



ATTACHMENT 4

AIRWORTHINESS GROUP CHAIRMAN'S FACTUAL REPORT

CEN13FA192

Sikorsky S-76 Tail Rotor 500-hour and 1500-hour Inspections (3 Pages)

- (4) Replace bolt if there is any pitting, scratches, or scoring into bolt parent (base) material. Scratches in plating are allowed in up to 30% of bolt shank area. Touch up bare spots by brush plating per MIL-STD-865.
- (5) Before installation, apply wet zinc chromate primer, Fed. Spec TT-P-1757, to shank of all bolts.
- (6) Install bolts per applicable maintenance instructions.
- (7) Touch up bolts and nuts with epoxy primer, MIL-P-23377. If desired, touch up top coat with matching paint.

3A. Tail Rotor Blade 500-Hour Inspection.

A. Inspect Tail Rotor Blade. Do this inspection when required by Scheduled Maintenance Checks, 5-20-00.

- (1) With tail rotor blade installed on helicopter and rotated to a convenient position, cut the tiedown strap securing the boot to the fairing. Peel boot away from fairing to expose spar.
- (2) For Painted Spars: Using a boroscope, examine leading and trailing edges of the spar for cracks and delaminations through the thickness. Inspect the entire surface from the nylon wrap, located at the retention plate area, along the full length (approximately 12 inches beyond snubber bearing - approximately RSTA 22.00). Also check for flatwise centerline crack just inboard and outboard of the snubber bumper contact pad. Examine all remaining accessible spar surfaces for signs of damage (Figure 602).

CAUTION: DO NOT ALLOW ALCOHOL TO CONTACT RUBBER ON PIVOT BEARING (SNUBBER) OR BUMPER. IF IT DOES WIPE OFF IMMEDIATELY WITH A CLEAN DRY CLOTH.

- (3) For Unpainted Spars: Using a boroscope, examine leading and trailing edges of the spar for cracks and delaminations through the thickness. Inspect the entire surface from the nylon wrap, located at the retention plate area, along the full length (approximately 12 inches beyond snubber bearing - approximately RSTA 22.00). Also check for flatwise centerline crack just inboard and outboard of the snubber bumper contact pad. If there is any indication that a crack is present, apply alcohol liberally to spar in the suspect area. Allow alcohol to soak for a minimum of 1/4 hour. Wipe excess alcohol away. If a crack is present, it will show as a darker in color line on the spar surface. Examine all remaining accessible spar surfaces for signs of damage (Figure 602).
- (4) If no cracks, corrosion, or other damage is found, install boot with new tiedown straps.
- (5) If spar cracking is suspected, to confirm crack(s), do a more detailed inspection. Contact Sikorsky Aircraft Commercial Customer Service.
- (6) If spar is cracked, remove blade from service and contact Sikorsky Aircraft Commercial Customer Service immediately.
- (7) Repeat steps (1) through (6) on the remaining blades.

4. Tail Rotor 1500 Hour Inspection.

A. Inspect Tail Rotor. Do this inspection when required by Scheduled Maintenance Checks, 5-20-00.

NOTE: Do steps (1), (2), and (3) with tail rotor blades installed. Do steps (4) through (13) with tail rotor blades removed.

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- (1) Tail rotor blade-to-spar outboard bolted joint for looseness by flexing blade edgewise.
- (2) Measure radial play of pitch change shaft by inserting a plastic feeler gage between side of shaft and retention pilot liner of outboard retaining plate or use a dial indicator at retention pilot relative to pitch change shaft.
- (3) If radial play is less than 0.014 inch, continue in service. If radial play is greater than 0.014 inch, remove outboard retaining plate and inspect pitch change shaft and retention pilot and liner for scoring and wear. Replace scored or worn parts. (Refer to Maintenance Practices, 65-21-00 and 66-30-00.)
- (4) Pitch control rod attachment bolts (inboard and outboard) and retaining plate bolts for corrosion and fretting. For specific inspection requirements, refer to Inspection/Check, paragraph 3.
- (5) Tail rotor blade spar under tail rotor retaining plates for wear of nylon wrap, fiber fracture, or ply delamination. Refer to Table 202, 65-20-00, Structural Repair Manual, SA 4047-76-12, for accept/reject criteria.
- (6) Tail rotor blade spars for full bond of spar center plugs. Refer to Table 202, 65-20-00, Structural Repair Manual, SA 4047-76-12, for accept/reject criteria.
- (7) Cut tiedown strap securing boot to fairing. Peel back boot away from fairing and remove fairing to expose spar and pivot bearings. Remove and inspect pivot bearings (snubbers) and bumpers for corrosion, separation, and eraser-type wear. Bearing retainers for heavy corrosion, missing pieces, and disbonds.
 - (a) Remove pivot bearings and bumpers per Approved Repairs, 65-21-01.
 - (b) For pivot bearings inspection procedure, refer to Elastomeric Bearing Inspection Procedures, paragraph 2.D, 65-21-01.
 - (c) Refer to Table 202, 65-20-00, Structural Repair Manual, SA 4047-76-12, for accept/reject criteria.
 - (d) Pay particular attention to application of corrosion protective coatings per Approved Repairs, paragraph 4.D, 65-21-01.
- (8) Using a flashlight and a small inspection mirror, visually inspect tail rotor horn internal and external surfaces for corrosion, nicks, gouges, and other damage. If corrosion is found, inspect for cracks in corrosion areas, paying particular attention to region where horn arm joins box section. Bushing for fretting and corrosion. Refer to Table 202, Structural Repair Manual, SA 4047-76-12, for repair procedures.
- (9) For Painted Spars: Using a boroscope, examine leading and trailing edges of spar for cracks and delaminations through the thickness. Inspect the entire surface from the nylon wrap, located at the retention plate area, along the full length (approximately 12 inches beyond snubber bearing - approximately RSTA 22.00). Also check for flatwise centerline crack just inboard and outboard of the snubber bumper contact pad. Examine all remaining accessible spar surfaces for signs of damage (Figure 602).

CAUTION: DO NOT ALLOW ALCOHOL TO CONTACT RUBBER ON PIVOT BEARING (SNUBBER) OR BUMPER. IF IT DOES WIPE OFF IMMEDIATELY WITH A CLEAN DRY CLOTH.

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- (10) For Unpainted Spars: Support blade assembly in a horizontal position. Apply alcohol liberally to spar leading and trailing edges from nylon wrap, outboard beyond pivot bearing a minimum of 10 inches, using a small brush or sponge brush. Also apply alcohol just inboard and outboard of snubber bearing. Take care not to soak the rubber with alcohol. Allow the alcohol to soak for a minimum of 1/4 hour. Wipe excess alcohol away. Using a boroscope, examine leading and trailing edges of spar for cracks and delaminations through the thickness. Inspect the entire surface from the nylon wrap, located at the retention plate area, along the full length (approximately 12 inches beyond snubber bearing - approximately RSTA 22.00). If a crack is present, it will show as a darker in color line on the spar surface. Also check for flatwise centerline crack just inboard and outboard of the snubber bumper contact pad. Examine all remaining accessible spar surfaces for signs of damage (Figure 602).
- (11) If no cracks, corrosion, or other damage is found, reinstall pivot bearings (snubbers) and bumpers. Check bumper assembly for proper gap (0.100 ± 0.010 inch). Install fairing and boot with new tiedown straps. Install components and apply primer per Approved Repairs, 65-21-01.
- (12) If spar cracking is suspected, to confirm crack(s), do a more detailed inspection. Contact Sikorsky Aircraft Commercial Product Support.
- (13) If spar is cracked, remove blade from service and contact Sikorsky Aircraft Commercial Product Support immediately.

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