



European Aviation Safety Agency

EASA

**TYPE-CERTIFICATE
DATA SHEET**

No. EASA.IM.A.348

for
Gulfstream G280

Type Certificate Holder:

GULFSTREAM AEROSPACE LP (GALP)

P.O. Box 1036
Airport City
7019900, Israel

For Model: Gulfstream G280

Issue 04, 06 June 2017

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SECTION 1: Gulfstream G280

I. General

This Data Sheet, which is part of Type Certificate No. IM.A.348, prescribes conditions and limitations under which the product for which the Type Certificate was issued meets the airworthiness requirements of the European Aviation Safety Agency.

1. Type / Model / Variant:

Gulfstream G280

2. Airworthiness Category:

Large Aeroplanes

3. Performance Class:

A

4. Certifying Authority:

Civil Aviation Authority of Israel (CAAI)

5. Type Certificate Holder:

Gulfstream Aerospace LP (GALP)
P.O. Box 1036
Airport City
7019900, Israel

6. Manufacturer:

Israel Aerospace Industries (IAI)
Commercial Aircraft Group
Ben Gurion International Airport
70100 Israel

7. CAAI Certification Application Date:

30 March, 2006

8. EASA Validation Application Date:

30 March, 2006

9. CAAI Type Certification Date:

30 August, 2012

10. EASA Type Validation Date:

07 February 2013

II. Certification Basis

1. Reference date for determining the applicable EASA requirements:

30 August 2007

2. Reference date for determining the applicable operational suitability requirements the applicable EASA requirements:

31 January 2014 for FCD as per CS-FCD
18 January 2012 for MMEL as per ORI N°4.

3. CAAI Type Certification Data Sheet No.:

A7IL

4. CAAI Certification Basis:

Refer to CAAI TCDS No. A7IL

5. EASA Airworthiness Requirements

EASA Certification Specification 25, Amendment 2, effective as of October 02, 2006, except where identified below.

Certification Specification All Weather Operations (CS AWO), Book 1 and 2 published October 17, 2003.

5.1 Special Conditions

<u>CRI</u>	<u>Subject</u>
B-01	Human Factors
B-02	Flight in Icing Conditions
B-09	Stall Protection System (SPS): Wing Anti-ice System (WAIS) Interaction with SPS Shaker and Pusher Settings
C-01	Fuel Tank Integrity /Fuel Tank Access Covers
C-04	Yawing Manoeuvring Conditions
D-02	High Altitude Operations/High Heat Loads
D-04	Side Facing Seats / Sofas
D-12	Pilot compartment view – Hydrophobic coatings in lieu of windshield wipers
D-14	Use of Magnesium Alloy in the Cabin
E-06	Uncontrollable high thrust
E-08	Falling and blowing snow
F-02	Towbarless Towing
F-05	Application of ARAC Proposal 25.671
F-12	HIRF Protection
F-13	Lightning Protection; Direct Effects

<u>CRI</u>	<u>Subject</u>
F-14	Lightning Protection; Indirect Effects

5.2 Exemptions

N/A

5.3 Deviations

<u>CRI</u>	<u>Subject</u>
E-13	Wing Anti Ice Deviation (see note 5).
F-42	“Speed Brakes Extended” caution message during steep approach landings

5.4 Equivalent Safety Findings

The following table lists the Equivalent Safety Finding requests made by Gulfstream which are specific to the G280 model.

<u>CRI</u>	<u>Subject</u>
D-05	Emergency Exit Locator Signs / Marking Signs
D-06	Flammability of thermal and acoustical Insulation Materials
D-08	Fuselage Doors, Hatches and Exits
D-10	Pilot compartment view – Hydrophobic coatings reliability
D-13	Emergency Exit markings Emergency Lighting
E-02	Digital only N2 Indication
E-10	APU mounting system fireproofness
E-11	Resistance to fire of APU compartment
E-15	Turbine Engine Tailpipe Fire Detection
F-15	External LED Navigation Lights

5.5 Elect to Comply

Appendix Q of EASA Certification Specification 25, Amendment 13, (Additional airworthiness requirements for approval of a Steep Approach Landing (SAL) capability)

5.6 Environmental Protection Standards

ICAO Annex 16, Volume I, Amendment 9 (Fifth Edition), Chapter 4 for Noise; and ICAO Annex 16, Volume II (Third Edition), Amendment 6, for Emissions.

For details of the certified noise levels see TCDSN EASA.IM.A.348

6. Operational Suitability Requirements

6.1 Flight Crew Data

Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data – CS-FCD, Initial Issue (dated 31 January 2014)

6.2 MMEL

Certification basis as recorded in ORI 4 is JAR-MMEL Section 1 Subpart A and B Amendment 1 with the MoC specified in GALP position in the same ORI4.

III. Technical Characteristics and Operational Limitations

1. Description

The Gulfstream G280, manufactured by Israel Aerospace Industries Ltd. (IAI) under license by the Type Certificate holder Gulfstream Aerospace LP (GALP), is a super mid-size business jet. It has a low, high swept airfoil, T-tail with trim able horizontal stabilizer and tricycle landing gear. It is a long range, high altitude, and high-speed aircraft with a range of 3600 NM at the long range cruise speed of 0.80M (with a typical passenger payload of 4), and a 45,000 ft maximum operating altitude. Two Honeywell AS907-2-1G (HTF7250G variant) turbofan engines with 34.54 kN (7,765 lbf) maximum continuous thrust, with reverse thrust capability, are rear fuselage mounted on pylons. The main landing gear is an inboard retracting, cantilever type and features two braked wheels per axle. The nose landing gear is a forward retracting, cantilever type and features two free rolling wheels. At initial certification, the maximum take-off weight (MTOW) for the aircraft is 17,962 kg (39,600 lb), and maximum landing weight (MLW) is 14,832 kg (32,700 lb).

The aircraft is certified in the “green” configuration with baggage compartment interior (but no passenger compartment interior) only. Approval of the passenger compartment interior will be independently accomplished under a Supplemental Type Certificate

2. Type Design Definition

The type design defined by GALP drawing 30P000999900-501 Revision A and report 30P000/120060 Revision “New” or latest CAAI approved revisions of these documents.

3. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. The list of all such equipment supplied by the manufacturer with each aircraft is contained in the “G280 Master Equipment List” report no. 30P000/110634 Revision A or latest CAAI approved revision.

As the TC standard is a “Green” aircraft GALP has prepared Report 30P090/060643 Rev D “G280 Certification Specifications for Green aircraft Completion Center interface” or later approved revisions, as part of the Green Aircraft type design data.

4. Dimensions

Wingspan	19.21 meters [63 feet]
Fuselage Length	20.39 meters [66.9 feet]
Fuselage Constant Diameter	2.29 meters [7.5 feet]

5. Engines

Two (2) Honeywell AS907-2-1G Turbofan Engines per EASA Type Certificate Data sheet IM.E.058 issue 05 from February 22, 2017.

Engine Limits:

Engine Limits Data Sheet EASA IM.E.058	G280 AS907-2-1G
Static thrust at sea level (Standard Day)	
Maximum continuous	32.63 kN (7,337 lbs)
Maximum Takeoff	34.54 kN (7,765 lbs)
Normal Takeoff	33.03 kN (7,425 lbs)

Other engine limitations: See the relevant Engine Type Certificate Data Sheet.

6. Auxiliary Power Unit

One (1) Honeywell 36-150

Limitations and Operating Procedures - refer to EASA approved Gulfstream G280 Airplane Flight Manual (AFM) (see "Operating and Service Instructions" section for EASA approved revision)

7. Propellers

N/A

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Engine Fuels: See the EASA approved Gulfstream G280 Airplane Flight Manual (AFM) for approved engine fuels (see "Operating and Service Instructions" section for EASA approved revision)

Engine Oils: See the EASA approved Gulfstream G280 Airplane Flight Manual (AFM) for approved engine oils (see "Operating and Service Instructions" section for EASA approved revision)

Hydraulic Fluids: See the Gulfstream G280 Maintenance Manual for approved hydraulic fluids (see "Operating and Service Instructions" section for EASA approved revision)

9. Fuel Capacities

Tanks	Usable Fuel			
	U.S. Gallons	Pounds*	Litres	Kilograms*
LH feed tank	79	530	299	239
LH wing tank	648	4,340	2,453	1,962
Centre tank	319	2,140	1,208	966
AFT tank	169	1,130	640	512
FWD tank	240	1,610	908	726
RH feed tank	79	530	299	239
RH wing tank	648	4,340	2,453	1,962
TOTAL	2,182	14,620	8,260	6,608

* Fuel Density is 6.7 Pounds / U.S. Gallon and 0.8 Kilograms / Litre

10. Airspeed Limits

V_{MO} / M_{MO}	KIAS	MACH
Sea Level to 10,000 ft	300	-
10,000 ft to 20,000 ft	300-330	-
20,000 ft to 28,000 ft	340	-
28,000 ft to 45,000 ft	-	0.85M
V_A		
Sea Level to 20,000 ft	215-225	-
20,000 ft to 35,000 ft	225-264	-
35,000 ft to 39,000 ft	264	-
39,000 ft to 45,000 ft	-	0.85M
V_{FE}		
FLAPS 10	250	-
FLAPS 20	220	-
FLAPS LND	180	-
V_{LO} / V_{LE}	195	-

For other airspeed limitations see the approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

11. Flight Envelope

Maximum Operating Altitude: 45,000 ft

See the EASA approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

12. Operating Limitations

See the EASA approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

13. Maximum Certified Masses

Maximum Taxi Weight	Maximum Take-off Weight	Maximum Landing Weight	Maximum Zero Fuel Weight
39,750 lb	39,600 lb	32,700 lb	28,200 lb
18,030 kg	17,962 kg	14,832 kg	12,791 kg

Note: The maximum weight limits may be less as limited by centre of gravity, fuel density and fuel loading limits, as given in the EASA approved Airplane Flight Manual (See Section 1).

See the approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

14. Centre of Gravity Range

See the approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

15. Datum

For weight and balance purposes, the zero datum is 5.633 m [221.77 inches] forward of the aft frame of main entrance.

16. Mean Aerodynamic Chord (MAC)

2.868 meters [112.92 inches] with leading edge at Fuselage Station 10305.

17. Levelling Means

Longitudinal: place level on either seat rail at fuselage station 10534 (frame 34) parallel to aircraft centreline.

Lateral: place level on seat rail at cockpit floor fuselage station 4518 (frame 10) 90° to aircraft line.

18. Minimum Flight Crew

Two (2): Pilot and Co-pilot.

19. Minimum Cabin Crew

N/A

20. Maximum Seating Capacity

Total number of occupants shall not exceed 21. The number of passengers shall not exceed 19 as determined by emergency exit requirements, nor shall the number of passengers exceed the number of seating accommodations approved for takeoff and landing.

21. Baggage/ Cargo Compartment

The baggage compartment is certified Class B. Weight limitations placards are posted on the installed baggage compartment interior.

Refer to the Weight and Balance section of the EASA approved Gulfstream G280 Airplane Flight Manual (AFM)
(see "Operating and Service Instructions" section for EASA approved revision)

22. Wheels and Tyres

Main Landing Gear (MLG)	Each MLG incorporates twin 14 inch rims and 26X6.6/14PR tyres.
Nose Landing Gear (NLG)	The NLG incorporates twin 10 inch rims and 18X4.4/12PR tyres.

Note:- The use of Re-treaded tyres is not approved.

23. ETOPS

N/A

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

Gulfstream G280 Airplane Flight Manual (P/N G280-1003-1) Issue 2 Revision 0 and EASA Flight Manual Supplement 7, dated 31 May, 2017 or later approved revisions, for aircraft with FADEC version V2G

Gulfstream G280 Airplane Flight Manual (P/N G280-1002-1) Issue 1 Revision 0 and EASA Flight Manual Supplement 7, dated November, 2015 or later approved revisions, for aircraft with avionics software version 3.6

Gulfstream G280 Airplane Flight Manual (P/N G280-1001-1) Issue 0, Revision 7, and EASA Flight Manual Supplement 7, dated February 2015 or later approved revisions for aircraft with avionics software version 3.2.1.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

Gulfstream G280 Maintenance Manual (P/N G280-1001-3) Basic Issue, Revision 1, dated 24 October, 2012 or later approved revision

- Chapter 5-10-10 of the Gulfstream G280 Maintenance Manual (P/N G280-1001-3), contains the Airworthiness Limitations Section required by 14 CFR part 25 appendix H25.4.

- Revisions to the Chapter 5-10-10 must be EASA approved prior to incorporation into the maintenance program of airplanes operated under the type certificate.

- The Chapter 5-10-10 includes the following sections:
 - Airworthiness Limitations Section
 - Life Limited Components
 - Certification Maintenance Requirements (CMR)
 - Fuel Tank System Airworthiness Limitations
 - Fuel Tank System Critical Design Configuration Control Limitations (CDCCL)
 - Temporary Limitations and Inspection Requirements

Changes, Repairs, Service Bulletins, Continuing Airworthiness Instructions, including Airworthiness Directives (AD's) Approved Manuals, have to be approved in accordance with the Working arrangement between CAAI and EASA, Appendix 2 "Changes to Type Certificates" dated 22 November 2004 or later ratified revisions, taking into account the EASA Certification Basis and the EASA approved Type Design of the aeroplane.

3. Weight and Balance Manual (WBM)

Refer to the "Weight and Balance" section of the approved Airplane Flight Manual (AFM) (see "Operating and Service Instructions" section for EASA approved revision).

V. Operating Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate [original TC number] as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

The MMEL is defined in G280 EASA MMEL Rev.0 dated 12/02/2013 or later approved revisions

2. Flight Crew Data

The Flight Crew Data is defined in Gulfstream Operational Suitability Data (OSD) Flight Crew – Gulfstream/GALP G280 Revision 1 (dated 09 May 2017) or later approved revisions

3. Cabin Crew Data (select a. to e. as applicable)

N/A

4. SIM Data

N/A (not mandatory OSD element)

5. Maintenance Certifying Staff Data

N/A (not mandatory OSD element)

6. Other (e.g. EFB, special operations and special equipment, ...)

N/A (not mandatory OSD element)

VI. Notes

- Note 1** GALP letter CAAI/11140/BM, dated July 18, 2011 provides notification of a model designation change from G250 to G280. Some EASA special conditions, CRI's, and equivalent safety finding memorandums issued prior to this date include the G250 model designation but are fully applicable to the Model Gulfstream G280.
- Note 2** The type design defined by GALP drawings 30P000999900-501 Revision A or later approved revision and report 30P000/120060 Revision New or later approved revision includes approved seating for pilot and co-pilot only, and has peculiar provisions and limitations linked to this limited occupancy. A forward observer seat is not included in the approved type design.
- 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. D or later approved revision, "G280 Certification Specification for the Green Aircraft Completion Centre Interface."
- Note 3** All required placards listed in the Limitations Section of the approved EASA Airplane Flight Manual must be installed in the appropriate locations in the airplane.
- Note 4** Israel Aerospace Industries (IAI) LTD., Ben Gurion International Airport 70100, ISRAEL, is licensed by GULFSTREAM AEROSPACE LP to manufacture and obtain Airworthiness Certificates for the aircraft models listed in this Type Certificate Data Sheet.
- Note 5** In accordance with the EASA Decision contained in Certification Review Items E-13 for Time-limited Deviation from certain engine installation operational limitation and engine indication provisions: no aircraft may operate after February 07, 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 are incorporated.

SECTION 2: ADMINISTRATIVE

I. Acronyms and Abbreviations

A/C	Aircraft
AFM	Airplane Flight Manual
AMC	Acceptable Means of Compliance
APU	Auxiliary Power Unit
CG	Center of Gravity
CRI	Certification Review Item
EASA	European Aviation Safety Agency
EFB	Electronic Flight Bag
EU	European Union
FAA	Federal Aviation Administration
ICA	Instructions for Continued Airworthiness
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
JAA	Joint Aviation Authorities
MMEL	Master Minimum Equipment List
NPA	Notice of Proposed Amendment
OSD	Operational Suitability Data
RR	Rolls Royce
RVSM	Reduced Vertical Separation Minima
TCDS	Type Certificate Data Sheet
TCDSN	Type Certificate Data Sheet for Noise
VFR	Visual Flight Rules

II. Type Certificate Holder Record

Gulfstream Aerospace LP

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	07 February 2013	Initial Issue for Model G280	Initial Issue, 07 February 2013
Issue 02	8 May 2015	Introduction of OSD information, reference to EASA AFM approvals and TC Holder Address Change	
Issue 03	27 June 2016	Added additional AFM related to avionics software version 3.6 Administrative revision of the table of content	
Issue 04	06 June 2017	Updated certification base in respect to steep approach landings capability (added CRI F-42 and elect to comply CS 25, Amdt. 13, Appendix Q)	

		Added Revision 1 of OSD FCD Added additional AFM (Issue 2) related to FADEC version V2G Added latest Engine TCDS issue	
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