DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

7A1 Revision 20 **FAIRCHILD** F-27 F-27A F-27B F-27F F-27G F-27J FH-227 FH-227B FH-227C FH-227D FH-227E F-27M May 13, 1992

TYPE CERTIFICATE DATA SHEET NO. 7A1

This data sheet which is a part of type certificate No. 7A1 prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder Maryland Air Industries, Inc.

1424 Davis Ford Road Woodbridge, Virginia 22192

I - Model F-27 (Transport Category), Approved July 16, 1958; Model F-27A, Approved December 31, 1958;

Model F-27B, Approved October 25, 1958; Model F-27F, Approved February 24, 1961;

Model F-27G, Approved May 1, 1963; Model F-27J, Approved August 3, 1965;

Model FH-227, Approved June 24, 1966; Model FH-227B, Approved February 27, 1967;

Model FH-227C, Approved June 17, 1967; FH-227D and FH-227E, Approved December 21, 1967;

Model F-27M, Approved June 12, 1969.

F-27A same as F-27 except for engine installation.

F-27B same as F-27 except for large forward cargo door.

F-27F same as F-27 except for engine installation.

F-27G same as F-27F except for large forward cargo door.

F-27J same as F-27F except for engine installation.

FH-227 same as F-27J except for 70.8 inch extension to fuselage and major structural changes.

FH-227B same as FH-227 except for propeller installation, wheels and brakes installation and structural changes.

FH-227C same as FH-227 except for propeller installation, wheels and brakes installation.

FH-227D same as FH-227B except for engine installation.

FH-227E same as FH-227C except for engine installation.

F-27M same as F-27J except for propeller and engine installation, elevator trim tab change.

Engines F-27, F-27B : 2 Rolls-Royce Dart 511 or Dart 511-7E or Dart 514-7.

Reduction gearing 0.086:1.

F-27A : 2 Rolls-Royce Dart 528, Dart 528-7E (turboprop).

Reduction gearing 0.093:1.

F-27F, F-27G : 2 Rolls-Royce Dart 529-7E (turboprop).

Reduction gearing 0.093:1.

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F-27M : 2 Rolls-Royce Dart 532-7N (turboprop).

Reduction gearing 0.093:1.

F-27J, FH-227 : 2 Rolls-Royce Dart 532-7 (turboprop).

Reduction gearing 0.093:1.

FH-227C, FH-227B: 2 Rolls-Royce Dart 532-7 or 532-7P (turboprop).

Reduction gearing 0.093:1.

FH-227D, FH-227E: 2 Rolls-Royce Dart 532-7L (turboprop).

Reduction gearing 0.093:1.

Fuel (Fuel shall Aviation Kerosene Specifications.

conform to the specifications as listed or to

United States A.S.T.M. D1655-72 (Jet A or A-1) United States MIL-T-5624H, Grade JP-5

Canadian 3-GP-23g

subsequent revisions thereof)

3-GP-24f

British D. Eng. R.D. 2453 Issue 3

2494 Issue 7 2498 Issue 6

U.S.S.R. TS-1 (GOST 10227-62 AM1) I.A.T.A. Nov. 1969, Kerosene Type Fuel

Aviation Wide-Cut Specifications.

United States A.S.T.M. D1655-72 (Jet B) United States MIL-T-5624H, Grade JP-4

Canadian 3-GP-22g

British D. Eng. R.D. 2454 Issue 3 2486 Issue 8

I.A.T.A. Nov. 1969, Wide-Cut Fuel

Any mixture of the above type fuels may be used without readjustment of the engine fuel control unit and without loss in engine power of airplane performance.

Water/Methanol mixture: to Rolls-Royce Specification AEP-1-W/M

(latest issue).

Oil (Engine and Gearbox) Refer to limitations section of the applicable Airplane Flight Manual for list of approved

engine and gearbox lube oils.

Engine limits

<u>Static 5</u>	ea Level Ratings Shaft	Jet	Engine	Max. Perm	iccihla
		Thrust	Speed	Turb. Gas	
DART 511	Horsepower (shp)	(lb.)	(rpm)	(°C)	_
Wet takeoff (5 min.)	1570	310	14,500	595	
Dry takeoff	1535	310	14,500	580	
Max continuous	1535	310	14,500	580	
Starting (momentary)	_	_	<u></u>	640	
DART 511-7E					
Wet takeoff (5 min.)	1570	310	14,500	595	
Dry takeoff	1535	310	14,500	625	
Max continuous	1535	310	14,500	625	
Starting (momentary)	_	_	_	640	
DART 514-7					
Wet takeoff (5 min.)	1670	332	14,500	600	
Dry takeoff	1535	310	14,500	625	
Max continuous	1535	310	14,500	625	
Starting (momentary)	_		_	640	
DART 528					
Wet takeoff (5 min.)	1870	495	15,000	810	
Dry takeoff	1835	485	15,000	780	
Max continuous	1835	485	15,000	780	
Starting (momentary)	_	_	_	930	
DART 528-7E	1050	40.5	15,000	0.60	
Wet takeoff (5 min.)	1870	495	15,000	860	
Dry takeoff	1835	485	15,000	850	
Max continuous Starting (momentary)	1835	485	15,000	850 930	
Starting (momentary)	_		_	930	
DART 529-7E					
Wet takeoff (5 min.)	1950	510	15,000	860	
Dry takeoff	1910	500	15,000	850	
Max continuous	1910	500	15,000	850	
Starting (momentary)	_	_	_	930	
DART 532-7			. =	-7	-7P
Wet takeoff (5 min.)	1990	520	15,000	860	860
Dry takeoff	1835	485	15,000	850	850
Max continuous	1835	485	15,000	850	850
Starting (momentary)	_	_	_	930	930
DART 532-7L					
Wet takeoff (5 min.)	2040	520	15,000	905	
Dry takeoff	1835	485	15,000	885	
Max continuous	1835	485	15,000	885	
Starting (momentary)	_	_	_	930	
DART 532-7N					
Wet takeoff (5 min.)	1990	520	15,000	905	
Dry takeoff	1835	485	15,000	885	
Max continuous	1835	485	15,000	885	
Starting (momentary)				930	

	ire	Dart 511, 511-7E, 514-7	Dart 528, 532-7L, 532-7N, 528-7E, 529-7E, 532-7
	Maximum	110° C	120° C
	Minimum for star	ting -30° C	-30° C
	Minimum for ope	ning power lever -15° C	-15°C
Propeller and propeller limits	Dart 511, 511-7E, 514-7 (F-27, F-27B)	2 Rotol Model (c) R 175/4-30-4/13E Diameter 12.0 ft. (nominal).	, with 4 R.A. 25899 blades each
		Minimum allowable for repairs 11' No further reduction permitted. Pitch settings at .7 radius Ground fine pitch 0° Flight fine pitch +28° 48' Feathered +83° R.P.M. Limit (Max. 20 sec.) 17,000	
		Avoid all continuous operation below	v 7,000 r.p.m.
	Dart 528, 528-7E,	2 Rotol Model (c) R 193/4-30-4/50,	with 4 R.A. 25907 blades each.
	529-7E, 532-7	Diameter 11.5 ft. (nominal).	4.05"
	(F-27A, F-27F, F-27G, F-27J, FH-227)	Minimum allowable for repairs 11'- Pitch settings at .7 radius	4.35".
	,	Ground fine pitch 0°	
		Flight fine pitch 20° Cruise pitch 32°	
		Feathered 87°	
		R.P.M. Limit (Max. 20 sec.) 16,500	
		Avoid all continuous operation below	v 7,000 r.p.m.
	Dart 532-7, 532-7L,	2 Rotol Model (c) R 257/4-30-4/60,	with 4 R.A. 25941 blades each.
	532-7N,	Diameter 12.5 ft. (nominal).	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	532-7N, (FH-227B, FH-227C,	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3.	
	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3. Pitch settings at 0.7 radius	
	532-7N, (FH-227B, FH-227C,	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16°	
	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3. Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28°	
	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3. Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83°	2".
	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3. Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28°	.2". r.p.m.
Aircroad limits	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M)	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 and Avoid all continuous operation between	r.p.m. een 8,500 and 9,500 r.p.m.
Airspeed limits (CAS)	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M)	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 and Avoid all continuous operation between	.2". r.p.m.
Airspeed limits (CAS)	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuous operation between the continuous operation) p.000 ft.	r.p.m. een 8,500 and 9,500 r.p.m. 298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between exceed) mum Operating) 9,000 ft. 00 ft.	r.p.m. een 8,500 and 9,500 r.p.m. 298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.) (226.5 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuous operation between the continuous operation of the continuous of the c	r.p.m. een 8,500 and 9,500 r.p.m. 298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.) (226.5 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between exceed) mum Operating) 9,000 ft. 00 ft.	r.p.m. een 8,500 and 9,500 r.p.m. 298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.) (226.5 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 mag. Avoid all continuous operation between the second se	298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.) (226.5 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 mag. Avoid all continuous operation between the conti	298 m.p.h. (259 kt.) 262 m.p.h. (227 kt.) (226.5 kt.) 287 m.p.h. (249 kt.)
-	532-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480 above 14	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 mag. Avoid all continuous operation between the conti	287 m.p.h. (249 kt.) 0.493 MACH.
-	S32-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480 above 14 Va (Maneu Va (Maneu	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuo	287 m.p.h. (249 kt.) 287 m.p.h. (249 kt.) 287 m.p.h. (249 kt.)
-	S32-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480 above 14 Va (Maneu Va (Maneu for FH-2	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuo	287 m.p.h. (249 kt.) 287 m.p.h. (154 kt.)
-	S32-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480 above 14 Va (Maneu Va (Maneu Va (Maneu Va (Flaps of	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuo	287 m.p.h. (249 kt.) 287 m.p.h. (249 kt.) 287 m.p.h. (249 kt.) 287 m.p.h. (170 kt.) 287 m.p.h. (170 kt.)
-	S32-7N, (FH-227B, FH-227C, FH-227D, FH-227E F-27M) Vne (Never Vmo (Maxi SL - 19 at 20,0 above Vmo (Maxi and FH-2 with Fair SL-1480 above 14 Va (Maneu Va (Maneu Va (Maneu Va (Flaps Vfe (Flaps Vfe (Flaps Vfe (Flaps Vfe (Flaps	Diameter 12.5 ft. (nominal). Minimum allowable for repairs 12' 3 Pitch settings at 0.7 radius Ground fine pitch 0° Flight fine pitch 16° Cruise pitch 28° Feathered 83° R.P.M. Limit (Max. 20 sec.) 16,500 at Avoid all continuous operation between the continuo	287 m.p.h. (249 kt.) 287 m.p.h. (154 kt.)

Vmc (Minimum control) for F-27, F-27A and F-27B with 0° takeoff flaps	
at sea level standard conditions	96 m.p.h. (83 kt.)
Vmc (Minimum control) for F-27, F-27A	
and F-27B with 16.5° takeoff flaps	
at sea level standard conditions	90 m.p.h. (78 kt.)
Vmc (Minimum control) for F-27F, F-27J	
and F-27M with 0° takeoff flaps at	
sea level standard conditions	99 m.p.h. (86 kt.)
Vmc (Minimum control) for F-27F, F-27J	
and F-27M with 16.5° takeoff flaps	
at sea level standard conditions	93 m.p.h. (81 kt.)
Vmc (Minimum control) for FH-227,	
FH-227B, FH-227C, FH-227D, and	
FH-227E with 16.5° flaps at sea	
level standard conditions	98 m.p.h. (85 kt.)
Vmc (Minimum control) for FH-227,	
FH-227B, FH-227C, FH-227D, and	
FH-227E with 0° flaps at sea	
level standard conditions	104 m.p.h. (90 kt.)
Vmc (Minimum control) for FH-227D	
and FH-227E with 9° flaps at sea	
level standard conditions	101 m.p.h. (87.5 kt.)
Maximum speed for extending retractable	
type landing light and for operation with light extended	196 m.p.h. (170 kt.)
Vdb (Drag Brake)	262 m.p.h. (227 kt.)

C.G. range

For Models F-27, F-27A, F-27B, F-27FF, F-27G, F-27J and F-27M: Weight Fwd. Aft

	Weight	Fwd.		A	ft
	(lb.)	% M.A.C.	Sta. (in.)	% M.A.C.	Sta. (in.)
	(For aircraft	with pneumati	c nose gear ste	ering system)	
Takeoff & landing (gear down)	22,000	21.0	(361.29)	38.0	(378.52)
	25,400				
	to				
	30,200	20.0	(360.28)	38.0	(378.52)
	34,000	24.0	(364.33)	38.0	(378.52)
	34,500	24.4	(364.74)	38.0	(378.52)
	35,700	25.6	(365.95)	38.0	(378.52)
	36,000	25.8	(366.16)	38.0	(378.52)
	36,300	26.0	(366.36)	38.0	(378.52)
	36,500	26.2	(366.56)	38.0	(378.52)
	36,700	26.3	(366.66)	38.0	(378.52)
	37,500	27.0	(367.37)	38.0	(378.52)
	38,500	27.8	(368.18)	38.0	(378.52)
	*39,400	28.4	(368.79)	38.0	(378.52)
	*42,000	30.0	(371.41)	38.0	(378.52)
Enroute (gear up)	22,000	Sama as	Takeoff	40.7	(381.26)
Emoute (gear up)	22,000 to		anding	40.7	(361.20)
	30,200	and La	anding		
	31,300	20.0	(360.28)	40.7	(381.26)
	34,000		(363.32)	40.7	,
	,	23.0	,		(381.26)
	37,500	25.8	(366.16)	40.7	(381.26)
	38,500	26.6	(366.97)	40.7	(381.26)
	39,400	27.3	(367.68)	40.7	(381.26)
	42,000	29.4	(369.81)	40.7	(381.26)

	Weight		Fwd.		Aft
	(lb.)	% M.A.C.	Sta. (in.)	% M.A.C.	Sta. (in.)
T-1 (C 0 1 1 / 1)		-	ic or pneumatio		
Takeoff & landing (gear down)	22,000	21.0	(361.29)	38.0	(378.52)
	25,400				
	to 31,300	20.0	(360.28)	38.0	(378.52)
	34,000	23.0	(363.32)	38.0	(378.52)
	34,500	23.5	(363.72)	38.0	(378.52)
	36,000	24.6	(364.94)	38.0	(378.52)
	36,300	24.8	(365.14)	38.0	(378.52)
	36,500	25.0	(365.35)	38.0	(378.52)
	36,700	25.2	(365.55)	38.0	(378.52)
	37,500	25.8	(366.16)	38.0	(378.52)
	38,500	26.6	(366.97)	38.0	(378.52)
		27.3	, ,		
	*39,400		(367.68)	38.0	(378.52)
	40,000 *42,000	27.8	(368.19)	38.0	(378.52)
	*42,000	29.4	(369.81)	38.0	(378.52)
	*Takeoff on	ty.			
Enroute (gear up)	22,000	21.0	(361.29)	40.7	(381.26)
	25,400				
	to				
	31,300	20.0	(360.28)	40.7	(381.26)
	34,000	23.0	(363.32)	40.7	(381.26)
	34,500	23.5	(363.72)	40.7	(381.26)
	36,000	24.6	(364.94)	40.7	(381.26)
	36,500	25.0	(365.35)	40.7	(381.26)
	37,500	25.8	(366.16)	40.7	(381.26)
	38,500	26.6	(366.97)	40.7	(381.26)
	39,400	27.3	(367.68)	40.7	(381.26)
	42,000	29.4	(369.81)	40.7	(381.26)
For Model FH-227:					
Takeoff & landing (gear down)	26,000	18.0	(358.25)	35.0	(375.48)
	39,000	18.0	(358.25)	35.0	(375.48)
	43,500	20.0	(360.28)	35.0	(375.48)
Enroute (gear up)	26,000	18.0	(358.25)	38.0	(378.52)
Emoute (gear up)	43,500	18.0	(358.25)	38.0	(378.52)
	13,300	10.0	(330.23)	20.0	(370.32)
For Models FH-227B and FH-2	227D:				
Takeoff & landing (gear down)	26,000	25.8	(366.18)	35.0	(375.48)
	33,400	18.0	(358.25)	35.0	(375.48)
	41,000	18.0	(358.25)	35.0	(375.48)
	45,500	20.0	(360.28)	35.0	(375.48)
Enroute (gear up)	26,000	25.8	(366 10)	38.0	(278 52)
Enroute (gear up)	33,400	23.8 18.0	(366.18)	38.0	(378.52)
	41,000	18.0	(358.25) (358.25)	38.0	(378.52) (378.52)
	45,000	20.0	(360.28)	38.0	(378.52)
	,	20.0	(= = 5.20)	20.0	(2.0.02)
For Models FH-227C and FH-2					
Takeoff & landing (gear down)	26,000	25.8	(366.18)	35.0	(375.48)
	33,400	18.0	(358.25)	35.0	(375.48)
	41,000	18.0	(358.25)	35.0	(375.48)
	43,500	19.1	(359.38)	35.0	(375.48)

For Models FH-227C and FH-227E: (cont'd)

	Weight	Fv	Fwd.		ft
	(lb.)	% M.A.C.	Sta. (in.)	% M.A.C.	Sta. (in.)
Enroute (gear up)	26,000	25.8	(366.18)	38.0	(378.52)
	33,400	18.0	(358.25)	38.0	(378.52)
	41,000	18.0	(358.25)	38.0	(378.52)
	43,500	19.1	(359.38)	38.0	(378.52)

F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

Linear variation of forward C.G. limit between points shown. Gear retraction moment change is $\pm 27,000$ in.-lb.

FH-227:

Linear variation of forward C.G. limit between points shown. Gear retraction moment change is +29,000 in.-lb.

FH-227B, FH-227C, FH-227D, and FH-227E:

 $\label{limit} Linear\ variation\ of\ forward\ C.G.\ limit\ between\ points\ shown.$ Gear retraction moment change is +36,174 in.-lb.

Datum The datum location is variable. The airplane Weight and Balance report provides the

datum location for that particular airplane.

M.A.C. 101.4 in. (L.E. of M.A.C. +340.0)

Leveling means The leveling means are variable. The Airplane Weight and Balance report provides

means for that particular airplane.

Maximum weights For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

	, ,	1 2/b,1 2/1,1 2/G,1 2/6 and 1 2/M1.
Takeoff	36,225 lb.	
	36,500 lb.	when modified in accordance with Fairchild Service
		Bulletin 51-5.
	37,500 lb.	when modified in accordance with Fairchild
		Service Bulletin 51-6.
	38,500 lb.	when modified in accordance with Fairchild
		Service Bulletin 51-7.
	39,400 lb.	when modified in accordance with Fairchild ECP-233.
	40,500 lb.	when modified in accordance with Fairchild
		ECP-268 or Service Bulletin 51-13.
	42,000 lb.	when modified in accordance with Fairchild ECP-247.
Landing	34,000 lb.	
	34,500 lb.	when Dowty 9027, Y.4 main landing gear drag
		link attachment bolt incorporated.
	36,000 lb.	when modified in accordance with Fairchild
		Service Bulletin 51-5.
	36,700 lb.	when modified in accordance with Fairchild
		Service Bulletin 51-7.
	37,500 lb.	when modified in accordance with Fairchild ECP-233.
	38,500 lb.	when modified in accordance with Fairchild
		ECP-268 or Service Bulletin 51-13.
	40,000 lb.	when modified in accordance with Fairchild
		ECP-269 or Service Bulletin 51-15 or 51-16.
Zero Fuel,	34,000 lb.	
oil and	36,300 lb.	when modified in accordance with Fairchild Service
W/M fluid		Bulletin 51-7.

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Maximum weights (cont'd

For Models FH-227, FH-227B, FH-227C, FH-227D, and FH-227E:

Takeoff 43,500 lb.

45,500 lb. (FH-227B and FH-227D when modified per Fairchild

Service Bulletin FH-227-32-8).

Landing 43,000 lb.

45,000 lb. (FH-227B and FH-227D when modified per Fairchild

Service Bulletin FH-227-32-8).

Zero fuel, 39,000 lb.

oil and 41,000 lb. (FH-227B and FH-227D when modified per W/M fluid Fairchild Service Bulletin FH-227-32-8).

Minimum crew

2. (Pilot and copilot)

Maximum passengers

48). See Note 1 (d) regarding approved interior arrangements).

Maximum baggage

For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

		Capacity	Maximum Floor Loading
Compartment	Station	(lb.)	(#/ft. ²)
Fwd. Left	187-230	1200	150
Fwd. Right	154-230	2055	150
Fwd. Left	187-263(1)	2145	150
Fwd. Right	154-263(1)	3000	150
Fwd. Left	187-208	570	150
Fwd. Right	154-208	1444	150
Fwd. Right	136-208	1890	150
Fwd. Right	136-230	2494	150
Fwd. Left	205-230	705	150
Aft	600-681	790(2)	100

⁽¹⁾ Floor reinforcement required in accordance with Fairchild floor assembly Dwg. No. 27-313131, and installed per Fairchild Dwg. 27-310319.

For Model FH-227, FH-227B, FH-227C, FH-227D, and FH-227E: Serial Nos. 501-512

			Maximum Floor
		Capacity	Loading
Compartment	<u>Station</u>	(lb.)	<u>(#/ft.²)</u>
Fwd. Left (1)	187-230	1200	150
Fwd. Right (1)	154-230	2055	150
Aft	600-691	2200	100
Serial Nos. 513 and	l up		
Fwd. Left (1)	187-230	1200	150
	230-265	665	105
Fwd. Left (2)	187-265	1560	105
Fwd. Right (1)	154-230	2055	150
	230-265	689	105
Fwd. Right (2)	154-265	2150	105
Aft	600-691	2200	100

- Sum of Fwd. Left and Right compartments must not exceed 2200 lb (1)
- (2) Sum of Fwd. Left and Right compartments must not exceed 3554 lb

⁽²⁾ Maximum capacity for aircraft with heater, air cycle and vapor cycle systems installed. REmoval of vapor cycle system increases capacity to 850 lb.; removal of both the vapor cycle system and the heater increases limit to 1040 lb.

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Fuel capacity

For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

2 outboard tanks of 668 gal. usable fuel each or

2 outboard tanks (ECP 246/256) of 741.5 gal. usable fuel each.

2 inboard tanks (optional) of 182 gal. usable fuel each in accordance with Fairchild ECP-29, or 2 inboard tanks (optional) of 286 gal. usable fuel each in accordance with Fairchild ECP-234, or

2 inboard tanks (optional) of 428.5 gal. usable fuel each in accordance with Fairchild ECP-245/256.

2 collector tanks of 14 gal. usable fuel each.

See NOTE 1(b) for system fuel.

For Models FH-227, FH-227B, FH-227C, FH-227D, and FH-227E:

2 outboard tanks of 668 gal. usable fuel each. 2 collector tanks of 14 gal. usable fuel each.

See NOTE 1(e) for system fuel.

Water-Methanol capacity

For Models F-27, F-27A, F-27B, F-27F and F-27G:

80 gal. (total) in two nacelle tanks of 40 gal. each (467.0).

For Models F-27J and F-27M:

120 gal. (total) in two center section tanks of 60 gal. each (378.0)

For Models FH-227, FH-227B, FH-227C, FH-227D, and FH-227E:

Optional for Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M 146 gal. (total) in two center section tanks of 73 gal. each (378.0).

Oil capacity

8 gal. (total) in two engine tanks of 4 gal. each (267.5). See NOTE 1(c) for system oil.

Maximum approved operating altitude

25,000 ft.

Other operating limitations

The aircraft must be operated in accordance with the FAA Approved Airplane Flight Manual.

Control surface movements

Elevator	Up	25°	Down	22°
Elevator Trim Tab (left)	Up	12.5°	Down	32.5°
"tab trails 3 1/2° down when				
cockpit indicator reads zero."				
Rudder	Right	20°	Left	20°
Rudder (FH-227, FH-227B, FH-227C,				
FH-227D, and FH-227E)	Right	17.5°	Left	17.5°
Rudder Balance Tab	Right	6°	Left	6°
Rudder Trim Tab	Right	14°	Left	14°
Rudder Trim Tab (FH-227, FH-227B,				
FH-227C, FH-227D, and FH-227E)	Right	18°	Left	18°
Aileron (with spring tab neutral)	Up	33°	Down	22°
Aileron Spring Tab (inner)	Up	13°	Down	13°
Aileron Balance Tab (outer)	Up	11°	Down	16.5°
Aileron Trim Tab (right outer)	Up	15°	Down	15°
Flaps			Down	40°/26°

Serial Nos. eligible

For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M: 1 through 500.

For Models FH-227, FH-227C, and FH-227E: 501 and up.

For Models FH-227B and FH-227D: 513 and up.

Certification basis

For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

CAR 4 b dated December 31, 1953, including Amendment 4b-1, Amendment 4b-3 (Item 21 thru 33 plus Item 39), Amendment 4b-7 and Amendment 4b-8 (Item 17); Special Regulations SR-422 effective August 27, 1957; and F-27 Special Condition dated January 28, 1957, as amended.

Type Certificate No. 7A1 issued November 13, 1957; reissued to Fairchild July 16, 1958.

Date of Application for Type Certificate November 9, 1954.

Complies with the following optional requirements:

Ice Protection CAR 4b.640 Ditching CAR 4b.361

(F-27, F-27A, F-27F, F-27J, and F-27M eligible for ditching certification when modified in accordance with Fairchild Engineering Report No. R27-207 revised April 17, 1959, when incorporating 44 passenger interior arrangement per Dwg. 27-771164 and related drawings).

Airplane Flight Manual Supplements Required: F-27 (with MK-511-7E engines), Supplement I dated September 22, 1959 F-27 (with MK-514-7 engines), Supplement 19 dated February 18, 1963

For Models FH-227, FH-227B, FH-227C, FH-227D, and FH-227E:

CAR 4b dated December 31, 1953, including Amendment 4b-1, Amendment 4b-3, (Items 21 thru 33 plus Item 39), Amendment 4b-7 and Amendment 4b-8 (Item 17); Special Regulation SR-422B and SR-450A and F-27 Special Conditions dated January 28, 1957, as amended.

Complies with the following optional requirements:

Ice Protection CAR 4b.640

Production basis

Production Certificate No. 1.

Equipment

The basic equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification. In addition, the following items of equipment are required:

- (a) Stall warning system, Fairchild Dwgs. 27-710050/1, 27-721010, 27-740064 (Safe flight speed control indicator P/N C-30205, included in above Dwgs., is not required equipment).
- (b) FAA Approved Airplane Flight Manual
 - (1) Model F-27 and F-27B, dated July 18, 1958 reissued April 10, 1959. Supplement "0" (dated August 5, 1959) required for 36,500 lb. takeoff weight and 36,000 lb. landing weight. Supplement "T" (dated April 1, 1960) required for 37,500 lb. takeoff weight with Dart 511 engine installation. Supplements "T" (dated April 1, 1960), "AC" (dated December 9, 1960) and "AF" (dated November 9, 1961), required for 37,500 lb. takeoff weight with Dart 511-7E engine installation. Supplements "AC" (dated December 9, 1960), "AD" (dated February 20, 1961) and "AF" (dated November 9, 1961), required for 38,500 lb. takeoff, 36,700 lb. landing, and 36,300 lb. zero fuel weights with Dart 511-7E engine installation. 38,500 lb. takeoff, 36,700 lb. landing, and 36,300 lb. zero fuel weights not applicable to aircraft with Dart 511 engine installation.

- (2) Model F-27 and F-27B with MK-514-7 engines, dated February 18, 1963. Supplement No. 13 (Rev. 1, dated June 1, 1964) required for 39,400 lb. takeoff and 37,500 lb. landing gross weights. Supplement No. 22 (dated June 1, 1964) required for 40,500 lb. takeoff and 38,500 lb. landing gross weights. Supplement No. 24 (dated August 3, 1965) required for 40,000 lb. landing gross weight.
- (3) Model F-27A dated December 31, 1958 reissued June 14, 1962. supplement No. 13 (dated June 14, 1962) required for 39,400 lb. takeoff and 37,500 lb. landing gross weights. supplement No. 15 (dated November 7, 1962) required for 42,000 lb. takeoff gross weight. Supplement No. 17 (dated June 1, 1964) required for 40,500 lb. takeoff gross weight. Supplement No. 18 (dated June 1, 1964) required for 38,500 lb. landing gross weight. Supplement No. 21 (dated August 3, 1965) required for 40,000 lb. landing gross weight.
- (4) Model F-27F/F-27G dated February 24, 1961, reissued August 11, 1964. Supplement No. 13 (dated August 11, 1964) required for 39,400 lb. takeoff, 37,500 lb. landing gross weight. Supplement No. 17 (dated August 11, 1964) required for 40,500 lb. takeoff gross weight. Supplement No. 18 (dated August 11, 1964) required for 38,500 lb. landing gross weight. Supplement No. 19 (dated August 11, 1964) required for 42,000 lb. takeoff gross weight. Supplement No. 16 (dated August 11, 1964) required for F-27G model only for convertible passenger cargo version with large cargo door. Supplement No. 23 dated August 3, 1965 required for 40,000 lb. landing gross weight.
- (5) Model F-27J dated August 3, 1965.
- (6) Model FH-227 dated June 24, 1966.
- (7) Model FH-227B (Model FH-227 dated June 24, 1966 and Supplement No. 6 dated February 27, 1967) or FH-227B dated June 17, 1967.
- (8) Model FH-227C dated June 17, 1967.
- (9) Model FH-227D dated December 21, 1967.
- (10) Model FH-227E dated December 21, 1967.
- (11) Model F-27M dated June 12, 1969.

Service information

Service Bulletins and other service information when FAA approved will carry a statement to that effect.

NOTE 1.

- (a) Current weight and balance report, including list of equipment included in certificated empty weight, and loading instructions, when necessary, must be in each aircraft at the time of original certification and at all times thereafter (except in the case of operators having an approved weight control system).
- (b) System fuel, which must be included in the empty weight, is the amount of fuel required to fill both systems, including the cross-feed, up to the level of the boost pump inlets in the collector tanks (3.3 gal. total), plus the unusable fuel of the main tanks (12.1 gal. total). The total amount of "System Fuel" is as follows: 15.4 gal. total, 101 lb. (365).
- (c) System oil which must be included in empty weight, is the amount of oil normally trapped in the propellers, plus the amount normally trapped in the engines after oil drainage. The total amount of "System Oil" is as follows:

2.4 gal. (total) contained in engines, 19 lb. (282)

2.0 gal. (total) contained in propellers, 16 lb. (243)

- (d) Fairchild Engineering Reports "Weight and Balance Serial No. ____" contain interior arrangement, equipment list, weight and balance and loading schedule for each airplane.
- (e) System fuel, which must be included in the empty weight, is the amount of fuel required to fill both systems, including the cross-feed, up to the level of the boost pump inlets in the collector tanks (12.0 gal. total), plus the unusable fuel of the main tanks (12.1 gal. total). The total amount of the "System Fuel" is as follows:

24.1 gal. total,

161.1 lb. (370.9).

NOTE 2 The following placards must be displayed in the locations indicated:

For Models F-27, F-27A, F-27B, F-27F, F-27G, F-27J and F-27M:

- (a) Deleted June 13, 1960.
- (b) On the lavatory door (on aircraft with the emergency exit located in the lavatory):
 - (1) "This door must be open during take-off and landing"
 - (2) "Emergency exit inside"
- (c) On the forward face of the lavatory wall (on aircraft with the emergency exit located in the lavatory):
 "Emergency exit thru lavatory"
- (d) Deleted June 1, 1963.
- (e) On the forward side of the passenger compartment forward door:

"This Door Should be UNLOCKED for Take-off and Landing" (this applies to aircraft with life raft stored forward of door).

(f) In the immediate vicinity of swivel seats that do not have the proper back height (36 1/2 in.) in accordance with TSO C-39 4.1.1.2 and in full view of the passengers:

"This Seat Should Be in The Forward Facing Position During Take-off and Landing".

For Models FH-227, FH-227B, FH-227C, FH-227D, and FH-227E:

- (g) Deleted October 1, 1974
- (h) On the forward side of the aft passenger bulkhead on either side of the doorway with an appropriate arrow pointing down at approximately 45°:

"Fire Extinguisher"

(i) Adjacent to the curtain at the aft cargo door:

"This curtain must be held open during take-off and landing"

NOTE 3. Information essential to the proper maintenance of the aircraft is included in the Fairchild F-27 and FH-227 Maintenance Manual provided, with each aircraft.

Current retirement times, which are subject to change, are as follows:

Fuselage to Wing Fitting (27-313619) 40,000 hr.

Fin and Stabilizer Attachment

Brackets to Fuselage

27-213002 and 27-213003 40,000 hr.

Cabin Windows (Windows may be replaced on an "as condition basis")

Engine Mount Fittings 25,000 hr. (For Models FH-227, FH-227B, (P/N's: 27-503148-91, -92) FH-227C, FH-227D, and FH-227E)

27-503149-51, -52)

The repetitive inspections specified in Fairchild Service Bulletin No. FH-227-51-1 dated July 12, 1967, or later FAA approved revisions, and all FAA approved Supplements thereto, must be complied with.

.....END.....