AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EA-2007T05

Type Certificate Holder:

M7 AEROSPACE LP
10823 N.E. Entrance
San Antonio, Texas, 78216
USA

EA-2007T05
Sheet 01

M7

SA227-AC

November 2007

This data sheet, which is part of Type Certificate No. 2007T05, 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 SA227-AC (Normal Category) approved 19 November 2007. (See Notes 6 and 9)

ENGINE 2 Garret (AirResearch) TPE 331-11U-602G or -612G

FUEL

Aviation Turbine fuels	AirReaserach Specifications
Type A	EMS53111
Type A-1	EMS53112
Class A-JP4 and Class B-Type B	EMS53113
Type JP-5	EMS53116
Type JP-8	EMS53112

(Fuel shall conform to the specification as listed or to subsequent revisions thereof)
(See Note 5)

ENGINE LIMITS Static Sea Level Ratings

	Shaft Horse Power (shp)	Gas Gen. Speed (rpm)	Prop. Shaft Speed	Exhaust Gas Temp. (EGT) (Single Red Line) (ºC)
Take-off (5-min) Dry	1 000	41 730*	1 591*	650
Take-off (5-min) Wet	1 100	41 730*	1 591*	650
Max. Continuous - Dry	1 000	41 730*	1 591*	650
Starting Limit (1-sec)	-	-	-	770

*See Note 4

OIL

MIL-L-23699B
Conforming to Garrett Turbine Engine Company (AirReserach)
Specification EMS53110 TYPE II

PROPELLER AND PROPELLER LIMITS

Number	2
Make	McCauley
Model	4HFR34C652( )( ) - L106LA-0
Diameter	269.2 cm (106 in)
Pitch At	0.76 m (30 in) station

	McCauley Propeller Assembly Number			
			D-5928	D-6933
Feather	84°46'± 20'		88.9° ± 0.5°	88.5° ± 0. 5°
Flight Idle	7° ± 30'		15° ± 0.2°	15° ± 0.2°
Start Locks	-30' ± 1°	9° ± 0.5	6° ± 0.5	
Reverse	-13°30'± 1		-5° ± 0.5	-5° ± 0.5°

AIRSPEED LIMITS
Knots CAS

	Altitude m (ft)	Basic	Increased GW (See Note 8)	Optional (Increase) GW (See Note 11)
Maximum Operating 5 425.5 m (17 800 ft)	248	248	248	
Speed Up to	5 486.4 (18 000)	247	247	247
	6 096 (20 000)	237	237	237
	7 010.4 (23 000)	223	223	223
	7 924.8 (26 000)	209	209	209
	8 839.2 (29 000)	196	196	196
	9448.8 (31 000)	188	188	188
Maneuvering		174	176	186
Flaps Full Extended		156	166	166
½ Extended		180	180	180
¼ Extended		215	215	215
L. G. Extended		176	176	176
L. G. Operation		176	176	176

CG RANGE
Gear Down
(after of Datum)

6.7 m (262.3 in)(15.72% MAC) to 7.04 m (277.0 in) (36% MAC)
at 7 257.5 kg (16 000 lb) (See Note 11)

6.6 m (260.7 in)(13.5% MAC) to 7.04 m (277.0 in) (36% MAC)
at 6 577 kg (14 500 lb) (See Note 8)
6.6 m (260.0 in)(12.54% MAC) to 7.04 m (277.0 in) (36% MAC)
at 6 350.3 kg (14 000 lb)
6.6 m (258.5 in)(10.47% MAC) to 7.04 m (277.0 in) (36% MAC)
at 5 670 kg (12 500 lb) (See Note 7)

CG RANGE (after of Datum) **(Cont.)**

6.5 m (257.0 in)(8.4% MAC) to 7.04 m (277.0 in) (36% MAC) at 4 989.5 kg (11 000 lb)
6.5 m (257.0 in)(8.4% MAC) to 7.04 m (277.0 in) (36% MAC) at 3 731kg (8 225 lb)
Straight line variation between points given

Note: Gear retraction will not move the C.G. beyond approved limits if the airplane is loaded within the gear-down envelope.

CG RANGE (Empty weight)

None

DATUM

Located 7. 0 m (274.1 in) forward of wing main (forward) spar centerline

LEVELING MEANS

Lateral: Nose baggage Compartment Door Sill
Longitudinal: Nose baggage Compartment Floor

MAXIMUM WEIGHT

	Category Normal (with SFAR 41) kg (lb)	Normal (without SFAR 41) kg (lb)	Normal (incr.gw with SFAR 41) kg (lb)	Normal (optional incr.gw with SFAR 41)* Kg (lb)
Takeoff	6 350.3 (14 000)	5 715.3 (12 600)	6 622.4 (14 600)	7 302.8 (16 100)
Landing	6 350.3 (14 000)	5 669.9 (12 500)	6 577.1 (14 500)	7 257.5 (16 000)
Max. Zero Fuel	5 955.7 (13 130)	5 669.9 (12 500)	6 350.3 (14 000)	7 030.7 (15 500)
Ramp	6 395.6 (14 100)	5 955.7 (13 130)**	6 304.9 (13 900)	
		5 955.7 (13 130)**		

* See Note 10
** See Note 11

MINIMUM CREW

One pilot except as otherwise required by the Airplane Flight Manual
Crew at + 2.8 m (+ 111.0 in)

MAXIMUM PASSENGERS

19 per SFAR 41C
See AFM for loading instructions for crew and passenger loading.

MAXIMUM BAGGAGE

Rear Compartment: 385.5 kg (850 lb) at +12.02 m (+ 473.4 in)
Nose Compartment: 362.9 kg (800 lb) (272.2 kg (600 lb) with nose CAWI tank installed) at +120 cm (+ 46.7 in)

AND/OR EQUIPMENT

Local Loading on Cargo and Passenger Compartment Floor: 732.4 kg/m^2 (150 lb/sq.ft)

FUEL CAPACITY

2 468.1 ℓ Total (652 Gal Total)
1 226.5 ℓ (324 Gal) usable in each of 2 wing tanks at 7.15 m (+281.4 in)
See Note 1 for data on unusable fuel.

OIL CAPACITY

13.4 ℓ Total (14.1 quarts total)
3.6 ℓ (3.8 quarts) usable in each engine oil tank at +5.2 m (+ 205.0 in)
See Note 1 for data on unusable oil.

MAXIMUM OPERATING ALTITUDE 9 449 m (31 000 ft)

CONTROL SURFACE MOVEMENTS

Elevator:	Up 30° +1°, -1°	Down 15° +1°, -1°
Rudder:	Right 25° +1°, -1°	Left 25° +1°, -1°
Aileron:	Up 18.5° ± 1°	Down 21.5° ± 1°
Wing flaps:		Down 36° ± 1°
Stabilizer		
(Mechanical Stops):	Up 2.40 ° + 0.2°, -0.2° L.E.	Down 7.80 ° +0.2°, -0.2° L.E.
(Electrical Stops):	0.2 ° ± 0.05° before mechanical stops	
Tabs (Main Surface in Neutral)		
Aileron:	Up 20° + 2°, -1°	Down 20° + 2°, -1°
Rudder:	Right 25° +1.5°, -1.5°	Left 25° +1.5°, -1.5°

CERTIFICATION BASIS

Brazilian Type Certificate No. 2007T05 issued on 19 November 2007 based on the RBHA 23, which endorses the FAR 23 effective 01 February 1965, through Amendments 23-6.

Special (See Note 7) Conditions outlined in FAA letters 19 November 1965, 22 August 1967 (See Note 3), 05 February 1968 and 04 April 1968.

SFAR 23; SFAR 27 through Amendment 3; and Amendment C of SFAR 41 including paragraph 4(c) and the compartment interior requirements of 25.853(a),(b),(b-1),(b-2) and (b-3) in effect on 26 September 1978; FAR 23.175(d) of Amendment 23-14; and

Noise Standards: RBHA 36 Appendix F (Noise Standard - Type Certification), corresponding to FAR 36 Appendix F, through Amendment 36-6.

Approved for flight into known icing in accordance with Rule 34 of SFAER 23 and SFAR 41.

SERIAL NUMBER 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.

IMPORT ELIGIBILITY

A Brazilian Certificate of Airworthiness may be issued on the basis of on an 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. 2007T05 and in condition of safe operation”.
The ANAC Report H.10-2180-0, dated 19 November 2007 or any further revisions, contains the Brazilian requirements for the acceptance of these airplanes.

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 Weight and balance. Current weight and balance report including list of equipment in certificated empty weight, and loading instructions when necessary must be provided for each aircraft at the time of original certification. The certificated empty weight and corresponding center of gravity location must include:

Unusable fuel 12.3 kg (27 lb) at + 716.3 cm (+ 282 in)
Unusable Oil 5.4 kg (12 lb) at + 520.7 cm (+ 205 in)

NOTE 2 Markings and placards. The airplane must be operated according to the appropriate FAA approved Brazilian Airplane Flight Manual and in the chapter XI of the Airplane Maintenance Manual.

NOTE 3 Continuing Airworthiness. See Maintenance Manual, Chapter 4, "Airworthiness Limitations" for inspections, mandatory retirement life information, and other requirements for continued airworthiness

NOTE 4 The maximum propeller shaft overspeed limit is 1 686 rpm (106%) for 5 seconds and 1 615 rpm (101.5% for 5 minutes). 100% is defined as 1 591 rpm.

NOTE 5 Emergency use of MIL-G-5572D, 80/87, aviation gasoline permitted not to exceed 3 785.4 ℓ (1 000 gal) per engine for each 100 hours of engine operation. Emergency use of MIL-G-5572D, Grade 100/130 (low lead) aviation gasoline permitted not to exceed 946.4 ℓ (250 gal) per engine for each 100 hours of engine operation with the total use limited to 26 498 ℓ (7 000 gal) during any 3 000 - hour period. Jet fuel and aviation gasoline may be mixed in any proportion. If 25% or more aviation gasoline is used, add 1 quart of MIL-L-6082 specification grade 1 065 or 1 100 piston engine oil per 378.5 (100 gal) of aviation gasoline fuel pump lubrication.

NOTE 6 An "A" designation following the serial number signifies that the airplane is not eligible for SFAR 41 approval of weights greater than 5 670 kg (12 500 lb). Certification basis same as noted herein except omit SFAR 41 approval.

NOTE 7 The increased ramp and takeoff gross weight applies to aircraft S/N AC 514 and subsequent. Aircraft with S/N AC 420 through AC 510 may be operated at the increased ramp and takeoff gross weight noted after modification in accordance with Fairchild Service SB 11-001, revised 11 December 1981.

NOTE 8 Serial Nos. 398, 399, 401, 402, 404, 406, 408, 409, 411-413, 415, 416 and 418 eligible to be licensed as SA 227-AC aircraft when modified in accordance with Fairchild Drawing 27-13451.

NOTE 9 The C-26A is an SA227-AC airplane modified in accordance with ECP 567 or an SA227-BC modified per ECP 592. The FAA Approved Airplane Flight Manual Supplemental for the C-26A configuration must be used.

NOTE 10 Airplanes with a 6 577 kg (14 500 lb) maximum gross takeoff weight can be modified for a 7 257.5 kg (16 000 lb) maximum gross takeoff weight if the modification is performed in accordance with ECP 437 "Compilation of Changes 7 257.5 kg (16 000 lb) airplane". After modification, affix a letter "B" at the end of the serial number on the data plate.

NOTE 11 6 305 kg (13 900 lb) zero fuel weight approved for airplanes S/N AC, AT, or PC-624 and up for earlier S/N airplanes with P/N 27-13900-65, -66, -67, and -69 installed per Drawing 27-13900, by ECP 441 by Kit Drawing 27K20004, or by Service Bulletin 227-08-001;
6 350.3 kg (14 000 lb) for airplanes with additional modification per Kit Drawing 27K31017.

for **CLÁUDIO PASSOS SIMÃO**
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)