



HN-206.1*
DN-143.1*
EN-31.1*

SERVICE BULLETIN

DATE: 28 NOVEMBER 1986
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SUBJECT: INSTALLATION OF FAILSAFE DEVICE AT TAIL ROTOR DRIVE SHAFT AFT FLEXIBLE COUPLING, P/N 369A5501 or 369H2564: AND INSPECTION OF FLEXIBLE COUPLINGS.

MODELS AFFECTED:

PART I - All Model 369H, 369HE, 369HM, 369HS, 369A (OH-6A), 369D and 369E (S/N 0001E thru 0134E) Series helicopters with Bendix couplings installed in the tail rotor drive system.

PART II - All Model 369H, 369HE, 369HM, 369HS, 369A (OH-6A), 369D and 369E Series helicopters with failsafe couplings installed (P/N 369D25530 Coupling and 369D25531 Socket).

TIME OF COMPLIANCE:

PART I - Installation of failsafe device shall be accomplished within 100 hours of operation or within 60 days of the effective date of this notice, whichever is sooner. Procure required parts from an Approved MDHI Service Center or Distributor. MDHI advises prompt adherence to the time of compliance defined by this Notice.

PART II - Shall be accomplished at intervals specified. All 369H/HE/HM/HS and 369A (OH-6A) model helicopters should accomplish this notice in conjunction with Service Information Notice HN-173.1 if the forward tail rotor coupling failsafe device has not been installed.

PREFACE: Part I of this Notice provides instructions for installing a failsafe device to provide an additional drive connection between the tail rotor drive shaft and the tail rotor transmission at the aft flexible coupling. The failsafe device consists primarily of a new 369D25530 coupling bolt to secure the aft flexible coupling to the tail rotor drive shaft and a new 369D25531 socket installed between the connecting flanges of the aft coupling and the tail rotor transmission. The new coupling bolt incorporates a key which engages a corresponding keyway in the locket, thus providing an alternate drive link if coupling failure should occur.

Part II of this Notice prescribes checks of the aft flexible coupling for all helicopters with the failsafe device installed.

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REFERENCE PUBLICATIONS:

369D Basic HMI-Vol I (CSP-D-2) Revised 15 June 1985
369D Basic HMI-Vol II (CSP-D-3) Revised 15 May 1985
369E Supplement to HMI (CSP-E-2) Issued 30 Nov 1983
369E Basic HMI-Vol I (CSP-D-2) Revised 15 June 1985
369E Basic HMI-Vol II (CSP-E-3) Issued 15 Feb 1984
369H Basic HMI (CSP-H-2) Revised 15 June 1985
369H HMI Appendix B (CSP-H-4) Revised 15 Jan 1982
369D/E/F SRM (CSP-DEF-6) Reissued 15 November 1984

PARTS LIST

Procure parts required from your authorized MDHI Service Center or Distributor upon receipt of this notice.

<u>Nomenclature</u>	<u>Part Number</u>	<u>QTY</u>	<u>Mfr</u>
Bolt, Coupling	369D25530*	1	MDHI
Socket	369D25531*	1	MDHI
Shim	369A5516-9	AR	MDHI
Washer	NAS620C416L	3	Commercial
Washer	HS306-326	4**	MDHI
Stud	MS51992A803-14	4	Commercial
Lockring	MS51997103	4	Commercial
Bolt	NAS1104-6	3	Commercial

*A special price of \$131.52 for the 369D25530 coupling bolt, and \$179.49 for the 369D25531 socket has been established. This pricing will remain in effect through 31 January 1987.

**As required/HS306-326H (ALTERNATE)

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MATERIAL

Grease	MIL-G-81322	Mobil Grease 28	Mobil Oil
or		Aeroshell 22	Shell Oil
Grease		Lubriplate 930-AA	Fiske Bros Toledo, OH
Anti-seize compound	MIL-A-907		Commercial
Lockwire	MS20995C		Commercial
Primer, zinc chromate	TT-P-1757		Commercial

Tools and Equipment

Torque wrench - 0 to 500 inch-pounds	Commercial
Feeler gage	Commercial
Wrench P/N R1105W	MDHI Spares or Rosan*
Adapter P/N SM101-18	

*Rosan Products
P.O. Box 25225
Santa Ana, CA 92799
(213) 628-6191
(714) 250-8800

PART I PROCEDURE - INSTALLATION OF FAILSAFE DEVICE ON AFT COUPLING

- A. Remove tail rotor gearbox and drive shaft per Section 9, Para. 9-67, of HMI Vol. I. Remove tail rotor gearbox from drive shaft.
- B. Remove and inspect for corrosion and damage the tail rotor gearbox coupling per Section 9, Para. 9-77, of HMI Vol. I.
- C. Lubricate tail rotor gearbox input shaft splines with Lubriplate 930AA or MIL-G-81322 grease.

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D. Install coupling onto gearbox input shaft.

E. Coat threads of coupling bolt (P/N 369D25530) and gearbox input shaft with anti-seize compound and install bolt. Torque bolt to 250 to 300 inch pounds.

F. Install aft socket (P/N 369D25531) between tail rotor gearbox and tail rotor drive shaft as shown in Figure 1. Torque aft coupling tail rotor bolts to 80 to 100 inch pounds.

G. Shim forward coupling to minimum shim requirements per Section 9, Para 9-70 of HMI Vol 1 (369D/E). Shim per HN-181 (369H Series and 369A (OH-6A)).

H. Install forward socket (P/N 369D25531) per Section 9, Para. 9-70 of HMI Vol. I.

CAUTION

When reinstalling the tail rotor gearbox and driveshaft do not compress the forward coupling as damage to the coupling could result.

NOTE

If the tail rotor gearbox does not bottom on the tailboom flange and there is no gap on the forward coupling, then install one washer (P/N HS306-326 or HS306-326H) on each mounting stud prior to installation of t/r gearbox.

I. Install tail rotor gearbox and drive shaft per Section 9, Para. 9-70 of HMI Vol. 1. Check for clearance (0.010 to 0.020 inch) between tail rotor drive shaft coupling and tail rotor output shaft of main transmission. If clearance is not obtained, install or subtract additional shims per Para. 9-70.

NOTE

If gap is less than 0.010 inch, remove tail rotor gearbox and driveshaft and install (1) each washer (P/N HS306-326 or HS306-326H) on each tailboom mounting stud.

J. Repeat Step J.

K. Verify that a minimum of (1) one thread protrudes from each of the four tail rotor gearbox mounting studs. If less than one thread is showing, replace mounting studs per the following steps:

1) Remove tail rotor gearbox and driveshaft per Section 9, Para. 9-67 of HMI Vol. I.

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- 2) Using Rosan wrench (P/N R1105W) and removal tool (P/N SM101-18) remove existing studs as shown in Figure 2.
- 3) Install MS51992A803 -14 studs.
- 4) Repeat Step J.

L. Record compliance with Part I of this Notice in the Compliance Record section of the helicopter Log Book.

PART II - INSPECTION OF FLEXIBLE COUPLINGS

NOTE

For all helicopters with failsafe device installed, the tail rotor drive shaft forward and aft flexible couplings shall be checked periodically as follows:

At Each Pilot Preflight Check:

Rock tail rotor back and forth in plane of rotation. If blade can move in excess of 0.75 inch (1.93 cm) at the blade tip without rotation of main rotor blades, check for proper condition of tail rotor drive shaft forward and aft flexible couplings. (Section 9, Basic HMI, Vol. I). Replace coupling as required before further flight.

At each Aircraft/Engine Shutdown:

If thumping or rapping is heard from drive train during final revolutions of tail rotor blades, check tail rotor drive shaft forward and aft flexible couplings for proper condition. (Section 9, Basic HMI Vol. I). Replace coupling as required before further flight.

At each Annual or 300-Hour Inspection:

With tail rotor drive shaft removed, inspect flexible couplings per Section 9 HMI Vol. I. Also visually inspect forward and aft coupling bolts and sockets for indications of contact. Do not loosen or remove bolt. If signs of contact are noted, remove and reinstall socket and/or coupling bolt so that maximum clearance is obtained between bolt key and socket. (See View B-B, Figure 1.) Visually verify proper clearance before reinstalling tail rotor drive shaft.

WEIGHT AND BALANCE: Weight and balance not affected.

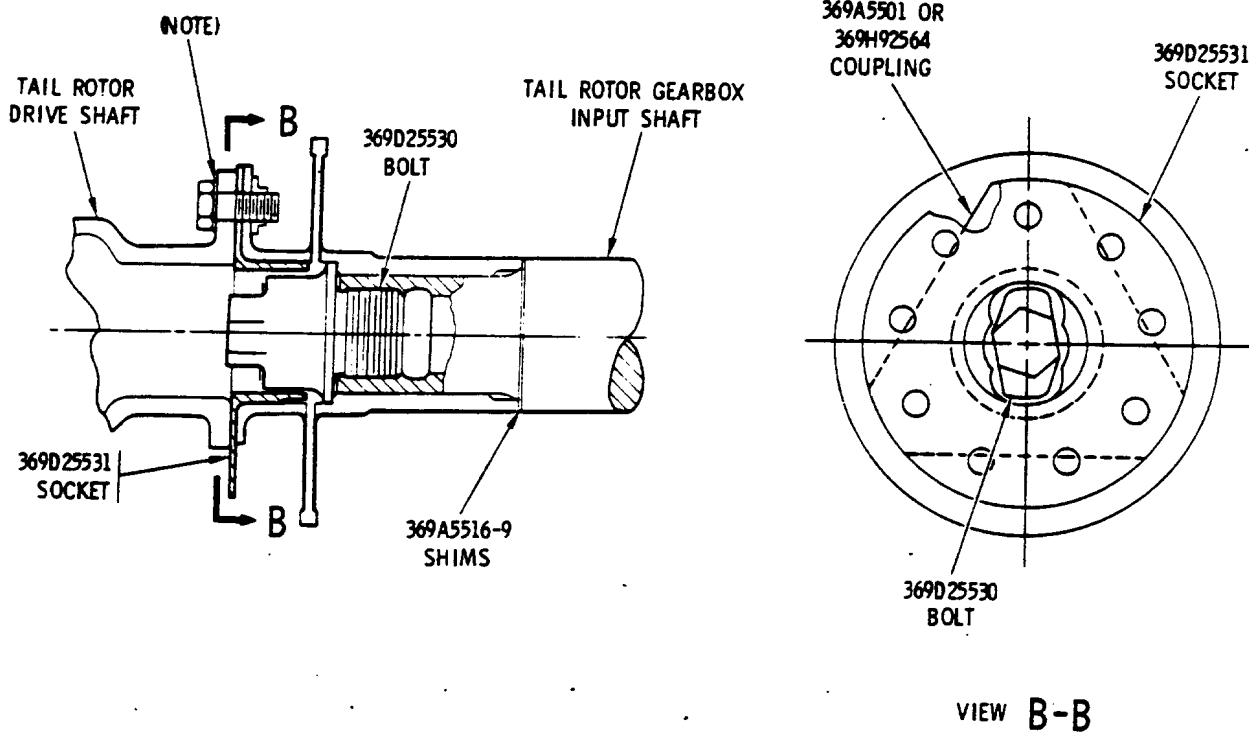
The resultant alteration to affected models described by procedures in this Notice has been shown to comply with Federal Aviation Regulations and is FAA Approved.

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NOTE:

NAS620C416L WASHER REPLACES EXISTING
NAS620C416 WASHER, 3 PLACES

88-518A

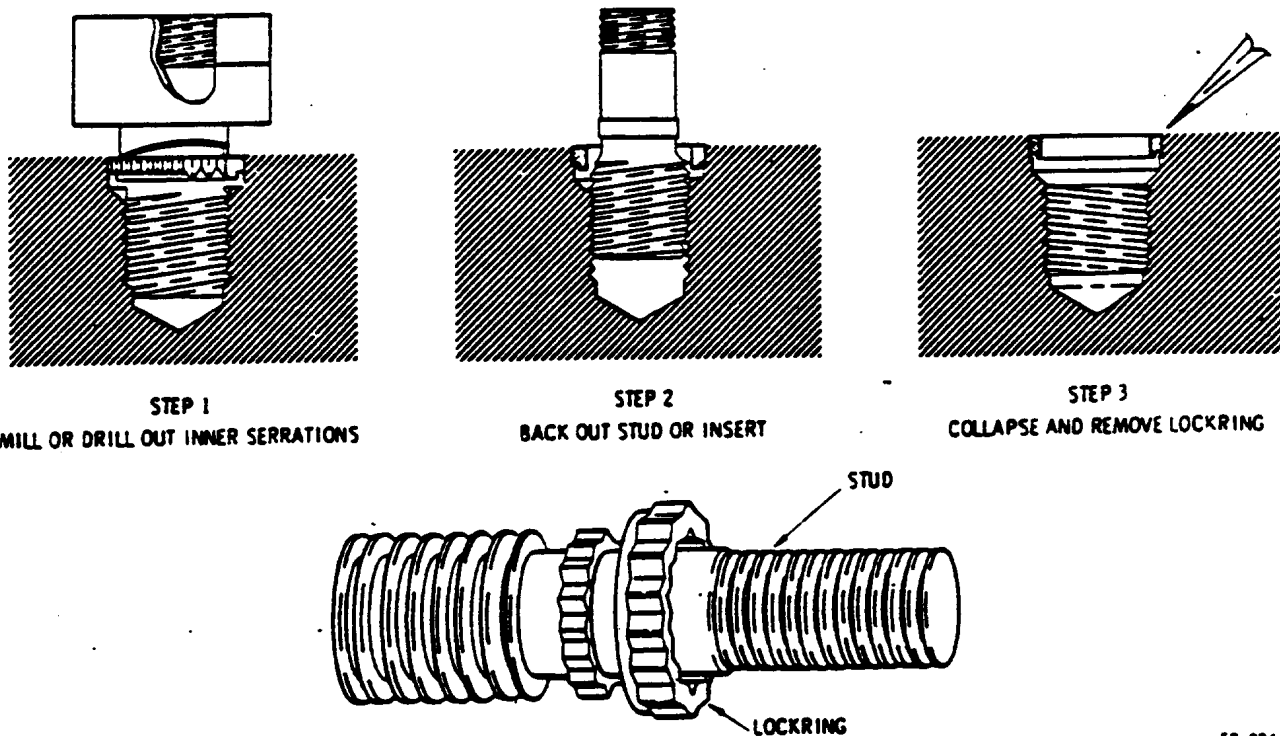
Figure 1. Installation of Failsafe Device, Aft Tail Rotor Coupling

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Figure 2. Stud and Insert - Typical Replacement

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