

**DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION**

A18SW Revision 4 Fairchild Aircraft, Inc. SA227-CC SA227-DC (C-26B) August 24, 2004

TYPE CERTIFICATE DATA SHEET A18SW

This data sheet, which is part of Type Certificate No. A18 SW, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: M7 Aerospace LP
10823 N. E. Entrance
San Antonio, Texas 78216

Type Certificate Holder Record Fairchild Aircraft Incorporated transferred TC A18SW to M7 Aerospace LP on April 29, 2003.

I - Model SA227-CC, 21 PCLM, Commuter Category, FAR 23, Approved June 25, 1990. * NOTE 10

Engines Two Garrett (Airesearch) TPE331-11U-612G

Fuel Aviation turbine fuels Garrett Specification
 Type A EMS53111
 Type A-1 EMS53112
 Class A-JP4 and EMS53113
 Class B-Type B
 Type JP-5 EMS53116
 Type JP-8 EMS53112
 (Fuel shall conform to the specification as listed or to subsequent revisions thereof).
 (See Note 3)

Oil MIL-L-23699B conforming to Garrett Engine Division Specification EMS53110 Type II.

Engine Limits

Static Sea Level Ratings.

	Shaft Horse Power (S.H.P.)	Gas Gen. Speed (R.P.M)	Prop Shaft Speed (R.P.M.)	Exhaust Gas Temp. (EGT) (Single Red Line) (°C)
Take-off (5-min) Dry	1,000	41730*	1591*	650
Take-off (5-min) Wet	1,100	41730*	1591*	650
Max Continuous-Dry Starting Limit	1,000	41730*	1591*	650
(1-sec)	-	-	-	770

*(See Note 4)

Oil Temps

Minus 40°C to 110°C (normal operations)
 Minus 40°C to 127°C (ground operations only)

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I - Model SA227-CC, 21 PCLM, Commuter Category, FAR 23, Approved June 25, 1990. * NOTE 10 (Cont'd)

Propeller and Propeller limits	Number	2
	Make	McCauley
	Model	4HFR34C652()/()-L106LA-0
	Diameter	106 inches
	Pitch At	30 in. station

McCauley Propeller
Assembly Number

D-5928

D-6933

Feathered	88.9° ± 0.5°	88.5° ± 0.5°
Flight Idle	15.0° ± 0.2°	15.0° ± 0.2°
Start Locks	9.0° ± 0.5°	6.0° ± 0.5°
Full Reverse	-5.0° ± 0.5°	-5.0° ± 0.5°

Airspeed Limits

	Altitude (ft.)	Speed (Knots CAS)
Maximum	17,800	248
Operating	18,000	247
Speed	20,000	237
	23,000	223
	25,000	214
Maneuvering @ 16,000#	all	183
Flaps Full Ext.		166
1/2 Ext.		180
1/4 Ext.		215
Ldg Gear Ext.		176
Ldg Gear Oper.		176

C.G. Range
(Inches Aft of
Datum) 262.8 (16.41% MAC) to 277.0 (36.0% MAC) at 16,500 lbs.
257.0 (8.40% MAC) to 277.0 (36.0% MAC) at 11,000 lbs. and below.
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.

Empty Weight
C.G. Range None

Maximum Weight (lbs.) (See Note 6)	Ramp	16,600
	Take-off	16,500
	Landing	15,675
	Max. Zero Fuel	14,500

Maximum Operating
Altitude 25,000 feet.

Minimum Crew One pilot except as otherwise required by the Airplane Flight Manual (See Note 9).

No. Seats Maximum 21 (crew at + 111.0). (Maximum of 19 passengers). See AFM for loading instructions for crew and passenger loading.

Maximum Baggage
and/or Equipment Rear Compartment: 850 lbs. (+473.4)
Nose Compartment: 800 lbs. (+46.7)

Local loading on cargo and passenger compartment floor: 150 lbs./sq. ft.

I - Model SA227-CC, 21 PCLM, Commuter Category, FAR 23, Approved June 25, 1990. * NOTE 10 (Cont'd)

Fuel Capacity	652 gal. total (324 gal. usable in each of 2 wing tanks). See Note 1 for data on unusable fuel.		
Oil Capacity	14.1 qt. total (3.8 qt. usable in each engine oil tank). See Note 1 for data on unusable oil.		
Control Surface	Wings Flaps		36° ± 1° down
	Main Surface		
	Aileron	18.5° ± 1° up	21.5 ± 1° down
	Elevator	30° ± 1° up	15° ± 1° down
	Rudder	25° ± 1° right	25° ± 1° left
	Stabilizer (mechanical stops):		
		2.40° ± .20° L.E. up	7.80° ± 0.20° L.E. down
	(electrical stops):		
		0.2° ± .05° before mechanical stops	
	Tabs (Main surface in Neutral)		
Aileron	20° + 2°, -1° up	20° + 2°, -1° down	
Rudder	25° ± 1.5° right	25° ± 1.5° left	
Serial Nos.	CC-790 and up. (See Note 8)		
Datum	Located 274.1 inches forward of wing main (forward) spar centerline.		
Leveling Means	Lateral:	Nose baggage compartment door sill.	
	Longitudinal:	Nose baggage compartment floor.	
Certification Basis	FAR Part 23 through Amendment 23-34 plus Amendment 23-39; equivalent safety finding per FAA letter dated September 20, 1990; FAR Part 36, SFAR 27 through Amendment 5 (See Note 6). Approved for flight into known icing in accordance with FAR 23.1419.		
Production Basis	Production Certificate No. 6SW (Spares only)		
Equipment	The basic required equipment, as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the aircraft for certification. Fairchild Drawing No. 27-10044 "Equipment List, Model SA227-CC" listing of all additional required equipment as well as optional installations approved by the FAA. (See Note 9)		

II. Model SA227-DC (C-26B), 21 PCLM, Commuter Category, FAR 23, Approved September 29, 1990 (See Note 7 and 11).

Engines	Two Garrett (Airesearch) TPE331-12UA-701G or TPE331-12UAR-701G or TPE331-12UHR-701G.		
Fuel	Aviation turbine fuels	Garrett Specification	
	Type A	EMS53111	
	Type A-1	EMS53112	
	Class A-JP4 and	EMS53113	
	Class B-Type B		
	Type JP-5	EMS53116	
	Type JP-8	EMS53112	
	(Fuel shall conform to the specification as listed or to subsequent revisions thereof). (See Note 3).		
Oil	MIL-L-23699B conforming to Garrett Engine Division Specification EMS531100 Type II.		

II. Model SA227-DC (C-26B), 21 PCLM, Commuter Category, FAR 23, Approved September 29, 1990 (See Note 7 and 11).(Cont'd)

Engine Limits	Static Sea Level Ratings.			
	Shaft Horse Power (S.H.P.)	Gas Gen. Speed (R.P.M.)	Prop Shaft Speed (R.P.M.)	Exhaust Gas Temp. (EGT) (Single Red Line) (°C)
	Take-off (5-min) Dry	1,100	41730*	1591*
	Take-off (5-min) Wet	1,100	41730*	1591*
	Max Continuous-Dry Starting Limit	1,000	41730*	1591*
	(1-sec)	-	-	-
				770
	*(See Note 4)			
Oil Temps	Minus 40°C to 110°C (normal operations) Minus 40°C to 127°C (ground operations only)			
Propeller and Propeller limits	Number	2	2	
	Make	McCauley	McCauley	
	Model	4HFR34C663()/()-L106KA-0	4HFR34C652()/()-L106LA-0	
	Diameter	106 inches	106 inches	
	Pitch At	30 in. station	30 in. station	
		McCauley Propeller Assembly Number		
		D-5928	D-6933	D-7274
	Feathered	88.9° ± 0.5°	88.5° ± 0.5°	88° ± 0.2°
	Flight Idle	15.0° ± 0.2°	15.0° ± 0.2°	16.0° ± 1.0°
	Start Locks	9.0° ± 0.5°	6.0° ± 0.5°	6.0° ± 0.2°
	Full Reverse	-5.0° ± 0.5°	-5.0° ± 0.5°	-4.0° ± 0.2°
Airspeed Limits	Altitude (ft.)	Speed (Knots CAS)		
	Maximum	17,800	248	
	Operating Speed	18,000	247	
		20,000	237	
		23,000	223	
		25,000	214	
	Maneuvering @ 16,000#	all	183	
	Flaps Full Ext.		166	
	1/2 Ext.		180	
	1/4 Ext.		215	
	Ldg Gear Ext.		176	
	Ldg Gear Oper.		176	
C.G. Range Gear Down (Inches Aft of Datum)	262.8 (16.41% MAC) to 277.0 (36.0% MAC) at 16,500 257.0 (8.40% MAC) to 277.0 (36.0% MAC) at 11,000 lbs. and below. 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.

II. Model SA227-DC (C-26B), 21 PCLM, Commuter Category, FAR 23, Approved September 29, 1990 (See Note 7 and 11),(Cont'd)

Empty Weight	None		
C.G. Range			
Maximum Weight (lbs.) (See Note 6)	Ramp	16,600	
	Take-off	16,500	
	Landing	15,675	
	Max. Zero Fuel	14,500	
Maximum Oper. Altitude	25,000 feet.		
Minimum Crew	One pilot except as otherwise required by the Airplane Flight Manual (See Note 9.)		
No. Seats	Maximum 21 (crew at + 111.0). (Maximum of 19 passengers). See AFM for loading instructions for crew and passenger loading.		
Maximum Baggage and/or Equipment	Rear Compartment: 850 lbs. (+473.4) Nose Compartment: 800 lbs. (+46.7)		
	Local loading on cargo and passenger compartment floor: 150 lbs./sq. ft.		
Fuel Capacity	652 gal. total (324 gal. usable in each of 2 wing tanks. See Note 1 for data on unusable fuel.		
Oil Capacity	14.1 qt. total (3.8 qt. usable in each engine oil tank). See Note 1 for data on unusable oil.		
Control Surface	Wings Flaps		36° ± 1° down
	Main Surface		
	Aileron	18.5° ± 1° up	21.5 ± 1° down
	Elevator	30° ± 1° up	15° ± 1° down
	Rudder	25° ± 1° right	25° ± 1° left
	Stabilizer (mechanical stops):		
		2.40° ± .20° L.E. up	7.80° ± .20° L.E. down
	(electrical stops):		
		0.2° ± .05° before mechanical stops	
	Tabs (Main surface in Neutral)		
	Aileron	20° + 2°, -1° up;	20° + 2°,-1° down
	Rudder	25° ± 1.5° right;	25° ± 1.5° left
Serial Nos.	DC-784 and up. (See Notes 7 and 8.)		
Datum	Located 274.1 inches forward of wing main (forward) spar centerline.		
Leveling Means	Lateral:	Nose baggage compartment door sill.	
	Longitudinal:	Nose baggage compartment floor.	
Certification Basis:	FAR Part 23 through Amendment 23-34 plus Amendment 23-39; equivalent safety finding per FAA letter dated September 20, 1990; FAR Part 36, SFAR 27 through Amendment 5 (See Note 6). Approved for flight into known icing in accordance with FAR 23.1419.		

Production Basis:	Production Certificate No. 6SW (Spares only).
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II. Model SA227-DC (C-26B), 21 PCLM, Commuter Category, FAR 23, Approved September 29, 1990 (See Note 7 and 11).(Cont'd)

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| Equipment | The basic required equipment, as prescribed in the applicable airworthiness regulations (See Certification Basis) must be installed in the aircraft for certification. Fairchild Drawing No. 27-10045 "Equipment List, Model SA227-DC" contains listing of all additional required equipment as well as optional installations approved by the FAA. (See Note 9) |
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- Note 1. Current weight and balance report, together with list of equipment included in certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification. The airplane must be loaded so that the C.G. is within the specified limits at all times. Empty weight and corresponding center of gravity location must include:
- | | |
|---------------|----------------|
| Unusable fuel | 27 lbs. (+282) |
| Unusable oil | 12 lbs. (+205) |
| Unusable AWI | 16 lbs. (+298) |
- Note 2. All placards required in the approved AFM must be installed in the appropriate locations.
- Note 3. Emergency use of MIL-G-5572D, 80/87, aviation gasoline permitted not to exceed 1,000 gallons per engine for each 100 hours of engine operation. Emergency use of MIL-G-5572D, Grade 100/130 (low lead), aviation gasoline permitted not exceed 250 gallons per engine for each 100 hours of engine operation with the total use limited to 7,000 gallons 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 1065 or 1100 piston engine oil per 100 gallons of aviation gasoline to provide fuel pump lubrication.
- Note: The amount of aviation gasoline used must be recorded in the Engine Log Book. Fuel System Icing Inhibitor MIL-T-27686E fuel additive approved not to exceed 0.15 percent by volume. No fuel system anti-icing credit is allowed.
- Note 4. The maximum propeller shaft overspeed limit is 1686 RPM (106%) for 5 seconds and 1615 RPM (101.5% for 5 minutes). 100% is defined as 1591 RPM.
- Note 5. The Airworthiness Limitations Manual ST-UN-M003 contains overhaul times, replacements times and special inspections required for continued airworthiness.
- Note 6. Compliance with SFAR 27-5. "Fuel Venting and Exhaust Emissions Requirements for Turbine Engine Powered Airplanes" is equivalent to compliance with FAR Part 34, effective September 10, 1990.
- Note 7. The C-26B is an SA227-DC airplane manufactured in accordance with Fairchild drawing 27-10048. These airplanes are identified by the letter "M" at the end of the serial number.
- Note 8. The manufacturer has elected to end the serial numbers of airplanes not affected by Note 7 with the letter "B".
- Note 9. Approval for single-pilot operation is based on the instrument/avionics arrangement shown by Fairchild Drawing 27-86081 or Drawing 27-88025 (C-26B). Any significant deviation from that arrangement must be evaluated for single pilot suitability.
- Note 10. The SA227-CC airplane may be converted to a Model SA227-DC in accordance with FAI drawing 27-14167 initial release.
- Note 11. The SA227-DC airplane may be converted to a Model SA227-CC in accordance with FAI drawing 27-14140 initial release plus EOS A-1 and A-2.

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