TECHNICAL INSPECTION
AND
AIRCRAFT APPRAISAL

Wilson Aircraft Sales
Bakersfield, CA.

Aircraft Type: Fairchild Merlin IV C
Registration: N120JM
Serial #: AT-577B

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AIRCRAFT INSPECTION REPORT

Operator: Berry Aviation Date: January 25, 2006

Location: Aircraft and records currently at Berry Aviation

Aircraft Type: Fairchild Merlin IV C Serial #: AT-577B

Aircraft Model: SA227-AT Aircraft Registration: N120JM

Current Total Airframe Time: 6284.4

Maintenance Program: None; Special Airworthiness Required

Inspection Type and Interval: Factory A-D inspection Last Inspection: Last A-D inspection CW TAT 6284.4 2-9-04

Operator's Representative: Bud Wilson

Title: Owner

Inspection Completed By: Dave Dunham

Date of Completion: January 27, 2006

Inspection Type: Pre-purchase

Work Order Reference:

N120JM SN AT-577B was inspected and records audited at the Berry Aviation facility in San Marcos, TX. for pre-purchase, an abbreviated records audit was accomplished based on the computer run provided with the records in December of 2005. This audit was accomplished to verify records and inspect the aircraft.

Currently the aircraft is painted a light tan color with maroon and red stripes running the length of the aircraft. Wings have been painted as well as the horizontal stabilizer. At present the aircraft paint is in good condition, minor paint touch up may be required for the next operator but in general the paint is in good condition.

The interior has been removed and numerous modifications have been accomplished with this aircraft. It was formerly used as a surveillance plane of some sort, two camera pods were built in to the floor of plane, SAT Comms were installed and various other electronic equipment has been installed. A large portion of the avionics has been installed in cabinets along the aft end of the RH interior and into the aft cargo bay. At the passenger entrance there is cabinet installed on the RH side which housed other electronic equipment. Most of this wiring and cabinet work is not going to be of any use to a general cargo carrier so I would recommend all of the wiring for this special equipment be removed since this would effect the weight of the aircraft by a considerable amount.

The avionics installed is primarily Collins equipment, there is Sperry C14 flight director on the Captains side, and a standard HSI on the copilot side, dual TDR 90 transponders, dual DME's one a 42 and one a 40 located in the aft of the cabin. At present there is no radar for the plane, the plane had a special radome installed for surveillance radar so a standard radome will need to be installed. The inverters have been relocated to the aft of the cabin and are fitted with non standard inverters.

There is no CVR installed, no TCAS, no EGPWS, no FDR, it has a nonstandard ELT.

If the aircraft is going in to a cargo configuration the camera pods could remain as they are and just cover the floor and put the cargo liner in and go on, I do not believe this will affect the weight enough to warrant any further work unless there is a pressurization problem of some sort.

The aircraft was modified to 16000 MGTOW per FAC ECP437 and Drawing 27-13908, an FAA form 337 dated 4-9-85 is in the records showing the work accomplished.

In May of 1985 -11 engines SN 44158 and 44272 were installed, 44158 had 448.0 hours and installed on the LH side, engine 44272 had 10.7 hours and was installed on the RH side.

Aircraft cycles were not calculated in the original airframe logbook, an Excel sheet was produced to calculate the cycles as it sets in San Marcos, this cycle count is based on the flight logs provided in the records. Note that there are several instances where the operator was doing single engine turns in order to get a cycle count for the airframe the greater number was used.

At present the aircraft is being operated under a Special Airworthiness Certificate, in the restricted category. This aircraft has been modified with camera pods in the floor and other surveillance equipment that will be removed. The aircraft will require the records to be audited and the aircraft to be inspected and make the necessary changes to put the aircraft in to a Standard Airworthiness category.

Records appear to all be there but need to be organized. A cardex of some sort would be the best thing to do so you can locate the life limited cards and tasks that are tracked. The airframe cycles were not tracked in the logbooks, an Excel sheet is provided with this report that shows the cycle count on a daily bases and gives a final cycle count as it sets in San Marcos, TX.

Addendum 2 of this report has a listing of discrepancies that need to be addressed.

As an overall view of the aircraft I would say it is in good condition, there is a considerable amount of work to be done to the plane with the removal of all of the equipment and wiring that has been installed. With the removal of all of this equipment there will be a considerable weight change that will also help the aircraft, I my opinion this will be a very good freight aircraft.

TECHNICAL DATA

Aircraft Type: Fairchild Merlin IV C Effective Date: January 25, 2006

Serial #: AT-577B

Date of Manufacture: November, 1983

Aircraft Total Time: 6284.4

Aircraft Total Cycles: 2958

Hours Since Major Inspection/Overhaul: Last A-D inspection CW TAT 6284.4 2-9-04

ENGINE DATA

LEFT HAND ENGINE:		Limits	
Type: TPE331-11U-611G	**Serial #: P44158C**	Oprtrs /	Mfrs
TSN: 4911.9	TCSN: 3632		
TSO: 1339.3	TCSO: 2153	3600 hrs	3600hrs
Time Since CAM Inspection: NA		NA	N/A
Time Since Hot Section Inspection: 1339.3		1800 hrs	1800hrs
Time Since Gearbox Inspection: 1339.3		1800 hrs	1800hrs

RIGHT HAND ENGINE:		Limits	
Type: TPE331-11U-611G	**Serial #: P44272**	Oprtrs /	Mfrs
TSN: 5609.0	TCSN: 2555		
TSO: 1945.3	TCSO: 996	5000 hrs	5000hrs
Time Since CAM Inspection: NA		NA	N/A
Time Since Hot Section Inspection: 1945.3		2500 hrs	2500 hrs
Time Since Gearbox Inspection: 1945.3		2500 hrs	2500 hrs

Notes: In both log books the stickers refer to TT this is not TET it is TSO.

ENGINE LIFE LIMITED PARTS REPORT

Aircraft Registration No.: N120JM

LH ENGINE S/N#: P44158C	**Part No.**	**S/N**	**CSN/TSN**	**Remaining**	**Limit**
1st Stage Turbine Wheel	3101603-12	10023	3632 cyc	16368 cyc	20000cyc
2nd Stage Turbine Wheel	3102106-9	371	2153 cyc	12847 cyc	15000cyc
3rd Stage Turbine Wheel	3102655-2	6599	2153 cyc	3847 cyc	6000cyc
Seal Plate	3102484-1	5846	3632 cyc	16368 cyc	20000cyc
Compressor Bearing	3103708-1	271	1339.3 hrs	7660.7 hrs	9000 hrs.
1st Stg. Compressor Impeller	869223-3	2176	3632 cyc	26368 cyc	30000cyc

RH ENGINE S/N#: P44272	**Part No.**	**Serial No.**	**CSN/TSN**	**Remaining**	**Limit**
1st Stage Turbine Wheel	3108164-2	2123	2555 cyc	17445 cyc	20000cyc
2nd Stage Turbine Wheel	3102106-9	2710	996 cyc	14004 cyc	15000cyc
3rd Stage Turbine Wheel	3102655-2	1127	996 cyc	5004 cyc	6000cyc
Seal Plate	3102484-1	3099	2492 cyc	17508 cyc	20000cyc
Compressor Bearing	3103708-1	321	1945.3 hrs	7054.7 hrs	9000 hrs.
1st Stg. Compressor Impeller	3107110-2	6610	2555 cyc	27445 cyc	30000cyc

Notes:

Propellers:

Model: Dowty R321/4-82-F/8

Left Serial #: DRI/DRG/557/82

TSN: UNK TSO: 245.0 Limit: 5000hrs

Overhaul Date: 3-20-01 Limit: 5yrs

Right Serial #: DRI/DRG/313/86

TSN: 3510.5 TSO: 1206.9 Limit: 5000hrs

Overhaul Date: 2-18-97 Limit: 5yrs

Aircraft Total Time: 6284.4
Aircraft Total Cycles: 2958
Effective Date: January 27, 2006

AIRFRAME AIRWORTHINESS LIMITATIONS

Aircraft Type: Fairchild Merlin IV C Registration: N120JM Serial #: AT-577B

All "due" times are referenced to aircraft total time and total cycles

Item	S/N	Position	Life	Last Done	Next Due
Chapter 5 Time Limits/Maintenance Checks					
Weight & Balance	577	N/A	3 yrs	5-2-03	5-2-05
Chapter 11 Placards and Markings					
Emergency Phosphorescent Signs, Inspect Minimum Brightness	577	N/A	12 MO	UNK	UNK
Chapter 21 Air Conditioning					
Cooling Turbine PN 204755-4-6 Service	577	N/A	200 hrs.	6267.8	6467.8
Vapor Cycle Condenser PN P/N P15D6573 Brush Inspection	NA	N/A	250 op hrs.	NA	NA
Power Motor Brush Inspection (PN P15D6573)	NA	N/A	250 hrs..	NA	NA
Power Motor Overhaul (PN SZ84 Series)	NA	N/A	750 hrs..	NA	NA
Chapter 23 Communication					
CVR Overhaul Fairchild 93-A100	NA	N/A	8000 hrs	NOT INSTALLED	___
B&D CVR P/N 89090 Audio System Check	NA	N/A	1 yr.	NA	NA

Chapter 23 (cont'd.)	S/N	Position	Life	Last Done	Next Due
B&D CVR P/N 89090 Replace Tape	NA	N/A	1500 hrs.	NA	NA
CVR Underwater Beacon DK100 Inspect	NA	N/A	6 mo.	NOT INSTALLED	___
CVR Underwater Beacon DK100 Clean and Test	NA	N/A	2 yrs.	NOT INSTALLED	___
CVR Underwater Beacon DK100 Replace Battery	NA	N/A	6 yrs.	NOT INSTALLED	___
ELT Battery	42542	N/A	3 yrs.	9-2005	9-2008
Chapter 24 Electrical Power					
Starter/Generator Overhaul	2864	Left	1000 hrs	6234.9	7234.9
Starter/Generator Overhaul	2331	Right	1000 hrs	5490.6	6490.6
Nicad Battery	104776	Left	600 hrs.	CW 12-16-05 TAT 6284.4	
Nicad Battery	104269	Right	600 hrs.	CW 12-16-05 TAT 6284.4	
Chapter 25 Equipment					
Life Preserver Inspect	NA	N/A	Per Manu.	NA	NA
ELT Battery (Recertify)	42542	N/A	1 yr	4-8-03	PAST DUE

Chapter 26 Fire Protection

	S/N	Position	Life	Last Done	Next Due
Engine Fire Ext. (Hydrostat)	09941B1	Left	5 yrs 14 yrs	4-8-03 UNK	4-8-08 UNK
Engine Fire Ext. (Hydrostat)	22898B1	Right	5 yrs 14 yrs	4-8-03 UNK	4-8-08 UNK
Cartridge PN 13083-5	05668	Left	10 years	4-8-03	4-8-07
Cartridge PN 30600-22	05776	Right	10 years	4-8-03	4-8-07
Portable Fire Ext. (Reweigh) (Recharge) (Hydrostat)	A591994	Cockpit	6 mth 6 yrs 12 yrs	PAST DUE PAST DUE 1998	PAST DUE PAST DUE 2010
Portable Fire Ext. (Reweigh) (Recharge) (Hydrostat)	A592068	Cabin	6 mth 6 yrs 12 yrs	PAST DUE 2002 2002	PAST DUE 2008 2010

Chapter 27 Flight Controls

Pitch Trim Actuator (All except DL5040M8 & 27-19008-006/007) (Inspect)	NA	N/A	300 hrs.	NA	NA
Pitch Trim Actuator PN DL5040M8	NA	N/A	Initial 7500 hr Repeat 600 hr	NA	NA
Pitch Trim Actuator (All models) (Travel Check)	M0303	N/A	400 hrs	6267.8	6667.8
Pitch Trim Actuator PN DL5040M2-4 Overhaul	M0303	N/A	2000 hrs	5850.7	7850.7
Pitch Trim Actuator PN DL5040M2-4 (Freeplay Inspection)	M0303	N/A	300 hrs	UNK	UNK

Chapter 27 Cont.	S/N	Position	Life	Last Done	Next Due
Rudder Cable Bolt and Bushing	577	N/A	5000 hrs	4777.0	9777.0
Control Column Bearing (CF-5/8S, CRS-10-1, or MS21440-102) (Replace)	577	N/A	10000 hrs	0	10000
Flight Control Cables (Replace) (Inspect)	577	N/A	10000 hrs 400 hrs	0	10000
Elevator Down Spring PN 27-44045-005 (Inspect)	577	N/A	300 hrs or C/W SB227-27-002	UNK	UNK
Elevator Down Spring PN 27-44045-005 (Functional Check)	577	N/A	2250 hrs	UNK	UNK
Stall Avoidance System Pusher Servo (Functional Check)	577	N/A	500 hrs	5850.7	6350.7
Stall Avoidance System (Visual Inspection)	577	N/A	250 hrs	6234.9	6484.9
(Recalibrate)			2000 hrs	5403.1	7403.1
Chapter 29 Hydraulic Power					
Hydraulic Power Pack P/N 27-81009-015 Overhaul	864	N/A	15000 hrs	0	15000
Gear Selector Valve P/N 24600-6 Replace	UNK	N/A	7500 hrs	0	7500
Chapter 31 Recording (Note: not required by FAC MM Ch. 5)					
Flight Data Recorder Fairchild F800 per Manu.	NA	N/A	8000 hrs	NOT INSTALLED	___
FDR ULB Replace Battery	NA	N/A	6 years	NOT INSTALLED	___

Chapter 32 Landing Gear					
Main Gear Strut P/N 5453001-1 and -3 Inspect per SB 227-32-022	577	L/H R/H NLG	800 hrs.	UNK	UNK
Main Gear Yoke PN OAS5453 (up to -19) Inspect (ultrasonic)	577	L/H R/H	2500 hrs or 12 months	PAST DUE BY CAL	PAST DUE BY CAL
Nose Gear Yoke PN OAS5451 (up to -17) Inspect (ultrasonic)	577	NLG	2500 hrs or 12 months	PAST DUE BY CAL	PAST DUE BY CAL
Chapter 34 Navigation					
Compass Swing Func. Ck.	577	N/A	2 years	4-21-03	PAST DUE
Altimeters (Test)	4470	L/H	2 years	12-16-05	12-16-07
Altimeter (Test)	130210	R/H	2 years	12-16-05	12-16-07
Pitot/Static	577	N/A	2 years	12-16-05	12-16-07
Transponder (Test)	4220	L/H	2 years	12-16-05	12-16-07
Transponder (Test)	21136	R/H	2 years	12-16-05	12-16-07
Air Data Computer (Test)	577	N/A	2 years	PAST DUE	PAST DUE
Chapter 35 Oxygen					
O^2 Bottle (Hydrostatic) 64 Cubic Feet	732812	N/A	3 years	8-2001	PAST DUE
O^2 Bottle (Life) P/N: N/A	732812	N/A	N/A	UNK	UNK

	S/N	Position	Life	Last Done	Next Due
Chapter 52 Doors					
Passenger Door Latch SA227-AC	577	Upper	10000 hrs	5850.7	15850.7
Cargo Door Latches SA227-AC	577	Lwr Fwd Lwr Aft	10000 hrs 10000 hrs	5850.7 5850.7	15850.7 15850.7
Acrylic Windows All (Inspect)	577	N/A	12 months Or 1000 hrs	PAST DUE BY CAL	PAST DUE BY CAL
Cockpit side window (single pane only) Replace	577	L/H R/H	5000 hrs	PAST DUE BY CAL	PAST DUE BY CAL
Chapter 61 Propellers					
Propeller (Dowty/Rotol)	557/82	Left	5000hrs 5 yrs.	6039.4 7-24-01	11039.4 7-24-06
Propeller (Dowty/Rotol)	313/86	Right	5000hrs 5 yrs.	5850.7 1-19-01	10850.7 1-19-06
Prop Pitch Control	P-4506	Left	3600 hrs	5208.0	8808.0
Prop Pitch Control	P-3487	Right	5000 hrs	4339.1	9339.1
Prop Governor	1806437	Left	3600 hrs	4945.1	8545.1
Prop Governor	2129593	Right	5000 hrs	4339.1	9339.1
Chapter 72 Engines					
Tach Generator (lube)	UNK	Left	400 hrs	UNK	UNK
Tach Generator (lube)	NA	Right	400 hrs	NA	NA
S.O.A.P.	44158	Left	100 hrs	DUE	DUE
S.O.A.P.	44272	Right	100 hrs	DUE	DUE
Oil Change	44158	Left	900 hrs	5850.7	6750.7
Oil Change	44272	Right	900 hrs	6026.7	6926.7

Chapter 72 (cont'd.)	S/N	Position	Life	Last Done	Next Due
Fuel Nozzles	44158	Left	400 hrs	6150.0	6550.0
Fuel Nozzles	44272	Right	400 hrs	6026.7	6426.7
Engine (Overhaul)	44158	Left	3600 hrs	4945.1	8545.1
Engine (Overhaul)	44272	Right	5000 hrs	4339.1	9339.1
Hot Section Inspection	44158	Left	1800 hrs	4945.3	6745.3
Hot Section Inspection	44272	Right	2500 hrs	6026.7	8526.7
Gear Box Inspection	44158	Left	1800 hrs	4945.1	6745.1
Gear Box Inspection	44272	Right	Not Required	NA	NA
Chapter 73 Fuel Control					
Fuel Control	2173635	Left	3600 hrs	4945.1	8545.1
Fuel Control	1710997	Right	5000 hrs	4339.1	9339.1
Fuel Pump	P-1340C	Left	3600 hrs	4945.1	8545.1
Fuel Pump	P-1118	Right	5000 hrs	4339.1	9339.1
Fuel Bypass Valve	1837	Left	3600 hrs	4945.1	8545.1
Fuel Bypass Valve	2870	Right	5000 hrs	4339.1	9339.1
Fuel Shutoff Valve	P-2944	Left	3600 hrs	4945.1	8545.1
Fuel Shutoff Valve	P-8145	Right	5000 hrs	4339.1	9339.1
Chapter 78 Exhaust					
Exhaust Duct and Gasket 27-62080-023, -025, -041 Replace (TPE331-12 only)	NA	Left Right	2500 hrs	NA	NA

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
1-1	Page 3, Fig 1-1; Lower side frame of door, fore and aft, near bayonet pins, check frames for cracks. (3500 hour interval applies to S/N 481 and up, only)	1900 3500	1000 1000	NA 5403.1	NA 6403.1
1-1	Page 3, Fig 1-1; Lower side frame of door, fore and aft, near bayonet pins, check frames for cracks. Metro 23 only.	3500	1000	NA	NA
1-2	Page 3, Fig 1-2; Upper fore and aft corners of door skin, along hinge attachment, check for cracks at rivets	15000	2000	0	15000
1-3	Page 3, Fig 1-3; Lower aft corner of outer skin, check for cracks at rivets	9500	1000	0	9500
1-4	Page 3, Fig 1-4; Cargo door lower latch assembly retirement (note: applies to latch jaws only, P/N 114507-1)	3000 for SA227AT 10000 for SA227AC,BC,DC		UNK NA	UNK NA
1-5	Page 4 thru 8, Fig 1-5; Inspection to assure full extension of click-clacks and check of cargo door warning system.	1200	1200	5403.1	6603.1
2-1	Page 13, Fig 2-1; Lower corners of door frame where bayonet pins insert, check faceplate and backplates for elongation.	23000	2000	0	23000
2-1	Page 13, Fig 2-1; Check for cracks around screws attaching faceplates and receptacles.	6500	2000	0	6500
2-1	Page 13, Fig 2-1; Check under faceplates for warping or other damage to door sill.	23000	2000	0	23000
2-2	Page 13, Fig 2-2; Check for cracks in door sill around both lower latch faceplates.	6500	1000	0	6500

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
2-2	Page 13, Fig 2-2; Check for damaged or cracked faceplates.	23000	1000	0	23000
2-2	Page 13, Fig 2-2; Check for broken screws securing faceplates.	6500	1000	0	6500
3-1	Page 17, Fig 3-1; Upper forward door corner near bayonet pin, check for cracks.	13000	1000	0	13000
3-2	Page 17, Fig 3-2; Hinge area on door and fuselage, check for broken hinge segments.	17000	1000	0	17000
3-3	Page 17, Fig 3-3; Upper aft corner of door frame on fuselage, check for cracks.	10000	2000	0	10000
3-4	Page 17, Fig 3-4; Outer skin at upper aft door frame, check for cracks in skin.	10000	2000	0	10000
3-5	Page 17, Fig 3-5; Upper forward corner of door frame on fuselage, check for cracks.	10000	2000	0	10000
3-6	Page 17, Fig 3-6; Inside cabin door, lower aft corner at floor level, check for crack in frame.	20000	3000	0	20000
3-7	Page 17, Fig 3-7; Outer skin and inner flange of sill where notched for fuselage frames, check for cracks. (Effective for S/N 607 and up. Terminated by SB 227-53-004)	8000	2000	NA BY SN	NA BY SN
3-8	Page 17, Fig 3-8; Cabin door latch assembly jaw retirement. (N/A to S/N 602, 607 and up) N/A to SA227-DC.	3000 for SA227AT & TT 10000 for SA227AC & BC		5850.7 NA	8850.7 NA
4-1	Page 21, Fig 4-1; Inside cabin, on left and right side along stringer #8 at frame, check for cracks in frame.	17500	3000	0	17500

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
4-2	Page 21, Fig 4-2; Inside cabin, on left and right side along stringer #8 at frame, check for cracks in clip.	17500	3000	0	17500
4-3	Page 21, Fig 4-3; Inside cabin, on left and right between stringers #8 and #6, check for crack in frame.	26000	3000	0	26000
4-4	Page 21, Fig 4-4; Inside cabin, overhead on left side, check for cracks in frame.	23000	3000	0	23000
4-5	Outside cabin, upper left and right outboard corners of windshield retainer trim plate, check for crack in trim plate. Metro 23 only.	25000	3000	0	23000
4-6	Inside cabin, left and right side below center windshield, check for crack in frame. Metro 23 only.	25000	1000	0	23000
4-7	Inside cabin, upper left and right flange radius of forward bulkhead at frame, check for crack in radius. Metro 23 only	25000	1000	0	23000
5-1	Page 25, Fig 5-1; Outside cabin, upper outboard corner of windshield retainer trim plate, check for crack in trim plate.	25000	3000	0	25000
5-2	Page 25, Fig 5-2; Inside cabin, right side below right center windshield, check for crack in frame	25000	1000	0	25000

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
5-3	Page 25, Fig 5-3; Inside cabin, upper flange radius of forward bulkhead at frame, check for crack in radius.	25000	1000	0	25000
6-1	Page 31, Fig 6-1; Outside aircraft, check all windows and escape hatches for cracks in skin around windows.	23000	3000	0	23000
6-2	Page 31, Fig 6-2; Outside aircraft, on fuselage near lower forward corner of door (STA 435) check for cracks in skin.	23000	3000	0	23000
6-3	Page 31, Fig 6-3; Outside aircraft, below cargo door (STA435-493) check for failed rivets along entire area on fuselage below door (stringer #12). (AT, AC & BC only)	10000	1000	0	10000
6-4	Page 31, Fig 6-4; Inside aircraft, between STA 287 and wing front spar, check intercostal for cracks.	6500	1000	0	6500
6-5	Page 31, Fig 6-5; Inside aircraft, on left side between STA 347 and 362 and stringer 2 and 3, check cargo tie intercostal for cracks at rivets. (AC, AT & BC only)	23000	3000	0	23000
6-6	Page 31, Fig 6-6; Inside tailcone, left and right side of bulkhead at STA 565, check for cracks in bulkhead.	6500	2500	0	6500
7	Page 39, Fig 7; Horizontal tail retirement life.	35000	35000	0	35000
7-1	Page 39, Fig 7-1; Below cargo floor, check for cracks in forward or aft side of frame at STA 474, lower aft receptacle.	6500 (1) 17000 (2) 17000 (3)	1000 1000 1000	N/A N/A 0	N/A N/A 17000

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
7-2	Page 39, Fig 7-2; Below cargo floor, check for cracks in forward or aft side of frame at STA 473, lower fwd receptacle.	6500 (1) 17000 (2) 17000 (3)	1000 1000 1000	N/A N/A 0	N/A N/A 17000
7-3	Page 39, Fig 7-3; Below cargo floor, check for cracks in forward or aft side of frame at STA 473, lower aft receptacle.	6500 (1) 17000 (2) 17000 (3)	1000 1000 1000	N/A N/A 0	N/A N/A 17000
7-4	Page 39, Fig 7-4; Below cargo floor, check for cracks in forward or aft side of frame at STA 454, lower forward receptacle.	6500 (1) 17000 (2) 17000 (3)	1000 1000 1000	N/A N/A 0	N/A N/A 17000
	(1) Aircraft Serial Numbers: 398-478 except 457 and 470. (2) Aircraft Serial Numbers: 398-478 except 457 and 470, and AT423-469, which have complied with SB 227-53-003. (3) Aircraft Serial Numbers: 457, 470 and subsequent.				
7-5	Page 39, Fig 7-5; Below cargo floor, check for cracks in frame at STA 491.	17000	1000	0	17000
7-6	Page 39, Fig 7-6; Below cargo floor, check for cracks in frame at STA 438.	17000	1000	0	17000
8	Page 43, Fig 8; Horizontal tail retirement life.	35000	N/A	0	35000
8-1	Page 43, Fig 8-1; On left and right stabilizer along rib, aft of front spar, check for cracks in rib where rib narrows to mate with spar.	30000	3000	0	30000
8-2	Page 43, Fig 8-2; On left and right stabilizer along rib (STA 3.135), aft of front spar, check for cracks in gusset.	30000	3000	0	30000
8-3	Page 43, Fig 8-3; At aft spar, check for cracks or break in 27-43057 rib splice straps upper and lower.	30000	2000	0	30000

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
8-4	Page 43, Fig 8-4; At stringer rib-joint, check for cracked rib flange by pressing on rib and stringer separately.	10000	2000	0	10000
9-1	Page 49, Fig 9-1; Vertical tail retirement life.	35000	N/A	0	35000
9-2	Page 49, Fig 9-2; Elevator down spring assembly. Check for wear and broken cable wires.	5000	5000	4777.0	9777.0
10-1	Page 49, Fig 10-1; Wing main spar, fore, aft and center webs. Check all three spar webs for cracks at stringer pass through holes in spar webs. To check the center web for cracks, remove sealant from around the stringer pass through holes and use a borescope.	10600	2000	0	10600
10-2	Page 49, Fig 10-2; Outer belly skin between main and rear spars at WS 27.103, check for crack running fore and aft, both left and right side. (No inspection required S/N 591 and up)	14000	2000	0	14000
10-2	Page 49, Fig 10-2; Stringers along wing center section, inside belly, check both ends of stringer for cracks.	25000	1000	0	25000
10-2	Page 49, Fig 10-2; Outer belly skin near spar, check for cracks around landing light and intersecting frame at WS 27.103, left and right side. (TT models only)	14000	2000	NA BY MODEL	NA BY MODEL
10-3	Page 49, Fig 10-3; Angle at rear spar, WS 27.103, check for crack in spar angle, left and right wing.	29000	2000	0	29000

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
10-4	Page 52, Fig 10-4; At rear spar and WS 27.063, rib web, adjacent to wing center section, check for crack on ribs, both left and right wing.	29000	2000	0	29000
10-5	Page 52, Fig 10-5; Aft of rear spar, outboard of nacelle, lower skin cut-out for hydraulic lines, check for cracks in skins, left and right wings.	19000	3000	0	19000
10-6	Page 52, Fig 10-7; Eddy current inspect lower front spar cap at BL 9.0. The three aluminum parts of the cap are the critical elements. (Applies equally to 14,500 and 16,000 lbs. MTOW aircraft)	25000	5000	0	25000
11-1	Page 63, Fig 11-1; Main landing gear 5453001-1 strut housing at top of drag brace boss.	4000	800 (1) 50 (2)	N/A N/A	N/A N/A
	Page 63, Fig 11-1; Main landing gear 5453001-3 strut housing at top of drag brace boss.	10000	800 (1) 50 (2)	0 N/A	10000 N/A

(1) Reinspect at 800 flight hours if no cracks are found.
(2) Reinspect at 50 flight hours if discovered cracks are reworked as per SB 227-32-022.

Fig & Item	Description	Initial Inspection (hrs)	Reinsp (hrs)	Last Done (hrs)	Due Next (hrs)
12-1	Page 65, Fig 12-1; All elevator, rudder, aileron, and aileron to rudder interconnect cables; including cables that are routed inside the control column. (ref AD 87-02-02)	10000 (1)	400 (1)	0	10000
	(1) If cables are replaced prior to 10,150 hrs, the repetitive inspections are not required.				
13-1	Page 67, Fig 13-1; All cabin and cockpit external single pane acrylic transparencies.	2500 12 mths	1000 12 mths	6267.8 PAST DUE	7267.8 PAST DUE
14-1	Page 69, Fig 14-1; SAS indicator, SAS Interface Assembly, SAS Computer, SAS Servo Idle Control, SAS Flap Compensator, AOA Transmitter, Airspeed Switch, Pusher Servo / Pusher Motor and Pusher Capstan. (ref AD 85-22-06)	250	250	6234.9	6484.9
14-2	Page 69, Fig 14-2; Pusher Servo / Motor, Pusher Capstan, SAS System.	500 (1)	500 (1)	5850.7	6350.7
14-3	Page 69, Fig 14-3; SAS Computer, AOA Transmitter, SAS Flap Compensator, SAS System.	2000 (1,2)	2000 (1,2)	5403.7	7403.7
15-1	Inspect for cracks and/or Bulges of LH, RH, Inbd and Outbd Keelson Web Skin at Nacelle Station (N.S.) 141.69. Inspect opposite side of shaded area, through existing Nacelle Accesss Panels of LH, RH, Inbd and Outbd Nacelle Skins, 4 places total, each Nacelle. (1) and (3)	5000	2000	UNK	UNK

(1) Accomplish per SB 227-27-006 para, 2.b, all serial numbers
(2) Accomplish per SB 227-27-006 para. 2.c, for calibrations using AEC2000-1 or 32-82032-01; or para. 2.d for calibrations using TS27-0; applicable to all serial numbers.

AIRWORTHINESS DIRECTIVES

Aircraft Registration: N120JM Aircraft Serial #: AT-577B

Non-Recurring Airframe

A.D. #	Subject	Last Accomplished
82-05-05 R1	To prevent propeller ice accumulation and potentially hazardous severe aircraft vibration, Install a temporary placard of 1/4-inch minimum lettering which states "NOT APPROVED FOR FLIGHT IN ICING" in front of and in clear view of the pilot and operate the airplane in accordance with this placard.	NA BY SN
83-15-09	Required as indicated unless already accomplished, modify the nose wheel steering systems of the affected aircraft to assure reliable operation of the steering system in accordance with Fairchild Service Bulletin SB 32-006.	CW 32-006 11-30-83 TAT 3.6
86-10-08	To prevent the elevator gust lock from engaging in flight, remove the elevator gust lock system components and install the alternate elevator gust lock and associated hardware in accordance with the instructions in Fairchild Aircraft Corporation Service Bulletin 227-27-016.	CW 6-30-86 TAT 671.5 VERIFIED CW 4-23-98
86-25-04	To prevent engine flameout when in or departing an icing environment, Revise the airplane Pilot's Operating Handbook and Airplane Flight Manual (POH/AFM) by inserting Appendix 1 of this AD in the "LIMITATIONS" section of the POH/AFM.	SUPERSEDED BY AD 2002-01-16
90-03-19 R1	To prevent an inadvertent de-energized battery bus relay, Modify the electrical system in accordance with Fairchild Service Bulletin SA227-24-013.	CW 2-9-04 TAT 6284.4

90-05-06 R1	To prevent the main landing gear doors from jamming against the nacelle skin and preventing the extension of the landing gear, inspect (and modify) in accordance with Service Bulletin SA227-32-027.	CW 7-27-90 TAT 1556.8
90-14-01	To prevent rapid cabin decompression due to window breakage, modify cabin window at FS181 IAW SB 227-56-004. (Add double-pane window.)	NA BY WINDOW NOT INSTALLED
90-24-03	To prevent aerodynamic vibration and possible loss of control, inspect rudder trim tab for wear IAW Service Note 227-SN-074.	CW 4-8-91 TAT 1730.0
92-01-02	To prevent brake system malfunctions, modify park brake valve in accordance with SB 227-32-017.	CW 3-26-92 TAT 2011.4
92-18-07	To prevent loss of control of aircraft, modify power lever flight idle detent arms IAW SB 227-76-002.(supersedes 91-23-04)	CW 9-11-92 TAT 2011.4
93-08-09	To prevent loss of directional control of the airplane during takeoff or landing caused by nose wheel steering malfunctions, place a copy of this AD into the Limitations Section of the Airplane Flight Manual (AFM).	CW 12-21-93 TAT 2704.3
95-17-09 R1	To prevent failure of the electrical system when engine failure results in a blown generator current limiter, relocate essential bus current limiters to the battery bus IAW SB 227-24-015 or SB CC7-24-002 as applicable.	CW 3-8-96 TAT 4777.0
95-24-11	To prevent airplane flight control jamming caused by objects falling through cockpit floor openings, install FOD barriers IAW SB227-53-005, or SBCC7-53-002.	CW 3-8-96 TAT 4777.0
96-03-03	To prevent loss of control due to disconnection of power control cable, replace attach nuts with safetied type IAW SB227-76-004, or SBCC7-76-001.	CW 3-8-96 TAT 4777.0

96-09-16	To minimize the potential hazards associated with operating the airplane in severe icing conditions, revise the FAA-approved Airplane Flight Manual in accordance with instructions in A.D.	CW 6-20-96 TAT 4266.1
97-02-02	To prevent loss of control, inspect control column pitch bearing attaching nuts IAW SB227-27-041, or CC7-27-010.	CW 4-11-97 TAT 4777.0
97-10-13	To prevent failure of the flight control system caused by a corroded elevator torque tube, Inspect the elevator torque tube IAW SB227-27-028.	NA BY PN INSTALLED
97-11-13	To prevent failure of both generators during critical phases of flight (such as night operation or while in icing conditions),	
	(a) For Models SA227-TT, s/ns TT421-TT541, SA227-AT, s/ns AT423-AT631, and SA227-AC, s/n AC406, AC415, AC416, and AC420-AC683, replace the existing generator fault transformer wiring with new dual conductor shielded wire IAW SB 227-24-008.	DUE TAT 7061.8
	(b) For Models SA227-TT, s/lns TT421-TT541; Sa227-AT, s/ns AT423-AT591, and SA227-AC s/ns AC420-AC594, Rewire the electrical power generation system reduce the possibility of 325-amp current limiter failure IAW SB 227-24-005.	DUE TAT 7061.8
	(c) For Models SA227-TT, s/ns TT421-TT541, SA227-AT, s/ns AT423-AT695, and SA227-AC s/ns AC406, AC415, AC416, AC420-AC556, AC558-AC705, and AC707-AC733, modify the direct current generator control system so that it will operate off its respective generator output IAW SB 227-24-012.	DUE TAT 7061.8
	Required 2000 hours from July 11, 1997 (eff. Date)	

98-19-15 R1	To lessen the severity of airplane severity pitch up caused by mechanical failure of the pitch trim actuator, Barber Colman P/N 27-19008-001/-004 or P/N 27-19008-002/-005; revise the AFM by incorporating AD into the Limitations section of the AFM.	NA BY PN ACTUATOR
2000-06-04	To activate the pneumatic wing and tail deicing boots at the first signs of ice accumulations. Enter copy of AD as AFM supplement within 10 days. Eff. Date: May 5, 2000	CW 8-17-2000 TAT 5709.5
2002-01-16	For ignition procedures in icing conditions. (a) Incorporate either Appendix 1 or Appendix 2 of AD into Limitations Section of AFM (b) Incorporate the kit IAW Service Bulletin, 227-74-003, or 227-74-001, as applicable. (c) Removed AFM supplement from (1) after accomplishment of mod. Supersedes AD 86-24-11 and 86-25-04. Effective Date: March 11, 2002	CW 4-15-2002 TAT 6267.8 CW TERM ACT 6-23-2003 TAT 6277.1
2002-08-02	To prevent potential brake shuttle valve problems, which could cause the brake assembly to drag and overheat, For a/c s/ns AC406, AC415, AC416, & AC420-599, AT421, AT423-631 & AT695, TT421-TT555, c/w (1) and (2) within 500hrs. TIS or 6 months after Nov. 21, 2001 (eff. date of AD 2001-20-14) (a) For all a/c except those equipped with an anti-skid/power brake system, replace each brake shuttle valve with p/n MS28767-4 brake shuttle valve IAW SB 227-26-002. (b) Install a shield over hydraulic lines IAW SB 227-26-002. For a/c SA227-AC, AC600-AC789: Comply with (1) and (2) within 500hrs. TIS or 6 months after June 6, 2002. Eff. Date: June 6, 2002.	CW PARA (d)(2) 3-4-2002 TAT 6234.9 —

SA227-AC 406, 415,416, and AC420-599, 600-789; SA227-AT 421, 423-631 and AT695, SA227-TT, 421-555; and SA227-TT (300) 447, 465, 471, 483, 512, 518, 521, 527, 529 and 536: and SA227-AC600-789

2003-19-10	Visually inspect the left-hand and right-hand main/auxiliary fuel boost pump wiring for evidence of chafing, damage, or exposed bare wires per Fairchild Service Letter 227-SL-039. Eff. Date: Nov 7, 2003	CW TERM ACT 10-7-2003 TAT 6278.6

		Last Done	Next Due
84-13-01	To prevent cockpit fires, modify J-box wiring terminations IAW SB 227-24-003 and inspect aircraft IAW A.D. text each 200 hours.	6234.9	6434.9
85-22-06 R1	To assure proper operation of the stall avoidance system, modify SAS servo IAW SB 227-A27-004 and inspect SAS system IAW SB 227-27-, paragraphs 2.A, 2.B & 2.C.	A-6234.9 B-5850.7 C-5403.1	6434.9 6350.7 7403.1
87-02-02	To prevent primary control system cable failures inspect cables each 400 hours or replace cables each 10,000 hours.	0	10000
92-19-08	To prevent failure of the rudder pedal to rudder cable link attachments, replace hardware and inspect IAW SB 227-27-029 each 5000 hours. (Supersedes AD 81-02-01)	NA BY SN	NA BY SN
93-07-12	To prevent failure of the horizontal stabilizer rear spar, perform dye penetrant inspection IAW SB 227-55-002 and/or modify IAW SB 227-55-002. Inspection required each 500 hours. Modification eliminates recurring inspection and is mandatory 2200 hours after 5-28-93.	Inspection: NA / NA Modification: NA BY SN	
93-09-05	To prevent a jammed elevator control, inspect elevator downspring attaching hardware each 300 hours and relocate downspring within 2200 hours of 6/18/93. (Supersedes AD 81-22-04)	NA BY SN	NA BY SN

93-15-01	To prevent failure of the horizontal stabilizer caused by broken pivot-fitting fasteners, at 10,000 hours total time or within 1000 hours after 9/16/93, inspect and modify the stabilizer IAW SB 227-55-006, and inspect thereafter at intervals of 5000 hours.	Initial Modification: NA Inspection: DUE TAT 10000
94-07-10 R1	To prevent failure of the wing skin at battery box opening, inspect and/or modify wing skin IAW SB 227-57-005 or SB CC7-57-002 at 2500 hours total time or within 100 hours of 3/25/96. If no cracks are found, reinspect each 500 hours. If wing skin cracks are found, additionally inspect straps for cracks. If cracks in straps are found, modify straps and skin (terminates AD). If no cracks are found in straps, reinspect wing skin each 150 hours until skin is modified.	Modification: LH: NA RH: NA 500 Hour Inspection: CW 6284.4 / DUE 6784.4 150 Hour Inspection: NA / NA
95-01-07	To prevent fatigue failure of the lower wing skin panels, Within 500 hrs. install reinforcement doublers and stringer ties IAW SB 227-57-002.	NA BY SN
96-19-05	To prevent landing gear failure caused by stress corrosion cracks of the yoke, inspect and/or replace IAW SB 227-32-039, SB CC7-32-007 and the following table: (Supersedes AD 95-19-07R1)	(See table below)

Landing Gear Inspection Intervals

Crack Length	Inspection Interval	Applicable to: Left	Nose	Right	Last Insp.	Next Due
0 - .50”	600 hrs / 120 days	☐	☐	☐		
.5 - .75”	500 hrs / 100 days	☐	☐	☐		
.75 – 1.0”	400 hrs / 80 days	☐	☐	☐		
1.0 – 1.5”	300 hrs / 60 days	☐	☐	☐		
1.5” or greater	Replace now	☐	☐	☐		
No cracks	2500 hrs / 12 mos.	☒	☒	☒	6267.8 / 4-8-03	8767.4 / PAST DUE

96-20-08	To prevent acrylic cabin or cockpit window failures, visually inspect all acrylic windows IAW SB 227-56-001, -002 or –003 as applicable each 1000 hours or 12 months, whichever occurs first. (Supersedes AD89-06-02, 88-22-04 & 93-19-06)	Calendar: 2-9-04 Hourly: 6284.4	2-9-05 7284.4
	Cockpit side window life limit. (Due initially at 1000 hours time in service after 11/14/96). Not applicable to dual-pane windows.	6267.8	7267.8
99-06-02	To detect and correct fatigue cracking of the wing spar center web cutout area, which could result in structural failure of the wing spar to the point of failure; (a) Upon 6500 hrs. TIS; within the next 2000 hrs. TIS after the last inspection accomplished per the applicable Airworthiness Limitations Manual; or within the next 500 hours TIS after the effective date of this AD, whichever ***later;*** inspect each wing spar center web cutout for cracks between Wing Station 8 and WS 17.5, IAW ST-UN-M001 rev. C-6, ST-UN-M002 rev. A-6, OR ST-UNM003 rev. no. 5.. Repair of wing spar IAW SA226/SA227 SRM pages 57-90 Rev. 28, terminates 2000 hour repetitive inspection. Eff. Date April 16, 1999	CW TAT 5657.9	DUE TAT 7657.9
2000-03-17	To detect excessive freeplay or rod slippage in the pitch trim actuator, comply with freeplay inspection and overhaul limits per following chart. For freeplay inspection, see SILs 227-SL-011 or CC7-SL-028 (Simmonds Precision actuator) or 227-SL-031 or CC7-SL-021. Eff. Date: April 10, 2000	NA BY PN ACTUATOR DL5040M2-4 INSTALLED	

Pitch Trim Actuator Inspection / Replacement Schedule

Actuator	Initial Insp.	Repeat Insp.	Replacement	Installed
Original DL5040M5	3000hrs TIS	250hrs TIS	5000hrs TIS	☐
Replacement DL5040M5	5000hrs TIS	300hrs TIS	6500hrs TIS	☐
Replacement DL5040M6	7500hrs TIS	300hrs TIS	9900hrs TIS	☐
DL5040M5/new nut assys.	5000 hrs TIS	300hrs TIS	6500hrs TIS	☐
DL5040M5/old nut assys.	3000hrs TIS	250hrs TIS	5000hrs TIS	☐
27-19008-001/004 or -002/-005	500hrs TIS	300hrs TIS	N/A	☐
27-19008-006 or -007	OH 2000 hrs. TIS	OH 2000 hrs. TIS	N/A	☐
DL5040M8	7500hrs. TIS	600hrs TIS	9900hrs TIS	☐

2000-17-01

To ensure braking system is effective,

(a) Modify the parking brake system IAW SB 227-32-017 (AD 92-01-02)

(b) Recurring brake inspection for BFG p/n 2-1203, 2-1203-1, 2-1203-3, IAW BFG SL 1498. Reinspect each 250 hours.

(c) If clearance is .200 inches or more, but less than .250 inches, reinspect each 75 hours until the clearance is .250 inches or more (due replacement).

NA BY PN BRAKE INSTALLED

2000-17-11

To provide method of inspecting MLG drag brace assemblies, manufactured by Ozone, p/n OAS5501-1 consisting of both a drag brace and drag links), installed on MLG assy. p/n OAS5453-1 (Rev. H, J, K, or N) or p/n OAS5453-5. See chart below.

Inspect MLG drag brace assy. using dye penetrant method IAW SB 227-32-043. Replace MLG drag brace if cracks found that are over 0.080 inches in combined length.

Rework if cracks are 0.080 inches or less, one rework only.

Eff. Date: Sept. 22, 2000

NA BY PN INSTALLED 16000 LB MOD CW

Drag Brace Inspection Intervals

Crack Length	Inspection Interval	Applicable to: Left Nose Right	Last Insp.	Next Due
	Initial Insp/ 50 hrs.	☐ ☐ ☐		
No cracks	1000 hrs.	☐ ☐ ☐		
If replaced/new	15000hrs.TIS/1000	☐ ☐ ☐		
Replaced/serv.	1000 hrs.	☐ ☐ ☐		
0.080 or less	Rework/ 400hrs.	☐ ☐ ☐		

2002-08-01

To correct and prevent future malfunctioning brake master cylinders,

Within the next 200hrs. TIS after June 6, 2002 or 15000 hours TIS on the affected brake master cylinders, whichever occurs later.

Replace the Model V1-15-1000 brake master cylinders with new or overhauled Model V1-15-1000 brake master cylinders or FAA approved equivalent p/ns IAW SA227 MM or OH IAW SB 227-32-045.

Replace each 15000 hours thereafter.

Eff. Date: June 6, 2002

0 15000

2005-06-13

Wing center web inspection, this supersedes AD 99-06-02

CW AD 99-06-02 TAT 5657.9

74-24-13	To prevent being deprived of altimeter readings during certain aircraft operating conditions, either replace the altimeter or modify the existing altimeter in accordance with United Instruments SB No. 1.	NA
75-12-10	To prevent failure in multiple servos, modify the 161H-1 programmer (P/N 622-1036-001) in accordance with Collins Service Bulletin No. 6.	NA
81-04-06	To prevent the possibility of destruction of the recording tape in an aircraft accident involving fire, inspect the CVR in accordance with Fairchild Products Alert Service Bulletin No. CVR A140.	NA
83-26-03	To avoid tread loss and possible subsequent tire failure, Remove the applicable part number and serial number BF Goodrich tires from the aircraft and either destroy them or return them to BF Goodrich for destruction.	NA
85-26-03	To prevent the blockage of oxygen flow due to incompletely drilled oxygen connectors, Inspect the oxygen mask connectors in accordance with Scott Aviation Service Bulletin 289-35-10.	NA
86-05-02	To prevent possible erroneous altitude information from being displayed to the pilot, inspect altimeter in accordance with procedures in AD text.	NA
87-06-09	To prevent possible loss of essential equipment, electrical fire, or electrical shock hazard on aircraft, inspect circuit breakers and replace affected units as necessary.	NA

87-17-06	To eliminate restraint system connectors with the incorrect dimensions, which could allow inadvertent opening of occupant restraint system assemblies, Inspect in accordance with Am-Safe, Inc., SB No. AS001 and replace as necessary.	NA
89-09-02	To prevent the possibility of the applicable safety belts from becoming difficult to release or becoming completely jammed, Inspect safety-belts per text of AD and replace as necessary.	NA
95-26-15R1	To ensure that the flightcrew is advised of the potential hazard associated with failure of the audio output of the CAS-81 TCAS, and of the procedures necessary to address it, accomplish the following: a)Prior to the first flight of the day; prior to the accumulation of 10 hrs. of uninterrupted power; and at the mid-point of any one flight scheduled to exceed 10 hrs.: Cycle the power to the TCAS processor via the circuit breaker or power bus. b)Prior to taxi before takeoff: Initiate the TCAS functional test in accordance with AFM procedures to verify operational condition of the CAS-81 TCAS. Effective: December 26, 1996	NA
97-01-12	To prevent failure of the GPWS equipment to provide certain aural warnings, which could inhibit the ability of the flight crew to prevent the airplane from impacting the ground, remove and replace Centaurus Model C3-100 GPWS equipment with a similar type of equipment that meets minimum performance standards	NA

Engine Model: TPE331-11U-611G

Left Engine Serial #: 44158 Right Engine Serial #: 44272

84-10-06 R1	To prevent possible engine failure Inspect low-time engine fuel control/pump assembly as specified in Section 2.A.(2), "Accomplishment Instructions," of GTEC SB TPE331-73-0121.	Left Engine: CW 7-24-95 TSN 4478.0 Right Engine: CW 11-28-95
88-12-10	To prevent an uncontained engine failure remove from service the second stage turbine rotor per Garrett Alert SB TPE331-A72-0571.	Left Engine: NA BY PN Right Engine: NA BY PN
89-07-07 R1	To prevent turbine failure inspect and modify applicable engines in accordance with Garrett (SB) TPE331-72-0533.	Left Engine: CW 7-24-95 TSN 4478.0 Right Engine: CW 11-28-96
93-02-01	To prevent fuel spraying on hot turbine components, which can result in an engine fire remove from service in accordance with (SB) No. TPE331-A73-0198, Stratoflex fuel manifold assemblies, Part Number 3102469-2	Left Engine: NA BY PN Right Engine: NA BY PN
93-15-11	To prevent a sudden loss of propeller control, Inspect PPC gaskets in accordance with (ASB): No. TPE331-A72-0857 or ASB No. TPE331-A72-0858.	Left Engine: CW 7-24-95 TSN 4478.0 Right Engine: CW 11-28-96
94-26-07	To prevent failure of the fuel control governor drive from excessive wear of the internal fuel control drive splines, amend the applicable AFM and inspect affected FCU's per Alert SB No. TPE331-A73-0226 and or replace per SB No. TPE331-73-0228.	Left Engine: NA BY SB CW 11-23-86 Right Engine: NA BY PN

Engine Model: TPE331-11U-611G

Left Engine Serial #: 44158 Right Engine Serial #: 44272

95-16-08	To prevent uncontained failure of turbine rotors, fire, or loss of aircraft control review engine "records" to identify any engine repair performed by Fliteline Maintenance, Mr. Eugene E. Shanks or Mr. Carl Ramirez, Verify all work accomplished by these parties as acceptable per AD.	Left Engine: VERIFIED 2-12-96 TET 3875.5 Right Engine: CW 11-23-96
97-15-10	To prevent a non-responsive power lever and lack of control of engine power, insert supplement into Aircraft Flight Manual within 30 days and modify engine Inlet Sensor in accordance with SB TPE331-73-0235 within 120 days. Modification of inlet sensor terminates AFM revision.	Left Engine: CW 5-6-98 TET 4282.7 Right Engine: CW 5-6-98
98-12-09	To prevent fuel leakage of the fuel manifold, resulting in fuel spraying on hot turbine components; replace fuel manifolds P/Ns 3102469-1 or -2 if previously repaired by Hoses Unlimited prior to Nov. 1995 at first access to fuel manifold assy., at the next HSI, or by Aug. 7, 2001, whichever is first.	Left Engine: CW 8-16-98 TET 4291.0 Right Engine: CW 8-18-98

Engine Model: TPE331-11U-611G

Left Engine Serial #: 44158 Right Engine Serial #: 44272

2002-12-09 To prevent bull gear rim separations and high-speed pinion (HSP) assy. failures from abnormal gear wear:

(a) All models except for TPE331-12JR series, submit SOAP samples within 80-120 hours of eff. date. Repeat each 80-120 hrs.

If unacceptable soap, follow Honeywell instructions per SB TPE331-A79-0034 R3 or R4.

Left Engine: UNK
Right Engine: UNK

Compliance with initial/recurring inspections per following table:

Left Engine: UNK
Right Engine: UNK

Engine Model	Initial Inspection at next H.S.I., G.B.I., OH, or when gearbox diaphragm module is accessed, IAW Service Bulletins:	Re-Inspection and Replacement Intervals IAW ASB TPE331-A72-2087 AND TPE331-A72-2088 not to exceed	Since last replacement of BULL GEAR AND HSP P/NS	Left	Right
TPE331-12UA TPE331-12UAR TPE331-12UHR	ASB TPE331-A72-2087 SB TPE331-72-2090RWK SB TPE331-72-2091RWK	3600 Hrs. TIS	BULL GEAR P/N 3108295-1 HSP P/N 3101741-2	NA	NA
TPE331-12B	SB TPE331-A72-2092 SB TPE331-72-2094RWK SB TPE331-72-2095RWK	3100 Hrs. TIS	BULL GEAR P/N 3108296-1 HSP P/N 3101741-4	N/A	N/A
TPE331-11U with Bull Gear P/N 3107161-1	ASB TPE331-A72-2088 SB TPE331-72-2090RWK SB TPE331-72-2091RWK	9000 Hrs. TIS	BULL GEAR P/N 31082951 HSP P/N 3101741-2	☒	☒
Other TPE331-11U Engines Without Bull Gear P/N 3107161-1	ASB TPE331-A72-2088 SB TPE33172-2090RWK SB TPE331-72-2091RWK	9000 Hrs. TIS	BULL GEAR P/N 3108295-1 HSP P/N 3101741-2	☒	☒
TPE331-12JR Engines	SB TPE331-A72-2093 SB TPE331-72-2090RWK SB TPE331-72-2091RWK	5100 Hrs. TIS	BULL GEAR P/N 3108295-1 HSP P/N 3101741-2	N/A	N/A

Engine Model: TPE331-11U-611G

Left Engine Serial #: 44158 Right Engine Serial #: 44272

2002-25-02	Remove from service weld repaired first stage compressor impellers, P/N's 896223-1, -2, -3, and –7 and 3107109-2, with SN's listed in Table 1 and Table 2 of ASB TPE331-A72-2083 Rev. 1. Applicable to weld repairs on impeller involving heat treating, performed from 1980 thru 1997 at Honeywell Aerospace Services, Phoenix, AZ, FAA Certificate Number ZN3R030M. Eff. Date: Jan. 21, 2003	Left Engine: DUE AT NEXT OVERHAUL Right Engine: DUE AT NEXT OVERHAUL

Time on Impellers	Replacement schedule	Left Engine	Right Engine
Impellers with no record of cycles since weld repair	Remove within 3600 cycles in service from Eff. Date, or next OH, or CAM	☒	☒
Impellers with more than 8900 cycles since weld repair	Remove within 3600 cycles in service from eff. date, or next engine OH or CAM	☐	☐
Impellers with 8900 or less cycles since weld repair	Remove before reaching 12500 cycles since weld repair	☐	☐

2004-09-29	Inspect First stage turbine disk for cracks. Part no 3101520-1and 3107079-1 per ASB TPE331-A72-2102. SN 9-03501-27549 THRU 9-03501-27621; Terminating action is to replace Turbine disk Eff. Date: APRIL28, 2004	Left Engine: NA BY PN Right Engine: NA BY PN

Propeller Manufacturer: Dowty/Rotol Propeller Model: R321/4-82-F/8

Left Propeller Serial #: DRI/DRG/557/82 Right Propeller Serial #: DRI/DRG/313/86

2004-13-01 (applies to Dowty type 321/4-82-F/8 321/4-82-F/9 With hub PN 660709201)	To prevent propeller hub failure due to cracks in the hub, which could result in loss of control of the airplane, do the following: (a) within 50 hrs TIS after the effective date of this AD, or within 60 days, whichever first, perform an initial ultrasonic inspection of the rear wall of the rear half of the propeller hub for cracks IAW Appendix A of the Dowty MSB 61-1125 rev 1, or 61-1126 rev. 1 as applicable. (b) For hubs and propellers in storage, perform an initial ultrasonic inspection of the rear wall of the rear half of the hub for cracks before placing into service. (c) Thereafter, repeat the inspection within 1000 hrs TIS after each ultrasonic inspection. (d) For each inspection, record the inspection data on a copy of Appendix B of the applicable MSB and report the findings per the AD instructions in paragraph (e) within 10 days after the inspection. Effective date: July 27, 2004	Left Propeller: LAST COMPLIANCE UNK Right Propeller: LAST COMPLIANCE UNK

Major Repairs and Alterations

Aircraft Registration #: N120JM Aircraft Serial #: AT-577B

Modification	STC or Technical Data Reference Number	Date Accomplished
1. Test flt for GPS, FLt Mgmnt, system	FAR 23.1529	337 Form 9-13-00
2. Fluch mount ant	43.13-1A	337 Form 3-19-90
3. Camera installation	DER SW-153	337 Form 5-22-85
4. Install UNS-1B Flt Mgmnt system	STC SA5072NM	337 Form 9-13-00
5. High endurance surveillance sys install	STC SA1518S0	337 Form 5-17-85
6. 16000 lb mod	Drw 27-13908 Drw 27-13900	337 From 4-10-85
7. LS 400A Generator system	STC SA1470S0	337 Form 5-10-85
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Weight and Balance Data

Aircraft Type: Fairchild Merlin IV C

Aircraft Model: SA227-AT

Aircraft Registration: N120JM

Aircraft Serial #: AT-577B

Effective Date: 5-2-03

Data Based On:
Actual: ☒ Calculated: ☐

Gross Weight: 16,000 lbs.

Empty Weight: 10370 lbs.

Useful Load: 5630 lbs.

Arm (Center of Gravity): 265.35 in.

Moment: 2751690.1 in/lbs.

Notes: The above figures are from an actual re-weigh after the removal of a number of special electronic components. Reference logbook entry May 7, 2003. Next actual re-weigh due May 7, 2006.

Equipment List

Aircraft Registration: N120JM Aircraft Serial #: AT-577B

Aircraft Type: Fairchild Merlin IV C Aircraft Model: SA227-AT

Quantity	Description	Manufacturer	Model Number
1. 2	VHF Comm	COLLINS	VHF 20
2. 0	HF Comm	NA	NA
3. 2	Nav Receiver	COLLINS	VIR 30
4. 1	Compass System	COLLINS	C14
5. 2	Transponder	COLLINS	TDR 90
6. 2	DME Receiver	COLLINS	#1 DME 42 #2 DME 40
7. 2	RMI Indicator	COLLINS	RMI 30
8. 1	Artificial Horizon	UNK	UNK
9. 1	Encoding Altimeter	COLLINS	622-3975-003
10. 1	Altitude Alerter	COLLINS	UNK
11. 1	ADF Receiver	Collins	ADF 60
12. 2	Audio Control Panels	BAKER	M1035
13. 2	Marker Beacon Rcvr	Sperry	Part of C14
14. 0	Weather Radar	NON INSTALLED	
15. 1	ELT transmitter	UNK	EB-2BCD
16. 1	HSI Indicator	COLLINS	331A-3G
17. 1	OAT Indicator	FAIRCHILD	STANDAR FACTORY

18. 2	Directional Gyro	SPERRY	C14A
19. 1	Autopilot	COLLINS	APC80
20. 1	Flight Director	COLLINS	C14
21. 0	RNAV receiver	NA	NA
22. 0	Loran receiver	NA	NA
23. 1	Standard Altimeter	AEROSONIC	101735-11807
24. 0	Cockpit Voice Rcrdr.	NA	NA
25. 0	Digital Chronometer	NA	NA
26. 0	Flight Data Recorder	NA	NA
27. 0	Vertical Gyro	NA	NA
28. 1	Air Data Computer	COLLINS	ADC80
29. 1	Radar Altimeter	COLLINS	ALT 50
30. 0	Standby Altimeter	NA	NA
31. 0	Hour meter	NA	NA
32. 0	GPWS	NA	NA
33. 0	TCAS	NA	NA
34. 1	GPS	UNIVERSAL	GPS1000
35. 1	SAT COMM	UNK	TT3024A
35. 1	Flt Guidance Computer	COLLINS	FGC80F

Addendum #1

(Inspector's Notes)

Registration #: N120JM Serial #: AT-577B Date: 12-31-05

1. Hydraulic power pack is on a 7500 hour inspection MRB recommends 15000 hours.

2. According to the computer run the LH engine SN 44158 is on a 3600 hour overhaul.

3. Aircraft has non standard radome.

4. Two camera pods are built in to the floor, one at the pax entrance and one just forward of the aft cargo compartment.

5. There are numerous antennas installed on the aircraft that were used for surveillance.

6. Pax door has dual snubbers installed.

7. Fire extinguisher system has two test panels installed.

8. Minor delamination around the co-pilot heated windshield, is not in the line of sight for the flight crew and tests normal.

9. Additional Wemacs are installed in the overhead in the cockpit.

10. Aircraft has multi disc brakes installed.

Addendum #2
(Aircraft Discrepancies)

Registration #: N120JM Serial #: AT-577B Date: 12-31-05

1. LH prop due reseal or overhaul due to calendar, due 7-06.
2. RH prop due reseal or overhaul due to calendar, due 1-06.
3. ADC certification past due.
4. LH and RH prop balance past due, (last operators requirement).
5. Batteries due deep cycle.
6. Hydraulic selector valve not tracked on computer run.
7. Hand held fire bottle (FWD) past due for recharge.
8. Hand held fire bottle (AFT) past due for re-weigh.
9. Hand held fire bottle (FWD) past due for re-weigh.
10. AD 85-22-06 500 hour SAS due in 66.3 hours.
11. Hydro of O2 bottle past due.
12. O2 mask due overhaul past due.
13. AD 94-07-10 battery box inspection due in 66.3 hours.
14. Main and nose gear inspection AD96-19-05 past due by calendar.
15. Cockpit and cabin window inspection past due by calendar.
16. Phosphorescent sign inspection past due.
17. No CVR installed.
18. Pitch trim free play unknown.
19. No FDR installed.
20. O2 bottle life information unknown.
21. STUN 1-1, 1-4, 1-5, 11-1, 13-1, 15-1, compliance unknown.
22. No major repair or modification info provided.
23. No equipment list provided.
24. AD 96-20-08 past due by calendar.
25. AD 90-03-19 sign off is only for para “a” item 1.
26. AD 97-11-13 did not find a sign off for this AD.
27. Aircraft due re-weigh May, 2006.
28. ELT recertification due.
29. Start gen SN 2331 due overhaul in 200 hours.
30. Elevator down spring inspection and functional check last compliance unknown.
31. Main gear strut inspection SB 227-32-022 compliance unknown.
32. Landing gear ultrasonic test due.
33. Compass swing due.
34. LH engine tach generator lube last compliance unknown.
35. LH and RH engines SOAP sample due.
36. Engine AD 2002-12-09 due at next entry, LH and RH engine.
37. Engine AD 2002-25-02 due at next entry, LH and RH engine.
38. Prop hub inspection per AD2004-13-01 compliance unknown.
39. TCAS not installed.
40. EGPWS not installed.
41. Pax door skin at the hinge has several screws with large area washers and a few screws that are pulling through the skin.
42. Forward side of pax door inspection window for the click clack is broken and the trim along the side of the door is broken.
43. Pax door aft side has one click clack inspection window broken and trim broken.
44. Pax door carpeting needs replaced.
45. The rubber hinge for the pax door threshold needs replaced.

46. Entrance light switch trim is broken.
47. Plug missing on the bottom of the pax door handle missing.
48. Pitch trim does not work on the captain's side.
49. TO out of trim is inop.
50. Battery fault light does not test when the push to test button on the annunciater is pushed.
51. Nose steering does not test.
52. Number one comm., ADF; control head glass is delaminating or broken.
53. There is no radar installed in the aircraft.
54. Manual control knob for the pressurization loose.
55. LH essential and LH avionics overlay lights inop
56. Front of the pedestal overlay lighting inop.
57. Pedestal curved overlay panel lighting inop.
58. There are a number of switches and lights that are non standard on the instrument panel, these should be labeled or removed if not used.
59. Sheep skin covers on the crew seats need replaced.
60. Co-pilot seat cover needs to be re-glued.
61. Copilot side pouch torn up.
62. Captain's side pouch is torn up.
63. Both crew seats have only one stop in the floor tracks.
64. Need aircraft drawings for all of the specialty items installed and also a wiring manual for the items installed.
65. Emergency exit on the RH side forward exit liner is not secured to the exit on the lower forward corner.
66. Caution placard in the LH engine compartment needs replaced.
67. LH engine cowling mating surface seals need replaced.
68. LH prop has erosion tape running the length of the blade.
69. LH engine outboard side the aft support bracket is loose.
70. LH wheel well has fuel leak.
71. LH wheel well fuel shutoff containment bag needs to be closed.
72. LH wheel well the number 6 hyd line on the inboard keelson is loose at the bulkhead fitting.
73. LH wheel well inboard gear door forward bulb seal needs replaced.
74. LH wheel well selector valve appears to be leaking.
75. LH batter box appears to have a crack in the lower angle, need to dye pen this area and verify if it really cracked.
76. Top of the LH and RH engines there is a non standard access panel installed, need paper work for this.
77. LH strobe light lens crazed.
78. LH flap inboard trailing edge damaged.
79. Inboard end of the LH flap bonding strap needs replaced.
80. LH center section inboard end of the LH flap well rivets heads missing and rivets loose in belly skin.
81. Fuel vent drain in the center section needs new grommet.
82. Aft center section belly skin has loose rivets.
83. RH flap inboard aft end has a chaffed area.
84. RH aileron free play excessive
85. RH nacelle outboard side sump drain needs new grommet.
86. RH lower engine cowl caution placard needs replaced.
87. RH lower engine cowl mating surface seals need replaced.
88. RH lower cowl latch cutouts are cracking.
89. RH prop has erosion tape installed the length of the prop.
90. RH battery box appears to have a crack started in the lower flange, need to dye pen this area to verify.

91. RH wing top sire aft of the RH exhaust there is a doubler installed that needs paper work.
92. Fuel leak in the RH wheel well.
93. RH ice light needs to be installed so the ribs in the bulb are vertical so it shines on the boot properly.
94. RH wheel well inboard gear door forward bulb seal needs to be replaced.
95. RH wheel well fuel shutoff containment bag needs to be closed.
96. Butt line zero tongue cracked.
97. LH side of fuselage there is a small patch about eye level and about 4 feet aft of the prop that requires paper work.
98. Forward cargo bay floor panels are heavily corroded and delaminating.
99. The flanges and angles for the forward cargo bay floor has corrosion started.
100. Overhead carpeting for the forward cargo compartment is torn up on the RH side.
101. RH AWI line on the pump is non standard line; normally there is a clear line.
102. Inverters have been removed from the nose and installed in the aft cargo bay.
103. Nose wheel well LH gear door aft hinge cutout is cracked.
104. Nose gear actuators are not the same type.
105. RH battery box dzuse fastener ring is torn up.
106. Engine logbook SN 44158 there is an error in the cycle count on to CSO.
107. Engine SN 44158 AD 2002-12-09 compliance unknown.
108. Start gen SN 2664 installation unknown, info on this report came from computer run.
109. Engine fire bottle info unknown.
110. Computer run is not accurate for what is on the plane.
111. No overhaul tag for pitch trim act.
112. Can not determine which battery box has been inspected; computer run has two entries with two different times.