



THE ENSTROM HELICOPTER CORPORATION

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SERVICE INFORMATION LETTER

SERVICE INFORMATION LETTER NO. T-049

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DATE: July 7, 2011

1. SUBJECT: Special Inspections for Agricultural Aircraft
2. MODEL: 480 and 480B Helicopters
3. EFFECTIVITY: Helicopters Equipped with Ag Spray Kit
4. BACKGROUND:

Agricultural operations place different demands on an aircraft than typically experienced by non-agricultural aircraft. These aircraft require additional inspections in areas that are not normally as great a concern in non-agricultural aircraft. This Service Information Letter (SIL) outlines additional inspections based on the service history of aircraft used for agricultural operations. All the inspections and procedures outlined in this SIL are based on actual conditions found on agricultural aircraft.

All Enstrom operators are encouraged to report their service experience to Enstrom Helicopter Corporation. This SIL will be revised if more areas that require special attention are discovered. Enstrom is always looking at ways to make the aircraft more robust and easier to service; however, existing aircraft must be maintained to keep them safe.

Because of the high demands on the tail rotor system in agricultural operations, tail rotor gearbox chip lights should be taken very seriously.

5. COMPLIANCE:

In order to ensure safe operation in the field, operators of aircraft used for agricultural operations should perform the inspections as described below.

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5.1 In addition to the regular 100-hour/annual inspections, perform the tail rotor transmission gear inspection in accordance with paragraph 6.1:

5.1.1 Every 50 hours time in service if the aircraft has been used for agricultural operations during that time period.

5.1.2 If the **TAIL CHIP** segment illuminates, inspect the chip detector in accordance with the TH-28/480 Series Maintenance Manual, paragraph 4-57, and perform the tail rotor transmission inspection in accordance with paragraph 6.1.

CAUTION: If the TAIL CHIP segment illuminates, discontinue operation and inspect the tail rotor transmission in accordance with the TH-28/480 Series Maintenance Manual, paragraph 4-57, and perform the tail rotor transmission inspection in accordance with paragraph 6.1.

5.2 In addition to the regular 100-hour/annual inspections, perform the detailed tailcone structure inspection in accordance with paragraph 6.2 at every 100-hour/annual inspection if the aircraft has been used for agricultural operations during that time period.

5.3 In addition to the regular 100-hour/annual inspections, perform the pylon structure inspection in accordance with paragraph 6.3:

5.3.1 Every 50 hours time in service if the aircraft has been used for agricultural or external load operations during that time period.

5.3.2 If the operator experiences severe vibrations.

6. INSPECTION:

6.1 Tail Rotor Transmission Gear Inspection (Reference Figures 1-5)

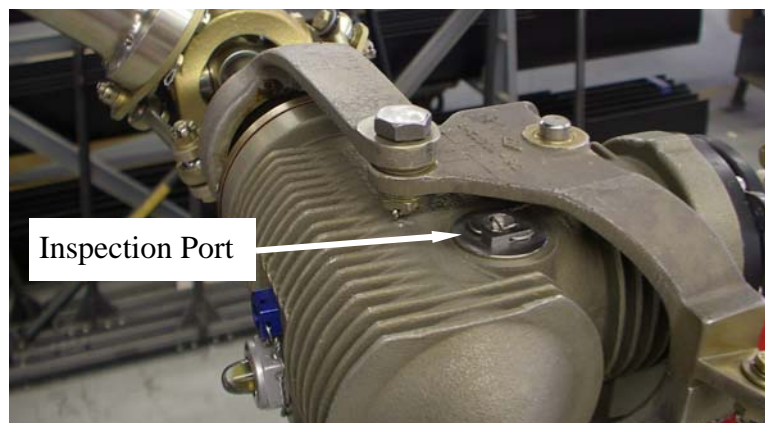


Figure 1. Tail Rotor Transmission Gearbox

- 6.1.1 Equipment Required: Small bright light source and a 10X magnifying glass
- 6.1.2 Access the tail rotor drive gear via the inspection port located on top of the transmission (Figure 1).
- 6.1.3 Cut the safety wire between the inspection port plug (5) and bolt (3). Remove the inspection port plug (5) and o-ring (4) (Figures 1, 2, and 5). Discard the safety wire.

NOTE: The inspection can be accomplished with the drive coupling attached.

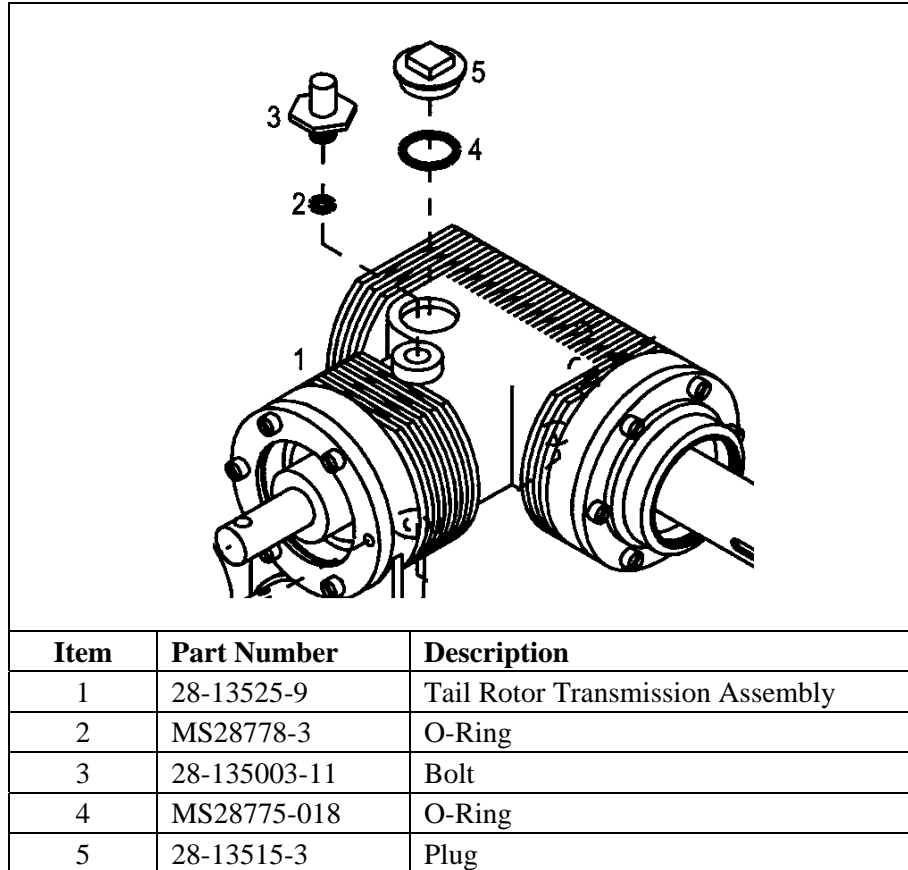


Figure 2. Tail Rotor Transmission Inspection Port Assembly

- 6.1.4 Illuminate the drive gears with a suitable bright light. With the 10X magnifying glass visually inspect the input gear for broken or cracked gear teeth (Figure 3). See Figure 4 for an example of broken and cracked gear teeth. Slowly rotate the tail rotor to turn the gear for one complete revolution (360°) and thoroughly inspect all the input gear teeth.
- 6.1.5 Replace the tail rotor transmission if any broken or cracked gear teeth are discovered. Refer to the TH-28/480 Series Maintenance Manual, Paragraphs 11-88 through 11-92, for removal and installation instructions.

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- 6.1.6 Reinstall the inspection port plug (5). Ensure that the o-ring (4) is seated on the plug threads.
- 6.1.7 Safety wire the plug (5) and bolt (3) with MS20995C32 wire (Figure 5).
- 6.1.8 Report a damaged gear to Enstrom Customer Service.

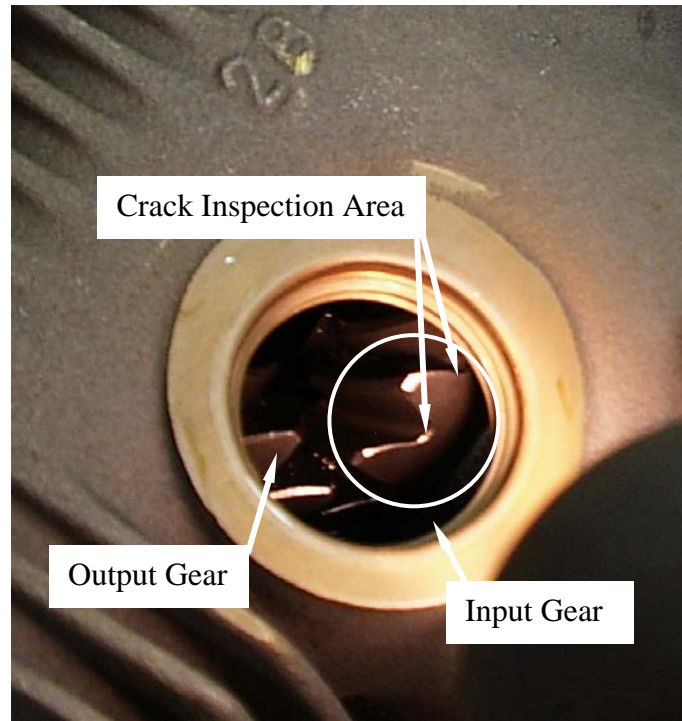


Figure 3. Gear Teeth Inspection – Input Gear Illuminated

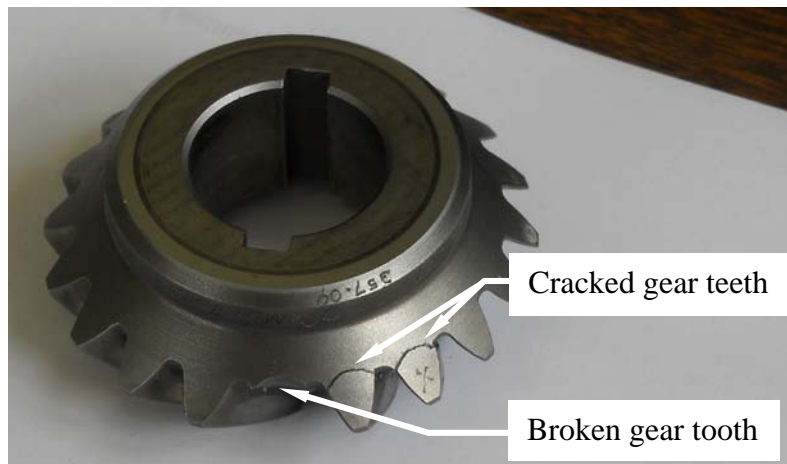
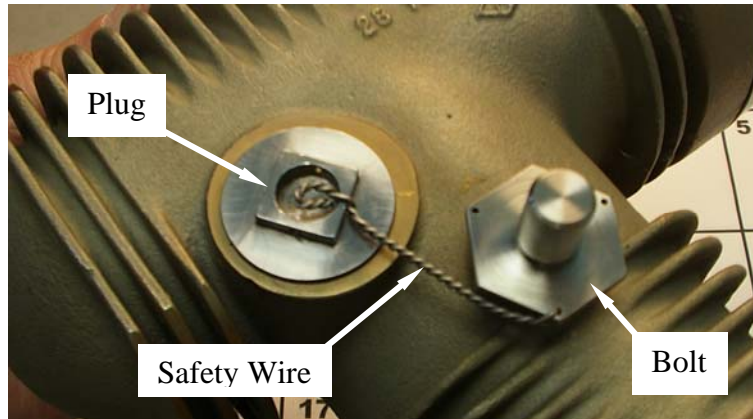


Figure 4. Example of Broken and Cracked Gear Teeth

NOTE: Cracks may not be as obvious as shown in this photo.

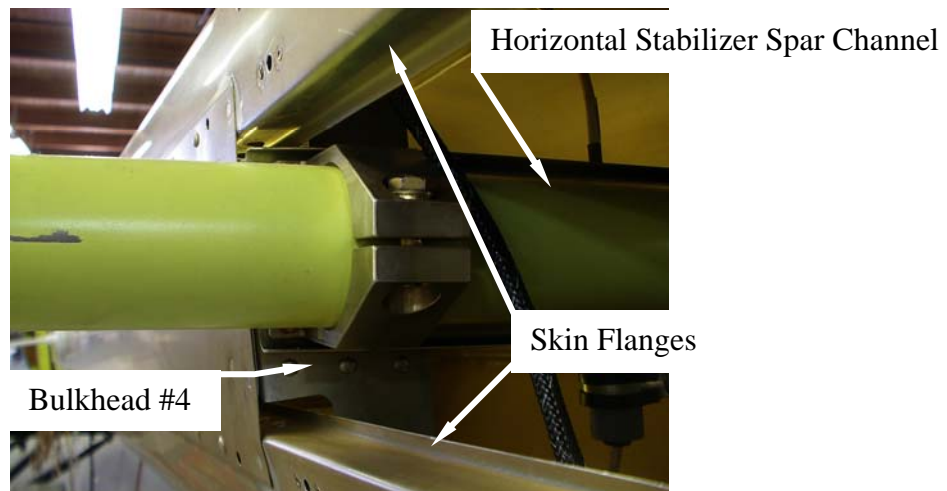
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**Figure 5. Inspection Port Safety Wire Assembly
(Controls are not shown for clarity.)**

6.2 Tailcone Structure Inspection (Reference Figures 6 and 7)

- 6.2.1 Equipment Required: Bright light source, mirror, cleaning cloth, solvent, and camera (optional)
- 6.2.2 Remove the horizontal and vertical stabilizer assemblies in accordance with paragraph 8-97 of the TH-28/480 Series Maintenance Manual.
- 6.2.3 Remove the forward tailcone/horizontal spar access panels.
- 6.2.4 Wipe all exposed exterior and interior surfaces of the bulkhead #4 doublers, gussets, channels, and skin flanges on both the left and right side with a cleaning cloth wetted with solvent. Carefully inspect all the cleaned surfaces for cracks (Figures 6 and 7). Use a mirror or a digital camera to aid inspection of the interior surfaces hidden from view.



**Figure 6. Tailcone Exterior, Bulkhead #4, Looking Forward, Left Side
(Horizontal and Vertical Stabilizer Assembly is Removed)**

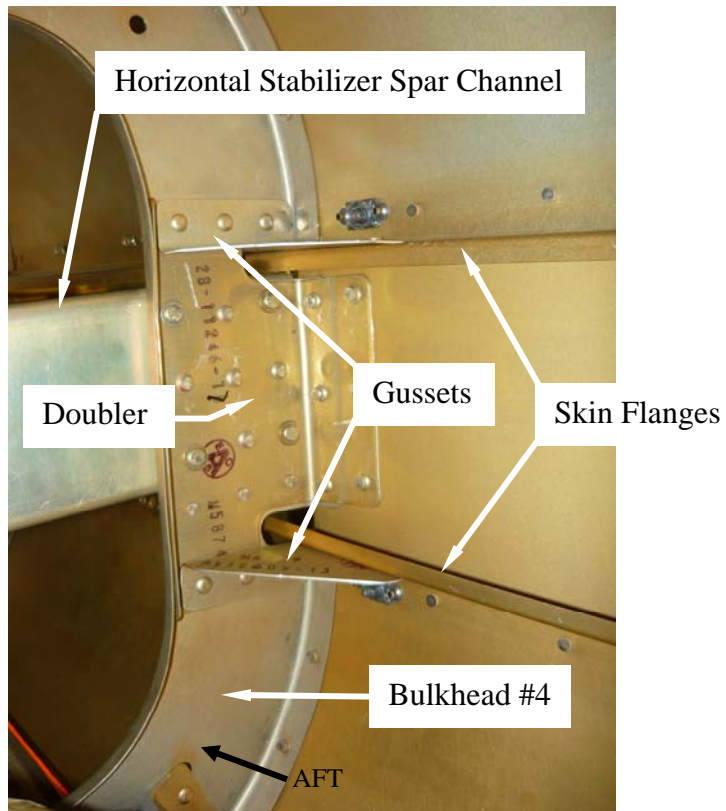


Figure 7a. Tailcone Interior, Bulkhead #4, Pilot Side, Looking Aft

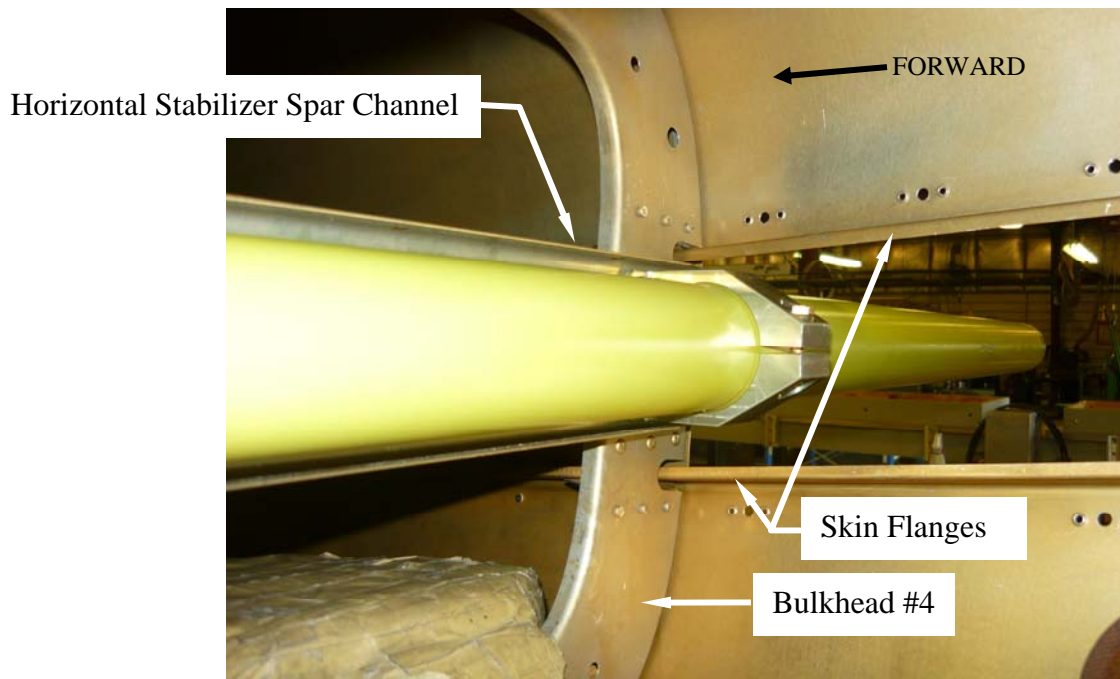


Figure 7b. Tailcone Interior, Bulkhead #4, Copilot Side, Looking Forward

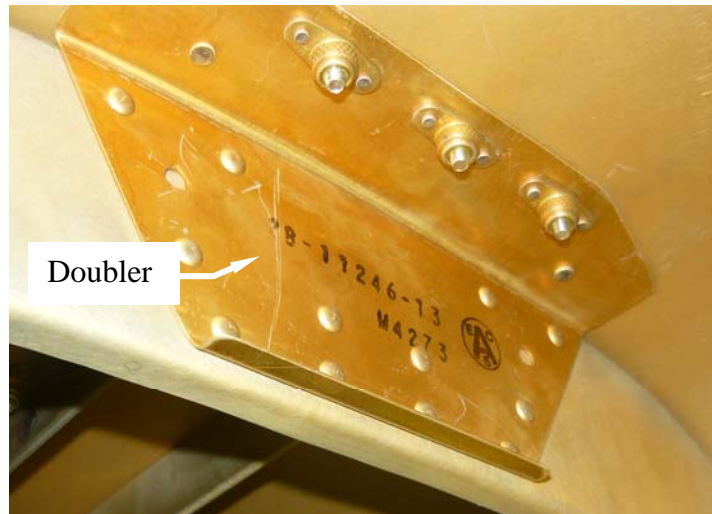


Figure 7c. Tailcone Interior, Bulkhead #4, Looking Forward, Upper Side

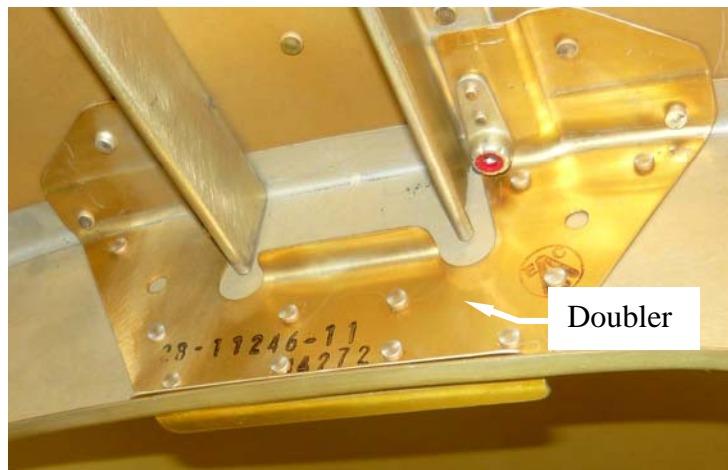


Figure 7d. Tailcone Interior, Bulkhead #4, Looking Aft, Upper Side

- 6.2.5 If cracks are detected contact Enstrom Product Support for repair procedures.
- 6.2.6 Reinstall the forward tailcone/horizontal spar access panels.
- 6.2.7 Reinstall the horizontal and vertical stabilizers in accordance with paragraph 8-102 of the TH-28/480 Series Maintenance Manual.

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6.3 Pylon Structure Inspection (Figure 8)

- 6.3.1 Equipment Required: Bright light source, mirror, cleaning cloth, and solvent
- 6.3.2 Open the access panels below the left and right fuel tanks.
- 6.3.3 Wipe the surfaces of the pylon tube, gusset, and engine mount weldments (Figure 8) with a cleaning cloth wetted with solvent.
- 6.3.4 Using a light and mirror, carefully inspect the cleaned surfaces for cracks. Pay particular attention to the weldment areas.

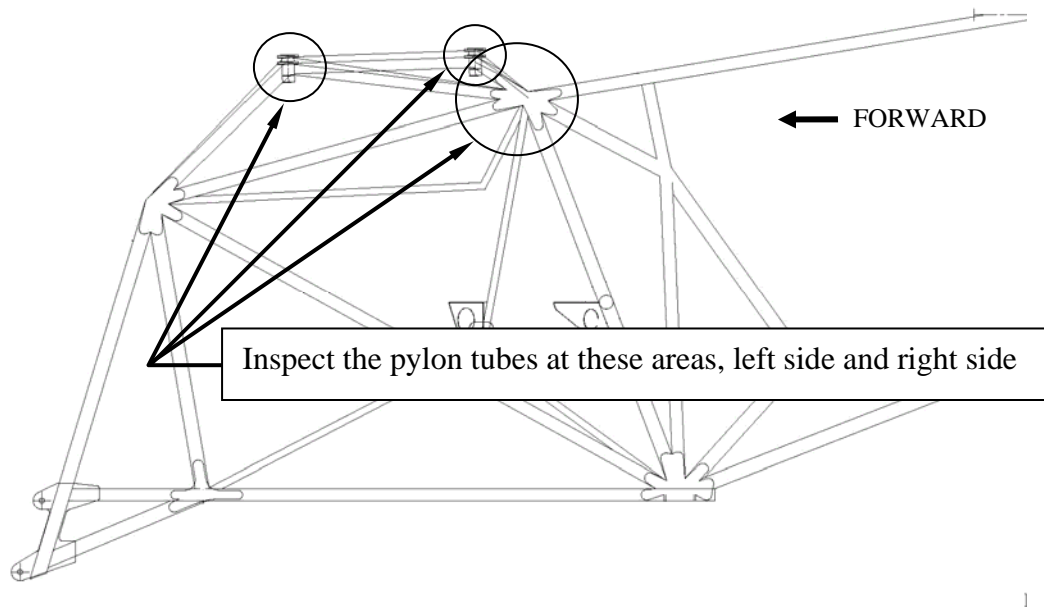


Figure 8. Pylon Structure Inspection Areas – View from the Left Side

7. PARTS: MS20995C32 safety wire (not supplied)
8. SPECIAL TOOLS: Light source, 10X magnifying glass, cleaning cloth, solvent, mirror, and a camera (optional)
9. MAN-HOURS: 2.0 Man-hours
10. WARRANTY: Not applicable
11. WEIGHT CHANGE: None
12. LOG BOOK ENTRY: As required for maintenance actions
13. REPETITIVE ACTION:

The tail rotor drive gear inspection should be repeated every 50 hours time in service if the aircraft has been used for agricultural operations during that time period.

The tailcone structure inspection should be repeated every 100 hours time in service if the aircraft has been used for agricultural operations during that time period.

The pylon structure inspection should be repeated every 50 hours time in service if the aircraft has been used for agricultural operations during that time period.

A visual inspection of the tailcone and the pylon structure in the affected areas should also be included as part of the daily pre-flight checks.