Sikorsky Aircraft Corporation
6900 Main Street P.O. Box 9729
Stratford, Connecticut 06615-9129
(203) 386-4000

269D™ HELICOPTER ALERT SERVICE BULLETIN

ASB DB-044
BASIC ISSUE ▪ July 25/13

SUBJECT: One-Time Engine Alignment Check and Inspection of the KAflex® Drive Shaft, KAflex Coupling Assembly, and Engine Mount Assembly Absorbers

Section 1. PLANNING INFORMATION

A. Effectivity — All 269D and 269D Configuration "A" model helicopters.

Component: KAflex Drive Shaft, Part Number (P/N) SKCP2738-5, KAflex Coupling Assembly, P/N SKCP2738-7, and Engine Mount Assembly Absorbers, P/N's 269A8605 and 269A8606.

B. Purpose — To perform a one-time engine alignment check and inspection of the KAflex Drive Shaft, and KAflex Coupling Assembly for fretting, cracks wear and movement, and Engine Mount Assembly Absorbers for compression.

C. Description — Helicopter is prepared for maintenance. Access is gained to KAflex Drive Shaft, KAflex Coupling Assembly, and Engine Mount Assembly Absorbers. A one-time engine alignment check and inspection of the KAflex Drive Shaft, and KAflex Coupling Assembly for fretting, cracks, wear, and movement, and Engine Mount Assembly Absorbers for compression, is performed. If KAflex Drive Shaft, KAflex Coupling Assembly, or Engine Mount Assembly Absorbers fail the inspection performed in this Alert Service Bulletin (ASB), or any discrepancies are found, remove drive shaft from service and return to Helicopter Support, Inc. (HSI). Record findings in the ASB Work Sheet (Section 3. E). If KAflex Drive Shaft, KAflex Coupling Assembly, and Engine Mount Assembly Absorbers pass this inspection, helicopter is returned to service.

KAflex® is a registered trademark of Kamatics Corporation

Section 1. PLANNING INFORMATION (Continued)

D. Compliance Compliance is essential. Inspection must be accomplished within the next 25 flight hours or 60 days from the issue date of this ASB, whichever occurs first.

E. Approval Inspection item.

F. Manpower (Estimated)

Task	No. of Men	No. of Hours	Man-Hours*
Engine Alignment Check Method 1	1	1.20	1.2
Inspection of KAflex Drive Shaft and Coupling	1	0.70	0.7
Complete Compliance Record Card	1	0.16	0.2
Total Man-Hours			2.1

*Estimate does not include time required to prepare helicopter or return it to flight status.
**If removal of the belt drive is required, add an additional 8 to 10 man-hours.

G. Material

Magnifying Glass (10X) (Commercially Available or equivalent).

H. Tooling

Qty	Nomenclature	Part No.	Source
1	Engine Alignment Tool	269T3303	(1)
1	Belt Drive Alignment Tool	269T3303-003	(1)

(1) Available from Red Barn Machine, Inc. Website: www.redbarn.net.

I. Weight and Balance

Not Affected.

J. Electrical Load Data

Not Affected.

K. Software Load Data

Not Applicable.

L. References

(1) Handbook of Maintenance Instructions (HMI) CSP-D-2.

(2) HMI CSP-D-9.

Section 1. PLANNING INFORMATION (Continued)

M. Publications Affected

None.

N. 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.

B. Perform engine alignment check:

(1) Perform engine alignment check, Method I, using the Belt Drive Alignment Tool, P/N 269T3303. Refer to Table 3 for the applicable publication and helicopter model.

(2) Record findings in the ASB Work Sheet (Section E).

C. Perform one-time inspection of KAflex Drive Shaft, KAflex Coupling Assembly (with KAflex removed), and Engine Mount Assembly Absorbers:

(1) Remove KAflex Drive Shaft, and Coupling Assembly. Refer to Table 1 for applicable publication and helicopter model.

(2) Refer to Figure 1 for example of fractured KAflex Assembly.

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

WARNING DO NOT DISTURB OR TIGHTEN THE FLEX FRAME BOLTED JOINTS.

(3) Check for working fastener condition at joints by hand (12 places, both sides) – black residue under head or tail. Metal wear will appear as powder (fretting debris) and appear black or red in color. If powder is found, remove the drive shaft from service. Refer to Figure 2 for location of inspection. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (4).

(4) Visually inspect for cracks emanating from under head and/or tail of fasteners (12 places, both sides). Refer to Figure 2 for location of inspection. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (5).

NOTE: Torque stripes may have been painted over with corrosion resistant primer after assembly. This is a normal condition.

(5) Inspect flex frame and mount bolt torque stripes for evidence of movement. If any evidence of movement is found, or torque stripes are no longer visible, remove drive shaft from service. Refer to Figure 2. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (5).

(c) If torque stripes have faded, repaint using torque seal or equivalent (Table 2-2, Item 153, HMI CSP-D-2; Table 2-2, item 139, HMI CSP-D-9) in the same location and orientation as previously applied. Refer to Figure 2.

(6) Using a 10X magnifying glass or equivalent, visually inspect flex frame bolted joints for evidence of wear. If evidence of wear is found, remove drive shaft from service. Refer to Figure 2. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (7).

(7) Using a 10X magnifying glass or equivalent, visually inspect flex frame for evidence of cracks over the full circumference (360 degrees) around the bolt head and washer side and over the full circumference (360 degrees) around the nut and washer side. If any evidence of cracking is found, remove drive shaft from service. Refer to Figure 2. Record findings in the ASB Work Sheet (Section E).

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (8).

(8) Using a 10X magnifying glass or equivalent, visually inspect four inside and outside corner radii and radii edges for evidence of cracks on each flex frame. Inspect the corner radii edges on both sides of the flex frame. If any evidence of cracking is found, remove drive shaft from service. Refer to Figure 2. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (9).

(9) Using a 10X magnifying glass or equivalent, visually inspect each shaft end-fitting flange for evidence of cracks over the full circumference (360 degrees) around the nut and washer side. If any evidence of cracking is found, remove drive shaft from service. Refer to Figure 2. Record findings in the ASB Work Sheet (Section E).

(a) If drive shaft is removed from service, proceed to step (11).

(b) If rejected condition is not found, proceed to step (10).

(10) Inspect absorbers, P/N 269A8605 and 269A8606, on engine mount assembly and replace with new absorbers if bottom inner absorber rotates freely by hand. Refer to Table 2 for applicable publication and helicopter model. Record findings in the ASB Work Sheet (Section E).

(11) If a rejected condition is found, fill out attached Sikorsky Engineering Evaluation return form and ASB Work Sheet (Section E). Forward KAflex Assembly and completed forms to:

Helicopter Support, Inc. (HSI)
URGENT: Engineering Evaluation
Attn: SAS Commercial Aircraft Product Support
300 Montowese Avenue Extension
North Haven, CT 06373

(12) If a rejected condition is not found, fill out attached ASB Work Sheet (Section E) and forward to address above. Reinstall KAflex Drive Shaft, and Coupling Assembly. Refer to Table 4 for the applicable publication and helicopter model.

(13) Perform engine alignment check, Method I, using the Engine Alignment Tool, P/N 269T3303, and the Belt Drive Alignment Tool, P/N 269T3303-003. Refer to Table 1 for the applicable publication and helicopter model.

D. Return helicopter to service.

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

E. ASB Work Sheet:

(1) Was KAflex out-of-line with transmission? _____ No _____ Yes

If realignment was required:

- Out-of-Alignment measurement (inches, degrees, etc.), if possible: _____
- How many shims were added: _____ removed: _____
- Provide thickness of shims added: _____ removed: _____

(2) Were there signs of fretting? _____ No _____ Yes

(3) Was there any movement of torque stripes? _____ No _____ Yes

(4) Was there any evidence of cracking? _____ No _____ Yes

Locations of Cracking:

- Flex frame bolted joints _____
- Flex frame _____
- Four inside and outside corner radii and radii edges _____
- Shaft end-fitting flange _____

(5) What was the condition of absorbers P/N 269A8605 and 269A8606?

- Compressed per applicable HMI Publication _____
- Uncompressed per applicable HMI Publication _____

(6) Was KAflex Drive Shaft rejected? _____ No _____ Yes

(7) If KAflex Drive Shaft was rejected, record the following:

(a) Helicopter S/N: _____

(b) Helicopter total time: _____

(c) Rejected KAflex assembly S/N: _____

(d) Rejected KAflex assembly cycles: _____

Section 3. ACCOMPLISHMENT INSTRUCTIONS (Continued)

TABLE 1. KAflex DRIVE SHAFT AND COUPLING ASSEMBLY REMOVAL

Publication No. & Reference	Model
CSP-D-2, Section 6, Paragraph 6-25	269D
CSP-D-9, Section 6, Paragraph 6-26	269D Configuration A

TABLE 2. ENGINE MOUNT ABSORBER INSPECTION

Publication No. & Reference	Model
CSP-D-2, Section 3, Paragraph 3-33A, reference NOTE after sub-paragraph k	269D
CSP-D-9, Section 3, Paragraph 3-26, reference NOTE	269D Configuration A

TABLE 3. ENGINE ALIGNMENT CHECK

Publication No. & Reference	Model
CSP-D-2, Section 3, Paragraph 3-33	269D
CSP-D-9, Section 3, Paragraph 3-31	269D Configuration A

TABLE 4. KAflex DRIVE SHAFT AND COUPLING ASSEMBLY INSTALLATION

Publication No. & Reference	Model
CSP-D-2, Section 6, Paragraph 6-27	269D
CSP-D-9, Section 6, Paragraph 6-28	269D Configuration A

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 ASB Work Sheet and return it to Sikorsky Aircraft Corporation.

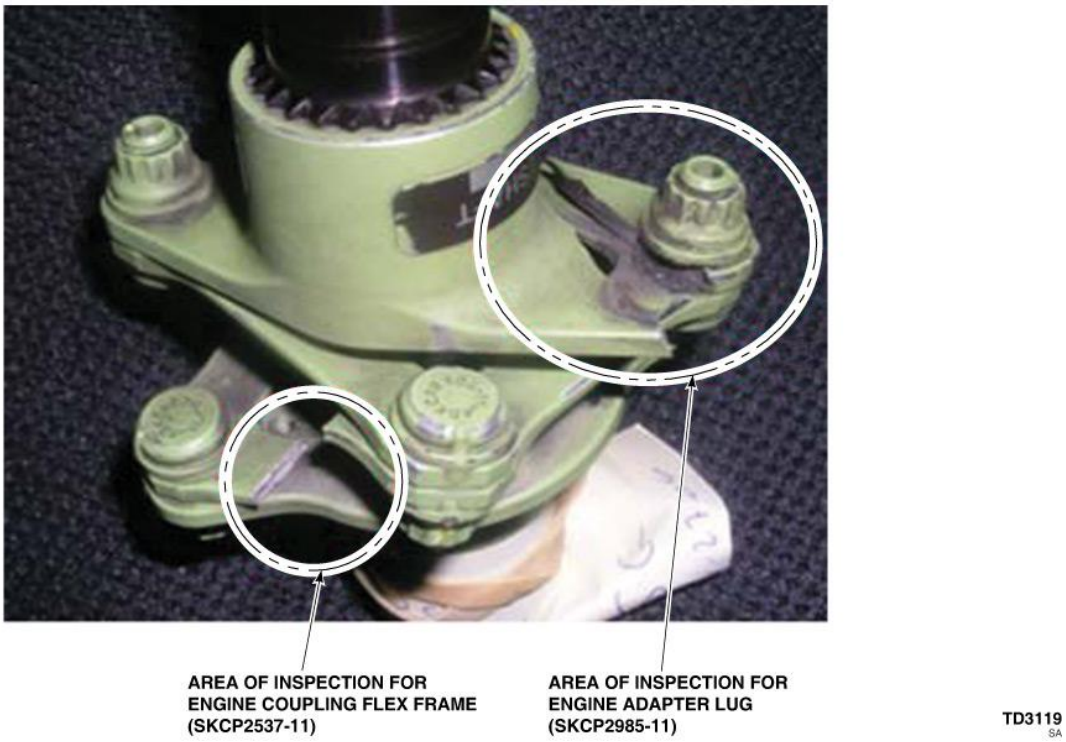
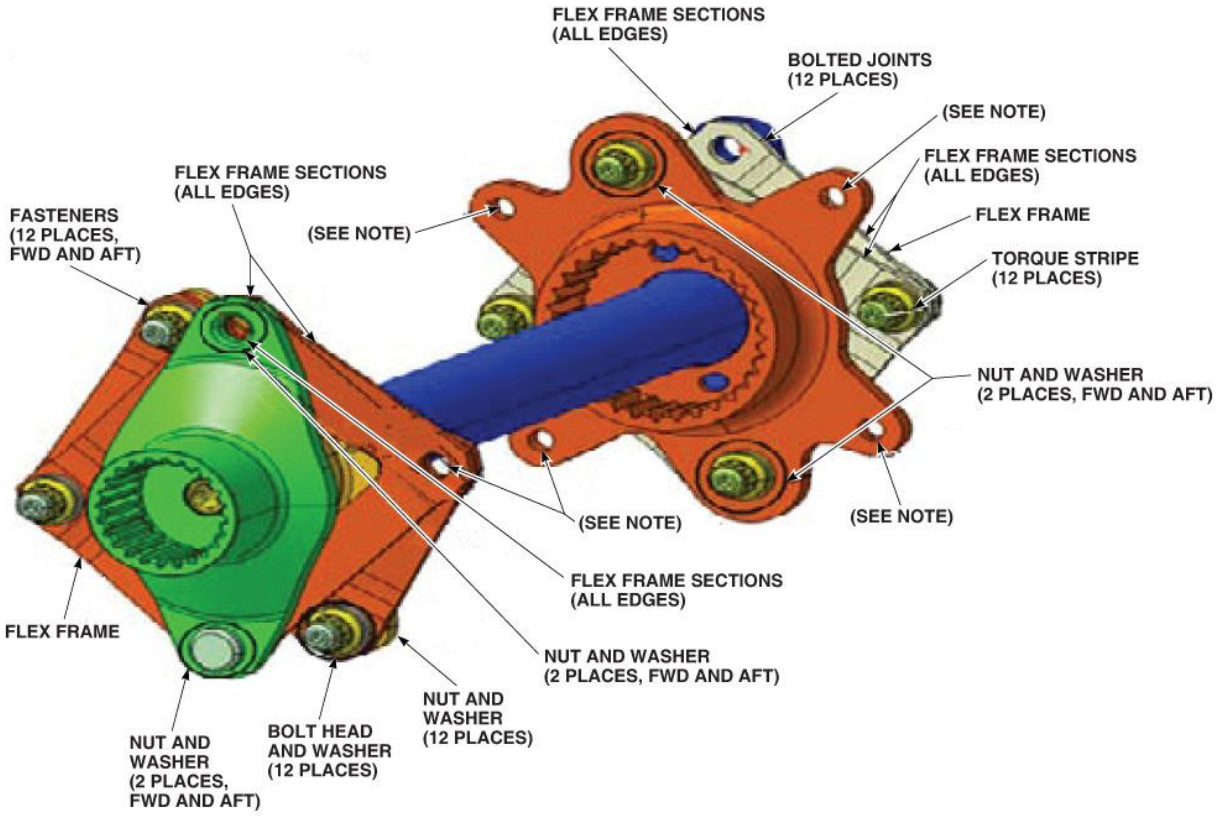


Figure 1. Example of Fractured KAflex Assembly



NOTE

HARDWARE NOT INSTALLED FOR GRAPHICAL PURPOSES. HARDWARE MUST BE INSTALLED IN ACCORDANCE WITH (IAW) THE APPLICABLE HMI.

TD3120 SA

Figure 2. KAflex Assembly Inspection Locations
(Image representative of P/N SKCP2738-5/-7, but not identical.)

(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.

If you have internet access, you may go to www.sikorsky.com to record your compliance.

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: ASB No. DB-044 **Compliance Record Card**

TITLE: One-Time Engine Alignment Check and Inspection of the Kaflex® Drive Shaft, Kaflex® Coupling Assembly and Engine Mount Assembly Absorbers

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)

Sikorsky
A United Technologies Company

No Postage Necessary

BUSINESS REPLY MAIL
FIRST-CLASS MAIL PERMIT NO. 432 BRIDGEPORT CT

POSTAGE WILL BE PAID BY ADDRESSEE

SIKORSKY AIRCRAFT CORPORATION
P.O. BOX 9729
6900 MAIN STREET
STRATFORD, CONNECTICUT 06615-9129 U.S.A.
MAILSTOP: **S328A**
ATTENTION: SAS PRODUCT SAFETY MANAGER
SIKORSKY AEROSPACE SERVICES

Please complete the form on the reverse side and FAX to

FACSIMILE NUMBER (860) 998-7565

Or scan and email to:
EMAIL ADDRESS: GPSIKSASProductSafet@utc.com
or fold and return ENTIRE form to Sikorsky Aircraft Corporation