



SERVICE BULLETIN

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SUBJECT: INSPECTION AND REPAIR OF AFT FUSELAGE SKIN CRACKS;
INSTALLATION OF DOUBLERS ON BOOM FAIRING LOWER
LONGERONS

MODELS AFFECTED: 500D Model 369D Helicopter Serial No. 0003D thru 0529D

TIME OF COMPLIANCE:

Part I – Visual Inspection – Shall be accomplished within next 50 hours of helicopter operation, and at each 50–hour inspection interval until compliance with Part II of this Notice is accomplished.

Part II – Field Modification – Shall be accomplished as required per Part I, or at next removal of engine, or within next 600 hours of helicopter operation, whichever occurs first.

PREFACE: Field reports indicate that incidents of cracking of the aft fuselage skin has occurred in the area–adjacent to the boom fairing lower longerons. This area is noncritical for either static or fatigue loads.

Part I of this Notice lists a procedure for a periodic visual inspection of the aft fuselage skin for evidence of skin cracking at the boom fairing and aft engine air inlet fairing attach areas.

Part II of this Notice provides instructions for repair of skin cracks in the aft fuselage skin, as applicable; and for installation of support doublers on the boom fairing lower longerons to preclude skin cracking.

Performance of Part II is to be accomplished if cracking is noted during the Part I inspection, or at next removal of engine, or within the next 600 hours of helicopter operation, whichever occurs first.

Compliance with Part II lifts the periodic inspection requirement specified in Part I of this Notice

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REFERENCE PUBLICATIONS:

- 500D Basic HMI– Volume I, Issued 15 September 1976; Revision No. 3, 15 March 1979.
500D Basic HMI– Volume II, Issued 15 September 1976; Revision No. 2, 1 November 1978.
500D HMI Structural Repair Manual (369D–SRM) CSP–D–6, Issued 15 September 1976.

PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty.</u>	<u>Mfr.</u>
Doubler	369D23018-136812-3	1	HH
Doubler	369D23018-136812-4	1	HH
Shim	369D23018-136812-5	2	HH
Shim	369D23018-136812-7	2	HH
Rivet	NAS1738B4-2	A/R	Commercial
Rivet	NAS1738B4-3	A/R	Commercial
**Rivet	NAS1738B5-2	A/R	Commercial
**Rivet	NAS1738B5-3	A/R	Commercial
***Fastener	295097	A/R	HH

**Oversize rivet.

***Not required unless damaged during removal of firewall/heat blanket.

MATERIALS

Primer, zinc chromate (TT-P-1757)	908-L-02110	Glidden-Durkee Div., SCM Corp 900 Union Commerce Bldg. Cleveland, Ohio 44115
	1063-166	E.I. DuPont de Nemours & Co. 3500 Grays Ferry Ave. Philadelphia, PA 19146
Tape, aluminum foil	No. 425	3M Co

TOOLS AND EQUIPMENT

Drill motor, portable

Drill bit -- No. 30

Drill bit - - No. 31

Cleco fasteners

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PART I - PERIODIC INSPECTION (50 HOUR INTERVALS)

a. Visually inspect upper aft fuselage exterior skin for evidence of cracking at junction of skin with boom fairing and aft engine air inlet fairing. Use bright light and mirror. Remove inspection panel in boom fairing.

NOTE

1. If cracking is noted, perform Part II of this Notice.
2. If no cracking is noted, install inspection panel and perform step b below.

b. Record compliance with Part I of this Notice in Compliance Record of helicopter Log Book.

PART II - FIELD MODIFICATION

NOTE

Removal of engine is recommended to facilitate field modification. (Refer to HMI Vol I.)

a. Remove fasteners securing aft fuselage heat blanket/firewall; displace heat blanket to gain access to work area at boom fairing lower longerons, LH and RH sides.

NOTE

If cracks were noted in aft fuselage skin during inspection per Part I of this Notice, repair cracks by stop drilling and/or patching per FAA AC 43.13-1A, Aircraft Inspection and repair.

b. Drill out existing rivets securing 369D23018-1 and -2 boom fairing lower longerons to fuselage structure and skin, between Station 129.00 and Station 149.00, as shown in Figure 1.

c. Position and nest -3 and -4 doublers in place in longerons; mark and drill rivet holes in doublets to match rivet pattern in longerons.

NOTE

If rivets are in radius of -3 or -4 doublers, relocate rivet adjacent to problem hole (approximately 3.5 x rivet diameter spacing) and maintain a minimum of 1.5 x rivet diameter edge distance on 369D23018 longeron.

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NOTE

For Model 369MD (Military) Helicopters equipped with Black Hole Ocarina (BHO) Infrared Suppressor System, trim up to 3.00 inches (maximum) on No. 136812-7 shim on installation (See Figure 1.)

- d. Install doublets temporarily on longerons with Cleco fasteners or equivalent. Position -5 and -7 shims in place on each doublet as shown. Mark and drill rivet holes in doublets and shims. Install shims to doublets with NAS1738B4 rivets; install rivets with wet zinc chromate primer.
- e. Remove Cleco fasteners and install doublers with NAS1738B4 rivets. Rivets may be installed from inside or outside engine compartment; install rivets with wet zinc chromate primer.
- f. Remove all debris from work area; inspect modification of longerons for discrepancies.
- g. Reinstall heat blanket/firewall with existing fasteners.
- h. Record compliance with Part II of this Notice in Compliance Record of helicopter Log Book.

NOTE

Compliance with Part II of this Notice lifts inspection requirements per Part I of this Notice.

WEIGHT AND BALANCE: ADD: 0.9 at 138.7 inch-arm

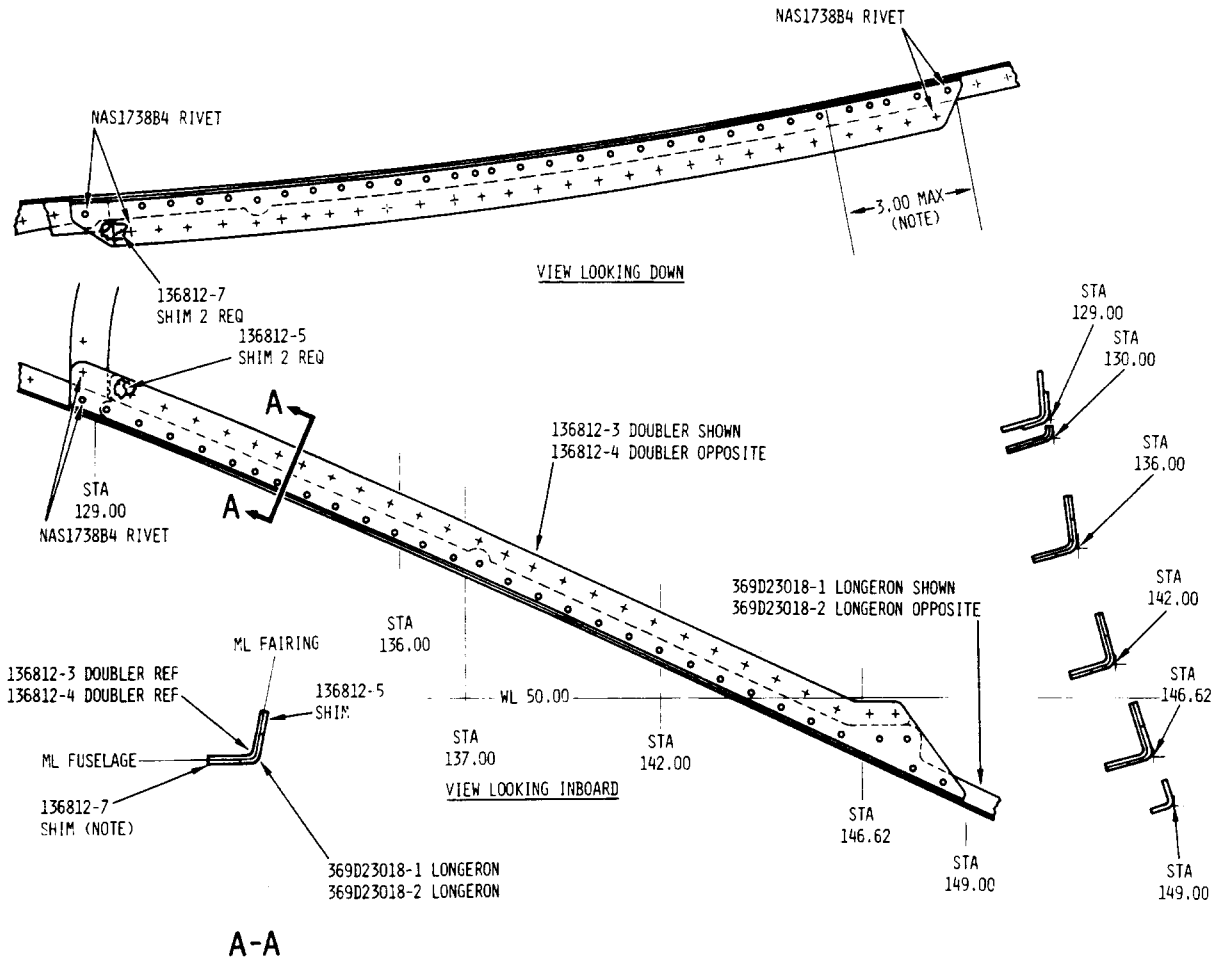
FAA/DER APPROVED 14 May 1981

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NOTE:
TRIM UP TO 3.00 INCHES MAXIMUM AS SHOWN
ON SHIM NO. 136812-7, FOR 369MD HELICOPTER
EQUIPPED WITH INFRARED SUPPRESSOR SYSTEM.

ADN582-1

Figure 1. Figure 1. Field Modification - 369D23018-1 and -2 Boom Fairing Longerons

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