TYPE CERTIFICATE DATA SHEET Nº EM-2012T09

Type Certificate Holder:

GE Aviation Czech s.r.o.
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(formerly Walter Engines a.s.)

EM-2012T09-00
Sheet 01
GE Aviation Czech s.r.o.
H80; H80-100; H80-200
26 April 2012

Engines models described herein conforming with this data sheet, which is part of Type Certificate Nº 2012T09, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

MODEL H80; H80-100; H80-200

TYPE Two spool turboprop engines with reverse flow of air and gas, two stage axial compressor, one stage centrifugal compressor, one stage high pressure turbine and one stage free turbine.

POWER RATINGS (See Note 1 and 2)	H80	H80-100	H80-200
Maximum continuous, Sea Level Static, kW (shp).	597 (800)	--	522 (700)
Take-off (5min), Sea Level Static, kW (shp).	597 (800)	--	--

Legend: "--" same as the previous; "#" not applicable.

		H80	H80-100	H80-200
DIMENSIONS (Exhaust nozzles removed)	Length, cm (in)	167.5 (66)	--	--
	Height, cm (in)	65 (25.6)	--	--
	Width , cm (in)	59 (23.2)	--	--
CENTER OF GRAVITY	On the engine center line, forward of mount pad plane, cm (in)	8.6 (3.39)		
WEIGHT	Dry Powerplant, kg (lb)	202 (445.3)	200 (441)	202 (445.3)

The weight includes standard equipment delivered with the engine but without exhaust nozzles.

FUEL AND ADDITIVES Approved Fuels and Additives conforming Operation Manual and Installation Manual. (see Note 11)

FUEL CONTROL	Fuel Control Unit	LUN 6590.05-8
	Fuel Pump	LUN 6590.04-8

OIL LUBRICATION Approved Oils and Additives conforming Operation Manual and Installation Manual. (see Note 11)

OIL CAPACITY	Nominal total system capacity, l (U.S. gal)	10.8 (2.85)
	Nominal oil tank capacity, l (U.S. gal)	5.5 to 7.0 (1.45 to 1.85)

AIR BLEED Maximum air bleed of 80 g/sec (10.58 lb/min) at ground: H = 0m (0 ft) and air speed of 0 km/h (0 kt) , ISA conditions, Gas Generator Rotor Speed = 97.8%.
Use of air bleed when using takeoff power settings is limited. For details, refer to the Installation Manual.

ROTATIONAL SPEED LIMITATIONS See Note 2

INTER-TURBINE TEMPERATURE (ITT) LIMITATIONS See Note 3

TORQUE LIMITATIONS See Note 4

FUEL AND OIL LIMITATIONS: See Note 5 for Pressures and Temperatures.

ACCESSORY DRIVE LIMITATIONS: See Note 6 for Speed Ratio and Torque Requirements.

AIRWORTHINESS LIMITATIONS: See Note 10.

CERTIFICATION BASIS The Certification Basis for the engines are the RBAC 33, which endorses the 14 CFR 33 effective 01 February 1965, including amendments 33-1 through 33-31, except for RBAC 33-70, Engine Life-Limited Parts. RBAC 33-14, Start-stop cyclic stress (low cycle fatigue) per amendment 33-10 applies.

Model	Application date	Type Certification Date
H80-	15 December 2011	26 April 2012
H80-100	15 December 2011	26 April 2012
H80-200	15 December 2011	26 April 2012

IMPORT REQUIREMENTS Each engine imported separately and/or spare parts must be accompanied by an Export Airworthiness Approval issued by EASA (or a third country authority, in case of used engine imported from such country), attesting that the particular engine and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved Type Design.

NOTES :

NOTE 1 Engine Ratings-

a. The engine ratings are based on ICAO International Standard Atmosphere sea level, static conditions, no installation losses, no compressor air bleed, no external accessory loads.

b. For the H80 and the H80-200 the take-off and maximum continuous ratings are flat rated to 41°C (105.8°F) at sea level static.

c. For the H80-100 the take-off rating is flat rated to 41°C (105.8°F) at sea level static and the maximum continuous rating is flat rated to 31°C (87.8°F) at sea level static.

NOTE 2 Speed Limitation Rotational Ratings

	H80	H80-100	H80-200
Maximum continuous gas generator speed (%)	101.1	--	98.4
Maximum continuous propeller speed (rpm)	2 080	--	--
Take-off (5 min) gas generator speed (%)	101.5	--	--
Take-off (5 min) propeller speed (rpm)	2 080	--	--

(100% gas generator speed equals 36 660 rpm)
(100% free turbine shaft speed equals 31 023 rpm)

NOTE 3 Inter-Turbine Temperature (ITT) Limitation °C (°F)

	H80	H80-100	H80-200
Max. continuous (sea level)	750 (1 382)	--	720 (1 328)
Take-off (sea level) (5 min)	780 (1 436)	--	780 (1 436)
Starting	730 (1 346)	--	730 (1 346)

NOTE 4 Torque Limitation (for all models)

	%	N.m (lb-ft)
Maximum continuous	100	2 740 (2 021)
Take-off at sea level (5 min)	100	2 740 (2 021)

NOTE 5 Fuel and Oil Limitations (pressure & temperature)-

Fuel: The airframe should provide fuel pressure at all specified operation conditions.

Fuel pressure at main fuel filter intake must be within the range as referred in the Installation Manual.

Temperature at the fuel pump inlet must be in the range of -50°C (-58°F) to +60°C (140ºF)

Oil: Pressure at the gas generator speed of 80% to 100%: min. 0.18 mPa to max. 0.27 mPa (26.1 psi to 39.2 psi)

Pressure at the gas generator speed below 80 % : min. 0.12 mPa (17.4 psi)

Pressure at oil temperature below 0°C (32°F): max. 0.35 mPa (50.76 psi)

Temperature range: min. -20°C (-4°F) to max. +85°C (185°F)

NOTE 6 Accessory Drive Limitations

The following apply to the accessory gearbox drives, which are provided by the engine and included in the basic engine weight.

Drive	Sense of Rotation	Speed Ratio	Maximum Torque N.m (lb-in)	Maximum Overhang N.m (lb-in)
Starter / Generator	CW	0.2899	11.2 (100)	21 (186)
Spare Drive for Hydraulic Pump	CCW	0.1974	5.8 (51)	#
Speed Transmitter	CW	0.1145	0.5 (4.5)	4 (35.4)
Alternator / Engine Turning	CCW	0.1145	11.5 (102)	#

Note: CW - clockwise , CCW - counter clockwise

NOTE 7 The fuel filter and impending by-pass as well as the oil impending by-pass signalers are parts of the airframe installation, hence, RBAC/14 CFR 33.67.b.5.and RBAC/14 CFR 33.79.b.6 are complied with by the airframe manufacturer.

NOTE 8 The H80 series engines meet the requirements of RBAC / 14 CFR 33.65 for surge free operation, when the intake system conforms with the approved design PN B 062350.

NOTE 9 The H80 series engines meet the requirements of RBAC / 14 CFR 33.68 for operation in icing conditions as defined in RBAC / 14 CFR 25, Appendix C, when the intake system conforms with the approved design PN B 062350.

NOTE 10 The H80 series engines meet the requirements of RBAC/14 CFR 33.77 for bird ingestion when the intake system conforms with the approved design PN B 062350.

NOTE 11 Certain engine parts are life-limited. These limits are published in the Maintenance Manual, Airworthiness Limitation Section.

NOTE 12 Additives for improving anti-corrosion and lubricating properties, additives for bonding free water in the fuel shall be used within the manufacturer's instructions and relevant specifications and/or with supplementary requirements of authorities.

NOTE 13 Overhaul and Maintenance Manuals, Service Bulletins, Structural Repair Manuals, Vendor and Aircraft Flight Manuals which contain a statement that the document is approved by EASA are accepted by the ANAC and are ANAC approved unless otherwise noted. These approvals pertain to the type design only.

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