



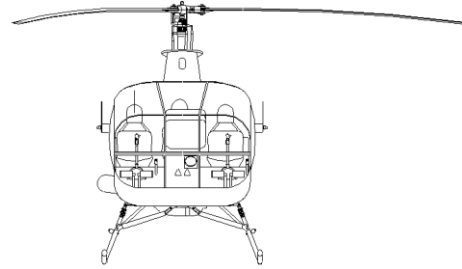
**Sikorsky Aircraft Corporation**

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# 269D™ HELICOPTER

## ALERT SERVICE

## BULLETIN



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ASB DB-062

Basic Issue ▪ March 3/16

**SUBJECT:** MAIN ROTOR AND CONTROL SYSTEM AND TAIL ROTOR AND CONTROL SYSTEM –  
Main Rotor and Tail Rotor Control Rods – One-time Inspection of Flight Control Pushrods  
with Adjustable Rod Ends

### Section 1. PLANNING INFORMATION

- A. Effectivity All 269D and 269D Configuration “A” model helicopters.
- B. Purpose To perform a one-time inspection of flight control pushrods with adjustable rod ends.
- C. Background Flight control pushrods have been found with incorrect rod-end jam-nut torque which can lead to failure of pushrod rod-ends.
- D. Description Helicopter is prepared for inspection. Access to flight control pushrods is gained. All flight control pushrods located in the fuselage, tailboom, and below the lateral pitch mixer bellcrank are inspected to make sure rod end is threaded into the rod past the inspection hole. All adjustable pushrods that have shear type jam-nuts (AN316-6R and AN316-5R), or equivalent are visually inspected to make sure the jam-nuts are seated against the flight control rod. If necessary, pushrod is removed and replaced, and rigging check is performed. Torque stripe is applied to all adjustable pushrod rod ends. Access panels, seats, and fairings are reinstalled, as required. Flight Control Pushrod Jam-Nut Inspection Data Sheet is completed and helicopter is returned to service.

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Section 2. MATERIAL INFORMATION (Continued)

B. Bill of Material

None.

C. Consumable Material



OBSERVE ALL CAUTIONS AND WARNINGS ON CONTAINERS WHEN USING CONSUMABLES. WHEN APPLICABLE, WEAR NECESSARY PROTECTIVE GEAR DURING HANDLING AND USE. IF A CONSUMABLE IS FLAMMABLE OR EXPLOSIVE, MAKE CERTAIN CONSUMABLE AND ITS VAPORS ARE KEPT AWAY FROM HEAT, SPARK AND FLAME. MAKE CERTAIN FIREFIGHTING EQUIPMENT IS READILY AVAILABLE PRIOR TO USE. FOR ADDITIONAL INFORMATION ON TOXICITY, FLASHPOINT AND FLAMMABILITY OF CHEMICALS, CONSULT YOUR MEDICAL PEOPLE OR THE MANUFACTURER OF THE CONSUMABLE.

<u>Qty</u>	<u>Nomenclature</u>	<u>Part No.</u>	<u>Source</u>
A/R	Trichloroethane	O-T-620 or equivalent	(1)
A/R	Torque seal	F900 or equivalent	(1)
A/R	0.020 Inch diameter lockwire	Commercially available or equivalent	(1)

(1) Procure from local supply.

Section 3. ACCOMPLISHMENT INSTRUCTIONS

A. Prepare helicopter for inspection:



TO PREVENT ELECTRICAL SHOCK OF PERSONNEL OR POSSIBLE DAMAGE TO HELICOPTER COMPONENTS, MAKE SURE TO TURN OFF ALL ELECTRICAL POWER.

- (1) Turn off all helicopter electrical power.
- (2) Gain access to flight control pushrods below the lateral pitch mixer bellcrank that contain P/N AN316-6R and AN3165-5R, or equivalent, shear type jam-nuts by removing seat, access panels, and fairings as required.

B. Inspect all flight control pushrods located in the fuselage, tailboom, and below the lateral pitch mixer bellcrank (Refer to Figures 1 and 2):

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

NOTE: Flight control pushrod rod ends that are fixed (riveted to the rod) require a visual inspection for general condition and security. Pushrod rod ends that are fixed do not require the witness hole inspection or jam-nut torque check inspections.

- (1) Make sure rod end is threaded into the rod past the inspection hole (witness hole).
  - (a) Verify a 0.020 inch diameter piece of lockwire (commercially available or equivalent) cannot be inserted through the inspection hole (witness hole).
    1. If lockwire (commercially available or equivalent) passes through the inspection hole (witness hole), proceed to Step (5).
    2. If lockwire (commercially available or equivalent) does not pass through the inspection hole (witness hole), proceed to next step.

NOTE: Do not turn pushrod tube to determine looseness of connection or fasteners.

- (2) Visually inspect all adjustable pushrods that have shear type jam-nuts (AN316-6R and AN316-5R, or equivalent). Make sure the jam-nuts are seated against the flight control rod.
  - (a) Using finger pressure, inspect jam-nuts for looseness.
    1. If jam-nut is loose or not seated against the rod, proceed to Step (6).
    2. If jam-nut is not loose and is seated against the rod, proceed to next step.
- (3) If rod end is threaded past inspection hole (witness hole), and jam-nut is seated and not loose, using finger pressure, perform torque check as follows:

NOTE: Shear type jam-nut (AN316-6R, or equivalent) has a 3/8-24 thread size;  
Shear type jam-nut (AN3165-5R, or equivalent) has a 5/16-24 thread size.

- (a) As required, locally fabricate a non metallic pushrod tool that can fit between the mounting lug or clevis for each pushrod rod end to react torque to prevent damage during torquing. (Refer to Figure 3.)
- (b) As required, slide pushrod tool in-between rod end bearing and mounting lug or clevis at each end of the flight control pushrod while torque is applied.

NOTE: • Apply torque in the tightening direction only.

- Independently verify that each jam-nut has been correctly torqued.

- (c) Using torque wrench (commercially available or equivalent), apply torque to jam-nut. (Refer to HMI CSP-D-2, Paragraph 2-47, and Table 2-3, or HMI CSP-D-9, Paragraph 2-47, and Table 2-3.)
- (d) Remove pushrod tool.

- (4) Apply torque stripe to all adjustable pushrod rod ends as follows:

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Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

NOTE: Make sure torque stripe is not applied over inspection hole (witness hole).

- (a) Clean areas where torque stripe is to be applied with trichloroethane (O-T-620, or equivalent).
- (b) Apply torque seal stripe (F900 Yellow, or equivalent) across rods, jam-nuts, and rod ends. Torque stripe shall extend a minimum of 0.5 inch.

**WARNING**

IF ANY COMPONENT OF ANY FLIGHT CONTROL SYSTEM IS DISCONNECTED, ADJUSTED, REMOVED, INSTALLED, OR REPLACED, A RIGGING CHECK MUST BE MADE TO MAKE SURE THAT CONTROL RANGES ARE WITHIN SPECIFIED LIMITS.

- (5) If rod end is not threaded past inspection hole (witness hole) do the following:
  - (a) Record angular orientation of rod ends. Remove pushrod and readjust rod end to make sure rod end is threaded beyond the inspection hole (witness hole).
  - (b) Tighten pushrod jam-nuts hand tight and install pushrod. (Refer to HMI CSP-D-2, Paragraph 8-91, and Paragraph 9-37, or HMI CSP-D-9, Paragraph 8-92, and Paragraph 9-37.)
  - (c) Verify a 0.020 inch diameter piece of lockwire (commercially available or equivalent) cannot be inserted through the inspection hole (witness hole).
  - (d) Repeat Step (3).
- (6) If jam-nut is loose when checking finger pressure, pushrod will require removal and replacement as follows:
  - (a) Remove pushrod, measure and record length from mounting centers and angular orientation. (Refer to HMI CSP-D-2, Paragraph 8-87, and Paragraph 9-34, or HMI CSP-D-9, Paragraph 8-88, Paragraph 9-34.)
  - (b) Adjust the length from mounting centers and angular orientation on the replacement pushrod and tighten jam-nuts finger tight.

NOTE: If rod requires replacement and spare part is not available, contact Sikorsky Aircraft for assistance (1-800-946-4337 or 1-800-WINGED-S).

- (c) Install replacement pushrod. (Refer to HMI CSP-D-2, Paragraph 8-91, and Paragraph 9-3, or HMI CSP-D-9, Paragraph 8-92, and Paragraph 9-37.)
- (d) Perform rigging check, as required. (Refer to HMI CSP-D-2, Paragraph 8-49, Paragraph 9-3, and Temporary Revision No. 269D-87, or HMI CSP-D-9, Paragraph 8-51, Paragraph 9-3, and Temporary Revision No. 269DA-94.)

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

NOTE: Independently verify that the jam-nut(s) or replacement pushrod has been correctly torqued.

1. Install locally manufactured Pushrod Tool (Figure 3), as required.
  2. Using torque wrench (commercially available or equivalent), apply torque to shear type jam-nuts (AN316-6R and AN316-5R, or equivalent).
  3. Remove Pushrod Tool. Report if jam-nut turned at minimum torque and include action taken. (Refer to Flight Control Pushrod Jam-Nut Inspection Data Sheet Step E.)
  4. Reapply torque seal stripe (F900 Yellow, or equivalent) across rods, jam-nuts, and rod ends. Torque stripe shall extend a minimum of 0.5 inch.
- (7) Report any wear, damage, or non-compliant conditions on the Inspection Data Sheet. (Refer to Step E.)
- (8) Reinstall access panels, seats, and fairings, as required.
- C. Complete the Flight Control Pushrod Jam-Nut Inspection Data Sheet (Step E.) and Alert Service Bulletin Compliance Record Card. Send to Email Address [S300ASB@sikorsky.com](mailto:S300ASB@sikorsky.com).
- D. Return helicopter to service.

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

E. Flight Control Pushrods Jam-Nut Inspection Data Sheet:

- (1) Report the following to Sikorsky Aircraft Corporation Engineering (Email Address: [S300ASB@sikorsky.com](mailto:S300ASB@sikorsky.com)).

ASB No: DB-062

Date ASB is Performed: \_\_\_\_\_

Customer/Operator Name: \_\_\_\_\_

Helicopter Serial Number: \_\_\_\_\_

Helicopter Total Time Since New: \_\_\_\_\_

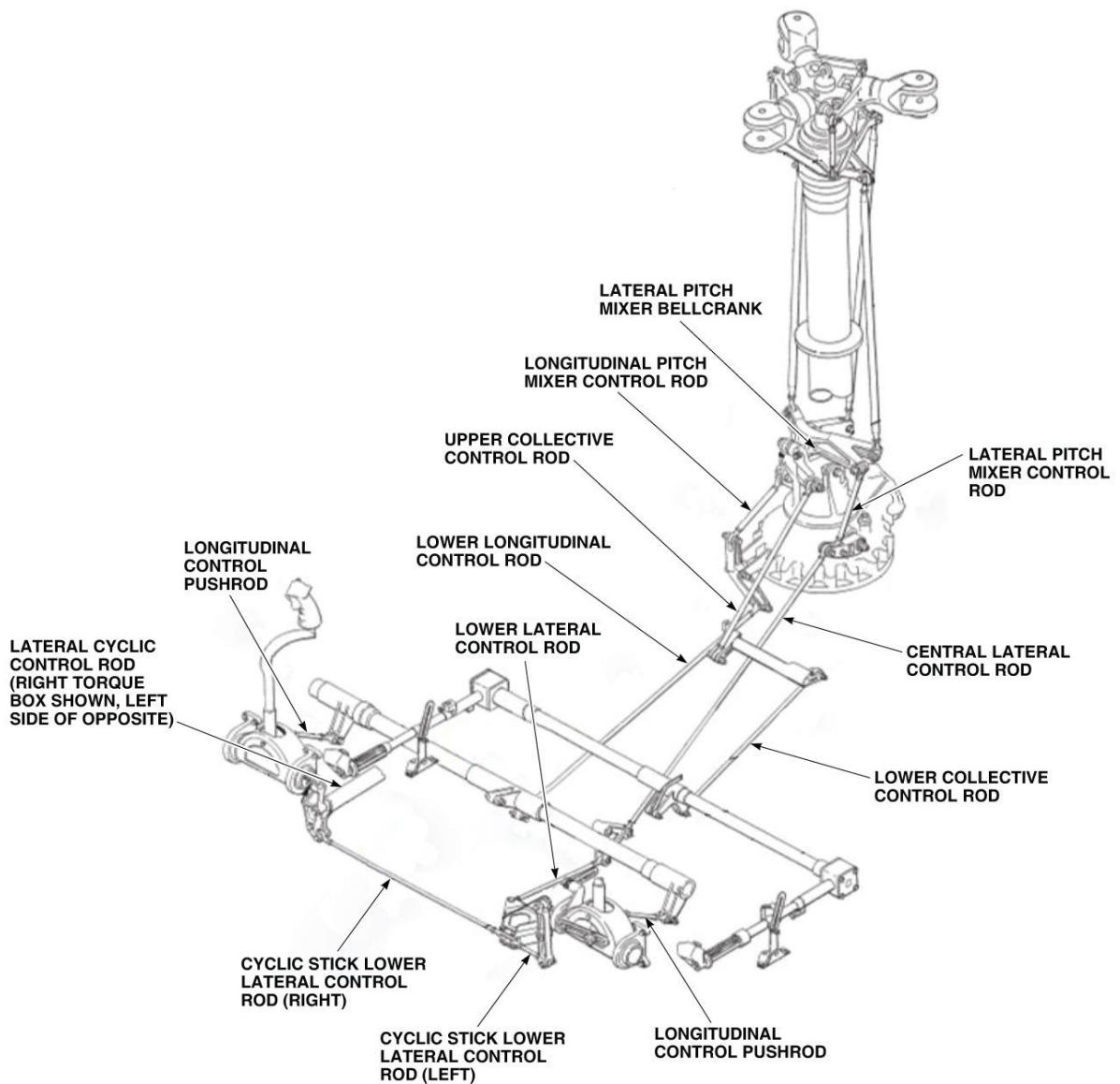
	Yes	No
Were any flight control pushrods with shear type jam-nuts (AN316-6R or AN316-5R) found unseated and/or loose?	_____	_____
Were any flight control pushrods found that failed the witness hole inspection (where the 0.02 inch wire passed through)?	_____	_____
Were any flight control pushrods, rod ends, or jam-nuts found with other abnormalities, wear, corrosion, cracks, yielding, etc.?	_____	_____

Please describe details of findings in table below:

Specify issue, part number, pushrod, details of condition.	Specify location and details of damage or condition.	Size of damage (inches)	Total time on part (Flight hours)



Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

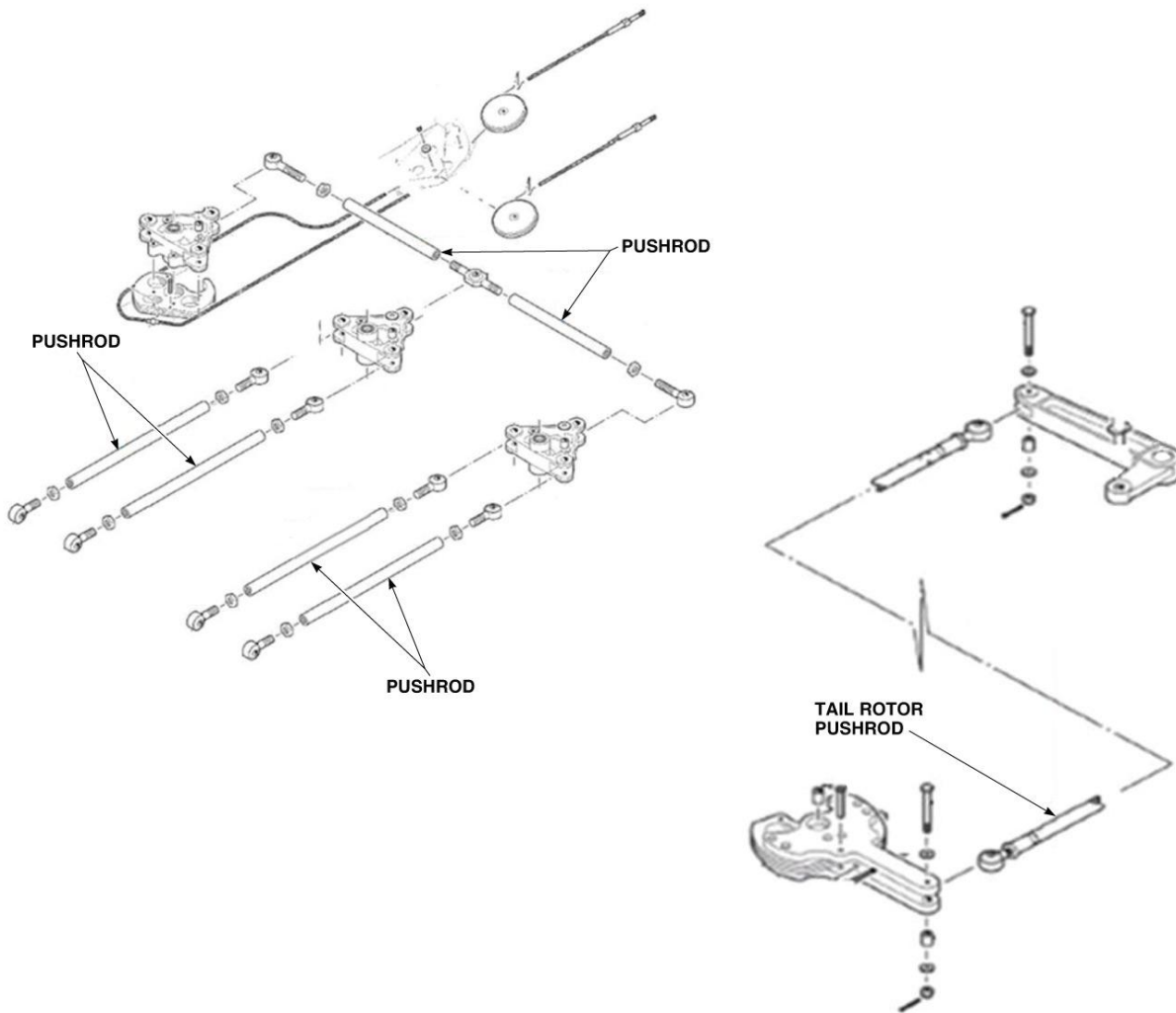


CYCLIC AND COLLECTIVE CONTROL PUSHRODS  
FIGURE 1

TD3774  
SA

ONE-TIME  
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Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

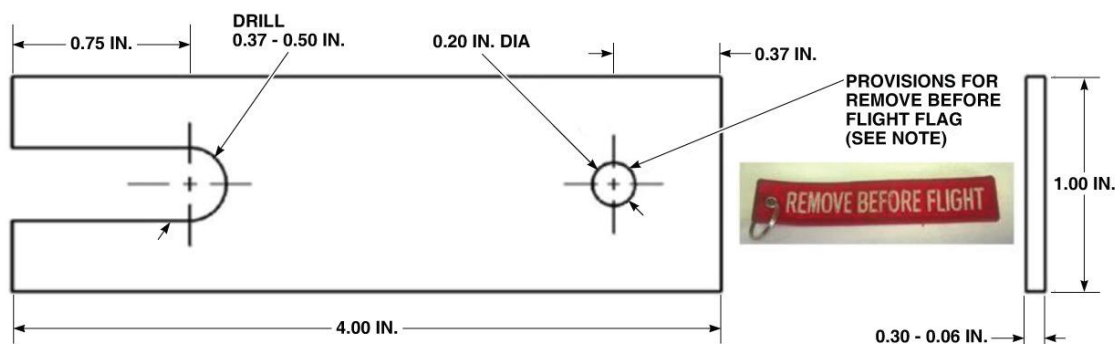


TAIL ROTOR FLIGHT CONTROL PUSHRODS  
FIGURE 2

TD3775  
SA

ONE-TIME  
INSPECTION

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)



**NOTE**

LOCALLY MANUFACTURE FROM ABS PLASTIC SHEET, OR EQUIVALENT MATERIAL. ADJUST THICKNESS AND DRILL SIZE AS REQUIRED TO ACCOMMODATE DIFFERING SIZING BETWEEN ROD END INSTALLATIONS. SECURE "REMOVE BEFORE FLIGHT" FLAG MINIMUM 6 INCHES IN LENGTH.

TD3776  
SA

PUSHROD TOOL  
FIGURE 3

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Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

F. Record of compliance:

- (1) Make an appropriate helicopter logbook entry to show compliance with this ASB.
- (2) Upon compliance with the ASB, complete attached ALERT SERVICE BULLETIN COMPLIANCE RECORD CARD and return it to Sikorsky Aircraft Corporation.