

2.200 Ground and Flight Check for 100-Hour/Annual Inspection

Complete the following checklists in conjunction with a 100-hour or annual inspection. Note and correct any discrepancies.

2.205 Ground Check

- 1. **Throttle Control:** Check for freedom of rotation with collective full down and full up. \_\_\_\_\_
- 2. **Throttle Overtravel Spring:** Check by twisting throttle past idle position to override stop. Release throttle and ensure it returns immediately to normal idle position. \_\_\_\_\_
- 3. **Mixture Control:** Check for smoothness of operation with no binding. Check press-to-unlock button for proper function. Verify 0.03 to 0.10 inch spring-back at full rich position. \_\_\_\_\_
- 4. **Carburetor Heat Control:** Check for smoothness of operation with no binding. Verify 0.03 to 0.10 inch spring-back at full off position. \_\_\_\_\_
- 5. **Cyclic Control:** Check freedom through full travel with friction and right trim off. Verify friction knob rotates 1/8 to 1 turn clockwise before adding friction. Check full travel with friction and right trim on. Verify 10 pounds maximum friction measured laterally at grip with right trim off, friction on, and MR blade pitch links fore and aft. \_\_\_\_\_
- 6. **Collective Control:** Check freedom through full travel with friction off. Check freedom through full travel with friction on; friction should be 12 to 20 pounds measured at grip. \_\_\_\_\_
- 7. **Carb Heat Assist (if installed):** With collective down and full carb heat, raise collective full up and verify carb heat off. Lower collective full down and verify carb heat full on. With collective friction off, push carb heat off and verify collective stays down. \_\_\_\_\_
- 8. **Tail Rotor Pedals:** Check for smooth operation with no binding. \_\_\_\_\_
- 9. **Removable Controls:** Verify security of attached fasteners. \_\_\_\_\_
- 10. **Lighting and Instruments:** Turn MASTER switch on and verify –
  - a. Carbon Monoxide caution light blinks twice \_\_\_\_\_
  - b. Carb Air Temp approximately same as Outside Air Temp \_\_\_\_\_
  - c. ALT caution light on \_\_\_\_\_
  - d. OIL pressure warning light on \_\_\_\_\_
  - e. Fuel quantity gages – indication of fuel level \_\_\_\_\_
  - f. Navigation and panel lights – check function \_\_\_\_\_
  - g. Strobe light – check function \_\_\_\_\_

2.205 Ground Check (continued)

**10. Lighting and Instruments:** Turn MASTER switch on and verify – (continued)

- h. Landing lights – check function  
(clutch switch must be Engaged to check landing lights) \_\_\_\_\_
- i. Map light – check function \_\_\_\_\_
- j. Ammeter – shows discharge \_\_\_\_\_
- k. Oil temperature gage – slight needle deflection with engine cold \_\_\_\_\_
- l. Cylinder head temp gage – slight needle deflection with engine cold \_\_\_\_\_
- m. MR CHIP light – on when sender shorted or test switch depressed \_\_\_\_\_
- n. MR TEMP light – on when sender shorted or test switch depressed \_\_\_\_\_
- o. TR CHIP light – on when sender shorted or test switch depressed \_\_\_\_\_
- p. LOW FUEL light – on after approximately 1 second delay when low fuel sender in tank is depressed or when test switch depressed \_\_\_\_\_

2.210 Run Up

1. Perform preflight inspection per POH. \_\_\_\_\_
2. Turn MASTER switch on. Apply rotor brake and verify BRAKE light on. With brake applied, verify starter does not activate when key is turned to START position. \_\_\_\_\_
3. Start engine and run up using POH checklist, except leave cyclic and collective frictions on and governor off before proceeding. After engaging clutch switch, verify blades turn within 5 seconds and CLUTCH light extinguishes within 100 seconds. \_\_\_\_\_
4. Ammeter indicates charge, ALT light off. \_\_\_\_\_
5. Both magnetos ground (momentarily off) at 60% RPM. \_\_\_\_\_
6. Select alternator and battery switches off and verify-
  - a. Engine and rotor tachometers operate. \_\_\_\_\_
  - b. All warning/caution lights extinguished, indicating proper function of tachometer bus isolation diode. \_\_\_\_\_
7. No unusual bearing noise when varying RPM through operating range. Mechanic to listen near V-belt drive for symptoms of failing bearing as described in Section 2.110. \_\_\_\_\_
8. Set RPM at 75%, governor on, Increase to 85%, release throttle and verify governor increases RPM to 104%  $\pm$  1.5%. Increase RPM to 106%, release throttle, and verify governor decreases RPM to 104%  $\pm$  1.5%. \_\_\_\_\_
9. Engine and rotor tachometer needles within 1% of each other at 104% RPM. \_\_\_\_\_
10. Verify alternator voltage as follows: \_\_\_\_\_  
13.4 to 13.9 vdc for A942-3 alternator control unit  
13.0 to 13.7 vdc for A942-1 or -2 alternator control unit \_\_\_\_\_
11. Heater operates properly (if installed). \_\_\_\_\_
12. Tachometer needles do not jump more than 2% when transmitting on 118.00, 125.00, and 136.975 MHz with governor on. \_\_\_\_\_
13. Raise collective control 0.5 inch at grip and slowly decrease RPM. Verify low rotor RPM warning horn and light activate at 97 to 96% RPM and remain on as RPM is decreased to idle. \_\_\_\_\_
14. Idle RPM with engine warm, clutch engaged, throttle closed: 53 to 57%. \_\_\_\_\_
15. Idle mixture with engine warm, clutch disengaged, throttle closed: 2 to 4% RPM rise as mixture is pulled slowly to idle cut-off. Adjust idle mixture screw as required. If unable to obtain rise, set idle mixture screw to nominal position of 1½ turns out from full-in then adjust as required for smooth idle. \_\_\_\_\_

2.220 Flight Check

**1. Hover:**

- a. All gages green \_\_\_\_\_
- b. Controllability in left and right pedal turns \_\_\_\_\_
- c. Vibration levels \_\_\_\_\_

**2. Level flight:** Approximately 3000 feet density altitude (if possible), maximum continuous power, governor on, right trim on, frictions off.

- a. Vibration levels \_\_\_\_\_
- b. Longitudinal cyclic trim - cyclic does not creep forward or aft \_\_\_\_\_
- c. Lateral cyclic trim - cyclic does not creep left or right \_\_\_\_\_
- d. Collective spring - collective does not creep up or down \_\_\_\_\_
- e. Tail rotor pedal position - 0.0 to 0.5 inch left \_\_\_\_\_

2.300 AIRFRAME PREPARATION FOR 100-HOUR/ANNUAL INSPECTION

The airframe must be thoroughly cleaned prior to inspection in accordance with U.S. FAR 43, Appendix D, paragraph (a). Cleaning should include a wipe down of main and tail rotor blades, hubs, and airframe exterior with a mild soap and water solution. Refer to R22 POH Section 8 for cleaning instruction. Note any fluid leakage before cleaning.

**CAUTION**

Do not spray magnetos, main rotor hub, tail rotor gearbox vent, or swashplate area with high pressure water as water may enter and cause corrosion and breakdown of lubricants.

2.400 100-HOUR/ANNUAL AIRFRAME INSPECTION

Perform 100 hour or annual airframe inspections per Section 2.410. RHC recommends keeping a copy of the most recently performed checklist with the aircraft's maintenance records.

2.410 Inspection Procedures and Checklist

R22 Serial No.:	_____	Technician name:	_____
Registration No.:	_____	Technician	_____
Hourmeter Indication:	_____	Certificate number:	_____
Aircraft Total Time:	_____		

Numbers in parentheses indicate access location per Figures 2-3A and 2-3B.

**1. Remove Landing Light Retainer (1A)**

**NOTE**

Do not remove pedal bearing block cover plates (1B) unless function check of pedals indicates a problem with bearing blocks.

**Landing Light Retainer and Support:** Inspect condition. Verify support security. \_\_\_\_\_

**Tail Rotor Pedal Bearing Blocks:** Use an inspection light and mirror to inspect bearing blocks. Maximum allowable play is 0.050 inch axially and 0.020 inch radially. Verify security. \_\_\_\_\_

**Tail Rotor Pedal Bearing Blocks Sheet Metal Supports:** Use an inspection light and mirror to verify no cracks or fretting in bearing block vertical sheet metal supports. \_\_\_\_\_

**Tail Rotor Pedals:** Inspect condition. Verify no cracks. Verify security and operating clearance. \_\_\_\_\_

**Push-Pull Tubes:** Inspect condition. Verify no cracks at ends. Inspect rod ends per Section 2.120. Verify security and operating clearance. \_\_\_\_\_

**Sheet Metal Structure:** Inspect condition. Verify no corrosion. No cracks. \_\_\_\_\_

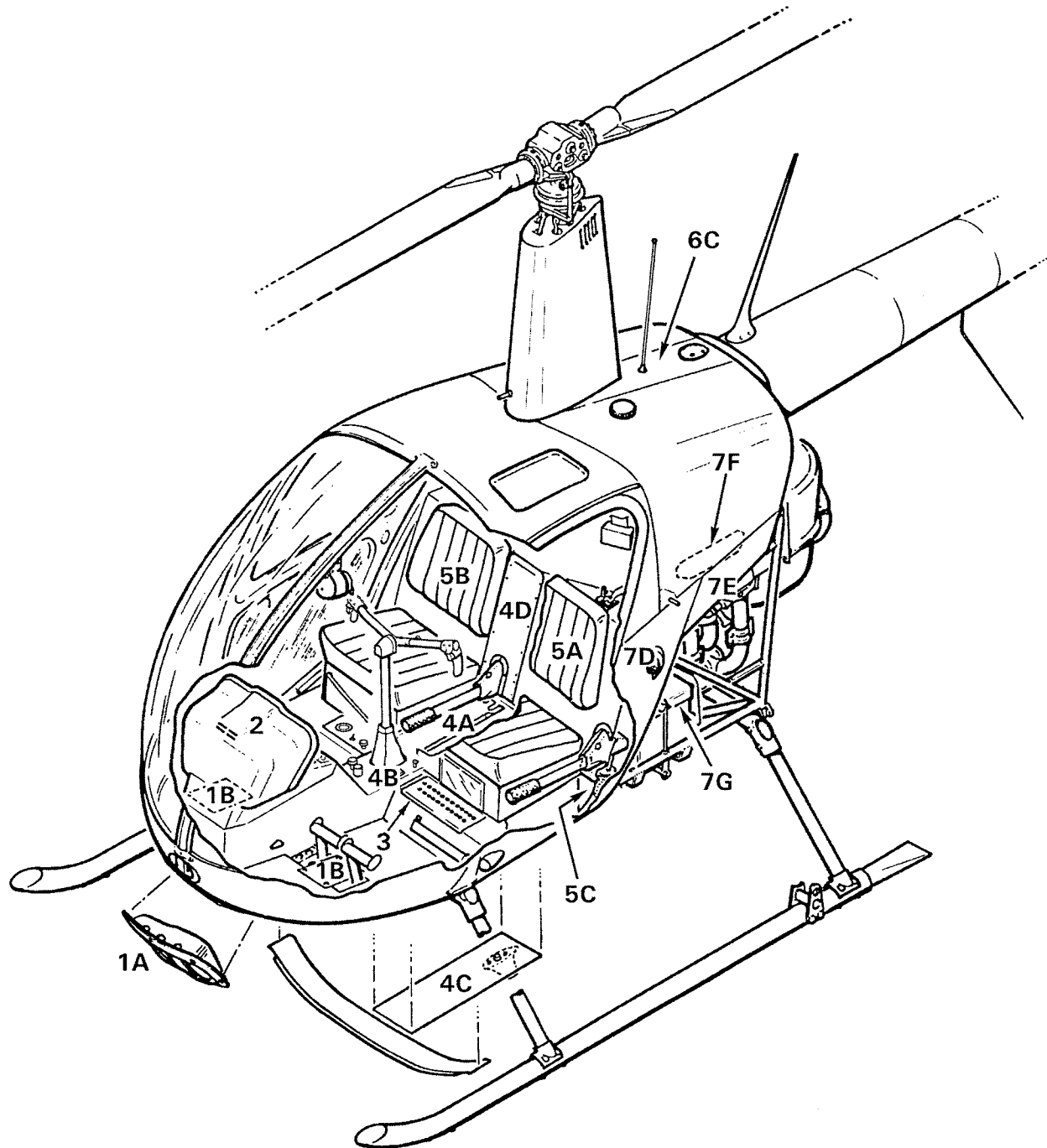
**Battery Box (if installed in nose):** Inspect drain attachment to battery box. Verify no electrolyte leakage. \_\_\_\_\_

**Chin Area:** Verify no loose equipment or debris. \_\_\_\_\_

**Wiring:** Inspect condition. Verify no loose, broken, or chafed wires. Verify neatness and security. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (cont'd)



**FIGURE 2-3A ACCESS COVERS AND INSPECTION PANELS**

2.410 Inspection Procedures and Checklist (continued)

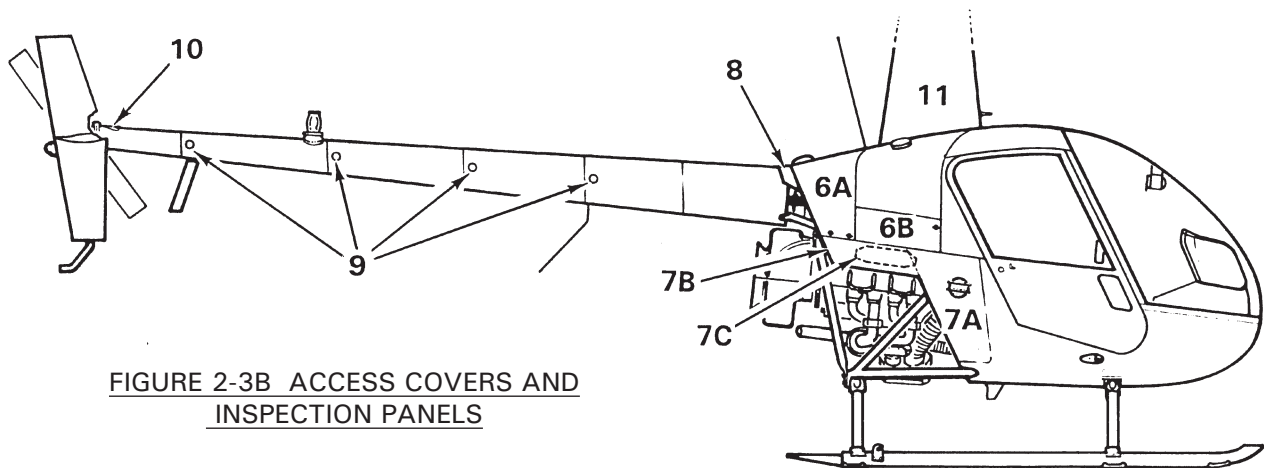


FIGURE 2-3B ACCESS COVERS AND INSPECTION PANELS

**2. Remove or open upper console assembly per § 13-70:**

**CAUTION**

Instrument console removal (§ 13-70) is not required for scheduled inspections. Sufficient access for inspection is gained by removing the landing light retainer and/or removal of installed avionics, as required (refer to Chapter 34).

**Upper Console Assembly:** Inspect condition. Verify hinge security. \_\_\_\_\_

**Instruments and Instrument connections:** Inspect condition. Verify security. \_\_\_\_\_

**Strobe Power Supply and Wiring (alternate locations – atop horizontal firewall or behind right seat back):** Inspect condition. Verify no cracks in mounting area. Verify security. \_\_\_\_\_

**B255-1 Bracket (10-hole instrument console only):** Inspect condition of grommet and bracket contacting brace assembly between windshields. \_\_\_\_\_

**Tail Rotor Push-Pull Tubes:** Inspect condition of visible portions. Verify operating clearance. \_\_\_\_\_

**Battery and Box (if installed in nose):** Inspect condition. Check battery cell fluid level and specific gravity (non-sealed battery only). Verify security of connections. Verify no corrosion in surrounding structure. \_\_\_\_\_

**Radio Tray(s):** Inspect condition. Verify security. Verify no loose or poor wire connections. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1.

**Wiring:** Inspect condition. Verify neatness, security, and no chafing. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**3. Open Circuit Breaker Panel (3)**

**WARNING**  
Ensure electrical system remains off while circuit breaker panel is open.

**Wiring:** Inspect condition. Verify neatness, security, and no chafing. \_\_\_\_\_

**Connections:** Inspect condition. Verify security and no corrosion. \_\_\_\_\_

**Circuit Breakers:** Inspect condition. Verify security. Check airworthiness directive applicability. Verify red button (collar) on CLUTCH circuit breaker button. \_\_\_\_\_

**Copper Bus Bars:** Inspect condition. Verify no corrosion. Verify bus bars are not bent and will not contact surrounding structure. \_\_\_\_\_

**Circuit Breaker Box Interior:** Inspect condition. Verify cleanliness. \_\_\_\_\_

**Close and Secure:** Circuit breaker panel. \_\_\_\_\_

**4. Remove Horizontal Cover (4A), Cyclic Box Cover (4B), Belly Panel (4C) and Vertical Panel (4D)**

To remove cyclic box cover, unscrew trim adjustment knob, remove spring pin in cyclic friction knob, and, on ships equipped with carburetor heat assist, unscrew carburetor heat knob.

**Covers:** Inspect condition. Verify placard legibility. \_\_\_\_\_

**Cyclic Box Assembly:** Inspect condition. Verify no cracks, loose rivets, or corrosion. Verify security. \_\_\_\_\_

**Cyclic Stick Assembly:** Inspect condition. Verify no cracks in weld areas. Verify security and operating clearance. Verify no more than 0.015 inch wear in plates at bottom of stick from A121-1 push-pull tube's forward rod end housing. \_\_\_\_\_

**Cyclic Pivot (forward end of torque tube):** Inspect condition. Inspect bearings per § 2.120. Verify security and operating clearance. \_\_\_\_\_

**Cyclic Right Trim:** Rotate main rotor blades until pitch links are located fore and aft. Grip cyclic and activate right trim. Trim should produce a right cyclic stick force. Move cyclic stick fully left and verify right trim spring coils do not bind. Verify security and operating clearance. \_\_\_\_\_



2.410 Inspection Procedures and Checklist (cont'd)

**4. Remove Horizontal Cover (4A), Cyclic Box Cover (4B), Belly Panel (4C) and Vertical Panel (4D) (cont'd)**

**Cyclic Friction:** Inspect condition. Inspect rod ends per Section 2.120. \_\_\_\_\_

**Cyclic Horizontal Push-Pull Tube:** Inspect condition. Verify no cracks around reinforcement blocks at tube ends. Verify security and operating clearance. \_\_\_\_\_

**Tail Rotor Horizontal Push-Pull Tubes:** Inspect condition. Verify no cracks at ends. Inspect rod ends per Section 2.120. Verify security and operating clearance. \_\_\_\_\_

**Tail Rotor Push-Pull tube Lower Bellcrank:** Inspect condition. Verify security and operating clearance. \_\_\_\_\_

**Mixture Cable:** Verify security. \_\_\_\_\_

**Carburetor Heat Cable:** Verify security. \_\_\_\_\_

**Carburetor Heat Assist Bellcrank (if installed):** Inspect condition. Verify security and operating clearance. \_\_\_\_\_

**Carburetor Heat Assist Push-Pull Tube (if installed):** Inspect condition. Verify no cracks at ends. Inspect rod ends per Section 2.120. Verify security and operating clearance. \_\_\_\_\_

**Pitot and Static Lines and Drains:** Inspect condition. Verify no cracking, chafing, or kinking. Remove drain plugs from tee fittings in each line and drain any water. Install drain plugs. \_\_\_\_\_

**Elastic Trim Cord:** Remove trim cord assembly and stretch it. While stretched, check cord for voids which may indicate broken strands. Slide both hooks back and verify security of locking rings. Install cord. Verify operating clearance. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**NOTE**

Elastic trim cord is not required if cyclic does not need forward trim in cruise flight.

2.410 Inspection Procedures and Checklist (cont'd)

**4. Remove Horizontal Cover (4A), Cyclic Box Cover (4B), Belly Panel (4C) and Vertical Panel (4D) (cont'd)**

**Electrical Wiring:** Inspect condition. Verify no loose, broken, or chafed wires. Verify neatness and security. \_\_\_\_\_

**Tail Rotor Vertical Push-Pull Tube:** Inspect condition. Verify no cracks at ends. Inspect rod ends per Section 2.120. Verify security and operating clearance. \_\_\_\_\_

**Cyclic Push-Pull Tubes:** Inspect condition. Verify no cracks at ends. Inspect rod ends per Section 2.120. Verify security and operating clearance. Contact between A121-3 & -7 push-pull tube lower ends is permitted when cyclic stick is in aft corners of cyclic box. \_\_\_\_\_

**Cyclic Bellcrank:** Inspect condition. Verify security and operating clearance. \_\_\_\_\_

**Cyclic Yoke (aft end of torque tube):** Inspect condition. Inspect bearings per Section 2.120. Verify security and operating clearance. \_\_\_\_\_

**Cyclic Fork (attaching bellcrank to collective stick):** Inspect condition. Inspect rod end per Section 2.120. Verify security. Verify operating clearance. \_\_\_\_\_

**Throttle Overtravel Spring:** Inspect condition. Inspect rod ends per Section 2.120. Verify security and operating clearance. Contact between overtravel spring and A121-1 push-pull tube is permitted when cyclic stick is in forward right corner of cyclic box. \_\_\_\_\_

**Collective Friction and Stop Assembly:** Inspect condition. Verify no nicks, cuts, or scratches. Move collective up and down and verify no bending or binding. Verify security and operating clearance. \_\_\_\_\_

**Collective Boot:** Inspect condition. Verify no tears. Ensure tie string ends are tucked into boot (if installed - current production aircraft use Ty-raps to secure boot around collective stick). \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**5. Remove Seat Backs (5A & 5B) & Collective Spring Guard (5C under left seat)**

**Seat Backs and Collective Spring Guard:** Inspect condition. Verify upholstery security. \_\_\_\_\_

**Upper Frame Assembly:** Inspect condition of visible portions. Verify security. \_\_\_\_\_

**Electrical and Antenna Wiring:** Inspect condition. Verify security. Verify no chafing. Check grommets for proper installation. \_\_\_\_\_

**Pitot and Static Lines:** Inspect condition. Verify no chafing or kinks. \_\_\_\_\_

**Collective Stick Assembly:** Inspect condition. Inspect bearings per § 2.120. Verify security and operating clearance. Verify no cracks in welds. Verify security of removable stick (if installed). If applicable, verify A783-1 retainer is secured to collective stick with ty-raps per Figure 2-4. \_\_\_\_\_

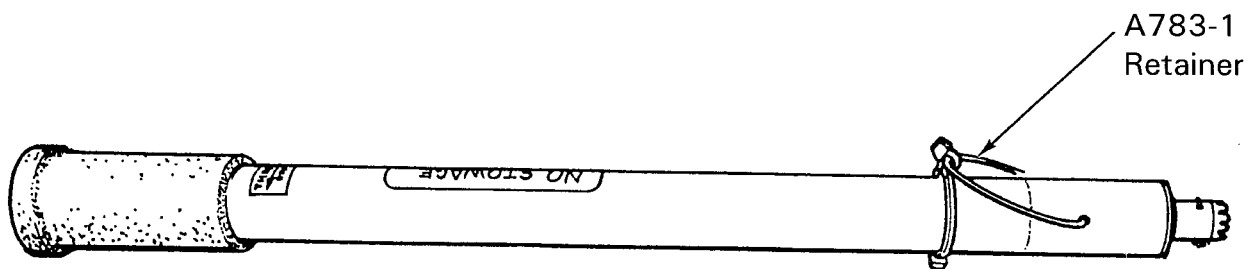


FIGURE 2-4 A783-1 RETAINER SECURITY

**Throttle Connecting Rod:** Inspect condition. Verify no cracks. Verify security and operating clearance. \_\_\_\_\_

**Governor:** Inspect condition. Inspect rod ends per § 2.120. Verify security and operating clearance. Verify sufficient wiring slack with full up collective. \_\_\_\_\_

**Collective Spring:** Inspect condition. Inspect rod ends per § 2.120. Verify no binding or roughness during operation. Verify lubrication of guide rods. Verify spring coils do not touch each other when collective is full down. Verify no elongation of lower cap guide rod holes. Verify security and operating clearance. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**5. Remove Seat Backs (5A & 5B) & Collective Spring Guard (5C under left seat) (continued)**

**Firewall Drains:** Inspect condition. Verify drains are unobstructed. Verify tubing clamps are not cutting tubing. Verify security. \_\_\_\_\_

**Governor Controller/Engine Monitoring Unit (EMU; later helicopters) and Wiring:** Inspect condition. Refer to § 33-137 for EMU description; refer to EMU Technician’s Guide and EMU User Guide online at [www.robinsonheli.com](http://www.robinsonheli.com) for data access. Verify security. \_\_\_\_\_

**Main Fuel Tank Outlet & Fuel Hose:** Inspect condition. Verify no leakage. Verify security. Verify smooth operation of fuel valve. \_\_\_\_\_

**Fuel Shut-Off Valve:** Inspect condition. Verify no leakage. Verify security. Verify smooth operation of fuel valve. \_\_\_\_\_

**Aux Fuel Tank Fuel Hose:** Inspect condition. Verify clearance to structure. Verify no leakage. Verify security. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**6. Open Cowling Door(s) (6A & 6B) & Remove aft Cowling (6C)**

**Cowling Doors:** Inspect condition. Verify proper operation of fasteners. \_\_\_\_\_

**Electrical Wiring:** Inspect condition. Verify no loose, broken, or chafed wires. Verify neatness and security. \_\_\_\_\_

**Actuator Fuse(s) and Holder(s):** Inspect condition. Verify no corrosion. Verify correct AGC-1 ½ fuse(s), twist-to-lock function, and security. \_\_\_\_\_

**Antennas and Connections:** Inspect condition. Verify security of antenna(s) and antenna connection(s). \_\_\_\_\_

**Emergency Locator Transmitter (ELT; if installed):** Inspect condition. Comply with U.S. 14 CFR 91.207 (d), if required. Verify proper installation, security, and clearance from drive train components. Verify D693-4 strap assembly is installed and buckled securely. \_\_\_\_\_

**Pitot Line and Static Vent:** Inspect condition. Verify no chafing, kinks, or tight bends. Verify static vent is clean and unobstructed. \_\_\_\_\_

**Fuel Tanks:** Inspect condition of visible portion. Verify no leaks. Verify security. Check interior for foreign objects and cracks in baffle. \_\_\_\_\_

**Aux Fuel Tank Fuel Hose:** Inspect condition. Verify clearance to structure. Verify no leakage. Verify security. If hose is C595-1 “breakaway” style (later helicopters), visually inspect coupling and verify no leakage, four rivets are installed and secure, and gap is not excessive (0.005 inch max.). \_\_\_\_\_

**Fuel Gage Sender(s) and Wiring:** Inspect condition. Verify no fuel leaks. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**6. Open Cowling Door(s) (6A & 6B) & Remove Aft Cowling (6C) (continued)**

**Fuel Tank Sump Drain(s):** Inspect condition. Verify drain valve(s) open easily, drain fuel freely, spring closed, and seal completely. \_\_\_\_\_

**Low Fuel Warning:** Turn battery on. With a clean wooden dowel, gently depress low fuel sender float in main fuel tank and verify LOW FUEL warning light illuminates after approximately 1 second delay. Turn battery off. \_\_\_\_\_

**Fuel Cap(s):** Refer to Figure 2-4A. Verify A689-6 fuel cap is revision J or subsequent if bladder tanks are installed (revision J or subsequent caps may also be used on all-aluminum tanks). Inspect condition. Verify no deterioration of gasket(s). Verify security when closed. Refer to R22 SB-107; verify cap decal is legible and properly installed, and alignment marks on cap and tank align when cap is fully closed. \_\_\_\_\_

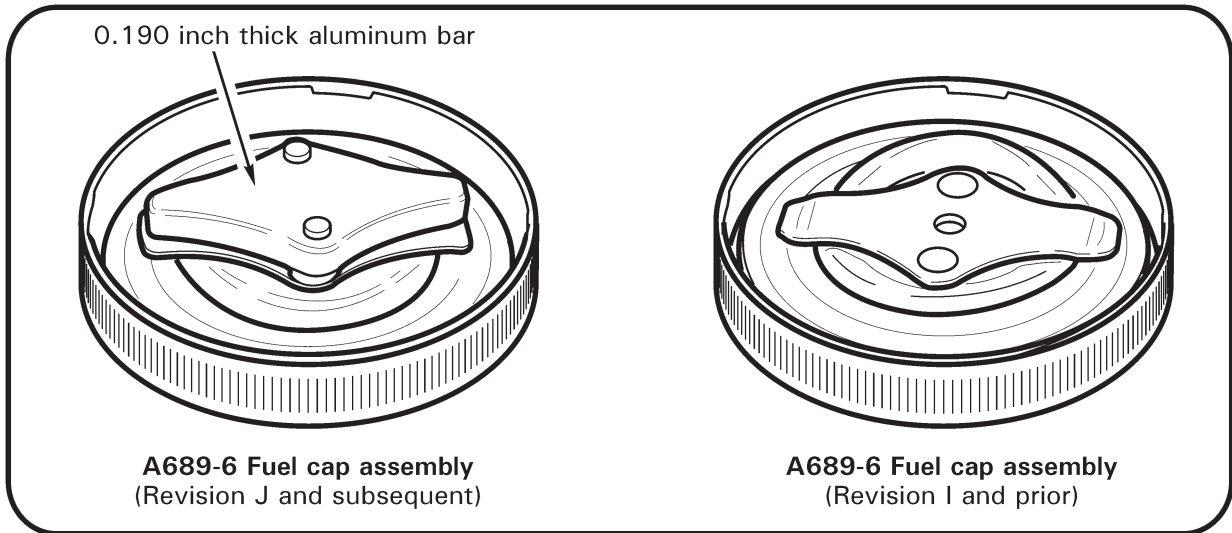


FIGURE 2-4A A689-6 FUEL CAPS

**Collective Jackshaft Supports:** Inspect condition. Inspect rod ends per § 2.120. Verify no cracks or corrosion. Verify strut ends are sealed. Verify security. \_\_\_\_\_

**Collective Jackshaft:** Inspect condition. Verify no cracks or corrosion. If open type, verify no internal corrosion. Verify security. Verify operating clearance. \_\_\_\_\_

**Swashplate Push-Pull Tubes:** Inspect condition of visible portions. Verify no cracks at ends. Inspect rod ends per § 2.120. Verify no tears in, or wear through, heat-shrink sleeves on forward push-pull tubes. Verify security and operating clearance. \_\_\_\_\_

**Push-Pull Tube Guides or Rollers:** Inspect condition. Verify cleanliness, no wear into metal, and free movement of rollers. Verify security. \_\_\_\_\_

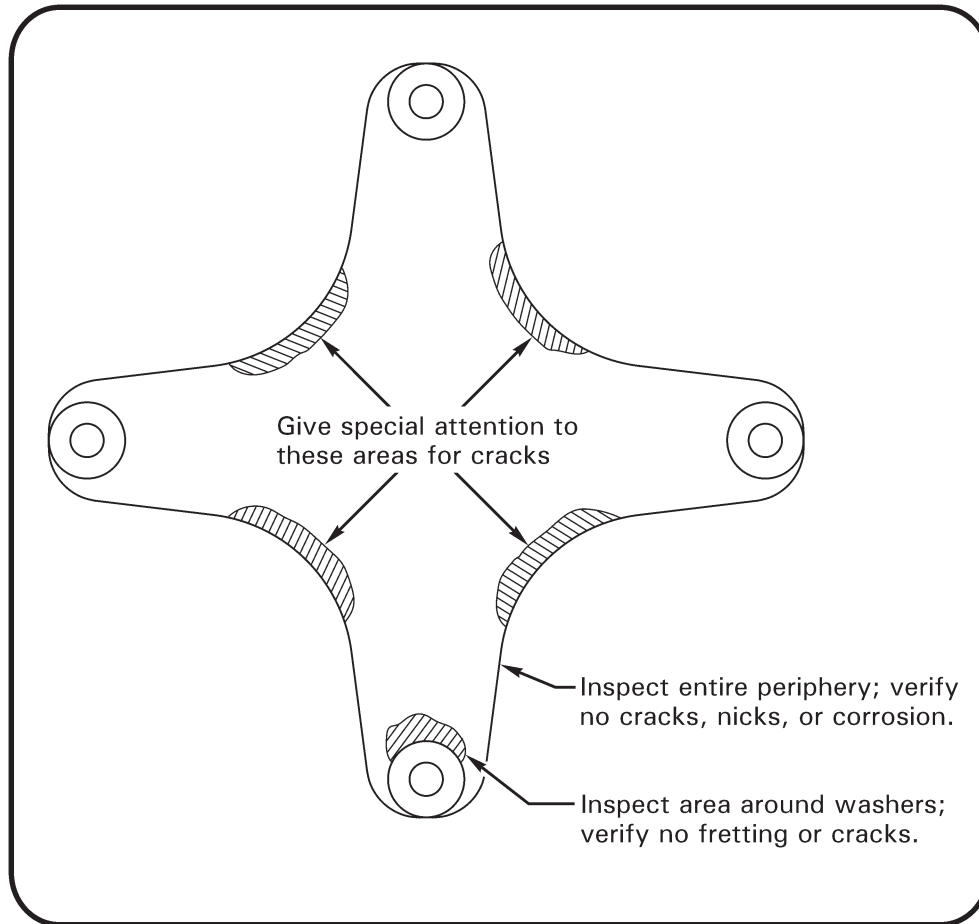


FIGURE 2-4B A947-1 FLEX PLATE INSPECTION

2.410 Inspection Procedures and Checklist (continued)

**6. Open Cowling Door(s) (6A & 6B) & Remove Aft Cowling (6C) (continued)**

**Tail Rotor Push-Pull Tube and Bellcrank (at forward end of A121-15 push-pull tube):** Inspect condition. Inspect rod ends per § 2.120. Verify no cracks in tube ends. Verify no cracks at bellcrank sheet metal mounting. Verify security and operating clearance.

**Main Rotor Gearbox Cooling Air Duct and Nozzle:** Inspect condition. Verify security. Verify no rips, holes, chafing, or obstructions. Inspect condition and verify security of horizontal firewall grommet around duct.

2.410 Inspection Procedures and Checklist (continued)

**6. Open Cowling Door(s) (6A & 6B) & Remove Aft Cowling (6C) (continued)**

**Main Rotor Gearbox:** Inspect condition, especially gearbox mounts, static mast tube-to-gearbox attachment, and mast tube lower casting (if applicable). Inspect Telatemp per § 2.130. Verify proper oil level with no leakage. Verify security. Verify security of Hall Effect senders.

**NOTE**

At 500 hours time in service or annually, whichever occurs first, remove chip detector and clean any varnish accumulation from detector’s magnetic probe and adjacent metal body using a toothbrush and approved solvent per § 22-11. Drain and flush gearbox at intervals not to exceed 500 hours time in service (refer to § 22-13).

**Rotor Brake:** Inspect condition, including activating cable & pulley and microswitch. Verify integrity of brake pads and 0.030 inch minimum pad thickness. Verify brake pad clearance to input yoke when brake is off. Verify security and operating clearance.

**MRGB Input Yoke:** Inspect condition. Verify security and operating clearance. Verify security of magnets.

**Forward Flex Plate:** Refer to Figure 2-4B. Inspect condition. Verify no distortion, nicks, scratches, cracks, corrosion, or fretting. If fretting is detected, contact RHC Technical Support. Verify bonded washers are installed on both sides of each flex plate ear. Verify proper installation, security, and operating clearance.

**WARNING**

**A193 flex plates, which do not have bonded washers, are obsolete and must be replaced with A947 flex plates having bonded washers. If a bonded washer separates from an A947 flex plate, flex plate is unairworthy and cannot be repaired. Ensure A947-1 forward flex plate is Rev E or subsequent (identified by letter, “E” or subsequent letter, on two adjacent arms of flex plate).**

**Clutch Shaft Forward Yoke:** Inspect condition. Verify no cracks, corrosion, or fretting. Verify security and operating clearance.

**Clutch Assembly:** Inspect condition. Verify no oil leakage. Verify no clutch shaft corrosion, especially at shaft-to-A966-1 seal junctures. Remove any light surface corrosion at shaft-to-seal junctures and apply wax or suitable corrosion preventative compound. Verify no cracks in seal retainer plates.

**NOTE**

Clutch assembly lubricant inspection and servicing (§ 7.214) is recommended every 500 hours time in service.

2.410 Inspection Procedures and Checklist (continued)

**6. Open Cowling Door(s) (6A & 6B) & Remove Aft Cowling (6C) (continued)**

**Upper Sheave:** Inspect condition. Verify smoothness of drive belt contact surfaces. Replace any sheave having corrosion, pitting, flaking, roughness, sharp ridges, wear through anodized coating, or blistering of optional metalized coating. \_\_\_\_\_

**Upper Steel Tube Frame:** Inspect condition. Verify no cracks or corrosion. If corrosion is found, inspect and repair per § 2.560. Use an inspection light and mirror to inspect all parts of each weld. \_\_\_\_\_

**CAUTION**

Upper steel tube frame is fatigue loaded and therefore susceptible to fatigue cracks. Inspect all joints very thoroughly.

**Horizontal Firewall:** Inspect condition, especially where bolted to steel structure. Verify no cracks, buckling, or wrinkles. \_\_\_\_\_

**Cabin Aft Bulkhead:** Inspect condition. Verify no corrosion, loose rivets, deformation, or cracks. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**7. Remove Side Skirts (7A, 7B, 7D, & 7E), Spark Plug Access Covers (7C & 7F), and Battery Box Cover (7G, alternate location under upper console or left seat)**

**Engine:** Refer to Lycoming Operator's Manual (Lycoming P/N 60297-12 or 60297-16, as applicable) Sections 4 and 5 and Lycoming SI 1080 (current revision) for 100-hour or annual inspection and service procedure. \_\_\_\_\_

**Muffler:** Open heater shroud (if installed). Inspect muffler condition. Verify no cracks or ruptures. Pay particular attention to tail pipe and riser attachment areas, welds, clamps, riser flanges and gaskets. Verify no internal obstructions. \_\_\_\_\_

**Muffler Leak Check:** Pressurize muffler with low pressure air and inspect for leakage by applying soapy water to exterior and looking for air bubbles. Verify security. \_\_\_\_\_

**WARNING**

Exhaust system failure can result in carbon monoxide poisoning, partial loss of power, or fire.

**Heater Shroud (if installed):** Inspect condition. Close and secure shroud and connect hoses. \_\_\_\_\_

**Engine Cooling Panels:** Inspect condition. Pay particular attention to panel attached to oil cooler and panel attached to alternator cooling hose. Verify no cracks or missing or loose fasteners. Verify security. \_\_\_\_\_



2.410 Inspection Procedures and Checklist (continued)

**7. Remove Side Skirts (7A, 7B, 7D, & 7E), Spark Plug Access Covers (7C & 7F), and Battery Box Cover (7G, alternate location under upper console or left seat) (continued)**

**Alternator & Pulley:** Inspect condition. Verify steel pulley (use magnet); aluminum pulley is not approved. Verify security. \_\_\_\_\_

**Alternator Wiring:** Inspect condition. Verify no evidence of arcing. Verify security of output, aux, and field terminal studs. Verify no damage to insulating spacer at output stud. Verify wiring security. \_\_\_\_\_

**Alternator Belt:** Inspect condition. Replace belt if there are any cracks, missing teeth or delamination. Check tension per Lycoming Service Instruction 1129 (current revision). Verify proper belt alignment. \_\_\_\_\_

**Emergency Spare Alternator Belt:** Remove if installed. \_\_\_\_\_

**Alternator Cooling Hose:** Inspect condition. Verify no obstructions or holes. Verify security. \_\_\_\_\_

**Vertical Firewall:** Inspect condition. Verify no cracks, buckling, or wrinkles, especially around structural attachment points. \_\_\_\_\_

**Lower Steel Tube Frames:** Inspect condition. Verify no corrosion or cracks, especially at welds. If corrosion is found, inspect and repair per § 2.560. Verify proper torque (see § 23-32) and safety wiring of drilled-head bolt at lower left frame-to-cabin-belly attachment. \_\_\_\_\_

**Engine Mounts:** Inspect condition. Verify security. Replace rubber mounts exhibiting significant deflection or other than superficial cracks. \_\_\_\_\_

**Throttle Control:** Verify carburetor butterfly bellcrank contacts idle rpm adjustment screw with collective full down and throttle grip at idle position. Verify bellcrank contacts full-open stop when throttle is opened with collective half-up. Inspect rod end per § 2.120. Verify operating clearance, especially at vertical firewall. \_\_\_\_\_

**Throttle Correlation Rigging:** Check per § 10.150 and adjust as required. \_\_\_\_\_

**Full Throttle Switch Rigging:** Check per § 33-60 and adjust as required. \_\_\_\_\_

**Carburetor Mixture Control:** Verify carburetor mixture control moves carburetor mixture control arm stop to stop. Inspect condition and verify security of mixture control cable clamp(s) on air box bracket; push and pull cable housing to ensure it does not slip in clamp(s). Inspect condition and verify security of mixture control cable inner wire attachment to carburetor mixture control arm. Ensure freedom of rotation between mixture control arm and inner wire retention fitting (bolt) when arm moves. Verify mixture control safety spring is properly installed (so spring force moves mixture control arm to full-rich position if inner wire breaks). \_\_\_\_\_

**Engine Electrical Wiring, Alternator Control Unit:** Inspect condition. Verify no wire chafing. Inspect connections. Verify security and no corrosion. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**7. Remove Side Skirts (7A, 7B, 7D, & 7E), Spark Plug Access Covers (7C & 7F), and Battery Box Cover (7G, alternate location under upper console or left seat) (continued)**

**Oil Lines & Elbows:** Inspect condition. Verify clearance and no cracks or abrasions. Wires, ty-raps, and structure must not contact lines. \_\_\_\_\_

**Oil Line Clamps:** Inspect condition. Verify no broken clamps. \_\_\_\_\_

**Oil Cooler:** Inspect condition. Verify no cracks or leakage. Verify security. Verify airflow path through cooling fins is unobstructed. \_\_\_\_\_

**Gascolator:** Inspect condition. With fuel valve in OFF position, remove and clean gascolator bowl and filter screen. Reinstall bowl, turn fuel valve ON. Safety wire retainer after ensuring no leakage. Verify drain valve opens easily, drains fuel freely, springs closed, seals completely, and is torque-stripped per § 23-31. \_\_\_\_\_

**Fuel Hose:** Inspect condition, verify security, clearance, no cracks, abrasion or leakage. \_\_\_\_\_

**Carburetor Air Box:** Open air box. Inspect condition. Verify free movement of disk in drain valve (not applicable to Mariners). Verify security. If installed, verify free movement and full closure of spring-loaded alternate air door. \_\_\_\_\_

**Carburetor Heat Valve:** Verify carburetor heat control fully opens and closes slider valve. Inspect condition and verify security of carburetor heat cable clamp on air box. Inspect condition and verify security of carburetor heat control cable inner wire attachment to slider valve. \_\_\_\_\_

**Air Filter:** Clean B771-1 air filter per § 6.435. Close and secure air box. \_\_\_\_\_

**Carburetor Air Inlet Hose:** Inspect condition. Verify no obstructions, leakage, or chafing. Verify security. \_\_\_\_\_

**Carburetor Heat Scoop and Hose:** Inspect condition. Verify security. Verify no obstructions, leakage, chafing, or scoop cracks. \_\_\_\_\_

**Heater Hoses (if installed):** Inspect condition. Verify security and no obstructions, leakage, or chafing. Verify security. \_\_\_\_\_

**Battery, Battery Cables, and Battery Box (alternate locations under upper console or left seat):** Inspect condition. Check each battery cell electrolyte for quantity and specific gravity (non-sealed batteries only). As required, perform capacity test or replace battery per manufacturer's instructions. Verify battery cable security and no cracked or corroded terminals. Verify security of, and no obstructions in, battery box drain tube (if installed). \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8)**

**Tailcone Fairing:** Inspect condition.

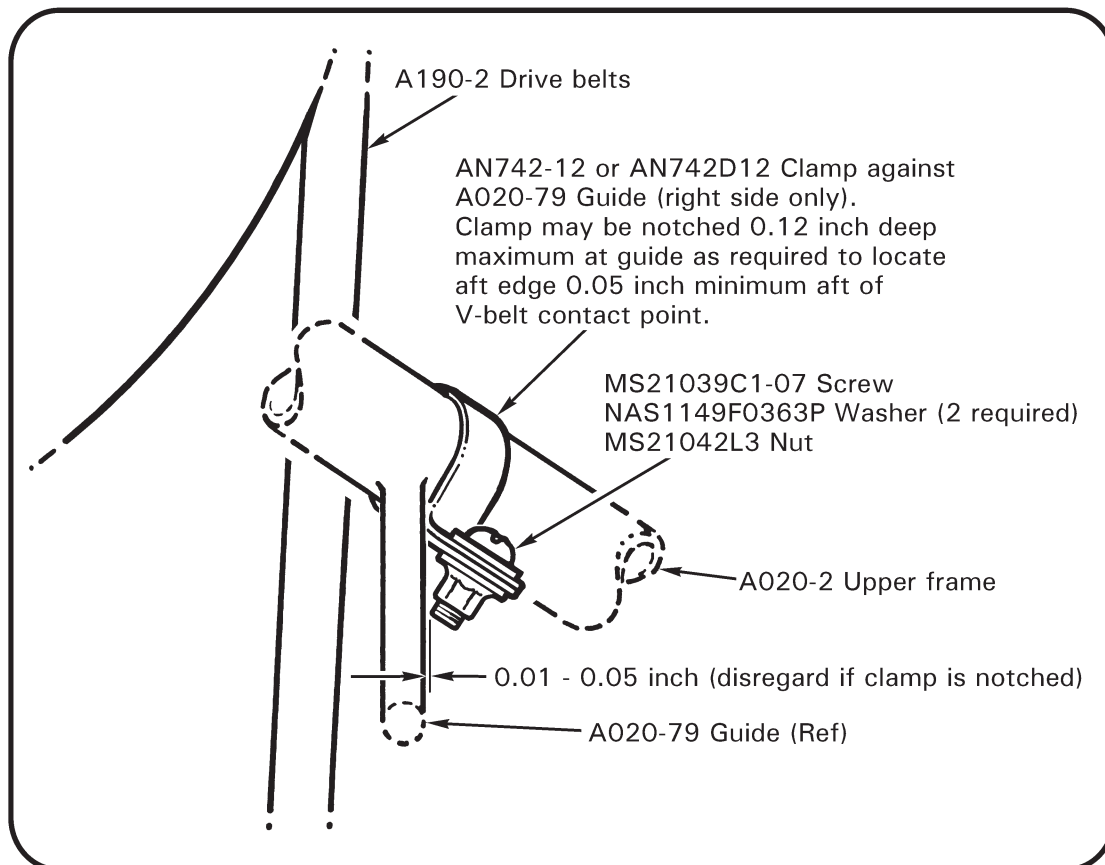
**Upper Steel Tube Frame:** Inspect condition. Verify no cracks or corrosion. If corrosion is found, inspect and repair per § 2.560. Use an inspection light & mirror to inspect all parts of each weld.

**CAUTION**

Upper steel tube frame is fatigue loaded and therefore susceptible to fatigue cracks. Inspect all joints thoroughly.

**Tailcone-to-Upper Frame Attachment:** Inspect condition. Verify security.

**Upper Frame Protective Clamp:** Inspect clamp protecting right side upper frame tube from drive belt contact; replace if wear has penetrated clamp. If clamp is not installed, verify no more than 0.0049 inch wear into frame tube due to drive belt rubbing. Protective clamp may be installed per Figure 2-4C on any R22 if desired.



**FIGURE 2-4C UPPER FRAME PROTECTIVE CLAMP INSTALLATION**  
(View looking forward)

2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8) (continued)**

**Actuator Upper Bearing:** Inspect condition. Verify no more than 0.060 inch axial play. Verify no fretting between bearing inner race and clutch shaft. Verify bearing inner race has not slipped relative to clutch shaft. Inspect Telatemp per § 2.130. Perform § 22-41 bearing inspection if unexplainable Telatemp increase has occurred.

**CAUTION**  
A184 bearing requires periodic lubrication per § 1.101.

**Actuator Upper Bearing Lubrication:** Perform as required.

**Clutch Lateral Centering Strut Assembly:** Inspect condition. Inspect rod ends per § 2.120. Verify security.

**Intermediate Flex Plate and Yokes:** Refer to Figure 2-4B. Inspect condition. Verify no distortion, nicks, scratches, cracks, corrosion, or fretting. If fretting is detected, contact RHC Technical Support. Verify bonded washers are installed on both sides of each flex plate ear. Verify proper installation, security, and operating clearance.

**WARNING**  
A193 flex plates, which do not have bonded washers, are obsolete and must be replaced with A947 flex plates having bonded washers. If a bonded washer separates from an A947 flex plate, flex plate is unairworthy and cannot be repaired.

**Tail Rotor Push-Pull Tubes and A331-1 Bellcrank:** Inspect condition. Verify no cracks at tube ends. Inspect rod ends per § 2.120. Verify security and operating clearance.

**Drive V-Belts:** Inspect per § 2.507.

**Fanshaft:** Inspect condition. Perform 360° visual inspection of exposed fanshaft for cracks. Verify security and safety wiring of attaching bolts.

**Actuator Lower Bearing:** Inspect condition, verify bearing inner race has not slipped relative to fanshaft. Inspect Telatemps per § 2.130. Perform § 22-42 bearing inspection if unexplainable Telatemp increase has occurred.

**CAUTION**  
A181-4 bearing requires periodic lubrication per § 1.101.

**Actuator Lower Bearing Lubrication:** Perform as required.

2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8) (continued)**

**Actuator Lower Bearing Lubrication:** Perform as required.

**Lower Bearing Brackets:** Refer to Figure 2-4D. Visually inspect A185 brackets and attaching rivets for evidence of fretting or looseness. If evidence of looseness is found repair per R22 SL-74A. On lower A185 bracket, apply torque seal in a horizontal stripe across both outboard rivets to lower scroll to facilitate future inspections.

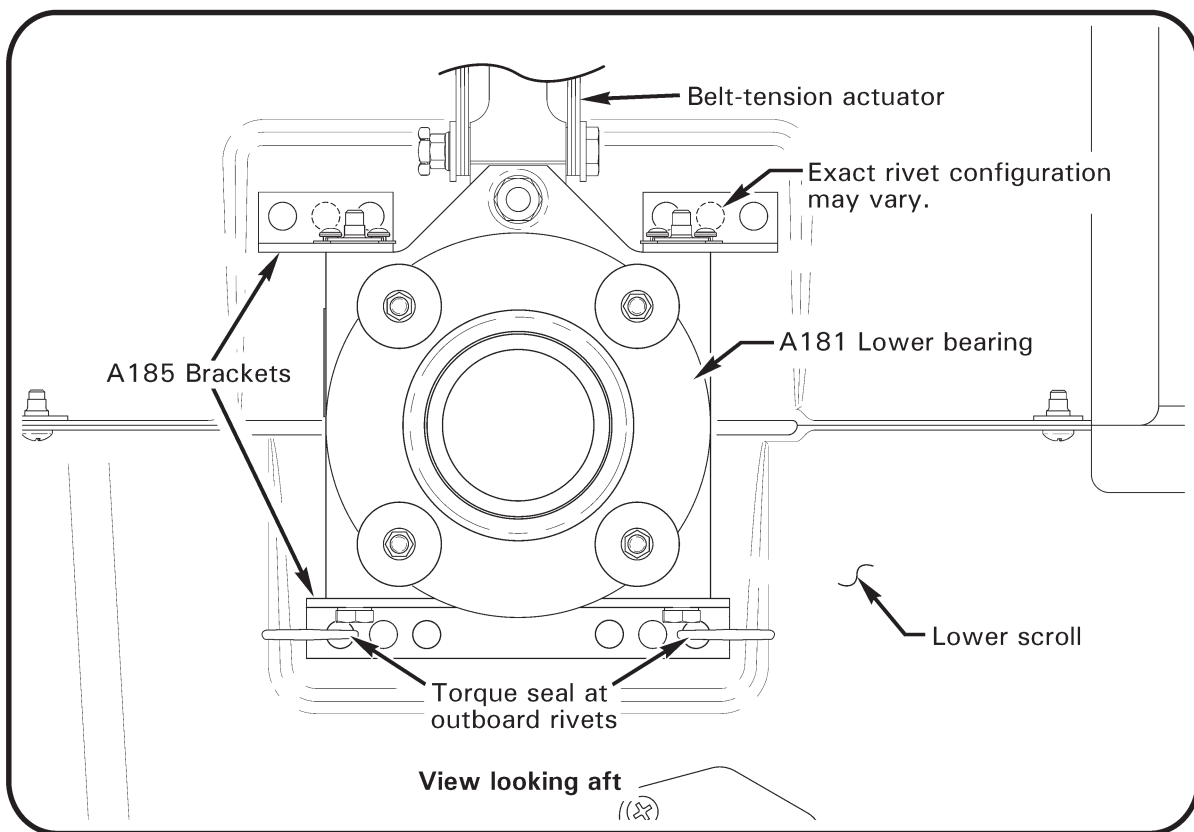


FIGURE 2-4D ACTUATOR LOWER BEARING A185 BRACKETS

**Fiberglass Scroll:** Inspect condition. Verify no damage to vane assembly in upper right scroll. Verify security. Verify drain hole is unobstructed.

**Scroll Metal Inlet Lips & Gap (if installed):** Inspect condition. Verify 0.020 to 0.100 inch gap between lips and fanwheel inlet. (Attach holes in lips may be elongated to facilitate gap adjustment.)

**Fanwheel Assembly:** Inspect condition. Verify no cracks or corrosion. Check leading edge of vanes for damage. Verify alignment of roll pin and slippage marks on fanwheel. If marks and roll pin do not align, remove fanwheel and inspect hub and shaft for damage. Verify security.

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2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8) (continued)**

**Actuator (A051-1):** Turn master switch on and engage clutch switch. While actuator is engaging, depress extension limit switch lever and verify gear motor stops; release lever and verify gear motor resumes running. Use an inspection mirror to observe column springs at end of belt-tensioning cycle; springs should snap outward simultaneously. Verify maximum engaged extension limit per Figure 7-15 is not exceeded. Verify security of attachment to A181 and A184 bearings. Verify gear motor security and minimum 0.030 inch clearance to upper frame.

**Actuator Spring Switches:** Check using either of following two methods, as appropriate:

Method 1 – (actuator electrical harness must be equipped with “Test” plug)

**CAUTION**

When using MT558-1 plug assembly (see Figure 2-5), if gear motor does not shut off when column springs snap outward then spring switch has failed in closed position; immediately remove MT558-1 to prevent actuator damage.

- a. Disengage actuator. Connect one end of MT558-1 to actuator test plug. Engage actuator and verify gear motor shuts off when column springs snap outward.
- b. Disengage actuator. Connect opposite end of MT558-1 to actuator test plug. Engage actuator and verify gear motor shuts off when column springs snap outward.
- c. MT558-1 pins 1-2 jumper tests the wire 98 spring switch; the pins 2-3 jumper tests the wire 91 spring switch (see Figure 14-4A). If either switch does not function properly, replace switch section per § 7.551 before further flight.

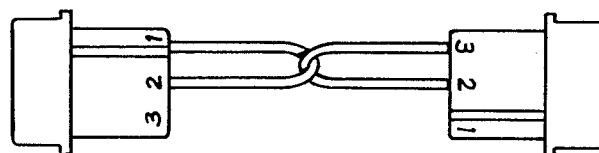


FIGURE 2-5 MT558-1

2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8) (continued)**

**Actuator Spring Switches (continued):**

Method 2 – (use if actuator electrical harness is not equipped with “Test” plug)

- a. Refer to Figure 2-5A. Depress column springs on one side of actuator until springs snap inward (use large screwdriver or similar tool with several layers to tape over end to protect actuator). Hold springs inward for at least one second. Actuator motor should not run. If motor starts, allow motor to run approximately two seconds, then release pressure on column springs. Depress column springs again. If motor starts again, opposite spring switch does not function properly. \_\_\_\_\_
- b. Disengage and re-engage actuator. Repeat step a. on opposite-side column springs. \_\_\_\_\_
- c. If either switch does not function properly, replace switch per § 7.551 before further flight.

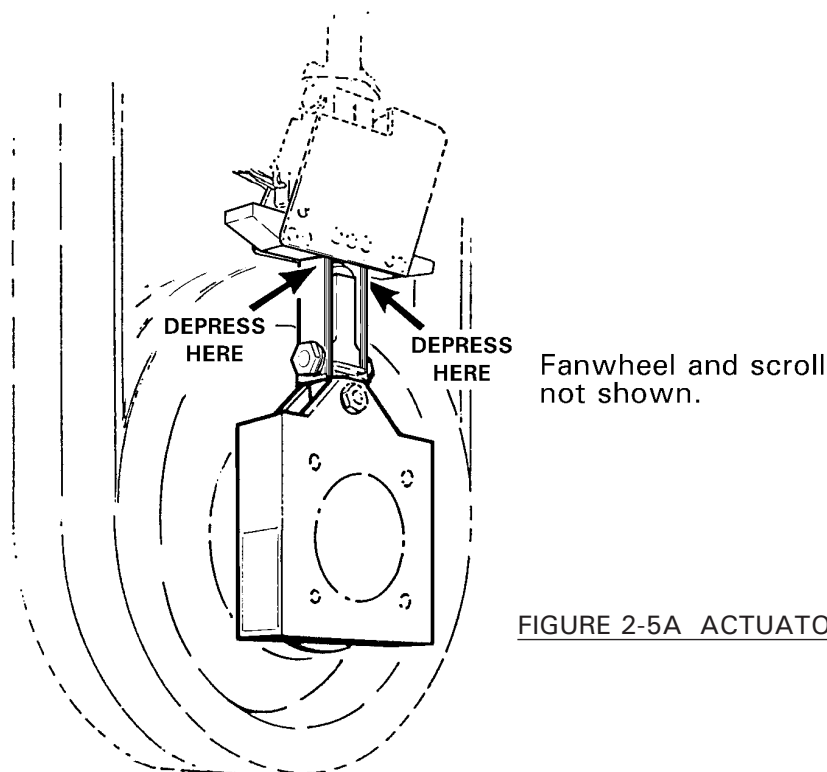


FIGURE 2-5A ACTUATOR FUNCTION TEST

**Lower Sheave:** Inspect condition. Verify smoothness of drive belt contact surfaces. Remove any surface corrosion and refinish with approved primer (chromate primer preferred; refer to § 23-75). Replace any sheave showing corrosion-pitting or flaking of metalized coating, roughness, or sharp ridges. \_\_\_\_\_



2.410 Inspection Procedures and Checklist (continued)

**8. Remove Tailcone Fairing (8) (continued)**

**Engine Height:** Check per § 6.130 and adjust as required. \_\_\_\_\_

**Clutch Shaft Angle:** Check per § 7.240. Replace drive belts as required. \_\_\_\_\_

**Sheave Alignment:** Check per § 7.230 and adjust as required. \_\_\_\_\_

**Throttle Correlation Rigging:** Check per § 10.150 and adjust as required. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**9. Remove 4 Tailcone Inspection Covers (9) :** Verify nutplate self-locking feature when removing.

**Inspection Covers:** Inspect condition. \_\_\_\_\_

**Tail Rotor Drive Shaft:** Inspect condition. Verify no cracks, bends, or contact with inside of tailcone. Refer to Figure 7-12C for corrosion limitations. Check runout per § 7.340. \_\_\_\_\_

**Tail Rotor Push-Pull Tube:** Inspect condition. Inspect rod ends per § 2.120. Verify wear does not exceed § 2.120 limits. Verify no cracks in ends. Verify operating clearance. Verify tail rotor guard mounting screw shanks clear push-pull tube. \_\_\_\_\_

**Damper:** Inspect condition. Verify security. Verify bearing housing wear is within Figure 2-6 limits. \_\_\_\_\_

**Tailcone Interior:** Inspect condition. Verify no loose rivets or corrosion. Verify no excessive wear in tail rotor push-pull tube bushings. Verify no cracks, especially at damper-to-tailcone attachment. \_\_\_\_\_

**Lower, Whip Antenna (if installed):** Remove four screws securing antenna mounting plate to tailcone. Verify no cracks or corrosion on mounting plate or tailcone mount. Inspect antenna and wiring condition. Install antenna. Verify security. \_\_\_\_\_

**Upper Antenna(s) (if installed):** Inspect antenna and wiring condition. Verify security and no cracks at attachment to tailcone. \_\_\_\_\_

**Tailcone Exterior:** Inspect condition. Refer to Figures 2-7A and 2-7B for dent and scratch limits. Verify no cracks, corrosion, fretting between skin joints, or loose rivets. Verify drain hole at forward edge of each bay (except forward) is unobstructed. \_\_\_\_\_

**Tail Rotor Visual Warning Guard:** Inspect condition. Verify no cracks or corrosion, especially at tailcone attachment. Verify security. \_\_\_\_\_

**Strobe Light:** Inspect condition. Verify cleanliness and security. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

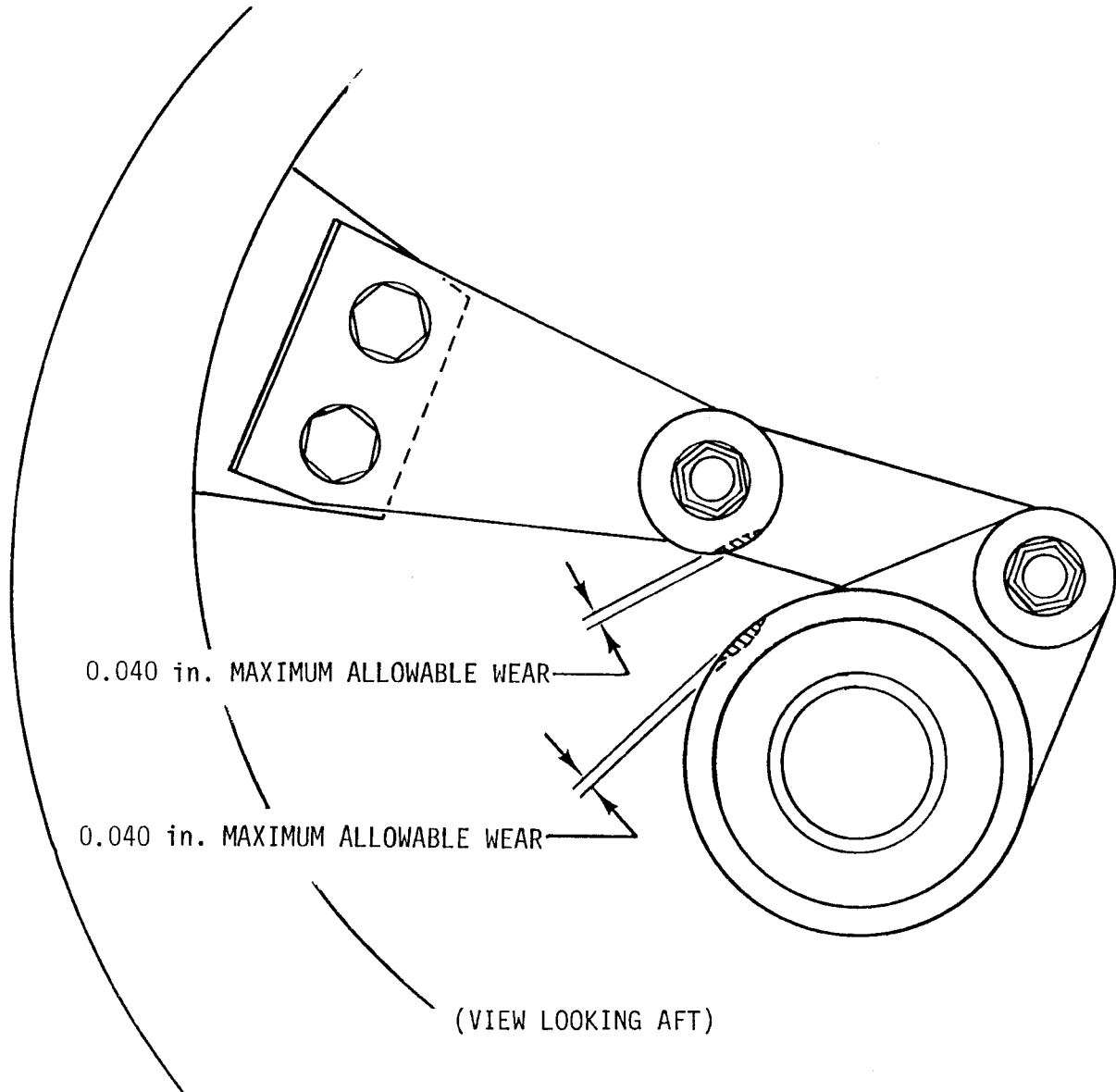
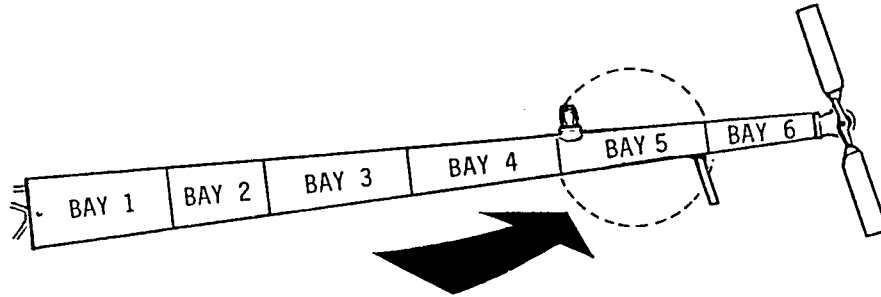


FIGURE 2-6 DAMPER BEARING HOUSING WEAR LIMITS

2.410 Inspection Procedures and Checklist (continued)

9. Remove 4 Tailcone Inspection Covers (9) (continued)



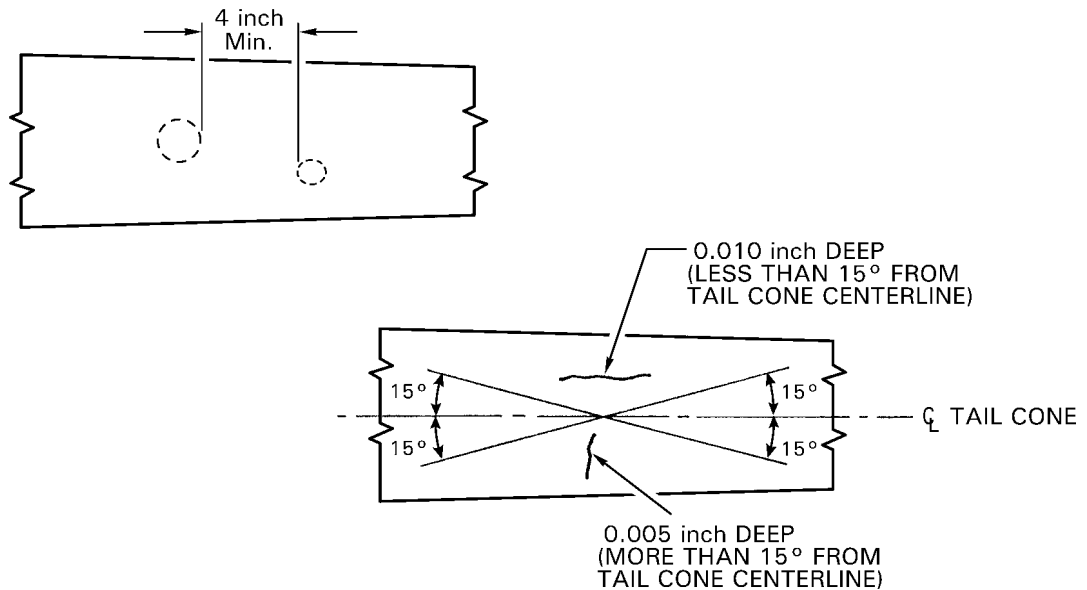
**FIGURE 2-7A TAILCONE DENT LIMITS**

BAY 5:

- 0.00 to 0.10 inch deep — No repair required provided 4 inches minimum between dented stations.
- 0.10 to 0.25 inch deep — Repair per § 4.314.
- Greater than 0.25 inch deep — Replace bay (requires return to RHC).

ANY OTHER BAY:

Dents with 0.030 inch maximum depth, 1.25 inch maximum diameter, and 0.125 inch minimum bottom radius are acceptable if there is no more than one dent per station with 4 inches minimum between dented stations. Otherwise, replace tailcone or return to RHC for repair.



**FIGURE 2-7B TAILCONE SCRATCH LIMITS**

Allowable scratch depth varies with scratch angle to tailcone centerline as shown. For scratches within these limits, polish out scratches using 320-grit or finer abrasive paper and minimum 0.10 inch blend radius. Polish parallel to tailcone long axis. If scratches exceed limits, replace tailcone or return to RHC for repair.

2.410 Inspection Procedures and Checklist (continued)

**10. Remove Plastic Cover (10)**

**Plastic Cover:** Remove and clean. Inspect condition. Replace as required and install. Verify nutplate self-locking feature when installing. \_\_\_\_\_

**Empennage:** Inspect condition. Verify security. Verify no cracks or loose fasteners. Verify lower vertical stabilizer and tail skid drain holes are unobstructed. Refer to special inspection section for tail skid strike inspection criteria. \_\_\_\_\_

**Aft Navigation Light:** Inspect condition. Verify cleanliness, clear lens, and security. \_\_\_\_\_

**Aft Flex Plate:** Refer to Figure 2-4B. Inspect condition. Verify no distortion, nicks, scratches, cracks, corrosion, or fretting. If fretting is detected, contact RHC Technical Support. Verify bonded washers are installed on both sides of each flex plate ear. Verify proper installation, security, and operating clearance. \_\_\_\_\_

**WARNING**

**A193 flex plates, which do not have bonded washers, are obsolete and must be replaced with A947 flex plates having bonded washers. If a bonded washer separates from a A947 flex plate, flex plate is unairworthy and cannot be repaired.**

**Tail Rotor Gearbox:** Inspect condition, including seals. Verify proper oil level and no leakage. Verify security and safety wire integrity. Verify output shaft cleanliness. \_\_\_\_\_

**NOTE**

At 500 hours time in service or annually, whichever occurs first, remove chip detector and clean any varnish accumulation from detector's magnetic probe and adjacent metal body using a toothbrush and approved solvent per § 22-21. Drain and flush gearbox at intervals not to exceed 500 hours time in service (refer to § 22-23).

2.410 Inspection Procedures and Checklist (continued)**10. Remove Plastic Cover (10) (continued)**

**Tail Rotor Pitch Control Assembly and Aft Bellcrank:** Inspect condition. Inspect spherical bearing in underside of pitch control per § 2.120; it is permissible to have a single radial crack in this spherical bearing ball. Verify no excessive looseness on output shaft (0.25 inch maximum rotational play measured at pitch link attaching bolt head). Verify operating clearance and assembly slides freely on output shaft. Verify no leakage at bearing seals. Verify security.

**WARNING**

**A031-1 Rev. J or prior pitch control assemblies require repetitive inspection per R22 Service Bulletin SB-90A every 300 hours or annually, whichever occurs first.**

**Pitch Links:** Inspect condition. Inspect rod ends and spherical bearings per § 2.120. Remove and reinstall pitch links with outboard end inboard and inboard end outboard as required to obtain maximum service life; additionally, an optional A215-012 o-ring may be installed on A115-1 spacer under bolt head at pitch control. Reinstall chordwise weights at respective attachment points for balance purposes. Verify proper installation, security, and operating clearance.

**Tail Rotor Blades:** Refer to R22 SB-120. Inspect condition. Refer to § 28-30 for damage limits and repair. Verify no buckling. Verify no looseness between feather bearing outer races and root fittings. Inspect bearings per § 2.120. Verify no obstructions in blade tip drain holes. Verify proper installation, security, and pitch change operation.

**WARNING**

**Structural damage may occur if compressed air is applied to blade tip drain holes.**

**Tail Rotor Hub:** Inspect condition. Verify no nicks, scratches, gouges, dents, cracks, or corrosion. Inspect elastomeric teeter hinge bearings per § 2.125. Teeter the rotor hub and verify teeter bearing bolt, spacers, and nuts do not rotate. Verify hub teeters smoothly. Verify proper installation and security of blade bolts.

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1.

2.410 Inspection Procedures and Checklist (continued)

**11. Open Mast Fairing (11)**

**Mast Fairing:** Inspect condition. Verify no cracks, dents, or corrosion. Verify no yielding or cracking of A665-1 restraint. Yielding can be caused by overtightening screws in restraint nutplates. \_\_\_\_\_

**Upper and Lower Ribs:** Inspect condition. Verify security, especially tightness of lower rib clamp. \_\_\_\_\_

**Three Vertical Push-Pull Tubes (Two A121-7 and One A121-5):** Inspect condition. Inspect rod ends per § 2.120. Verify no cracks at upper ends. With collective full up and cyclic full aft, verify no wear of A121-7 tubes or sleeves, especially where sleeves rub inside guide assembly. Verify security and operating clearance. \_\_\_\_\_

**Pitot Tube and Line:** Inspect condition. Verify no cracking, chafing, or kinking. Ensure drain hole on bottom of elbow behind pitot tube is clear. Verify security. \_\_\_\_\_

**Fuel Tank Vent Metal Lines and Plastic Tubes:** Inspect condition. Verify no kinking or obstructions. Verify security. \_\_\_\_\_

**Swashplate Upper Scissors:** Inspect condition. Inspect rod ends and spherical bearings per § 2.120. Measure scissors play per Figure 2-8. Observe scissor linkage while having someone raise and lower collective. Verify bolt, journals (or spherical bearing balls and spacers), and arm rotate together at each scissor linkage pivot. Verify operating clearance. \_\_\_\_\_

**Swashplate Lower Scissors:** Inspect condition. Inspect rod ends per § 2.120. Verify security. \_\_\_\_\_

**Swashplate Slider Tube:** Inspect condition. Verify no cracks at rivet holes or corrosion on base. Verify no damage to, or wear through, anodized tube surface. When viewed under 10X magnification, minute "checkerboarding" of anodized surface is normal. \_\_\_\_\_

**Remove Swashplate Boot Lower Ty-rap:** Lift boot from swashplate. Using an inspection mirror, inspect area between main rotor drive shaft and inside of slider tube. Verify no corrosion and no debris. Verify no boot damage. \_\_\_\_\_

**Swashplate:** Inspect condition. Verify 0.020 inch maximum radial play between swashplate ball and slider tube. Rotate rotor by hand and verify operating clearance and no rough or dry bearings. \_\_\_\_\_

**Swashplate Shimming:** Observe swashplate ball from below and have someone move collective stick slowly up & down. Verify swashplate ball immediately moves with swashplate when swashplate reverses direction. Movement of swashplate without attendant ball movement indicates axial play between ball and swashplate; shim swashplate per § 8.416. \_\_\_\_\_

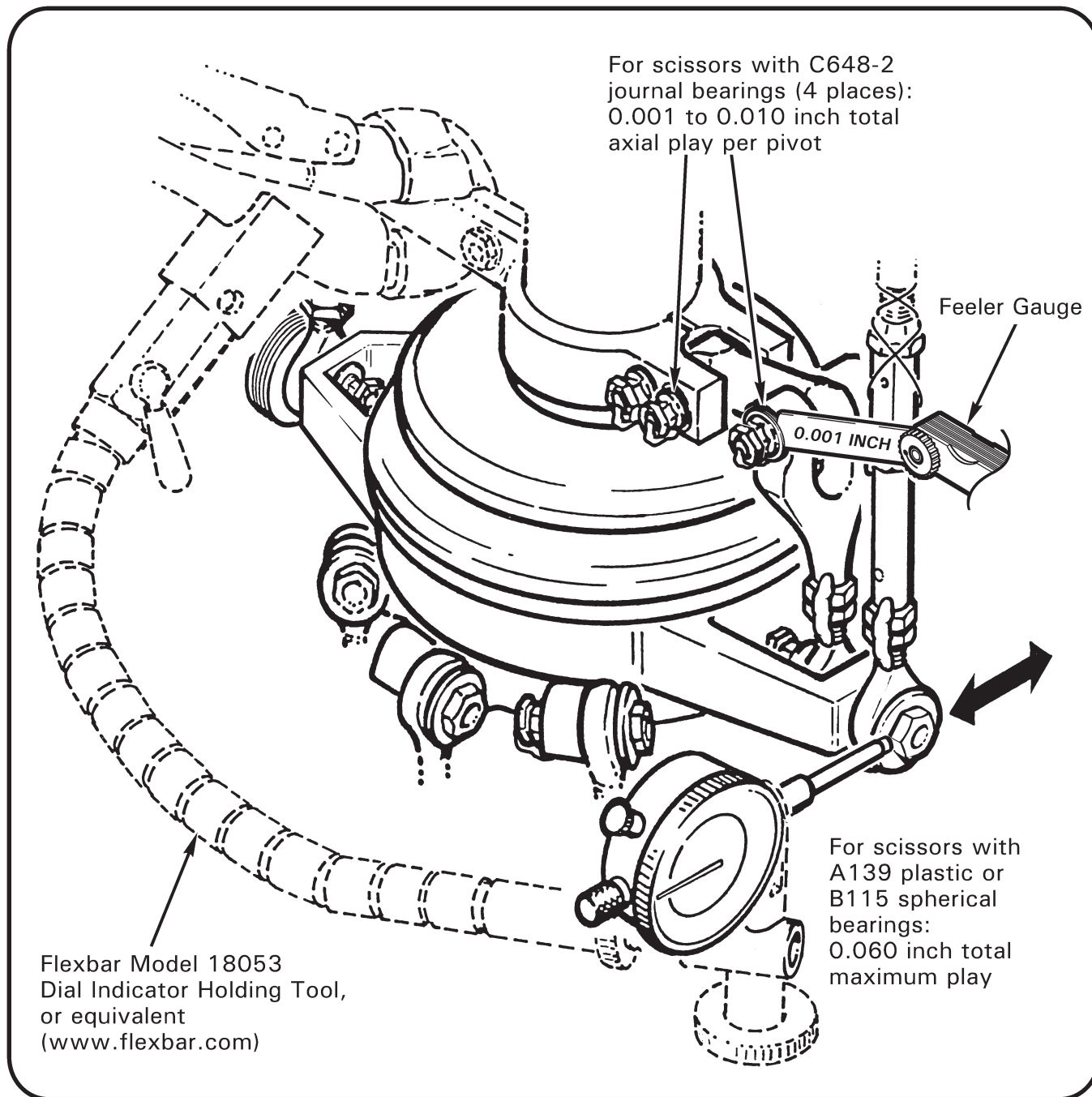
**Install Swashplate Boot Lower Ty-rap:** Verify correct boot position and security and no boot damage. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

11. Open Mast Faring (11) (continued)

**Main Rotor Drive Shaft:** Inspect condition of accessible portion. Verify no corrosion.



**FIGURE 2-8 MEASURING UPPER SWASHPLATE SCISSORS PLAY**  
(Identify scissors bearing type and measure as shown)

2.410 Inspection Procedures and Checklist (continued)

**12. Rotor Hub and Hinge Bolts**

**Hub:** Inspect condition. Verify no nicks, scratches, gouges, or corrosion. If main rotor imbalance is suspected, check teeter and coning hinge friction per § 26-32. Verify no brown or black residue (indicates bearing wear). \_\_\_\_\_

**Hinge Bolts (three):** Inspect condition; corrosion is prohibited. Verify cotter pins are in place and secure. Verify bolt heads and nuts are torque striped to thrust washers. \_\_\_\_\_

**Pitch Links and Rod Ends:** Inspect condition. Inspect rod ends per § 2.120, including centering. Verify security, including jam nut tightness and proper safety wiring. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**13. Main Rotor Blades**

**Blade Boots:** Inspect condition. Verify no boot damage or oil leakage. Verify proper boot position and security. Verify sufficient clearance from hub assembly through full control travel. \_\_\_\_\_

**Blade Spindles & Root Fittings:** Inspect area for damage per § 26-43. Comply with FAA Airworthiness Directive 88-26-01 (current revision) as required (A158-1 spindles only). Verify proper installation and security of visible fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**Main Rotor Blade Tip Maintenance:** Perform main rotor blade tip maintenance per § 26-60. \_\_\_\_\_

**Main Rotor Blade Inspection:** Inspect skins and doublers for scratches and corrosion per § 26-41. Inspect blades for dents and local deformations per § 26-42 and for voids per § 26-44. As required, wax blades with soft cleaning cloths using carnauba-type wax (such as SC Johnson® Paste Wax). Ensure tip cover and blade tip drain holes are unobstructed. \_\_\_\_\_

**WARNING**  
**Structural damage may occur if compressed air is applied to blade tip drain holes.**



2.410 Inspection Procedures and Checklist (continued)

**14. Cabin**

**General:** Verify no loose equipment that might interfere with controls. \_\_\_\_\_

**Seat Belts:** Inspect condition. Verify no fraying, broken stitching, holes, or rotting. Verify no significant discoloration due to UV damage. Check inertia reels for proper operation. Check buckles for proper operation. Verify security. \_\_\_\_\_

<p><b>NOTE</b></p> <p>TSO tag not required on factory-installed harnesses.</p>
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**Windows:** Inspect condition. Verify no significant UV damage (yellowing). Minor defects or imperfections that do not impair pilot's visibility are considered acceptable. Acceptable defects include: \_\_\_\_\_

One nick, no more than 0.010 inch deep and no larger than 0.25 by 0.50 inch per square foot. \_\_\_\_\_

Scratches no more than 0.010 inch deep and 5 inches long. \_\_\_\_\_

Any surface defect such as small spots or stains that can be removed with light polishing. \_\_\_\_\_

For cracks and crazing adjacent to windshield edges refer to § 25-20. \_\_\_\_\_

**Yaw String:** Inspect condition. Minimum 3 inches long each side. Verify security. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**14. Cabin (continued)**

**Exterior:** Inspect condition. Verify no cracks, corrosion, or damage. Verify no loose rivets. Loose rivets may be indicated by cracked paint and/or black residue around heads. \_\_\_\_\_

**Left and Right Navigation Lights:** Inspect condition. Verify red left, green right, lens cleanliness, and security. \_\_\_\_\_

**Doors:** Inspect condition. Verify no structural cracks around hinges or door latches. Check door vents for operation. Ensure door hinge pins are secured with cotter pins. Check tightness of hinge mounting screws. Verify proper operation of door latching and locking mechanisms. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

**15. Landing Gear**

**Skid Tubes and Shoes:** Inspect condition. Verify no more than 0.5 inch wide flat area on underside of skid tube due to wear. Verify longitudinal scratches are not more than 0.030 inch deep, and circumferential scratches are not more than 0.030 inch deep & are less than 0.50 inch long. Verify drain holes are open (not applicable to float landing gear). Verify security of rain caps. Verify minimum 0.05 inch shoe thickness. \_\_\_\_\_

**Struts and Elbows:** Inspect condition. Verify no cracks or corrosion, especially where joined and in weld areas at bottom of struts. Verify security. If helicopter routinely performs running landings, torque check strut-to-skid-tube bolts. \_\_\_\_\_

**Cross Tubes:** Inspect condition. Verify minimum tail skid height per § 5.210. Verify no corrosion. Verify security of rain caps. If a rain cap is loose, verify no internal corrosion. Verify no fretting at elbows. \_\_\_\_\_

**Landing Gear Attach Points:** Inspect condition. Verify no loose fasteners, cracks, buckling, or fretting. Inspect mounts and verify no loose swages or worn bearings. \_\_\_\_\_

**Floats (if installed):** Perform relief valve and bulkhead tests per § 2.580 (2) and (3). Verify proper inflation pressure per R22 POH. Inspect condition. Verify security. \_\_\_\_\_

**Float Skid Tubes (if installed):** Remove drain plugs at aft end of skid extensions. With ground handling wheels installed, pull down on tailcone to drain any trapped moisture. Install drain plugs. \_\_\_\_\_

**Fasteners & Torque Stripes:** Inspect condition and verify security of all fasteners. Renew deteriorated torque stripes per Figure 2-1. \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**16. Life-Limited Parts, Additional Limitations, ADs, & SBs**

**Life-Limited Parts:** Refer to helicopter maintenance records and § 3.300. Replace life-limited parts as required. Verify components installed have sufficient time remaining for projected operations. \_\_\_\_\_

**Additional Component Maintenance:** Refer to helicopter maintenance records and § 1.102. Replace components scheduled for 12-year service, overhaul, or replacement as required. Replace engine and accessories scheduled for maintenance as required. Verify components installed have sufficient time remaining for projected operations. \_\_\_\_\_

**Airworthiness Directives:** Verify applicable airframe, engine, and accessory Airworthiness Directives (ADs) have been performed according to AD compliance procedures. Some aircraft may be affected by ADs that require recurring inspections at less than 100-hour or annual intervals. Recent U.S. Airworthiness Directives are available online at [www.faa.gov](http://www.faa.gov). \_\_\_\_\_

**Service Bulletins:** Verify applicable airframe, engine, and accessory Service Bulletins (SBs) have been complied with according to manufacturers' instructions. Some aircraft may be affected by SBs that require recurring inspections at less than 100-hour or annual intervals. RHC Service Bulletins are available online at [www.robinsonheli.com](http://www.robinsonheli.com), under the Publications tab. \_\_\_\_\_

**17. Required Documents and Placards**

**Documents:** Check that required documents (Airworthiness Certificate, Registration, applicable Radio Station License, Pilot's Operating Handbook, Equipment List/Weight & Balance Data) are on board, legible, and current. \_\_\_\_\_

**Placards:** Verify required placards are properly installed, legible, and current. Refer to Pilot's Operating Handbook Section 2 for placard requirements. \_\_\_\_\_

**18. Inspection and Access Covers**

**Foreign Objects Removed:** Verify all tools, loose hardware, rags, and other foreign objects are removed from helicopter. \_\_\_\_\_

**Covers Closed and Secure:** Install/close all inspection and access covers removed in preceding steps. Verify security of all access covers. \_\_\_\_\_

**Mariner Airbox Sealed:** Ensure air box cover perimeter is sealed with aluminum tape (Mariner models only). \_\_\_\_\_

2.410 Inspection Procedures and Checklist (continued)

**19. Maintenance Records**

**Maintenance Records:** Verify maintenance records are accurate, legible, and complete. Enter maintenance performed (such as part replacement, equipment adjustments, servicing, and lubrication) and inspection data. Data must include a description of (or reference to data acceptable to the Administrator) the work performed, date, helicopter total time in service, signature, certificate type and certificate number of person approving aircraft for return to service. \_\_\_\_\_

**SHEAVE ALIGNMENT LEFT:** \_\_\_\_\_ **ENGINE HEIGHT:** \_\_\_\_\_

**SHEAVE ALIGNMENT RIGHT:** \_\_\_\_\_ **CLUTCH ANGLE:** \_\_\_\_\_

**TRDS RUNOUT:** \_\_\_\_\_

**CHECKLIST COMPLETE:**

Mechanic's signature: \_\_\_\_\_ Date: \_\_\_\_\_