



**HUGHES  
SERVICE INFORMATION  
NOTICE**

NOTICE NO. N-107\*

DATE 6 APRIL 1973

PAGE 1 OF 7

\*Supersedes Service Information Notice  
No. N-105, dated 7 March 1973

FAA APPROVED

**SUBJECT: MODIFICATION AND INSPECTION - BELT DRIVE IDLER PULLEY  
CLUTCH ASSEMBLY, PN 269A5447 AND 269A5447-3**

**MODELS AFFECTED:** The following helicopters with 269A5447 Belt Drive Idler Pulley Clutch Assembly Kit installed per Service Information Notice No. N-85 or N-85.1, or in accordance with the referenced Handbook of Maintenance Instruction:

Model 269A Helicopter Serial No. 0011 thru 1109  
Model 269A-1 Helicopter Serial No. 0011 thru 0041  
Model 269B Helicopter Serial No. 0001 thru 0472  
Model 269C Helicopter Serial No. 0004 thru 0149

The following helicopters with factory-installed 269A5447-3 Belt Drive Idler Pulley Clutch Assembly:

Model 269C Helicopter Serial No. 0150 thru 0189

All 269A 5447 Belt Drive Idler Pulley Clutch Assemblies in Spares Inventory.

**TIME OF COMPLIANCE:** Shall be accomplished on a one-time basis within the next 150 hours of helicopter operation, or on or before 1 July 1973, whichever is sooner.

PREFACE: The information given in this Service Information Notice lists a procedure for modification of the subject belt drive idler pulley clutch assemblies, to replace existing rivets securing the pulley adapter to the pulley assembly with close-tolerance bolts. A one-time inspection is also included to ensure that there is sufficient freedom for axial movement (fore and aft play) of the pulley in the pulley support assembly. Procedures for modification, inspection, shimming and torquing are provided.

The above information will be incorporated as applicable in the next revision to the Basic HMI.

It is noted that this Information Notice supersedes Service Information Notice No. N-105, dated 7 March 1973. The daily pre-flight inspection requirements in the Owners Manual and HMI for the idler pulley assembly are still applicable.

#### Reference

269 Series - Basic HMI, Issued 1 Feb 1972; Revision No. 2, 1 Nov 1972

#### PARTS LIST

<u>Nomenclature</u>	<u>Part No.</u>	<u>Qty</u>
* Nut quadrant assembly	269A5591-1	4
* Bolt	NAS1304-8	8
* Washer	AN960PD416L	8
* Washer	AN960-516L	AR
* Screw	NAS514P632-12	4
* Nut	MS21042-06	4
** Shim	269A5410-3	AR
*** Bearing	269A5050-74	2
*** Oil Seal	71X6187	2

\* Order from Hughes Helicopter Service Center or Distributor; parts will be provided by Hughes Helicopters at no charge, if ordered before 1 July 1973.

\*\* AN960PD516 or AN960PD516L washers may be used in lieu of shim(s).

\*\*\* Required only if existing bearings are replaced.

## TOOLS AND EQUIPMENT

Drill, portable  
Drill bit - #30  
Drill bit - #25 (0.146/0.152 inch diameter)  
Drill bit - #1  
Reamer - #1/4 (E) (0.250 inch diameter)  
Countersink - 0.146/0.152 x 100°  
Spotface tool - 7/32 inch diameter or equivalent  
Spring scale or equivalent - 20 pounds minimum  
Torque wrench - 100 inch-pounds minimum  
Dial indicator or equivalent  
Feeler gage or equivalent  
Puller or equivalent  
Drift punch or equivalent  
Chisel or equivalent

## MATERIALS

Primer, zinc chromate  
Paint, yellow  
Shim stock - stainless steel (0.500 wide x 1.000 length with 0.250 diameter hole 0.250 from one end)

## PROCEDURE

- a. Remove V-belt drive cover hat, cover shell, frame strut and clutch control spring assembly; disassemble adapter-mounted idler pulley (refer to Basic HMI). Removal of idler pulley support assembly from belt drive frame is not required.
- b. Modify 269A5576 pulley and 269A5578 pulley adapters as follows:
  - (1) Using #30 drill or equivalent, remove collar from one of four existing rivets securing adapter to one end of pulley assembly; use drift or equivalent to remove rivet core; use spotface tool or chisel to carefully remove rivet sleeve.
  - (2) Using #1 drill and #1/4 (E) reamer, drill and ream rivet hole in line through adapter and pulley; hole tolerance is 0.2495/0.2505 inch.
  - (3) Insert NAS1304-8 bolt in hole.

- (4) Repeat (1) through (3) above for remaining three rivets and rivet holes, one at a time.

NOTE

Before removing adapter, mark and identify existing position of adapter on pulley; also identify adapter with end of pulley. This will ensure proper reinstallation of adapter in original position at proper end of pulley, to maintain dynamic balance of the pulley assembly.

- (5) Remove NAS1304-8 bolts; install nut on threaded end of adapter and remove adapter from pulley, using puller or equivalent.
  - (6) Clean adapter and pulley bore of zinc chromate residue; remove drilling and rivet residue from inside of pulley.
  - (7) Repeat (1) through (6) above for remaining adapter.
- c. Install 269A5591-1 nut quadrants in pulley assembly as follows:
- (1) Insert nut quadrant assemblies in pulley and secure with NAS1304-8 bolts as shown in Figure 1.
  - (2) Drill 0.146/0.152 inch diameter holes two places 180° apart as shown through pulley and each quadrant assembly; countersink holes at outer face of pulley.
  - (3) Secure nut quadrant assemblies with NAS514P632-12 screws and MS21042-06 nuts; install with zinc chromate primer. Heads of screws must be flush fit or below.
  - (4) Remove NAS1304-8 bolts.
- d. Reinstall adapters in pulley bores in same location and position as originally installed, and at dimensions shown in Figure 1.
- e. Secure adapters to pulley assembly with NAS1304-8 bolts and AN960PD416L washers; torque bolts to 70 to 90 inch-pounds.
- f. Paint a 1/16 to 1/8-inch wide yellow stripe across faying surface of pulley and each adapter.
- g. Check adapter and pulley assembly rework for discrepancies.

h. Reassemble and reinstall idler pulley on support assembly, per Basic HMI and as follows:

- (1) Check bearings for roughness; replace bearings if roughness is noted.
- (2) Check that ID bore of pulley support and mating surfaces of the bearing retainers are clean and free of any paint.
- (3) Check that bearing movement in retainers is free and easy prior to installation into the support assembly.

NOTE

Replacement of the bearing retainer(s) may be necessary to obtain lateral movement of the pulley assembly, if bearings are not free.

- (4) Loosen torque on AN5-67 bolt securing clutch control spring assembly; using feeler gage, check for  $\pm 0.005$ -inch clearance between washer (shim) and inner face of pulley support lug.

NOTE

Add 269A5410-3 shim or AN960-516L washer(s) as required to obtain  $\pm 0.005$ -inch clearance between washer (shim) and inner face of support lug.

- (5) Reinstall clutch control spring assembly; torque AN5-67 bolt to 60 to 85 inch-pounds.
- (6) Loosen torque on four AN4-10A bearing cap bolts and twelve NAS1096-2-17 retainer screws.
- (7) Tighten twelve retainer screws until barely snug.
- (8) Tighten and torque bearing cap bolts to 60 to 80 inch-pounds.
- (9) Tighten and torque twelve retainer screws to 12 to 15 inch-pounds.

i. Using dial indicator secured to idler pulley support, or other suitable method, check for 0.020-inch minimum axial movement (fore and aft play) with 0 to 15 pound load applied with a spring scale.

j. If minimum 0.020-inch axial movement cannot be obtained, loosen six retainer screws and two cap bolts on one end of pulley and recheck axial movement.

NOTE

If axial limits are within tolerance after loosening frame caps, remove all paint from the faces of the support casting where the bearing retainers are bolted to the casting and/or check fit of cap over bearing retainer.

- (1) If a gap exists between the ears of the support assembly, hold cap down on one side and measure gap with feeler gage.
- (2) Install shims (fabricate from stainless steel shim stock) between the ears on each side of the support cap equal to one-half the gap measured above. Install shims with wet zinc chromate primer.
- (3) Perform steps h (6) thru h (9) and step i to check axial movement.
- (4) As required, repeat this step j on other end of pulley assembly.

k. Install V-belt drive covers and frame strut.

l. Perform a visual and operational check of belt drive transmission assembly.

m. Record compliance with this Service Information Notice in Compliance Record of helicopter Log Book.

WEIGHT AND BALANCE DATA

Weight and balance not affected.

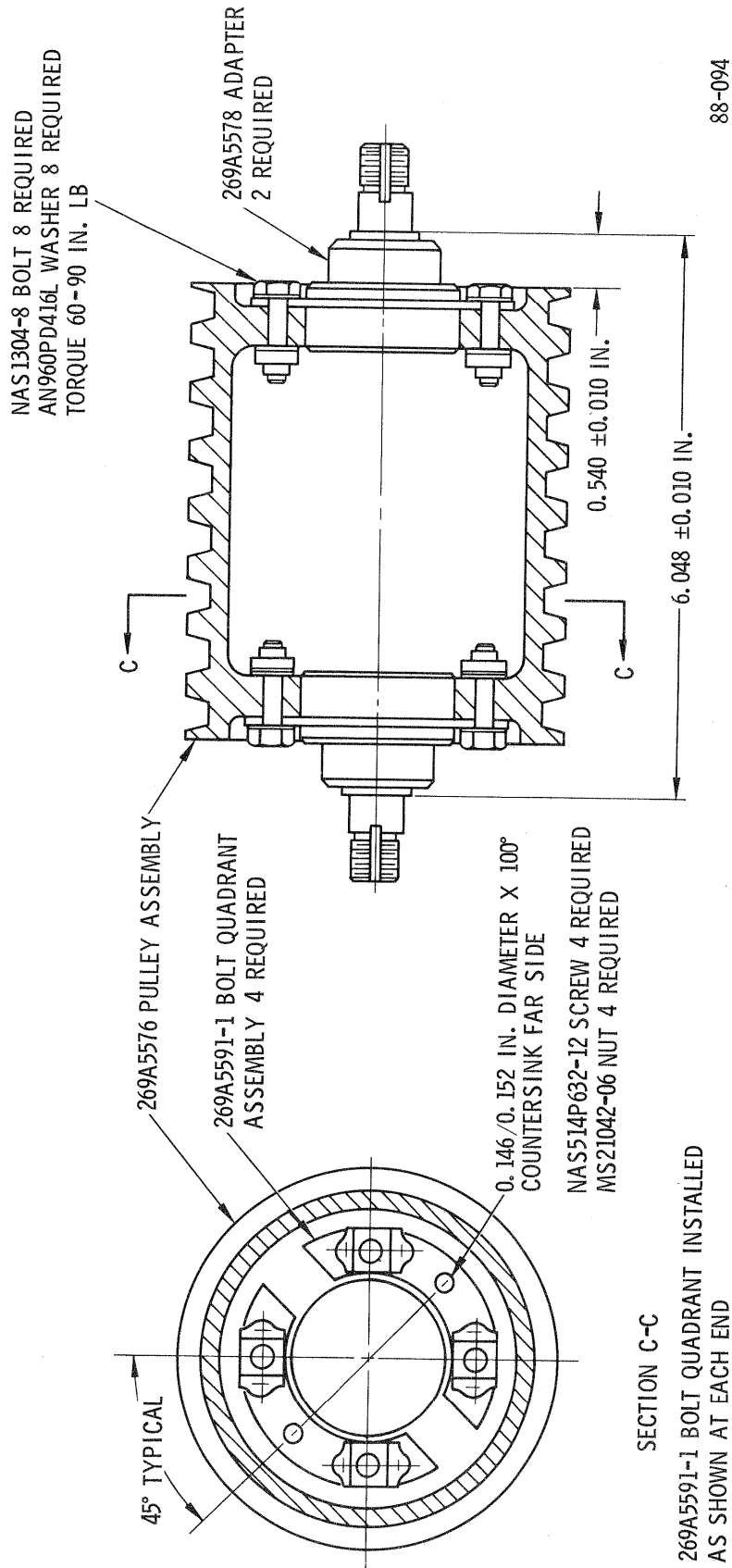


Figure 1. Modification - Belt Drive Idler Pulley Clutch Assembly

