SERVICE BULLETIN

DATE: 1 MARCH 1971

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KIT INSTALLATION (M50027) – MODIFICATION, TRANSMISSION AND COUPLING FAN ASSEMBLY

1. PLANNING INFORMATION

A. MODELS AFFECTED:

369HE Helicopter Serial Nos. 0101E through 0215E

369HS Helicopter Serial Nos.. 010IS through 0257S; 0260S and 0261S; 0283S through 0287S

B. PREFACE:

Part I of this Service Information Notice lists a procedure for modify the existing 369145610-701 or -703 Transmission and Coupling Fan Assembly to the new 369H5610-705 configuration. Modification including, removal of idler pulley and related components, and installation of a new driver pulley, driven pulley, and timing belt. The new configuration is designed to simplify and improve operation of the oil cooler blower system.

Part II lists a procedure for a daily visual inspection of the pulley drive belt to ensure proper position and condition of the belt.

* It is noted that this Service Information Notice supersedes and lifts requirements of Service Information Notice No. HN-3.1, dated March 24, 1970; No. HN-14, dated March 24, 1970; No. HN-20, dated July 2, 1970, No. HN-27, dated Sept. 21, 1970 and No. HN-28, dated Nov. 23, 1970.

C. TIME OF COMPLIANCE:

Shall be accomplished within next 50 hours of helicopter operation after receipt of parts.

D. REFERENCE:

500 Series – Basic Manual of Maintenance Instruction, Revised 1 May 1970

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E. TOOLS AND EQUIPMENT:

TOOLS AND EQUIPMENT Nut	
Nomenclature	**Source**
Wrench, torque – 0 to 500 inch–pounds	Commercial
Scale, spring – 0 to 50 lbs. or Dial indicator or straight edge	Commercial

F. MATERIALS:

MATERIALS	
Nomenclature	**Source**
Primer, zinc chromate	Commercial
Anti–sieze compound	Commercial

G. PARTS LIST:

REPLACEMENT PARTS/SUPPLIES			
Nomenclature	**Part No.**	**Qty.**	**Source**
Bracket Assembly	369H5613–21	1	HTC –AD
Pulley Assembly, Driven	369H5638	1	HTC –AD
Pulley Assembly, Driver	369H5643	1	HTC –AD
Shim	369H5644	2	HTC –AD
Belt	9352–625	1	Uniroyal Indust. Products, NYC
Nut	NAS1291C6M	1	Commercial
Washer	AN960D616L	1	Commercial
Washer	AN960D916	1	Commercial
Clamp	MS2581–6	1	Commercial
Shield	369H8308–11	1	HTC –AD
Shield	369H8303–21	1	HTC –AD
Lockwire	MS20995N40	10ft.	Commercial

2. PART I – MODIFICATION KIT (M50027) INSTALLATION INSTRUCTIONS

a. Remove seat assemblies, transmission trim cover panel, and transmission access cover from aft compartment, per HMI.

NOTE: If Cabin Heat Reduction Kit No. 50017 has been installed on helicopter, remove screws or rivets (if riveted, reinstall using screws) securing two 369H2009 channel assemblies to aft compartment structure.

b. Remove main transmission drive shaft. per I-II; mark and identify shaft for reinstallation in same position.

c. Remove input shaft coupling; remove coupling shim(s), if applicable, and identify shim(s) for reinstallation.

d. Remove and discard blower drive belt shroud or drive belt guard. as applicable.

e. Perform the following to permit free movement of idler arm:

1. Remove adjustment screw and bumper from idler fork holding bracket.

2. Back off AN3-23A bolt restraining idler strap.

f. Displace idler fork to release tension on drive belt(s); disengage drive belt(s) from driver pulley on transmission shaft.

g. Remove driver pulley from splined shaft.

h. Disconnect blower scroll drain tube. Loosen scroll duct clamps and roll back rubber connectors; disconnect scroll ducts.

i. Remove four bolts (and spacer) securing idler mounting bracket to fan mounting bracket; remove :and discard shroud mounting bracket.

k. Remove four bolts securing idler mounting bracket to transmission mounting pad: remove idler and discard idler and, mounting bracket and all idler components.

1. Remove and discard existing driven pulley from impeller shaft.

CAUTION The impeller must be hand-held for removal of driven pulley attachment nut. Do not hold impeller blades with tool or other device to remove nut. Such action can affect impeller balance as well as cause physical damage.

m. Remove lockwire and break existing torque on fan bracket mounting bolts. Displace fan and bracket fully in directions shown in Figure 2 to remove all play of bolts in bolt holes. Torque fan bracket bolts 60-75 inch-pounds and lockwire bolts in pairs.

CAUTION After installing new driven pulley on impeller shaft, check that no interference exists between pulley and lockwire on bracket attach bolts.

n. Install new 369H5638 driven pulley on impeller shaft, using AN960PD916 washer between fan and pulley; and AN960D616L washer between pulley and NAS1291C6M nut. Torque nut to 95-110 inch-pounds.

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o. Position new 9352-625 drive belt on the driven pulley. Install new 369H5613-21 mounting bracket to fan mounting bracket, using existing bolts, washers and spacer. Displace new -21 bracket fully in direction shown in Figure 2, to remove all play of bolts in bolt holes. Torque bolts 60-75 inch-pounds and lockwire bolts in pairs.

p. Install new 369H5643 driver pulley on splined transmission input shaft.

q. Position and install assembled drive belt unit on transmission mounting pad using existing bolts and washers: do not torque bolts.

r. Position new 9352-625 drive belt on driver and driven pulleys; re-install existing shim(s) and output coupling. Coat coupling threads with anti-seize compound and install bolt. Check that bolt self-locking torque is not less than 15 nor more than 150 inch-pounds. Torque bolt to actual drag torque plus 100 to 150 inch-pounds.

s. Install two 369H5644 shims between bracket flanges; torque bolts to 60-75 inch-pounds.

t. Rotate system by hand to seat belt prior to each adjustment. Adjust drive belt for proper tension as follows:

1. Using spring scale and dial indicator or straight edge and scale, measure the amount of belt deflection at the approximate center of one of the spans. Apply load at a right angle to the outside face of the belt.

2. For proper belt tension, the force required to deflect belt 0.17 to 0.20 inch (11/64 to 13/64 in.) shall be from 1.00 to 1.75 pounds.

3. If belt tension is too high (greater than 1.75 pounds), loosen bolts and reduce belt tension by peeling off one layer of laminated shim at a time (alternate from shim to shim) until belt tension falls into proper range.

4. Torque four bolts to 60-75 inch-pounds; lockwire bolts in pairs.

u. Reconnect scroll ducting and rubber connectors.

v. Install new oil cooler shields part numbers 369H8308-21 and 369H8303-11 and bend tabs as shown in Figure 1. Secure shields with lock-wire two places as shown. If required, hand form shields to clear structure.

w. Reconnect blower scroll drain tube. Reinstall 369H2009 channel assemblies, as applicable, using eight (8) MS35206-246 screws, AN960D8L washers. and MS21043N08 nuts. Do not use rivets.

x. Install transmission input shaft seal drain tube to the transmission bracket, using MS25281-6 clamp and existing MS35207-264 screw. Pull drain tube downward and secure to helicopter structure with tie-strap.

y. Check blower scroll drain tube for excess slack and close proximity to drive shaft. Reposition and secure drain tube with tie-strap to helicopter structure, as required, to eliminate slack or possible interference with drive shaft. Check drain tube for kinks.

z. Install main transmission drive shaft per HMI.

aa. Rotate drive shaft by hand and check pulley operation.

ab. Perform operational check of belt-driven oil cooler blower system.

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NOTE: Belt may shift toward pulley flange during operational check. This is an acceptable condition.

ad. Install main transmission access cover and trim cover panel.

ae. Remove plug buttons, (or tape) from trim panel cover inspection ports; check that drive belt can be seen through ports. Reinstall plug buttons or cover inspection ports with pressure sensitive tape.

af. Install seat assemblies.

ag. Record compliance with Part I of the Service Information Notice in Compliance Record of helicopter Log Book.

3. PART II – DAILY INSPECTION

a. Remove plug buttons (or tape) from inspection ports on main transmission trim cover panel.

b. Visually inspect fan belt for proper seating in pulley grooves, and for condition of belt.

c. Install plug buttons (or tape) at inspection ports of trim cover panel.

d. Record compliance with Part II of this Service Information Notice in Compliance Record of helicopter Log Book.

e. Advise HTC Service Department of any discrepant condition observed.

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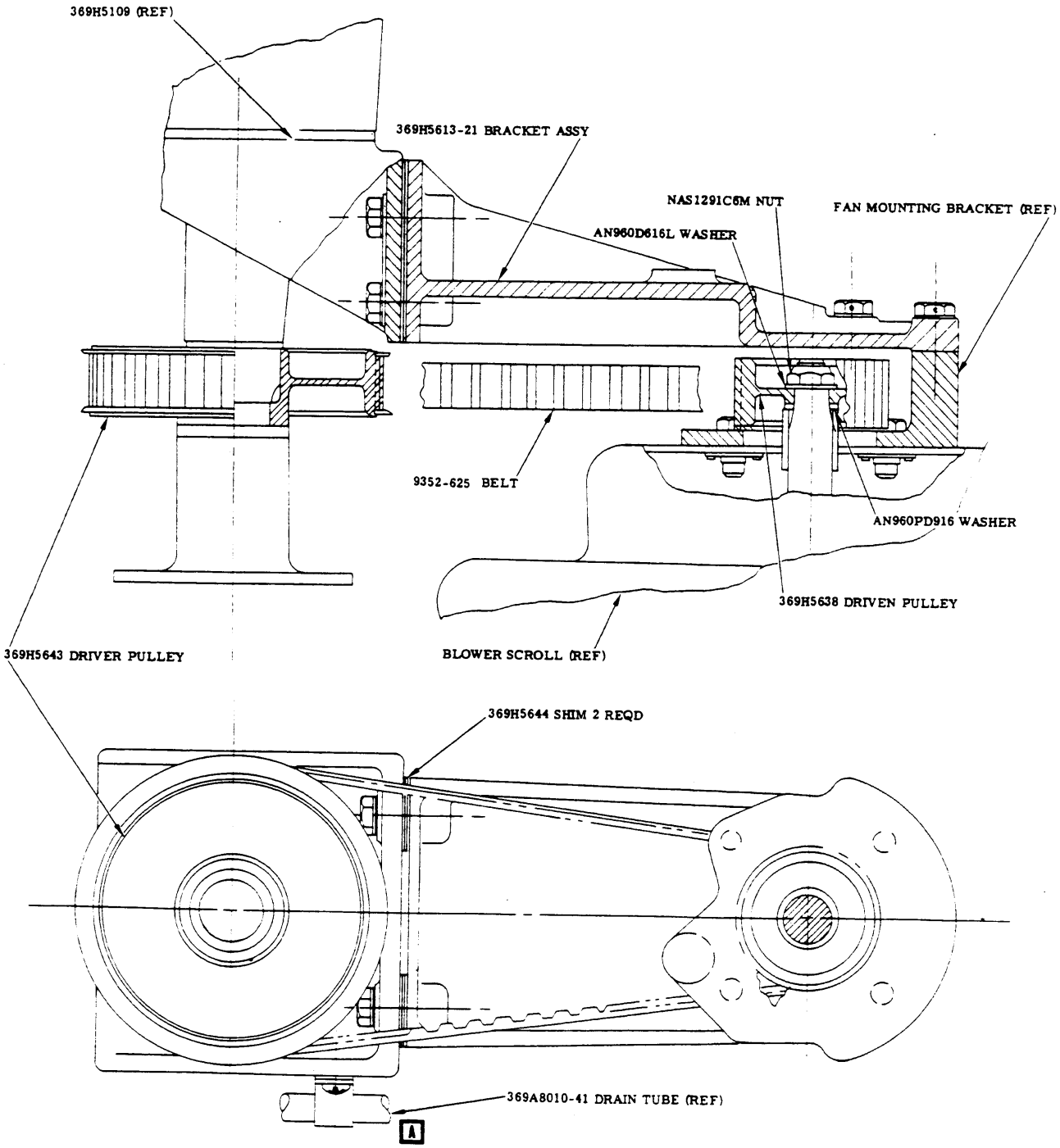

Figure 1. Modification Kit, Timing Belt

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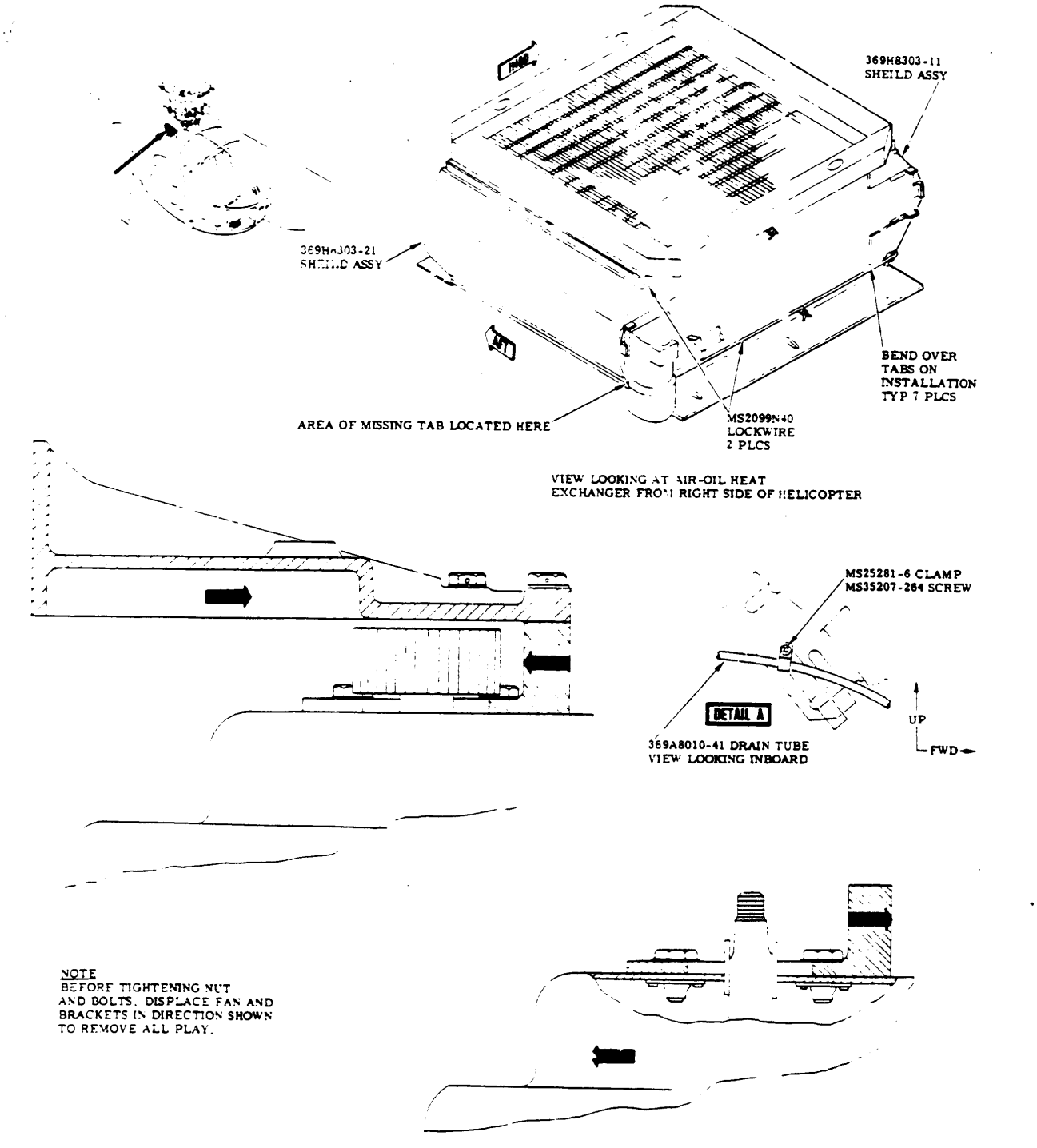

Figure 2. Modification Kit - Fan Assembly, Timing Belt