



TYPE CERTIFICATE DATA SHEET Nº EA-2015T02

Type Certificate Holder:

GULFSTREAM AEROSPACE LIMITED PARTNERSHIP (GALP)
P.O. BOX 1036
Airport City, 7019900
ISRAEL

EA-2015T02-00
Sheet 01

GULFSTREAM G280

04 Mar. 2015

This data sheet, which is part of Type Certificate No. 2015T02, 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 Gulfstream G280 (Transport Category Airplane), approved <04+March+2015>.

ENGINE:	2 Honeywell AS907-2-1G (Turbofan) Engines per ANAC Type certificate
FUEL	Fuels conforming to Honeywell International Inc. Specifications EMS53111 (Jet A type), EMS53112 (Jet A-1and JP-8 types) and EMS53116 (JP-5 type).
ENGINE LIMITS	Static Thrust at Sea Level, kN/lbs
	- Maximum continuous 32.63 kN / 7,337 lbs
	- Maximum Takeoff 34.54 kN / 7,765 lbs up to 31.7°C
	- Normal Takeoff 33.03 kN / 7,425 lbs up to 31.7°C
	Maximum Continuous Permissible Engine Operating Speeds for the Engine Rotors, % RPM (RPM)
	- Low pressure rotor (N1) 96.49% (9,800)
	- High pressure rotor (N2) 97.97% (27,530)
	Maximum Interstage Turbine Temperature (ITT), °C
	- Maximum Continuous 950 °C
	- Take-Off (5 minutes) 955 °C
	- During starting Varies with N2 (see AFM)
	Oil Temperature, °C
	- Maximum Continuous 5 °C to 138 °C
	- Take-Off 154 °C
	- During starting (minimum) - 40 °C
	Oil Pressure (PSI)
	- Pressure limits Varies with N2 (see AFM)

APU	Honeywell 36-150[IAI]		
APU LIMITS	Refer to ANAC approved Airplane Flight Manual (AFM) No. G280-1001-1-B		
OIL	Conforming to Honeywell International Inc. Specification EMS53110, Type II.		
PROPELLER AND PROPELLER LIMITS	N/A		
AIRSPEED LIMITS (CAS)	V _{mo} (Max. Operating) S.L. to 10,000 ft	300 kias	
	V _{mo} between 10,000 & 20,000 ft	300 - 330 KIAS	
	V _{mo} between 20,000 & 28,000 ft	340 KIAS	
	Maximum operating (M _{MO}):	0.85	
	Maneuvering (V _A):		
	Below 20,000 ft	215 - 225 KIAS	
	Between 20,000 ft to 35,000 ft	225 - 264 KIAS	
	Between 35,000 ft to 39,200 ft	264 KIAS	
	Between 39,200 ft to 45,000 ft	M0.85	
	Flaps extended (V _{FE})		
	- 39° (landing):	180 KIAS	
	- 20° (takeoff and approach):	220 KIAS	
	- 10° (takeoff):	250 KIAS	
	Minimum control speed - Air (V _{MCA}):	97 KIAS	
	Minimum control speed - Ground (V _{MCG}):	95 KIAS	
	Minimum control speed - Landing (V _{MCL}):	95 KIAS	
	L. G. operation - extend (V _{LO}):	195 KIAS	
	L. G. operation - retract (V _{LO}):	195 KIAS	
	L. G. extended (V _{LE}):	195 KIAS	
	Main landing gear tire ground speed limit	195 KTS	
	Nose landing gear tire ground speed limit	182 KTS	
CG RANGE (Landing gear extended)	Refer to ANAC approved G280 Airplane Flight Manual (AFM) No. G280 1001-1-B		
CG RANGE (Zero Fuel Weight)	<u>Gross Weight</u>	<u>Forward Limit</u>	<u>Aft Limit</u>
	10,431 kg	30.50 % MAC	45.60 % MAC
	12,700 kg	30.00 % MAC	45.60 % MAC
	12,790 kg	30.00 % MAC	45.40 % MAC
DATUM	Fuselage Station 0 is located 5.663 meters (221.77 inches) forward of aft frame of main entrance.		
LEVELING MEANS	<u>Longitudinally:</u> Place level on either seat rail at fuselage station 10534 (frame 34) parallel to aircraft centerline		
	<u>Laterally:</u> Place level on seat rail at cockpit floor fuselage station 4518 (frame 10) 90° to aircraft centerline.		
MEAN AERODYNAMIC CHORD	2.868 meters (112.92 inches) with leading edge at Fuselage Station 10305.		

**CONTROL SURFACE
MOVEMENTS**

Elevator:	Up 27.5° ±0.5°	Down 20° ±0.5°
Stabilizer trim:	Up 12.5° ±0.3°	Down 2.5° ±0.3°
Rudder:	Right 30° ±1.5°	Left 30° ±1.5°
Rudder trim:	Right 9° ±1.1°	Left 9° ±1.1°
Aileron:	Up 15° ± 0.25°	Down 15° ± 0.25°
Aileron trim tab:	Up 15° ± 1°	Down 15° ± 1°
Aileron gear tab:	Up 15° ± 1°	Down 15° ± 1°
Wing flaps:	Down 0 to 39° ± 1°	
Roll Spoiler	Up 45° ±1.65°	
Ground brake	Up 55° ±1.7°	

SERIAL NUMBER ELIGIBLE

2001 and subsequent. 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.

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of on an Civil Aviation Authority of Israel or United States FAA Export Certificate of Airworthiness (or a third country Export Certificate of Airworthiness, in case of used aircraft imported from such country), subject to Notes 1 and 3 below, and 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. 2015T02 and in condition of safe operation".

The ANAC Report H.10-2476-00, dated 04 March 2015 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See note 4)

CERTIFICATION BASIS

Brazilian Type Certificate No. 2015T02 issued on 04 March 2015 based on the RBHA 25 Regulamentos Brasileiros de Homologação Aeronáutica, which endorses:

- 14 CFR Part 25, effective February 1, 1965, including Amendments 25-1 through 25-120 and Amendment 25-122 for §25.1317 and Section L 25.1.
- 14 CFR Part 36, effective February 3, 2006, including Amendments 36-1 through 36-28.
- 14 CFR Part 34, effective June 29, 2009 including Amendment 34-1 through 34 - 4.

Special Conditions:

- a) HIRF; Maintenance of Lightning and HIRF Protection
- b) § 25.773(b) Windshield Precipitation Removal by Hydrophobic Coatings
- c) Go-Around Performance Credit for Use of Automatic Power Reserve (ATTCS)
- d) Engine Torque Loads for Sudden Engine Stoppage
- e) Design Roll Maneuver
- f) Operation Without Normal Electrical Power
- g) Interaction of Systems and Structures
- h) Use of Magnesium Alloys for Pedals
- i) Aircraft System Security for the Aircraft Control Domain and Airline Information Services Domain from External Internet and Operator Network Access and Electronic Transmission of Field-Loadable Software Applications and Databases

**CERTIFICATION BASIS
CONT.**

- j) Aircraft System Isolation or Security Protection of Aircraft Control Domain and Airline Information Services Domain from the Passenger Information Services Domain

Equivalent levels of safety findings:

- a) § 25.812 Emergency Exit Marking and Emergency Lighting floor surfaces and emergency egress assist means
- b) § 25.831(g) Cabin Time-Temperature-Humidity conditions following improbable ECS failure
- c) § 25.331(c) Checked Pitch Maneuver
- d) Aircraft Pressurization Outflow and Safety Valves
- e) §25.341, 25.343, 25.345, 25.371, 25.373 and 25.391 Design gust Criteria and Continuous turbulence
- f) Emergency Landing/Gear Breakaway
- g) § 25.391, 25.395, and 25.415 Ground Gust
- h) § 25.1309 Equipment, systems, and installations – GALP elected to comply with ARAC Recommended 25.1309
- i) § 25.671(a-d), § 25.629 Flight Control System
- j) § 25.1203(a) Engine Fire Detection in Tailpipe
- k) § 25.933 Flight Critical Thrust Reverser
- l) § 25.841(b) Cabin Pressurization - High Altitude Airport Take-off and Landing Operations
- m) § 25.901, 25.1305, 25.1321, 25.1549 Digital Display of Engine Rotor Speed N2
- n) External Lights Installation
- o) Position Light System Intensity Exceedances in Overlap Regions
- p) Adoption of Draft Harmonized Rules for APU Certification

Exemptions:

- a) § 25.901(c) Time-limited Exemption - Uncontrollable High Thrust (see Note 6)
- b) § 25.981(a) (3) Lightning Protection Fuel Tanks.
- c) § 25.901(b)(2) and 25.903(d)(2) Time-limited Exemption - engine installation, limitation, operational and indication requirements for the Gulfstream G280, during certain Wing Anti-Ice System (WAI System) operations (see Note 7).

Compliance with the following optional requirements has been established:

- Section 25.801 Ditching
- Section 25.1411(d),(e),(f),(g) Safety Equipment – General
- Section 25.1415(a)(b)(c)(d) Ditching Equipment
- Section 25.1419 Ice Protection

ANAC Equivalent levels of safety findings to RBHA 25:

- a) § 25.1441 (f)(2) Engine Fuel Shutoff Valve Indication Port. 0208/SAR, 26/01/2015.
- b) §25.904 Appendix I25.6(a) APR armed indication Port. 0207/SAR, 26/01/2015.

Noise requirements:

14 CFR part 36, effective December 1, 1969 including amendments 36-1 through 36-28 effective February 3, 2006

Emission requirements:

14 CFR part 34, as amended by Amendments 34-1 through 34-4, effective June 29, 2009

REQUIRED EQUIPMENT The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane. Refer to Master Equipment List Report No. 30P000/110634 rev A or latest CAAI approved revision

AIRPLANE FLIGHT MANUAL ANAC approved Brazilian Airplane Flight Manual no. G280-1001-1-B

DATA PERTINENT TO ALL MODELS:

NOTES:

NOTE 1 The type design defined by GALP drawings 30P000999900-501 Revision A and report 30P000/120060 Revision New includes approved seating for pilot and copilot only. Modifications intended to expand occupancy provisions to other than pilot and copilot seating approved under the TC must be approved. Certification guidance for interior installations is provided in GALP report 30P090/060643 Rev. A, or higher, "G280 Certification Specification for the Green Aircraft Completion Center Interface." In addition to occupancy considerations noted above, compliance to 14 CFR 25.809(a) was found:

- (a) for the over wing exit by using both the window in the exit and the window immediately forward of the exit. It isn't possible to view the likely area of evacuee ground contact from the over wing exit window therefore the window immediately forward of the exit was used for this purpose. No items may be installed between the over wing exit and the window immediately forward of the over wing exit that would prevent viewing of the conditions outside the exit when the exit is closed.
- (b) for the Main Entry Door (MED) exit by using the left hand (LH) forward-most cabin window which is immediately aft of and adjacent to the MED. No items may be installed that could cause an obstruction of this window, unless alternative viewing means are approved.

NOTE 2 Weight ad balance
Current weight and balance report including list of equipment included in certificated empty weight and loading instructions must be provided for each aircraft at the time of original certification.

NOTE 3 Markings and placards.
All eligible aircraft shall comply with the placards requirements established in section 21.41-I of the Regulamentos Brasileiros da Aviação Civil (RBAC).

NOTE 4 Continuing Airworthiness.
Maintenance Program, including Service Life Limits and Required Maintenance, Inspections, and Reporting:
Chapter 5-10-10 of the Gulfstream G280 Maintenance Manual, part number G280-1001-3, basic issue, dated August 24, 2012 contains the Airworthiness Limitations Section required by 14 CFR part 25 appendix H25.4. Later revisions to the Chapter 5-10-10 must be approved by the Civil Aviation Authority of Israel prior to incorporation into the maintenance program of airplanes operated under the type certificate. The Chapter 5-10-10 includes the following components:


- Life limited components
- The mandatory systems certification maintenance requirements, raised from the safety analysis
- The fuel tank system airworthiness limitations
- The fuel tank system critical design configuration control limitations (CDCCLs)

NOTE 5 The differences of the Brazilian airplanes in relation to the basic CAAI type design are summarized below:

1. The Brazilian Airplane Flight Manual P/N 280-1001-1-B
2. Markings and placards in accordance with section 21.41-I of the Regulamentos Brasileiros da Aviação Civil (RBAC)
3. APU limitation: not allowed to operate during taxi, takeoff and landing.

- NOTE 6** With regards to the activities outlined in the CAAI IP P-5 regarding the § 25.901(c) Time limited Exemption - Uncontrollable High Thrust, no new Model G280 aircraft may be registered in Brazil after August 28, 2016, unless production modification G25-10044 or its associated service bulletin 280-76-128 have been incorporated.
- NOTE 7** In accordance with the CAAI decision contained in Time-limited Exemption IP P-14: no aircraft may operate after December 31, 2015 unless production modification G25-10022 or its associated service bulletin 280-30-017, and production modification G25-20061 or its associated service bulletin 280-76-111 is incorporated.
- NOTE 8** The following FAA Supplemental Type Certificates (STC's) owned by Gulfstream Aerospace Corp., applicable to the Gulfstream G280 model were validated by ANAC without corresponding Brazilian CST document issuance and may be incorporated on Brazilian registered aircraft, provided the modification does not affect compliance with the Brazilian acceptance requirements (see paragraph import eligibility)":

STC NUMBER	DESCRIPTION OF TYPE DESIGN CHANGE	AIRPLANE FLIGHT MANUAL SUPPLEMENT (AFMS)
ST04266AT-D	Installation of an Executive Cabin Interior in accordance with Gulfstream Index List GA422048000, Rev. R, dated 09 May 2014, or later approved revision.	Doc N° GA41204M000, Rev. F, dated 07 May 2014, or later FAA approved revision.
ST04268AT-D	Installation of Structural and Electrical provisions for a Swift Broadband System in accordance with Gulfstream Index List GA413038000, Rev. J, dated 15 Nov. 2012, or later approved revision.	N/A
ST04270AT-D	Installation of an Aerial View System (AVS) Video Tail Camera (FAA STC #ST04270AT-D) in accordance with Gulfstream Index List GA415058001, Rev. L, dated 20 Nov. 2012, or later approved revision.	Doc N° GA41505M001, Rev. -, dated 14 Nov. 2012, or later FAA approved revision.
ST04271AT-D	Installation of a Jump Seat in accordance with Gulfstream Aerospace Corporation Index List GA421328001, Revision L, dated 29 July 2013 or later FAA approved revision.	Doc N° GA42132M001, Rev. A, dated 03 Nov. 2012, or later FAA approved revision.
ST04274AT-D	Installation of Rockwell Collins Second IFIS in accordance with Gulfstream Aerospace Corporation Index List GA411208001, Revision J, dated 13 Feb. 2013, or later FAA approved revision..	Doc N° GA41120M001, Rev. -, dated 12 Oct. 2012, or later FAA approved revision.
ST04275AT-D	Installation of an International Communications Group (ICG) ICS-220A SATCOM Systems and Antenna in accordance with Gulfstream Aerospace Corporation Index List GA411038001, Revision A, dated 19 May 2014, or later FAA approved revision..	Doc N° GA44103M001, Rev. -, dated 03 Nov. 2012, or later FAA approved revision.
ST04288AT-D	Activaiton of Future Air Navigation System (FANS) Software Function in accordance with Gulfstream Aerospace Corporation Index List GA411318000, Revision L, dated 25 Mar. 2014, or later FAA approved revision.	Doc N° G280-GE280-GER-0245, Rev. -, dated 03 Oct. 2013, or later FAA approved revision.



MARIO IGAWA

**Gerente-Geral de Certificação de Produto Aeronáutico
(Manager, Aeronautical Product Certification)**