SECTION 1: LIMITATIONS

1-00-00: GENERAL

1-00-10: Conditions of Operation

THE CERTIFICATE AND THE OPERATIONAL LIMITATIONS ARE PART OF THE CONDITIONS OF THE TYPE AND AIRWORTHINESS CERTIFICATE, AND MUST BE COMPLIED WITH AT ALL TIMES, IRRESPECTIVE OF THE TYPE OF OPERATION BEING CONDUCTED.

THE PERFORMANCE LIMITATIONS AND THE INFORMATION PRESENTED IN THE AIRPLANE FLIGHT MANUAL SHOW COMPLIANCE WITH FEDERAL AVIATION REGULATIONS PART 25.

THIS AIRPLANE IS TO BE OPERATED IN ACCORDANCE WITH THE LOADING SCHEDULE PROVIDED IN THE SEPARATE AIRPLANE WEIGHT AND BALANCE MANUAL.

1-01-00: AIRCREW AND OCCUPANTS

1-01-10: Minimum Flight Crew

Minimum flight crew required is pilot and copilot.

1-01-20: Maximum Number of Occupants

Total number of occupants shall not exceed 22. The number of passengers shall not exceed 19 as determined by emergency exit requirements, nor shall exceed the number for which seating accommodations approved for takeoff and landing are provided.

An additional trained crewmember must be carried on all flights of 10 to 19 passengers. The required pilot and copilot cannot serve in this function.

The additional crewmember must be trained in the optimum method for evacuating through the Gulfstream elliptical exits and procedures for directing passenger flow to prevent someone who does not fit through an elliptical exit from blocking it so that others cannot use it. Each operator must establish and maintain a training program for this additional crewmember in accordance with FAA-approved Gulfstream Document GVSP-GER-6111. Each operator must maintain a record of that training for inspection by the FAA.

A preflight briefing on the configuration specific egress procedures and exits of the airplane must be provided to all passengers before each flight. This briefing must include a detailed explanation of the optimum method for evacuating through the overwing Gulfstream elliptical exits, which is dependant upon the interior configuration inboard of the exit.

1-02-00: DEPARTURE / ARRIVAL AIRPORT

1-02-10: Runway, Slope, and Wind Conditions

RUNWAY CONDITIONS:

A runway is considered wet when it is well soaked (there is sufficient moisture on the runway surface to cause it to appear reflective) but without significant areas of standing water. The runway is considered contaminated when more than 25% of the runway surface area (whether in isolated areas or not), within the required length and width being used, is covered by surface water more than 0.125 inch (3mm) deep, or by slush or loose snow equivalent to more than 0.125 inch (3mm) of water.

Continuous (airstart) ignition must be selected “ON” for takeoff and landing on runways with standing water, slush or snow.

SLOPE:

Maximum slope approved for takeoff and landing operations are +2% (uphill) and -2% (downhill).

WIND CONDITIONS:

Maximum tailwind component approved for takeoff and landing is 10 knots.

1-02-20: High Elevation Airport Operations

Maximum approved airport pressure altitude for takeoff or landing is 10,000 ft field elevation.

1-03-00: PERFORMANCE

1-03-10: Types of Airplane Operations Permitted

1. Transport Category-Land
2. Instrument And Night Flying
3. Category 1 Approach Operations
4. Flight Into Known Icing
5. "/E" And "/G" (Special FMS Procedures) Operations
6. Extended Overwater Flight
7. Required Navigation Performance 10 (RNP-10) Operations:
   A. FMS Software Version 7.X (or later approved version)
   B. Provided Estimated Position of Uncertainty (EPU) does not exceed RNP
   C. For FMS Navigation Mode IRS:
      (1) IRS drift is modeled in the FMS and is expressed as EPU (Estimated Position of Uncertainty) when the IRS is used as the sole source. When EPU exceeds RNP, the crew should not use the IRS as a means of navigation. For flight planning purposes, maximum IRS Navigation with out sensor updates is 5.0 hours.
8. Basic RNAV (BRNAV) or Required Navigation Performance 5 (RNP-5) Operation so far as the EPU does not exceed RNP.
9. Remote Oceanic RNAV 4 or Required Navigation Performance 4 (RNP-4) Operations as so far as the EPU does not exceed RNP.
10. Precision RNAV (P-RNAV) or Required Navigation Performance 1, per JAA TGL-10, Operations so far as the EPU does not exceed RNP.

Continued on next page →

11. Flight in the North Atlantic Track-Minimum Navigation Performance Specifications (NAT-MNPS) in accordance with the criteria of AC 91-49 and AC 120-133, provided at least two FMSs are operating and receiving usable data from any combination of two GPSs and / or Inertial Reference Sensors (IRSs), or one FMS and one GPS and / or IRS for those routes requiring only one Long Range Navigation (LRN) sensor.
12. Polar Navigation is approved, provided TRUE Heading is selected prior to N73° and S60° Latitude.
13. RNP 0.3 RNAV Approaches
14. RNP RNAV Operations as defined in RTCA / DO-236A and DO-283, with the limitations and exceptions defined in AFM section 1-34-30.
15. Reduced Vertical Separation Minimums (RVSM) Airspace Operations

1-03-20: Minimum / Maximum Operating Temperature

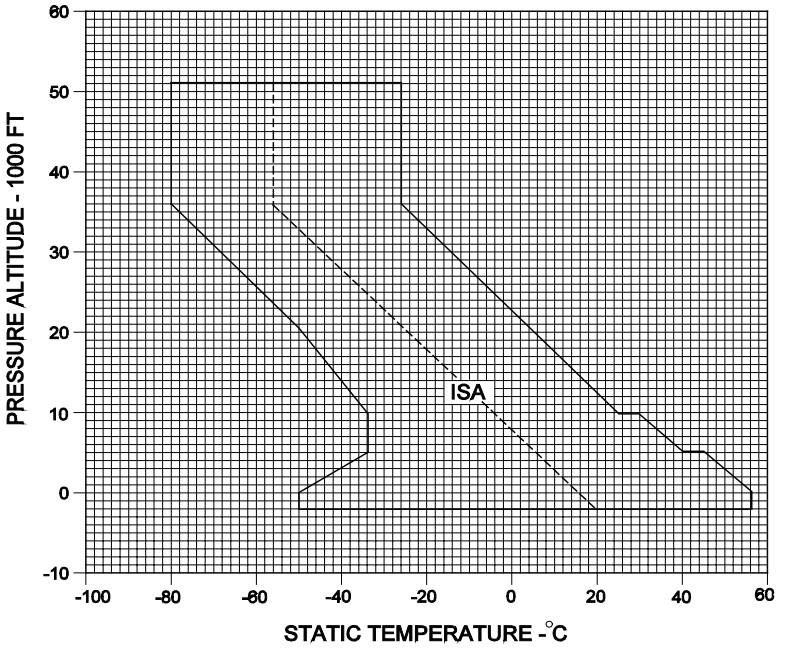
Minimum and maximum temperatures approved for operation are shown in Figure 1-1: Altitude / Temperature Operating Envelope.

NOTE: The following minimum Mach schedule shall be maintained for operations at static air temperatures between -70°C and -80°C.

SAT - °C	-70	-72	-74	-76	-78	-80
Min - M	.67	.71	.76	.80	.84	.87

Continued on next page →

Figure 1-1: Altitude / Temperature Operating Envelope



NOTE: See Section 2-08-20: Cold Weather Start and Operation, for guidance following overnight cold soak -15°C or colder. See Section 2-02-00: APU Ground Operations, following a heat soak of +35°C or warmer.

1-03-30: Maximum Operating Altitudes

MAXIMUM OPERATING ALTITUDE:

Maximum operating altitude is 51,000 ft.

Maximum altitude with a single air conditioning pack operating is 48,000 ft.

Maximum altitude with yaw damper inoperative is 45,000 ft.

LANDING GEAR EXTENDED / OPERATION:

Maximum operating altitude for extending landing gear or flying with landing gear extended is 20,000 ft MSL.

FLAPS EXTENDED:

Maximum operating altitude for extending landing flaps 39° (DOWN) or flying with landing flaps extended is 20,000 ft MSL.

Maximum operating altitude for extending flaps to 10° or 20° or flying with the flaps extended to 10° or 20° is 25,000 ft MSL.

1-03-40: Airspeed Limitations

MINIMUM CONTROL SPEED (V_{MC}):

Minimum Control Speed Air:	112 KCAS
Minimum Control Speed Landing:	110 KCAS
Minimum Control Speed Ground:	107 KCAS Sea Level
	86 KCAS 15,000 ft

NOTE: V_{MCG} decreases linearly at the rate of approximately one knot per thousand feet from Sea Level to 15,000 ft.

MANEUVERING SPEED (V_A)

Maximum deflection of flight controls, as well as maneuvers that involve angles of attack near the stall AOA, should be confined to speeds below 206 KCAS.

Avoid rapid and large alternating control inputs, especially in combination with large changes in pitch, roll, or yaw (e.g., large sideslip angles), as they may result in structural failures at any speed, including below V_A.

FLAPS EXTENDED SPEEDS (V_{FE} / M_{FE}):

10° 250 KCAS / 0.60 M_T
20° 220 KCAS / 0.60 M_T
39° 170 KCAS / 0.60 M_T

LANDING GEAR EXTENDED SPEED (V_{LE} / M_{LE}):

Do not exceed 250 KCAS / 0.70 M_T with landing gear extended (gear doors open or closed).

Continued on next page →

LANDING GEAR OPERATION SPEEDS (V_{LO} / M_{LO}):

Normal Operation:
Do not lower or raise landing gear at speeds in excess of 225 KCAS / 0.70 M_T.

Alternate Operation:
Do not lower landing gear utilizing alternate system at speeds in excess of 175 KCAS.

MAXIMUM OPERATING LIMIT SPEED (V_{MO} / M_{MO}):

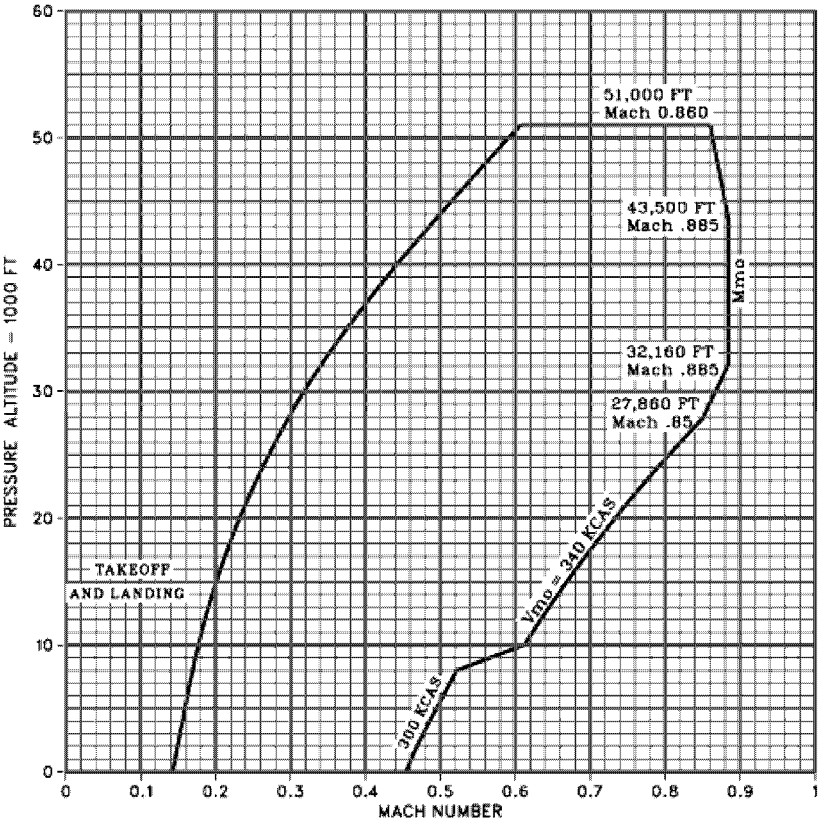
Maximum operating limit speed shall not be deliberately exceeded in any regime of flight (climb, cruise, or descent). See Figure 1-2, Altitude / Mach Flight Envelope.

MINIMUM HOLDING SPEED

The minimum holding speed in icing conditions is 160 KCAS.

Continued on next page →

Figure 1-2: Altitude - Mach Flight Envelope



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YAW DAMPER INOPERATIVE SPEED

Above 10,000 ft the maximum speed is 260 Kts / 0.80 MT.

Below 10,000 ft the maximum speed is 250 KCAS.

Above 20,000 ft the minimum speed is 210 Kts.

Below 20,000 ft the minimum speed is in accordance with the schedule below until ready to configure for approach and landing. VREF as presented on the airspeed tape is the approach speed for landing in the current flap setting.

Minimum Speeds: Yaw Damper Inoperative				
Fuel - lb.	Sea Level to 5,000 ft		Above 5,000 to 20,000 ft	
	Flaps 0, 10, 20°	Flaps 39°	Flaps 0, 10, 20°	Flaps 39°
23,000	V_{REF}	V_{REF}	V_{REF}	135
24,000	V_{REF}	V_{REF}	V_{REF}	141
25,000	V_{REF}	V_{REF}	V_{REF}	147
26,000	V_{REF}	V_{REF}	V_{REF}	153
27,000	V_{REF}	V_{REF}	V_{REF}	159
28,000	V_{REF}	V_{REF}	147	160
29,000	V_{REF}	V_{REF}	153	160
30,000	V_{REF}	V_{REF}	158	160
31,000	V_{REF}	V_{REF}	163	160
32,000	V_{REF}	V_{REF}	168	160
33,000	V_{REF}	V_{REF}	174	160
34,000	V_{REF}	V_{REF}	179	160
35,000	V_{REF}	V_{REF}	184	160
36,000	V_{REF}	V_{REF}	189	160
37,000	V_{REF}	V_{REF}	195	160
38,000	V_{REF}	V_{REF}	200	160
39,000	V_{REF}	V_{REF}	205	160
40,000	V_{REF}	V_{REF}	211	160
41,000	V_{REF}	V_{REF}	216	160
41,300	V_{REF}	V_{REF}	217	160

Continued on next page →

MACH TRIM / ELECTRIC ELEVATOR TRIM INOPERATIVE SPEED:

With both mach trim functions inoperative, or electric elevator trim inoperative, the maximum operating limit speed is 0.80 MT.

TURBULENCE PENETRATION SPEED:

Altitude 10,000 ft or above: 270 KCAS / 0.80 MT, whichever is less

Below 10,000 ft: 240 KCAS

MAXIMUM TIRE SPEED:

Maximum tire ground speed is 195 kts.

EMERGENCY STABILIZER TRIM

Maximum speed with the emergency stabilizer armed, autopilot engaged and a jammed elevator is 270 KCAS / 0.80 MT.

1-03-50: Flight Load Acceleration

Flaps Up (0°):

-1 to 2.5 G for all weights up to maximum takeoff weight.

Flaps 10° or 20°:

0 to 2.0 G for all weights up to maximum takeoff weight.

Flaps 39°:

0 to 2.0 G for all weights up to maximum landing weight.

0 to 1.5 G for all weights above maximum landing weight.

1-03-60: Weight

SERIAL NUMBER	MAXIMUM ZERO FUEL	MAXIMUM RAMP	MAXIMUM TAKEOFF (1)	MAXIMUM LANDING (2)
5001 and subs	54,500 lb. (24,721 kg)	91,400 lb. (41,458 kg)	91,000 lb. (41,277 kg)	75,300 lb. (34,155 kg)

NOTES: (1) Maximum takeoff weight, unless restricted by climb performance, brake energy, or tire speed for approved altitudes and ambient temperature or by field length.

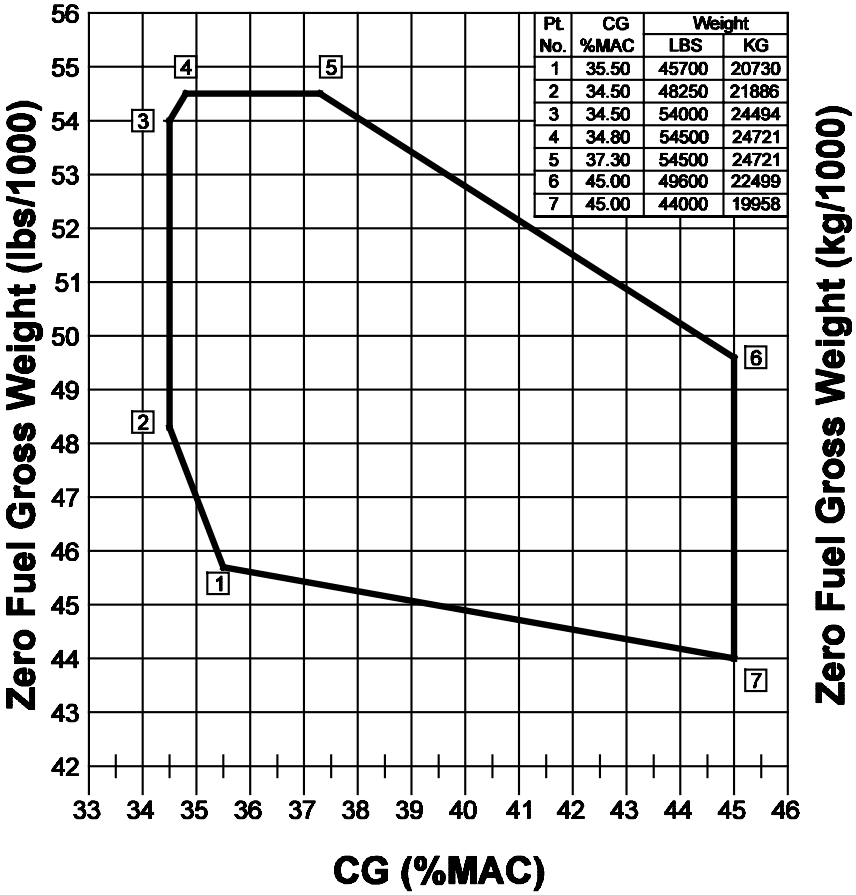
(2) Maximum landing weight, unless restricted by climb requirements.

1-03-70: Center of Gravity

The allowable Center Of Gravity (CG) range is a function of gross weight as shown in the Zero Fuel Gross Weight Center Of Gravity Envelope chart that follows. Zero fuel gross weight CG must be within the allowable zero fuel gross weight CG envelope. The fueled airplane CG will then be within limits for all fuel loads.

Continued on next page →

Figure 1-3: Zero Fuel Gross Weight Center of Gravity Envelope



Pt. No.	CG %MAC	Weight LBS	Weight KG
1	35.50	45700	20730
2	34.50	48250	21886
3	34.50	54000	24494
4	34.80	54500	24721
5	37.30	54500	24721
6	45.00	49600	22499
7	45.00	44000	19958

23636B01

1-03-80: Fuel Load Balancing

Maximum fuel imbalance for takeoff is 1000 lb.

Maximum fuel imbalance in flight is 2000 lb.

Proceed with fuel load balancing before the imbalance exceeds 1000 lb.

When the fuel tank temperature is less than 0°C, fuel balancing shall be accomplished using the intertank valve and establishing a small sideslip (approximately ½ trapezoid). Move the rudder trim arrow in the direction of the “heavy” tank, which will create a slight wing down condition toward the “light” tank.

1-12-00: AIRPLANE SERVICING

1-12-10: Hydraulic Fluids

The following fire resistant Type 4 hydraulic fluids are approved for use:

HyJet IV

HyJet IV-A

Skydrol LD-4

Skydrol 500B-4

1-12-20: APU Fuel Grades and Fuel Temperatures

APU operation requires fuel at a viscosity of not more than 12 centistokes. The corresponding fuel temperatures are as follows:

FUEL GRADE	MINIMUM FUEL TEMPERATURE
ASTM D1655, Jet A MIL-T-5624 Grade JP-5 MIL-T-83133, JP-8 DEF STAN 91-91 AIR 3404 AIR 3405 CAN / CGSB-3.23 CAN / CGSB-3.24 ASTM D1655 Jet A-1	-30°C
DEF STAN 91-86 DEF STAN 91-87 GOST 10227-86, Am 1, TS-1 & RT	-40°C

1-12-30: Engine Fuel Grades

Fuel conforming to any of the following specifications is approved for use. Mixing of fuels is permissible.

KEROSENE TYPE		
AMERICAN	**BRITISH**	**CANADIAN**
ASTM D1655, Jet A	DEF STAN 91-87	CAN / CGSB-3.23
ASTM D1655, Jet A-1	DEF STAN 91-91	
MIL-T-83133, JP-8		
FRENCH	**CIS**	**I.A.T.A.**
AIR 3405	TS-1 & RT (GOST 10277-86, Am 1)	Kerosene Type
HIGH FLASH POINT JP-5 TYPE		
AMERICAN	**BRITISH**	**CANADIAN**
MIL-T-5624, JP-5	DEF STAN 91-86	CAN / CGSB-3.24
FRENCH		
Air 3404		

1-12-40: Engine Fuel Additives

1. Corrosion Inhibitor / Lubricity Aids

   NOTE: The following fuel additives (in addition to those included in DERD Specifications) are approved by BMW / Rolls-Royce, subject to limitations stated.

ADDITIVE	MINIMUM	MAXIMUM
Apollo PRI 19	18.0	23.0
Hitec 580	15.0	23.0
DuPont DCI-4A	9.0	23.0
NALCO 5403	14.0	23.0
Concentration Range - lb. / 42,035 gallons (US) / 35,000 gallons (IMP)		

   NOTE: Minimum requirement is to ensure that sufficient additive is available when it is required to act as a lubricity aid.

2. Anti-Icing Additive:

   A. Standard type (EGME) at a maximum concentration of 0.15% volume conforming to any of:

      MIL-I-27686

      AL-31

      NOTE: Most international fuel specifications now specify the use of DI-EGME only. The above FSII additives remain approved only to allow the use of existing fuel stocks which contain EGME.

   B. High Flash Point type (DI-EGME) at a maximum concentration of 0.20% volume conforming to any of:

      MIL-I-85470

      S-1745

      AIR 3652

      AL-41

Continued on next page →

3. Static Dissipator Additive

   A. Shell ASA 3, 2 mg / liter maximum

      May be used. See the G550 Aircraft Maintenance Manual for additive application procedures.

   B. DuPont Stadis 450, 5 mg / liter maximum

      May be used. See the G550 Aircraft Maintenance Manual for additive application procedures.

4. Anti-Microbiological Additive

   A. Biobor JF:

      Biobor JF may be used on an intermittent or non-continuous basis at a concentration level not exceeding 270 parts per million (total Boron content not to exceed 20 parts per million). It is permitted to burn off the treated fuel provided the concentration does not exceed 270 parts per million and the fuel is not contaminated by microbiological debris.

      For those operators who wish to apply preventative treatment by continuous usage of Biobor JF this is permitted provided that the concentration does not exceed 135 parts per million and that is achieved by pre-mixing in storage and not by direct addition to airplane tanks.

   B. Kathon FP 1.5:

      Kathon FP 1.5 may be used on a continuous, intermittent or non-continuous basis.

      Whenever this additive is used it is permissible to burn off the treated fuel in the engine provided that the concentration does not exceed 50 parts per million for continuous usage and 100 parts per million for intermittent, non continuous usage and that such fuel is not visibly contaminated with microbiological debris.

      NOTE: Fuel low pressure and / or fuel filter differential pressure warnings should be carefully monitored during flight operations following the use of these additives. Dependent on filter performance, filter life may need re-establishing by operator experience. Such precautions are particularly important when these additives are used on an intermittent basis to cure confirmed cases of microbiological contamination.

1-12-50: Engine and APU Oil Grades

WARNING: **LUBRICATING OIL IS TOXIC TO SKIN, EYES, AND RESPIRATORY TRACT. SKIN AND EYE PROTECTION IS REQUIRED. AVOID REPEATED OR PROLONGED CONTACT. USE IN A WELL VENTILATED AREA.**

CAUTION: USE ONLY BRAND NAMES SPECIFICALLY AUTHORIZED. USE OF ANY UNAPPROVED OIL REQUIRES AUTHORIZATION OF EQUIPMENT MANUFACTURER.

NOTE: Mixing of oils is not recommended but brands may be mixed if operationally essential. Complete drainage of one oil and replacement with a different brand is not considered mixing of oils.

NOTE: Oil of the brands below, when reclaimed to approved Rolls-Royce standards for appropriate viscosity grade, are approved for use in the BR710 engine.

Continued on next page →

The following oils are approved for common usage in the engine and APU:

Table 1
Common Lubricating Oils List (3 centistoke oils)
Manufacturer / Oil
Aeroshell Turbine Oil 390

Table 2
Common Lubricating Oils List (5 centistoke oils)
Manufacturer / Oil
Aeroshell Turbine Oil 500
Exxon Turbo Oil 2380
Mobil Jet Oil II
Mobil Jet Oil 254
Castrol Aero 5000

NOTE: See the G550 Aircraft Maintenance Manual for oils approved for specific usage in engine, starter or APU.

1-21-00: AIR CONDITIONING AND BLEED AIR

1-21-10: Cabin Pressurization Control

Maximum cabin pressure differential permitted is 10.48 psi.

Maximum cabin pressure differential permitted for taxi, takeoff or landing is 0.3 psi.

1-21-20: Internal Baggage Door

The internal baggage door shall remain closed above 40,000 ft. Access to the baggage compartment above 40,000 ft is permitted provided the door is closed after exiting the compartment. If operating on single ECS pack, access to baggage compartment is allowed only at or below 45,000 ft.

Time with the internal baggage door open above 40,000 ft is limited to 5 minutes. The flight crew is required to insure that door is closed and message extinguished within 5 minutes when above 40,000 ft.

1-22-00: AUTO FLIGHT

1-22-10: Mach Trim Function

Use of Mach Trim Function:

Mach trim must be ON during all flight operations except as provided for in Section 3-02-40: Mach Trim Failure.

If Mach Trim is inoperative:

M_{MO} is reduced to 0.80 M_T.

1-22-20: Coupled Go-Around

Single engine autopilot coupled go-around is not approved.

1-22-30: Autopilot

Minimum engage height is 200 ft.

Minimum disengage height is 60 ft. from an ILS or MLS approach.

Minimum disengage height is 50 ft below MDA / DA from an LNAV / VNAV approach.

Maximum demonstrated altitude loss for coupled go-around is 60 ft.

1-22-40: PFD / HUD Flight Director Symbology

The use of HUD flight director symbology on the PFD is permitted with ASC 902. The use of HUD flight director symbology on the PFD is prohibited without ASC 902.

1-22-50: Flight Director / Autopilot Coupled Approaches

Flight director and / or autopilot coupled approaches are limited to Category 1 minima.

1-22-60: Emergency Stabilizer Trim

Maximum speed with the emergency stabilizer armed with the autopilot engaged and a jammed elevator is 270 KCAS / M.80.

1-22-70: Back Course Approaches

Back course approaches are prohibited for airplanes SN 5001 and subs without ASC 901.

1-22-80: Use of Autothrottle During Single Engine Approaches

Use of autothrottle during single engine approaches is prohibited.

1-23-00: COMMUNICATIONS

1-23-10: Headsets

The flight crew shall wear headsets with acoustical protection when operating the airplane in the "green" configuration.

1-23-20: Communication / Navigation Radio 3

Communication / Navigation (COMM / NAV) Radio 3 is inoperative.

1-23-30: Cockpit Voice Recorder (CVR) Test Function

The Cockpit Voice Recorder (CVR) test function on the AV900 Audio Control Panel (ACP) is inoperative.

1-23-40: 8.33 kHz Spacing

The Honeywell VHF Radios comply with the 8.33 kHz spacing requirements and all applicable standards of relevant FAA TSO's, RTCA, and ICAO Annex 10 specifications for FM Immunity.

1-24-00: ELECTRICAL POWER

1-24-10: Standby Electrical Power System (HMG)

When the Standby Electrical Power System (HMG) system is in operation, speed brakes may be used provided operation is slow (approximately three (3) seconds for full range movement).

When operating on Standby Electrical Power System (HMG), consult the list of operative items in Section 4-04-10: Dual Generator Failure.

Do not operate the Standby Electrical Power System (HMG) system when normal AC power is available, except as provided for in Section 3-04-30: L (or R) ESS DC Bus Failure.

1-24-20: APU Generator

The APU generator should be selected ON with APU running for takeoff until 5,000 ft AGL for airplanes SN 5001 thru 5031 without ASC 019 (FADEC 2.1 Software Upgrade).

1-27-00: FLIGHT CONTROLS

1-27-10: Stall Warning / Stall Barrier System

Both stall warning / stall barrier systems must be operative for takeoff.

Operative stall barrier systems must be ON during all flight operations unless required to be selected OFF for procedural reasons. Refer to Section 4-13-50: Stall Barrier Malfunction for additional information.

1-27-20: Speed Brakes

Speed brakes are not approved for extension with flaps at 39° (DOWN) or with landing gear extended in flight.

1-27-30: Automatic Ground Spoilers

Takeoff is permitted with the automatic ground spoilers inoperative provided the anti-skid is operative, 20° flaps are used and the cowl and wing anti-ice systems are not used. Dispatch with reference to MEL.

If a touch and go landing is to be performed, GND SPLR must be OFF and manual spoiler landing distances must be taken into account.

1-28-00: FUEL

1-28-10: Usable Fuel Capacities

The usable fuel capacities for SN 5001 and subs are:

Right Tank	20,650 lb.	(9,367 kg)	3,059 gal	(11,579 lit)
Left Tank	20,650 lb.	(9,367 kg)	3,059 gal	(11,579 lit)
Total	41,300 lb.	(18,734 kg)	6,118 gal	(23,158 lit)

NOTE: It may be possible to upload fuel in excess of 41,300 lbs. This is permitted as long as the maximum ramp weight and / or the maximum takeoff weight is not exceeded, and the loaded airplane center of gravity is within limits.

1-28-20: Boost Pumps

All operable boost pumps shall be selected ON for all phases of flight unless fuel balancing is in progress.

When fuel tank temperature is less than 0°C, all boost pumps shall remain ON. If fuel balancing is required when fuel tank temperature is less than 0°C, comply with 1-03-80: Fuel Load Balancing.

1-28-30: Fuel Tank Temperature

MAXIMUM:

Fuel temperatures of +54°C or greater will cause a red **Fuel Tank Temperature** message to be displayed on the Crew Advisory System (CAS).

MINIMUM:

Fuel temperatures of -35°C to -36°C will cause an amber **Fuel Tank Temperature** message to be displayed on CAS.

Fuel temperatures less than or equal to -37°C will cause a red **Fuel Tank Temperature** message to be displayed on CAS.

When fuel tank temperature is at or below -30°C in flight with less than 5,000 lb. of total fuel remaining, the airplane shall be descended to an altitude where SAT is -60°C or warmer and maintain a minimum speed of M .80.

1-29-00: HYDRAULICS

1-29-10: Hydraulic Servicing

Maximum Reservoir Quantities (Pressurized) As Indicated On CAS:

Left - 4.8 gallons

Right - 1.6 gallons

Refer to placard in aft equipment bay.

Left & Right System Accumulator Pre-Charge:

1200 psi @ 70°F / 21°C ±25 psi per each Δ10°F / 5°C.

1-30-00: ICE AND RAIN PROTECTION

1-30-10: General

Icing conditions exist when the SAT on the ground and for takeoff, or SAT in-flight is +8°C or below, and visible moisture in any form is present (such as clouds, fog with visibility of one mile or less, rain, snow, sleet and ice crystals).

Icing conditions also exist when the SAT on the ground and for takeoff is +8°C or below when operating on ramps, taxiways or runways where surface snow, ice, standing water, or slush may be ingested by the engines or freeze on engines, nacelles, or engine sensor probes.

1-30-20: Wing Anti-Icing

Operation of wing anti-icing is required if icing conditions are imminent, or immediately upon detection of ice formation on wings, winglets, or windshield edges.

1-30-30: Cowl Anti-Icing

Use of cowl anti-icing is required for taxi and takeoff when Static Air Temperature (SAT) is +8°C or below and visible moisture, precipitation, or wet runway are present. When taxiing or holding on the ground at low power in temperatures less than +1°C, engine operation of 40% LP for ten (10) seconds is recommended just prior to takeoff and at intervals of not more than sixty (60) minutes under these temperature and moisture conditions.

Use of cowl anti-icing system is required in flight as indicated in Figure 1-4: Temperature Range For Cowl Anti-Icing, page 1-35, when visible moisture or precipitation is present or when signs of icing are observed. Ice accretion may be observed on wings or windshield edges.

Increase in engine vibration levels may develop in icing. The fan should normally shed the ice and vibration will return to normal. To assist in shedding ice, if high vibration occurs and operational circumstances permit, one engine at a time may be quickly retarded to idle, held there for five (5) seconds and then accelerated to 90% LP, the power lever may then be returned to its original position.

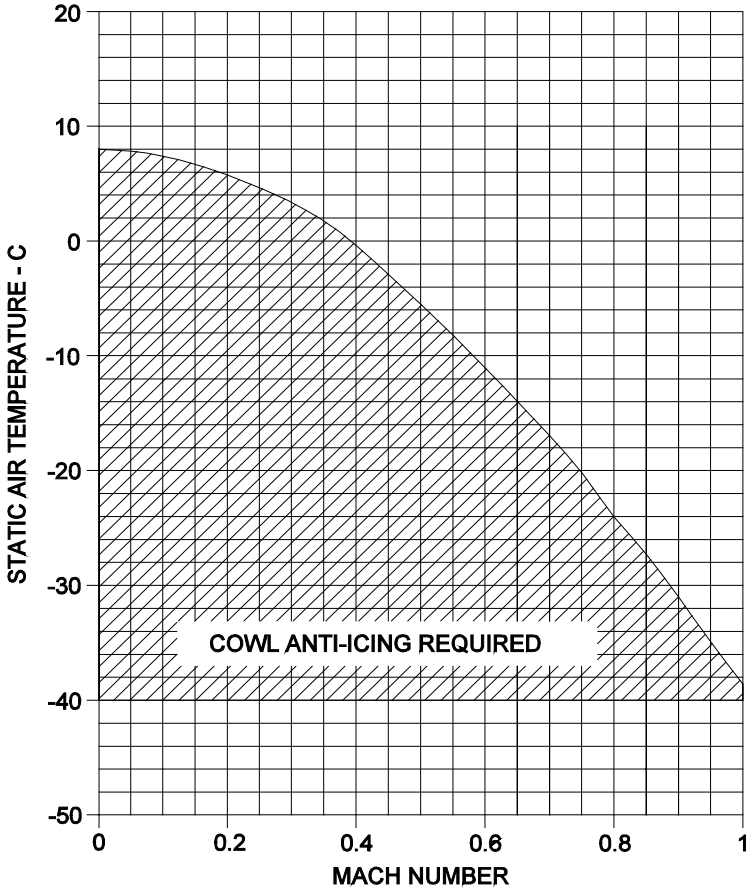
Automatic anti-ice is inhibited above 35,000 ft. If anti-ice protection above 35,000 ft is required, it must be manually selected.

1-30-40: Use of Flaps

Use of flaps in icing conditions is restricted to takeoff, approach and landing only.

Holding in icing conditions is limited to 0° flaps only.

Figure 1-4: Temperature Range for Cowl Anti-Icing



1-31-00: INDICATING / RECORDING

1-31-10: Electronic Checklist

The electronic checklist is approved for use.

1-31-20: Advanced Graphics Module (AGM) Reversion

The DISPLAY SYSTEM CONTROL ALT mode is inoperative.

1-31-30: Video Function

The display of any video unrelated to the operation of the airplane is prohibited. This would include any video feed from the cabin entertainment system.

1-32-00: LANDING GEAR

1-32-10: Anti-Skid System

Takeoff is permitted with anti-skid inoperative, provided the runway is dry, ground spoilers are operative, 20° flaps are used, and the cowl and wing anti-icing systems are not used. Dispatch shall be with reference to the MEL.

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1-34-00: NAVIGATION

1-34-10: Inertial Reference System (IRS)

There is no provision for IRS “Down Mode Align”.

NOTE: Honeywell HG2100AB Series IRS equipment installed in the Gulfstream G550 has been certified for alignment to 78° Latitudes. For alignment between 70° and 78° Latitude, fifteen (15) minute alignment time is required. For flight above 73° N and 60° S Latitude, EFIS heading information must be switched from magnetic (MAG) to TRUE due to loss of valid MAG heading from the IRS.

There are no restrictions for in air automatic realignment – Align in Motion (AIM). However, the AIM alignment time may be less than 10 minutes or more than 20 minutes, if any of the following conditions are present either alone or in combination:

- No change in heading during alignment
- No changes in acceleration during alignment
- An east to west flight trajectory such that the IRUs sensed rotational rates in inertial space is nearly equal to zero.

NOTE: Airplane maneuvers involving changes in heading reduces alignment time. Alignment time increases with latitude, i.e., minimum time is at the equator and maximum is at the pole.

1-34-20: Airborne Weather Radar

Do NOT operate radar during refueling of the airplane or when within 300 ft (92 meters) of other refueling operations.

Do NOT operate radar within 49 ft (15 meters) of ground personnel with 24” antenna installed.

1-34-30: Flight Management System (FMS)

FMS Navigation above 89° North or South Latitude is approved.

Verify that the database is current. If the database is out of date, flight may be continued providing the latitude / longitude of each waypoint is verified by the crew. A current database is required in order to fly GPS approaches.

Verify that the navigation computer software version is NZ7.X or later approved version.

FMS is approved for lateral Flight Director / Autopilot coupled approaches under the following conditions:

1. One of the following published approach procedures is used:
   - RNAV (GPS)
   - VOR / DME RNAV
   - VOR
   - VOR / DME
   - GPS
   - TACAN
   - NDB

   NOTE: VNAV operations are not approved.

2. NAVAID for approach must be available and raw data for referenced NAVAID is monitored on one pilot's display for VOR / DME RNAV, VOR, VOR / DME, NDB and TACAN approaches selected from the FMS approach databases.

3. DR or DGRAD annunciators are not illuminated.

4. GPS updating must be disabled for operations when operating in countries whose national airspace are not referenced to WGS-84 reference datum in accordance with the criteria of AC20-130A, unless other appropriate procedures are used.

Continued on next page →

5. RNP RNAV Operations as defined in RTCA / DO-236A and DO-283, has been demonstrated with the following limitations and exceptions:

   NOTE: The FMS RNP demonstration does not constitute an operational approval.

   a. RNP flight operations are subject to GPS satellite availability and / or navaid coverage for the selected route. Navigation based on DME / DME or VOR / DME updating modes is permitted but may be restricted by the availability or performance of the applicable ground navaids (see Navigation Infrastructure). Crews should deselect (NOTAM) ground navaids that are not to be used for navigation.

   b. Navigation Infrastructure:

      The FMS assumes the availability of a navigation infrastructure consistent with the assumptions provided in DO-236A / DO-283 Appendix C. The DME infrastructure is assumed to provide a signal with a distance uncertainty of 0.1 NM on a 95% whenever the signal can be received. The VOR / DME infrastructure is assumed to provide a radial signal with an error of 1.4° on a 95% basis whenever a signal can be received.

   c. The FMS assumes all waypoint and facility location data is in WGS-84 reference datum whereby the waypoints and facilities accuracy is maintained in accordance with DO-201 specifications.

   d. Scope of DO-236a Compliance:

      The FMS does not provide the VNAV, Time of Arrival Control (TOAC), fixed radius transitions, or RNP holding functions described in DO-236A.

Continued on next page →

e. Alarm Limits:

The RNP implementation for the FMS is consistent with the industry guidance provided in DO-236A and DO-283. Implementation of RNP requirements resulted in certain differences from the TSO C129a requirements as follows:

The FMS provides a containment integrity limit as defined in DO-236A. The RNP containment limit is defined as two times the RNP value, and the default RNP values are defined as 0.3 for Approach, 1.0 for Terminal Area, 2.0 for En Route, and 10.0 for Oceanic / Remote. The resulting alarm limits differ from the C129a specified alarm limits as follows:

	Default RNP	DO-236A Containment Limit (2 x RNP)	TSO C129a Alarm Limit
Oceanic / Remote	10	20	2
En Route	2	4	2
Terminal	1	2	1
Approach	0.3	0.6 (see f)	0.3

NOTE: Manual RNP selection alarm limit is 2 x RNP.

f. For the FMS database defined GPS approach procedure, the FMS limits the alarm limit to 0.3 for consistency with TSOC129a. However, for other approach procedures, the DO-236A alarm limit applies.

g. The FMS does not provide the capability to retrieve a RNP RNAV type from the navigation database. Default RNP RNAV types are defined by flight phase, as shown above. Operation in airspace with defined RNP values different from the default values requires operator entry of the appropriate value.

h. Runway Initialization:

If GPS position is not available at take-off and RNP operations are required, the FMS position must be updated prior to take-off for improved navigation accuracy. The FMS position shall only be updated to the runway coordinates when the airplane is located on the runway threshold.

Continued on next page →

i. Time to Alarm:

The FMS provides a time to alarm based on phase of flight, consistent with the default RNP values and expected RNP usage defined in DO-283.

Phase of Flight (PFD indication and default RNP value)	Time To Alarm	Description
Approach RNP 0.3	6 sec	Active flight plan leg is within 2 NM (nautical miles) of the FAF.
Terminal RNP 1.0	6 sec	Aircraft is within 30 NM of origin or destination, or the active flight plan leg is part of a departure, arrival (prior to **Approach**) or missed approach procedure.
En route (1) RNP 2.0	24 sec	Not in approach or terminal area.
Remote (1) RNP 10.0	54 sec (2)	En route and more than 200 NM from nearest navaid.

(1) ***NOTE:*** Not displayed.

(2) ***NOTE:*** For oceanic / remote operations the 60 second alarm limit defined in DO-283 differs from the 30 second limit defined in TSO C129a.

j. Database Integrity:

The RNP RNAV airworthiness approval has not accounted for database accuracy or compatibility. Refer to the Operators Manual for the procedures for database accuracy / compatibility compliance.

Continued on next page →

k. Containment Integrity Exposure Period:

The containment integrity requirement defined in DO-236A is that the probability of total system error exceeding the cross-track containment limit without annunciation be less than 10^{-5} per flight hour. This integrity requirement is divided equally between faulted and fault-free performance. The probability of faulted performance has been shown to be less than $5x10^{-6}$ per flight hour. For fault-free performance, the instantaneous probability of exceeding the integrity limit has been shown to be less than $5x10^{-6}$, however the exposure period has not been considered in the fault-free case.

l. Along-track Accuracy:

Containment alerting is based on cross-track navigation performance, however navigation accuracy is required in both the cross-track and along-track dimensions. Because of the unique navaid geometries involved in the DME / DME and VOR / DME updating modes, navigation performance is optimized in the cross-track dimension. As a result, along-track accuracy has not been demonstrated to meet the RNP requirement for these modes. For DME / DME, the worst-case along-track uncertainty is 0.47 NM on a 95% basis wherever a signal can be received. For VOR / DME, the worst-case along-track position uncertainty will occur when the VOR is abeam the airplane at the maximum permissible distance based on the figure of merit (service volume) of the facility.

m. Minimum RNP:

The minimum demonstrated RNP capabilities are defined as follows, based on demonstrated navigation capability and assumed Flight Technical Error (FTE).

Assumed Guidance Mode	**Minimum RNP**		**Assumed**
	GPS	Radio	FTE
LNAV with Autopilot	0.30	0.30	0.125
LNAV with Flight Director	0.30	0.32	0.25

1-34-40: Takeoff and Landing Data (TOLD)

Use of the TOLD Software ID V1.0 for takeoff and landing field performance is permitted. TOLD calculations shall be checked for reasonableness. G550 AFM Section 5, Performance, shall be available for cross reference as necessary.

1-34-50: Traffic Alert and Collision Avoidance System (TCAS)

TCAS OPERATING CONSTRAINTS

With 7.0 software installed, all RA and TA aural messages are inhibited at a radio altitude less than 500 ft ±100 ft climbing and descending.

CLEARANCE

The pilot is authorized to deviate from ATC to the extent necessary to comply with a Resolution Advisory (RA).

TRAFFIC ADVISORIES

The pilot must not initiate evasive maneuvers based solely on information from a Traffic Advisory (TA). Traffic Advisory information should be used only as an aid to visual acquisition of traffic.

RESOLUTION ADVISORIES

Compliance with TCAS Resolution Advisories (RA) is required unless the pilot considers it unsafe to do so. Maneuvers that are in the opposite direction of an RA are extremely hazardous and are prohibited unless it is visually determined to be the only means to assure a safe separation.

CLEAR OF CONFLICT

Prompt return to the ATC cleared altitude must be accomplished when “CLEAR OF CONFLICT” is announced.

SINGLE ENGINE INOPERATIVE AND TCAS

With a single engine inoperative, select TA only as the TCAS operating mode.

ADS-B

The ADS-B ON / OFF selection on the MCDU TCAS Top Level page is inoperative.

1-34-60: Enhanced Ground Proximity Warning System (EGPWS)

CLEARANCE

Pilots are authorized to deviate from their current Air Traffic Control (ATC) clearance to the extent necessary to comply with an EGPWS warning.

NAVIGATION

Navigation is not to be predicated upon the use of the terrain display.

DATA BASE

The EGPWS data base, displays, and alerting algorithms currently accounts for man-made obstructions.

TERRAIN DISPLAY

The terrain awareness display feature is intended to serve as a situational awareness tool only, and may not provide the accuracy and / or fidelity on which to solely base terrain avoidance maneuvering.

NOTE: Obstacles that are less than 1,000 feet AGL are not displayed as obstacle icons on the MAP display. These obstacles are included as part of the terrain display.

The terrain awareness display feature shall be selected OFF (TERRAIN INHIBIT switch selected ON) when within 15 NM of landing at an airport when:

- The airport has no published instrument approach procedure.
- The longest runway is less than 3,500 ft in length.
- The airport is not in the database.
- QFE altimeter settings are used for approach and landing on subsequent takeoff without the availability of geometric altitude.

1-34-70: FMS Operation and Navigation Modes

The FMS shall be operated in SYNCHRONOUS mode only.

1-34-80: Enhanced Vision System (EVS)

1. The HUD section of the G550 Operating Manual (Chapter 2B, PlaneView System, Basic Issue or later approved revision) must be immediately available to the flight crew whenever use of the EVS system is contemplated.
2. At 100 feet HAT, visual cues must be seen without the aid of EVS to continue descent to landing
3. EVS may be used only by qualified pilots who have been trained in accordance with requirements listed in the FAA GV Flight Standardization Board (FSB) Report revision 1 or later.
4. Flight director or autopilot with vertical guidance is permitted for all IMC EVS approaches.
5. EVS as installed meets the requirements of EFVS (Enhanced Flight Vision System) as defined in FAR 91.175.

1-34-90: Visual Guidance System (VGS)

1. Category I HUD operations are approved.
2. The VGS does not provide a Non-Directional Beacon (NDB) approach capability. NDB approaches may be set up and flown through the FMS, using the HUD for guidance. Raw data bearing information shall be selected for display and monitored by the PNF (Pilot Not Flying) on the head-down navigation displays.

1-34-100: TAWS

The production EGPWS installation meets the requirements for Class A TAWS as defined in Advisory Circular AC 25-23.

1-34-110: FM Immunity

All Honeywell navigation receiver installations comply with all applicable standards of relevant FAA TSOs, Radio Technical Commission for Aeronautics (RTCA), and ICAO Annex 10 specifications for FM immunity.

1-34-120: RVSM Dispatch Capability

In order to satisfy the performance standards set forth in FAA AC 91-RVSM, the following equipment and instruments must be installed and operative prior to dispatch into RVSM airspace:

ATA	Equipment	No. Installed	No. Required For RVSM Operations
22-7	Flight Guidance Computers	2	1
34-8	ATC Transponder and Automatic Altitude Reporting Systems	2	1*
34-23	Altitude Alerting System	1	1
34-33	Air Data Module (see chart)	3	2

* One transponder may be inoperative provided that both the altitude reporting systems are operative on the remaining transponder.

NOTE: Refer to the MEL for other basic dispatch capability.

1-34-130: Electronic Charts

The “Chart Issuance Date” shall be checked prior to the first flight of the day. If the amber “May Contain Outdated Data” statement is present on the Charts master page, the crew shall check the NOTAMS for the airports prior to dispatch. Alternately, the crew may elect to update the database prior to dispatch or use current paper charts for the trip.

The crew shall report all noted discrepancies concerning charts to Jeppesen as soon as possible after the discrepancy has been noted. Jeppesen can be contacted via email at www.jeppesen.com. Select “Feedback” under Jeppesen Quick Links.

The electronic charts function has been demonstrated for situational awareness only.

1-34-140: “3-In-1” Integrated Standby Instrument System (SFD)

The “3-In-1” Integrated Standby Instrument System (SFD), VHF 1, VOR 1 and ATC 1 must all be operative for dispatch for airplanes not having ASC 902 (Cert Bravo) incorporated.

Figure 1-5: RVSM Envelope

For Airplanes Without ASC 901

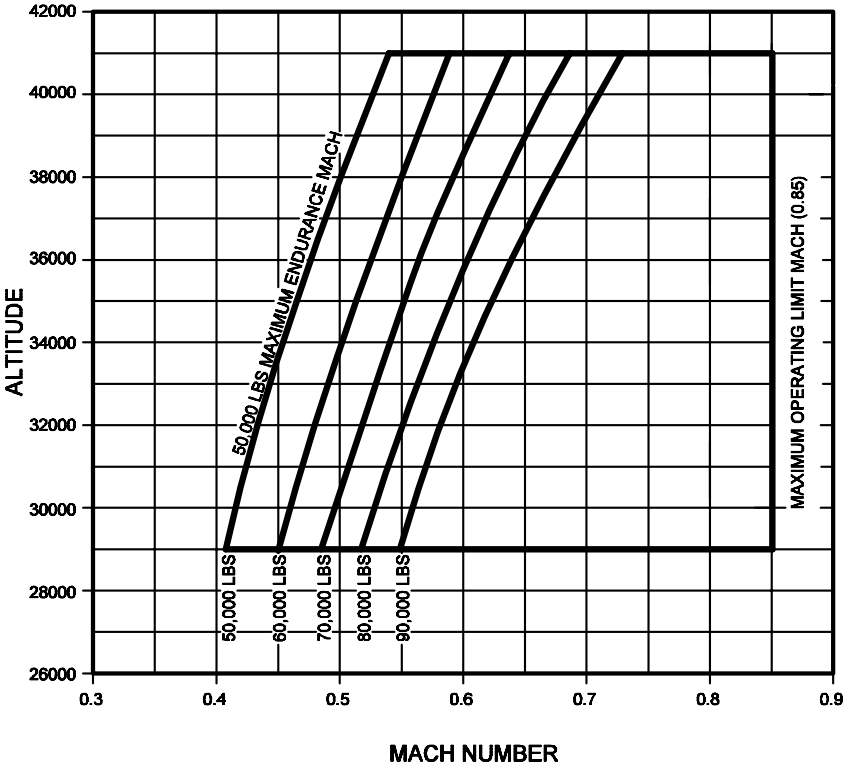

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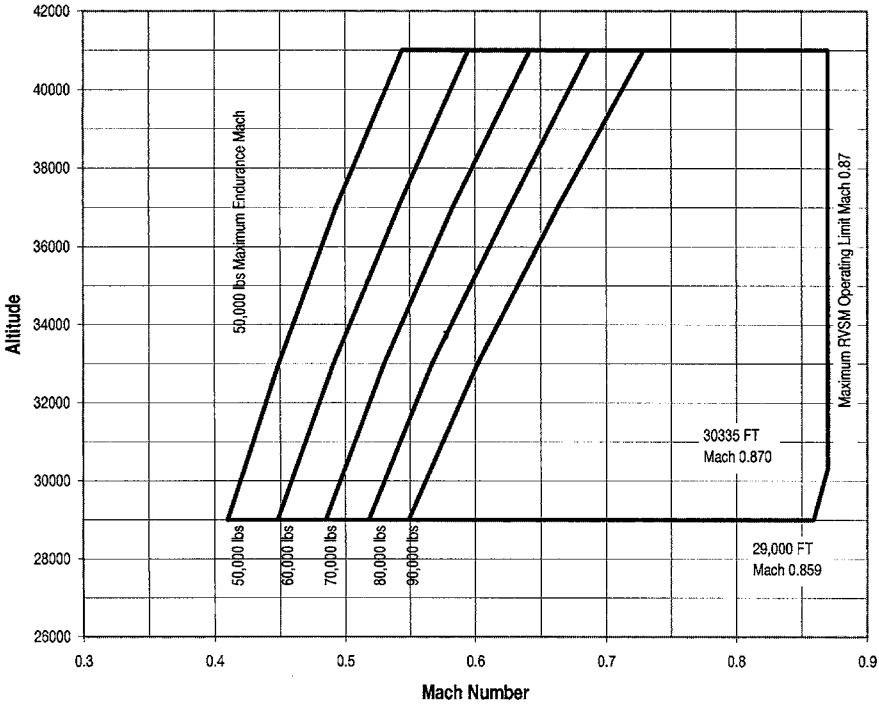
Figure 1-5: RVSM Envelope

For Airplanes With ASC 901



1-35-00: OXYGEN SYSTEM

1-35-10: Oxygen Departure Pressures

The quantity of oxygen required varies with the flight profile. Use Figure 1-6 to determine required oxygen quantity for each flight.

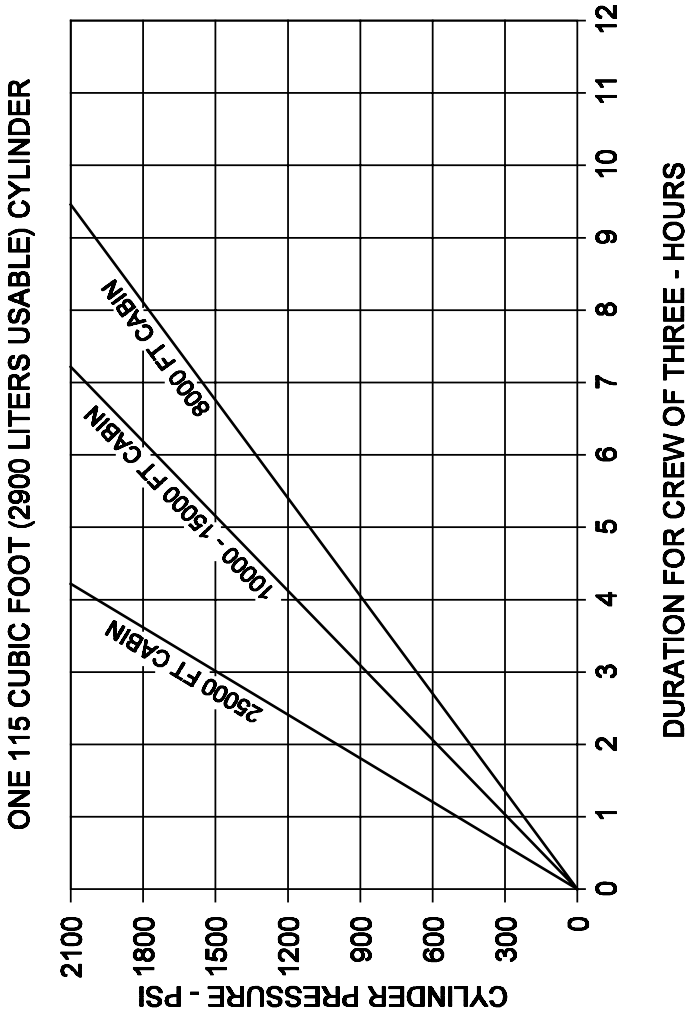


Figure 1-6: Oxygen Departure Pressure

1-35-20: Oxygen System

The following airplane certification requirements are in addition to the requirements of applicable operating rules. The most restrictive requirements (certification or operating) must be observed.

Above Flight Level 250, crew masks must be in the quick-donning position which allows donning within five (5) seconds.

On airplanes with Scott ATO MC 10-15-157 / -158 crew masks, hats and "earmuff" type headsets must be removed prior to donning crew oxygen masks.

NOTE: Headsets and eyeglasses worn by crew members may interfere with quick-donning capabilities.

Crew and passenger oxygen masks are not approved for use above 40,000 ft cabin altitude.

***WARNING*: PASSENGER MASKS ARE INTENDED FOR USE DURING AN EMERGENCY DESCENT TO AN ALTITUDE NOT REQUIRING SUPPLEMENTAL OXYGEN.**

***WARNING:* PASSENGER MASKS WILL NOT PROVIDE SUFFICIENT OXYGEN FOR PROLONGED OPERATION ABOVE 34,000 FT CABIN ALTITUDE. PROLONGED OPERATION ABOVE 25,000 FT CABIN ALTITUDE WITH PASSENGERS ON BOARD IS NOT RECOMMENDED.**

1-45-00: ENGINE INSTRUMENTS AND CREW ALERTING SYSTEM (EICAS)

1-45-10: General EICAS Range Markings Colors

Normal Range Values: Green or White

Caution Range Values: Amber

Warning Range Values: Red

1-45-20: Powerplant EICAS Indications

ENGINE PRESSURE RATIO (EPR):

No Limitation Markings

0.60 to 2.0: Pilot Selectable Command Marker

TGT °C:

900°C and above: Red Arc

860°C to 900°C: Amber Arc

0 to 860°C: White Arc

% LP RPM (LP):

101.1% and above: Red Arc

101.0% to 101.1%: Amber Arc

0 to 101.0%: White Arc

% HP RPM (HP):

99.6% and above: Red Arc

98.9% to 99.6%: Amber Arc

0 to 98.9%: White Arc

FUEL FLOW (FF)

No Limitation Markings

Continued on next page →

OIL TEMPERATURE (OIL TEMP)

160°C and above: Red Digits

+20°C to 160°C: White Digits

-30°C to +19°C: Amber Digits

-31°C and below: Red Digits

OIL PRESSURE (OIL PRESS)

35 psi and above: White Digits

26 to 34 psi: Amber Digits

0 to 25 psi: Red Digits

ENGINE ANTI-ICE PRESSURE

33 psi and above: Amber Digits

1-45-30: Fuel EICAS Indications:

FUEL TANK TEMPERATURE INDICATIONS

+54°C and above: Red Digits

-34°C to +53°C: White Digits

-35°C to -36°C: Amber Digits

-37°C and below: Red Digits

1-45-40: APU EICAS Indications

APU EXHAUST GAS TEMPERATURE (EGT)

No limitations markings.

APU RPM

106% and above: Red Digits

104% to 105%: Amber Digits

0% to 103%: White Digits

1-45-50: CAS Messages

Amber CAS messages are DO NOT DISPATCH messages. Blue CAS maintenance messages allow dispatch as the systems that generate these messages are fault tolerant. Dispatch with an active amber or blue message shall be with reference to the MEL.

1-49-00: AUXILIARY POWER UNIT (APU)

1-49-10: APU Operation

GENERAL

The APU can be operated on the ground, during takeoff, in flight and during landing. In flight it is an optional source of electrical power via the APU GEN instead of one or both engine-driven generators. The APU can be used to supply pressurization airflow in conjunction with engine bleeds OFF takeoffs up to 1500 ft AGL. The APU may be used for starter-assisted main engine starts below 30,000 ft if required.

MAXIMUM PERMISSIBLE EGT

Start: 1050°C

Running: 732°C

MAXIMUM ROTOR SPEED

All conditions: 106%

APU STARTING LIMITS

Continuous operation of the APU starter, when powered by airplane batteries is limited to a maximum of three (3) consecutive start attempts. A one (1) hour cool down period must be observed before the next full starter cycle is commenced.

APU start attempts when powered by an external DC cart are limited to a maximum of three (3) attempts. A fifteen (15) minute cool down is required between start attempts to protect airplane wiring. A one (1) hour cool down period must be observed before the next full starter cycle is commenced.

CAUTION: ALLOW FIFTEEN (15) MINUTES BEFORE ATTEMPTING ANOTHER APU START USING EXTERNAL DC POWER. THIS ALLOWS THE ELECTRICAL FEEDER CABLE FROM THE EXTERNAL POWER RECEPTACLE TO THE APU STARTER TO COOL.

NOTE: Successful consecutive starts are limited to 6 at 10 minute intervals per start.

NOTE: See Section 2-08-20: Cold Weather Start and Operation, for guidance on starting the APU following an overnight cold soak of -15°C or colder.

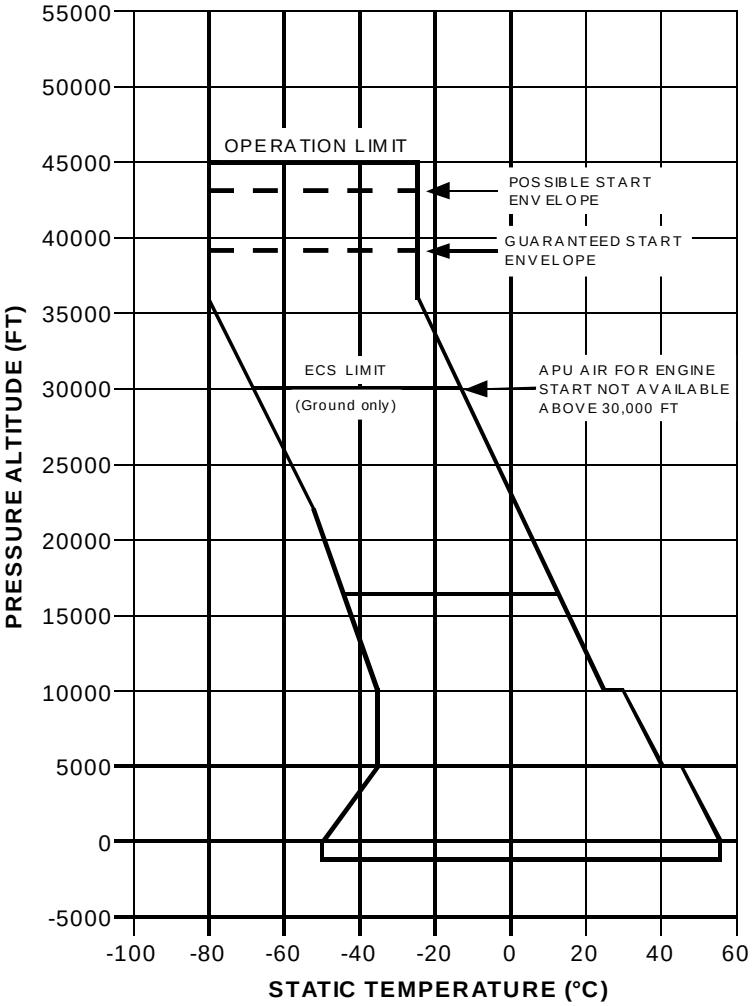
APU GENERATOR ELECTRICAL LOAD

The APU generator can deliver 100% (40 kVA) electrical power on ground or in flight from sea level to 45,000 ft.

1-49-20: APU Airstart Envelope

For APU airstart limitations, See Figure 1-7: APU Airstart Envelope. The APU is guaranteed to start at or below 39,000 ft. APU starts are possible from 39,000 ft to 43,000 ft. If starting the APU in conjunction with a dual generator failure, initiate start attempt at or below 39,000 ft.

Figure 1-7: APU Airstart Envelope



1-71-00: POWERPLANT

1-71-10: Engine Operation

CONDITION	LP % RPM	HP % RPM	MAX TGT	TIME LIMIT
GROUND START (see note 1)	--	--	700°C	MOMENTARY
AIRSTART (RELIGHT)	--	--	850°C	MOMENTARY
TAKEOFF (see note 2)	101.1	99.6	900°C	5 MINUTES
MAXIMUM CONTINUOUS	101.0	98.9	860°C	UNRESTRICTED
MAXIMUM OVERSPEED	101.5	99.8	--	20 SECONDS
MAXIMUM OVERTEMP	--	--	905°C	20 SECONDS
REVERSE THRUST (see notes 3 & 4)	70.0	--	--	30 SECONDS

NOTE: (1) Maximum TGT prior to ground start is 150°C.

(2) The use of takeoff rating is limited to five (5) minutes all engines operating or ten (10) minutes in the event of an engine failure.

(3) Static operation of thrust reverser is limited to 30% LP maximum.

(4) Maximum reverse thrust shall be selected only at airplane speeds above 60 kts.

1-71-20: Engine Ground Start

Maximum crosswind component for engine start is 30 kts.

Maximum tailwind component for engine start is 20 kts.

1-71-30: Engine Airstart

The preferred method of engine airstart is an automatic airstart. Manual starter assisted and windmill airstarts are also permitted.

1-71-40: Takeoff Power

Minimum acceptable power for takeoff is shown in Section 5: Normal Takeoff Planning. Takeoff in the ALTERNATE (LP) control mode is prohibited.

1-71-50: Crosswind Takeoff

For acceleration to takeoff with crosswinds above 20 knots, the fan speed is limited to less than 66% LP RPM until a forward speed of 20 knots has been reached. Above 20 knots forward speed, a slam acceleration to takeoff power is required. Add 600 ft to required field length when using this procedure.

1-71-60: Static Ground Run

While the airplane is static on the ground, stabilized engine operation in the band between 66% and 80% LP RPM (fan speed) is prohibited. Any acceleration or deceleration through this band must not exceed 10 seconds. This limitation only applies to forward thrust.

1-73-00: ENGINE FUEL AND CONTROL SYSTEMS

1-73-10: Engine Fuel Temperature

MIN: -40°C

MAX Unrestricted: +140°C

MAX (15 min) Transient: +165°C

1-73-20: Maximum Fuel Tank Temperature

Maximum fuel tank temperature is +54°C.

1-74-00: ENGINE IGNITION SYSTEMS

1-74-10: Continuous (Airstart) Ignition

There is no duty cycle time limitation for continuous (airstart) ignition.

1-78-00: ENGINE EXHAUST

1-78-10: Thrust Reversers

Cancellation of reverse thrust should be initiated so as to be at the reverse idle position by 60 KCAS.

Use of idle reverse thrust is available for taxi purposes without time limit.

The thrust reversers shall be deployed and stowed at least once every 100 hours.

If in an emergency, reverse thrust is used to bring the airplane to a halt, record and report such an operation for maintenance action.

Use of thrust reversers for power back is not approved.

1-79-00: ENGINE OIL

1-79-10: Oil Inlet Temperature

Minimum For Starting: -30°C

Minimum For Takeoff Power: +20°C

Maximum Temperature: +160°C

NOTE: External heating will be required to raise oil temperature to -30°C for cold weather starting. At oil temperatures above -30°C to +20°C only thrust required for taxi operations shall be used.

1-79-20: Oil Pressure

The engine must be shut down when oil pressure is below 25 PSI.

MINIMUM ENGINE OIL PRESSURE		
	FOR TAKEOFF	COMPLETE FLIGHT
BELOW 72.3% HP	35 PSI	25 PSI
ABOVE 90.0% HP	45 PSI	35 PSI

1-80-00: ENGINE STARTING

1-80-10: Starter Duty

1. The starter duty cycle is:

   Three (3) start cycles with a maximum of three (3) minutes per cycle. Delay 15 seconds between start cycles. After three (3) start cycles, delay use of the starter for at least 15 minutes.

2. The starter may be re-engaged at HP RPM speeds up to starter cut out of 42% HP RPM.

Figure 1-8: Airstart Envelope