

**COMANDO DA AERONÁUTICA
DEPARTAMENTO DE PESQUISAS E DESENVOLVIMENTO
CENTRO TÉCNICO AEROESPACIAL**

TYPE CERTIFICATE DATA SHEET Nº EA-2005T04

Type Certificate Holder:

GULFSTREAM AEROSPACE CORPORATION
500 Gulfstream Road
Savannah, Georgia
USA

EA-2005T04
Sheet 01

GULFSTREAM

GIV
GV
GV-SP

August 2005

This data sheet, which is part of Type Certificate No. 2005T04, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Aeronautical Regulations.

I - Model G-IV (Transport Category), approved 19 August 2005.

ENGINES Two Rolls Royce Tay Mark 611-8 (CTA Type Certificate 9005)

FUEL		<u>Kerosene</u>
	American	ASTM D 1655-84, Jet A ASTM D 1655-8, Jet A-1 MIL-T-83133A, Grade JP8
	British	D Eng. R.D. 2453, Issue 5 D Eng. R.D. 2494, Issue 9
	Canadian	CAN 2.3.23-M82
		<u>JP-4 Wide Cut Type (See NOTE 5)</u>
	American	ASTM D 1655-84, Jet B MIL-T-5624L, Grade JP4
	British	D Eng. R.D. 2454, Issue 4 D Eng. R.D. 2486, Issue 9
	Canadian	CAN 2.3.22-M81
		<u>JP-5 High Flash - Point Type</u>
	American	MIL-T-5624L, Grade JP5
	British	D Eng. R.D. 2452, Issue 2 D Eng. R.D. 2498, Issue 7
	Canadian	CAN 3-GP-24h

ENGINE LIMITS Fuel shall conform to the specification as listed or to subsequent revisions found in the latest approved Airplane Flight Manual

<u>Static thrust (std. day) S.L.</u>	
Rated Takeoff (See NOTE 12)	6 282 kg (13 850 lb)
Rated Maximum continuous	5 634 kg (12 420 lb)

ENGINE LIMITS (Cont.)Maximum Permissible Continuous Rotor Operating Speeds:

N1 (low compressor)	(95.5%)	8 015 rpm
N2 (high compressor)	(97.5%)	12 172 rpm

Maximum Permissible Temperatures (°C):

Turbine gas temp measured at nozzle guide vanes ahead of first low stage pressure turbine:

Takeoff (See NOTE 12)	800°
Maximum continuous	715°
Momentary maximum during ground starts	700°
Momentary maximum during airstarts (relights)	780°
Maximum over-temperature (20 sec limit)	820°
Oil temp (minimum for starting)	-40°
Oil temp (maximum)	105°
Oil temp (15 min limit)	120°
Fuel inlet temp to engine high pressure pump	90°
Fuel inlet temperature (15 min limit)	120°

Maximum Permissible Air Bleed Extraction

7 th Stage HPC Bleed	3.2 kg / sec (7 lb / sec)
12 th Stage HPC Bleed (max continuous and below)	4.5 kg / sec (10 lb / sec)
Fan Bleed	4.76 kg / sec (10.5 lb / sec)

AUXILIARY POWER UNIT (APU)AirResearch GTCP-36-100G

Maximum permissible exhaust gas temperature -

Up to 60% rpm during start	988° C
60% - 100% during start	821° C to 732° C (linear decrease)
Running	732° C
Maximum rotor speed – all conditions	110%
APU alternator load rating	30 kva
APU rated output shaft power (with 0.35 kg / sec (46.6 lb / min) bleed air and ambient temp of 39.4° C (103° F))	37.28 kW (50 hp)

OIL

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

3 Centistoke

Aeroshell Turbo Oil 390
Castrol 3C Turbine Oil
Castrol 325 Engine Oil
ESSO/Exxon Turbo 2389

OIL (Cont.)5 Centistoke

Esso/Exxon Turbo Oil 2380

Mobil Jet Oil II

Mobil Jet Oil 254

Castrol 5000 Gas Turbine Oil

Aeroshell Turbine Oil ATO 500

NOTE: Mixing of oils is not recommended for APU.

NOTE: Mixing of oils is not recommended but brands may be mixed if operationally essential. Oils of the above brands, when reclaimed to the approved Rolls-Royce standard for viscosity and grade, are approved for use.

Oil shall conform to the specification as listed or to subsequent revisions in the latest approved Airplane Flight Manual.

AIRSPEED LIMITS (CAS) V_{mo} / M_{mo} (Maximum operating)

See Altitude/Mach Flight Operating Envelope

V_a	(Maneuvering)	314 kph	170 knots
		378 kph (1)	206 knots (1)
V_{fe}	(Flaps down to 39°)	315 kph	170 knots
		331 kph (1)	180 knots (1)
		(Flaps down to 20°)	407 kph
	(Flaps down to 10°)	463 kph	250 knots
V_{lo}	(Landing gear operation)	417 kph	225 knots
V_{le}	(Landing gear extended)	463 kph	250 knots
V_{mcg}	(Minimum control ground)	206 kph	111 knots
V_{mca}	(Minimum control air)	193 kph	104 knots

(1) Aircraft S/N 1000 thru 1213 with 1159SB41190, S/N 1214 and subsequent.

DATUM

For weight and balance purposes, the zero datum is 0.4 m (15 in) aft of the jig point at the centerline of the airplane in the nose wheel well or 5.2 m (206 in) forward of Fuselage Station 206.

LEVELING MEANS

Longitudinal: Lugs at right nose well door longeron STA 61.5 & 72.5

Lateral: Lugs on rear face of bulkhead STA 44.5 in nose wheel well.

MEAN AERODYNAMIC CHORD

4.22 m (166.2 in) (L.E. of M.A.C. = Fuselage Station 387.7)

MAXIMUM WEIGHT

Aircraft S/N	Max. Zero Fuel kg (lb)	Max. Ramp kg (lb)	Max. Take-Off kg (lb)	Max. Landing kg (lb)
1000 - 1213	21 092 (46 500)	33 384 (73 600)	33 203 (73 200)	26 535 (58 500)
1000 - 1213 with ASC 61	22 226 kg (49 000)	33 384 (73 600)	33 203 (73 200)	26 535 (58 500)
1000 - 1213 with ASC 261	22 226 (49 000)	33 384 (73 600)	33 203 (73 200)	26 535 (58 500)
1000 - 1213 with ASC 190	22 226 (49 000)	34 019 (75 000)	33 838 (74 600)	29 937 (66 000)
1214 & Subs.	22 226 (49 000)	34 019 (75 000)	33 838 (74 600)	29 937 (66 000)
1500 & Subs. with ASC 440 (G400)	22 226 (49 000)	34 019 (75 000)	33 838 (74 600)	29 937 (66 000)
1500 & Subs. with ASC 436 (G300)	22 226 (49 000)	32 840 (72 400)	32 659 (72 000)	29 937 (66 000)

MINIMUM CREW

2 (Pilot and Co-Pilot)

MAXIMUM PASSENGERS

19 – Limited by emergency exit requirements

MAXIMUM BAGGAGE

Compartment aft of fuselage station 539.75 to bulkhead or pressure dome.

Capacity – 907 kg (2 000 lb) less any weight added in equipment bay.

Maximum floor loading – 317 kg / m² (65 lb / ft²)

C.G. – STA 565 for 907 kg (2 000 lb) If further aft, corresponding reduction in capacity required.

FUEL CAPACITY

		<u>GIV / GIV (G400)</u>	<u>GIV (G300)</u>
Gravity or Pressure Fueling:	<u>Total</u>	13 429 kg (29 605 lb)	12 249 kg (27 005 lb)
	<u>Usable</u>	13 381 kg (29 500 lb)	12 202 kg (26 900 lb)
	<u>Arm*</u>	+10.93 m (430.4 in)	+10.83 m (426.5 in)

Fuel weights based upon fuel density of 0.81 kg/liter (6.75 lb/gal)

*Arm based on ground static altitude (-1.5° FRL)

OIL CAPACITY

Total engine oil capacity 6.81 liters (14 lb/ 14.4 US pints) (each engine)

Usable engine oil capacity 5.11 liters (10.1 lb/10.8 US pints) (each engine)
(Arm = +14.8 m (582 in))

Oil weights based upon oil density of 0.89 kg/liter (7.5 lb / gal)

OIL CAPACITY (Cont.)

See NOTE 1 for system oil.
 Capacities shown are for engine oil tankage only.
 Total engine oil is an additional 7.62 kg (16.8 lb) per engine.

APU oil 2.4 liters (4.75 lb / 5 US pints)
 (Arm = +15.7 m (620 in))

MAXIMUM OPERATING ALTITUDE

13 716 m (45 000 ft)

CONTROL SURFACE MOVEMENTS

Elevators	Up 24° (+1/2°, -1/2°)	Down 13° (+0°, -1°)
Elevator trim tab	Up 8° (+1°, -1°)	Down 22° (+1°, -1°)
Rudder	Right 22° to 22.5°	Left 22° to 22.5°
Rudder trim	Right 7.5° (+1°, -1°)	Left 7.5° (+1°, -1°)
Ailerons	Up 10° (+1°, -1°)	Down 10° (+1°, -1°)
Aileron trim	Up 15° (+4°, -4°)	Down 15° (+4°, -4°)
Flaps		Down 39° (0°, -1 1/2°)
Speed brakes	Right 26° (+2°, -2°)	Left 26° (+2°, -2°)
Ground spoiler (all spoilers)	Up 55° (+4°, -3°)	

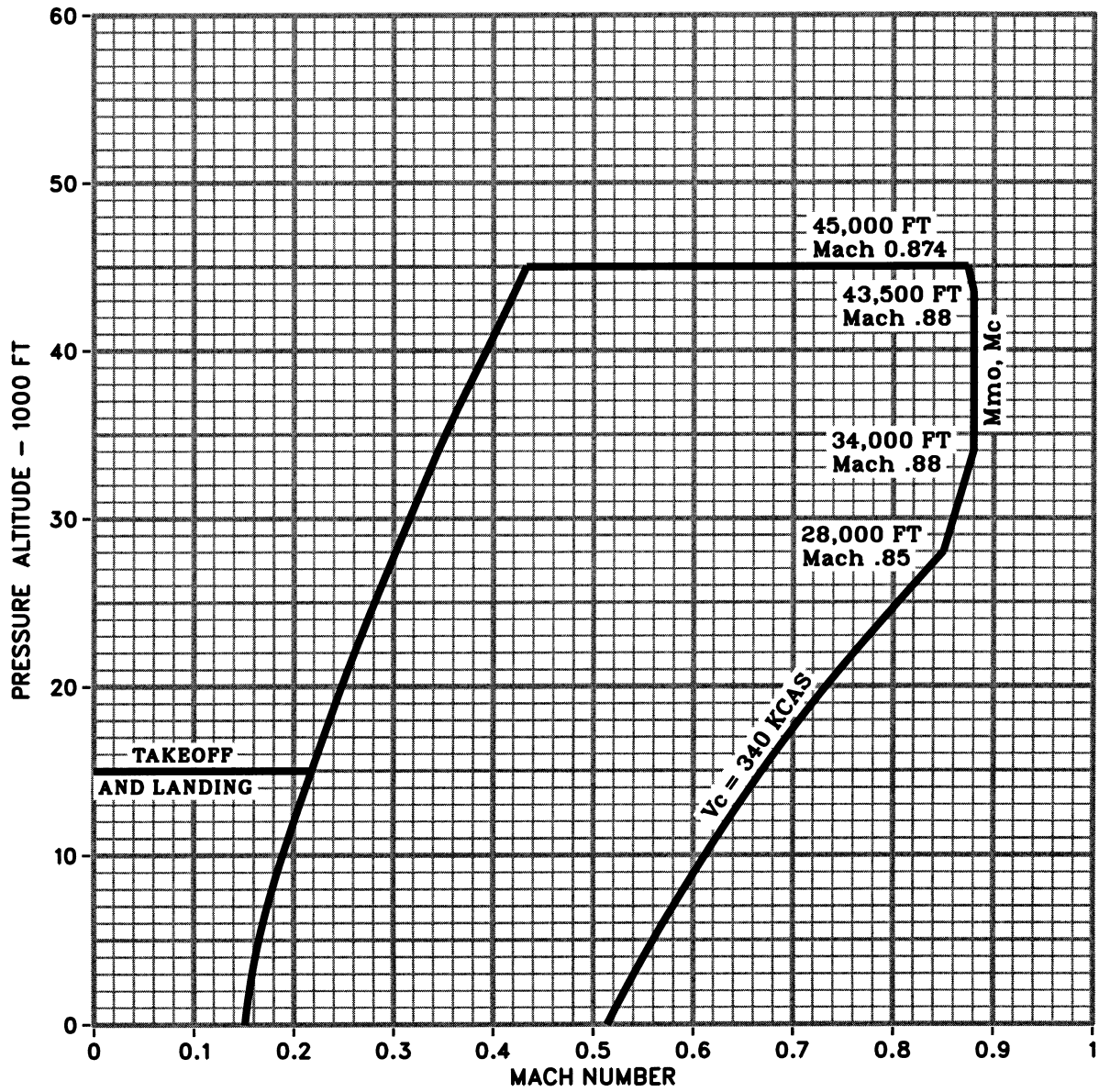
Horizontal stabilizer travel range – Leading edge down:
 -1° (+1/4°, -1/4°) to -4.6° (+1/4°, -1/4°)

S/N'S ELIGIBLE

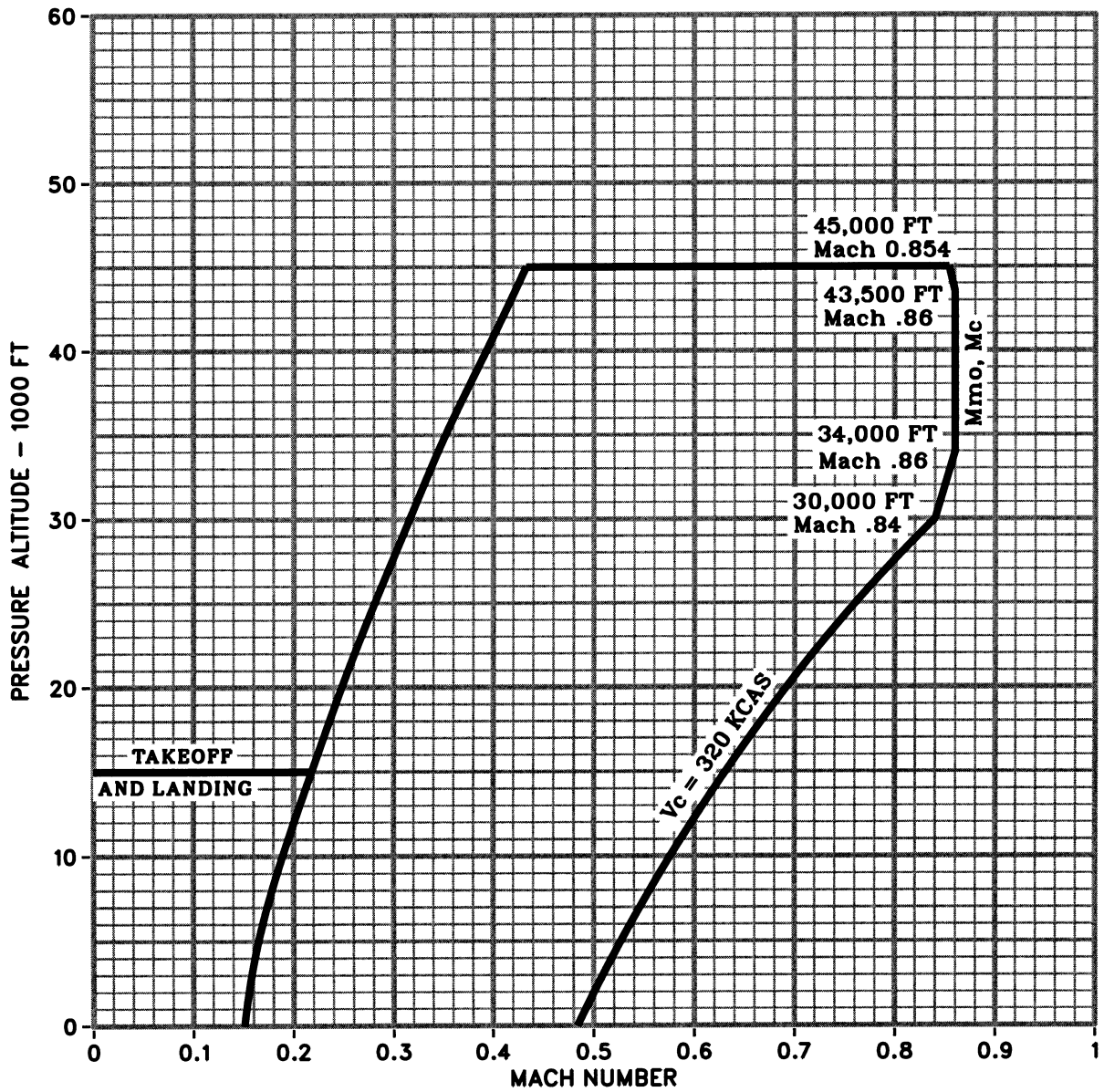
A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

AIRSPPEED LIMITS (MAXIMUM OPERATING)

**ALTITUDE / MACH FLIGHT ENVELOPE
(S/N 1000 AND SUBSEQUENT)**



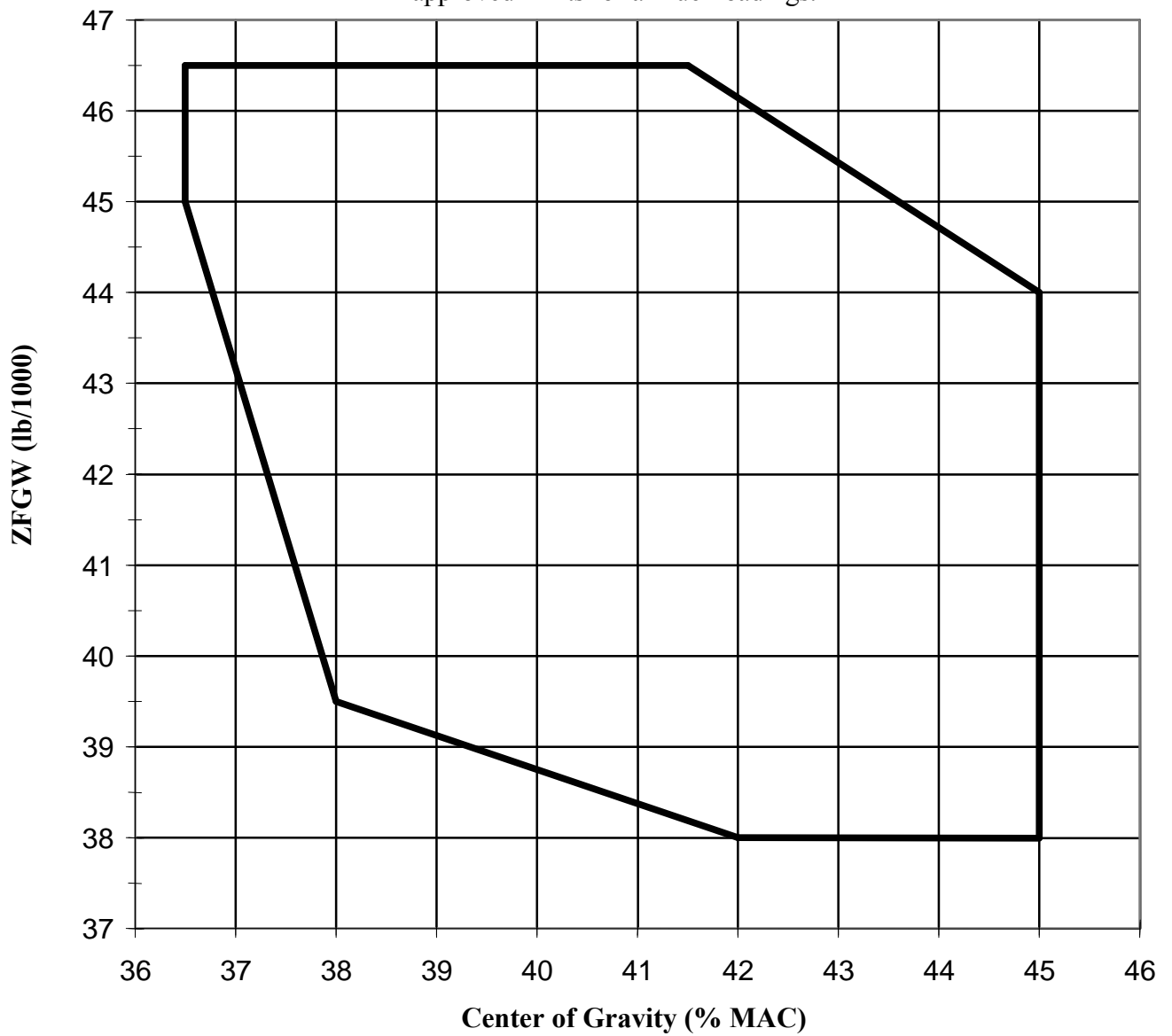
**ALTITUDE / MACH FLIGHT ENVELOPE
(S/N 1000 – 1213 WITH ASC 61)**



Aircraft Zero Fuel Gross Weight Envelope

For SN 1000-1213			
Maximum Weight (lb)			
Zero Fuel	Landing	Ramp	Takeoff
46 500	58 500	73 600	73 200

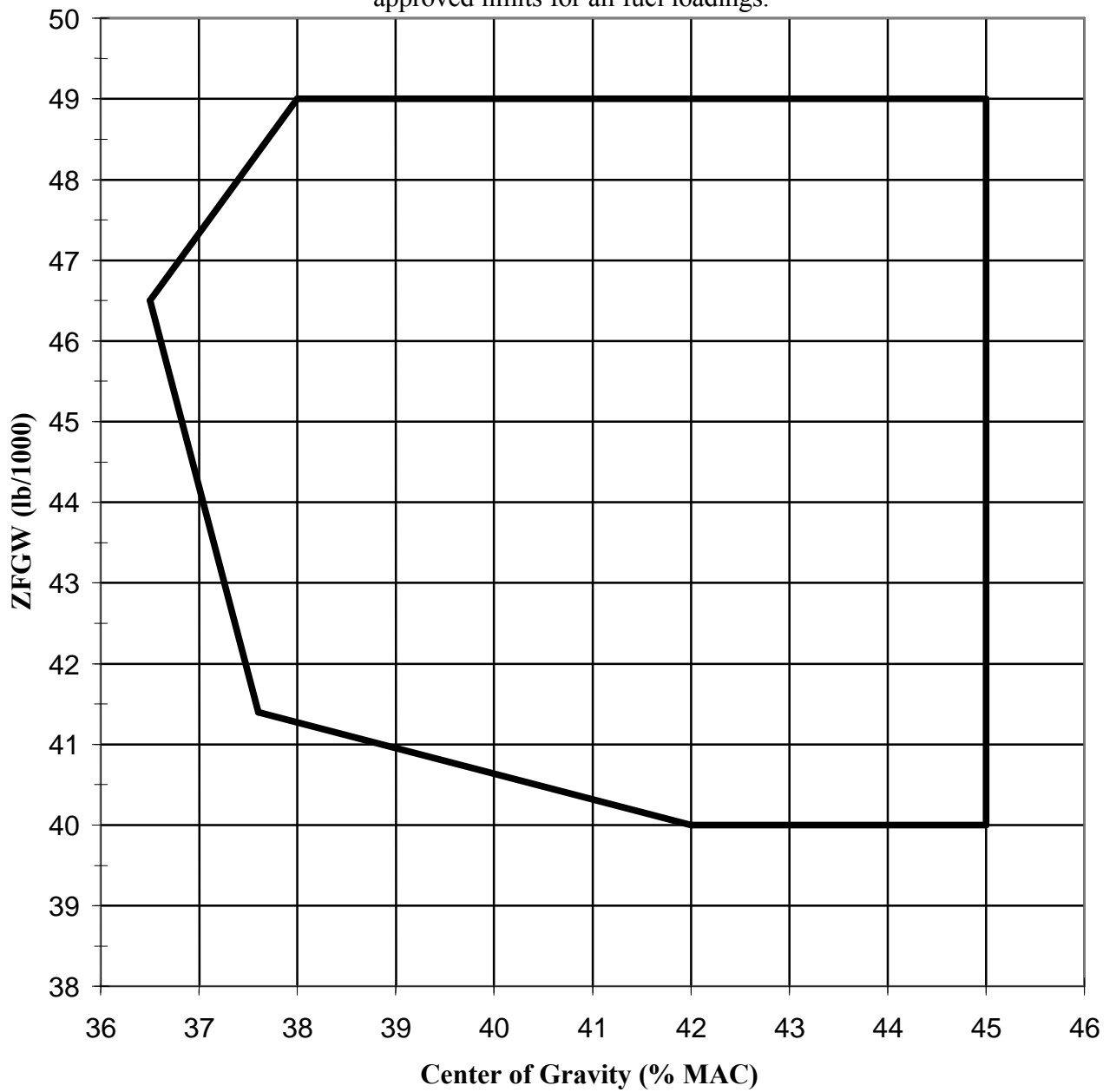
If the ZFGW is within the envelope, the fueled aircraft will be within FAA approved limits for all fuel loadings.



Aircraft Zero Fuel Gross Weight Envelope

For SN 1000-1213 with ASC 61			
Maximum Weight (lb)			
Zero Fuel	Landing	Ramp	Takeoff
49 000	58 500	73 600	73 200

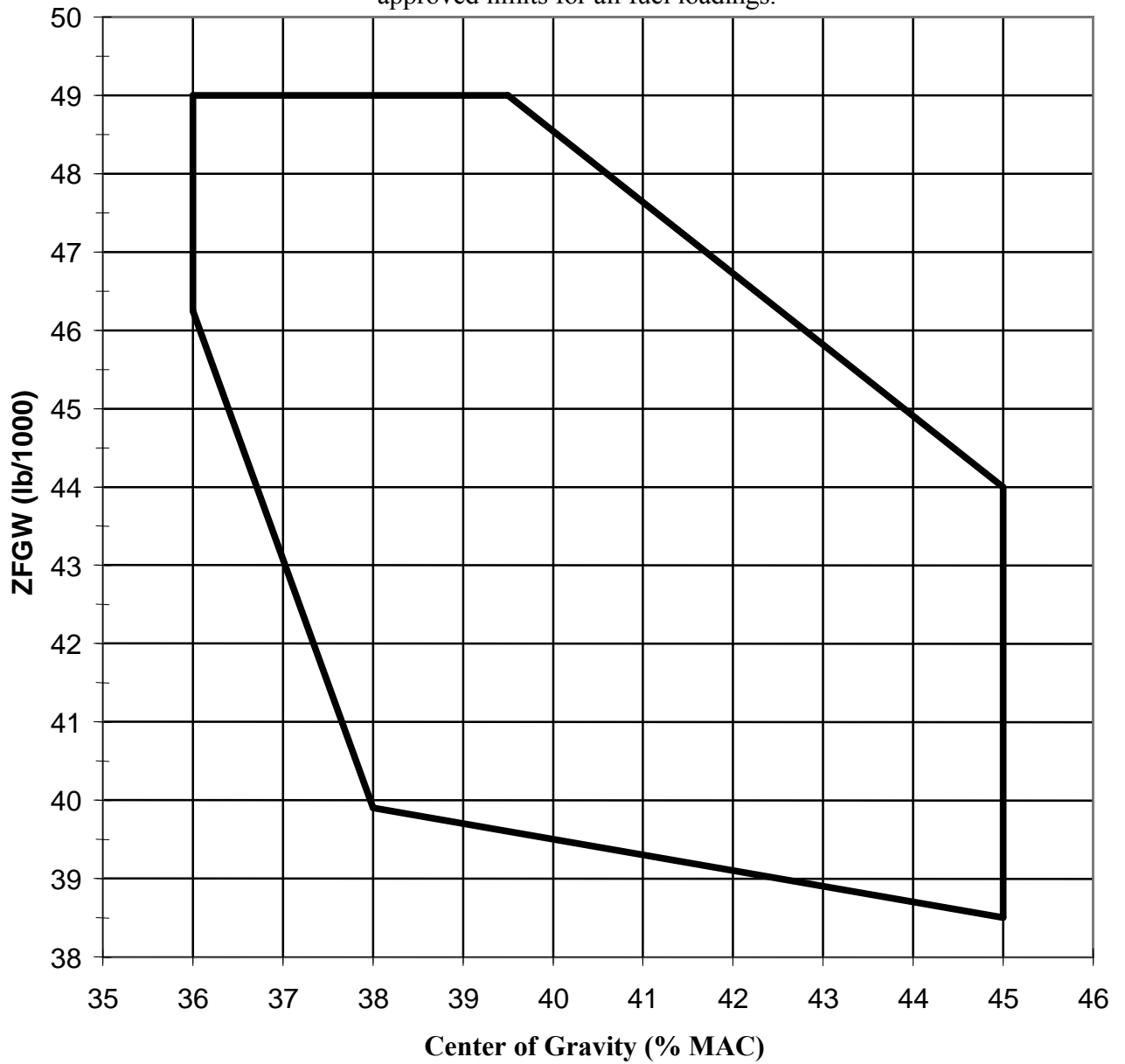
If the ZFGW is within the envelope, the fueled aircraft will be within FAA approved limits for all fuel loadings.



Aircraft Zero Fuel Gross Weight Envelope

For SN 1000-1213 with ASC 261			
Maximum Weight (lb)			
Zero Fuel	Landing	Ramp	Takeoff
49 000	58 500	73 600	73 200

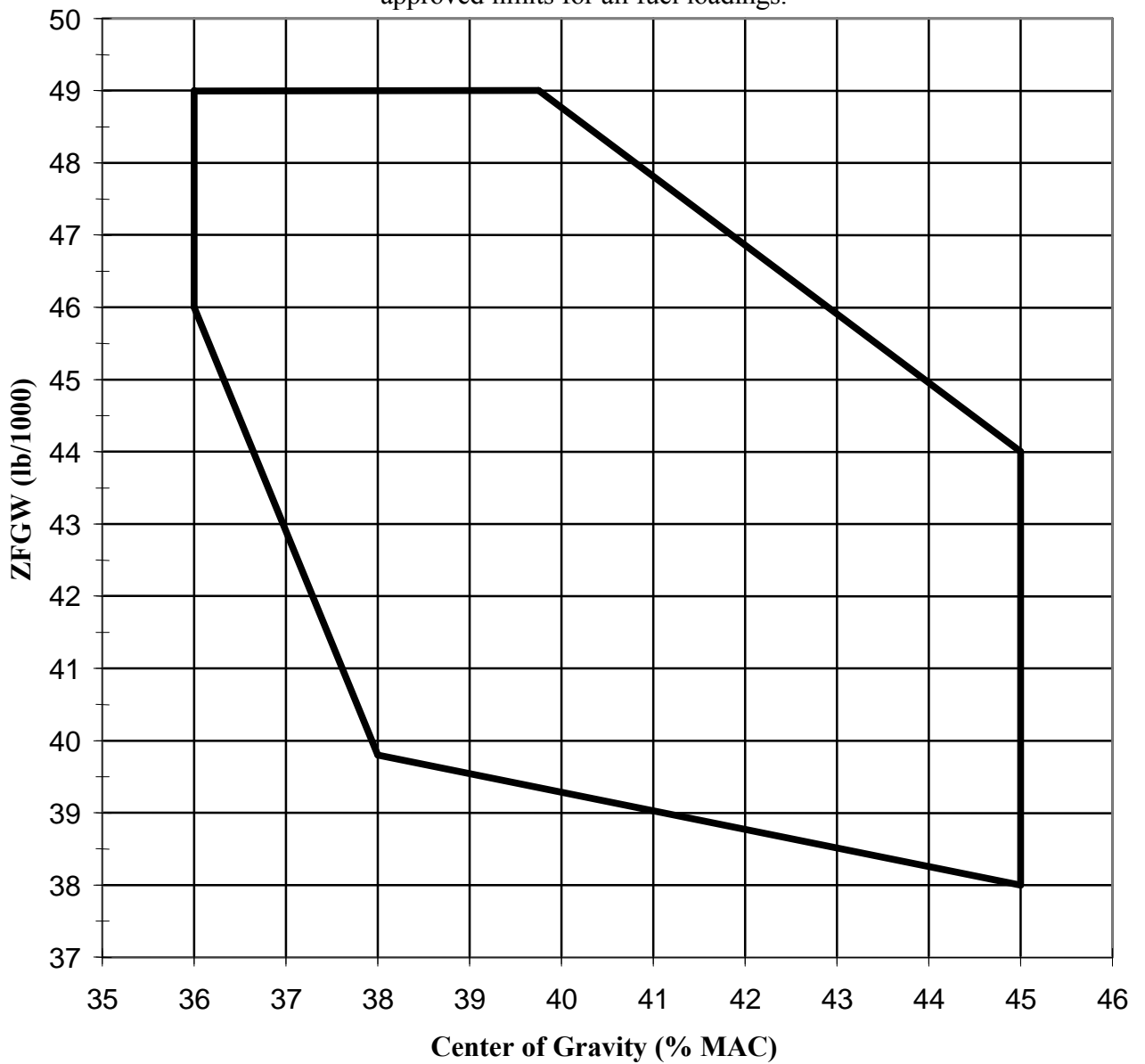
If the ZFGW is within the envelope, the fueled aircraft will be within FAA approved limits for all fuel loadings.



Aircraft Zero Fuel Gross Weight Envelope

For SN 1214 and Subs. and SN 1000-1213 with ASC 190 and SN 1500 and Subs. with ASC 440			
Maximum Weight (lb)			
Zero Fuel	Landing	Ramp	Takeoff
49 000	66 000	75 000	74 600

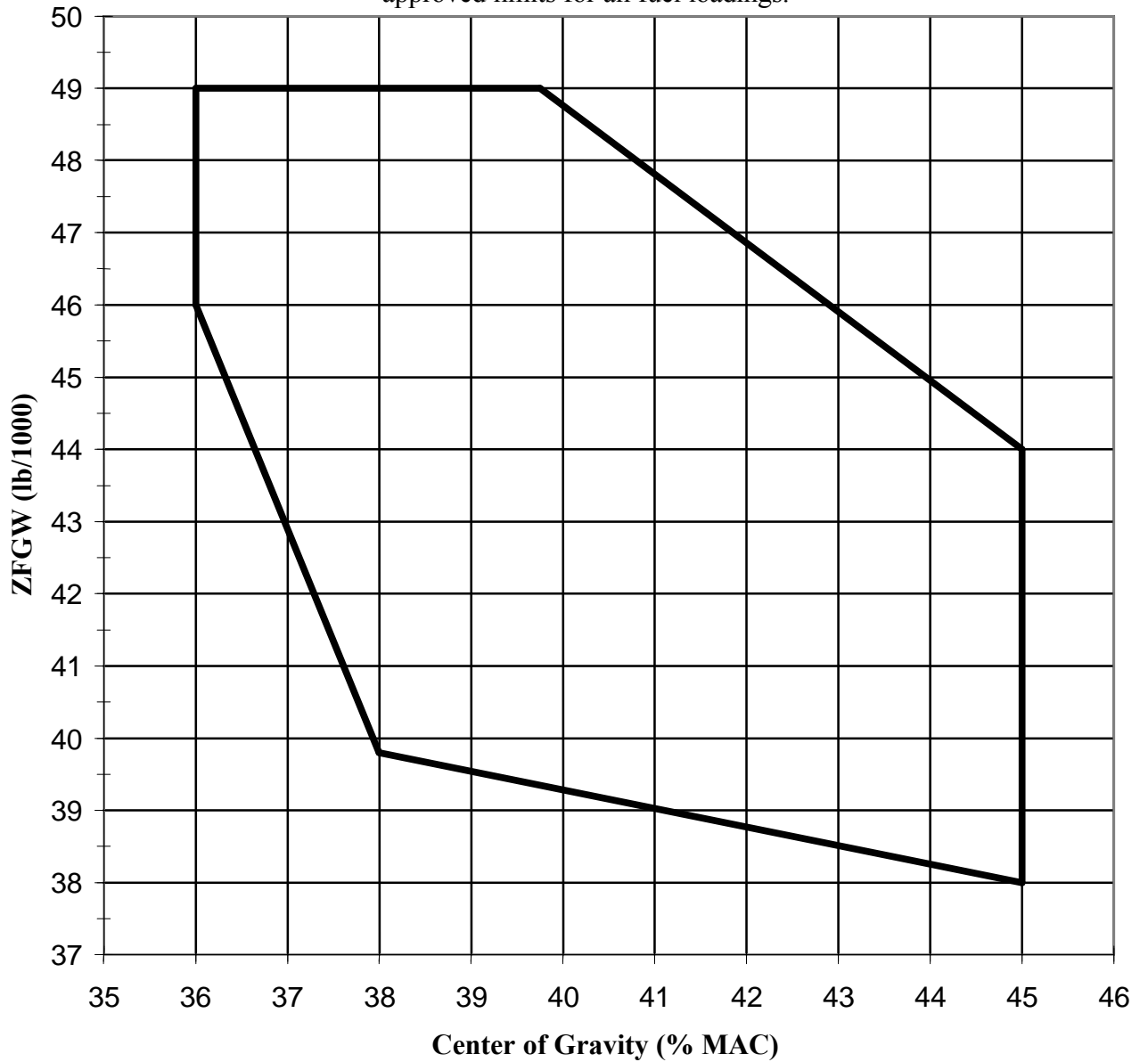
If the ZFGW is within the envelope, the fueled aircraft will be within FAA approved limits for all fuel loadings.



Aircraft Zero Fuel Gross Weight Envelope

For SN 1500 and Subs. with ASC 436			
Maximum Weight (lb)			
Zero Fuel	Landing	Ramp	Takeoff
49 000	66 000	72 400	72 000

If the ZFGW is within the envelope, the fueled aircraft will be within FAA approved limits for all fuel loadings.



IMPORT ELEGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of a Federal Aviation Administration (FAA) Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2005T04 and in condition of safe operation”.

The CTA Report H.10-2141-0 dated 12 August 2005 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See NOTE 4)

CERTIFICATION BASIS

Brazilian Type Certificate no. 2005T04 for the Gulfstream Models G-IV, G-IV (G300) and G-IV(G400) issued on 19 August 2005, based on:

- RBHA 25, which endorses the FAR Part 25 effective 01 February 1965, as amended by 25-1 through 25-56, except for the following sections which are limited to showing compliance with the amendments indicated:
 - RBHA/FAR 25.109, effective 01 February 1965;
 - RBHA/FAR25.571, amendment 25-22 (as applies to fuselage and empennage);
 - RBHA/FAR 25.671, effective 01 February 1965;
 - RBHA/FAR 25.807(c)(2), amendment 25-15; and
 - RBHA/FAR 25.813, effective 01 February 1965
 - RBHA 36 corresponding to FAR Part 36, effective 01 December 1969, Noise Standards, as amended by Amendments 36-1 through 36-12.
 - SFAR 27, including Amendments 27-1 through 27-5.
 - Compliance with the following Optional Ditching Requirements has been established:

Data covering ditching requirements of RBHA/FAR 25.801, including 25.563, 25.807(d) and 25.1585(a) (but excluding 25.1411) are approved. When the operating rules require emergency ditching equipment, compliance with RBHA/FAR 25.1411 and 25.1415 must be demonstrated. Gulfstream Report 1159-GER-7 entitled “Outfitting Requirements for FAA Certification for Ditching” provides an acceptable means for showing compliance with RBHA/FAR 25.1411 and 25.1415.
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**CERTIFICATION BASIS
(Cont.)**

- FAA Equivalent Levels of Safety as follows:
 - RBHA/FAR 25.201, Stall Demonstration;
 - RBHA/FAR 25.729(e)(2), Landing Gear Warning Horn;
 - RBHA/FAR 25.773(b)(2), Direct Vision Window; and
 - RBHA/FAR 25.807(a)(4), effective 01 February 1965, Oval Emergency Windows with Horizontal Major Axis.

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane. See the Illustrated Parts Catalog (IPC) for an approved equipment listing. In addition, the following items of equipment are required:

- When an airplane is outfitted to carry passengers, an FAA approved passenger oxygen system must be installed.
 - CTA Approved Airplane Flight Manual.
-

II – Model GV (Transport Category), approved 19 August 2005.

The Gulfstream GV is the same as the Gulfstream GIV except for the following differences:

- approximately 15% increase in maximum takeoff and landing weights
- maximum operating altitude increase from 13 716 m (45 000 ft) to 15 545 m (51 000 ft)
- engine change from Rolls Royce Tay to Rolls Royce Deutschland BR700-710A1-10 (increased thrust and higher bypass ratio)
- addition of Full Authority Digital Engine Controls (FADEC)
- wing span increased from 22.73 m (74.6 ft) to 28.49 m (93.5 ft)
- additions to the fuselage of a 1.52 m (5 ft) section forward of the main entry door, and a 0.61 m (2 ft) section aft of the wing
- approximately 30% increase in horizontal tail area
- addition of composite material flight control surfaces and thrust reversers

ENGINES

Two BMW – Rolls Royce Deutschland BR700-710A1-10 (CTA Type Certificate 2004T04)

FUEL

	<u>Kerosene</u>
American	ASTM D 1655-92, Jet A ASTM D 1655-92, Jet A-1 MIL-T-83133, Grade JP-8
British	DERD 2453 DERD 2494
Canadian	CAN/CGSB-3.23
French	AIR 3405
CIS	GOST 10227-86, Am 1, TS-1 & RT
IATA	Kerosene type

Fuel shall conform to the specification as listed or to subsequent revisions found in the latest approved Airplane Flight Manual (AFM).

See AFM for information on high flash point fuels.

ENGINE LIMITS

Static thrust (std. day) S.L.

Takeoff (5 min)

6 690 kg (14 750 lb)

Maximum continuous

6 554 kg (14 450 lb)

ENGINE LIMITS (Cont.)Maximum Permissible Engine Rotor Operating Speeds:

N1 (low pressure compressor)

Maximum Takeoff (see NOTE 12)	(101.1%)	7 513 rpm
Maximum Continuous	(101.0%)	7 505 rpm
Maximum Overspeed (20 sec)	(101.5%)	7 542 rpm
Reverse Thrust (30 sec)	(70%)	5 201 rpm

N2 (high pressure compressor)

Maximum Takeoff (see NOTE 12)	(99.6%)	15 834 rpm
Maximum Continuous	(98.9%)	15 723 rpm
Maximum Overspeed (20 sec)	(99.8%)	15 866 rpm

100% N1 equals 7 431 rpm

100% N2 equals 15 898 rpm

Maximum Permissible Temperatures (°C):

Turbine gas temp measured at nozzle guide vanes ahead of first low stage pressure turbine:

Takeoff (See NOTE 12)	900°
Maximum continuous	860°
Maximum prior to start	150°
Maximum over-temperature (20 sec limit)	905°
Momentary maximum during ground starts	700°
Momentary maximum during inflight restarts	850°
Oil temp (minimum before accelerating for T/O)	+20°
Oil temp (minimum for starting)	-30°
Oil temp (maximum)	160°
Fuel inlet temperature to low pressure pump at S.L.	54°
Fuel outlet temperature from engine high pressure pump (unrestricted maximum)	158°
Fuel outlet temperature (15 min limit)	165°
Fuel inlet temperature (minimum)	-40°

Bleed Extraction

EPR = P50/P2: The amounts of bleed extraction from stages 5 and 8, respectively, are related to the core entry mass flow, W26. The amount of fan bleed extraction is related to the fan entry mass flow, W1A.

Power Range	Normal Flow (%)			Maximum Flow (%)		
	Stage 5	Stage 8	Fan	Stage 5	Stage 8	Fan
Idle to 1.06 EPR	****	7.8	****	3.0	12.1	0.6
1.06 to 1.3 EPR	4.4	4.2	0.2	8.3	7.9	1.6
Above 1.3 EPR	4.3	****	0.4	8.5	****	1.8

AUXILIARY POWER UNIT (APU)

Allied Signal – Model RE220 (GV)

AUXILIARY POWER UNIT (APU) (Cont.)	Rated Output Shaft Power	46.23 kW (62 hp) (continuous)
		52.2 kW (70 hp) (5 min)
		75.32 kW (101 hp) (5 sec)
	Maximum Generator Output Shaft Speed	12 000 rpm
	Maximum Exhaust Gas Temp (EGT) at Rated Output	672° C (1 241° F) (T ₂ = 60° C (140° F))
	Maximum Allowable Rotor Speed	48 320 rpm (T ₂ < 46° C (115° F))
	Maximum Allowable EGT	Starting: 1 050° C (1 922° F) [for T ₂ < -29 °C (-20 °F), P ₂ > 6.75 psia] Operating: 732 °C (1 350 °F) [for T ₂ = 60 °C (140 °F)]

OIL

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

3 Centistoke Type Oils:	Aeroshell Turbine Oil 390
5 Centistoke Type Oils:	Aeroshell Turbine Oil 500
	Castrol Aero 5000
	Exxon Turbo Oil 2380
	Mobil Jet Oil II
	Mobil Jet Oil 254

NOTE: Mixing of oils is not recommended for APU.

NOTE: Mixing of oils is not recommended but brands may be mixed if operationally essential. Oils of the above brands, when reclaimed to the approved standards for viscosity and grade, are approved for use.

Oil shall conform to the specifications listed or to subsequent revisions in the latest approved Airplane Flight Manual.

AIRSPPEED LIMITS (CAS)

V _{mo} / M _{mo} (Maximum operating)	See Altitude/Mach Flight Operating Envelope	
V _a (Maneuvering)	381 kph	206 knots
V _{fe} (Flaps down to 39°)	306 kph	165 knots
(Flaps down to 39° with ASC19A or 73A incorporated)	315 kph	170 knots
(Flaps down to 20°)	407 kph	220 knots
V _{lo} (Landing gear operation)	417 kph	225 knots
V _{le} (Landing gear extended)	463 kph	250 knots
V _{mCG} (Minimum control ground)	190 kph	103 knots
V _{mca} (Minimum control air)	208 kph	112 knots

DATUM

For weight and balance purposes, the zero datum is 1.1 m (45 in) forward of the jig point at the centerline of the airplane in the nose wheel well.

LEVELING MEANS Longitudinal: Lugs at right nose well door longeron STA 61.5 & 72.5
Lateral: Lugs on rear face of bulkhead STA 44.5 in nose wheel well.

MEAN AERODYNAMIC CHORD 4.35 m (171.2 in) (L.E. of M.A.C. = Fuselage Station 524.74)

MAXIMUM WEIGHT

Aircraft S/N	Max. Zero Fuel kg (lb)	Max. Ramp kg (lb)	Max Take-Off kg (lb)	Max. Landing kg (lb)
501 & Subs.	24 721 (54 500)	41 231 (90 900)	41 050 (90 500)	34 155 (75 300)

MINIMUM CREW 2 (Pilot and Co-Pilot)

MAXIMUM PASSENGERS 19 – Limited by emergency exit requirements

MAXIMUM BAGGAGE Compartment aft of fuselage station 684 to pressure bulkhead:
Capacity – 1 134 kg (2 500 lb) less any weight added in equipment bay.
Maximum floor loading – 317 kg / m² (65 lb / ft²)
Approved smoke detection system required.

FUEL CAPACITY

Gravity or pressure Fueling:

	S/N 501 thru 548 Without ASC 50	S/N 549 and Subs, and 501 thru 548 with ASC 50
Total	18 827 kg (41 506 lb)	18 819 kg (41 489 lb)
Usable	18 609 kg (41 026 lb)	18 733 kg (41 300 lb)
Arm*	+14.17 m (558 in)	+14.18 m (558.5 in)

Fuel weights based upon fuel density of 0.81 kg / liter (6.75 lb / gal)

*Arm based on ground static altitude (-1.5° FRL)

OIL CAPACITY

Total engine oil capacity (each engine):

Lucas-Western Gearbox	8.52 liters (16.9 lb / 18 US pints)
APT Gearbox	11.54 liters (22 lb / 24.4 US pints)
(Arm = +19.9 m (785 in))	

Oil weights based upon oil density of 0.89 kg / liter (7.5 lb / gal)
See NOTE 1 for system oil.

Capacities shown are for engine oil tankage only.
Total engine oil is an additional 4.31 kg (9.5 lb) per engine.

APU oil 4.54 liters (9 lb / 9.6 US pints)
(Arm = +19.87 m (782.5 in))

MAXIMUM OPERATING ALTITUDE 15 545 m (51 000 ft)

CONTROL SURFACE MOVEMENTS

Elevators	Up 24° (+1/2°, -1/2°)	Down 13° (+0°, -1°)
Elevator trim tab	Up 8° (+1°, -1°)	Down 22° (+1°, -1°)
Rudder	Right 22° to 25°	Left 22° to 25°
Rudder trim	Right 7.5° (+1°, -1°)	Left 7.5° (+1°, -1°)

Note: Rudder trim may be offset (+3°, -3°) maximum as required for directional trim with the cockpit trim knob and rudder pedals re-referenced to zero. See FCS Rigging Procedures Report GV-MS-51.

Ailerons	Up 11° (+1°, -2°)	Down 11° (+1°, -2°)
Aileron trim	Up 15° (+4°, -4°)	Down 15° (+4°, -4°)
Flaps		Down 39° (+1°, -1°)
Speed brakes (Right & Left)		
4 Outb'd Panels (Flight Spoilers)		Up 30° (+2°, -8°)
2 Inb'd Panels (Ground Spoilers)		Up 30° (+2°, -5°)
Ground spoiler (all)		Up 55° (+4°, -5°)

Horizontal stabilizer travel range – Leading edge Travel:

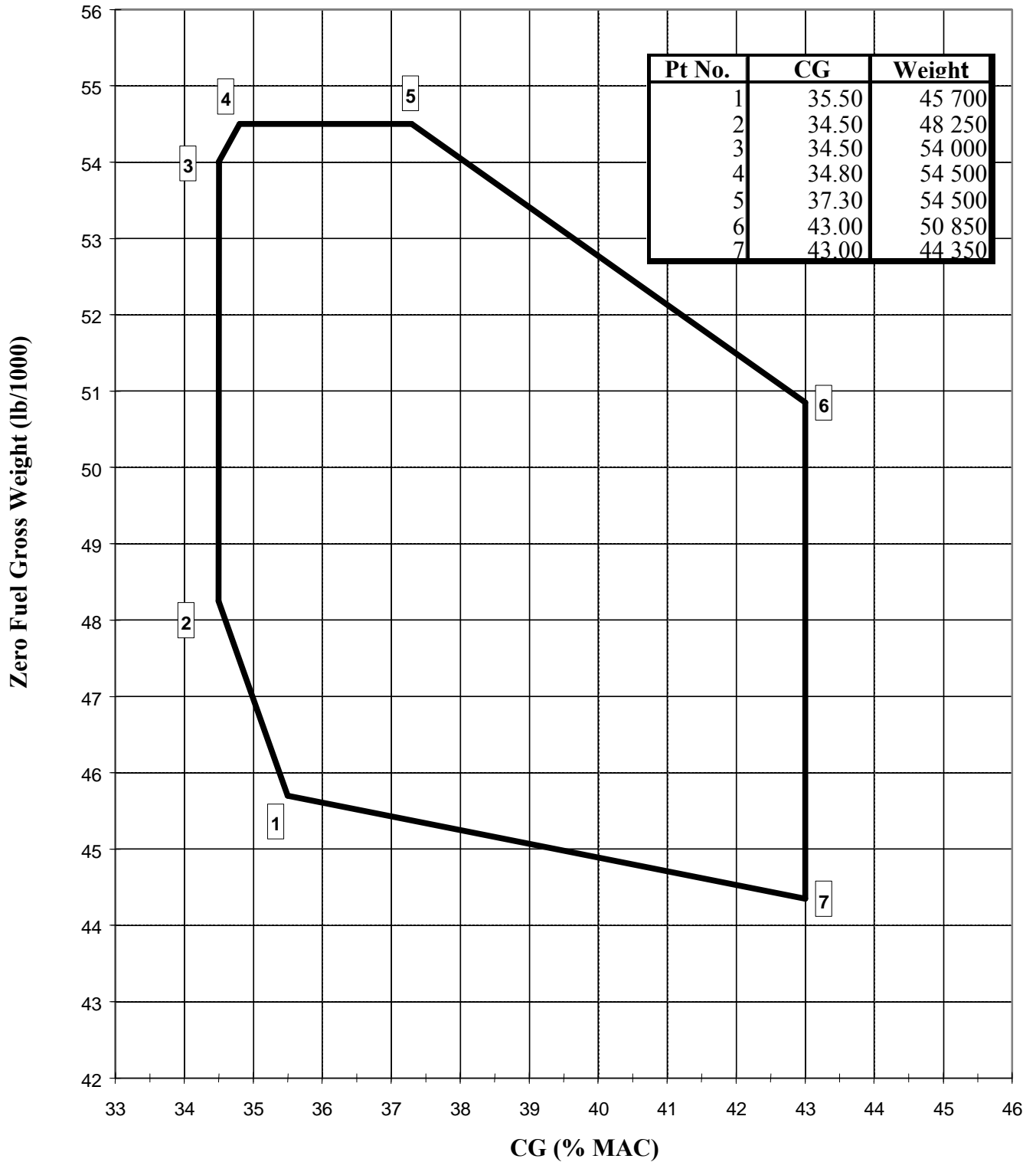
Normal Operation	-1.5° (+1/4°, -1/4°) to -4.6° (+1/4°, -1/4°)
Emerg. Stab. Mode	-1.25° (+1/4°, -1/4°) to -4.6° (+1/4°, -1/4°)

S/N'S ELIGIBLE A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

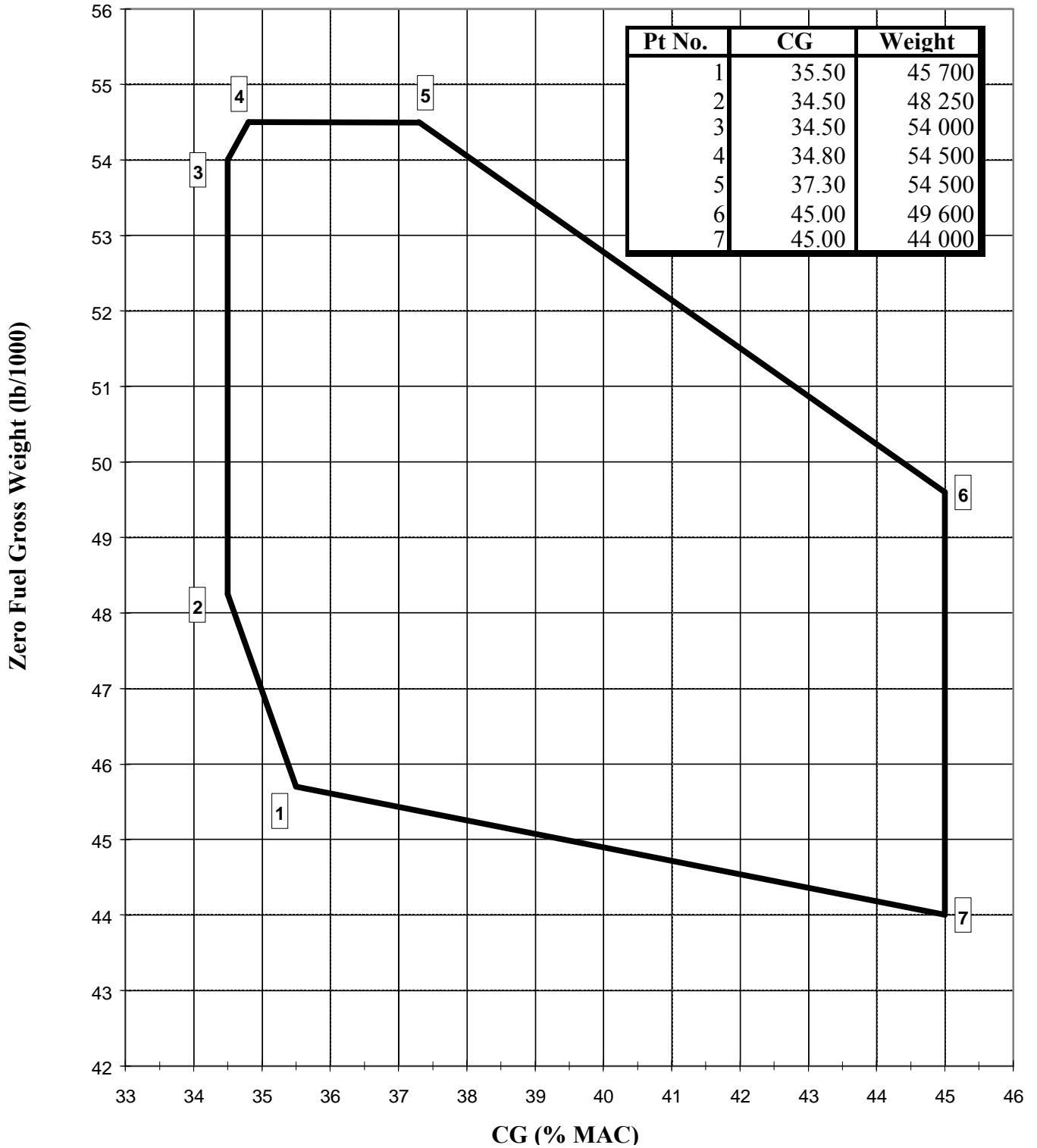
C.G. ENVELOPE See Figure 1-3 for GV Zero Fuel Gross Weight vs. Center of Gravity (S/N 501 through 569 with ASC 73/73A)

See Figure 1-3A for GV Zero Fuel Gross Weight vs. Center of Gravity (S/N 570 and subs, and S/N 501 through 569 with ASC 73/73A)

**Zero Fuel Gross Weight Center of Gravity Envelope
(For Airplanes Without ASC 73/73A)**



**Zero Fuel Gross Weight Center of Gravity Envelope
(For Airplanes With ASC 73/73A)**



IMPORT ELEGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of a Federal Aviation Administration (FAA) Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2005T04 and in condition of safe operation”.

The CTA Report H.10-2143-0 dated 12 August 2005 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See NOTE 4)

CERTIFICATION BASIS

Brazilian Type Certificate no. 2005T04 for the Gulfstream Model GV issued on 9 March 2005, is based on:

- RBHA 25, which endorses the FAR Part 25 effective 01 February 1965, as amended by 25-1 through 25-81, except for the following sections which are limited to showing compliance with the amendments indicated:
 - RBHA/FAR 25.109, effective 01 February 1965;
 - RBHA/FAR 25.807(c)(2), amendment 25-15; and
 - RBHA/FAR 25.813, effective 01 February 1965.
 - RBHA 36 corresponding to FAR Part 36, effective 01 December 1969, Noise Standards, as amended by Amendments 36-1 through 36-20.
 - RBHA 34 corresponding to FAR Part 34, effective 10 September 1990, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes.
 - Shoulder harness on all seats will be provided in lieu of demonstrated compliance to the test requirements of RBHA/FAR 25.562(c)(5) and (c)(6) of Amendment 25-64. Compliance with the requirements of RBHA/FAR 25.785 in reference to RBHA/FAR 25.562(c)(5) and (c)(6) need not be demonstrated due to this concession.
 - FAA Special Conditions:
 - HIRF (High Intensity Radiated Fields) No. 25-NM-105, effective 28 September 1995; and
 - High Altitude Operations No. 25-ANM-108, effective 16 November 1995.
-

**CERTIFICATION BASIS
(Cont.)**

- Compliance with the following Optional Ditching Requirements has been established:

Data covering ditching requirements of RBHA/FAR 25.801, including 25.563, 25.807(d) and 25.1585(a) (but excluding 25.1411) are approved. When the operating rules require emergency ditching equipment, compliance with 25.1411 and 25.1415 must be demonstrated. Gulfstream Report 1159-GER-7 entitled "Outfitting Requirements for FAA Certification for Ditching" provides an acceptable means for showing compliance with 25.1411 and 25.1415.

- Exemptions: RBHA/FAR 25.571(e)(1) Bird Impact Speed
- Equivalent Levels of Safety as follows:
 - RBHA/FAR 25.341, Discrete Tuned Gust in lieu of Static Gust;
 - RBHA/FAR 25.807(a)(4), effective 01 February 1965, Oval Emergency Windows with Horizontal Major Axis.
 - RBHA/FAR 25.933, Prevention of Inadvertent Inflight Thrust Reverser Deployment
 - RBHA/FAR 25.103, Stall Speeds defined by $V_s 1g$ in lieu of V_{min} .

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane. See the Illustrated Parts Catalog (IPC) for an approved equipment listing. In addition, the following items of equipment are required:

- When an airplane is outfitted to carry passengers, an FAA approved passenger oxygen system must be installed.
 - CTA Approved Airplane Flight Manual.
-

III – Model GV-SP (Transport Category), approved 19 August 2005.

The Gulfstream GV-SP is the same as the Gulfstream GV except for the following differences:

- A Honeywell Advanced Flight Deck Display Suite to improve flight crew situational awareness and operational capabilities.
- Airframe aerodynamic improvements, engine improvements, and operational changes for increased performance, range and economics.
- Cabin main entry door relocated forward and seventh cabin window pair added.
- Cabin improvements for increased baggage space, external visibility and comfort.
- Minor system changes for reliability and space utilization.

ENGINES

Two BMW – Rolls Royce Deutschland BR700-710C4-11 (CTA Type Certificate 2004T04)

FUEL

	<u>Kerosene</u>
American	ASTM D 1655-92, Jet A ASTM D 1655-92, Jet A-1 MIL-T-83133, Grade JP-8
British	DERD 2453 (DEF STAN 91-97) DERD 2494 (DEF STAN 91-91)
Canadian	CAN/CGSB-3.23
French	AIR 3405
CIS	GOST 10227-86, Am 1, TS-1 & RT
IATA	Kerosene type

Fuel shall conform to the specification as listed or to subsequent revisions found in the latest approved Airplane Flight Manual (AFM). See AFM for information on high flash point fuels.

ENGINE LIMITS

Static thrust (std. day) S.L.

Takeoff (5 min)	6 978 kg (15 385 lb)
Maximum continuous	6 554 kg (14 450 lb)

Maximum Permissible Engine Rotor Operating Speeds:

N1 (low pressure compressor)

Maximum Takeoff (see NOTE 12)	(101.1%)	7 513 rpm
Maximum Continuous	(101.0%)	7 505 rpm
Maximum Overspeed (20 sec)	(101.5%)	7 542 rpm
Reverse Thrust (30 sec)	(70%)	5 201 rpm

N2 (high pressure compressor)

Maximum Takeoff (see NOTE 12)	(99.6%)	15 834 rpm
Maximum Continuous	(98.9%)	15 723 rpm
Maximum Overspeed (20 sec)	(99.8%)	15 866 rpm

100% N1 equals 7 431 rpm

100% N2 equals 15 898 rpm

ENGINE LIMITS (Cont.)Maximum Permissible Temperatures (°C):

Turbine gas temp measured at nozzle guide vanes ahead of first low stage pressure turbine:

Takeoff (See NOTE 12)	900°
Maximum continuous	860°
Maximum prior to start	150°
Maximum over-temperature (20 sec limit)	905°
Momentary maximum during ground starts	700°
Momentary maximum during inflight restarts	850°
Oil temp (minimum before accelerating for T/O)	+20°
Oil temp (minimum for starting)	-30°
Oil temp (maximum)	160°
Fuel inlet temperature to low pressure pump at S.L.	54°
Fuel outlet temperature from engine high pressure pump (unrestricted maximum)	158°
Fuel outlet temperature (15 min limit)	165°
Fuel inlet temperature (minimum)	-40°

Bleed Extraction

EPR = P50/P2: The amounts of bleed extraction from stages 5 and 8, respectively, are related to the core entry mass flow, W26. The amount of fan bleed extraction is related to the fan entry mass flow, W1A.

Power Range	Normal Flow (%)			Maximum Flow (%)		
	Stage 5	Stage 8	Fan	Stage 5	Stage 8	Fan
Idle to 1.06 EPR	****	7.7	****	3.0	12.0	0.6
1.06 to 1.3 EPR	4.3	4.1	0.2	8.2	7.8	1.6
Above 1.3 EPR	4.2	****	0.4	8.3	****	1.8

AUXILIARY POWER UNIT (APU)

Allied Signal – Model RE220 {GV}

Rated Output Shaft Power	46.23 kW (62 hp) (continuous) 52.2 kW (70 hp) (5 min) 75.32 kW (101 hp) (5 sec)
Maximum Generator Output Shaft Speed	12 000 rpm
Maximum Exhaust Gas Temp (EGT) at Rated Output	672° C (1 241° F) [T ₂ = 60° C (140° F)]
Maximum Allowable Rotor Speed	48 320 rpm [T ₂ < 46° C (115° F)]
Maximum Allowable EGT	Starting: 1 050° C (1 922° F) [for T ₂ < -29° C (-20° F), P ₂ > 6.75 psia] Operating: 732° C (1 350° F) [for T ₂ = 60° C (140° F)]

OIL

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

5 Centistoke Type Oils:	Aeroshell Turbine Oil 500
	Aeroshell Turbine Oil 560
	BP Turbo Oil 2197
	Castrol Aero 5000
	Exxon Turbo Oil 2197
	Exxon Turbo Oil 2380
	Mobil Jet Oil II
	Mobil Jet Oil 254
	Mobil Jet Oil 291
	TurboNycoil 600
	Royco 500
	Royco 560

NOTE: Mixing of oils is not recommended for APU.

NOTE: Mixing of oils is not recommended but brands may be mixed if operationally essential. Oils of the above brands, when reclaimed to the approved standards for viscosity and grade, are approved for use.

Oil shall conform to the specifications listed or to subsequent revisions in the latest approved Airplane Flight Manual.

AIRSPEED LIMITS (CAS)

V_{mo} / M_{mo} (Maximum operating)

See Altitude/Mach Flight Operating Envelope

V_a	(Maneuvering)	381 kph	206 knots
V_{fe}	(Flaps down to 39°)	315 kph	170 knots
	(Flaps down to 20°)	407 kph	220 knots
	(Flaps down to 10°)	463 kph	250 knots
V_{lo}	(Landing gear operation)	417 kph	225 knots
V_{le}	(Landing gear extended)	463 kph	250 knots
V_{mcg}	(Minimum control ground)	198 kph	107 knots
V_{mca}	(Minimum control air)	208 kph	112 knots

DATUM

For weight and balance purposes, the zero datum is 1.1 m (45 in) forward of the jig point at the centerline of the airplane in the nose wheel well.

LEVELING MEANS

Longitudinal: Lugs at right nose well door longeron STA 61.5 & 72.5
Lateral: Lugs on rear face of bulkhead STA 44.5 in nose wheel well.

MEAN AERODYNAMIC CHORD

4.34 m (171.2 in) (L.E. of M.A.C. = Fuselage Station 524.74)

MAXIMUM WEIGHT

Aircraft S/N	Max. Zero Fuel	Max. Ramp	Max Take-Off	Max. Landing
5001 & Subs. (also G550)	24 721 kg (54 500 lb)	41 458 kg (91 400 lb)	41 277 kg (91 000 lb)	34 155 kg (75 300 lb)
5001 & Subs. with ASC 10 (G500)	24 721 kg (54 500 lb)	38 782 kg (85 500 lb)	38 601 kg (85 100 lb)	34 155 kg (75 300 lb)

MINIMUM CREW

2 (Pilot and Co-Pilot)

MAXIMUM PASSENGERS

19 – Limited by emergency exit requirements

MAXIMUM BAGGAGE

Compartment aft of fuselage station 684 to pressure bulkhead:
Capacity – 1 134 kg (2 500 lb) less any weight added in equipment bay.

Maximum floor loading – 317.3 kg / m² (65 lb / ft²)

Approved smoke detection system required.

FUEL CAPACITY

Gravity or pressure Fueling:

	<u>GV-SP (G550)</u>	<u>GV-SP (G500)</u>
<u>Total</u>	18 819 kg (41 489 lb)	16 052 kg (35 389 lb)
<u>Usable</u>	18 733 kg (41 300 lb)	15 966 kg (35 200 lb)
<u>Arm*</u>	+14.18 m (558.5 in)	+14.02 m (551.9 in)

Fuel weights based upon fuel density of 0.81 kg / liter (6.75 lb / gal)

*Arm based on ground static altitude (-1.5° FRL)

OIL CAPACITY

Total engine oil capacity (each engine):

Hispano-Suiza Gearbox	12.96 liters (25.7 lb / 27.4 US pints)
Usable Oil	5.2 liters (10.4 lb / 11 US pints)
(Arm = +19.9 m (785 in))	

Oil weights based upon oil density of 0.89 kg / liter (7.5 lb / gal)

See NOTE 1 for system oil.

Capacities shown are for engine oil tankage only.

Total engine oil is an additional 4.31 kg (9.5 lb) per engine.

APU oil 4.54 liters (9 lb / 9.6 US pints)

(Arm = +19.87 m (782.5 in))

MAXIMUM OPERATING ALTITUDE

15 545 m (51 000 ft)

**CONTROL SURFACE
MOVEMENTS**

Elevators	Up 24° (+1/2°, -1/2°)	Down 13° (+0°, -1°)
Elevator trim tab	Up 8° (+1°, -1°)	Down 22° (+1°, -1°)
Rudder	Right 22° to 25°	Left 22° to 25°
Rudder trim	Right 7.5° (+1°, -1°)	Left 7.5° (+1°, -1°)

Note: Rudder trim may be offset (+3°, -3°) maximum as required for directional trim with the cockpit trim knob and rudder pedals re-referenced to zero. See FCS Rigging Procedures Report GV-MS-51.

Ailerons	Up 11° (+1°, -2°)	Down 11° (+1°, -2°)
Aileron trim	Up 15° (+4°, -4°)	Down 15° (+4°, -4°)
Flaps		Down 39° (+1°, -1°)
Speed brakes (Right & Left)		
4 Outb'd Panels (Flight Spoilers)		Up 30° (+2°, -8°)
2 Inb'd Panels (Ground Spoilers)		Up 30° (+2°, -5°)
Ground spoiler (all)		Up 55° (+4°, -5°)

Horizontal stabilizer travel range – Leading edge Travel:

Normal Operation	-1.5° (+1/4°, -1/4°) to -4.6° (+1/4°, -1/4°)
Emerg. Stab. Mode	-1.25° (+1/4°, -1/4°) to -4.6° (+1/4°, -1/4°)

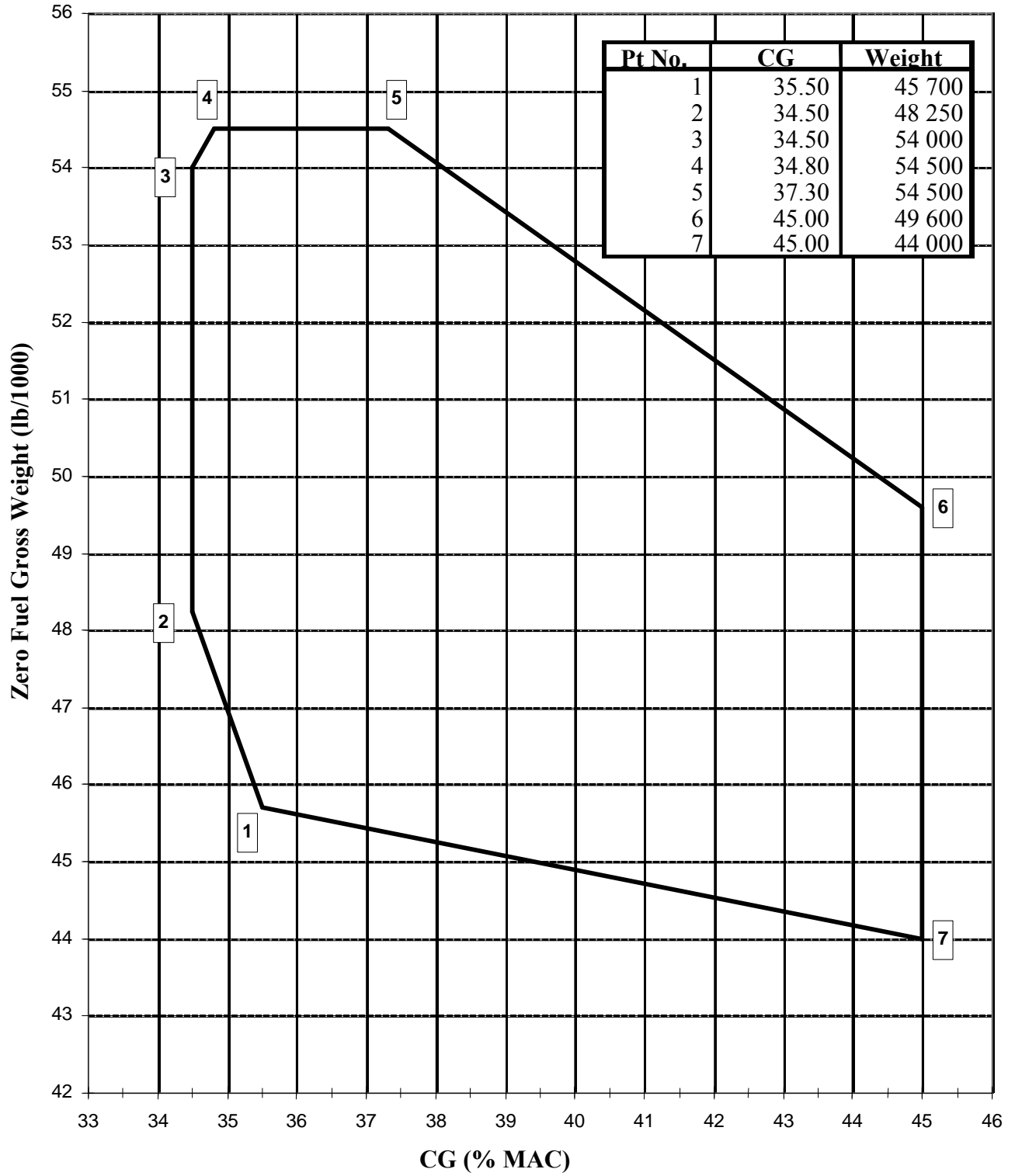
S/N'S ELIGIBLE

A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

C.G. ENVELOPE

See figure on next page for GV-SP Zero Fuel Gross Weight vs. Center of Gravity (S/N 5001 and subsequent).

**GV-SP Zero Fuel Gross Weight Center of Gravity Envelope
(For S/N 5001 and Subsequent)**



IMPORT ELEGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of a Federal Aviation Administration (FAA) Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

“The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate no. 2005T04 and in condition of safe operation”.

The CTA Report H.10-2142-0 dated 12 August 2005 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See NOTE 4)

CERTIFICATION BASIS

Brazilian Type Certificate no. 2005T04 for the Gulfstream Models GV-SP and GV-SP (G550) issued on 19 August 2005, based on:

- RBHA 25, which endorses the FAR 25 effective 01 February 1965, as amended by 25-1 through 25-98, except for the following exceptions:
 - Shoulder harness on all seats will be provided in lieu of demonstrated compliance to the test requirements of RBHA/FAR 25.562(c)(5) and (c)(6) of Amendment 25-64. Compliance with the requirements of RBHA/FAR 25.785 in reference to RBHA/FAR 25.562 (c)(5) and (c)(6) need not be demonstrated due to this concession.
 - The Fatigue and Damage Tolerance requirements of RBHA/FAR 25.571 are limited to the fuselage and fuselage changes only.
 - RBHA 36 corresponding to FAR 36, effective 01 December 1969, Noise Standards, as amended by Amendments 36-1 through 36-22.
 - RBHA 34 corresponding to FAR 34, effective 10 September 1990, Fuel Venting and Exhaust Emission Requirements for Turbine Engine Powered Airplanes, as amended by Amendments 34-1 through 34-3.
 - Special Conditions:
 - No. 25-626-SC, HIRF (High Intensity Radiated Fields)
 - No. 25-180-SC, Enhanced Vision System
-

**CERTIFICATION BASIS
(Cont.)**

- Compliance with the following Optional Ditching Requirements has been established:

Data covering ditching requirements of RBHA/FAR 25.801, including 25.563, 25.807(d) and 25.1585(a) (but excluding 25.1411) are approved. When the operating rules require emergency ditching equipment, compliance with RBHA/FAR 25.1411 and 25.1415 must be demonstrated. Gulfstream Report 1159-GER-7 entitled "Outfitting Requirements for FAA Certification for Ditching" provides an acceptable means for showing compliance with RBHA/FAR 25.1411 and 25.1415.

- Exemptions:
 - No. 7946 [RBHA/FAR 25.813(e)], Mid-Cabin doors between Passenger Compartments.
 - No. 8004 [RBHA/FAR 25.901(c)], Uncontrollable High Thrust Failure Conditions.
- Equivalent Levels of Safety:
 - RBHA/FAR 25.807(g)(2), Gulfstream Overwing Emergency Exit, TAD ELOS Memo No. AT5177AT-T-A-2.

A crewmember trained in evacuation is an additional required crewmember on all flights of 10 to 19 passengers. The required pilot and co-pilot cannot serve this function. The additional crewmember must be trained in the optimum method for evacuation through the Gulfstream elliptical exits and procedures for directing passenger flow to prevent someone that does not fit through and elliptical exit from blocking it so that others cannot use it. Each operator must establish and maintain a training program for this additional crewmember (to include initial and recurrent curriculum) in accordance with Gulfstream Document G500-OMS-1, Revision 1 (for G500 operations) or G550-OMS-1, Revision 1 (for G550 operations), and must keep a record of that training available for inspection by the authority.

- RBHA/FAR 25.841(b)(6), Cabin Pressurization – High Altitude Takeoff and Landing Operations, TAD ELOS Memo No. AT5177AT-T-S-29.
- RBHA/FAR 25.811(d), 25.812(b)(1), Emergency Exit Marker, Locator and Bulkhead/Divider Signs, TAD ELOS Memo No. AT5177AT-T-C-1
- RBHA/FAR 25.853, 25.869, Flammability Substantiation of Electronic Equipment, TAD ELOS Memo No. AT5177AT-T-A-9.
- RBHA/FAR 25.1389(b), 25.1391, 25.1393 and 25.1395. CTA FCAR SE-01, Position Lights.

REQUIRED EQUIPMENT

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane. See the Illustrated Parts Catalog (IPC) for an approved equipment listing. In addition, the following items of equipment are required:

- When an airplane is outfitted to carry passengers, an approved passenger oxygen system must be installed.
- CTA Approved Airplane Flight Manual.

OTHER OPERATING LIMITATIONS

The aircraft must be operated in accordance with the latest CTA approved revision to the Airplane Flight Manual.

NOTES:**NOTE 1**

- (a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each airplane at the time of original certification. The weight and balance report shall include as part of the empty weight, system fuel, total oil and hydraulic fluid.
- (b) System fuel: The weight of all fuel required to fill all lines and tanks up to zero/readable fuel point on the fuel gages in the most critical flight attitude.
1. GIV airplanes (RBHA/FAR 25.959):
 - (i) All serial numbers:
 - Unusable fuel* – 47.6 kg (105 lb)
 - Fuel lines – 20.4 kg (45 lb)
 - System fuel – 68 kg (150 lb)
 - *Includes 5.9 kg (13 lb) undrainable
 2. GV airplanes (RBHA/FAR 25.959):
 - (i) S/N 501 through 549 without ASC 50:
 - Unusable fuel* – 217.7 kg (480 lb)
 - Fuel lines – 13.6 kg (30 lb)
 - System fuel – 231.3 kg (510 lb)
 - (ii) S/N 550 & subs, and S/N 501 through 549 with ASC 50:
 - Unusable fuel* – 85.7 kg (189 lb)
 - Fuel lines – 13.6 kg (30 lb)
 - System fuel – 99.3 kg (219 lb)
 - *Includes 14.5 kg (32 lb) undrainable
-

**NOTE 1
(Cont.)**

3. GV-SP airplanes (RBHA/FAR 25.959):
 - (i) S/N 5001 and subsequent
 - Unusable fuel* – 85.7 kg (189 lb)
 - Fuel lines – 13.6 kg (30 lb)
 - System fuel – 99.3 kg (219 lb)
 - *Includes 14.5 kg (32 lb) undrainable

(c) System oil: The weight of oil remaining in the engine lines and tanks after subtracting the oil in the tanks which is above the “zero gage” levels.

(d) The above “unusable” fuel is that amount of fuel in the tanks, including tank trapped fuel as defined in CAR 4b.416 or FAR 25.959, which is unavailable to the engines under critical flight conditions. The unusable fuel capacity is given under section entitled “Fuel Capacity” for each airplane model. The “unusable” fuel is included in the system fuel as indicated in (a) above and need not be accounted for separately. See CTA approved Airplane Flight Manual for information concerning the following:

- (1) Maximum fuel unbalance between left and right tanks for takeoff and in-flight operations.
- (2) Recommended airplane ground altitude to obtain equal fuel quantities during servicing.
- (3) Fuel additives.

NOTE 2 Marking and Placards. All markings and placards for passenger information, external markings for emergency, and load limits in cargo/baggage compartments must be presented in Portuguese or bilingual. A list of these placards and the respective translations acceptable to CTA is provided in the reports H.10-1241-00, H.10-1242-00, and H.10-1243-00. They're also listed in Chapter 11 of the appropriate Airplane Maintenance Manual. All placards required in the Limitations Section of the Airplane Flight Manual must be installed in the appropriate locations in the airplane.

NOTE 3 Continuing Airworthiness. Information essential to the proper servicing and maintenance of the aircraft is contained in the Maintenance Manuals.

Retirement Times. The retirement times of fatigue critical life limited components are listed in Section IV, Chapter 5 of the appropriate Gulfstream Aerospace Model GIV. Retirement times for the GV and GV-SP are listed in Section 05-10-00 of the applicable Airplane Maintenance Manual. The retirement times of these life limited components cannot be altered without FAA Engineering approval.

For airplanes having time (landings) in more than one configuration, contact Gulfstream Aerospace Engineering for remaining life limitations.

NOTE 4 The differences of the Brazilian airplanes in relation to the basic FAA type design are summarized below:

1. The Brazilian Airplane Flight Manual.
 2. Markings and placards.
-

NOTE 5 The use of JP-4 fuel (wide cut) as agreed to by the operator, Rolls-Royce, and the appropriate airworthiness authority may result in a reduction of HP fuel pump life.

NOTE 6 Model GIV:

Aircraft Service Change (ASC) 61, "49 000 lb. Zero Fuel Gross Weight Increase (with Speed Restriction), G-IV."

Applicable to S/N 1000 through 1213.

Aircraft Service Change (ASC) 190, "Increased Ramp, Landing and Zero Fuel Gross Weight, G-IV."

Applicable to S/N 1000 through 1213.

Aircraft Service Change (ASC) 261, "49 000 lb. Zero Fuel Gross Weight Increase, G-IV"

Applicable to S/N 1000 through 1213.

Aircraft Service Change (ASC) 436, "G300 Modification" will designate those aircraft as Model G-IV (G300). Those aircraft shall be operated under Airplane Flight Manual GAC-AC-G300-OPS-0001.

Applicable to S/N 1500 and subsequent.

Aircraft Service Change (ASC) 440, "G400 Modification" will designate those aircraft as Model G-IV (G400). Those aircraft shall be operated under Airplane Flight Manual GAC-AC-G400-OPS-0001.

Applicable to S/N 1500 and subsequent.

Model GV:

Aircraft Service Change (ASC) 50, "Aft Fuel Pickups-Location, GV.

Applicable to S/N 501 through 548.

Aircraft Service Change (ASC) 73A, "Honeywell Enhancement-Winter Certification, (includes 56021 IAC, 45% CG Expansion, and Revised Stall Barrier Activation Schedule), GV."

Applicable to S/N 501 through 569.

Model GV-SP:

Aircraft Service Change (ASC) 11, "G550 Modification" will designate those aircraft as Model GV-SP (G550). Those aircraft shall be operated under Airplane Flight Manual GAC-AC-G550-OPS-0001.

Applicable to S/N 5001 and subsequent.

Aircraft Service Change (ASC) 10, "G500 Modification" will designate those aircraft as Model GV-SP (G500). Those aircraft shall be operated under Airplane Flight Manual GAC-AC-G500-OPS-0001.

Applicable to S/N 5001 and subsequent.

NOTE 7 Production Basis:

- (a) Model GIV (GIV): Production Certificate No. 7SO (issued 01 September 1978 and reissued 31 August 1987), S/N 1000 and subsequent.
- (b) Model GV (GV): Production Certificate No. 7SO (issued 01 September 1978 and reissued 11 June 1997), S/N 501 and subsequent.
- (c) Model GV-SP (GV-SP): Production Certificate No. 7SO (issued 01 September 1978 and reissued August 14, 2003), S/N 5001 and subsequent.

NOTE 8: The following provides approved alternate aircraft identification information assuming incorporation of the associated (listed) ASC:

- Model GIV, serial number 1500 & Subs, are eligible for identification as Model GIV (G300) when modified in accordance with GAC Aircraft Service Change (ASC) 436.
- Model GIV, serial number 1500 & Subs, are eligible for identification as Model GIV (G400) when modified in accordance with GAC Aircraft Service Change (ASC) 440.
- Model GV-SP, serial number 5001 & Subs, are eligible for identification as Model GV-SP (G550) when modified in accordance with GAC Aircraft Service Change (ASC) 11.
- Model GV-SP, serial number 5001 & Subs, are eligible for identification as Model GV-SP (G500) when modified in accordance with GAC Aircraft Service Change (ASC) 10.

NOTE 9 The cockpit front windshield dimensions for the Models GIV, GV, and GV-SP airplanes are critical for forward visibility certification requirements; therefore, no equipment should be installed on top of the glare shield without prior coordinate with an CTA.**NOTE 10** The GIV, GV and GV-SP models incorporate integrated avionics systems using software-based line replaceable units (LRU's) which share a digital signal transmission bus. The avionics configuration of the GIV, GV and GV-SP as delivered from production, is critical to the proper operation of the cockpit instrumentation system. Modification to the LRU software supplied with the GIV, GV and GV-SP, replacement of an LRU with a different LRU, addition of new LRU, or alteration of an LRU interface could adversely affect the airworthiness of the certified product. Accordingly, no changes to the integrated avionics system should be made without coordination with the Aircraft Certification Office having jurisdiction over the modifier.**NOTE 11** Any modification or changes in cockpit configuration which may affect aircrew workload, cockpit noise level or day/night lighting must be evaluated by an CTA.**NOTE 12** For Models GIV, GV and GV-SP, use of takeoff thrust for more than five (5) minutes [not to exceed ten (10) minutes] is approved for use only in the event of an inoperative engine due to shutdown or failure.**NOTE 13** Information to modifiers on limitations which impact original certification requirements of the Gulfstream GV are contained in Gulfstream Report GV-GER-1242, Gulfstream V Interior Certification Requirements Document. Information to modifiers on limitations which impact original certification requirements of the Gulfstream GV-SP are contained in Gulfstream Report GVSP-GER-6044, Gulfstream GV-SP Interior Certification Requirements Document.

- NOTE 14** As part of the MSG3 Program, an Airworthiness Limitations Section (ALS) has been added to the GIV Maintenance Manual for aircraft serial number 1400 and subsequent, and for all other GIV aircraft having incorporated ASC 416. This ALS has been developed to FAR 25.571 at Amendment 25-54, based on the damage tolerance requirements of AC91-56A. It is controlled by the FAA and can not be changed by the aircraft operator. Through the damage tolerance requirements, the ALS removes certain life limitations on previous safe life certified components.
- NOTE 15** Per the approved Type Design, GV-SP S/N 5001 and subsequent (i.e. G550 and G500 model aircraft) are considered to be compliant with the Reduced Vertical Separation Minima (RVSM) technical requirements contained in FAA Document 91-RVSM; however, operational approval to fly in RVSM airspace must still be granted by the cognizant Flight Standards organization.
- NOTE 16** The avionics architecture of the GV-SP model includes a capability to display multiple assorted video inputs on the cockpit display units positioned direction in front of the pilots. Because these displays affect crew workload, changes to the approved video input sources (including the addition of new video sources or capabilities) will require a specific CTA approval, including specific acknowledgement and concurrence from CTA.

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