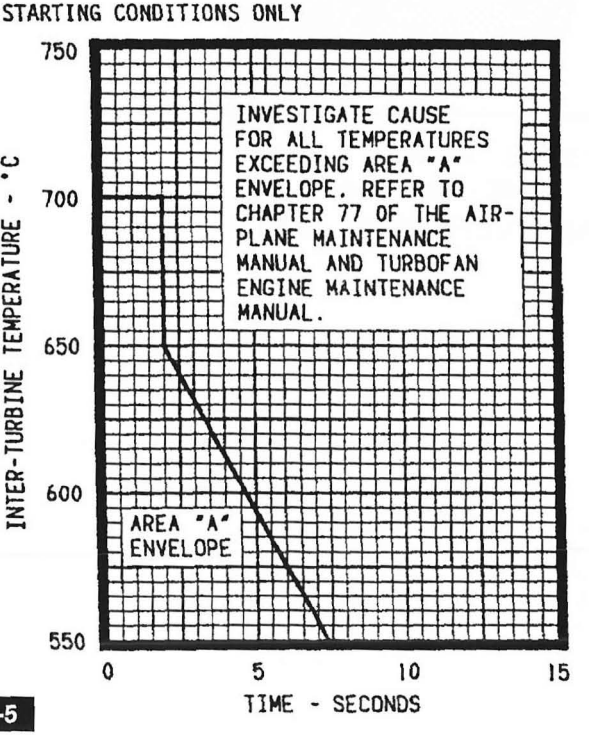
Ground Idle Switch

- The ground idle switch must be in HIGH during touch-and-go landings.
- The ground idle switch must be in HIGH during ground operation with engine anti-ice bleed ON.

ITT Limits

Minimum Oil Temperature for Starting . . . . . -40°C

- Observe the limits shown in **Figure 3-5**.



3-5

All conditions except starting: if the inter-turbine temperature (ITT) exceeds 700°C during takeoff, or if 680°C is exceeded at any time other than takeoff, refer to Chapter 77 of the Maintenance Manual and Engine Maintenance Manual.

Prolonged Ground Operation

- Limit continuous engine ground static operation, up to and including five minutes at takeoff thrust, to ambient temperatures not exceeding ISA +39°C.

Pneumatic and Pressurization

Cabin Pressurization

Normal . . . . . - 0.0 TO 8.9 ± 0.1 PSID

Flood Cooling System

- Do not operate the flood cooling system above 10,000 ft pressure altitude.
- Do not use the flood cooling system for cabin heating.

Freon Air Conditioner

- Do not operate the compressor above 18,000 ft.

Thrust Reverser

- Reduce reverse thrust power to idle reverse at 60 KIAS on landing roll.
- Limit maximum reverse thrust setting to 86% N_1 for ambient temperatures at or above -18°C and 79% N_1 for ambient temperatures below -18°C.
- Maximum allowable thrust reverser deployed time is 15 minutes in any one-hour period.
- Limit engine static ground operation to idle power if thrust reversers are deployed.
- Do not use thrust reversers during touch-and-go landings.
- Before every takeoff verify the thrust reversers are operational by using the Before Takeoff test in the AFM normal procedures.

Limitations – Citation SII

General Limitations

Authorized Operations

- Day and Night
- VFR and IFR Flight
- Flight Into Icing Conditions (**Figure 3-6**)
- Engine anti-ice must be on during ground and flight operations when icing conditions exist or are anticipated (visible moisture with OAT between +10°C and -30°C).

Maximum Baggage Loads

Nose Compartment:

With SBS550-30-15 (Anti-Ice System Improvement) . . . . . 330 LBS

Without SBS550-30-15 . . . . . 350 LBS

Aft Cabin . . . . . 600 LBS

Tailcone Compartment:

Without Freon Air-Conditioning:

Forward of Cargo Net . . . . . 300 LBS

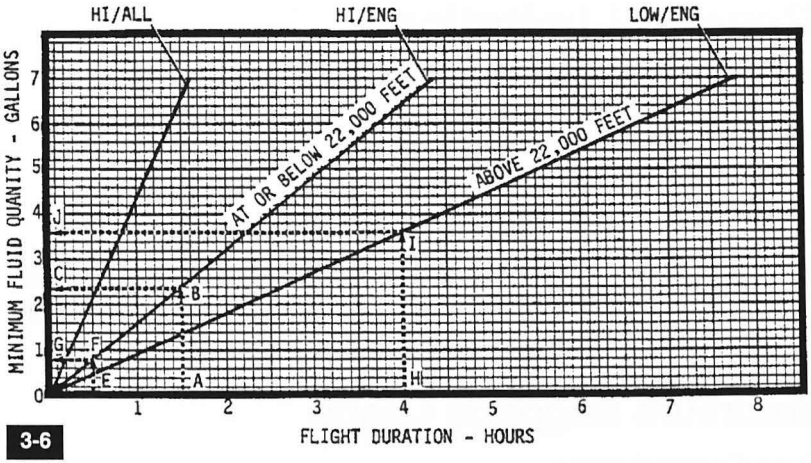
Aft of Cargo Net . . . . . 200 LBS

TOTAL . . . . . 500 LBS

With Freon Air-Conditioning . . . . . 300 LBS

There is no distinction between forward or aft of cargo net.

Required Minimum Engine Ice Protection Fluid Quantity



3-6

Certification Status

- FAR, Part 25

Emergency Exit

- The emergency exit door pin must be removed before flight.

Maneuvers

- No aerobatic maneuvers, including spins
- No intentional stalls above 25,000 ft or at engine speeds between 61.0 and 65.0% N_1

Flight Crew Requirements – Pilot/Copilot

- Pilot in command must have CE-500 type rating and meet FAR 61.58 requirements.
- The copilot shall posess a multi-engine rating, an instrument rating for flight above 18,000 ft or flight into instrument meterological conditions, and meet the requirements of FAR 61.55.
- Category II operation requires two pilots qualified in accordance with FAR 61.3.

Passenger Seat Position

- For all takeoffs and landings:
- Seats fully upright and outboard
- Seats aft of emergency exit must be in most aft position.

Towing

- Maximum nose gear towing turning angle limit is 95° either side of center. Forcing the nose gear beyond the towing stop (95° limit), shears the bolts attaching the steering gear assembly to the cylinder.

Operational Limitations

Maximum Weights

SII 001 to 085 without SBS550-11-1:

Ramp	14,900 LBS
Takeoff	14,700 LBS
Landing	14,000 LBS
Zero Fuel	11,000 LBS

SII 001 to 085 with SBS550-11-1; 086 and subsequent:

Ramp	15,300 LBS
Takeoff	15,100 LBS
Landing	14,400 LBS
Zero Fuel	11,200 LBS

Maximum takeoff and landing weights may be additionally restricted due to altitude, temperature, and field length.

- Takeoff weight is limited by most restrictive of:
  - maximum certified T/O weight
  - maximum T/O weight permitted by climb requirements
  - takeoff field length.
- Landing weight is limited by most restrictive of:
  - maximum certified landing weight
  - maximum landing weight permitted by climb requirements or brake energy limit
  - landing distance.

Center of Gravity Moment Envelope

SII 001 to 085 without SBS550-11-1:

Forward Limit:

At 9,600 lbs or less . . . . . 15.0% MAC
(273.71" AFT OF DATUM)

At 14,700 lbs . . . . . 19.92% MAC
(277.69" AFT OF DATUM)

There is a straight line variation between 15.0 and 19.92% MAC.

Aft Limit at 14,700 lbs or less . . . . . 28.0% MAC
(284.23" AFT OF DATUM)

SII 001 to 085 with SBS550-11-1; 086 and subsequent:

Forward Limit:

At 9,600 Lbs . . . . . 15.0% MAC
(273.71" AFT OF DATUM)

At 15,100 Lbs . . . . . 20.3% MAC
(277.99" AFT OF DATUM)

There is a straight line variation between 15.0 and 20.3% MAC.

Aft Limit at 14,700 Lbs or Less . . . . . 28.0% MAC
(284.23" AFT OF DATUM)

Speed Limits

M_{MO} above 29,315 ft . . . . . 0.721M INDICATED

V_{MO} 8,000 to 29,315 ft . . . . . 276 KIAS

V_{MO} below 8,000 ft . . . . . 261 KIAS

Do not exceed these limits in any flight regime (climb, cruise, or descent) unless a higher speed is authorized for flight test or pilot training.

Maximum Maneuvering (V_A) . . . . . SEE CHART (**Figure 3-7**, page 3-81)

- Confine the following to speeds below V_A:
  - full rudder application
  - full aileron control application
  - maneuvers involving angle of attack near stall.

Maximum Flap Extended (V_{FE}):

Full flaps, LAND (35°) 172 KIAS

Partial flaps, T.O./T.O.& APPR (7°/20°) 200 KIAS

7° flap performance is available on **SII 057 and subsequent and 001 to 056 with SBS550-27-2.**

Maximum Speedbrake Operation (V_{SB}) . . . . . NO LIMIT

Minimum Control – Air (V_{MCA}) . . . . . 83 KIAS

Minimum Control – Ground (V_{MCG}) . . . . . 73 KIAS

Autopilot Operation 276 KIAS/0.721M

Landing Gear Speeds:

Without SBS550-32-8 (Increased Maximum Gear Extend Speed):

V_{LE} . . . . . 172 KIAS

V_{LO} . . . . . 172 KIAS

With SBS550-32-8:

V_{LE} . . . . . V_{MO}

V_{LO} (Extending) . . . . . 250 KIAS

V_{LO} (Retracting) . . . . . 200 KIAS

With Gravel Runway Kit and SBS550-32-8:

V_{LE} . . . . . 200 KIAS

V_{LO} . . . . . 200 KIAS

Maximum Tire Ground Speed . . 165 KTS RECOMMENDED

Takeoff and Landing Operational Limits

Maximum Altitude . . . . . 14,000 FT

Maximum Ambient Temperature . . . . . ISA +39°C

Minimum Ambient Temperature . . . . . -54°C

Maximum Crosswind . . . . . DEMONSTRATED 29 KTS

Maximum Tailwind Components . . . . . 10 KTS

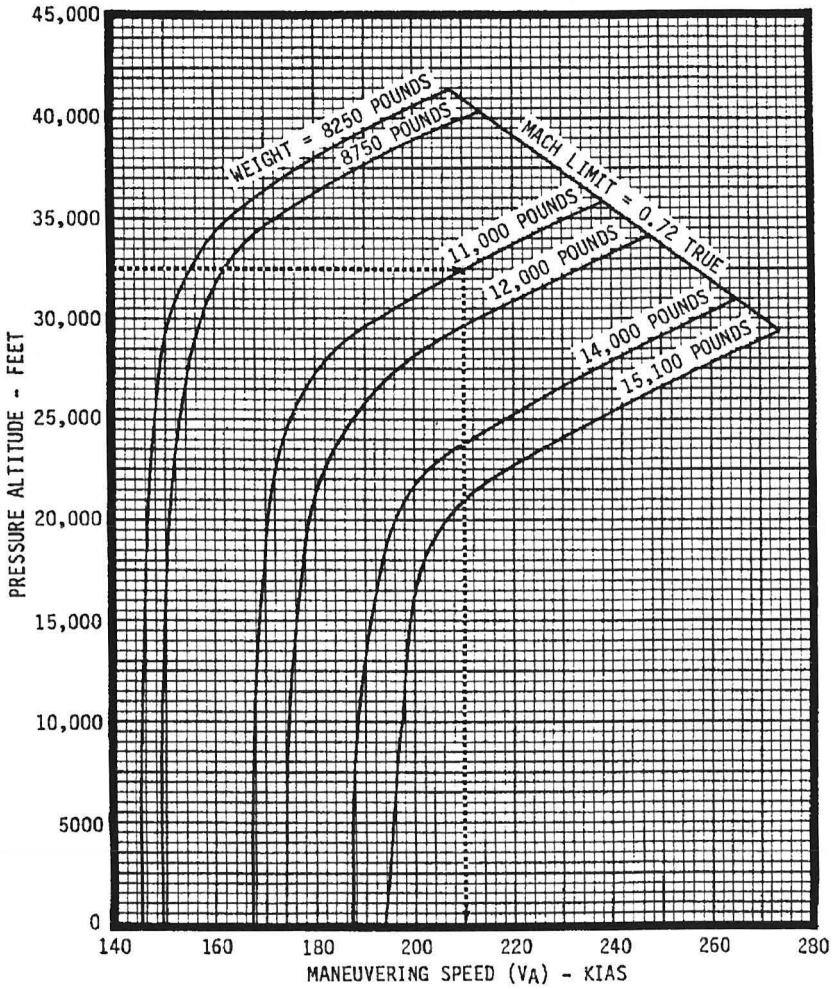
Maximum Water/Slush on Runway . . . . . 0.5 IN

Maximum Crosswind with T/Rs deployed . . . . . 25 KTS

- Autopilot/yaw damper must be off for takeoff/landing.
- Vertical navigation system must be off below 500 ft AGL.

Maximum Maneuvering Speeds

Citation SII



3-7

Enroute Operational Limits

Maximum Operating Altitude . . . . . 43,000 FT

Ambient Temperature Limits . . . . . SEE GRAPH (**Figure 3-8**)

Generator Load 300A

Load Factors

In Flight, Flaps:

Up (0°) . . . . . -1.52 TO +3.8 G

T.O./T.O. & APPR/ LAND (7° to 35°) . . . . 0.0 TO +2.0 G

7° flaps performance available on **SII 057 and subsequent and 001 to 056 with SBS550-27-2**.

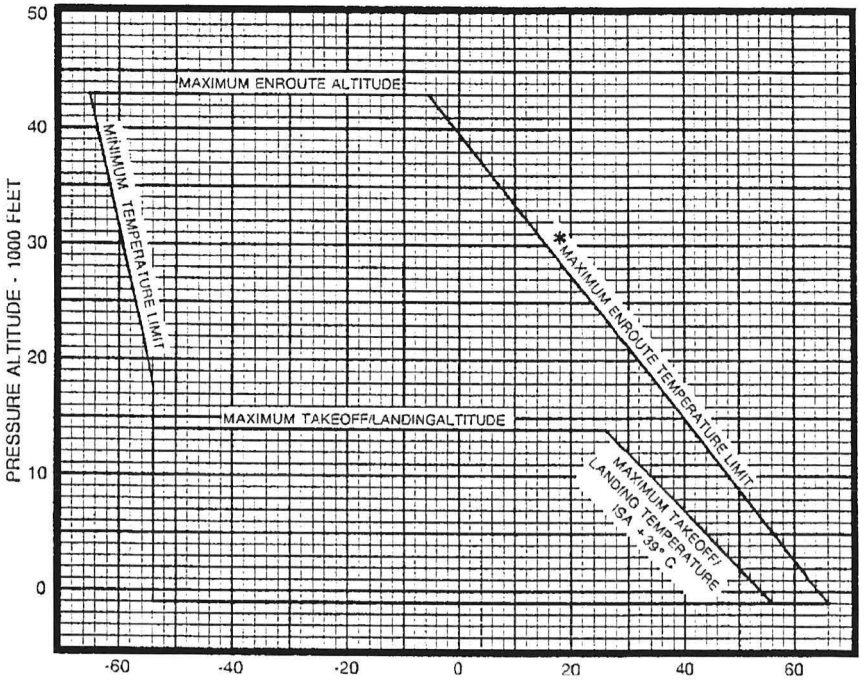
These accelerations limit angle-of-bank in turns and severity of pullup maneuvers.

During Landing, Flaps:

T.O. & APPR/LAND (20° to 35°) . . . . . +3.5 G

Takeoff/Landing/Enroute Temperature Limits

Citation SII



3-8

System Limitations

Avionics and Communications

Angle-of-Attack

- AOA may be used as reference, but does not replace the primary airspeed indicator.
- AOA can be used as reference for approach speed (1.3 V_{SI}) at all aircraft weights and CG locations with flaps at zero, takeoff/approach, and landing positions.
- If AOA or stick shaker is inoperative during warning system test, the system must be repaired before flight.

Autopilot

- One pilot must remain in his seat with seat belt fastened during all AP operations.
- AP current monitor must be functionally tested prior to inflight use.
- AP operation is prohibited above 14,500 ft if torque monitor does not test per AFM,III.
- Autopilot/yaw damper must be off for takeoff/landing.
- Vertical navigation system must be off below 500 ft AGL.

HF/ADF Systems

- The ADF bearing information may be erratic during HF transmissions. If this occurs, disregard ADF bearing during transmission periods.

Electrical and Lighting Systems

Battery

- If the BATT O'HEAT annunciator illuminates during ground operation, do not take off until proper maintenance is accomplished.
- Limit engine starts to three per hour. If the battery limitation is exceeded, accomplish a deep cycle with capacity check to detect possible cell damage. Refer to the Maintenance Manual for procedure.

NOTE: Three generator-assisted cross-starts equal one battery start. Do not count an external power engine start as battery cycle.

Enroute Operating Limits

Maximum Generator Load 300A

GPU Limitation

- With GPU connected to aircraft, limit GPU output to a maximum of 1,000A and adjust voltage to 28V DC with no load. Exceeding these limits may damage the starter.

Starter Limitation

- With external power or generator-assisted cross-start as the starter power source, limit engine starts to two per 30 minutes with a 30-second rest between cycles.
- With the battery as the power source, limit engine starts to three per 30 minutes with a 30-second rest between cycles.

Prolonged Ground Operation

- Continuous ground operation of a starter/generator above 225 amps is prohibited.

Fuel System

- Fuel remaining in the fuel tank when the quantity indicator reads zero is not usable in flight.

Anti-Ice Additive

- Anti-icing must be added to all fuels that do not contain the additive. Military JP-4, JP-5, and JP-8 have refinery pre-blended anti-icing.

WARNING: Anti-icing additives containing ethylene glycol monomethyl ether (EGME) or diethylene glycol monomethyl ether (DIEGME) are harmful if inhaled, swallowed or absorbed through the skin, and cause eye irritation. Also, they are combustible. Before using this material, refer to all safety information on the container.

Additive	Concentration Range	
	Minimum	Maximum
Hi-Flo EGME	20 fluid ounces per 260 gallons 0.06%	20 fluid ounces per 104 gallons 0.15%
DIEGME	20 fluid ounces per 156 gallons 0.10%	20 fluid ounces per 104 gallons 0.15%

CAUTION: Ensure that additive is directed into flowing fuel stream and additive flow is started after fuel flow. The additive should be stopped before fuel flow stops. Do not allow concentrated additive to contact coated interior of the fuel tank or the aircraft's painted surface.

Boost Pumps

- Turn on boost pumps when FUEL LEVEL LO annunciators illuminate or indicated fuel is 169 lbs or less.

Differential

Maximum Asymmetrical Difference . . . . . 600 LBS

Aviation Gasoline

- All grades of MIL-G-5572 avgas are permitted for a maximum of 50 hours or 3,500 gallons between overhauls, provided:
  - pilot confirms the fuel temperature is within limits
  - maximum ambient air temperature at takeoff is +32°C.
  - boost pumps are on
  - hours of avgas usage is entered in the engine logbook
  - maximum operating altitude is 18,000 ft.

Jet Fuel

- The following fuels are approved per specification CPW 204, commercial kerosene:
  - Jet A, Jet A-1, Jet A-2, and Jet B
  - JP-4, JP-5, and JP-8.

Fuel Limitations and Adjustments

	Jet A, A-1, -2; JP-5, JP-8	Jet B; JP-4	Avgas
Min Fuel Temp., T.O.	-29°C	-54°C	-54°C
Min Fuel Temp., Start	-23°C	-54°C	-54°C
Max Fuel Temp	50°C	50°C	32°C
Max Altitude	43,000 ft	43,000 ft	18,000 ft
Max Asymmetric Fuel	200 lbs	200 lbs	200 lbs
Emergency Asymmetric Fuel	600 lbs	600 lbs	600 lbs
Fuel Control Density	0.81	0.79	0.73

Hydraulic System

Approved Fluids

- Skydrol 500 A, B, B-4, C or LD-4
- Hyjet, Hyjet W, III, or IV.

Ice and Rain Protection

Engine Anti-Ice System

- All surface anti-ice fluids meeting British Deicing Fluid Specification DTD 406 B (NATO Symbol S-745) are approved.
- Engine anti-ice is required for taxi, takeoff, and in flight when operating in visible moisture with OAT at +10°C to -30°C. (For sustained ground operations, operate for one out of four minutes at 65% turbine RPM.
- For flight into known/forecasted icing, the anti-ice fluid reservoir must be full. For all other flights, a minimum of 1.5 gallons or higher as determined from the TKS minimum quantity chart in the AFM.

Windshield Bleed Air Anti-Ice System

- Windshield bleed air is required to prevent ice on windshield when operating in visible moisture with OAT at +10°C to -30°C.
- Set the W/S BLEED switch to LO (260°F) when OAT is above -18°C (0°F).
- Set the W/S BLEED switch to HI (280°F) when OAT is -18°C (0°F) or below.

Windshield Alcohol Anti-Ice System

- Use TT-I-735 isopropyl alcohol for windshield anti-ice. The backup alcohol system is sufficient for 10 minutes.

Landing Gear and Brakes

Anti-Skid

- Anti-skid must be operative for takeoff and landing on sod/dirt or gravel runways.

Approved Nose Tires

- Goodyear 184F08-1 and 184F13-3
- Goodrich 031-613-8

Brakes

Emergency Air Pressure . . . . . 1,800 TO 2,050 PSI

Tire Pressures

SII 001 to 085 without SBS550-11-1 (gross weight increase):

Nose/Main Wheels . . . . . 120 ±5 PSI

SII 001 to 085 with SBS550-11-1; 086 and subsequent:

Main Wheels . . . . . 125 ±5 PSI

Nose Wheel . . . . . 120 ±5 PSI

Strut Inflation

Main Gear . . . . . 1 TO 2 INCHES

Nose Gear . . . . . 3-5 INCHES

Oxygen System

- The standard diluter-demand oxygen mask must be positioned around the neck above FL 250 to qualify as quick-donning.
- The optional pressure-demand sweep-on oxygen mask must be properly stowed to qualify as quick-donning.

Thrust Reversers

- Reduce reverse thrust power to idle reverse at 60 KIAS on landing roll.
- Limit maximum reverse thrust setting to 95% N_1 for ambient temperatures above -18°C and 92% N_1 for ambient temperatures below -18°C.
- Maximum allowable thrust reverser deployed time is 15 minutes in any one hour period.
- Limit engine static ground operation to less than 80% N_1 for ambient temperature at sea level above 51°C.
- Do not use thrust reversers during touch and go landings.
- Thrust reversing on sod/dirt or gravel runways is prohibited.
- Simultaneous use of drag chute and thrust reversers is prohibited.
- The aircraft's nose whell must be on the ground for drag chut operation.
- Maximum speed for drag chute deployment is 125 KIAS.
- If the chute is deployed or jettisoned above 110 kts, inspect the mechanism for possible damage.

NOTE: The red line on the oil temperature indicator dictates oil temperature limitation. Some indicators are red-lined at 115°C and other at 121° . In either case, do not exceed the red line indication.

Powerplant –
Pratt and Whitney Turbofan JT15D-4B

Engine Fan Inspection

- To ensure accurate fan speed thrust indication, inspect fan for damage prior to each flight.

Engine Operating Limits

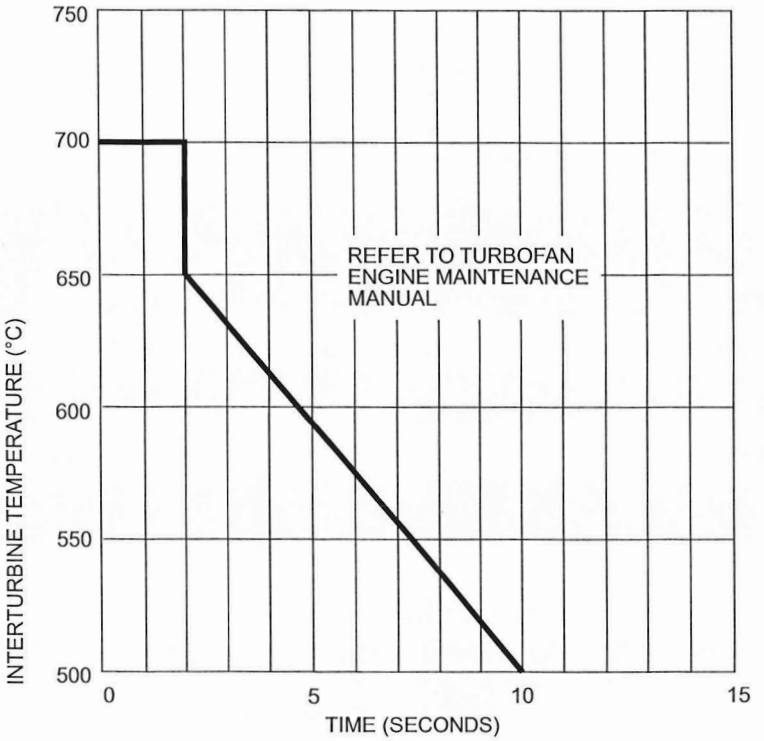
Thrust Setting	Time Limit	ITT Temp	N_2	N_1	Oil Press	Oil Temp
Takeoff	5 minutes	700°C	97% RPM	106% RPM	70 to 85 PSIG	10° to 121°C
Max Continuous	Continuous	680°C	97% RPM	106% RPM	70 to 85 PSIG	0° to 121°C
Idle	Continuous	580°C	49% RPM ±0.5%	—	35 PSIG (min)	-40° to 121°C
Start	—	700°C (2 sec)	—	—	—	-40°C (min)
Acceleration	—	710°C	97% RPM	106% RPM	—	0° to 121°C

Engine Overspeed Limits

State	Log Book Entry Required		Refer to Engine Maintenance Manual	
	Fan Speed	Turbine Speed	Turbine Speed	Fan Speed
Transient	106 to 112% RPM	96 to 98% RPM	Exceeds 99% RPM	Exceeds 112% RPM
Steady	106 to 108% RPM	—	Exceeds 97% RPM	Exceeds 108% RPM

Inter-Turbine Temperature Limits

Starting Conditions Only



- Starting ITT over 500°C is not normal; if this occurs, take action as illustrated in the starting envelope.
- All conditions except starting: ITT indications in excess of 710°C or 690°C for more than five minutes require reference to the Engine Maintenance Manual.

Engine Oil

- The following oils are approved for use:
  - Mobil Jet Oil II and 254
  - Exxon Turbo Oil 2380
  - Castrol 5000
  - Aeroshell Turbine Oil 500 and 560
  - Royco Turbine Oil 500 and 560
  - Engine oils listed in latest revision of Pratt and Whitney Canada Inc. SB 7001.

CAUTION: The engine manufacturer strongly recommends that when changing from a existing lubricant formulation to a third generation lubricant formulation (e.g. Aeroshell/Royco Turbine Oil 560 or Mobil Jet 254), such a change be made only when an engine is new or freshly overhauled. For additional information refer to the engine manufacturer's pertinent oil service bulletins.

- When mixing brands of oil, use any listed approved oil brand if the total quantity of added oil does not exceed two U.S. quarts in any 400-hour period. If more than two U.S. quarts of dissimilar oil brands are needed, drain and flush complete oil system, then refill with a single brand of approved oil.
- If oils of nonapproved brands or of different viscosities become intermixed, drain and flush the complete oil system and refill with an approved oil.
- Minimum oil temperature for starting is -40°C (-40°F).

Limit continuous engine ground static operation, up to and including five minutes at takeoff thrust, to ambient temperatures not exceeding ISA +39°C.

- Continuous ground operation of starter/generator amperage above 325A is prohibited.
- Limit ground operation of pitot/static heat to two minutes to prevent damage to AOA system.
- Operation in GND bleed air mode with the right engine set at greater than 70% N_2 is prohibited.

Pneumatic and Pressurization Systems

Cabin Pressurization Limits

Normal Cabin Pressurization . . . . . 0.0 TO 8.8 PSID