COMANDO DA AERONÁUTICA
DEPARTAMENTO DE PESQUISAS E DESENVOLVIMENTO
CENTRO TÉCNICO AEROESPACIAL

TYPE CERTIFICATE DATA SHEET Nº EA-2002T03

Type Certificate Holder:

ISRAEL AIRCRAFT INDUSTRIES LTD. (IAI)
Ben Gurion International Airport
ISRAEL

EA-2002T03
Sheet 01

GULFSTREAM 200
GALAXY

March 2003

This data sheet, which is part of Type Certificate No. 2002T03, 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 200 (Transport Category), approved 18 March 2003.
Model GALAXY (Transport Category), approved 18 March 2003 (See note 7).

ENGINES

Two Pratt & Whitney Canada PW306A (turbofan) engines.

FUEL

Conforming to Pratt & Whitney Company Specifications CPW 204 as per Limitations Section of the approved Airplane Flight Manual.

ENGINE LIMITS

Static thrust at sea level:
- Takeoff (with an without APR) 2 740 kg (6 040 lb)
- Maximum continuous 2 740 kg (6 040 lb)

Maximum continuous permissible engine operating speeds for the rotors, % rpm:
- Low pressure rotor (N1) 105%
- High pressure rotor (N2) 105%

Maximum interstage turbine temperature (ITT):
- Maximum continuous 920ºC
- Takeoff 920ºC
- During Starting 950ºC

Oil temperature:
- Maximum continuous 16 to 135ºC
- Takeoff 16 to 135ºC
- During starting (minimum) - 40ºC

Oil pressure:
- Maximum continuous 248.2 to 737.7 kPa (36 to 107 psig)
- Takeoff 248.2 to 737.7 kPa (36 to 107 psig)
- During starting (maximum) 1 469.2 kPa (217 psig)

FUEL CONTROL COMPUTER

Two Hamilton Standard fuel computers P/N 30B3000-01, P/N 30B3000-02, P/N 30B3000-03, or P/N 30B3000-04 (See Note 6).

OIL

Conforming to Pratt & Whitney Company Specification PWA 521.

AIRSPEED LIMITS (IAS)

Maximum Operating (v_{MO}):

Normal operating weight:

Normal operation autopilot engaged or Mach trim operative:

- sea level to 4 572 m (15 000 ft) 310 kt
- between 4 527 & 7 463 m (15 000 & 24 500 ft) 360 kt

With autopilot disengaged and Mach trim inoperative:

- sea level to 4 572 m (15 000 ft) 310 kt
- above 4 572 m (15 000 ft) 360 kt

Increased operating weight (MOD 7166):

- sea level to 3 048 m (10 000 ft) 310 kt
- between 3 048 & 6 096 m (10 000 & 20 000 ft) 310 to (linear variation) 330 kt

Maximum operating (M_{MO}):

Normal operating weight:

Normal operation autopilot engaged or Mach trim operative:

- above 7 463 m (24 500 ft) 0.85 M

With autopilot disengaged and Mach trim inoperative:

- above 6 736 m (22 100 ft) 0.81 M

Increased operating weight (MOD 7166):

Normal operation autopilot engaged or Mach trim operative:

- above 6 096 m (20 000 ft) 360 kt/ 0.85 M

With autopilot disengaged and Mach trim inoperative:

- above 6 096 m (20 000 ft) 360 kt/ 0.81 M

Maneuvering (V_A) - sea level:

Normal operating weight:

- below 6 096 m (20 000 ft) 254 kt
- between 6 096 & 12 192 m (20 000 & 40 000 ft) 260 kt
- above 12 192 m (40 000 ft) 0.85 M

Increased operating weight (MOD 7166):

- below 3 048 m (10 000 ft) 275 kt
- between 3 048 & 9 144 m (10 000 & 30 000 ft) 260 kt
- above 9 144 m (30 000 ft) 0.85 M

Flaps extended (V_{FE})

- 40° (landing): 195 kt
- 20° (takeoff and approach): 225 kt
- 12° (takeoff): 250 kt
- kruger / slats 250 kt

AIRSPEED LIMITS (IAS) (Cont.)

Minimum control speed - air (V_{MCA}):

- flaps 0º	122 kt
- flaps 12º and 20º	118 kt

Minimum control speed - ground (V_{MCG}):

- flaps 0º, 12º and 20º	108 kt
Landing. gear extend (V_{LE}):	195 kt
Landing gear operation (V_{LO}):	195 kt

C. G. RANGE

Normal operating weight

Gross weight	Forward limit (MAC)	Aft limit(MAC)
7 688 kg (16 950 lb)	35.00%	40.00%
9 072 kg (20 000 lb)	22.00%	40.00%
14 515 kg (32 000 lb)	22.00%	40.00%
15 876 kg (35 000 lb)	24.00%	40.00%

Linear variation between points.
Gear extension and retraction moment is negligible.

Increased operating weight MOD 7166

Gross Weight	Forward limit (MAC)	Aft limit(MAC)
7 688 kg (16 950 lb)	35.00%	40.00%
9 072 kg (20 000 lb)	22.00%	40.00%
14 515 kg (32 000 lb)	22.00%	40.00%
16 148 kg (35 600 lb)	24.40%	40.00%

Linear variation between points
Gear extension and retraction moment is negligible

DATUM

Fuselage station 0, is located 5.633 m (221.77 in) forward of aft frame of main entrance.

LEVELING MEANS

Longitudinally: place level on either seat rail at fuselage station 8302 parallel to aircraft centerline.
Laterally: place level on seat rails at fuselage station 8302 at 90º to aircraft centerline.

MEAN AERODYNAMIC CHORD

2.447 m (96.34 in) with leading edge at fuselage station 10100.

MAXIMUM WEIGHT

Normal operating weight:

- Takeoff:	15 808 kg (34 850 lb)
- Landing:	12 700 kg (28 000 lb)
- Zero fuel:	10 886 kg (24 000 lb)
- Ramp:	15 876 kg (35 000 lb)

Increased operating weight MOD 7166:

- Takeoff:	16 080 kg (35 450 lb)
- Landing:	13 608 kg (30 000 lb)
- Zero fuel:	10 886 kg (24 000 lb)
- Ramp:	16 148 kg (35 600 lb)

MINIMUM CREW

Two (pilot and copilot)

MAXIMUM PASSENGERS 19

MAXIMUM BAGGAGE Floor load: 615.19 kg/m^2 (126 lb/ft^2)
898 kg (1 980 lb)
Arm: 13.90 m (547.24 in.)

FUEL CAPACITY Total usable fuel all tanks.

	LH Wing Tank	LH Feed Tank	Center Tank	Fuselage Tank	Fwd Tank	RH Feed Tank	RH Wing Tank
Tank Capacity, liters (U.S. gal.)	1 334 (353)	102 (27)	1 532 (405)	3 116 (823)	1 012 (268)	102 (27)	1 334 (353)
Tank Usable Fuel, liters (U.S. gal.)	1 319 (349)	92 (25)	1 506 (398)	3 116 (823)	1 011 (267)	92 (25)	1 319 (349)
Arm, meters (in.)	10.87 (427.95)	11.09 (436.61)	10.11 (398.03)	12.74 (507.57)	8.33 (327.95)	11.09 (436.61)	10.87 (427.95)
Unusable Fuel, liters (U.S. gal)	4.01 (1.06)	8.47 (2.24)	25.42 (6.72)	0.0 0.0	1.70 0.45	8.47 (2.24)	4.01 (1.06)
Arm, meters (in.)	10.50 (413.39)	11.09 (439.61)	10.28 (404.72)	12.74 (501.57)	8.57 (337.40)	11.09 (439.61)	10.50 (413.39)

See Note 1 for data on fuel system.

OIL CAPACITY

Total	Usable*	Arm
15.92 liters (4.22 U.S. gal.)	10.02 liters (2.65 U.S. gal.)	14.78 m (581.89 in)

*For both engines combined.
See note 1 for data on oil system.

MAXIMUM OPERATING ALTITUDE 13 716 m (45 000 ft)

CONTROL SURFACE MOVEMENTS

Elevator:	Up 27.5° ± 0.25°	Down 20° ± 0.25°
Stabilizer trim: (Leading Edge)	Up 2.5° ± 0.33°	Down 9.5° ± 0.33°
Rudder:	Right 20° ± 0.25°	Left 20° ± 0.25°
Rudder trim tab:	Right 10° +1.5°, -0.75º	Left 10° +1.5°,- 0.75º
Aileron:	Up 15° ± 0.25°	Down 15° ± 0.25°
Aileron trim:	Up 5° + 0°, - 1º	Down 5° + 0° - 1º
Flaps:	Max Down 40° + 1°, - 1.5	
Slats:	Down 25º ± 1º	
Kruger Flaps	Down 110º ±3º	
Airbrakes:	Up 45° ± 1°	

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."
See note 7.

IMPORT ELEGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of on an Civil Aviation Administration of Israel (CAAI) 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. 2002T03 and in condition of safe operation".

The CTA Report H.10-2110-00, dated 18 March 2003 or further revisions, contains the Brazilian requirements for the acceptance of these airplanes. (See note 4)

CERTIFICATION BASIS

Brazilian Type Certificate N0. 2002T03 issued on 18 March 2003, based on:

- RBHA (Brazilian Requirements for Aeronautical Certification) 25, which endorses the FAR Part 25 effective 01 February 1965, as amended by 25-1 through 25-82.
- Special conditions accepted by CTA:
  - High altitude operations; and
  - High intensity radiated fields (HIRF).
- RBHA 34, which adopts the FAR Part 34 effective on 10 September 1990, including Amendments 34-1 through 34-2.
- RBHA 36, which adopts the FAR Part 36 effective in 01 December 1969, including Amendments 36-1 through 36-21.
- Equivalent safety items accepted by CTA relative to the following requirements:
  (1) RBHA/FAR 25.1203(a) for turbine engine tailpipe fire detection;
  (2) RBHA/FAR 25.1305 and 25.1501(b) for auxiliary power unit (APU) instrumentation and monitoring requirements;
  (3) RBHA/FAR 25.901, 25.1305, 25.1309, 25.1321, and 25.1549 for digital only display of turbine engine high/intermediate pressure rotor speed (N2);
  (4) All RBHA/FAR 25 sections, except structural, dealing with stall speeds/related factors for use of 1-g stall speed instead of minimum speed in stall;
  (5) RBHA 10 sections 10.43 and 10.45, and RBHA/FAR 25 sections 25.101, 25.105, 25.109, 25.113, 25.115, 25.735, and 25.1587 for rejected takeoff and landing performance criteria; and
  (6) Section 25.933(a)1(ii) for flight critical thrust reverser

CERTIFICATION BASIS (Cont.) Compliance with the following optional requirements has been established:
- RBHA/FAR 25.801 for ditching; and
- RBHA/FAR 25.1419 for icing

PRODUCTION CERTIFICATION None.

REQUIRED EQUIPMENT The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.

NOTES:

NOTE 1: Weigh and balance.

(a) Current weight and balance report including list of equipment included in certificated empty weight and loading instructions must provided for each aircraft at the time of original certification.

(b) The airplane must be located so that the C.G. is within the specified limits at all times.

(c) The weight of the fuel and oil systems fluid as defined below must be included in the empty weight of the airplane:

	kg (lb)	Arm-meters/inches
- Fuel system		
Unusable		
- drainable from tanks drain and lines	32.11 (70.8)	10.54 (414.96)
- undrainable (trapped in tanks and lines)	9.71 (221.4)	10.40 (409.45)
- Oil system		
Unusable drainable (systems) – Total	5.44 (12.0)	14.78 (581.89)

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 report H.10-2110-00. 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 Manual Section of the Instructions for Continued Airworthiness Manual marked Galaxy-1001-6 or G200-1001-6 for IAI Model Galaxy airplanes, and marked G200-200-1001-6 for IAI Model Gulfstream 200 airplanes. Mandatory replacement times, structural inspection intervals and related structural inspection procedures, and Certification Maintenance Requirements are presented in the approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness Manual marked Galaxy-1001-9 or G200-1001-9 for IAI Model Galaxy airplanes, and marked G200-1001-9 for IAI model Gulfstream 200 airplanes.

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

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

NOTE 5: Airplane S/N 003 eligibility pending demonstration of conformity with the approved type design.

NOTE 6: Identical fuel control computer part numbers must be installed on both LH & RH engines.

NOTE 7: The IAI Model GULFSTREAM 200 is identical to the IAI Model GALAXY except for the model designation. The only difference is the model designation (name) used on the data plate and associated manuals.
Modification MOD 7231 introduces the "GUFSTREAM 200" model designation and makes the requisite changes to identification plates and manuals.
The "GUFSTREAM 200" is only a name change from former "GALAXY".
Manufacturer's serial numbers:

- Model GULFSTREAM 200	S/N 057 and subsequent.
- Model GALAXY	S/N 004 through 056; for S/N 003, see note 5.

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