NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

October 26, 2011

AIRWORTHINESS

Group Chairman's Factual Report

CEN11IA341

Attachment 1 – Maintenance Records
(85 pages)

3.4.0 BEECH 1900 ROUTINE INSPECTION

AIRCRAFT N#: 2184V DATE: 5-11-11

TAT: 295625 TAC: 40314

NOTE: All discrepancies found during the completion of this inspection must be recorded in either the Aircraft Flight Logbook or on a Maintenance Log Sheet.

TASK	MECH		INSP	
	LH	RH	LH	RH
AIRFRAME				
1. Check cabin and flight compartment for cleanliness and visual damage. Pay particular attention to the following: a) Carpet and floor track covers. b) Seats and seat belts. c) Side wall vents (eyeball) and gasper vents. d) 1 hand mike in flight compartment. e) Interior placards (Reference Interior Placard Section, AIM Chapter 5) f) 2 seat belt extenders (in captains seat back) g) 2 extra safety briefing cards. (Inspect all passenger seats backs for safety cards). h) 5 circuit breaker collars (in captains seat back) i) Check Captains and FO's Sun Visor for proper operation, condition and friction lock				
2. Inspect pilot, copilot and infant life vests for proper sealing and inspection sticker. Ensure that infant life vest pouch contains instruction card.				
3. Inspect the windshield wiper blades for deterioration, cuts.				
4. Inspect pilot and copilot smoke goggles for condition and proper mounting of smoke goggle pouch.				
5. Check all switches, knobs and circuit breakers for security. **(Pay particular attention to aileron and rudder trim knobs)**				
6. Check all instruments and gages on instrument, overhead and sub panels for security and attachment.				
7. Check oxygen system pressure. Refer to Chart in AIM Chapter 12.				
8. Perform stall warning operational test. Select switch to test position. Aural tone must be heard.				
9. Check pitot heaters for operation. Turn pitot heat switch to "ON" and watch for DC Load meter deflection and LH or RH annunciators extinguish as applicable.				
10. Check stall warning heating system operation by turning switch on and feeling transducer plate and tab. The switch should be turned off immediately after heat test.				
11. Inspect first aid kit. The inspection sticker is the seal. A broken seal requires the completion of task card 1900-2500.00.				
12. Inspect cockpit and cabin fire extinguisher for condition, mounting, proper charge and next weight check due. If due within current month, replacement or reweighing of the bottle is required.				
13. Perform Interior lighting systems check. Check all cockpit lights, annunciators and backlighting, Check cabin aisle lighting, reading and dome lights.				
14. Perform exterior lighting systems check.				

3.4.0 BEECH 1900 ROUTINE INSPECTION (Cont'd)
AIRCRAFT N#: 2184V
DATE: 5/11/11
PAGE 2 OF4

NOTE: All discrepancies found during the completion of this inspection must be recorded in either the Aircraft Flight Logbook or on a Maintenance Log Sheet.

TASK	MECH		INSP	
	LH	RH	LH	RH
AIRFRAME (Continued)				
15. Visually inspect fuselage, empennage, and wings for loose or missing rivets/hardware, dents, cracks or other damage.				
16. Inspect deice boots for damage. Check security of boot patches. Use the hands on technique on the deice boots to feel for hidden leading edge damage under deice boots. Inspect LH and RH wing stall strips for security				
17. Check all flight control surfaces for security. Check flaps and flap actuators for condition and security. Check for freedom of movement all flight controls and tabs.				
18. Inspect all avionics antenna installations for leading edge erosion, cracks in leading edge or around screw holes, and proper sealing of antenna base to fuselage or tail. If repair, removal and/or replacement is required refer to Corrosion Control Manual 23-10-01 and TC 1900-3411.00-3. **Pay particular attention to fuselage skin around antennas for cracking.**				
19. Check PAX door for: a) support and snubber cables condition and security. b) door lights for operation. c) interior and exterior handles for condition, including interior handle stop screw. d) condition of steps. (non-skid and lens condition e) door snubber for correct pressure. 1000 – 1450psi. f) door snubber attach bolts and screws for security.				
20. Check air cycle machine oil level.				
21 Check main and nose landing gear and shock struts for damage, attachment, leaks and correct inflation. Check for leaks in the hydraulic retraction system. Check landing gear hydraulic reservoir level.				
22. Check main wheels for condition, wear and proper inflation. 3/32" minimum tread depth on new tire and 1/16" minimum tread depth on recapped tires. Inspect hub caps for damage. Tire PSI (cold loaded 97+5/-0, on jacks 93+5-0) (hot loaded 105+5/-0) Refer to AIM Ch 12.				
23. Inspect main wheel brakes for wear, security of mounting and leaks.				
24. Check brake reservoir fluid level.				
25. Inspect nose landing gear shimmy dampener.				
26. Inspect nose tire for condition, wear and proper servicing. Tire PSI (cold 60+5/-0) (hot 70+5/-0) Refer to AIM Chapter 12.				
27. Check hydraulic accumulator in LH wheel well for proper servicing (800psi). **CAUTION: If servicing is required, place aircraft on jacks.**				
28. Check airframe fuel filter by-pass indicators. Drain collector fuel tank and air-maze filter sumps.				
29. Inspect main wheel assembly in ABA for serviceability and correct tire pressure. Tire PSI (cold 93+5/-0) Refer to AIM Chapter 12.				
30. Inspect baggage compartment net for serviceability. The net is allowed fuzzing of the webbing but may not have cuts or tears in the webbing or stitching securing the hooks or loops. Secure the net to the sidewall after inspection. Inspect baggage compartment liner for security and damage. Inspect baggage floor for security and damage.				

3.4.0 BEECH 1900 ROUTINE INSPECTION (Cont'd)
AIRCRAFT N#: 2184V DATE: 5-11-11

NOTE: All discrepancies found during the completion of this inspection must be recorded in either the Aircraft Flight Logbook or on a Maintenance Log Sheet.

TASK	MECH		INSP	
	LH	RH	LH	RH
POWERPLANT, PROPELLERS AND NACELLES				
31. Visually check propeller for nicks and damage. Perform coin tap test on exposed erosion shield per Hartzell MM 135f 61-13-35 "Check" section. If damage is found refer to Hartzell damage limits.				
32. Perform physical inspection of propeller deice boots. Using fingers press all areas of the boot to ensure proper adhesion. If debonding is found refer to E.O. 97-11 for deferral procedures or B1900 CMM 30-60-07 for boot R/R procedures.				
33. Remove upper forward cowling. Clean propeller slip rings and brush block. Perform operational check of deice system in manual mode. Ensure deice leads are properly routed. **Caution: Rotate propeller during this operation to prevent overheating of deice boots.**				
34. While actuating the Prop Test switch in and out of the low pitch position, ensure that the low pitch solenoid plunger operates freely.				
35. Check engines through front cowl, cowl doors and access openings for fuel, oil and exhaust leaks or damage.				
36. Inspect engine intake area and inertial ice vanes. Pay particular attention for migrating hinge pins. Ref EO 03-01 for safetying as required.				
37. Visually check oil coolers for leaks and obstructions.				
38. Check starter-generator intake air hose and clamps for security.				
39. Disconnect the #1 and #2 engine ice vane door linkage to lower cowl to gain access to chip detector. **(If required, N/A this step if cowling is not removed)**				
40. Perform magnetic chip detector continuity check.				
41. Reconnect #1 and #2 ice vane door linkages. (If removed, N/A if not required)				
42. Check engine oil level. Max oil level is 2 quarts low. Reinstall oil filler cap with lock tab facing aft after checking. Record discrepancies in Aircraft log book.				
43. Install upper forward cowl. Tighten the four cam-type fasteners to latch the cowl. Make sure lock indicating arrows are correctly positioned. Safety the latches (secure the forward cowl straps if installed).				
GENERAL ITEMS				
44. Inventory the ABA container and spare bulb kit against the 1900D ABA Kit checklist found in the containers. Replacement checklist is located in AIMChapter 12. Replenish from stock or notify Maintenance Control to generate Carry Over for replacement.				

3.4.0 BEECH 1900 ROUTINE INSPECTION (Cont'd)
AIRCRAFT N#: 2187L DATE: 5-11-11

NOTE: All discrepancies found during the completion of this inspection must be recorded in either the Aircraft Flight Logbook or on a Maintenance Log Sheet.

TASK	MECH	INSP
FINAL WALK AROUND AND RELEASE		
45. Perform a walk around the aircraft to ensure all access panels and doors are properly secured.		
46. Ensure all log book discrepancies have been corrected and are signed off.		
The above inspection was performed in accordance with the Great Lakes Aviation, Ltd. Continuous Airworthiness Maintenance Program. Ensure all paperwork is complete and an Airworthiness Release is signed off in the aircraft Logbook		

All above task items completed.

Inspector Signature: [redacted]

Date: 5-12-11

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION
AIRCRAFT N#: 2184V DATE: 12/30/10
TAT: 28808.4 TAC: 39446
PAGE 1 OF 8

TASK	MECH		INSP	
	LH	RH	LH	RH
ACCESS PANEL OPEN UP				
ZONE 500/600 WING: Open the following wing access panels: 511AT, 511, 531BB AND 631BB. Check each panel for fit and attachment, scratches, paint blistering, corrosion and visual damage.				
ZONE 410 LEFT ENGINE: Open the following access panels: 411AT, 411BB, 412ATC, 413L, 414L, 416R, 415R AND 413R. Check each panel for fit and attachment, scratches, paint blistering, corrosion and visual damage.				
ZONE 420 RIGHT ENGINE: Open the following access panels; 421AT, 421BB, 422ATC, 423R, 423L, 424R, 425L AND 426L. Check each panel for fit and attachment, scratches, paint blistering, corrosion and visual damage.				
FWD LEFT HAND CENTER SECTION				
STRUCTURE; ZONE INSPECTION AREAS; 511 AND 511AT.				
1. Inspect structure for cracks, loose rivets and damage.				
PLUMBING AND WIRING; PANEL INSPECTION AREAS; 511 AND 511AT.				
2. Inspect plumbing and wiring for chafing, leaks and security.				
3. Clean Hydraulic power pack screens and replace fluid filter. Service and bleed system per B1900D MM 32-30-06 and 32-30-07.				
4. Clean hydraulic power pack bleed air filter. Refer to B1900D MM 32-30-06.				
MAIN LANDING GEAR				
BRAKES; ZONE INSPECTION AREAS; 730 AND 740				
5. Inspect lines for damage, corrosion and security.				
ACTUATOR; ZONE INSPECTION AREA; 730 AND 740				
6. Check actuator for cracks, corrosion, damage and leaks. Pay particular attention to the end caps.				
7. Inspect support brackets for cracks, corrosion, damage and loose or missing rivets.				
8. Inspect main landing gear actuator rods for oil, grease, solvents, degreasers, anti-icing fluids or other contaminates sprayed or applied to the actuator rods. Wipe rods as required to clean.				

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)
AIRCRAFT N#: 218V DATE: 12/30/10

TASK	MECH		INSP	
	LH	RH	LH	RH
MAIN LANDING GEAR (Continued)				
LANDING GEAR STRUT; ZONE INSPECTION AREAS; 730 AND 740.				
9. Inspect the strut and components for damage, cracks, leaks, corrosion and attachment. Refer to B1900 MM Chapter 32-30-00. **Pay particular attention to Keel rib area forward of trunnion bolt installation.**				
10. Inspect strut for correct inflation and leakage. Deflate and check fluid level if signs of leakage are apparent. Refer to B1900 MM Chapter 32-30-00.				
11. Check gland nut at base of the main strut upper brace assembly for possible looseness and abnormal wear.				
12. Inspect the sealant location at the MLG piston and socket interface for corrosion or rust. Sealer should cover any non-chromed area of the piston. If any non-chromed portion exposed, or if seal is damaged, worn or deteriorated, or if corrosion or rust is present, perform MLG SOCKET/PISTON SEAL REPAIR. Refer to B1900D CMM Chapter 32-10-00.				
DRAG LEG; ZONE INSPECTION AREAS; 730 AND 740.				
13. Clean lug where actuator attaches to drag brace arm, use a mirror and flashlight to inspect for cracks and tooling damage.				
14. Visually inspect for wear, distortion, cracks and corrosion.				
15. Check security of attach fittings.				
ELECTRICAL; ZONE INSPECTION AREAS; 730 AND 740.				
16. Check attachment of switches. Clean dirt from terminals and connections as required.				
17. Check wiring for damage and chafing.				
ANTI-SKID BRAKES (AIRCRAFT 169 AND 170 ONLY); ZONE INSPECTION AREA 710.				
18. Check operation, charge accumulator as required and replace filter. Refer to B1900D MM Chapter 32-41-00.				
LANDING GEAR HOSES; ZONE INSPECTION AREAS; 730 AND 740.				
19. Check for damage, cracks, leaks, deterioration and security.				
NOSE LANDING GEAR				
SHIMMY DAMPER; ZONE INSPECTION AREA; 710				
20. Inspect for damage, cracks, corrosion, leakage and attachment.				
21. Check fluid level. Refill as required. Refer to B1900D MM Chapter 32-20-03.				

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)
AIRCRAFT N#: 2189

DATE: 12/30/10
PAGE 3 OF 8

TASK	MECH		INSP
	LH	RH	LH + RH
NOSE LANDING GEAR (Continued)			
ACTUATOR; ZONE INSPECTION AREA; 710			
22. Visually check actuator for damage, cracks, corrosion and leakage.			
23. Inspect support bracket for damage, cracks, corrosion and loose or missing rivets.			
STEERING LINKAGE; ZONE INSPECTION AREA: 710			
24. Check nose steering mechanism for damage, cracks, corrosion, attachment and correct adjustment. Refer to B1900D MM Chapter 32-30-00			
25. Remove the tie-wrap and inspect aft steering linkage and boot for wear and chaffing under boot. Refer to B1900D MM Chapter 32-50-00. Reinstall tie-wrap if no damage found.			
26. Inspect forward steering link (with boot) and boot for wear, damage and chaffing under boot. Refer to B1900D MM 32-50-00			
27. Disconnect and inspect nose steering disconnect actuator wiring receptacle plug in left side of nose wheel well keel for corrosion			
28. Visually inspect nose landing gear steering disconnect actuator attaching hardware for evidence of looseness, corrosion or missing fasteners. Refer to B1900D MM 32-50-00.			
NOSE GEAR BRACE STEERING STOP LUGS; ZONE INSPECTION AREAS; 710.			
29. Inspect for cracks, damage or distortion. Should cracks be suspect, perform a dye penetrant inspection; refer to Chapter 20-12-00 FLOURESCENT LIQUID PENETRANT INSPECTION.			
30. Inspect for proper lubrication of bolts. Refer to Chapter 12-20-00 NOSE LANDING GEAR LUBRICATION.			
NOSE GEAR STEERING STOP; ZONE INSPECTION AREA 710			
31. Inspect steering stop for damage or distortion.			
NOSE GEAR STRUT; ZONE INSPECTION AREA 710.			
32. Inspect strut and components for damage, cracks, corrosion and attachment.			
33. Inspect strut for proper inflation. Strut extension should be between 5.25" to 5.75".			
ELECTRICAL; ZONE INSPECTION AREAS; 710.			
34. Check attachment of switches, clean dirt from terminals and connectors, as required; check wiring for damage and chafing.			

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)
AIRCRAFT N#: 218YU
DATE: 12/30/10

TASK	MECH		INSP
	LH	RH	LH + RH
NOSE LANDING GEAR (Continued)			
TRUNION BOLT; ZONE INSPECTION AREA 710			
35. Inspect for proper security and condition of bolts, nuts and cotter pins. If cotter pin is missing, re-torque the trunion bolt nut and install a new cotter pin by performing the applicable steps of the NOSE LANDING GEAR INSTALLATION PROCEDURE in B1900D MM 32-20-00.			
DRAG BRACE; ZONE INSPECTION AREA 710			
36. Inspect for proper lubrication of bolts, refer to Task Card 1900-5THDETLUBE. With aircraft on jacks, remove nose drag brace center hinge bolt. Inspect bolt for clear grease path and serviceability. Reinstall if serviceable or install new bolt P/N 90-820011-1 Task Card 1900-3220.01.			
37. Check for wear in the lower drag leg attach lug hole on the nose gear brace. Refer to Chapter 32 in the B1900 CMM. Inspect for damage, cracks, corrosion and security.			
38. Inspect bolts for freedom of movement. Refer to B1900D MM 32-20-01 NOSE LANDING GEAR DRAG BRACE BOLT INSPECTION.			
39. Check for damage, cracks, leaks, deterioration and security.			
LANDING GEAR RETRACTION			
NOTE: ***Battery voltage is not sufficient to properly cycle the landing gear, use only an external power source capable of delivering and maintaining 28.25 ± .25 volts throughout the extension and retraction cycles when performing the landing gear retraction inspection.***			
RETRACT MECHANISM			
40. Complete Landing Gear Functional Check iaw MI 32-02.			
SAFETY SWITCH; ZONE INSPECTION AREA; 730 AND 740.			
46. Check for security of attachment and proper installation.			
ACTUATORS; ZONE INSPECTION AREAS; 710, 730 AND 740.			
47. Check for damage, cracks, leaks, corrosion or other damage.			

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)

AIRCRAFT N#: 218YV

DATE: 12/30/10

TASK	MECH		INSP	
	LH	RH	LH	RH
POWERPLANT				
IGNITORS; ZONE INSPECTION AREAS; 410 AND 420				
50. Inspect the ignitor plugs. Refer to M.I. 74-01.				
ENGINE OIL FILTER; ENGINE CHIP DETECTOR CLEANING; ZONE INSPECTION AREAS; 410, 420 AND 400.				
51. Perform oil filter/ chip detector Task Cards 1900-3008 and 1900-3009.				
2ND STAGE POWER TURBINE BLADES INSPECTION AREAS; 410 AND 420				
52. Inspect engine 2nd stage power turbine blades for cracks and material loss in accordance with Pratt and Whitney Service Bulletin 14205R1				
53. RESERVED				
54. RESERVED				
FUEL FILTERS AND SCREENS; ZONE INSPECTION AREAS; 400				
55. Inspect and clean the air-maze filters and inspect for microbiological growth.				
56. Replace HP(high pressure) fuel pump outlet filter.				
57. Clean or replace HP (high pressure) fuel pump inlet screen.				
58. Perform leak check of airframe and engine fuel filters installation.				
COMPRESSOR DRIVE QUILL SHAFT; ZONE INSPECTION AREA 420.				
59. Check for wear and damage Refer to B1900 MM Chapter 21-52-00.				
60. Lubricate the spline on the pulley end of the shaft. Refer to B1900 MM Chapter 21-52-00.				
COMPRESSOR DRIVE BELT; ZONE INSPECTION AREA; 420				
61. Check for cracks, shredding, fraying, wear and check adjustment. Refer to B1900 MM Chapter 21-52-02.				
ENGINE ACCESSORIES; ZONE INSPECTION AREAS; 410 and 420				
62. Inspect all accessories, plumbing and associated equipment for damage, corrosion, attachment and leakage				
REFRIGERANT LINES; ZONE INSPECTION AREAS; 420 AND 611.				
63. Inspect refrigerant lines in the right engine cowling, nacelle and right wing for leaks, damage, cracks, corrosion and attachment.				
REFRIGERANT COMPRESSOR; ZONE INSPECTION AREA; 420.				
64. Check for damage, attachment and oil leaks.				

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)

AIRCRAFT N#: 218VV

DATE: 12/30/10

TASK	MECH		INSP
	LH	RH	LH + RH
GENERAL SERVICE ITEMS			
PITOT AND STATIC SYSTEM; ZONE INSP. AREAS; 110, 241, 242 AND 262.			
65. Open pitot/static test ports, LH & RH alternate static select switches and flight data recorder drain valves until all moisture is drained. Close all valves and drains. Perform system leak check. Was moisture present(circle one) YES NO			
65a. Perform system leak check.			
EFIS: ZONE INSPECTION AREA: 248			
66. Verify operation of EADI and EHSI tube fans.			
67. Perform aircraft lubrication using task card 1900-5THDETLUBE Inspector will verify that lube task card is completed prior to initialing block.			
INSTRUMENT AIR FILTER; ZONE INSPECTION AREAS; 212			
68. Inspect the instrument air filter			
EVAPORATOR FILTER; ZONE INSPECTION AREAS; 153 AND 173. PANEL INSPECTION AREAS; 153ATC AND 173BTC. (8 and 12)			
69. Replace the evaporator filter. Reference B1900 MM Chapter 21-52-00.			
REFRIGERANT LINES AND SERVICE VALVES; ZONE INSPECTION AREAS; 153 AND 173, PANEL INSPECTION AREA; 173ABC			
70. Inspect refrigerant lines in cabin for leaks, damage, cracks, corrosion and attachment.			
VACUUM REGULATOR VALVE FILTER; ZONE INSPECTION AREA; 812			
71. Replace the filter. Refer to B1900 MM Chapter 37-00-00.			
EXTERNAL POWER; ZONE INSPECTION AREAS; 253			
72. Check the external power relay for operation (rotate the voltmeter select switch to the EXT PWR position and check for external power voltage).			
EXTERIOR PLACARDS			
73. Reference Exterior Placard Section. Refer to Volume 9, Chapter 5.			
WINDSHIELDS			
74. Inspect windshield weather seal for debonding, cracks and wear. Reseal as required.			

3.9.0 BEECH 1900 FIFTH DETAILED INSPECTION (Cont'd)

AIRCRAFT N#: 218YU

DATE: 12/30/10

TASK	MECH	INSP	
	LH + RH	LH	RH
OPERATIONAL INSPECTION			
75. Perform operational inspection use task card 1900-RunWorksheet			
ACCESS PANEL CLOSE UP			
ZONE 500/600 WING: Close the following wing access panels: 511AT, 511, 531BB AND 631BB.			
ZONE 410 LEFT ENGINE: Close the following access panels: 411AT, 411BB, 412ATC, 413L, 414R, 416R, 415R AND 413R.			
ZONE 420 RIGHT ENGINE: Close the following access panels; 421AT, 421BB, 422ATC, 423R, 423L, 424R, 425L AND 426L.			
FINAL WALK AROUND AND RELEASE			
76. Perform a walk around the aircraft to ensure all access panels and doors are properly secured			
The above inspection was performed in accordance with the Great Lakes Aviation, Ltd. Continuous Airworthiness Maintenance Program. Ensure all paperwork is complete and an Airworthiness Release is signed off in the aircraft Logbook			

All above task it

Inspector Signatu

Date: 12/30/10

5th DETAIL LUBE

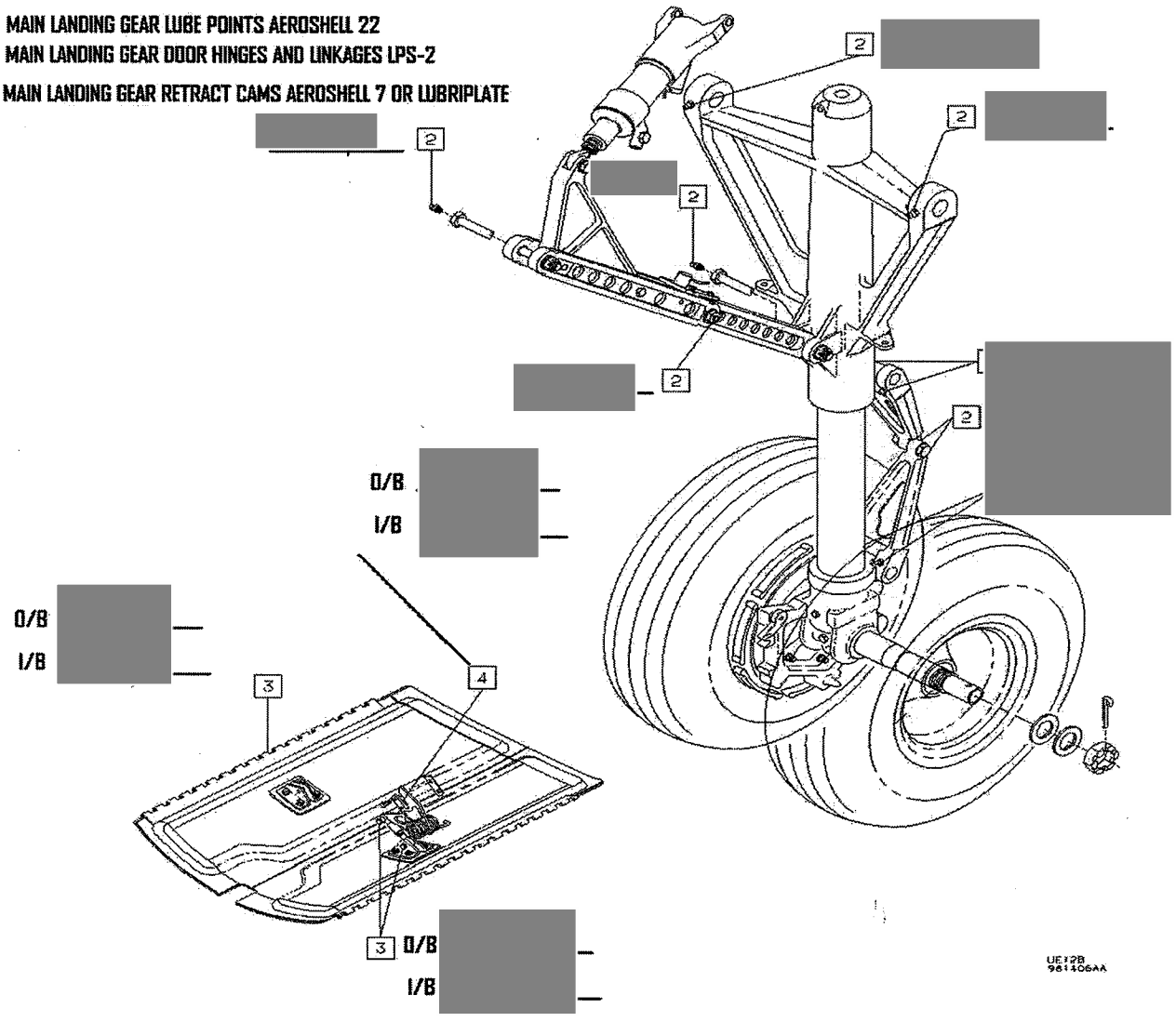
Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

A/C N#: 218 KU	TAT: 28808.4	Date: 12/30/10
Man hours: 1.5		

Instructions: Fill in above information in applicable blocks. In man hours block insert the actual time taken to perform task. For Mech. Lines, both initials and employee number are required.

LEFT LANDING GEAR

2- MAIN LANDING GEAR LUBE POINTS AEROSHELL 22
3- MAIN LANDING GEAR DOOR HINGES AND LINKAGES LPS-2
4- MAIN LANDING GEAR RETRACT CAMS AEROSHELL 7 OR LUBRIPLATE



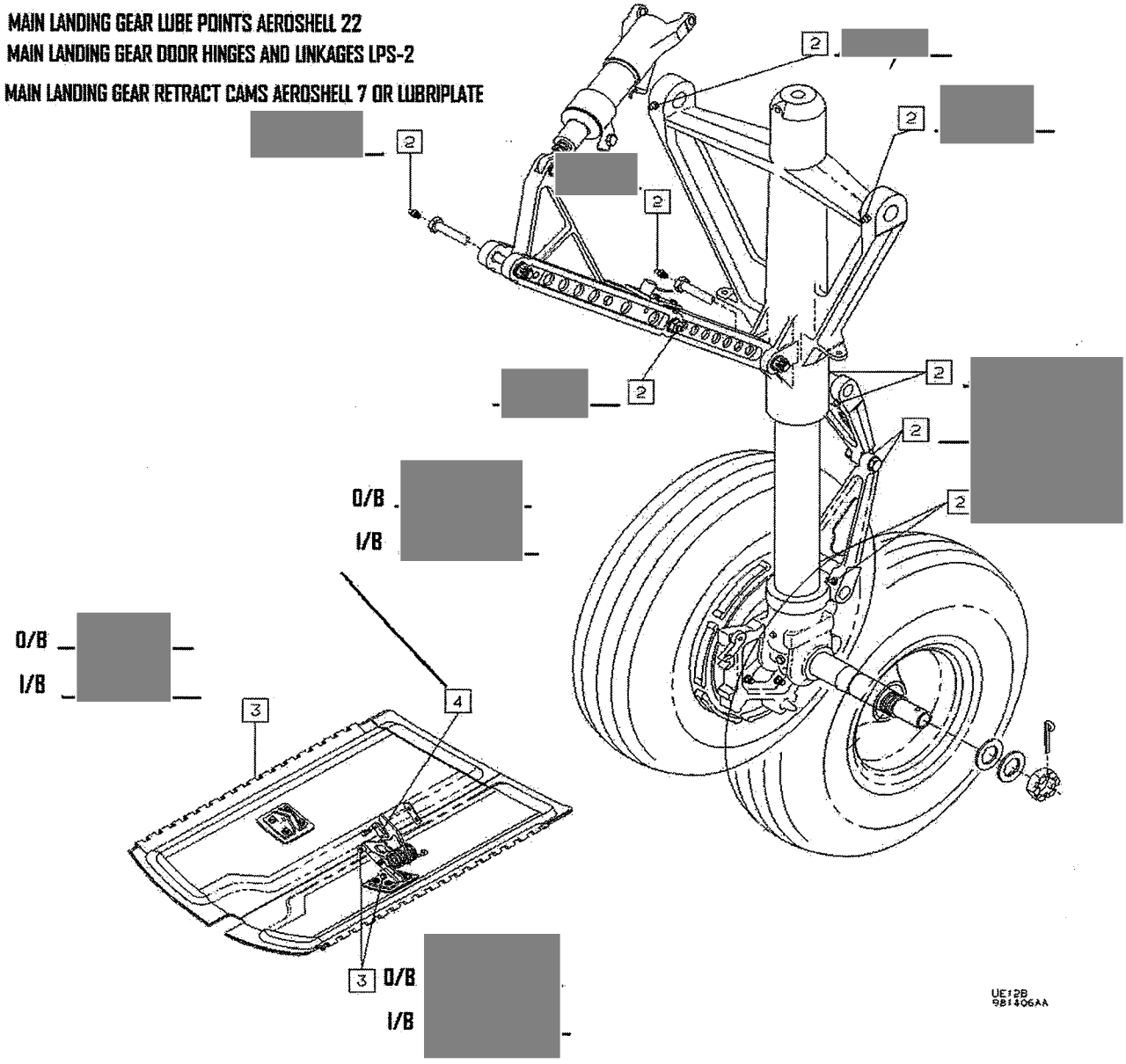
Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

A/C N# 218VV

DATE: 12/30/10

RIGHT LANDING GEAR

2- MAIN LANDING GEAR LUBE POINTS AEROSHELL 22
3- MAIN LANDING GEAR DOOR HINGES AND LINKAGES LPS-2
4- MAIN LANDING GEAR RETRACT CAMS AEROSHELL 7 OR LUBRIPLATE

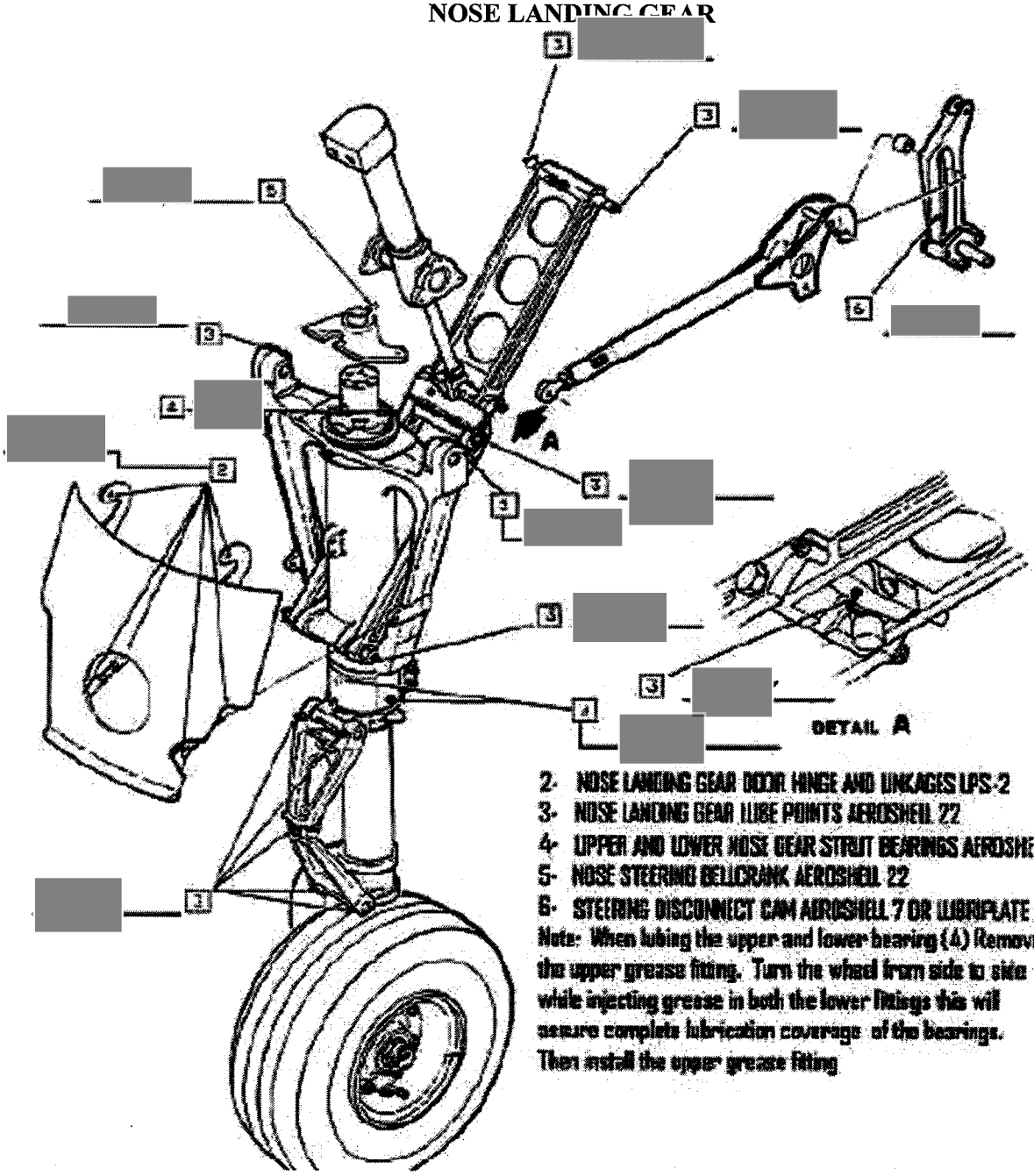


Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

A/C N# 218YV

DATE: 12/30/10

NOSE LANDING GEAR



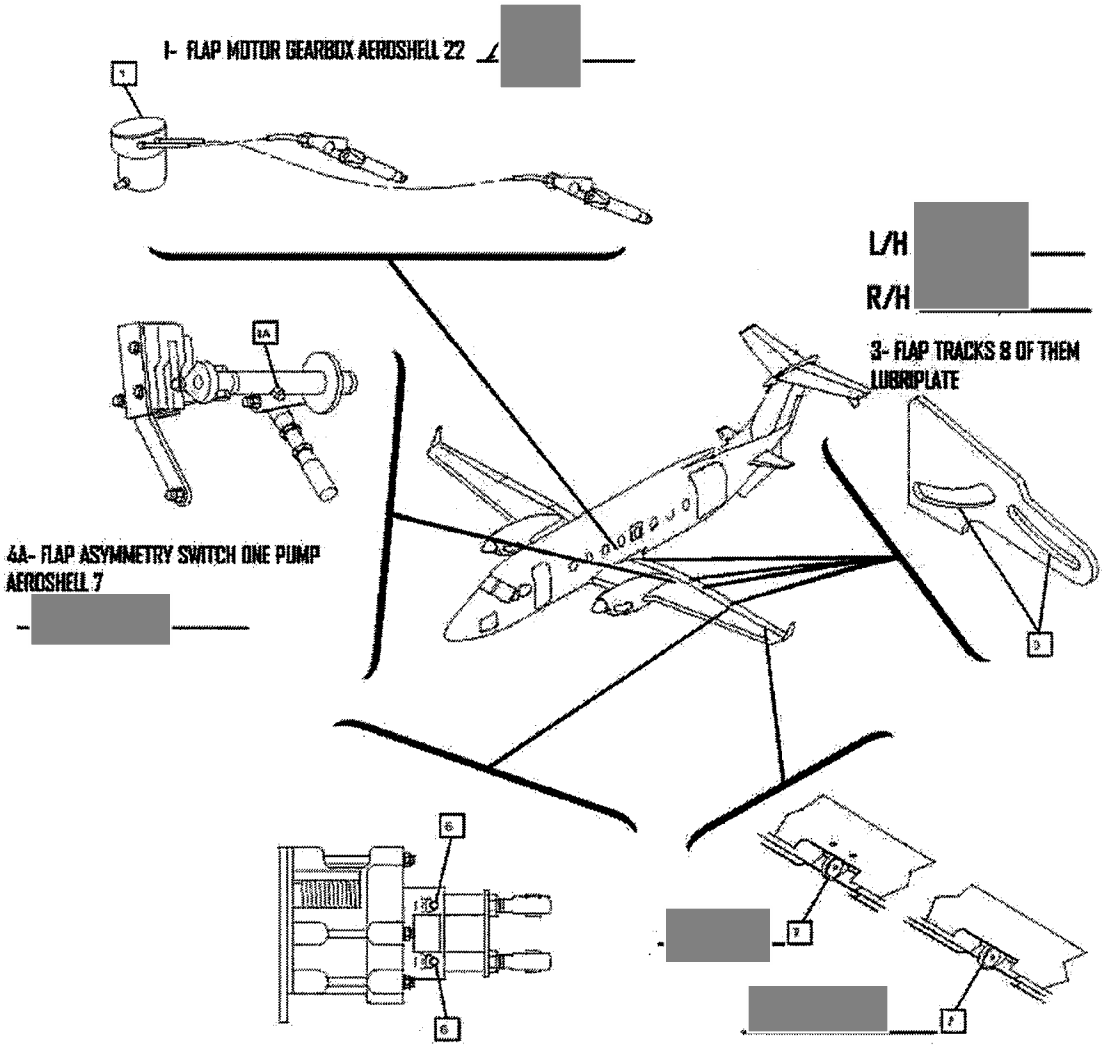
2- NOSE LANDING GEAR DOOR HINGE AND LINKAGES LPS-2
3- NOSE LANDING GEAR LUBE POINTS AEROSHELL 22
4- UPPER AND LOWER NOSE GEAR STRUT BEARINGS AEROSHELL 33MS
5- NOSE STEERING BELLCRANK AEROSHELL 22
6- STEERING DISCONNECT CAM AEROSHELL 7 OR LUBRIPLATE

Note: When lubing the upper and lower bearing (4) Remove the upper grease fitting. Turn the wheel from side to side while injecting grease in both the lower fittings this will assure complete lubrication coverage of the bearings. Then install the upper grease fitting

Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

A/C N# 218 YV

DATE: 12/30/15

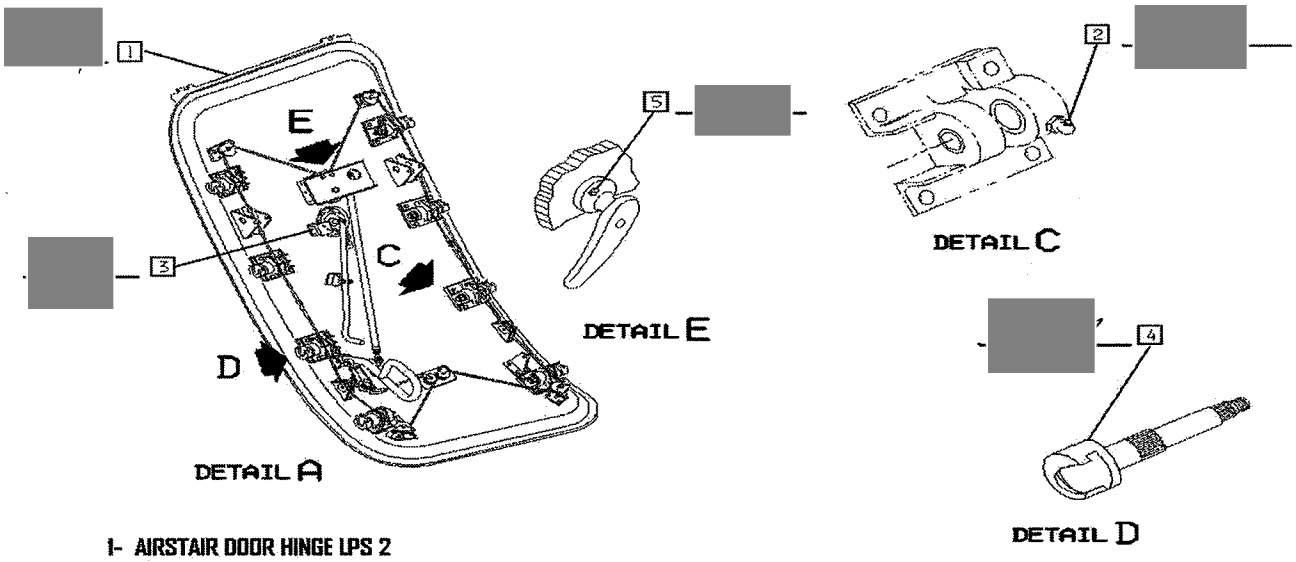


For A/C SN UE-258 and after and A/C with trim actuator part number 129-521032-15 use Dow Corning #33 light.

Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

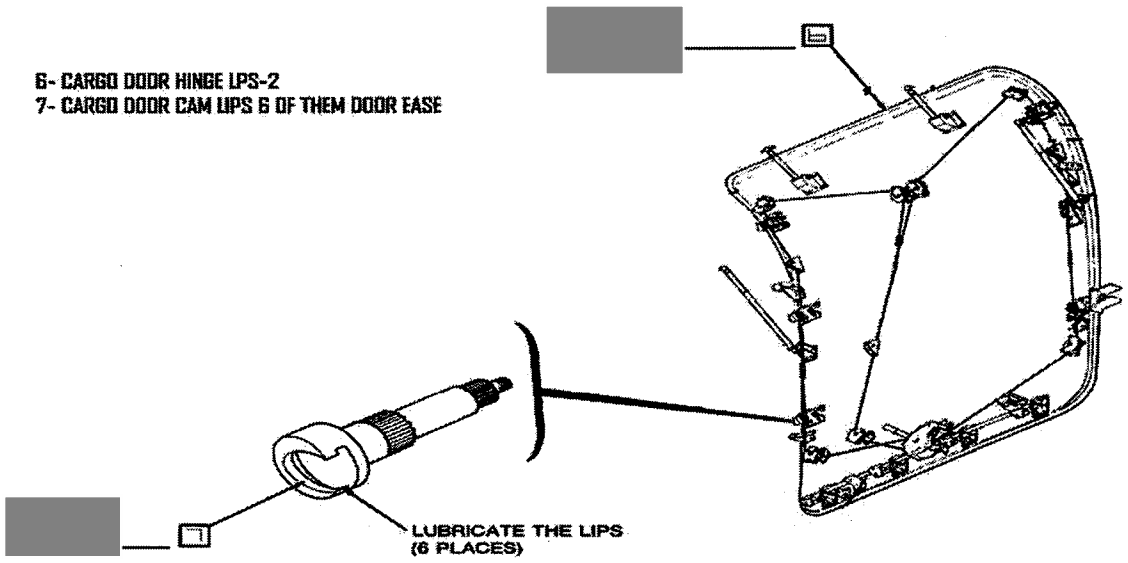
A/C N# 218YJ

DATE: 12/30/10



1- AIRSTAIR DOOR HINGE LPS 2
2- AIRSTAIR DOOR CAM HOUSINGS 8 OF THEM AEROSHELL 7
3- AIRSTAIR DOOR CAM SURFACE OF PRESSURE LOCK AEROSHELL 7
4- AIRSTAIR DOOR CAM LIPS 8 OF THEM DOOR-EASE
5- AISTAIR DOOR HANDLE AEROSHELL 7

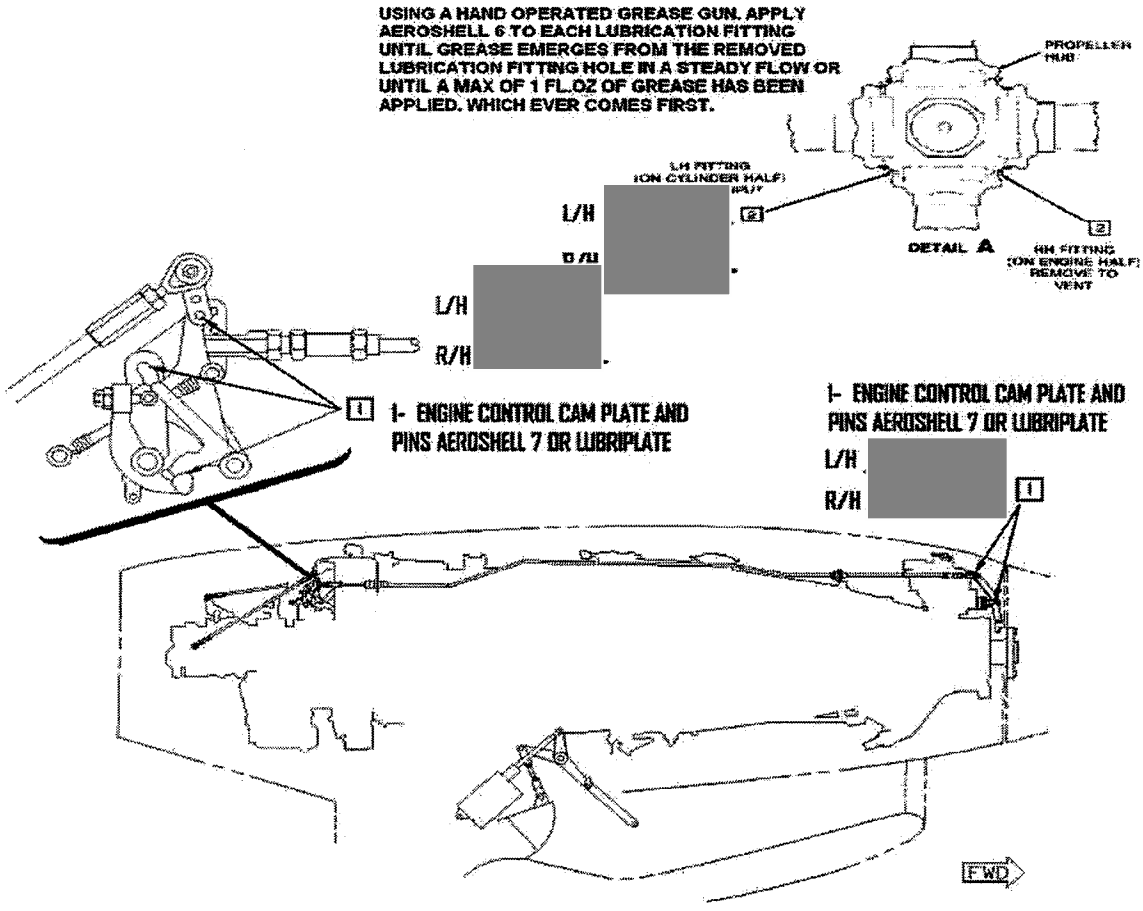
6- CARGO DOOR HINGE LPS-2
7- CARGO DOOR CAM LIPS 6 OF THEM DOOR EASE



Task Card: 1900-5THDETLUBE
Revision: 2
Revision Date: 06 DEC 10

A/C N# 218YV

DATE: 12/30/19



WARNING

DO NOT LUBRICATE ENGINE CONTROL CABLES UNDER ANY CIRCUMSTANCES. THESE CABLES ARE LUBRICATED BY THE MANUFACTURER IN ACCORDANCE WITH THEIR SPECIFICATION. THE MANUFACTURER RECOMMENDS THAT NO FURTHER LUBURICATION BE APPLIED.

GREAT LAKES AIRLINES
FLEET CAMPAIGN DIRECTIVE
(FCD)

CONTROL NUMBER 1900-32-3870
DATE 12/07/2009
REVISION 2
REVISION DATE 07/23/2010
PAGE 1 OF 7

SUBJECT: Inspection of MLG Actuator					
EFF: 1900D		S/N: N/A			
AD / SB REF: AD 2009-23-01/MSB 32-3870			P/N: 114-380041-11, 13, 15		
SYSTEM EFFECTED: Landing Gear					
REASON: To perform Ultrasonic Inspection of MLG actuator					
DUE BY: 1200 Flight Cycles	REPETITIVE:	YES X	NO	INTERVAL: 1200 Flight Cycles	
AIRCRAFT COMPLETION DATA:	S/N UE-218	TAT 28950.1	POSITION L (R)	DATE 1-24-11	
INSTRUCTIONS: See instructions on page 2 of this FCD.					
MAINTENANCE ACTION:					
Complied with FCD 1900 32-3870 R2, Visual & UT inspection R/H MLG Actuator S/N 0135A, No faults found Satisfact					
MECHANIC SIGNATURE [redacted]				EMP# [redacted]	

GREAT LAKES AIRLINES
FLEET CAMPAIGN DIRECTIVE
(FCD)

CONTROL NUMBER 1900-32-3870
DATE 12/07/2009
REVISION 2
REVISION DATE 07/23/2010

SUBJECT: Inspection of MLG Actuator					
EFF: 1900D		S/N: N/A			
AD / SB REF: AD 2009-23-01/MSB 32-3870			P/N: 114-380041-11, 13, 15		
SYSTEM EFFECTED: Landing Gear					
REASON: To perform Ultrasonic Inspection of MLG actuator					
DUE BY: 1200 Flight Cycles	REPETITIVE:	YES X	NO	INTERVAL: 1200 Flight Cycles	

AIRCRAFT COMPLETION DATA:	S/N	TAT	POSITION	DATE
	UE-218	28950.1	(L) R	1-24-11

INSTRUCTIONS: See instructions on page 2 of this FCD.

MAINTENANCE ACTION:

Complied with FCD 1900-32-3870 R2 L/H MLG Actuator S/N 0987A, Visual & U.T insp. No faults found satisfactory

MECHANIC SIGNATURE [redacted] EMP# [redacted]

10

GREAT LAKES AVIATION, Ltd.

Aircraft Log

Form MM-10

Log No.: 007044 | AIRCRAFT "N" No.: N218YV | DATE: 7/31/10

Maintenance Due	Engine Trend Check		Torque	LH: 2250	RH: 2250
TAT:	Flight No.:	5134	Prop. RPM	LH: 1550	RH: 1550
Date:	IOAT:	-8°C	N 1% (NH/NL)	LH: 95.4	RH: 96.1
	Press Alt.:	240	ITT/T6	LH: 720	RH: 690
	IAS:	170	Fuel Flow	LH: 350	RH: 350

Capt Emp #	FO Emp #	FA Emp #	Flt Code	Flt No.	From	To	Time Out	Time Off	Time On	Time In	Block Time	Hobbs	Starts 1	Starts 2	Oil 1	Oil 2	APU
[redacted]		-	SIM	5134	LBF	EAR	0814	0819	0845	0849	35	928.1	1	1			
		-	R	5134	EAR	DEN	0858	0905	1018	1028	93	929.3	1	1	1	1	N/A
		-	R	5137	DEN	LBF	1200	1210	1253	1259	59	930.1	1	1			
		-	R	5186	LBF	DEN	1309	1314	1418	1418	69	931.0	1	1			
		-	R	5182	DEN	CAR	1557	1606	1637	1642	45	931.5	1	1			
		-	R	5182	CAR	WRL	1650	1655	1747	1750	60	932.3	1	1			

	Total Block			
	361	932.3	← Ending	
		927.7	← Beginning	

FLT Code: C- Charter F- Ferry P - Position T- Training
CK - Check Ride M - Maintenance R- Revenue

THIS AIRCRFT IS APPROVED FOR RETURN TO SERVICE

STATION: | DATE: | TIME:

SIGNATURE: | EMP #:

---

1 | M (P) | Emp # [redacted] | STN: DEN | TIME: 1035

Control # 70895 | Discrepancy:

"TAW" LIGHT BULB ON FLIGHT DIRECTOR PNL

1 | STN: DEN | TIME: 1127 | Date 7/31/10 | RII: Yes ☐ No (X)

Corrective Action: Transferred to DMI # | ATA: 34

70895 REF MEL # 34-12 CAT C PER M/C Dills Zimmerman. PLACARDS Installed NO MX Required.

Signature: [redacted] | Emp #: [redacted]

---

2 | M (P) | Emp # [redacted] | STN: DEN | TIME: 1035

Control # 70896 | Discrepancy:

LIGHT BULB ON DOOR 1 GREEN FOR LANDING GEAR NEEDS REPLACED

2 | STN: DEN | TIME: 1125 | Date 7/31/10 | RII: Yes ☐ No (X)

Corrective Action: R&R Bulb PN 527 | ATA: 33

Performed GROUND OPS CK OPS CK GOOD REF M/M 33-10-01 + 33-10-00.

Signature: [redacted] | Emp #: [redacted]

---

3 | (M) P | Emp: [redacted] | STN: DEN | TIME: 1116

Control # SCH MX | Discrepancy: Check duo.

3 | STN: DEN | TIME: 1124 | Date 7/31/10 | RII: Yes ☐ No (X)

Corrective Action: Serviced both engines | ATA: 79

REF AIM Chap 10 MIC 52-02

Signature: [redacted] | Emp #: [redacted]

---

4 | M (P) | Emp # [redacted] | STN: DEN | TIME: 1400

Control # 70904 | Discrepancy:

EYEBALL VENT 9C INOP

4 | STN: DEN | TIME: 1432 | Date 7-31-10 | RII: Yes ☐ No (X)

Corrective Action: REASSEMBLED EYEBALL | ATA: 21

VENT @ 9C NOW FLOW 21-20-02.

Signature: [redacted] | Emp #: [redacted]

GREAT LAKES AVIATION, Ltd.

Aircraft Log

Form MM-10

Log No.: 039139 | AIRCRAFT "N" No.: N218YV | DATE: 3/24/11

Maintenance Due	Engine Trend Check		Torque	LH: 2725	RH: 2715
TAT:	Flight No.:	5154	Prop. RPM	LH: 1550	RH: 1550
Date:	IOAT:	-19	N 1% (NH/NL)	LH: 97.0	RH: 94.8
	Press Alt.:		ITT/T6	LH: 710	RH: 715
	IAS:		Fuel Flow	LH: 900	RH: 910

Capt Emp #	FO Emp #	FA Emp #	Flt Code	Flt No.	From	To	Time Out	Time Off	Time On	Time In	Block Time	Hobbs	Starts 1	Starts 2	Oil 1	Oil 2	Oil APU
[redacted]		-	R	5154	GRI	Den	0652	0656	0827	0829	97	2287.8	1	1	0	0	N/A
		—	R	5068	DEN	HYS	1056	1107	1210	1212	76	2288.7	1	1			
		—	R	5068	HYS	DEN	1226	1230	1348	1352	86	2290.0	1	1			
		—	R	5105	DEN	CEZ	1438	1443	1602	1604	86	2291.3	1	1			
		—	R	5104	CEZ	DEN	1647	1651	1753	1755	68	2292.2	1	1			

THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE			Total Block		2292.2	← Ending
STATION:	DATE:	TIME:			2286.3	← Beginning
SIGNATURE:	EMP #:		FLT Code: C- Charter F- Ferry P - Position T- Training CK - Check Ride M - Maintenance R- Revenue			

1 M / P Emp: [redacted] STN: DEN TIME: 0831

Control # SCH mx Discrepancy: Oil Check due

1 STN: DEN TIME: 0833 Date 3/24/11 RII: Yes ☐ No ☒

Corrective Action: NO service required at this time REF AIM Chap 10 MIC 12-02 ATA: 12

Signature: [redacted] Emp # [redacted]

2 M / P Emp # [redacted] STN: Den TIME: 1759

Control # 83526 Discrepancy: Upon extending landing Gear in Denver, left main gear took an excessive amount of time to extend. All green lights illuminated normally except for "A" light for left main gear. In transit light stayed on & pump ran for about 15 seconds, then "A" light on left main finally illuminated & pump shut off. Left main took about 10 seconds longer to extend than the nose and right main

2 STN: TIME: Date RII: Yes ☐ No ☐

Corrective Action: ATA:

Signature: Emp #:

3 M / P Emp # — STN: — TIME: —

Control # 83526 Discrepancy: continued from above

3 STN: DEN TIME: 2139 Date 3-24-11 RII: Yes ☐ No ☒

Corrective Action: PERFORMED LANDING GEAR SWING IAW AIM CHIO SEC. 32-01. PERFORMED MULTIPLE GEAR SWINGS. ALL GEARS RETRACTED & EXTENDED NORMALLY. COULD NOT DUPLICATE DISCREPANCY NO DEFECTS NOTED AT THIS TIME ATA: 32

Signature [redacted] Emp #: [redacted]

4 M / P Emp # [redacted] STN: DEN TIME: 18:28

Control # 83527 Discrepancy: REMOVED CONTROL GUST LOCK ASSY IN SERVICEABLE CONDITION P/N 101-590016-13 FOR USE ON AIRCRAFT N237YV CONTROL # 83527 EMP #5862

4 STN: DEN TIME: 647 Date 3-24-11 RII: Yes ☐ No ☒

Corrective Action: INSTALLED GUST LOCK and Damper, P/N 101-590016-13, S/N: NA Ref mm 27-70-00, 2(A,C) ATA: 27

Signature: [redacted] Emp #: [redacted]

GREAT LAKES AVIATION, Ltd.
Aircraft Log

Form MM-10

Log No.: 027180	AIRCRAFT "N" No.: N218YV	DATE: 4/19/11

Maintenance Due		Engine Trend Check					
TAT:		Flight No.:	5036	Torque	LH: 2300	RH: 2800
Date:		IOAT:	-24	Prop. RPM	LH: 1550	RH: 1550
		Press Alt.:	23,000	N 1% (NH/NL)	LH: 97.6	RH: 91.9
		IAS:	180	ITT/T6	LH: 660	RH: 660
				Fuel Flow	LH: 350	RH: 350

Capt Emp #	FO Emp #	FA Emp #	Flt Code	Flt No.	From	To	Time Out	Time Off	Time On	Time In	Block Time	Hobbs	Starts 1	Starts 2	Oil 1	Oil 2	APU
[redacted]	[redacted]	–	R	5036	ELY	CNY	0633	0637	0730	0732	59	2440.8	1	1			
[redacted]	[redacted]	–	R	5036	CNY	DEN	0809	0816	0915	0918	75	2441.8	1	1			
[redacted]	[redacted]	–	R	5081	DEN	MCK	1328	1338	1530	1435	67	2442.5	1	1			
[redacted]	[redacted]	–	R	5081	MCK	DEN	1440	1445	1543	1551	71	2443.6	1	1			
[redacted]	[redacted]	–	R	5065	DEN	FMN	1934	1941	2053	2051	77	2444.8	1	1			

THIS AIRCRAFT IS APPROVED FOR RETURN TO SERVICE			Total Block	349	2444.8	← Ending
STATION:	DATE:	TIME:			2439.9	← Beginning
SIGNATURE:	EMP #:					

FLT Code: C- Charter F- Ferry P - Position T- Training CK - Check Ride M - Maintenance R- Revenue

1	M/(P)	Emp # [redacted]	STN: DEN	TIME: 0920	1	STN: Den	TIME: 1200	Date 4-19-11	RII: Yes ☐ No ☒

Control # 84670 Discrepancy: Radar inop. - Paints Rocks + ground clutter, but not precip.

Corrective Action: RR Radar RT P/N 622-7337-001, S/N- on 2187 S/N-off 1036, Placed In Test verified Test Pattern, performed ops check on ground, clear of Personnel and vehicles ops check good. Ref mm 34-50-00 ATA: 34

Signature: [redacted] Emp #: [redacted]

2	M/(P)	Emp # [redacted]	STN: DEN	TIME: 0920	2	STN: Den	TIME: 1110	Date 4-19-11	RII: Yes ☐ No ☒

Control # 84671 Discrepancy: "3 G" bulb inop in NOSE gear Annunciator

Corrective Action: RR one Bulb "Nose" Landing Gear Annun. P/N 327. ops check good. Ref mm 33-10-06 ATA: 33

Signature: [redacted] Emp #: [redacted]

3	M/(P)	Emp # [redacted]	STN: DEN	TIME: 0920	3	STN: Den	TIME: 1110	Date 4-19-11	RII: Yes ☐ No ☒

Control # 84672 Discrepancy: R. Landing light inop.

Corrective Action: RR RH Landing Light Bulb. P/N Q4566. Ref mm 33-40-04, ops check good. ATA: 33

Signature: [redacted] Emp #: [redacted]

4	M/(P)	Emp # [redacted]	STN: DEN	TIME: 1555	4	STN: DEN	TIME: 1641	Date 4-19-11	RII: Yes ☐ No ☒

Control # 84679 Discrepancy: Environmental Auto Temp rheostat loose. No high or low stop

Corrective Action: ~~RR~~ RMVD & REMOVED Loose KNOB AND INSTALLED NEW KNOB PN - TK502-2B3 BY TIGHTENING SET SCREWS. KNOB SECURE, DOES NOT SPIN. ATA: 21

Signature: [redacted] Emp #: [redacted]

Revision 05/2009

R39785

GREAT LAKES AVIATION, Ltd.

Repairable Parts Tag

Name W/LG Actuator PN 112-380022-23

SN 583 Reason for Removal LG C.B. Pops

Position Only

A/C 255GL T.A.T. 21285.1

Date 1-23-07 Mech. [redacted]

Remarks

T.S.O. 21287.5 Insp.

☐ Bench ck. ☐ Repair ☐ O/H ☐ Ser.

100702

014790 8/21/08

APPH WICHITA, Inc.

FAA / EASA Cert. No. OU2R070L / EASA.145.5895

Date: 07/30/08

Part #: 25700-22 Description: ACTUATOR Serial Number: 583

Received From: GREAT LAKES AVIATION PO: R39785

Ship To: 1022 AIRPORT PARKWAY Ship Via: UPS

City, State, Zip: CHEYENNE, WY 82001 USA

Test Before Disassembly		Repair		Overhaul	X	Inspect & Test	X
Tear Down Report Requested						Work Order Issued to Customer	X

Total Time (TT): _____ Cycles Since New (CSN): _____ Time Since Repair (TSR): _____

Time Since OH (TSO): _____ Cycles Since OH (CSO): _____ Cycles Since Repair (CSR): _____

Customer Purchase Order Instructions / Comments 3096

Charges approved / advised / denied 8/5/08 Bearing Bosses Damage when received

Disassembled [redacted] cleaned [redacted] nd inspected. [redacted] NDI'ed if required [redacted] Replace all worn or damaged parts, installed new kit and reassembled [redacted] N Airight 25700 Drawing Rev. AE Dec 91. 8-12-08 [redacted]

Performed a Functional Te[redacted] IAW F.T.B 25700.10 DEFECTS NOTED AUG 14 2008

Parts Replaced

1	25700-22 KIT				
1	MS3126F12-10P-connector				
1	25202-9=Housing				

Preliminary Inspection Performed

Check for Hidden Damage

In Process Inspection

Functional Test Performed [redacted] 4 2008

Final Inspection Performed

FAA Form 8130 Issued

Inspector [redacted]

Repairman's Signature [redacted]

Work Order Number 521350

Stamp or Number [redacted]

Great Lakes Aviation, Ltd.

PURCHASE ORDER

R39785

Vendor # --> 100702

APPH WICHITA INC
1445 SIERRA DRIVE
WICHITA, KS 67209-2933

TEL: 316-943-5752
FAX: 316-943-9655

Ship To

GREAT LAKES AVIATION
1022 AIRPORT PARKWAY
CHEYENNE, WYOMING 82001

TEL: 307-432-7160
ATTN: PARTS DEPARTMENT

Buyer: A57
Requested By: BRIAN

P.O.DATE	NEEDED BY	SHIP VIA	F.O.B.	TERMS
07/25/08	07/25/08	UPS/GND		

L#	QTY	UNIT	PART# / DESCRIPTION	PRICE	EX.PRICE
01	1	EA	112-380022-23 ACTUATOR, NOSE GEAR Ser#: 583 25700-22 J.C.#: UE255 G.L.#: DGR DUE OVERHAUL.FAX QUOTE-APPROVAL 307-432-7161 PRIOR TO PROCEEDING WITH OVERHAUL.FAA 8130 & A TEARDOWN REPORT IS REQUIRED ON SERVICEABLE PARTS. COMPLY WITH ALL APPLICABLE AIRWORTHINESS DIRECTIVES & MANDATORY SERVICE BULLETINS. WE REQUIRE THE RETURN OF ALL REPLACED COMPONENTS. ANY CHANGES MADE TO PART# OR SN# ARE TO HAVE WRITTEN PRIOR APPROVAL ON QUOTE! Great Lakes Aviation requires written notification to the Director of Quality Control, within 10 business days, of any change(s) to Name, address, capability listing related to Great Lakes Aviation repairs/overhauls, and/or change or loss of certificate.	0.00	0.00 1100.00
				TOTAL	

RECEIVED
JUL 30 2008

214703
521350

Authorized Signature

Great Lakes Aviation, Ltd.

PURCHASE ORDER

R39785

Vendor # --> 100702

APPH WICHITA INC
1445 SIERRA DRIVE
WICHITA, KS 67209-2933

TEL: 316-943-5752
FAX: 316-943-9655

Ship To

GREAT LAKES AVIATION
1022 AIRPORT PARKWAY
CHEYENNE, WYOMING 82001

TEL: 307-432-7160
ATTN: PARTS DEPARTMENT

Buyer: A57
Requested By: BRIAN

P.O.DATE	NEEDED BY	SHIP VIA	F.O.B.	TERMS
07/25/08	07/25/08	UPS/GND		

L#	QTY	UNIT	PART# / DESCRIPTION	PRICE	EX.PRICE
			FOR QUESTIONS REGARDING THIS ORDER, PLEASE CONTACT BRIAN STEIN, ROTABLES LEAD PHONE: 307-432-7156 PLEASE FAX ALL QUOTES TO 307-432-7161 OR EMAIL TO THE FOLLOWING ADDRESS ONLY. gla-quotes@flygreatlakes.com POS:ONLY, TAT:21285.1, TSO:21285.1 LG C.B. POPS		
				TOTAL	0.00

Authorized Signature

Airight Inc. - Manufacture & Inspection Record

Part Identifier: R25700-22
Description 1: ACTUATOR
Shop Order: 521350
Order Quantity: 1.00
Due Date: 8/29/2008

Op. No.	Description	Center	Operator	1st off	Qty. Good	Qty. Reject	Date
09 *	ISSUE MATERIAL						
	ISSUE MATERIALS FROM STOCK ROOM						
10 *	ASSEMBLY AREA						
	REFERENCE AIRIGHT 25700 DRAWING CURRENT REV						
	DISASSEMBLE UNIT						8-1-08
	CLEAN UNIT						8-1-08
	INSPECT PIECE PARTS						8-1-08
20 *	OVERHAUL SUBCONTRACT						
	NON-DESTRUCTIVE INSPECT (MAGNAFLUX PER ASTM 144	UMBERS					AUG 0 4 2008
	25719-4 SLIDE						
	25706-3 ROD END						
	25720-2 WASHER						
	25720-3 WASHER						
	25704-12 PISTON						
	X						
	NON-DESTRUCTIVE INSPECT (PENETRANT PER ASTM E-14	ART NUMBERS)					AUG 0 4 2008
	25702-9 HOUSING						
	25703-4 END CAP						
	25716-1 SPRING						
	25701-5 BARREL						
	X						AUG 2 [illegible] 2008
	REPLATE ROD END (CAD PLATE PER MIL-P-416, TYPE 1, CL						
	X						
	REPLACE IF REQUIRED (CHECK YES OR NO)						
	YES NO	SWITCH - MS27240-1					
	YES NO	CONNECTOR - MS3126F12-10P					
30 *	OVERHAUL TEST						
	REFERENCE AIRIGHT 25700 DRAWING CURRENT REV						
	ASSEMBLE						8-12-08

Airight Inc. - Manufacture & Inspection Record

Part Identifier: R25700-22
Description 1: ACTUATOR
Shop Order: 521350
Order Quantity: 1.00
Due Date: 8/29/2008

	FUNCTIONAL TEST	[redacted]		1	Ø	AUG 17 2008
	PAINT					AUG 2 [illegible] 2008
	INSTALL ROD END AND SWITCH ASSY					AUG 2 0 2008
	FINAL FUNCTIONAL TEST			1	Ø	AUG 14 2008
40 *	FINAL ASSY. AFTER TEST					
	REFERENCE AIRIGHT 25700 DRAWING CURRENT REV					
	INSTALL/INSPECT SAFETY WIRE					AUG 2 0 2008
	INSTALL/INSPECT INSPECTION TORQUE SEAL					
	SIGN AND STAMP OFF					AUG 2 0 2008
	ISSUE 8130					AUG 2 0 2008 AUG 2 0 2008
50 *	FINAL INSPECTION					
	CUSTOMER PART NUMBER 25700-22					
	ALL WORK PERFORMED PER THIS SHOP ROUTER AND IAW AIRIGHT DRAWING					
	NUMBER 25700 CURRENT REV					
	X					
	X					
	REPAIRMAN	DATE				
	X	[redacted]				8-12-08
	X					
	INSPECTOR					AUG 2 0 2008
	FAA REPAIR STATION NUMBER OU2R070L/JAA.5895					

1. Approving National Aviation Authority / Country: **FAA / United States**	2. **AUTHORIZED RELEASE CERTIFICATE** FAA FORM 8130-3, AIRWORTHINESS APPROVAL TAG	3. Form Tracking Number: NDI-9682

4. Organization Name and Address: **A-1 NDI Services, LLC 325 W. Botkin St., Wellington, KS 67152**	A-1 NDI SERVICES, LLC	5. Work Order, Contract, or Invoice Number: 521350

6. Item	7. Description	8. Part Number	9. Eligibility*	10. Quantity	11. Serial/Batch Number	12. Status/Work
1	Assembly	25700-22	TBV	1 ea.	583	NDI Inspected

13. Remarks

Fluorescent Penetrant inspected per MIL-I-6866 (ASTM E 1417-05) and Magnetic Particle inspected per MIL-I-6868 (ASTM E 1444-05) accordingly for the following parts with no defects found:
25719-4 Slide (1), 25706-3 Rod End (1), 25720-2 Washer (1), 25720-3 Washer (1), 25704-12 Piston (1), 25702-9 Housing (0), 25703-4 End Cap (1), 25716-1 Spring (1), 25701-5 Barrel (1).

Limited life parts must be accompanied by maintenance history including total time/total cycles/time since new.

14. Certifies the items identified above were manufactured in conformity to:

- ☐ Approved design data and are in a condition for safe operation
- ☐ Non-approved design data specified in block 13

19. ☒ 14 CFR 43.9 Return to Service ☐ Other regulation specified in Block 13

Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature NA	16. Approval Authorization No: NA	20. [redacted]	21. Approval/Certificate No: [redacted]
17. Name *(Typed or Printed)*: NA	18. Date(m/d/y): NA	22. Name *(Typed or Printed)* Gary Foster	23. Date (m/d/y): 8/5/2008

FAA Form 8130-3 (06-01)

*(Optional. Installer must cross check eligibility with applicable technical data).

It is important to understand that the existence of this Document alone does not automatically constitute authority to install the part/component/assembly. Where the user/installer work in accordance with the national regulations of an Airworthiness Authority different than the Airworthiness Authority of the country specified in block 1, it is essential that the user/installer ensures that his/her Airworthiness Authority accepts parts/components/ assemblies from the Airworthiness Authority of the country specified in block 1. Statements in block 14 and 19 do not constitute installation certification. In all cases aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

The FAA Form 8130-3 and JAA Form One are equivalent. Other countries such as Canada also have equivalent acceptable documents.

APPH WICHITA
FUNCTIONAL TEST BULLETIN 25700

P/N: 25700-22 (112-380022-23)
S/N: 583
W/O: 521350
DATE: AUG 14 2008

1. CYCLE 25 TIMES @ 3000 PSI / NO LEAKAGE	PASS
2. CHECK STROKE (9.79 +/- .03)	9.81
3. CHECK FREE PLAY IN LOCK (.010 MAX)	PASS
4. SHUTTLE VALVE OPERATION	700 PSI
5. SHUTTLE LEAKAGE @ 650 PSI (10 DROPS / MIN.)	PASS
6. SHUTTLE LEAKAGE @ 1500 PSI	PASS
7. PROOF PRESSURE @ 4500 PSI / NO LEAKAGE	PASS
8. UNLOCK PRESSURE (200 TO 400 PSI)	225 PSI
9. SET EXTENDED LENGTH (15.92 +/- .25)	15.91
10. SET RETRACTED LENGTH (6.13+/- .12)	6.10
11. SET SWITCH (LOCKED & UNLOCKED)	PASS

11421
1667
9754

INSPECTOR [redacted]

11.421
1605
9.816

1. Approving National Aviation Authority/Country:	2.	3. Form Tracking Number:
FAA/United States	**AUTHORIZED RELEASE CERTIFICATE** FAA Form 8130-3, AIRWORTHINESS APPROVAL TAG	R39785
4. Organization Name and Address: APPH - WICHITA, INC., 1445 SIERRA DRIVE WICHITA, KS 67209		5. Work Order/Contract/Invoice Number: 521350

6. Item	7. Description	8. Part Number	9. Eligibility:*	10. Quantity:	11. Serial/Batch Number:	12. Status/Work
1	ACTUATOR	25700-22 (112-380022-23)	NA	1	583	Overhauled

13. Remarks:

WO # 521350 detailing work performed is attached. All work was performed IAW this WO & AIRIGHT INC drawing 25700, rev AE, Dec. 1991

"Certifies that work specified in blocks 12/13 was carried out in accordance with EASA.145 and with respect to that work the aircraft component is considered ready for release to service under EASA Acceptance Certificate Number EASA 145.5895."

14. Certifies the items identified above were manufactured in conformity to:	19. ☒ 14 CFR 43.9 Return to Service ☒ Other regulation specified in Block 13
☐ Approved design data and are in a condition for safe operation. ☐ Non-approved design data specified in Block 13.	Certifies that unless otherwise specified in Block 13, the work identified in Block 12 and described in Block 13 was accomplished in accordance with Title 14, Code of Federal Regulations, part 43 and in respect to that work, the items are approved for return to service.

15. Authorized Signature:	16. Approval/Authorization No.:	20. Authorized Signature:	21. Approval/Certificate No.:
		[redacted]	[redacted]
17. Name (Type or Printed):	**18. Date (m/d/y):**	**22. Name (Type or Printed):**	**23. Date (m/d/y):**
		Richard A. Cox	8/20/2008

User/Installer Responsibilities

It is important to understand that the existence of this document alone does not automatically constitute authority to install the part/component/assembly.

Where the user/installer performs work in accordance with the national regulations of an airworthiness authority different than the airworthiness authority of the country specified in Block 1, it is essential that the user/installer ensures that his/her airworthiness authority accepts parts/components/assemblies from the airworthiness authority of the country specified in Block 1.

Statements in Blocks 14 and 19 do not constitute installation certification. In all cases, aircraft maintenance records must contain an installation certification issued in accordance with the national regulations by the user/installer before the aircraft may be flown.

FAA Form 8130-3 (6-01) *Installer must cross-check eligibility with applicable technical data. NSN: 0052-00-012-9005

Variance Report - Shop Order 521350

Part # R25700-22 (ACTUATOR)
Current shop order quantity of 1
Shop order created on Jul-30-2008
Customer is GREAT LAKES, PO# R39785
This report printed on August 20, 2008, at 1:20 pm

apph WICHITA
BBA Aviation

Part ID	Description	Requirement	Issued	Value EA	Variance	Variance $	Standard Extras $
5/16 DIA. ST	BALL	10.000	10.000	0.07000	0.000	0.00	0.00
7130MS-160-T	SEAL	1.000	1.000	8.77000	0.000	0.00	0.00
7210FT-160-T	SEAL	1.000	1.000	7.37000	0.000	0.00	0.00
MS21262-15	SCREW	1.000	1.000	10.00000	0.000	0.00	0.00
MS27240-1	SWITCH	1.000	1.000	71.00000	0.000	0.00	0.00
MS28774-121	BACKUP	1.000	1.000	1.08000	0.000	0.00	0.00
MS28774-128	BACKUP	1.000	1.000	1.79795	0.000	0.00	0.00
MS28774-137	BACKUP	2.000	2.000	1.41000	0.000	0.00	0.00
MS28775-011	RB O RING SHAFTORING	2.000	2.000	0.89897	0.000	0.00	0.00
MS28775-121	O-RING	1.000	1.000	0.21000	0.000	0.00	0.00
MS28775-128	ORING	1.000	1.000	0.89897	0.000	0.00	0.00
MS28775-137	O-RING	2.000	2.000	0.31000	0.000	0.00	0.00
MS28778-6	O-RING	2.000	2.000	0.89897	0.000	0.00	0.00
NAS513-8	TAB WASHER	1.000	1.000	1.35000	0.000	0.00	0.00
R25706-3	ROD END	1.000	1.000	0.00000	0.000	0.00	0.00
RNAS509-8	NUT	1.000	1.000	0.00000	0.000	0.00	0.00
S11065-5	SCRAPER	1.000	1.000	3.71000	0.000	0.00	0.00
25702-9	HOUSING	1.000	1.000	234.37000	0.000	0.00	0.00
MS3126F12-10P	CONNECTOR	1.000	1.000	20.55000	0.000	0.00	0.00
						$0.00	$0.00

C:\Documents and Settings\rcox.AIRIGHT\Desktop\Airight Variance Report 1.rpt

GREAT LAKES AIRLINES
Cert. # GLBA031A

GREAT LAKES AVIATION, Ltd.

ATA 32-20

SERVICEABLE PARTS TAG

PN 112-380099-23	Name Nose Gear Actuator
SN 583 TSO	Date 8/25/08
O/H/Agency ~~EAE~~ APW APPH Wichita	WO# 591250/R29785
Shelf Life N/A	Insp. [redacted]

☐ New ☒ O/H ☐ Repaired ☐ Bench

Remarks:

Installation Data 35755 Ck. Time. rem.

A/C 218V	TAT 25798-8	Date 7-10-09
Log Page 228684	Position MLG	
OFF S/N 512	Mech. [redacted]	

TIME LIMITS/MAINTENANCE CHECKS
TIME LIMITED INSPECTIONS
GENERAL

1. INSPECTIONS

A. Chapter 20 - Standard Practices - Airframe

ITEM	INSPECTION REQUIREMENTS
1. Standard Engine Oil Hose, P/N 330996F-8-0095, Oil Drain LH Engine	Replace every five years
2. Standard Engine Oil Hose, P/N 330997F-8-0111, Oil Drain RH Engine	Replace every five years
3. Standard Engine Oil Hose, P/N 330997F-12-0290, Oil Cooler Inlet	Replace every five years
4. Standard Engine Oil Hose, P/N 330997F-12-0414, Oil Cooler Outlet	Replace every five years

B. Chapter 21 - Environmental Systems

ITEM	INSPECTION REQUIREMENTS
1. Sensor, Bleed Air Temperature	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
2. Bleed Air Precooler Bypass Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
3. Bleed Air Precooler-Through Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
4. Bleed Air Pressure Regulator Shutoff Valve	Every 5,000 hours replace or perform BLEED AIR PRESSURE CHECK (Ref. Chapter 21-11-00).
5. Cabin Altitude Warning Pressure Switch System	Perform the CABIN ALTITUDE WARNING PRESSURE SWITCH SYSTEM FUNCTIONAL TEST every 24 months (Ref. Chapter 21-30-00).

C. Chapter 22 - Auto Flight

ITEM	INSPECTION REQUIREMENTS
1. Autopilot	Annually, perform the autopilot GROUND TESTING procedure found in Section IV. NORMAL PROCEDURES of the 1900D AFM supplements, P/N 129-590000-25 or -83 or other applicable supplement. Annually, check autopilot servos for loose or worn mounting hardware and verify that the servo mounts are securely mounted to the airframe. Visually inspect for capstan or cable wear, contamination and proper spool-off. With the autopilot disengaged, operate each control system through its entire range and observe the servo mount for any unusual noise, binding, backlash or other mechanical irregularities.

D. Chapter 23 - Communications

ITEM	INSPECTION REQUIREMENTS
1. Cockpit Voice Recorder (CVR) Underwater Locator Device (ULD) Test	Test the underwater locator device every 24 months as instructed in Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.
2. CVR ULD Battery Replacement	Replace the underwater locator device battery, 72 months after installation or by the expiration date as stated on the battery. Refer to Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.

E. Chapter 24 - Electrical Power

ITEM	INSPECTION REQUIREMENTS
1. Starter-Generator	Replace or overhaul every 1,500 hours.
2. Emergency Power Supply Batteries (PS-835)	Perform annual discharge check per Chapter 24 of the Model 1900 Airliner Series Component Maintenance Manual, P/N 114-590021-11.

F. Chapter 25 - Equipment / Furnishing

ITEM	INSPECTION REQUIREMENTS
1. Emergency Locator Transmitter	Annually, inspect for proper installation, battery corrosion, operation of controls and crash sensor and presence of sufficient signal radiated from the antenna as instructed in Chapter 25-60-00. Replace battery at 50% of life, as stated on the battery, or anytime the transmitter is used more than one cumulative hour.

G. Chapter 26 - Fire Protection

ITEM	INSPECTION REQUIREMENTS
1. Bleed Air Warning Switches	Every 5,000 hours perform BLEED AIR WARNING SWITCHES CHECK FOR PROPER ELECTRICAL CONNECTION (Ref. Chapter 26-11-00).
2. Lavatory Fire Extinguisher	Accomplish lavatory fire extinguisher weight check every five years (Ref. Chapter 26, Model 1900 Airliner Series Component Maintenance Manual).
3. Flight Compartment Fire Extinguisher Cylinder	Hydrostatically test every 12 years (DOT Regulation).

H. Chapter 27 - Flight Controls

ITEM	INSPECTION REQUIREMENTS
1. Flight Controls - Gust Lock Inspection/Replacement	Every 12 months check for Gust Lock P/N 101-590016-7 or 101-590016-13 for UE-1 through UE-17 and 101-590016-13 for UE-18 and After. Check condition of gust lock and that it is in the cockpit available to the crew for installation. See Mandatory Service Bulletin (MSB) 27-3459 for detailed information and recurring requirement.
2. Aileron Trim Tab Control	Perform the AILERON TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-10-06).
3. Rudder Trim Tab Control	Perform the RUDDER TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-20-06).
4. Elevator Trim Tab Indicator	Perform the ELEVATOR TRIM TAB INDICATOR INSPECTION every 5,000 hours (Ref. Chapter 27-30-08).

ITEM	INSPECTION REQUIREMENTS
5. Flap Flexible Shafts	Replace every 22,500 cycles[1] (Ref. Chapter 27-50-03).
6. Flap Motor, Gearbox, Actuators and 90° Drives	Replace or inspect every 10,000 cycles[1]. Refer to Chapter 27 of the Model 1900 Airliner Series Component Maintenance Manual.
7. Outboard Flap - UE-323 and After and airplanes that have complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
8. Outboard Flap - UE-1 thru UE-322 airplanes that have not complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 1,200 cycles[1] or one year, whichever comes first (Ref. Chapter 27-00-00).
9. Inboard Flap	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
10. Aileron Yoke Assembly and Aileron Bellcrank Assembly	Perform the AILERON YOKE ASSEMBLY CHECKS and AILERON BELLCRANK ASSEMBLY REMOVAL AND INSPECTION every 3,000 hours (Ref. Chapter 27-10-02).
11. Aileron Balance Weights Clip Inspection	Perform AILERON BALANCE WEIGHTS CLIP INSPECTION procedure every 3,000 hours (Ref. Chapter 27-10-09).
12. Pilot Rudder Pedal Torque Tube Inspection	Perform the PILOT RUDDER PEDAL TORQUE TUBE INSPECTION procedure every 10,000 hours (Ref. Chapter 27-20-03).

I. Chapter 28 - Fuel System

ITEM	INSPECTION REQUIREMENTS
1. Fuel System Collector Tank	Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.

ITEM	INSPECTION REQUIREMENTS
2. Fuel System Main Fuel Tank at WS 124 thru 130	**NOTE** The removal of the sealant from the main spar forward flange, lower cap and the bulkhead at WS 124 thru 130 is required during the initial inspection. But the removal of the sealant during the recurring 12 month inspections may be skipped for up to 36 months if the fuel system is sterilized using BIOBOR JF at concentrations of 270 PPM or Kathon FP 1.5 at concentrations of 100 PPM every six months and is documented in the airplane maintenance records. For application of BIOBOR JF (Ref. Chapter 12-10-00). Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.
3. Fuel Lines	Inspect wiring and fuel lines for chafing behind the LH and RH nacelle inner fender every 2,400 hours or 12 months, whichever occurs first, as instructed in Chapter 28-20-06.
4. Fuel Bays and Fuel Quantity Probes	Inspect for microbiological growth every 4,800 hours or 36 months, whichever occurs first. Clean fuel bays and probes thoroughly.
5. Fuel Level Sensor	Functional test the Fuel Level Sensors every 4,800 hours or 36 months, Whichever occurs first (Ref. Chapter 28-40-01).

J. Chapter 31 - Indicating/Recording Systems

ITEM	INSPECTION REQUIREMENTS
1. Flight Data Recorder	For airplanes equipped with the F1000 FLIGHT DATA RECORDER: Perform operational and functional ground check at intervals not to exceed 12 calendar months per FUNCTIONAL AND OPERATIONAL CHECK - F1000 FLIGHT DATA RECORDER Chapter 31-30-00, or per AC 20-141, 9e..
2. Flight Data Recorder (FDR) Underwater Locator Device (ULD) Test	Test the Underwater Locator Device every 24 months (Ref. Chapter 25-62-01).
3. FDR ULD Battery Replacement	Replace the Underwater Locator Device battery 72 months after installation or by the expiration date as stated on the battery (Ref. Chapter 25-62-01).

K. Chapter 32 - Landing Gear

ITEM	INSPECTION REQUIREMENTS
1. Main Gear Assembly, Drag Brace Assembly, Axle and Torque Knees	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
2. Nose Gear Assembly, Drag Brace Assembly, Axle and Torque Knee	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
3. Landing Gear and Drag Brace Attach Bolts (Hollow “Lube Type” Bolts)	Replace every 10,000 cycles[1] or 5 years whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual.
4. Actuator, Main Gear	AIRIGHT/APPH - Overhaul or replace at 10,000 cycles[1] or if leakage past the rod seal exceeds one drop per 25 cycles[1]. TACTAIR/PHOENIX CONTROLS- (Ref. 5-11-00). FRISBY/TRIUMPH ACTUATION SYSTEMS (Ref. 5-11-00). Perform MAIN LANDING GEAR ACTUATOR END CAP INSPECTION every 1,200 cycles (Ref. Chapter 32-30-10). For new or newly overhauled actuators with records that show the end cap has 8,000 cycles or less, perform the LANDING GEAR ACTUATOR END CAP INSPECTION initially at 8,000 cycles and thereafter at every 1,200 cycles.
5. Airight Main Gear Actuator Shuttle Valve	Perform the MAIN LANDING GEAR ACTUATOR SHUTTLE VALVE FUNCTIONAL TEST procedure every 5,000 hours (Ref. Chapter 32-30-10).
6. Antiskid System	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test.
7. Wheel Speed Transducers	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test. Overhaul at 10,000 hours.
8. Landing Gear Hydraulic System Line Filter	Inspect filter every 3,000 hours. Refer to Chapter 32-30-00 for detailed inspection.

ITEM	INSPECTION REQUIREMENTS
9. Actuator, Nose Gear	**NOTE** This new requirement must be met within 15 months after the Aug. 1, 2010 revision. AIRIGHT/APPH - Overhaul or replace every 10,000 cycles[1]. Overhaul or replace if hydraulic leakage is noted anywhere except for the rod seal. The rod seal is allowed one drop per 25 cycles[1] or from the vent hole of the lock indicator switch which is allowed two drops per 25 cycles[1].

L. Chapter 34 - Navigation

ITEM	INSPECTION REQUIREMENTS
1. Electronic Flight Instrument Systems (EFIS-84) CRT	Every 5,000 hours of operation, measure the brightness of the CRT as instructed in the Maintenance Section of the Collins EFIS-84 Electronic Flight Instrument Systems Manual P/N 523-0775963-00311A or subsequent.

M. Chapter 35 - Oxygen

ITEM	INSPECTION REQUIREMENTS
1. Oxygen Cylinders (DOT 3FC/E-8162)	Hydrostatically test in accordance with DOT-E8162-1850 every three years. DOT-SP 8162 issued March 21, 2006 (available online from DOT) extends inspection life to five years for all cylinders inspected (retested) after July 1, 2006. Service life not to exceed 15 years.
2. Oxygen Regulators	Overhaul the regulator every five years. Functionally test the regulator when the cylinder is hydrostatically tested.
3. AVOX Systems Inc., formerly Scott Aviation, Altitude Compensated Regulator (Flight Compartment Sidewall)	Return to AVOX Systems Inc., formerly Scott Aviation, for Functional Test or perform FUNCTIONAL TEST procedure in the Model 1900 Airliner Series Component Maintenance Manual (Ref. Chapter 35-20-03) every five years.

ITEM	INSPECTION REQUIREMENTS
4. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. Kit 129-5032-7 removes this mask and installs P/N 128-380067-11/174260-12 and smoke goggles 118077. Kit 129-5032-5 removes this mask and installs P/N 129-380020-1/359-61G12 and smoke goggles 322-70. P/N 129-380093-1 AVOX P/N 893-31172 Smoke Goggles N/A
5. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. This mask replaces P/N 129-380093-1/893-31172 per Kit 129-5032-5 and adds smoke goggles 322-70. P/N 129-380020-1 and 129-560003-1 AVOX P/N 359-61G12 Smoke Goggles 322-70
6. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. P/N 101-384220-3 AVOX P/N MC10-02-05 Smoke Goggles N/A
7. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. This mask is installed per Kit 129-5032-1, replacing P/N 101-384220-3/MC10-02-05 and adds smoke goggles MXP210-00. P/N 101-384220-11 and 129-560003-3 AVOX P/N MC10-02-105 Smoke Goggles MXP210-00
8. Crew Mask Diluter Demand Quick Donning with Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-1 Puritan Bennett P/N 174250-05 Smoke Goggles 118077

ITEM	INSPECTION REQUIREMENTS
9. Crew Mask Diluter Demand Quick Donning without Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-11 and 129-560003-5 Puritan Bennett P/N 174260-12 Smoke Goggles 118077
10. Passenger Oxygen Masks	For overhaul or replacement refer to Chapter 35, Model 1900 Airliner Series Component Maintenance Manual.
11. Oxygen System	Check the condition of the oxygen system annually by performing the following procedures: a. CREW OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-10-00). b. CREW OXYGEN SYSTEM HIGH PRESSURE TEST (Ref. Chapter 35-10-00). c. DILUTER/DEMAND MASK OXYGEN SYSTEM TEST (Ref. Chapter 35-10-01). d. CREW OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-10-01). e. PASSENGER OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-20-00). f. Perform the PASSENGER OXYGEN MASK FLOW TEST (Ref. Chapter 35-20-01). g. Perform the PASSENGER OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-20-01).

N. Chapter 56 - Windows

ITEM	INSPECTION REQUIREMENTS
1. Windows	Inspect windows every 4,500 hours for cracks, crazing and evidence of deterioration (Ref. Chapter 56-20-00).
2. Window Frames	Inspect the attach frames for attachment at two years and every 12 months thereafter (Ref. Chapter 56-20-00).

O. Chapter 57 - Wings

ITEM	INSPECTION REQUIREMENTS
1. Internal Wing Structure	Check for cracks, loose rivets, corrosion, and evidence of sealant deterioration or damage inside all wing inspection areas every 4,800 hours or 36 months, whichever occurs first. Check for nicks, chafes, or breaks in the wing fuel quantity wiring harness every 4,800 hours or 36 months, whichever occurs first. (It is not necessary to remove any spiral wrap that has been installed on the harness to perform this inspection).

P. Chapter 61 - Propeller

ITEM	INSPECTION REQUIREMENTS
1. Hub TBO	Refer to Hartzell Propeller Service Letter 61 for TBO.
2. Propeller Governor	At engine TBO.
3. Propeller Overspeed Governor	Repair or replace if it fails to pass the functional check or leaks are observed (Ref. Chapter 61-20-01).

Q. Chapter 71 - Power Plant

ITEM	INSPECTION REQUIREMENTS
1. Fuel Purge System	Perform the FUEL PURGE TANK CLEANING procedure every 24 months (Ref. Chapter 71-70-00).

R. Chapter 72 - Engine

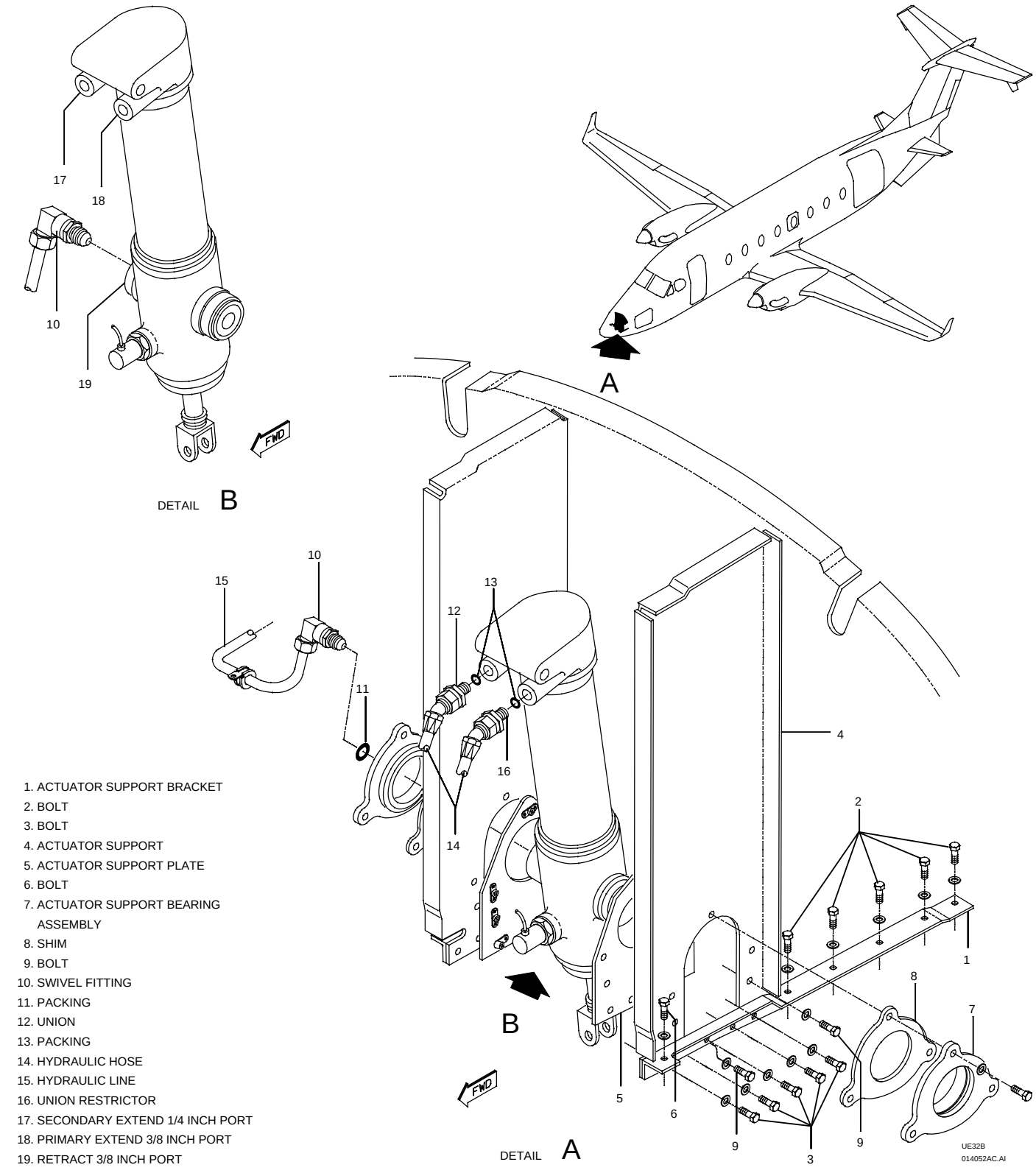
ITEM	INSPECTION REQUIREMENTS
NOTE A TBO (Time Between Overhaul) recommendation is in no way to be construed as a warranty or engine life proportion basis. The TBO recommendation is based on the projected time for most advantageous initial overhaul. The individual operator's experience may indicate a departure in either direction from the recommended TBO for the particular operation.	
1. Engine TBO	Refer to Pratt & Whitney Service Bulletin No. 14003 for overhaul and hot section time limits or local extension of Power by the Hour.

S. Chapter 79 - Oil

ITEM	INSPECTION REQUIREMENTS
1. Engine Chip Detectors	Perform the ENGINE CHIP DETECTOR INSPECTION every 100 hours (Ref. Chapter 79-30-00).

[1] A flight cycle is defined as: Engine start-up and increase to full or partial power (as required during normal flight) one landing gear retraction and extension and a complete shutdown.

Nose Landing Gear Actuator - Maintenance Practices



1. ACTUATOR SUPPORT BRACKET
2. BOLT
3. BOLT
4. ACTUATOR SUPPORT
5. ACTUATOR SUPPORT PLATE
6. BOLT
7. ACTUATOR SUPPORT BEARING ASSEMBLY
8. SHIM
9. BOLT
10. SWIVEL FITTING
11. PACKING
12. UNION
13. PACKING
14. HYDRAULIC HOSE
15. HYDRAULIC LINE
16. UNION RESTRICTOR
17. SECONDARY EXTEND 1/4 INCH PORT
18. PRIMARY EXTEND 3/8 INCH PORT
19. RETRACT 3/8 INCH PORT

Fig 201 - Nose Landing Gear Actuator

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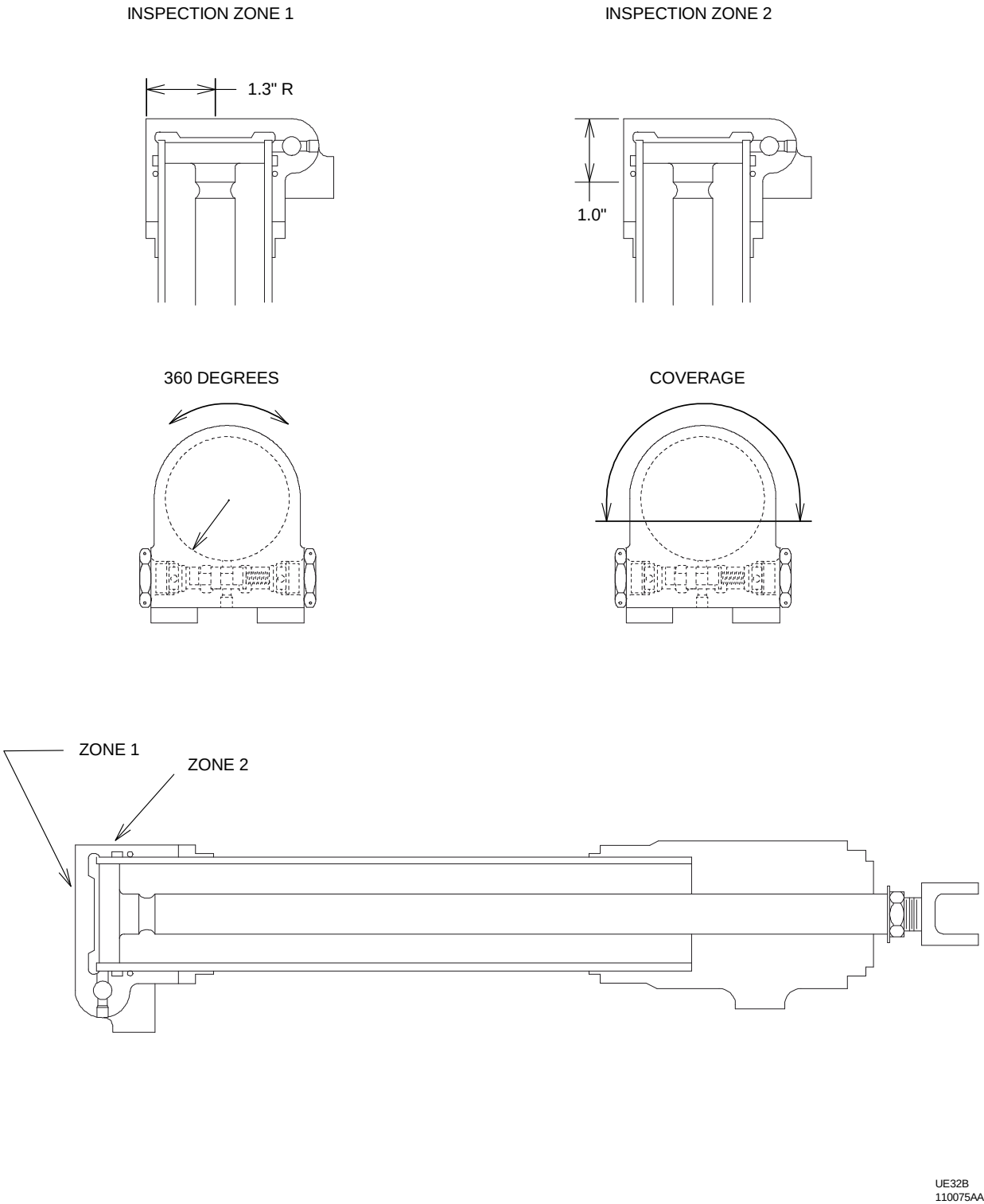
P/N 129-590000-15 Revision B5 - May 1, 2011


INSPECTION ZONE 1
INSPECTION ZONE 2
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1.0"
360 DEGREES
COVERAGE
ZONE 1
ZONE 2
UE32B
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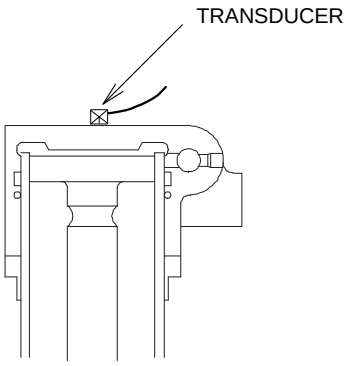

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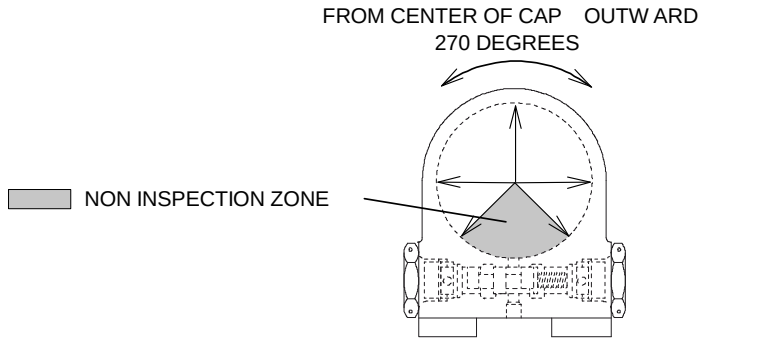
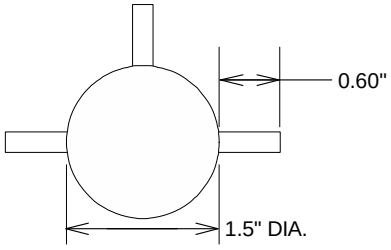
P/N 129-590000-15 Revision B5 - May 1, 2011



A TEMPLA TE WITH A 1.5" DIAMETER CIRCLE AS SHOWN BELOW MA Y BE USED TO LOCA TE A REFERENCE LINE ON THE PART SURF ACE TO REPRESENT THE APPROXIMA TE LOCA TION ON THE SURF ACE OF THE CAP IN WHICH THE SOUND BEAM'S EXIT POINT ON THE TRANSDUCER WOULD COINCIDE WITH THE DETECTION OF A CRACK AT THE INNER RADII.



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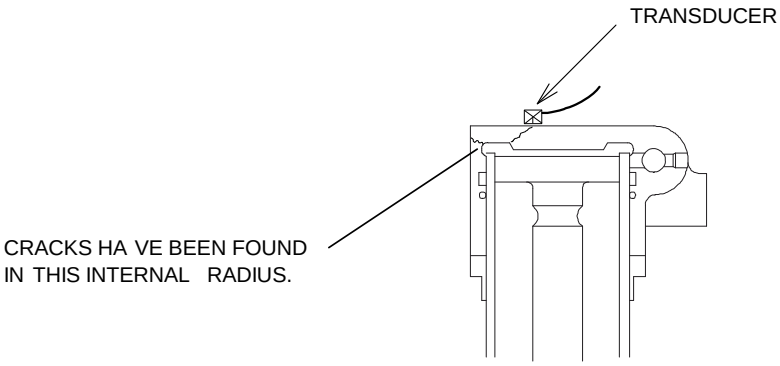

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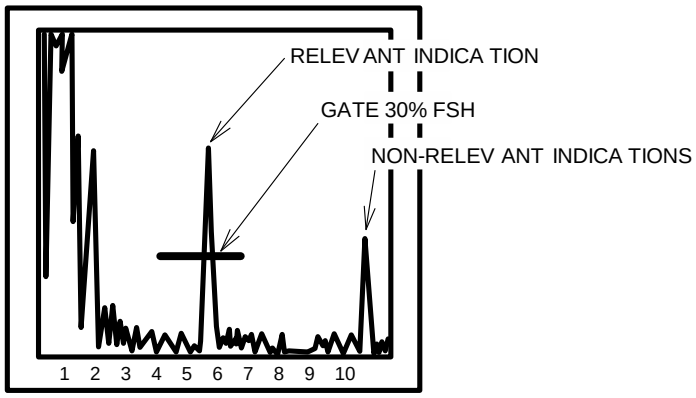

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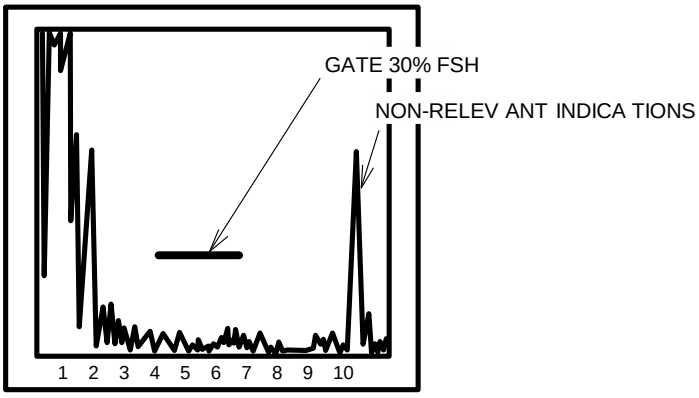
P/N 129-590000-15 Revision B5 - May 1, 2011



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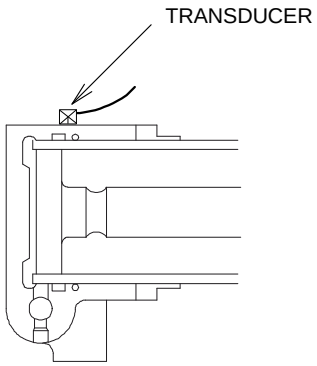

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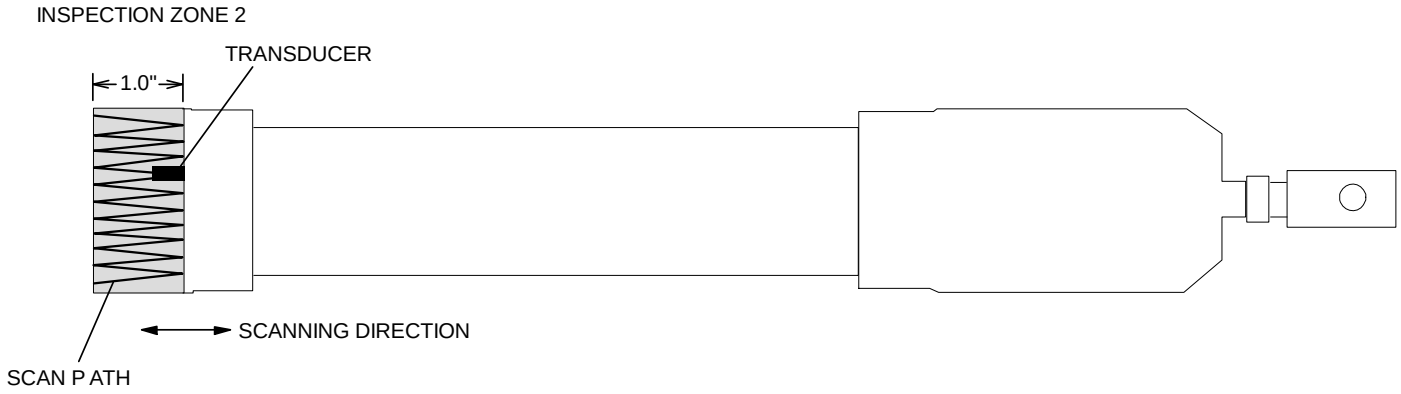
P/N 129-590000-15 Revision B5 - May 1, 2011



SOUND BEAM DIRECTED AT THE END OF THE CAP

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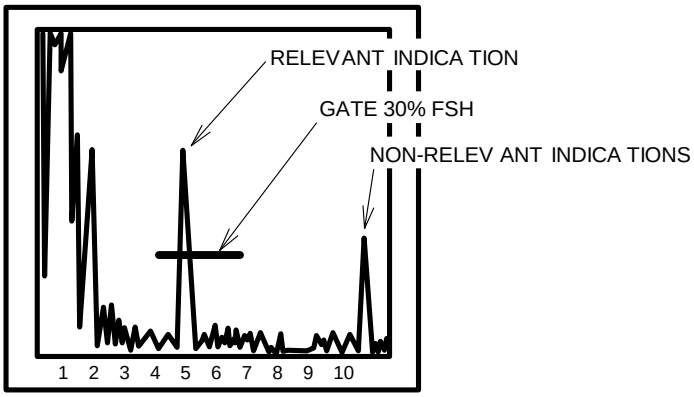

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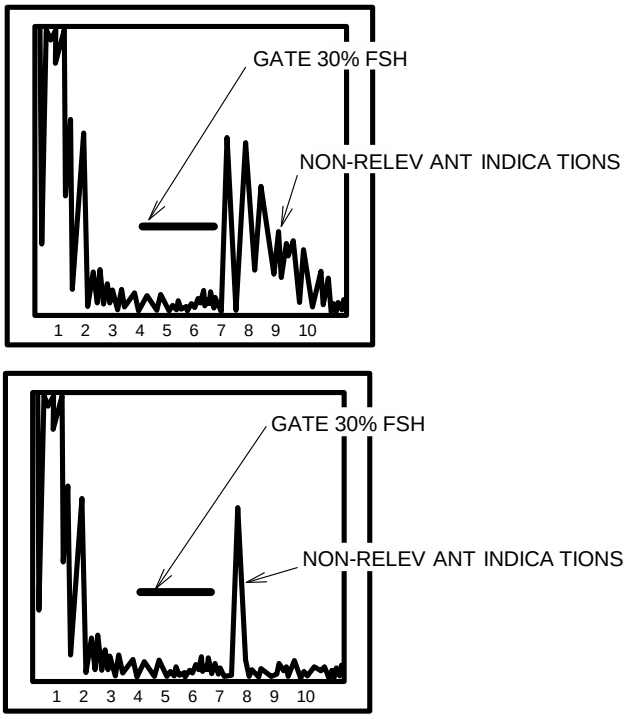
THESE INDICA TIONS MA Y APPEAR IMMEDIA TELY BEFORE A RELEV ANT CRACK INDICA TION WHEN SCANNING TOWARD THE END OF THE ACTUA TOR CAP .

NON-RELEV ANT INDICA TION



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Current as of May 1/11

LANDING GEAR
NOSE LANDING GEAR ACTUATOR
MAINTENANCE PRACTICES

1. NOSE LANDING GEAR ACTUATOR

Warning: When performing maintenance on a hydraulically operated landing gear system, be aware that any movement of a hydraulic actuator cylinder can displace hydraulic fluid and cause unanticipated movement of other actuator cylinders in the landing gear retraction system. Servicing of the landing gear hydraulic accumulator can also result in unanticipated movement of an actuator. Either action can result in an unsafe, unlocked landing gear system. Therefore, place the airplane on jacks prior to performing any inspection or maintenance. Cycle the landing gear and ensure that all three landing gears are down and locked prior to removing the aircraft from jacks.

A. Removal

Warning: Any time maintenance is to be performed on the landing gear system, place the airplane on jacks.

When jacking the airplane in an unsheltered area where winds in excess of 35 kts will be encountered, never jack more than one gear at a time clear of the ground.

Any time the landing gear is only partially retracted during maintenance, always cycle the gear with the power pack through at least one complete cycle before removing the airplane from the jacks.

For safety reasons, pull the 2-ampere control circuit breaker on the pilot's inboard subpanel and place a note on the circuit breaker panel that LANDING GEAR MAINTENANCE IS IN PROCESS during maintenance on the landing gear.

The landing gear control handle must never be moved from the down-and-locked position while the airplane is on the ground.

It is recommended that the area be roped off during extension or retraction of the landing gear.

Caution: The landing gear must not be cycled with the power pack if low on fluid or if the landing gear system is not properly rigged. Use the emergency extension hand pump, TK229/939 hydraulic hand pump (11, Table 1, 32-00-00) or TK229-1/939 air-driven hydraulic pump (12, Table 1, 32-00-00) to extend and retract the landing gear for maintenance and rigging.

(1) Perform THREE-POINT JACKING (PREFERRED PROCEDURE) procedure (Ref. Chapter 07-10-00). All tires must be clear of the floor.

(2) Perform REMOVING GROUND POWER procedure (Ref. Chapter 24-40-00).

(3) Perform BATTERY DISCONNECTION procedure (Ref. Chapter 24-31-00).

(4) Disconnect the actuator down-position switch wiring from the electrical plug located in the LH keel of the nose wheel well.

(5) To provide working room in the wheel well, Perform the NOSE LANDING GEAR DRAG BRACE REMOVAL procedures (Ref. 32-20-01).

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Caution: As the hydraulic hoses are disconnected, plug or cap all openings to prevent entry of foreign material into the hoses or actuator.

(6) Working through the access panel just aft of the nose cone and above the actuator, remove the two hydraulic hoses (14) from the actuator. Identify the hoses to facilitate installation. Disconnect the hydraulic line (15) from the swivel fitting (10) in the actuator trunnion. Cut the safety wire and remove the swivel fitting from the actuator (Ref. Figure 201).

(7) Remove each actuator support bracket (1) as follows:

(a) Working inside the nose avionics compartment, remove the five bolts (2) attaching the aft end of the bracket.

(b) Remove the row of five bolts (3) attaching the bracket to the actuator support (4) and support plate (5).

(c) Remove the bolt (6) securing the forward end of the bracket and remove the bracket from the airplane.

(8) Remove the three bolts attaching the actuator support bearing assemblies (7) to the actuator supports and withdraw the bearing assemblies from the actuator trunnions. The shims (8) installed between the bearing assemblies and the actuator supports should be retained in the positions from which they were removed.

(9) Support the actuator and remove the four remaining bolts (9) securing the support plates (5) to the actuator supports (4). The support plates and actuator will now be free to lower out of the wheel well.

B. Installation

(1) Place one of the support plates (5) over each actuator trunnion. Position the actuator and support plates between the actuator supports (4) and secure with the four bolts (9) (Ref. Figure 201).

(2) Install each actuator support bracket (1) as follows:

(a) Position the bracket and install the bolt (6) to secure the forward end of the bracket.

(b) Install the row of five bolts (3) attaching the bracket to the actuator support (4) and support plate (5).

(c) Working inside the baggage compartment, install the five bolts (3) attaching the aft end of the bracket.

(3) Install the shims (8) over the actuator trunnions in the positions from which they were removed. Install the actuator support bearing assemblies (7) on the actuator trunnions and secure to the actuator supports with the bolts.

(4) Manually push the landing gear to the retracted position and check that the actuator clevis is centered with the nose gear assembly. If it is not centered, add or remove the shims (8) between the actuator supports and the support bearing assemblies to correct the misalignment. The allowable end play of the actuator with respect to the support bearing assemblies is 0.005 to 0.040 inch.

(5) Using a new packing (11), install the swivel fitting (10) in the actuator and safety wire. Connect the hydraulic line (15) to the swivel fitting (10).

(6) Working through the access panel just aft of the nose cone and above the actuator, connect the two hydraulic hoses (14) to the actuator. If the unions (12 and 16) between the actuator and hose ends were removed or loosened, install new packings (13).

(7) Connect the actuator down position switch wiring in the LH keel of the nose wheel well.

(8) Perform NOSE LANDING GEAR DRAG BRACE INSTALLATION procedures (Ref. 32-20-01).

Note: If the shims between the actuator supports and the support bearing assemblies were moved, if the actuator stroke length or rod end length has been changed, or if the actuator being installed is not the one that was removed, rig the nose landing gear as instructed under the

heading NOSE GEAR RIGGING in 32-30-13.

(9) Connect the actuator clevis to the yoke with the bolt, nut and washers.

(10) Perform LANDING GEAR HYDRAULIC SYSTEM FILLING AND BLEEDING procedures (Ref. 32-30-00).

(11) Perform BATTERY CONNECTION procedure (Ref. Chapter 24-31-00).

(12) Perform APPLYING GROUND POWER procedure (Ref. Chapter 24-40-00).

Caution: To prevent serious damage to the pump, never operate the power pack when the engines are not running without supplying 18 psi of regulated dry air to pressurize the power pack reservoir in place of the engine bleed air.

When cycling the landing gear with the power pack, do not exceed three cycles in the first six minutes of operation with approximately a two-minute cooling period between cycles, then with a five-minute cooling interval between each cycle.

(13) Cycle the landing gear with the power pack through at least three complete cycles and check for proper operation of the in-transit and gear down lights. If necessary, adjust the down position, up position, and actuator down position switches (Ref. 32-60-00).

Warning: Before removing the airplane from the jacks, make sure that the landing gear emergency extend hand pump handle is in the stowed position, the plunger on the service valve is pushed down with the hinged retainer in place, the landing gear control handle is in the DOWN position, the landing gear is down and locked and the accumulator is charged to 800 ± 50 psi.

(14) Perform REMOVING GROUND POWER procedure (Ref. Chapter 24-40-00).

(15) Perform LOWERING THE AIRPLANE AFTER THREE POINT JACKING procedure (Ref. Chapter 07-10-00).

C. Shuttle Valve Functional Test

Warning: Any time maintenance is to be performed on the landing gear system, place the airplane on jacks.

When jacking the airplane in an unsheltered area where winds in excess of 35 kts will be encountered, never jack more than one gear at a time clear of the ground.

Any time the landing gear is only partially retracted during maintenance, always cycle the gear with the power pack through at least one complete cycle before removing the airplane from the jacks.

For safety reasons, pull the 2-ampere control circuit breaker on the pilot's inboard subpanel and place a note on the circuit breaker panel that LANDING GEAR MAINTENANCE IS IN PROCESS during maintenance on the landing gear.

The landing gear control handle must never be moved from the down-and-locked position while the airplane is on the ground.

It is recommended that the area be roped off during extension or retraction of the landing gear.

Caution: The landing gear must not be cycled with the power pack if low on fluid or if the landing gear system is not properly rigged. Use the emergency extension hand pump, TK229/939 hydraulic hand pump (11, Table 1, 32-00-00) or TK229-1/939 air-driven hydraulic pump (12, Table 1, 32-00-00) to extend and retract the landing gear for maintenance and rigging.

This procedure may be performed with the actuator on the bench or installed in the aircraft. If the procedure is to

be performed with the actuator on the bench, remove the actuator as instructed in NOSE LANDING GEAR ACTUATOR REMOVAL of this section, then proceed to Step (6) of this procedure.

(1) Perform THREE-POINT JACKING (PREFERRED PROCEDURE) procedure (Ref. Chapter 07-10-00). All tires must be clear of the floor.

(2) Perform REMOVING GROUND POWER procedure (Ref. Chapter 24-40-00).

(3) Perform BATTERY DISCONNECTION procedure (Ref. Chapter 24-31-00).

Caution: As the hydraulic hoses and hydraulic line are disconnected, plug or cap all openings to prevent entry of foreign material into the hoses, line or actuator.

(4) Disconnect the hydraulic line (15) from the swivel fitting (10) (Ref. Figure 201).

(5) Working through the access panel just aft of the nose cone and above the actuator, tag the two hydraulic hoses to facilitate installation. Remove the two hydraulic hoses from the unions (12 and 16).

(6) Connect a hand pump and pressure gauge to the nose landing gear hydraulic actuator's secondary extend 1/4 inch port (17).

(7) The hydraulic actuator's primary extend 3/8 inch port (18) and retract 3/8 inch port (19) must be open.

(8) Slowly increase pressure to the secondary extend 1/4 inch port (17) while observing the pressure gauge. The shuttle valve will move to close the primary extend 3/8 inch port (18). The actuator rod will extend.

(9) When the rod is fully extended, increase pressure to 650 psi.

(10) With 650 psi applied to the secondary 1/4 inch port (17), maximum leakage from the primary extend port shall be 10 drops per minute. 20 drops equals one milliliter (ml). If there is excessive shuttle valve leakage, the actuator must be overhauled or replaced.

(11) Slowly decrease pressure from the hand pump and disconnect it from the actuator.

(12) If the actuator has been removed from the airplane, perform NOSE LANDING GEAR ACTUATOR INSTALLATION in this section and proceed to Step (16) of this procedure. If not continue with Step (13).

(13) If the unions (12 and 16) were removed or loosened, install new packing (13).

(14) If the swivel fitting (10) was removed or loosened, install new packing (11).

(15) Connect the hydraulic hoses to the actuator with respect to identification tags.

(16) Safety wire the swivel fitting (10) to the actuator.

(17) Perform LANDING GEAR HYDRAULIC SYSTEM FILLING AND BLEEDING procedure (Ref. 32-30-00).

(18) Perform BATTERY CONNECTION procedure (Ref. Chapter 24-31-00).

(19) Perform APPLYING GROUND POWER procedure (Ref. Chapter 24-40-00).

Caution: To prevent serious damage to the pump, never operate the power pack when the engines are not running without supplying 18 psi of regulated dry air to pressurize the power pack reservoir in place of the engine bleed air.

When cycling the landing gear with the power pack, do not exceed three cycles in the first six minutes of operation with approximately a two-minute cooling period between cycles, then with a five-minute cooling interval between each cycle.

(20) Cycle the landing gear with the power pack through at least three complete cycles and check for proper operation of the in-transit and gear down lights. If necessary, adjust the down position, up position, and

actuator down position switches (Ref. 32-60-00).

Warning: Before removing the airplane from the jacks, make sure that the landing gear emergency extend hand pump handle is in the stowed position, the plunger on the service valve is pushed down with the hinged retainer in place, the landing gear control handle is in the DOWN position, the landing gear is down and locked and the accumulator is charged to 800 ± 50 psi.

(21) Perform REMOVING GROUND POWER procedure (Ref. Chapter 24-40-00).

(22) Perform LOWERING THE AIRPLANE AFTER THREE POINT JACKING procedure (Ref. Chapter 07-10-00).

D. Nose Landing Gear Actuator Ultrasonic Inspection

Warning: Any time maintenance is to be performed on the landing gear system, place the airplane on jacks.

When jacking the airplane in an unsheltered area where winds in excess of 35 kts will be encountered, never jack more than one gear at a time clear of the ground.

Any time the landing gear is only partially retracted during maintenance, always cycle the gear with the power pack through at least one complete cycle before removing the airplane from the jacks.

For safety reasons, pull the 2-ampere control circuit breaker on the pilot's inboard subpanel and place a note on the circuit breaker panel that LANDING GEAR MAINTENANCE IS IN PROCESS during maintenance on the landing gear.

The landing gear control handle must never be moved from the down-and-locked position while the airplane is on the ground.

It is recommended that the area be roped off during extension or retraction of the landing gear.

Caution: The landing gear must not be cycled with the power pack if low on fluid or if the landing gear system is not properly rigged. Use the emergency extension hand pump, TK229/939 hydraulic hand pump (11, Table 1, 32-00-00) or TK229-1/939 air-driven hydraulic pump (12, Table 1, 32-00-00) to extend and retract the landing gear for maintenance and rigging.

This inspection procedure specifies the requirements and instructions for ultrasonic angle beam inspection of the NLG actuator assembly P/N 112-380022-23 (or -3 or -15) for cracks propagating from the inside radius of the end cap. Figure 202 shows an illustration of the actuator and the area of inspection.

(1) Preparation

Note: Personnel shall be qualified and certified minimum level II in accordance with NAS 410.

Equipment:	GE USN 60, Olympus Sonic 1200 ultrasonic instrument or equivalent instrument with A-scan display.
	The ultrasonic unit shall be capable of meeting performance characteristics as described in ASTM E-317 and AMS-STD-2154 for Horizontal Limit and Linearity; Vertical Limit and Linearity; Attenuator/Decade Switch accuracy: Sensitivity and Noise; Resolution - Entry Surface and Back Surface.

	45 degree (steel) 5 MHz angle beam search unit shall be used, Panametrics P/N A5020 or equivalent, the search unit's angle beam wedge or casing. If transducer and angled wedge are built as one unit, it shall be no larger than 0.4 x 0.25 inch in the "X" and "Y" dimensions.
	Couplant Exosen 20 Mfg. Krautkramer, Lewiston PA or equivalent.
	Aluminum IIW block

Clean the surfaces to be inspected using a shop rag dampened with solvent (19, Table 2, 32-00-00). Ensure the inspection surface is free from grease, oil, sealer, loose or flaking paint, or any other substance that would prohibit the coupling of the search unit to the part to be inspected.

(2) Equipment Setup/Standardization

Periodically during the inspection and following the completion of all inspections, verify the standardization by using the calibration standard to insure the instrument remains within calibration limits. The time between standardization shall not exceed 20 minutes. If the original calibration requirements are not met, all inspections performed since the last successful calibration shall be re-inspected.

The following instrument settings are for a typical A-scan presentation ultrasonic instrument, and are meant as a guide; however sensitivity requirements shall be met.

(a) Connect the probe to the cable and the cable to the instrument and turn the instrument on.

(b) Set the instrument to the initial settings of Table 201.

Table 201
Initital Instrument Settings

Description	Settings
Gain	40 dB (Decibels)
Range	1.25 inch
Delay	0 in/μs (inch/microseconds)
Velocity	0.1230 in/μs (inch/microseconds)
Pulse	50 ns (nanoseconds)
Damp	50Ω
Mode	Single
Gate 1	Positive
Gate Position	0.475 inch
Gate Width	0.304 inch
Gate Amplitude	30% FSH (Full Screen Height)
Display	Full Wave
Frequency	2 to 25 MHz BB (Broad Band)

Reject	OFF

(c) Apply couplant. Couple the transducer to the IIW block and adjust the gain to achieve an 80% FSH signal from the 0.060 inch diameter Sensitivity Hole, then add 6 dB.

(d) Adjust the horizontal sweep to position the leading edge of the signal from the 0.060 inch diameter hole at 8.0 on the horizontal baseline.

(e) Adjust the gate controls to position the gate at 30% FSH at 4.0 to 6.0 on the horizontal baseline.

(3) Inspection Zone 1

Note: Inspection of Zone 1 is applicable to inspection as installed or uninstalled on the aircraft.

(a) Apply couplant. Couple the transducer to the center of the cap with the sound beam directed at the edge of the actuator cap as shown in Figure 203.

(b) Scan 270° of the circumference of the part in the area of interest shown in Figure 202 and 203 for Zone 1. Index no greater than 0.10 inch for 100% coverage of the inspection zone. Use a typical "Z" scan path while angling the transducer to maximize any crack response received between 5.0 to 6.0 on the horizontal baseline.

Note: A template (Ref. Figure 204) may be used to locate a reference line that will aid in the inspection.

(c) Scan outward and maximize the reflected signal from the machined contour of the internal surface of the cap, the signal will first appear at 7.5 and peak at approximately 6.5 on the horizontal baseline (Ref. Figure 205). Scan outward towards the outer radius of the cap.

(d) As the transducer is scanned across the inspection zone toward the radius of the actuator end cap, the reflected signal from a crack on the first leg of the "V" path will first appear at 6.5 on the horizontal baseline and peak at 5.5 on the horizontal baseline. For detection of a crack at the inner radii, the sound beam's exit point of the transducer will be approximately 0.60 inch to the edge of the cap. As the transducer is scanned toward the edge of the actuator cap other reflections may be seen further out in time, these reflections are non-relevant, the area of interest will be represented between 4.0 and 6.0 on the horizontal baseline (Ref. Figure 206).

Note: Some actuators may exhibit multiple non-relevant indications adjacent to the area of interest on the horizontal baseline. Such non-relevant indications may appear at 7 to 10 on the horizontal baseline (Ref. Figure 207).

(e) Confirm instrument calibration at completion of inspection. If the original calibration requirements are not met, all inspections performed since the last successful calibration shall be re-inspected.

(4) Indication Evaluation/Criteria Zone 1

(a) Any indication between 5.0 to 6.0 on the horizontal baseline shall be re-scanned to determine if the indication is false, caused by excessive couplant, hydraulic fluid within the actuator, part geometry, surface condition, or a defect.

Note: Indications caused by droplets of hydraulic fluid on the inner surface will change their location and amplitude on the horizontal baseline when the actuator is manipulated or rotated.

(b) Any repeatable sustainable crack response of 30% FSH or greater within the area of interest shall be rejected.

(5) Inspection Zone 2

Note: Inspection of Zone 2 is applicable to inspection performed on actuators not installed on the aircraft.

(a) Apply complant. Couple the transducer to the part with the sound beam directed at the edge of the actuator cap as shown in Figure 208.

(b) Mark a reference line around the circumference 1.0 inch back from the end of the cap representing the inspection zone on the surface of the part.

(c) Mark a reference line around the circumference 0.60 inch back from the end of the cap on the surface of the cap. This line represents the approximate location of the transducer sound beam's exit point in relation to crack detection at the inner radii.

(d) Scan the outer circumference of the part in the area of interest shown in Ref. Figures 202 and 209. Index no greater than 0.10 inch for 100% coverage of the inspection zone. Use a typical "Z" scan path while angling the transducer to maximize any crack response received between 4.0 to 6.0 on the horizontal baseline.

Note: Scanning must be contained within the inspection zone. Scanning outside of the inspection zone can lead to miss interpretation of indication as cracks due to normal ID geometery.

(e) As the transducer is scanned across the inspection zone toward the radius of the end cap of the actuator a reflected signal from the "O" ring groove will appear at 5.5 and peak at 5.0 on the horizontal baseline. As the transducer is moved further toward the end of the cap to inspect the area of interest the reflected signal from a crack will immediately follow the "O" ring signal appearing at 5.5 and peaking at 4.8 on the horizontal baseline. For detection of a crack at the inner radii, the sound beam's exit point of the transducer will be approximately 0.60 inch to the edge of the cap. As the transducer is scanned further toward the edge of the actuator cap other reflections may be seen further out in time, these reflections are non-relevant, the area of interest will be represented between 3.0 and 6.0 on the horizontal baseline (Ref. Figure 210).

Note: Indications caused by droplets of hydraulic fluid on the inner surface will change their location and amplitude on the horizontal baseline when the actuator is manipulated or rotated.

Note: Some actuators may exhibit multiple non-relevant indications adjacent to the area of interest on the horizontal baseline. Such non-relevant indications may appear at 7 to 10 on the horizontal baseline (Ref. Figure 211).

(f) Confirm instrument calibration at completion of inspection. If the original calibration requirements are not met, all inspections performed since the last successful calibration shall be re-inspected.

(6) Indication Evaluation/Criteria

(a) Any indication between 4.0 to 5.0 on the horizontal baseline shall be re-scanned to determine if the indication is false, caused by excessive couplant, part geometry, surface condition, or a defect.

Note: Indications caused by droplets of hydraulic fluid on the inner surface will change their location and amplitude on the horizontal baseline when the actuator is manipulative or rotated.

(b) Any repeatable sustainable crack response of 30% FSH or greater within the area of interest shall be rejected.

(7) Reporting

(a) Mark cracks and record in aircraft log book. Report location and size to HBC Service Engineering.

Current as of May 1/11

TIME LIMITS/MAINTENANCE CHECKS
TIME LIMITED INSPECTIONS
GENERAL

1. INSPECTIONS

A. Chapter 20 - Standard Practices - Airframe

ITEM	INSPECTION REQUIREMENTS
1. Standard Engine Oil Hose, P/N 330996F-8-0095, Oil Drain LH Engine	Replace every five years
2. Standard Engine Oil Hose, P/N 330997F-8-0111, Oil Drain RH Engine	Replace every five years
3. Standard Engine Oil Hose, P/N 330997F-12-0290, Oil Cooler Inlet	Replace every five years
4. Standard Engine Oil Hose, P/N 330997F-12-0414, Oil Cooler Outlet	Replace every five years

B. Chapter 21 - Environmental Systems

ITEM	INSPECTION REQUIREMENTS
1. Sensor, Bleed Air Temperature	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
2. Bleed Air Precooler Bypass Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
3. Bleed Air Precooler-Through Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
4. Bleed Air Pressure Regulator Shutoff Valve	Every 5,000 hours replace or perform BLEED AIR PRESSURE CHECK (Ref. Chapter 21-11-00).
5. Cabin Altitude Warning Pressure Switch System	Perform the CABIN ALTITUDE WARNING PRESSURE SWITCH SYSTEM FUNCTIONAL TEST every 24 months (Ref. Chapter 21-30-00).

C. Chapter 22 - Auto Flight

ITEM	INSPECTION REQUIREMENTS

1. Autopilot	Annually, perform the autopilot GROUND TESTING procedure found in Section IV. NORMAL PROCEDURES of the 1900D AFM supplements, P/N 129-590000-25 or -83 or other applicable supplement. Annually, check autopilot servos for loose or worn mounting hardware and verify that the servo mounts are securely mounted to the airframe. Visually inspect for capstan or cable wear, contamination and proper spool-off. With the autopilot disengaged, operate each control system through its entire range and observe the servo mount for any unusual noise, binding, backlash or other mechanical irregularities.

D. Chapter 23 - Communications

ITEM	INSPECTION REQUIREMENTS
1. Cockpit Voice Recorder (CVR) Underwater Locator Device (ULD) Test	Test the underwater locator device every 24 months as instructed in Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.
2. CVR ULD Battery Replacement	Replace the underwater locator device battery, 72 months after installation or by the expiration date as stated on the battery. Refer to Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.

E. Chapter 24 - Electrical Power

ITEM	INSPECTION REQUIREMENTS
1. Starter-Generator	Replace or overhaul every 1,500 hours.
2. Emergency Power Supply Batteries (PS-835)	Perform annual discharge check per Chapter 24 of the Model 1900 Airliner Series Component Maintenance Manual, P/N 114-590021-11.

F. Chapter 25 - Equipment / Furnishing

ITEM	INSPECTION REQUIREMENTS
1. Emergency Locator Transmitter	Annually, inspect for proper installation, battery corrosion, operation of controls and crash sensor and presence of sufficient signal radiated from the antenna as instructed in Chapter 25-60-00. Replace battery at 50% of life, as stated on the battery, or anytime the transmitter is used more than one cumulative hour.

G. Chapter 26 - Fire Protection

ITEM	INSPECTION REQUIREMENTS
1. Bleed Air Warning Switches	Every 5,000 hours perform BLEED AIR WARNING SWITCHES CHECK FOR PROPER ELECTRICAL CONNECTION (Ref. Chapter 26-11-00).
2. Lavatory Fire Extinguisher	Accomplish lavatory fire extinguisher weight check every five years (Ref. Chapter 26, Model 1900 Airliner Series Component Maintenance Manual).
3. Flight Compartment Fire Extinguisher Cylinder	Hydrostatically test every 12 years (DOT Regulation).

H. Chapter 27 - Flight Controls

ITEM	INSPECTION REQUIREMENTS
1. Flight Controls - Gust Lock Inspection/Replacement	Every 12 months check for Gust Lock P/N 101-590016-7 or 101-590016-13 for UE-1 through UE-17 and 101-590016-13 for UE-18 and After. Check condition of gust lock and that it is in the cockpit available to the crew for installation. See Mandatory Service Bulletin (MSB) 27-3459 for detailed information and recurring requirement.
2. Aileron Trim Tab Control	Perform the AILERON TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-10-06).
3. Rudder Trim Tab Control	Perform the RUDDER TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-20-06).
4. Elevator Trim Tab Indicator	Perform the ELEVATOR TRIM TAB INDICATOR INSPECTION every 5,000 hours (Ref. Chapter 27-30-08).
5. Flap Flexible Shafts	Replace every 22,500 cycles[1] (Ref. Chapter 27-50-03).
6. Flap Motor, Gearbox, Actuators and 90° Drives	Replace or inspect every 10,000 cycles[1]. Refer to Chapter 27 of the Model 1900 Airliner Series Component Maintenance Manual.
7. Outboard Flap - UE-323 and After and airplanes that have complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
8. Outboard Flap - UE-1 thru UE-322 airplanes that have not complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 1,200 cycles[1] or one year, whichever comes first (Ref. Chapter 27-00-00).

9. Inboard Flap	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
10. Aileron Yoke Assembly and Aileron Bellcrank Assembly	Perform the AILERON YOKE ASSEMBLY CHECKS and AILERON BELLCRANK ASSEMBLY REMOVAL AND INSPECTION every 3,000 hours (Ref. Chapter 27-10-02).
11. Aileron Balance Weights Clip Inspection	Perform AILERON BALANCE WEIGHTS CLIP INSPECTION procedure every 3,000 hours (Ref. Chapter 27-10-09).
12. Pilot Rudder Pedal Torque Tube Inspection	Perform the PILOT RUDDER PEDAL TORQUE TUBE INSPECTION procedure every 10,000 hours (Ref. Chapter 27-20-03).

I. Chapter 28 - Fuel System

ITEM	INSPECTION REQUIREMENTS
1. Fuel System Collector Tank	Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.
2. Fuel System Main Fuel Tank at WS 124 thru 130	NOTE **The removal of the sealant from the main spar forward flange, lower cap and the bulkhead at WS 124 thru 130 is required during the initial inspection. But the removal of the sealant during the recurring 12 month inspections may be skipped for up to 36 months if the fuel system is sterilized using BIOBOR JF at concentrations of 270 PPM or Kathon FP 1.5 at concentrations of 100 PPM every six months and is documented in the airplane maintenance records.** **For application of BIOBOR JF (Ref. Chapter 12-10-00).** **Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.**

3. Fuel Lines	Inspect wiring and fuel lines for chafing behind the LH and RH nacelle inner fender every 2,400 hours or 12 months, whichever occurs first, as instructed in Chapter 28-20-06.
4. Fuel Bays and Fuel Quantity Probes	Inspect for microbiological growth every 4,800 hours or 36 months, whichever occurs first. Clean fuel bays and probes thoroughly.
5. Fuel Level Sensor	Functional test the Fuel Level Sensors every 4,800 hours or 36 months, Whichever occurs first (Ref. Chapter 28-40-01).

J. Chapter 31 - Indicating/Recording Systems

ITEM	INSPECTION REQUIREMENTS
1. Flight Data Recorder	For airplanes equipped with the F1000 FLIGHT DATA RECORDER: Perform operational and functional ground check at intervals not to exceed 12 calendar months per FUNCTIONAL AND OPERATIONAL CHECK - F1000 FLIGHT DATA RECORDER Chapter 31-30-00, or per AC 20-141, 9e..
2. Flight Data Recorder (FDR) Underwater Locator Device (ULD) Test	Test the Underwater Locator Device every 24 months (Ref. Chapter 25-62-01).
3. FDR ULD Battery Replacement	Replace the Underwater Locator Device battery 72 months after installation or by the expiration date as stated on the battery (Ref. Chapter 25-62-01).

K. Chapter 32 - Landing Gear

ITEM	INSPECTION REQUIREMENTS
1. Main Gear Assembly, Drag Brace Assembly, Axle and Torque Knees	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
2. Nose Gear Assembly, Drag Brace Assembly, Axle and Torque Knee	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
3. Landing Gear and Drag Brace Attach Bolts (Hollow "Lube Type" Bolts)	Replace every 10,000 cycles[1] or 5 years whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual.

4. Actuator, Main Gear	AIRIGHT/APPH - Overhaul or replace at 10,000 cycles[1] or if leakage past the rod seal exceeds one drop per 25 cycles[1]. TACTAIR/PHOENIX CONTROLS- (Ref. 5-11-00). FRISBY/TRIUMPH ACTUATION SYSTEMS (Ref. 5-11-00). Perform MAIN LANDING GEAR ACTUATOR END CAP INSPECTION every 1,200 cycles (Ref. Chapter 32-30-10). For new or newly overhauled actuators with records that show the end cap has 8,000 cycles or less, perform the LANDING GEAR ACTUATOR END CAP INSPECTION initially at 8,000 cycles and thereafter at every 1,200 cycles.
5. Airight Main Gear Actuator Shuttle Valve	Perform the MAIN LANDING GEAR ACTUATOR SHUTTLE VALVE FUNCTIONAL TEST procedure every 5,000 hours (Ref. Chapter 32-30-10).
6. Antiskid System	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test.
7. Wheel Speed Transducers	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test. Overhaul at 10,000 hours.
8. Landing Gear Hydraulic System Line Filter	Inspect filter every 3,000 hours. Refer to Chapter 32-30-00 for detailed inspection.
9. Actuator, Nose Gear	NOTE **This new requirement must be met within 15 months after the Aug. 1, 2010 revision.** AIRIGHT/APPH - Overhaul or replace every 10,000 cycles[1]. Overhaul or replace if hydraulic leakage is noted anywhere except for the rod seal. The rod seal is allowed one drop per 25 cycles[1] or from the vent hole of the lock indicator switch which is allowed two drops per 25 cycles[1]. AIRIGHT/APPH - Perform NOSE LANDING GEAR ACTUATOR ULTRASONIC INSPECTION every 1,200 cycles (Ref. Chapter 32-30-14). For new or newly overhauled actuators with records that show the end cap has 8,000 cycles or less, perform the NOSE LANDING GEAR ACTUATOR END CAP INSPECTION initially at 8,000 cycles and thereafter at every 1,200 cycles.

L. Chapter 34 - Navigation

ITEM	INSPECTION REQUIREMENTS
1. Electronic Flight Instrument Systems (EFIS-84) CRT	Every 5,000 hours of operation, measure the brightness of the CRT as instructed in the Maintenance Section of the Collins EFIS-84 Electronic Flight Instrument Systems Manual P/N 523-0775963-00311A or subsequent.

M. Chapter 35 - Oxygen

ITEM	INSPECTION REQUIREMENTS
1. Oxygen Regulators	Overhaul the regulator every five years. Functionally test the regulator when the cylinder is hydrostatically tested.
2. AVOX Systems Inc., formerly Scott Aviation, Altitude Compensated Regulator (Flight Compartment Sidewall)	Return to AVOX Systems Inc., formerly Scott Aviation, for Functional Test or perform FUNCTIONAL TEST procedure in the Model 1900 Airliner Series Component Maintenance Manual (Ref. Chapter 35-20-03) every five years.
3. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. Kit 129-5032-7 removes this mask and installs P/N 128-380067-11/174260-12 and smoke goggles 118077. Kit 129-5032-5 removes this mask and installs P/N 129-380020-1/359-61G12 and smoke goggles 322-70. P/N 129-380093-1 AVOX P/N 893-31172 Smoke Goggles N/A
4. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. This mask replaces P/N 129-380093-1/893-31172 per Kit 129-5032-5 and adds smoke goggles 322-70. P/N 129-380020-1 and 129-560003-1 AVOX P/N 359-61G12 Smoke Goggles 322-70
5. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. P/N 101-384220-3 AVOX P/N MC10-02-05 Smoke Goggles N/A

6. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. This mask is installed per Kit 129-5032-1, replacing P/N 101-384220-3/MC10-02-05 and adds smoke goggles MXP210-00. P/N 101-384220-11 and 129-560003-3 AVOX P/N MC10-02-105 Smoke Goggles MXP210-00
7. Crew Mask Diluter Demand Quick Donning with Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-1 Puritan Bennett P/N 174250-05 Smoke Goggles 118077
8. Crew Mask Diluter Demand Quick Donning without Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-11 and 129-560003-5 Puritan Bennett P/N 174260-12 Smoke Goggles 118077
9. Passenger Oxygen Masks	For overhaul or replacement refer to Chapter 35, Model 1900 Airliner Series Component Maintenance Manual.

10. Oxygen System	Check the condition of the oxygen system annually by performing the following procedures: a. CREW OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-10-00). b. CREW OXYGEN SYSTEM HIGH PRESSURE TEST (Ref. Chapter 35-10-00). c. DILUTER/DEMAND MASK OXYGEN SYSTEM TEST (Ref. Chapter 35-10-01). d. CREW OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-10-01). e. PASSENGER OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-20-00). f. Perform the PASSENGER OXYGEN MASK FLOW TEST (Ref. Chapter 35-20-01). g. Perform the PASSENGER OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-20-01).

N. Chapter 56 - Windows

ITEM	INSPECTION REQUIREMENTS
1. Windows	Inspect windows every 4,500 hours for cracks, crazing and evidence of deterioration (Ref. Chapter 56-20-00).
2. Window Frames	Inspect the attach frames for attachment at two years and every 12 months thereafter (Ref. Chapter 56-20-00).

O. Chapter 57 - Wings

ITEM	INSPECTION REQUIREMENTS
1. Internal Wing Structure	Check for cracks, loose rivets, corrosion, and evidence of sealant deterioration or damage inside all wing inspection areas every 4,800 hours or 36 months, whichever occurs first. Check for nicks, chafes, or breaks in the wing fuel quantity wiring harness every 4,800 hours or 36 months, whichever occurs first. (It is not necessary to remove any spiral wrap that has been installed on the harness to perform this inspection).

P. Chapter 61 - Propeller

ITEM	INSPECTION REQUIREMENTS

1. Hub TBO	Refer to Hartzell Propeller Service Letter 61 for TBO.
2. Propeller Governor	At engine TBO.
3. Propeller Overspeed Governor	Repair or replace if it fails to pass the functional check or leaks are observed (Ref. Chapter 61-20-01).

Q. Chapter 71 - Power Plant

ITEM	INSPECTION REQUIREMENTS
1. Fuel Purge System	Perform the FUEL PURGE TANK CLEANING procedure every 24 months (Ref. Chapter 71-70-00).

R. Chapter 72 - Engine

ITEM	INSPECTION REQUIREMENTS
NOTE **A TBO (Time Between Overhaul) recommendation is in no way to be construed as a warranty or engine life proportion basis. The TBO recommendation is based on the projected time for most advantageous initial overhaul. The individual operator's experience may indicate a departure in either direction from the recommended TBO for the particular operation.**	
1. Engine TBO	Refer to Pratt & Whitney Service Bulletin No. 14003 for overhaul and hot section time limits or local extension of Power by the Hour.

S. Chapter 79 - Oil

ITEM	INSPECTION REQUIREMENTS
1. Engine Chip Detectors	Perform the ENGINE CHIP DETECTOR INSPECTION every 100 hours (Ref. Chapter 79-30-00).

[1] A flight cycle is defined as: Engine start-up and increase to full or partial power (as required during normal flight) one landing gear retraction and extension and a complete shutdown.

Manual Affected: Model 1900D Maintenance Manual (129-590000-15)

Instructions: Insert this temporary revision prior to page 201 of Chapter 5-10-00. Annotate receipt and insertion on the Record of Temporary Revisions page.

Reason: Extend NOSE LANDING GEAR ACTUATOR ULTRASONIC INSPECTION time requirement.

1. INSPECTIONS

A. Chapter 20 - Standard Practices - Airframe

ITEM	INSPECTION REQUIREMENTS
1. Standard Engine Oil Hose, P/N 330996F-8-0095, Oil Drain LH Engine	Replace every five years
2. Standard Engine Oil Hose, P/N 330997F-8-0111, Oil Drain RH Engine	Replace every five years
3. Standard Engine Oil Hose, P/N 330997F-12-0290, Oil Cooler Inlet	Replace every five years
4. Standard Engine Oil Hose, P/N 330997F-12-0414, Oil Cooler Outlet	Replace every five years

B. Chapter 21 - Environmental Systems

ITEM	INSPECTION REQUIREMENTS
1. Sensor, Bleed Air Temperature	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
2. Bleed Air Precooler Bypass Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
3. Bleed Air Precooler-Through Valve	Every 5,000 hours replace or perform BLEED AIR TEMPERATURE CHECK (Ref. Chapter 21-11-00).
4. Bleed Air Pressure Regulator Shutoff Valve	Every 5,000 hours replace or perform BLEED AIR PRESSURE CHECK (Ref. Chapter 21-11-00).
5. Cabin Altitude Warning Pressure Switch System	Perform the CABIN ALTITUDE WARNING PRESSURE SWITCH SYSTEM FUNCTIONAL TEST every 24 months (Ref. Chapter 21-30-00).

C. Chapter 22 - Auto Flight

ITEM	INSPECTION REQUIREMENTS
1. Autopilot	Annually, perform the autopilot GROUND TESTING procedure found in Section IV. NORMAL PROCEDURES of the 1900D AFM supplements, P/N 129-590000-25 or -83 or other applicable supplement. Annually, check autopilot servos for loose or worn mounting hardware and verify that the servo mounts are securely mounted to the airframe. Visually inspect for capstan or cable wear, contamination and proper spool-off. With the autopilot disengaged, operate each control system through its entire range and observe the servo mount for any unusual noise, binding, backlash or other mechanical irregularities.

D. Chapter 23 - Communications

ITEM	INSPECTION REQUIREMENTS
1. Cockpit Voice Recorder (CVR) Underwater Locator Device (ULD) Test	Test the underwater locator device every 24 months as instructed in Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.
2. CVR ULD Battery Replacement	Replace the underwater locator device battery, 72 months after installation or by the expiration date as stated on the battery. Refer to Chapter 23 of the Model 1900 Airliner Series Component Maintenance Manual.

E. Chapter 24 - Electrical Power

ITEM	INSPECTION REQUIREMENTS
1. Starter-Generator	Replace or overhaul every 1,500 hours.
2. Emergency Power Supply Batteries (PS-835)	Perform annual discharge check per Chapter 24 of the Model 1900 Airliner Series Component Maintenance Manual, P/N 114-590021-11.

F. Chapter 25 - Equipment / Furnishing

ITEM	INSPECTION REQUIREMENTS
1. Emergency Locator Transmitter	Annually, inspect for proper installation, battery corrosion, operation of controls and crash sensor and presence of sufficient signal radiated from the antenna as instructed in Chapter 25-60-00. Replace battery at 50% of life, as stated on the battery, or anytime the transmitter is used more than one cumulative hour.

G. Chapter 26 - Fire Protection

ITEM	INSPECTION REQUIREMENTS
1. Bleed Air Warning Switches	Every 5,000 hours perform BLEED AIR WARNING SWITCHES CHECK FOR PROPER ELECTRICAL CONNECTION (Ref. Chapter 26-11-00).
2. Lavatory Fire Extinguisher	Accomplish lavatory fire extinguisher weight check every five years (Ref. Chapter 26, Model 1900 Airliner Series Component Maintenance Manual).
3. Flight Compartment Fire Extinguisher Cylinder	Hydrostatically test every 12 years (DOT Regulation).

H. Chapter 27 - Flight Controls

ITEM	INSPECTION REQUIREMENTS
1. Flight Controls - Gust Lock Inspection/Replacement	Every 12 months check for Gust Lock P/N 101-590016-7 or 101-590016-13 for UE-1 through UE-17 and 101-590016-13 for UE-18 and After. Check condition of gust lock and that it is in the cockpit available to the crew for installation. See Mandatory Service Bulletin (MSB) 27-3459 for detailed information and recurring requirement.
2. Aileron Trim Tab Control	Perform the AILERON TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-10-06).
3. Rudder Trim Tab Control	Perform the RUDDER TRIM TAB CONTROL INSPECTION every 5,000 hours (Ref. Chapter 27-20-06).
4. Elevator Trim Tab Indicator	Perform the ELEVATOR TRIM TAB INDICATOR INSPECTION every 5,000 hours (Ref. Chapter 27-30-08).

ITEM	INSPECTION REQUIREMENTS
5. Flap Flexible Shafts	Replace every 22,500 cycles[1] (Ref. Chapter 27-50-03).
6. Flap Motor, Gearbox, Actuators and 90° Drives	Replace or inspect every 10,000 cycles[1]. Refer to Chapter 27 of the Model 1900 Airliner Series Component Maintenance Manual.
7. Outboard Flap - UE-323 and After and airplanes that have complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
8. Outboard Flap - UE-1 thru UE-322 airplanes that have not complied with Service Bulletin 27-3158.	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 1,200 cycles[1] or one year, whichever comes first (Ref. Chapter 27-00-00).
9. Inboard Flap	Remove flaps and inspect flap attach brackets, roller bearings and attachment hardware for wear every 5,000 hours or five years, whichever comes first (Ref. Chapter 27-00-00).
10. Aileron Yoke Assembly and Aileron Bellcrank Assembly	Perform the AILERON YOKE ASSEMBLY CHECKS and AILERON BELLCRANK ASSEMBLY REMOVAL AND INSPECTION every 3,000 hours (Ref. Chapter 27-10-02).
11. Aileron Balance Weights Clip Inspection	Perform AILERON BALANCE WEIGHTS CLIP INSPECTION procedure every 3,000 hours (Ref. Chapter 27-10-09).
12. Pilot Rudder Pedal Torque Tube Inspection	Perform the PILOT RUDDER PEDAL TORQUE TUBE INSPECTION procedure every 10,000 hours (Ref. Chapter 27-20-03).

I. Chapter 28 - Fuel System

ITEM	INSPECTION REQUIREMENTS
1. Fuel System Collector Tank	Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.

ITEM	INSPECTION REQUIREMENTS
2. Fuel System Main Fuel Tank at WS 124 thru 130	**NOTE** The removal of the sealant from the main spar forward flange, lower cap and the bulkhead at WS 124 thru 130 is required during the initial inspection. But the removal of the sealant during the recurring 12 month inspections may be skipped for up to 36 months if the fuel system is sterilized using BIOBOR JF at concentrations of 270 PPM or Kathon FP 1.5 at concentrations of 100 PPM every six months and is documented in the airplane maintenance records. For application of BIOBOR JF (Ref. Chapter 12-10-00). Every 12 months perform the FUEL SYSTEM TANK INSPECTION procedure outlined in Chapter 28-10-00 of the Model 1900D Airliner Maintenance Manual or the FUEL TANK INTERNAL INSPECTION procedure outlined in Chapter 28-10-01 of the Model 1900 Airliner Series Corrosion Control Manual.
3. Fuel Lines	Inspect wiring and fuel lines for chafing behind the LH and RH nacelle inner fender every 2,400 hours or 12 months, whichever occurs first, as instructed in Chapter 28-20-06.
4. Fuel Bays and Fuel Quantity Probes	Inspect for microbiological growth every 4,800 hours or 36 months, whichever occurs first. Clean fuel bays and probes thoroughly.
5. Fuel Level Sensor	Functional test the Fuel Level Sensors every 4,800 hours or 36 months, Whichever occurs first (Ref. Chapter 28-40-01).

J. Chapter 31 - Indicating/Recording Systems

ITEM	INSPECTION REQUIREMENTS
1. Flight Data Recorder	For airplanes equipped with the F1000 FLIGHT DATA RECORDER: Perform operational and functional ground check at intervals not to exceed 12 calendar months per FUNCTIONAL AND OPERATIONAL CHECK - F1000 FLIGHT DATA RECORDER Chapter 31-30-00, or per AC 20-141, 9e..
2. Flight Data Recorder (FDR) Underwater Locator Device (ULD) Test	Test the Underwater Locator Device every 24 months (Ref. Chapter 25-62-01).
3. FDR ULD Battery Replacement	Replace the Underwater Locator Device battery 72 months after installation or by the expiration date as stated on the battery (Ref. Chapter 25-62-01).

K. Chapter 32 - Landing Gear

ITEM	INSPECTION REQUIREMENTS
1. Main Gear Assembly, Drag Brace Assembly, Axle and Torque Knees	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
2. Nose Gear Assembly, Drag Brace Assembly, Axle and Torque Knee	Overhaul every 10,000 cycles[1] or five years, whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual. Bushing removal for O. D. corrosion check only required at 10 year intervals.
3. Landing Gear and Drag Brace Attach Bolts (Hollow “Lube Type” Bolts)	Replace every 10,000 cycles[1] or 5 years whichever comes first. Refer to Chapter 32 of the Model 1900 Airliner Series Component Maintenance Manual.
4. Actuator, Main Gear	AIRIGHT/APPH - Overhaul or replace at 10,000 cycles[1] or if leakage past the rod seal exceeds one drop per 25 cycles[1]. TACTAIR/PHOENIX CONTROLS- (Ref. 5-11-00). FRISBY/TRIUMPH ACTUATION SYSTEMS (Ref. 5-11-00). Perform MAIN LANDING GEAR ACTUATOR END CAP INSPECTION every 1,200 cycles (Ref. Chapter 32-30-10). For new or newly overhauled actuators with records that show the end cap has 8,000 cycles or less, perform the LANDING GEAR ACTUATOR END CAP INSPECTION initially at 8,000 cycles and thereafter at every 1,200 cycles.
5. Airight Main Gear Actuator Shuttle Valve	Perform the MAIN LANDING GEAR ACTUATOR SHUTTLE VALVE FUNCTIONAL TEST procedure every 5,000 hours (Ref. Chapter 32-30-10).
6. Antiskid System	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test.
7. Wheel Speed Transducers	Complete system functional check should be accomplished at a maximum interval of one year/4,000 hours. Tire flat-spotting or other system difficulties warrant a complete system test. Overhaul at 10,000 hours.
8. Landing Gear Hydraulic System Line Filter	Inspect filter every 3,000 hours. Refer to Chapter 32-30-00 for detailed inspection.

ITEM	INSPECTION REQUIREMENTS
9. Actuator, Nose Gear	**NOTE** This new requirement must be met within 15 months after the Aug. 1, 2010 revision. If the actuator cannot be overhauled or replaced by November 1, 2011 the actuator may remain in operation with the following requirements: a. The NOSE LANDING GEAR ACTUATOR ULTRASONIC INSPECTION must have been performed within the last 1,200 cycles. If not, perform the inspection within the next 100 cycles. b. Perform the NOSE LANDING GEAR ACTUATOR ULTRASONIC INSPECTION every 600 cycles (Ref. Chapter 32-30-14) AIRIGHT/APPH - Overhaul or replace every 10,000 cycles[1]. Overhaul or replace if hydraulic leakage is noted anywhere except for the rod seal. The rod seal is allowed one drop per 25 cycles[1] or from the vent hole of the lock indicator switch which is allowed two drops per 25 cycles[1]. AIRIGHT/APPH - Perform NOSE LANDING GEAR ACTUATOR ULTRASONIC INSPECTION every 1,200 cycles (Ref. Chapter 32-30-14). For new or newly overhauled actuators with records that show the end cap has 8,000 cycles or less, perform the NOSE LANDING GEAR ACTUATOR END CAP INSPECTION initially at 8,000 cycles and thereafter at every 1,200 cycles.

L. Chapter 34 - Navigation

ITEM	INSPECTION REQUIREMENTS
1. Electronic Flight Instrument Systems (EFIS-84) CRT	Every 5,000 hours of operation, measure the brightness of the CRT as instructed in the Maintenance Section of the Collins EFIS-84 Electronic Flight Instrument Systems Manual P/N 523-0775963-00311A or subsequent.

M. Chapter 35 - Oxygen

ITEM	INSPECTION REQUIREMENTS
1. Oxygen Regulators	Overhaul the regulator every five years. Functionally test the regulator when the cylinder is hydrostatically tested.
2. AVOX Systems Inc., formerly Scott Aviation, Altitude Compensated Regulator (Flight Compartment Sidewall)	Return to AVOX Systems Inc., formerly Scott Aviation, for Functional Test or perform FUNCTIONAL TEST procedure in the Model 1900 Airliner Series Component Maintenance Manual (Ref. Chapter 35-20-03) every five years.
3. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. Kit 129-5032-7 removes this mask and installs P/N 128-380067-11/174260-12 and smoke goggles 118077. Kit 129-5032-5 removes this mask and installs P/N 129-380020-1/359-61G12 and smoke goggles 322-70. P/N 129-380093-1 AVOX P/N 893-31172 Smoke Goggles N/A
4. Crew Mask Diluter Demand with strap harness	AVOX Systems Inc., formerly Scott Aviation, recommends a five year overhaul of this crew mask. This mask replaces P/N 129-380093-1/893-31172 per Kit 129-5032-5 and adds smoke goggles 322-70. P/N 129-380020-1 and 129-560003-1 AVOX P/N 359-61G12 Smoke Goggles 322-70
5. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. P/N 101-384220-3 AVOX P/N MC10-02-05 Smoke Goggles N/A
6. Crew Mask Diluter Demand Quick Donning	AVOX Systems Inc., formerly Scott Aviation, recommends a six year overhaul of this crew mask. This mask is installed per Kit 129-5032-1, replacing P/N 101-384220-3/MC10-02-05 and adds smoke goggles MXP210-00. P/N 101-384220-11 and 129-560003-3 AVOX P/N MC10-02-105 Smoke Goggles MXP210-00

ITEM	INSPECTION REQUIREMENTS
7. Crew Mask Diluter Demand Quick Donning with Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-1 Puritan Bennett P/N 174250-05 Smoke Goggles 118077
8. Crew Mask Diluter Demand Quick Donning without Comfort Control	B/E Aerospace, formerly Puritan Bennett, recommends a six year overhaul and requires a 12 year overhaul. This mask has provisions for protective breathing, Kit 129-5032-3 adds smoke goggles 118077 only. P/N 128-380067-11 and 129-560003-5 Puritan Bennett P/N 174260-12 Smoke Goggles 118077
9. Passenger Oxygen Masks	For overhaul or replacement refer to Chapter 35, Model 1900 Airliner Series Component Maintenance Manual.
10. Oxygen System	Check the condition of the oxygen system annually by performing the following procedures: a. CREW OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-10-00). b. CREW OXYGEN SYSTEM HIGH PRESSURE TEST (Ref. Chapter 35-10-00). c. DILUTER/DEMAND MASK OXYGEN SYSTEM TEST (Ref. Chapter 35-10-01). d. CREW OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-10-01). e. PASSENGER OXYGEN SYSTEM LOW PRESSURE TEST (Ref. Chapter 35-20-00). f. Perform the PASSENGER OXYGEN MASK FLOW TEST (Ref. Chapter 35-20-01). g. Perform the PASSENGER OXYGEN MASK AND CONTAINER INSPECTION (Ref. Chapter 35-20-01).

N. Chapter 56 - Windows

ITEM	INSPECTION REQUIREMENTS
1. Windows	Inspect windows every 4,500 hours for cracks, crazing and evidence of deterioration (Ref. Chapter 56-20-00).

ITEM	INSPECTION REQUIREMENTS
2. Window Frames	Inspect the attach frames for attachment at two years and every 12 months thereafter (Ref. Chapter 56-20-00).

O. Chapter 57 - Wings

ITEM	INSPECTION REQUIREMENTS
1. Internal Wing Structure	Check for cracks, loose rivets, corrosion, and evidence of sealant deterioration or damage inside all wing inspection areas every 4,800 hours or 36 months, whichever occurs first. Check for nicks, chafes, or breaks in the wing fuel quantity wiring harness every 4,800 hours or 36 months, whichever occurs first. (It is not necessary to remove any spiral wrap that has been installed on the harness to perform this inspection).

P. Chapter 61 - Propeller

ITEM	INSPECTION REQUIREMENTS
1. Hub TBO	Refer to Hartzell Propeller Service Letter 61 for TBO.
2. Propeller Governor	At engine TBO.
3. Propeller Overspeed Governor	Repair or replace if it fails to pass the functional check or leaks are observed (Ref. Chapter 61-20-01).

Q. Chapter 71 - Power Plant

ITEM	INSPECTION REQUIREMENTS
1. Fuel Purge System	Perform the FUEL PURGE TANK CLEANING procedure every 24 months (Ref. Chapter 71-70-00).

R. Chapter 72 - Engine

ITEM	INSPECTION REQUIREMENTS
NOTE A TBO (Time Between Overhaul) recommendation is in no way to be construed as a warranty or engine life proportion basis. The TBO recommendation is based on the projected time for most advantageous initial overhaul. The individual operator's experience may indicate a departure in either direction from the recommended TBO for the particular operation.	
1. Engine TBO	Refer to Pratt & Whitney Service Bulletin No. 14003 for overhaul and hot section time limits or local extension of Power by the Hour.

S. Chapter 79 - Oil

ITEM	INSPECTION REQUIREMENTS
1. Engine Chip Detectors	Perform the ENGINE CHIP DETECTOR INSPECTION every 100 hours (Ref. Chapter 79-30-00).

[1] A flight cycle is defined as: Engine start-up and increase to full or partial power (as required during normal flight) one landing gear retraction and extension and a complete shutdown.