

269D™ HELICOPTER

ALERT SERVICE

BULLETIN

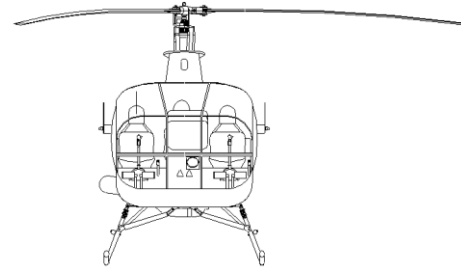
NON-FAA CERTIFIED HELICOPTER

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ASB DB-059

Basic Issue ▪ June 30/15

SUBJECT: POWER TRAIN SYSTEM – Belt Drive Transmission Assembly – One-Time Inspection of the Belt Drive Transmission Upper Pulley Installation for Aft Pinion Nut Torque, Parts Configuration and Stack-up, Damage and/or Wear

Section 1. PLANNING INFORMATION

- A. Effectivity All 269D Configuration “M” helicopters.
- B. Purpose To perform a one-time inspection of the belt drive transmission upper installation for damage and wear, and to verify torque, and parts configuration.
- C. Description Helicopter is prepared for inspection. Access is gained to the belt drive transmission upper pulley. A torque check of the upper pulley aft pinion nut is performed. An inspection of upper belt drive transmission assembly is performed. Any worn or discrepant parts are replaced. If aft pinion is rejected, main transmission is removed and returned to an authorized Sikorsky Light Helicopter Support Center for repair. Results are recorded on Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet (attached). Helicopter is returned to service.
- D. Compliance Compliance is essential. The inspection outlined herein shall be accomplished no later than 100 flight hours or 60 days from the issue date of this Alert Service Bulletin (ASB), whichever occurs first.
- E. Approval Inspection item.

ONE-TIME
INSPECTION

Section 1. PLANNING INFORMATION (Continued)

F. Manpower (Estimated)

<u>Task</u>	<u>No. of Men</u>	<u>No. of Hours</u>	<u>Man-Hours*</u>
Check Torque of Upper Pulley Aft Pinion Nut**	2	0.75	1.5
Removal of Belt Drive Transmission Assembly**	2	0.60	1.2
Inspection of Belt Drive Transmission Assembly	1	1.20	1.2
Installation of Belt Drive Transmission Assembly**	2	<u>1.50</u>	<u>3.0</u>
Total Man-Hours		4.05	6.9

*Estimate does not include time required to prepare helicopter or return it to flight status.

**Estimate does not require two people for entire task.

G. Tooling

Magnifying glass (10X) (commercially available or equivalent)

H. Weight and Balance

Not affected.

I. Electrical Load Data

Not affected.

J. Software Load Data

Not changed.

K. References

NOTE: Use 269D Configuration "M" Operation and Maintenance Instruction Manual (HMI) MSP-D-15, latest revision, dated 15 Oct 2014 for references listed.

- (1) 269D Configuration "M" HMI MSP-D-15, Paragraph 11-22.
- (2) 269D Configuration "M" HMI MSP-D-15, Paragraph 11-23.
- (3) 269D Configuration "M" HMI MSP-D-15, Paragraph 11-25.
- (4) 269D Configuration "M" HMI MSP-D-15, Paragraph 11-28.

Section 1. PLANNING INFORMATION (Continued)

(5) 269D Configuration "M" HMI MSP-D-15, Table 11-4.

L. Publications Affected

None.

M. Attachment

None.

Section 2. MATERIAL INFORMATION

A. Basis for Material Data

Per helicopter.

B. Bill of Material

None.

C. Consumable Material

None.

Section 3. ACCOMPLISHMENT INSTRUCTIONS

A. Prepare helicopter for inspection:

- (1) Turn off all helicopter electrical power.
- (2) Gain access to belt drive transmission upper pulley.

B. Inspect upper pulley aft pinion nut torque, assembly configuration, and stack-up as follows:

NOTE: Make sure to record inspection results on Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet. (Refer to Section 3, Step D, and Tables 1, 2, and 3).

- (1) Perform torque check on upper pulley aft pinion nut. (Refer to HMI MSP-D-15, Paragraph 11-22).
 - (a) If torque check passes, proceed to step (c).
 - (b) If torque check fails, inspect parts in the assembly/stack-up of the belt drive assembly for damage or wear and determine the cause of looseness and proceed to next step. (Refer to HMI MSP-D-15, Paragraph 11-22 c.).
 - (c) Record results of torque check on upper pulley aft pinion nut in Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet (Refer to Section 3, Step D) and proceed to next step.

ONE-TIME
INSPECTION

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

- (2) Remove belt drive transmission assembly. (Refer to HMI MSP-D-15, Paragraph 11-23).
- (3) Inspect belt drive transmission assembly for correct parts configuration and stack-up. (Refer to HMI MSP-D-15, Paragraph 11-23 and 11-28).

NOTE: • Pay particular attention to the threads on the aft end of the pinion and pinion nut.

- No corrosion or blending of the pinion aft grooves, thread relief or aft pinion nut is allowed.
- Threads of both the pinion and nut should be clean, dry and free of grease or material debris of any kind.

- (4) Using a 10x magnifying glass, inspect threads and relief groove area on aft end of pinion and pinion nut for nicks, wear and pitting, cracks, breaks, excessive wear, galling, spalling, chipping, distortion or any other abnormality. None of these conditions are allowed and are cause for pinion or aft pinion nut rejection. (Refer to HMI MSP-D-15, Table 11-4).

NOTE: Pay particular attention to end face surfaces of the transmission pinion oil seal collar, upper pulley hub, upper H-frame bearings, drive sleeve, and aft pinion nut for wear and signs of fretting.

- (5) Perform detailed inspection of the following parts (Refer to HMI MSP-D-15, Paragraph 11-25):
 - Transmission pinion oil seal collar for correct part number and installation. Inspect for signs of corrosion, fretting or wear. None allowed. (Refer to HMI MSP-D-15, Paragraph 11-19).
 - Forward and aft H-frame bearings inner race surfaces for fretting/face surface wear damage and corrosion. None allowed.
 - Hub for fretting/face surface wear damage and corrosion. None allowed.
 - Forward drive spline sleeve for fretting/face surface wear damage and corrosion. None allowed. Also inspect spline drive sleeve for overall condition and spline wear. (Refer to HMI MSP-D-15, Paragraph 11-25).
 - Split bushing (269A5595-001) – Inspect split bushing for general condition and installation in the forward spline sleeve. Replace if worn. (Refer to HMI MSP-D-15, Paragraph 11-28).
 - Nut (269A5714) – Inspect nut for general condition and wear. Remove and treat any signs of corrosion. No pitting or thread wear allowed. (Refer to HMI MSP-D-15, Chapter 24).
- (a) Replace any part(s) that are beyond limits. (Refer to HMI MSP-D-15, Paragraph 11-25).
- (b) If the pinion is rejected, remove main transmission assembly and return to an authorized Sikorsky Light Helicopter Support Center for repair.
- (6) Install belt drive transmission assembly with serviceable parts. (Refer to HMI MSP-D-15, Paragraph 11-28).

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

- (a) After installation of the transmission belt drive and Total Indicated Runout (TIR) is achieved within limits, record the final torqued pinion nut TIR. (Refer to HMI MSP-D-15, Paragraph 11-28).
 - (b) Record final main transmission pinion TIR value after installation of the transmission belt drive assembly in log book record.
- (7) Record inspection results on Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet. (Refer to Section 3, Step D, and Tables 1, 2, and 3).
- C. Return helicopter to service.

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

D. Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet:

NOTE: Return completed Aft Pinion and Belt Drive Transmission Upper Pulley Inspection Data Sheet directly to engineering at Email address:

S300ASB@sikorsky.com

Attn: SLH Engineering

(1) Record the following information for each helicopter, and attach labeled photographs showing the same:

Date ASB is Performed: _____

Customer/Operator Name: _____

Helicopter Serial Number: _____

Helicopter Total Time Since New: _____

Pinion Serial Number: _____

Did the upper pulley pinion nut pass the torque check? Yes _____ No _____

If NO, was there any evidence of the cause of looseness? (Specify evidence in Table 1).

Were the pinion threads clean and free of grease? Yes _____ No _____

Was there any damage or wear found on the pinion shaft (including spines and threads)? Yes _____ No _____

If YES, specify the condition and type of damage found In Table 2.

Final torque pinion TIR: _____

In Table 3, specify any additional discrepancies, improper assembly, missing split bushing, incorrect pinion oil seal collar, improper grease, damaged sleeve, or nut. Include serial number and total time on worn parts.



Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

TABLE 1				
Damage Type (Part end-face wear, incorrect stack-up, or parts, other damage)	Location (distance from discrepancies)	Size of Damage (inches)	Part Serial Number (if applicable)	Total Time on Discrepant Part

TABLE 2				
Type (pitting, galling, fretting, corrosion, dimensional, cracks)	Location (distance from discrepancies)	Size of Damage (inches)	Part Serial Number (if applicable)	Total Time on Discrepant Part

TABLE 3				
Type/Condition	Location (distance from discrepancies)	Size of Damage (inches)	Part Serial Number (if applicable)	Total Time on Discrepant Part

ONE-TIME INSPECTION

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

E. 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.

(Fold over and tape closed)

SIKORSKY AIRCRAFT CORPORATION

FACSIMILE NUMBER (860) 998-7565

EMAIL ADDRESS: GPSIKSASProductSafet@utc.com

ATTENTION: SAS PRODUCT SAFETY MANAGER
SIKORSKY AEROSPACE SERVICES

IMPORTANT NOTICE

Upon **COMPLIANCE** with the attached ASB, Sikorsky requests your cooperation in completing and returning this **ENTIRE PAGE** by **MAIL, FAX, or scan & EMAIL**.

Please fill in the requested information at the bottom of the page, so we may maintain proper records documenting the configuration of your aircraft. This information is useful when determining configuration and effectivity of issues affecting fielded aircraft.

This request is in keeping with our policy to assure that our customers receive the latest information applicable for the maintenance of your aircraft. Thank you.

ALERT SERVICE BULLETIN: _____ No. DB-059 _____ **Compliance Record Card**

TITLE: POWER TRAIN SYSTEM – Belt Drive Transmission Assembly – One-Time
Inspection of the Belt Drive Transmission Upper Pulley Installation for Aft Pinion
Nut Torque, Parts Configuration and Stack-up, Damage and/or Wear

OWNER/OPERATOR: _____

SUBMITTED BY: _____ **DATE:** _____

- FOLLOWING SERIAL NUMBERS ARE NOT AFFECTED BY THIS ASB**
- ASB HAS BEEN COMPLIED WITH ON HELICOPTER SERIAL NUMBERS:**

(Fold Up to Arrows)



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