



SERVICE DIRECTIVE BULLETIN

SERVICE DIRECTIVE BULLETIN NO. 0076

Revision 1

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DATE: June 3, 2016

1. SUBJECT: Cracked Stabilizer Spar, Enstrom P/N 28-11222-1
2. MODEL: F-28, F-28A, F-28C, F-28C-2, and F-28F
3. EFFECTIVITY: Prior to the next flight and as addressed under compliance, perform the inspections indicated on all model F-28, F-28A, F-28C and F-28C-2 helicopters and all model F-28F helicopters through SN 743
4. BACKGROUND:

This problem has been previously addressed in Service Note No. 0010 dated 8 Feb 1972 and AD 72-04-04. Mandatory inspection relief was granted in Service Directive Bulletin (SDB) No. 0038 dated April 25, 1977. FAA AD 72-04-04 was superseded by AD 88-11-06. The initial failure was encountered in 1972 with a steel tubular spar with an .035 inch wall thickness. The spar wall thickness was increased to .049 inch and appeared to correct the problem. Since the change in wall thickness, there have been two incidents involving the .049-wall spar. The first resulted in this SDB; the second resulted in this revision which adds clarifying information.

5. COMPLIANCE:

- 5.1 Prior to the next flight and on every subsequent preflight inspection check both the left and right stabilizer security by gently applying an up and down load at the tip of the stabilizer (i.e., approximately ± 5 lbs) and watching for signs of deflection and/or unusual sounds.
- 5.2 Unless already complied with upon initial release of this SDB, within the next 10 flight hours, inspect the stabilizer spar in accordance with the following:
 - 5.2.1 Remove the left and right stabilizer assemblies (PN 28-20100) from the spar (P/N 28-11222-1). NOTE: Mark spar position left, right, top, etc. prior to removal so that on reinstallation it will be repositioned correctly. Remove the inspection panel on the left side of the tailcone. Remove the bolt securing the spar to the tailcone and remove the tubular spar from the tailcone.
 - 5.2.1.1 Confirm that the tubular spar wall thickness is .049. Replace any tubular spars with a wall thickness of .035 inch with an airworthy .049 inch wall spar prior to the next flight.

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- 5.2.2 Visually inspect the attachment fittings for imbedded burrs, fretting and cracks. Pay particular attention to the spar attachment area around all drilled holes. Cracked fittings must be replaced. Cracked sheet metal may be repaired per standard practice.
- 5.2.3 Inspect the spar by using magnetic particle process, dye penetrant process, or a 10-power or higher magnifying glass to confirm that no cracks exist. Pay particular attention to the spar area around **all** drilled holes. Any cracks found are cause for rejection - replace with an airworthy part. Refer to Figure 1 for the location of all holes to be inspected.
- 5.2.4 Conduct a dye penetrant inspection or a close visual inspection by a 10-power or higher magnifying glass of the stabilizer spar trailing edge attachment clips (PN 28-20106). Any cracks are cause for rejection - replace with an airworthy part.
- 5.2.5 Corrosion of the tubular spar (particularly in areas of dissimilar metal contact) to depths greater than .005 inch is cause for rejection. Surface corrosion may be cleaned up with 320 grit emery paper. Surface protection of bare areas must be provided by a coat of primer (DeSoto 593X300 or equivalent).
- 5.2.6 Reinstall spar in the same relative position to tail cone. If spar is replaced it must be match drilled to tail cone and stabilizers. Remove, deburr all holes, and prep all surfaces with epoxy primer prior to final assembly.
- 5.2.7 Reinstall the horizontal stabilizer using new airworthy parts, as required. NOTE: A light coat of LPS 500 or the equivalent on the O.D. of the spar and the I.D. of fittings will aid in reassembly.

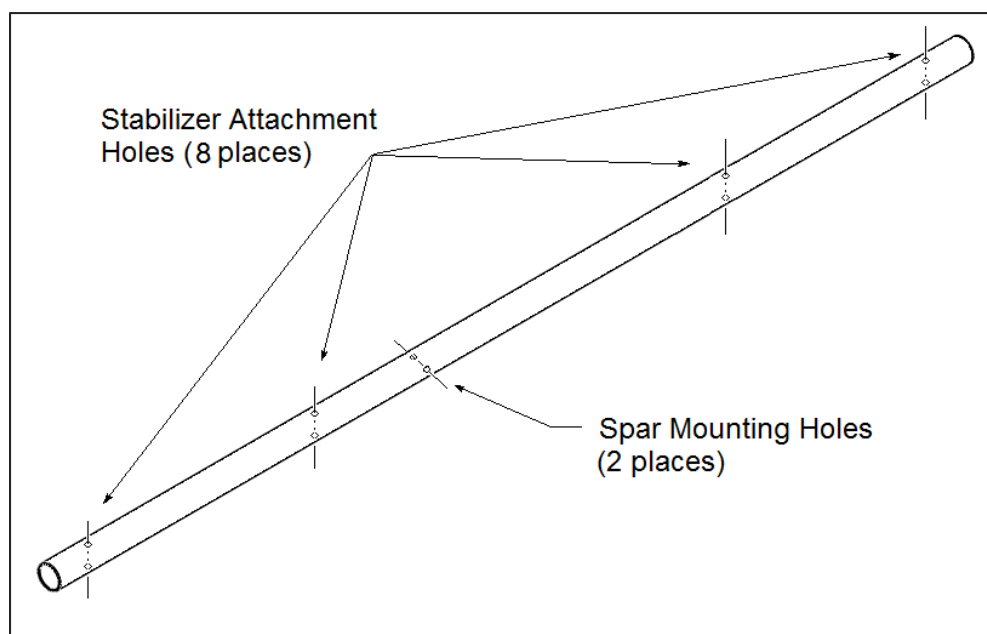


Figure 1. Stabilizer Spar Inspection – Stabilizer and Mounting Hole Attachment Points

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6. SPECIAL TOOLS: No special tools required
7. MAN-HOURS: Approximately 2 hours for disassembly, inspection, and reassembly
8. WARRANTY: Affected models are no longer in warranty
9. WEIGHT CHANGE: Upgrading from a .035 inch wall spar to a .049 inch wall spar is a weight change of +.37 lbs at longitudinal station 270.0
10. LOG BOOK ENTRY:

- 10.1 Log weight change as appropriate.

- 10.2 Log inspection and parts changes as appropriate.

11. REPETITIVE ACTION:

At each subsequent 100-hour inspection, remove the spar and inspect the spar mounting holes and the two inboard stabilizer mounting holes using magnetic particle process, dye penetrant process, or a 10-power or higher magnifying glass to confirm no cracks exist. Visually inspect the attachment fittings for security, cracks, and evidence of corrosion. A log book entry is required to verify this inspection.



U.S. Department
of Transportation
**Federal Aviation
Administration**

Small Airplane Directorate
Chicago Aircraft Certification Office
2300 E. Devon Avenue
Des Plaines, IL. 60018

June 3, 2016

Mr. Douglas J. Smith
Enstrom Helicopter Corporation
2209 22nd Street
Menominee, MI 49858

Dear Mr. Smith:

This letter is in response to your request of May 20, 2016, for an Alternative Method of Compliance (AMOC) for Airworthiness Directive (AD) 88-11-06 that is applicable to certain Enstrom Helicopter Model helicopters. This AD, issued on May 31, 1988, requires an inspection for cracks in the horizontal stabilizer attachments.

You propose using a revision to your Service Directive Bulletin (SDB) No. 0076 be approved as an AMOC to the requirements of AD 88-11-06.

Based on our review of this document, the Federal Aviation Administration considers your SDB No. 0076, Revision 1, to be acceptable for meeting the requirements of this AD. Accordingly, we approve the use of Enstrom Helicopter Corporation SDB No. 0076, Revision 1, dated June 3, 2016, as an AMOC to AD 88-11-06.

This approval is also subject to the following conditions: If in the future the Chicago Aircraft Certification Office (ACO) determines that this AMOC does not provide an acceptable level of safety, the ACO may revoke or revise the terms of the AMOC following notice to the requester and a seven day opportunity for the requester to comment on the revocation or proposed revision.

All provisions of FAA AD 88-11-06 that are not specifically referenced above remain fully applicable and must be complied with accordingly.

This AMOC only applies to the FAA AD listed above. The FAA does not have the authority to approve this as an AMOC to any AD issued by another civil aviation authority (CAA). Approval of an AMOC to another CAA's AD must come from the CAA of the State of Registry. A copy of this response will be forwarded to the CAA where these aircraft are registered for their consideration.

If you have any questions or need additional information, please contact me at (847) 294-7135 or electronic mail at Gregory.michalik@faa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gregory J Michalik', written in a cursive style.

Gregory J Michalik
Enstrom Helicopter Program Manager
Airframe & Administrative Branch
Chicago Aircraft Certification Office