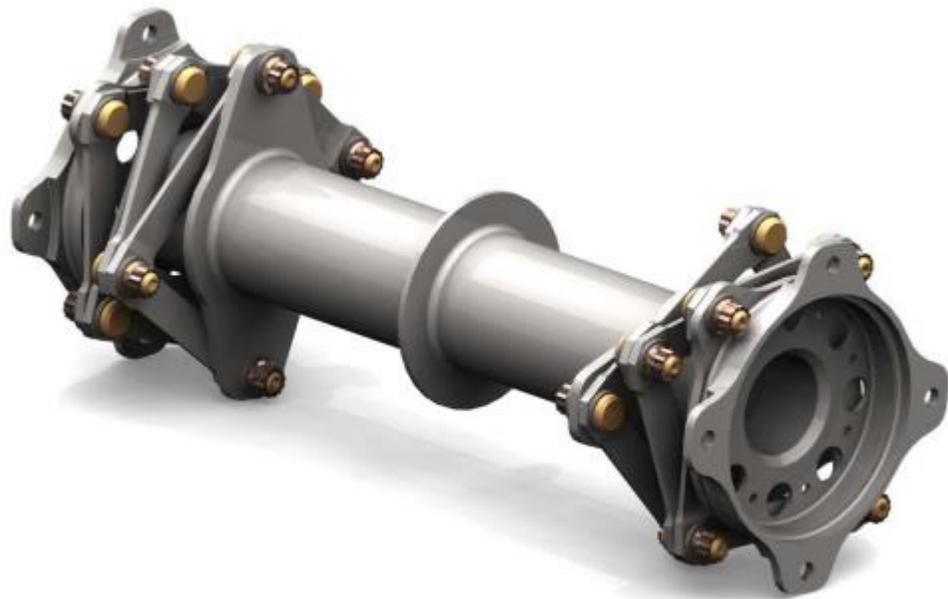




Service Instruction Number SIN2348 Revision M



Installation, Maintenance, and Repair of the KAflex®
Driveshaft for the Bell 206A and 206B Helicopter.



KAMATICS CORPORATION SERVICE INSTRUCTION NUMBER 2348

This Service Instruction consists of the following sections:

1. KAflex® Driveshaft Retrofit
2. KAflex Driveshaft Removal and Installation
3. KAflex Driveshaft Inspection
4. KAflex Driveshaft Maintenance
5. KAflex Driveshaft Repair
6. Supplemental Type Certificate
7. SKCP2782 Installation Drawing
8. Weight and Balance

The KAflex® Driveshaft Installation Kit in accordance with drawing SKCP2782 contains the following parts (please check parts before continuing):

1. KAflex Driveshaft P/N SKCP2348-101
2. Firewall Cover kit P/N SKCP1322-3
3. 12 MS20613-3C Universal Head CRES Rivets- 6 required
(Included in SKCP1322-3 Firewall Cover)
4. 2 MS20427M3 Flush Monel Rivet – 1 required
(Included in SKCP1322-3 Firewall Cover)
5. Certificate of Compliance
6. Kamatics Corporation Service Instruction Number 2348
7. Historical Service Record (in back pocket of Service Instruction)

The following tools will be required to complete Section 1 of this Service Instruction:

1. 3/32" or .093" drill bit
2. Electric or air drill motor
3. Rivet gun with 3/32" set
4. 0-100 in-lb torque wrench
5. Workaid, KAflex Frame Compressor P/N SKSP1321, SKSP1375 OR SKSP1404
6. Machine shop facilities if aircraft is equipped with a BHTI P/N 206-030-539-101 or -005 Lord (Barry) Transmission Isolation Mount

LOG OF REVISIONS TO KAMATICS CORPORATION
SERVICE INSTRUCTION NUMBER 2348

Revision	Reason	Prepared By
Basic	Preparation of basic manual	J. Miller
A	Added changes for Lord (Barry) Mount Modification.	J. Miller
B	Remove requirement for annual removal/inspection.	J. Miller
C	Change inspection intervals to agree with those of other nearby drivetrain components, added alternate work aid, correct callout for number of fasteners.	J. Miller
D	Changed firewall cover to have pre-drilled holes. Improved Instructions in general. Changed driveshaft dash number to -101. Added weight and balance section.	J. Parekh
E	Increased inspection interval from 4500 hours to 6000 hours.	J. Parekh
F	Added inertia kit SKCP3244 to be installed with riveted TRDS	J. Parekh
G	Added more caution and warning notes to emphasize daily, 100 hours and 1500 hour inspection and record in historical data card.	J. Parekh
H	Included .370" max. installation compression limit (install tool). Added Inspection Criteria for Compressor Stall/Surge and Pylon Whirl. Installation Drawing SKCP2782 now at Revision "F" (added corrosion protection coating note). Updated workaid illustrations	J. Parekh
J	Revised to account for possible change in OEM hardware due to EASA SIB No: 2012-06R2.	A. Zink
K	Additional revisions related to EASA SIB No: 2012-06R2. Kamatics-supplied MS21042 nuts removed from locations connecting the Kaflex driveshaft to the helicopter.	A. Zink
L	Revision L not adopted, move to Revision M Added updated SKCP3244 drawing Updated page 20 section 1b to send driveshaft shaft to Kamatics for evaluation if over torqued +120%	M. Ptak
M	<ol style="list-style-type: none"> 1. Updated branding logos 2. Page 5 inertia kit P/N was 3244, is SKCP3244 3. Page 5 rotor brake kit P/N was 2975, is SKCP2975 4. Updated revision block/footnote, was DER Approval is FAA Approval 5. Updated page 21 section 1b to send driveshaft shaft to Kamatics for evaluation if over torqued +120% instead of 100 hour inspection. 6. Added to Section 3 page 18 item 1b: or fretting dust which will show up as red metallic residue. Rotate the main rotor blades 360 degrees to have access for all bolted shaft connections. 7. Added to Section 3 page 19 item 1d: Rotate the main rotor blades 360 degrees to have access for all bolted shaft connections. 8. Page 22, item 5a: Replaced show with present, replaced became solid again with resolidified. 9. Page 22, items 6a and 6c: Removed "engine-to-transmission" 10. Page 25, note 6: removed 1122 and 196 touchups, replaced with touchups per SKSP1500-TOUCHUP 	B. Tyropolis

LOG OF REVISIONS TO KAMATICS CORPORATION
SERVICE INSTRUCTION NUMBER 2348

Revision Letter	Revision Date	Affected Pages			FAA Approval		Kamatiks Approval
		Section 1	Section 5	Sections 2,3,4,8	Section 1	Section 5	
Basic	10/05/1990				<i>[Signature]</i>		<i>JEMiller</i>
A	12/12/1991	1,9 & ff	19 & ff	14 & ff	<i>[Signature]</i>		<i>JEMiller</i>
B	03/09/1994			13	N/A	N/A	<i>JEMiller</i> 3/9/94
C	03/20/1996	1,9,10		14-20	<i>[Signature]</i>	N/A	<i>JEMiller</i> 4/18/96
D	11/26/1997	1-5,7-10,12,13	20,21,22	14-19			<i>JTS [Signature]</i> 12-2-97
E	09/15/1999	1,2,4,5,11	21,22	17-20			<i>JTS [Signature]</i> 9-2-99
F	05/02/2001	1-4,9-11		15,30	<i>[Signature]</i>	N/A	<i>JTS [Signature]</i> 5-2-2001
G	02/21/2005	2	22	16-20	<i>[Signature]</i>		<i>JTS [Signature]</i> 11-18-2004
H	07/15/2013	5,7	23,24	17,18	<i>[Signature]</i>		<i>JTS [Signature]</i> 1-4-2011
J	01/20/2015	10		16			<i>M. Leonard</i> 1-22-2015
K	03/30/2015	10		16			<i>M. Leonard</i> 3-31-2015
L	8/29/2022	10		20	REVISION NOT ADOPTED		<i>[Signature]</i> 8/30/22
M	1/8/2024			18, 21			<i>M. Leonard</i> 31 JAN. 2024

*Note: Only Sections 1 and 5 require FAA approval.

KAMATICS CORPORATION SERVICE INSTRUCTIONS

Subject: KAflex Main Driveshaft Retrofit in accordance with Supplemental Type Certification Number SH7767SW.

Installation Notes:

If riveted Tail Rotor Drive Shaft (TRDS), Bell part number:

206-040-383-101
206-040-383-105
206-040-387-103
206-040-387-105
206-040-387-107

is installed on the aircraft, Kamatics inertia kit P/N SKCP3244 is needed to complete the KAflex installation.

If rotor brake assembly, Bell part number:

206-706-034-3
206-706-034-7
206-706-034-101
206-706-034-103
206-706-034-105

is installed on the aircraft, Kamatics rotor brake kit P/N SKCP2975 is needed to complete the KAflex® installation.

Note

For KAflex inertia kit P/N SKCP3244 or rotor brake installation kit P/N SKCP2975, please contact Kamatics Corporation.

Purpose: This document provides instruction for retrofit of the SKCP2348-101 KAflex Driveshaft on the Bell 206A and 206B series helicopters. The SKCP2348-101 driveshaft is manufactured by Kamatics Corporation, Bloomfield, CT.

Additional copies of this document may be obtained by contacting:

Kamatics Corporation
1330 Blue Hills Ave.
Bloomfield, CT 06002
(860) 243-9704

SECTION 1 KAflex DRIVESHAFT RETROFIT

1. Preparation and General Notes

- a. Disconnect battery.
- b. Remove transmission fairing and open engine cowling to gain access to main driveshaft.

2. Removal of Driveshaft (Figure 1) P/N 206-040-100 or 206-040-015

- a. From right side of helicopter, remove two screws (Item 6) securing driveshaft cover (Item 8) and cone assembly (Item 18).
- b. Remove eleven screws (Item 14) securing driveshaft door (Item 5) to aft side of forward firewall (Item 15). Remove driveshaft door (Item 5) and gasket (Item 4) from aircraft.
- c. Remove four bolts (Item 3), eight washers (Item 2), and four nuts (Item 1) attaching forward driveshaft coupling to input adapter on transmission.
- d. Remove four bolts (Item 9), eight washers (Item 10) and four nuts (Item 11) attaching aft driveshaft coupling to freewheeling adapter flange.

CAUTION

Compress couplings with Kamatics installation tool (Figure 3) just enough to release them from mating adapter flange. If couplings are compressed beyond 0.370", damage to coupling may occur.

- e. Push aft on forward coupling to compress flex frames in couplings and obtain clearance between forward driveshaft coupling and input adapter flange. Move forward end of driveshaft outboard to clear input adapter flange. Move driveshaft assembly aft passing forward coupling through opening and remove from helicopter.

3. Firewall, Driveshaft Door Rework (Figures 1 and 2)

- a. Gain access to driveshaft door (Figure 2, Item 9)
- b. Remove both halves of cone assembly (Figure 1, Item 18)
- c. Remove driveshaft cover assembly (Figure 1, Items 8)

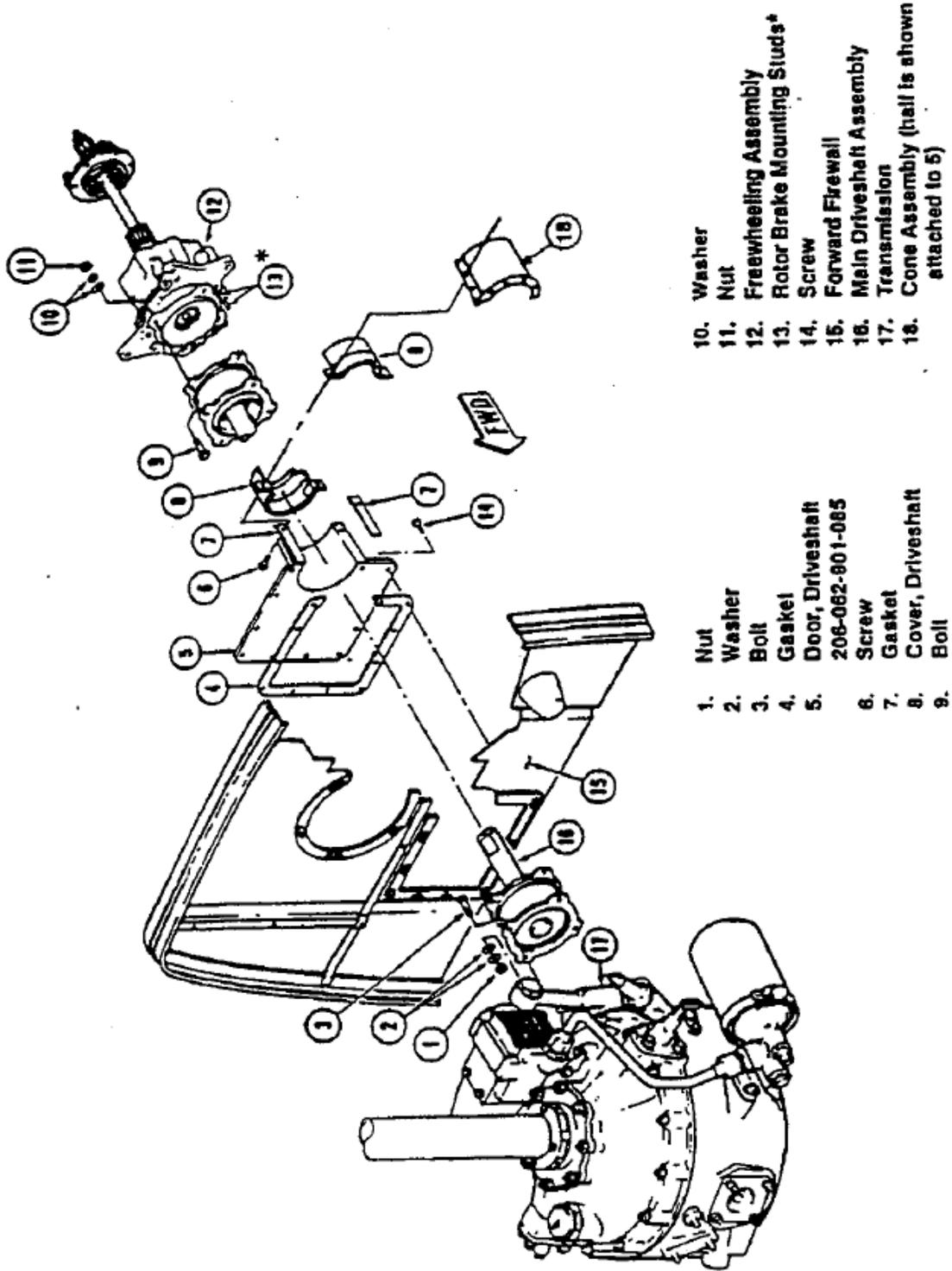


FIGURE 1: Existing Installation Main Driveshaft P/N 206-040-100-13

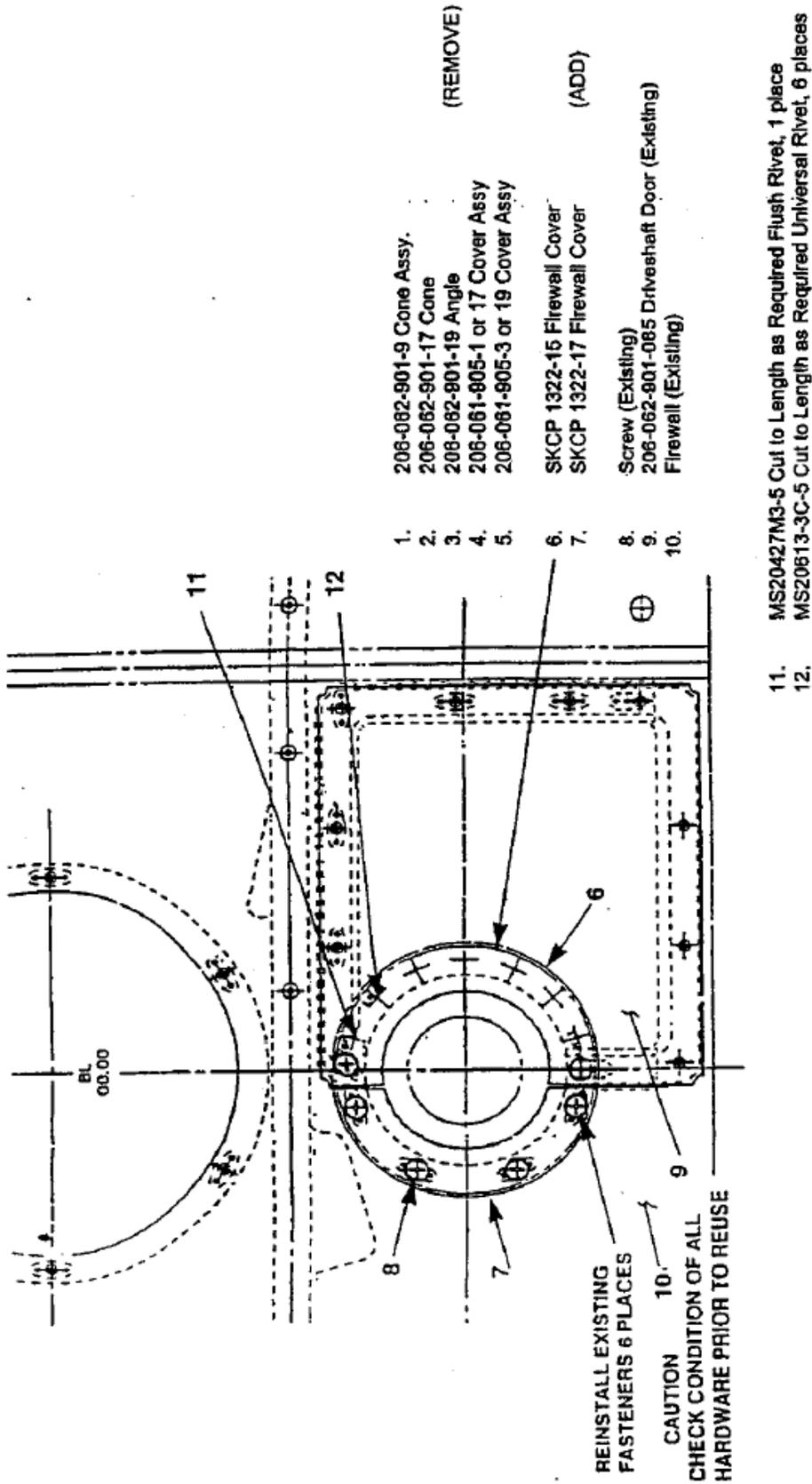


FIGURE 2: Looking FWD

3. Firewall, Driveshaft Door Rework (Continued)

- d. Remove cone (Figure 2, Item 2) and angle (Figure 2, Item 3) from driveshaft door.

CAUTION

Inspect driveshaft door for cracks, damage and corrosion (Figure 1, Item 5). If these conditions exist, replace driveshaft door before proceeding.

- e. Align firewall cover (Figure 2, Item 6) and secure with two screws (Figure 2, Item 8).

Note

Ensure firewall cover (Figure 2, Item 6) is installed on the aft side of the driveshaft door (Figure 2, Item 9) with the lip facing forward.

- f. Locate and mark seven rivet holes (Figure 2, Items 11 & 12) on driveshaft door (Figure 2, Item 9)
- g. Remove firewall cover (Figure 2, Item 6) from driveshaft door (Figure 2, Item 9), and drill firewall cover using a 3/32" or .093" drill.
- h. Dimple upper rivet hole (for rivet Figure 2, Item 11) to clear dimple on door. Rivet in this location must be flush to allow driveshaft door (Figure 2, Item 9) to fit flush on firewall (Figure 2, Item 10).
- i. Install firewall cover (Figure 2, Item 6) on driveshaft door (Figure 2, Item 9) and secure with two screws (Figure 2, Item 8).
- j. Cut six MS20613-3C (3/32 Univ. Head CRES) rivets (Figure 2, Item 12) to length, install and rivet firewall cover (Figure 2, Item 6) to driveshaft door (Figure 2, Item 9). Do not install these rivets in top dimpled rivet hole.
- k. Cut one MS20427M3 (3/32 flush Monel) rivet (Figure 2, Item 11) to length, install in dimpled hole and rivet firewall cover (Figure 2, Item 6) to driveshaft door (Figure 2, Item 9).

4. Modification to Lord (Barry) Transmission Isolation Mount,
P/N 206-030-539-101 or -005

Note

Modification is necessary only with the Lord (Barry) Transmission Isolation Mount BHTI P/N 206-030-539-101 or -005, the mount with aluminum cover plates. The Lord Transmission Isolation Mount, BHTI P/N 206-030-539-003 with black elastometric cover, has additional clearance and modification is not necessary. Since Barry has merged with Lord, the transmission isolation mounts with aluminum covers may have “Lord” name plate on them. Older mounts may still have “Barry” name plate on them.

- a. Remove the transmission mount per BHTI service instructions.
- b. Modify the Lord (Barry) Isolation Mount in accordance with SKCP2782 Sheet 3, Section 7.
- c. Reinstall the mount according to the BHTI Maintenance Manual.

Note

Do not use unauthorized shims, adhesives or sealants between the Lord (Barry) Mount and the cabin roof. Refer to BHTI Technical Bulletin 206-77-14 if interference exists between the Lord (Barry) Mount and roof top rivets.

5. KAflex Driveshaft Installation (Figures 3 and 4)

Note

Inspect KAflex Driveshaft in accordance with Section 3, “KAflex Driveshaft Inspection” and Section 5, “Repair of KAflex Driveshaft” before proceeding with the installation.

- a. Install Workaid on KAflex Driveshaft by installing Workaid collars over driveshaft and attach tightening screws with nuts (Figure 3). Compress forward frames. Position lugs of the two tightening screws over nut attaching end fitting to flex frame of KAflex Driveshaft (Figure 3). The KAflex Driveshaft will be installed with the serial number aft to facilitate future maintenance and inspections. Orientation does not affect function of the KAflex Driveshaft.

CAUTION

If the lugs of the tightening screws are installed over the nut attaching flex frame to flex frame, the flex frames can be over compressed and the flex frames are likely to be damaged.

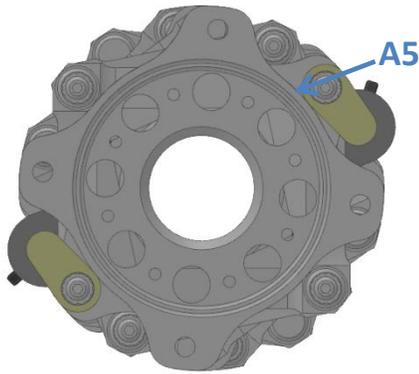
5. KAflex Driveshaft Installation (continued)

- b. Compress KAflex Flex frames approximately ¼” by tightening the workaid nuts.
- c. Install KAflex Driveshaft in the aircraft with serial number facing aft.
- d. Loosen workaid nuts and allow KAflex Driveshaft to extend, aligning pilots on KAflex Driveshaft to Quill Adapter and Freewheeling Adapter. Remove workaid.
- e. Install four bolts (Figure 4, Item 3) at the forward portion of the KAflex Driveshaft, ensuring bolt heads face aft. Do not put washers under bolt heads.
- f. Install eight washers (Figure 4, Item 2), and four nuts (Figure 4, Item 1) on the four bolts. Do not put washers under bolt heads.
- g. Install four bolts (figure 4, Item 9) at the aft portion of the KAflex Driveshaft, ensuring bolt heads face forward. Do not put washers under bolt heads.
- h. Install eight washers (Figure 4, Item 10), and four nuts (Figure 4, Item 11) on the four bolts. Do not put washers under bolt heads.

Note

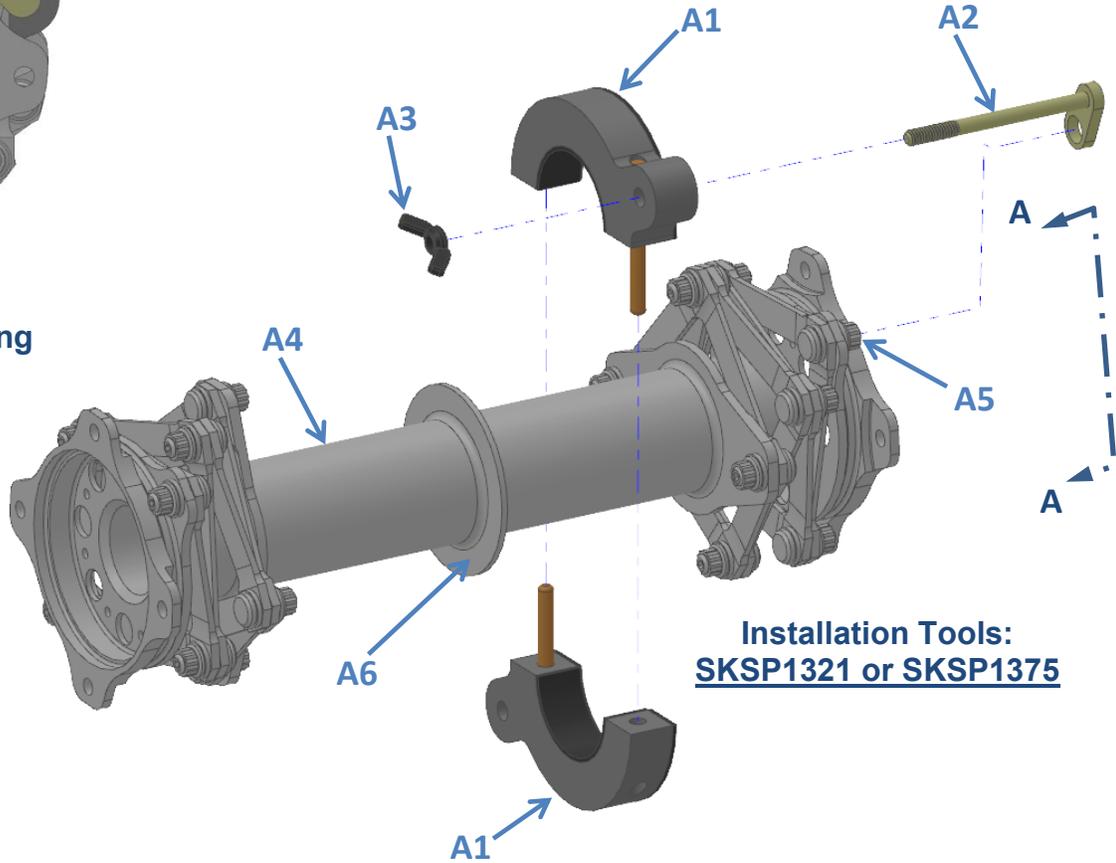
If a riveted TRDS is installed in the aircraft, an inertia kit SKCP3244 is required with this KAflex Driveshaft (see Section 1, Page 4). In that case use the hardware (bolts, nuts, washers) supplied with the inertia kit for the aft portion of the driveshaft. Install the inertia kit as shown on the drawing SKCP3244 enclosed in Section 7.

- i. Torque four nuts (Figure 4, Item 11) in accordance with OEM installation instructions, ensuring pilot is engaged and KAflex Driveshaft end fitting flanges are flat against the freewheeling adapter.
- j. Apply torque stripes to 4 aft KAflex mounting bolts and nuts.
- k. Torque four nuts at the forward portion of the KAflex Driveshaft (Figure 4, Item 1) in accordance with OEM installation instructions, ensuring pilot is engaged and KAflex Driveshaft end fitting flanges are flat against the Quill Adapter.
- l. Apply torque stripes to 4 forward KAflex mounting bolts and nuts.



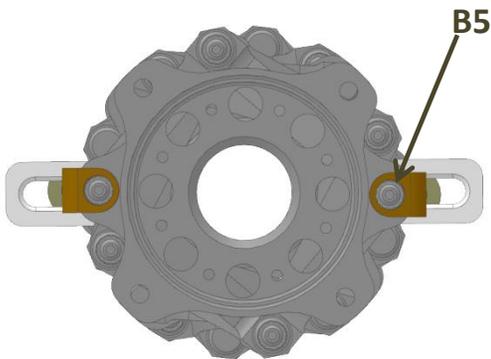
(View A-A)
Driveshaft Aft Fitting, Looking Forward, Main Driveshaft

- A1. Workaid Collars
- A2. Workaid Brackets (2PL)
- A3. Wing Nut
- A4. KAflex Driveshaft
- A5. Flex Frame Nut
- A6. Serial Number

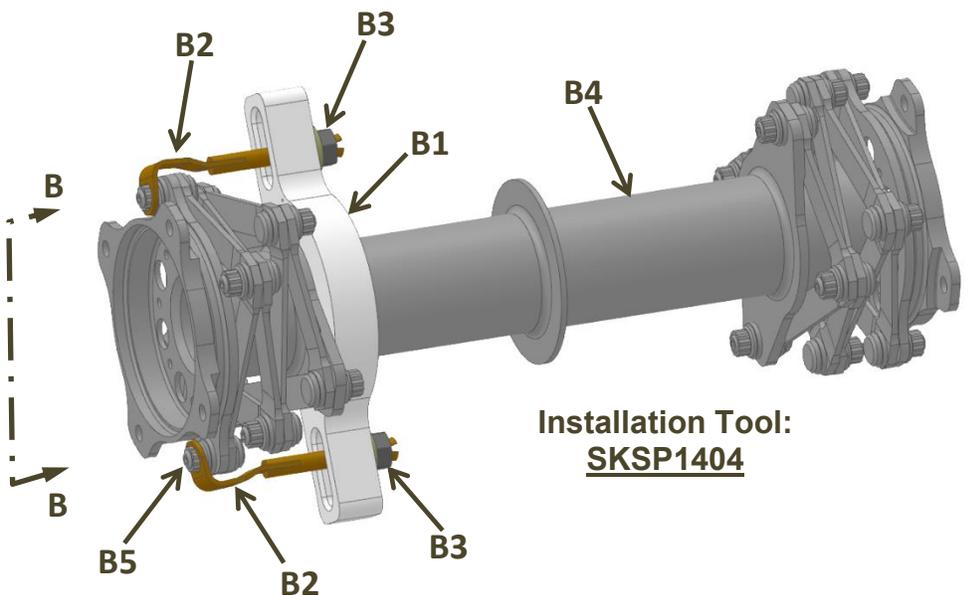


Installation Tools:
SKSP1321 or SKSP1375

- B1. Yoke
- B2. Foot Brackets (2PL)
- B3. Hex Nut (2PL)
- B4. KAflex Driveshaft
- B5. Flex Frame Nut

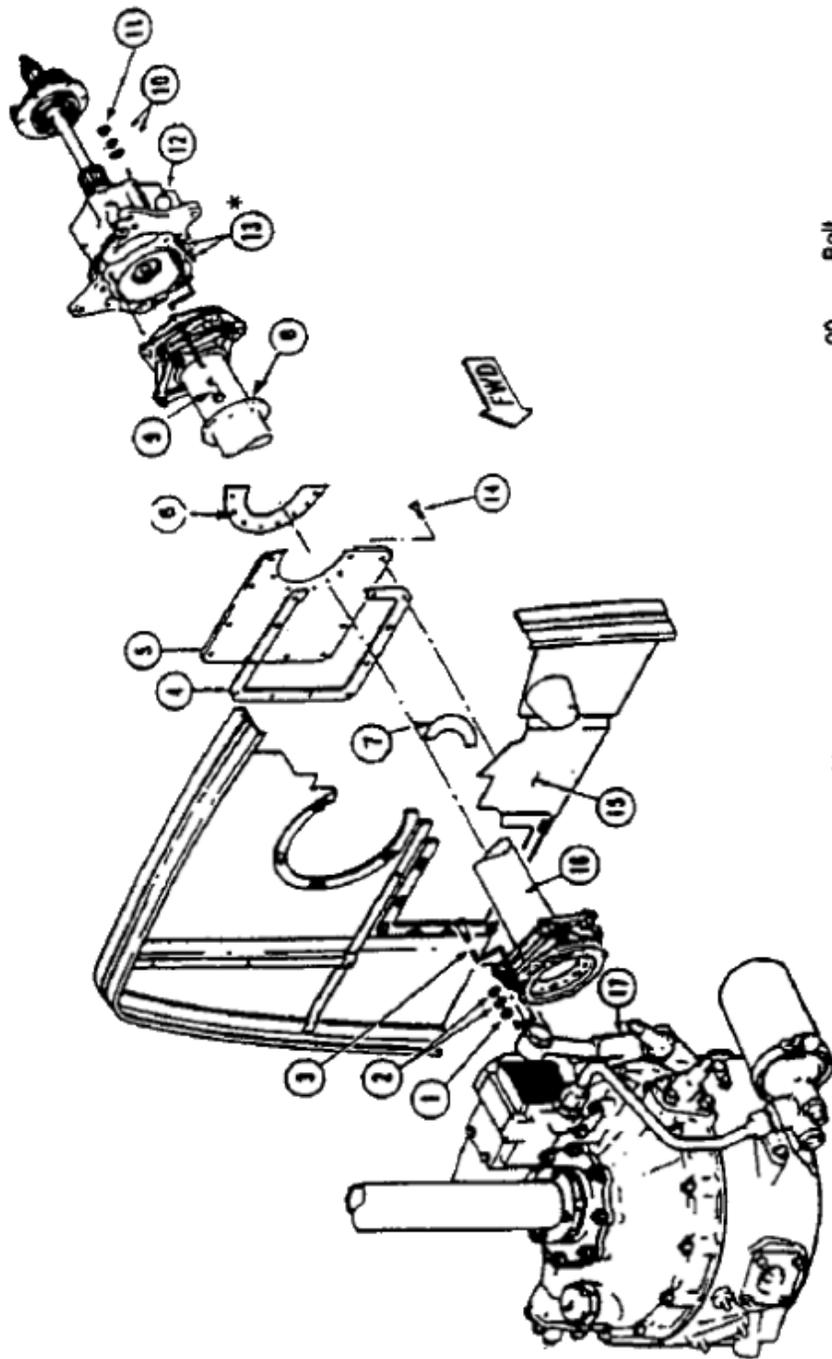


(View B-B)
Driveshaft Forward Fitting, Looking Aft, Main Driveshaft



Installation Tool:
SKSP1404

FIGURE 3: Installation of Workaid
(Installation Tool SKSP1321, SKSP1375 or SKSP1404)



- 09. Bolt
- 10. Washer
- 11. Nut
- 12. Freewheeling Clutch Assembly
- 13. Rotor Brake Mounting Studs
- 14. Screw
- 15. Forward Firewall
- 16. KAFlex Driveshaft

- 1. Nut
- 2. Washer
- 3. Bolt
- 4. Gasket
- 5. Door, Driveshaft
- 6. Firewall Cover SKCP 1322-15
- 7. Firewall Cover SKCP 1322-17
- 8. Serial Number

FIGURE 4: KAFlex Driveshaft Installation

6. Driveshaft Door Installation (Figure 4)

- a. Install firewall cover (Figure 2, Item 7) using 4 screws (Figure 2, Item 8).
- b. Install driveshaft door (Figure 2, Item 5) and gasket, (Figure 2, Item 4) using 11 screws (Figure 2, Item 8) and remaining 2 screws (Figure 2, Item 8).
- c. **Turn KAFlex® Driveshaft by hand to ensure proper operation and clearance. Check clearance between the driveshaft and firewall covers (Figure 2, Items 6 & 7) at four positions, 3 o'clock, 6 o'clock, 9 o'clock and 12 o'clock. Minimum clearance must be 0.450".** If the clearance is less than 0.450", it can be adjusted by loosening 4 screws (Figure 2, Item 8) and sliding firewall cover (Item 7) or by loosening 11 screws (Item 14) and sliding driveshaft door (Item 5) within the clearance of the screw hole and then re-tightening the screws.

CAUTION

Ensure aircraft rotors are free to turn, and will not strike any surface.

- d. Carefully check all electrical lines, fuel lines, hydraulic lines, and bleed air lines for interference or looseness. Route and secure all lines in accordance with AC43.13-1A chapters 10 & 11.
- e. Close engine cowling and install transmission fairing.
- f. Connect battery.
- g. Ground run aircraft.
- h. Complete Historical Service Record, and applicable logbook entries. It should be updated and all the required entries made, any time a service or inspection is performed on the driveshaft.

SECTION 2

KAflex DRIVESHAFT REMOVAL AND INSTALLATION

1. KAflex Driveshaft Removal (Figure 4)
 - a. Disconnect battery.
 - b. Remove transmission fairing and open engine cowling to gain access to KAflex Driveshaft.
 - c. From right side of the helicopter, remove 15 screws (Figure 4, Item 14) securing firewall cover (Figure 2, Item 7), and driveshaft door (Figure 2, Item 9) to firewall. Remove firewall cover (Figure 4, Item 7) driveshaft door (Figure 4, Item 5), and gasket (Figure 4, Item 4) from aircraft.
 - d. Remove 4 nuts (Figure 4, Item 1), 8 washers (Figure 4, Item 2) and 4 bolts (Figure 4, Item 3) securing the forward portion of the KAflex Driveshaft.
 - e. Remove 4 nuts (Figure 4, Item 11), 8 washers (Figure 4, Item 10), and 4 bolts (Figure 4, Item 9) securing the aft portion of the KAflex Driveshaft.
 - f. Install workaid per Figure 3 on KAflex Driveshaft by installing workaid collars over driveshaft and attach tightening screws with nuts. Compress forward frames. Position lugs of the two tightening screws over nut attaching end fitting to the flex frame at aft end of KAflex Driveshaft. The KAflex Driveshaft will be reinstalled with the serial number aft to facilitate future maintenance and inspections. Orientation does not affect function of the KAflex Driveshaft.
 - g. Compress KAflex Flex Frames by tightening the workaid nuts approximately $\frac{1}{4}$ ".
 - h. Remove KAflex Driveshaft from aircraft.

2. KAflex Driveshaft Installation (Figure 4)

- a. Install workaid per Figure 3 on KAflex Driveshaft by installing workaid collar(s) over driveshaft and attach tightening screws with nuts. Position lugs of the two tightening screws over nut attaching end fitting to flex frame of KAflex Driveshaft (Figure 3). The KAflex Driveshaft will be installed with the serial number aft to facilitate future maintenance and inspections. Orientation does not affect function of the KAflex Driveshaft.

CAUTION

If the lugs on the tightening screws are installed incorrectly over the nut attaching flex frame to flex frame, the flex frames can be over compressed and the flex frames are likely to be damaged.

- b. Compress KAflex Flex frames approximately ¼” by tightening the workaid nuts.
- c. Install KAflex Driveshaft in the aircraft with serial number facing aft.
- d. Loosen workaid nuts and allow KAflex Driveshaft to extend, aligning pilots on KAflex Driveshaft to Quill Adapter, and Freewheeling Adapter. Remove workaid.
- e. Install four bolts (Figure 4, Item 3) at the forward portion of the KAflex Driveshaft, ensuring bolt heads face aft. Do not put washers under bolt heads.
- f. Install eight washers (Figure 4, Item 2), and four nuts (Figure 4, Item 1) on the four bolts. Do not put washers under bolt heads.
- g. Install four bolts (Figure 4, Item 9) at the aft portion of the KAflex Driveshaft, ensuring bolt heads face forward. Do not put washers under bolt heads.
- h. Install eight washers (Figure 4, Item 10) and four nuts (Figure 4, Item 11) on the four bolts. Do not put washers under bolt heads.

Note

If a riveted TRDS is installed in the aircraft, an inertia kit SKCP3244 is required with this KAflex Driveshaft (see Section 1, Page 4). In that case use the hardware (bolts, nuts, washers) supplied with the inertia kit for the aft portion of the driveshaft. Install the inertia kit as shown on the drawing SKCP3244 enclosed in Section 7.

- a. Torque four nuts (Figure 4, Item 11) in accordance with OEM installation instructions, ensuring pilot is engaged and KAflex Driveshaft end fitting flanges are flat against the Freewheeling Adapter.
 - b. Apply torque stripes to 4 aft KAflex mounting bolts and nuts.
 - c. Torque four nuts at the forward portion of the KAflex Driveshaft (Figure 4, Item 1) in accordance with OEM installation instructions, ensuring pilot is engaged and KAflex Driveshaft end fitting flanges are flat against the Quill Adapter.
 - d. Apply torque stripes to 4 forward KAflex mounting bolts and nuts.
3. Driveshaft Door Installation (Figure 4)
- a. Install firewall cover (Figure 4, Item 7) using 4 screws (Figure 4, Item 8).
 - b. Install driveshaft door (Figure 4, Item 5) and gasket (Figure 4, Item 4) using 11 screws (Figure 4, Item 8)
 - c. **Turn KAflex Driveshaft by hand to ensure proper operation and clearance. Check clearance between the driveshaft and firewall covers (Figure 2, Items 6 & 7) at four positions, 3 o'clock, 6 o'clock, 9 o'clock and 12 o'clock. Minimum clearance must be 0.450".** If the clearance is less than 0.450", it can be adjusted by loosening 4 screws (Figure 2, Item 8) and sliding firewall cover (Figure 4, Item 7) or by loosening 11 screws (Figure 4, Item 14) and sliding driveshaft door (Figure 4, Item 5) within the clearance of the screw hole and then re-tightening the screws.

CAUTION

Ensure aircraft rotors are free to turn, and will not strike any surface.

- d. Carefully check all electrical lines, fuel lines, hydraulic lines, and bleed air lines for interference or looseness. Route and secure all lines in accordance with AC43.13 – 1A chapters 10 & 11.
- e. Close engine cowling and install transmission fairing.
- f. Connect battery.
- g. Ground run aircraft.
- h. Complete Historical Service Record, and applicable logbook entries. It should be updated and all the required entries made any time a service or inspection is performed on the driveshaft.

SECTION 3
INSPECTION OF KAflex DRIVESHAFT

1. Inspection

DAILY INSPECTION
BEFORE FIRST FLIGHT OF THE DAY

1. Check general condition of KAflex Driveshaft.
 - a. Check for loose and missing hardware (bolts, nuts, washers). If loose or missing hardware is found, return driveshaft to **Kamatics Corporation, 1330 Blue Hills Ave., Bloomfield, CT 06002**. Include description of reason for return and copy of historical record card with driveshaft.
 - b. Inspect flex frame and mount bolt torque stripes for evidence of slippage or fretting dust which will show up as red metallic residue. Rotate the main rotor blades 360 degrees to have access for all bolted shaft connections.

WARNING

DO NOT disturb or tighten flex frame nuts or bolts. Evidence of turning fasteners by wrench or other means is cause for rejection.

100 HOUR INSPECTION

1. Check general condition of KAflex Driveshaft.
 - a. Check for loose and missing hardware (bolts, nuts, washers). If loose or missing hardware is found, return driveshaft to Kamatics Corporation. Include description of reason for return and copy of historical record card with driveshaft.
 - b. Inspect flex frame and mount bolt torque stripes (red) for evidence of slippage or fretting.
If the torque stripes have faded, touch up using F-925 "Skydrol" resistant seal or equivalent available from Organic Products Co. at (972) 438-7321. If the torque stripes are yellow, contact Henkel North America.
<http://www.henkelna.com> to obtain a touch up kit (Loctite E-20HP Hysol Epoxy Adhesive, Fast Setting).

WARNING

DO NOT disturb or tighten flex frame nuts or bolts. Evidence of turning fasteners by wrench or other means is cause for rejection.

100 HOUR INSPECTION (continued)

- c. Inspect KAflex Driveshaft for damage and corrosion. Refer to Figure 5 for damage and repair limits.
- d. Inspect KAflex Driveshaft flex frame joints for fretting dust which will show up as red metallic residue. Rotate the main rotor blades 360 degrees to have access for all bolted shaft connections. If grease, oil or dirt is covering suspected area, or any doubt exists as to whether actual fretting has occurred, clean suspected areas thoroughly and recheck in conjunction with next daily inspection.

If fretting is apparent, return Driveshaft to Kamatics Corporation. Include description of reason for return and copy of historical record card with the driveshaft.

- e. Inspect KAflex Driveshaft for sign of contact, rubbing, and/or chafing.

OUT OF AIRCRAFT INSPECTION

Note

This inspection is to be done at 1500 hour intervals (coinciding with removal and inspection of freewheeling clutch). This inspection reads like the 100 hour inspection, but will be more comprehensive with the driveshaft out of the aircraft.

1. Check general condition of KAflex Driveshaft.
 - a. Check for broken, loose, or missing hardware (bolts, nuts, washers). If loose or missing hardware is found, return driveshaft to Kamatics Corporation. Include description of reason for return and copy of historical record card with the driveshaft.
 - b. Inspect flex frame bolt torque stripes for evidence of slippage. If the torque stripes have faded, touch up using F-925 "Skydrol" resistant seal or equivalent available from Organic Products Co at (972) 438-7321. If the torque stripes are yellow, contact Henkel North America. <http://www.henkelna.com> to obtain a touch up kit (Loctite E-20HP Hysol Epoxy Adhesive, Fast Setting).

WARNING

DO NOT disturb or tighten flex frame nuts or bolts. Evidence of turning fasteners by wrench or other means is cause for rejection.

OUT OF AIRCRAFT INSPECTION (continued)

- c. Inspect KAflex Driveshaft for damage and corrosion. Refer to Figure 5 for damage and repair limits.
- d. Inspect KAflex Driveshaft flex frame joints for fretting dust. This will show up as red metallic residue. If grease, oil or dirt is covering a suspected area, or any doubt exists as to whether actual fretting has occurred, clean suspected areas thoroughly and recheck.

If fretting is apparent, return driveshaft to Kamatics Corporation. Include description of reason for return and copy of historical record card with the driveshaft.

- e. Inspect KAflex Driveshaft for sign of contact, rubbing, and/or chafing.
- f. Enter the 1500 hour inspection record in the historical data card enclosed with this service manual.

6,000 HOUR INSPECTION

- 1. Remove KAflex Driveshaft for factory inspection. Return to Kamatics Corporation. Include description of reason for return and copy of historical log with driveshaft.

WARNING

Package driveshaft carefully to ensure safe arrival at Kamatics Corporation

- 2. Assuming driveshaft is returned to the user for further service, inspections between 6,000 and 12,000 hours or multiples thereof will be the same as between new and 6,000 hours.

2. KAflex Driveshaft Conditional Inspection

Note

The following inspections detail special inspection instructions applicable to KAflex Driveshaft. Refer to appropriate Bell and Allison maintenance manuals for airframe and engine special inspection instructions.

1. Overtorque

- a. 110-120% overtorque, perform a daily inspection on KAflex Driveshaft.
- b. 120+% overtorque, send to Kamatics for engineering evaluation.

2. Overspeed

- a. 114+% overspeed, no KAflex Driveshaft inspection necessary.

3. Sudden Stoppage

- a. Perform a 100 hour inspection on the KAflex Driveshaft. Inspect freewheeling clutch assembly for evidence of overtorque. If clutch sprags are chipped or broken, if there is evidence of static brinelling of clutch races or other evidence of torsional overload, return driveshaft to Kamatics Corporation with information described in the Section on 6,000 hour inspection.

4. Hard Landing

- a. If any of the following components do not pass their respective inspection criteria as detailed in chapter 5, "Inspections" of the Bell 206A/B Maintenance Manual, the KAflex Driveshaft must be returned to Kamatics as described in the Section of this manual on inspection after 6,000 hours:
 - i. Main Rotor Hub
 - ii. Main Rotor Mast
 - iii. Main Transmission, Main Transmission Mounts, Drag Pin, Drag Plate
 - iv. Freewheeling Clutch Assembly
 - v. Engine or Engine Mounts
- b. Even if none of the items in Item 'a' above show the effects of the hard landing, perform a 100 hour inspection on the KAflex Driveshaft, and inspect the top of the isolation mount (P/N 206-030-539-003, -101 or -005) if installed. If contact has occurred, refer to Section 5.

5. After Lightning Strike

- a. Lightning damage can present as burn marks, heat discoloration, arc marks, or as small weld marks (where the metal has melted and resolidified).
- b. If evidence of lightning damage is found on the driveshaft as described in Item 'a' above, attach a tag to the driveshaft and write, "THIS DRIVESHAFT WAS REMOVED FROM SERVICE BECAUSE OF A LIGHTNING STRIKE". Return the driveshaft to Kamatics Corporation for evaluation.

6. Compressor Stall/Surge

- a. Remove and examine the driveshaft for condition.
- b. If any damage suspected to be related to the compressor stall or surge is found, make an entry on the Historical Service Record, and attach a tag on the driveshaft and write "THIS COMPONENT WAS REMOVED FROM SERVICE BECAUSE OF A COMPRESSOR STALL/SURGE". Return the driveshaft to Kamatics Corporation for factory inspection.
- c. If no defects were detected, return the driveshaft to service.

7. Pylon Whirl

- a. Pylon Whirl is an elliptical motion of the pylon which occurs after blade flapping and mast bumping. Pylon Whirl inspection will follow the following conditions:
 - i. An abnormal landing
 - ii. Excessive slope landing
 - iii. Helicopter was operated in severe turbulence
 - iv. Low rotor RPM during flight
 - v. Application of extreme and rapid cyclic control input
 - vi. Main Driveshaft Coupling has contacted the Isolation Mount
- b. Examine Isolation Mount for damage caused by contact from Main Driveshaft.
- c. If the Isolation Mount is damaged, follow Repair Instructions in Section 5 (Repair of KAflex Driveshaft), Note 8.

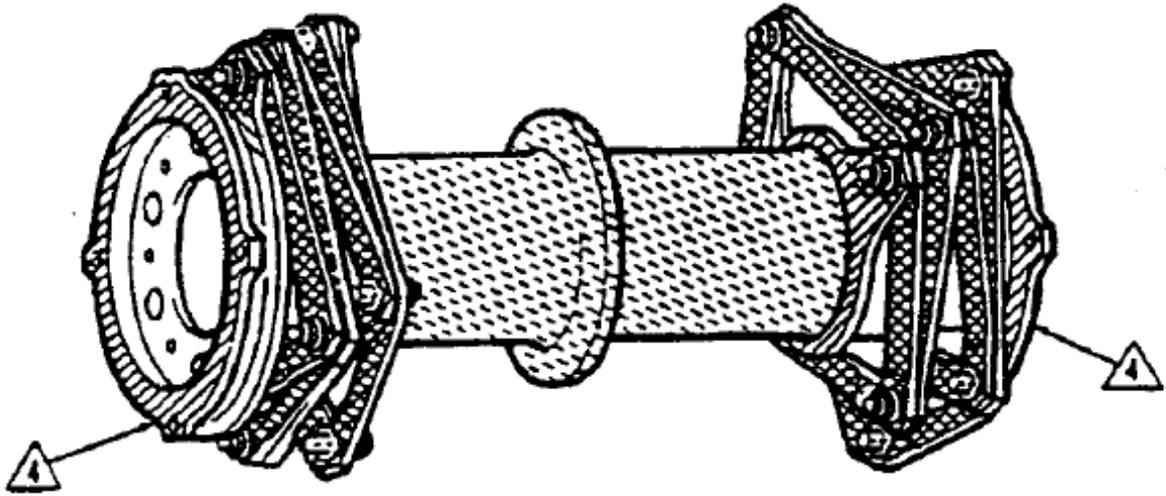
SECTION 4
MAINTENANCE OF KAflex DRIVESHAFT

1. There is no periodic maintenance requirement for the KAflex Driveshaft.
2. The following maintenance practices will be incorporated as follows:
 - a. The KAflex Driveshaft is not field overhauled. The KAflex Driveshaft can only be disassembled for inspections at Kamatics Corporation.
 - b. Any time the KAflex Driveshaft is transferred from one aircraft to another, the KAflex Driveshaft does not require a complete disassembly and inspection. The KAflex Driveshaft does require a 100 hour inspection at this time, and then at each aircraft 100 hour inspection.
 - c. The KAflex Driveshaft is to be removed at 6,000 hours and sent to Kamatics Corporation for complete factory inspection and overhaul as required. The KAflex Driveshaft is not field overhauled.

Refer to the Section on 6,000 hour inspection for return instructions.

SECTION 5
REPAIR OF KAflex DRIVESHAFT

1. Refer to Figure 5 for repair criteria. All blends shall be smooth at maximum depth and smoothly blended with surrounding surfaces.
2. The KAflex Driveshaft is not field overhauled. The KAflex Driveshaft can only be disassembled for inspection at Kamatics Corporation.
3. The KAflex Driveshaft is to be removed at 6,000 hours and sent to Kamatics Corporation for complete factory overhaul and inspection as required.



DAMAGE LOCATION SYMBOLS

Type of Damage	Maximum Damage and Repair Depth			
				
MECHANICAL	0.001" before and after repair	0.005" before and after repair	0.005" before and after repair	0.015" before and after repair
CORROSION	Surface, no pits	0.005" before and after repair	0.005" before and after repair	0.010" before and after repair
MAXIMUM AREA PER FULL DEPTH REPAIR	0.05 in ²	0.10 in ²	0.25 in ²	0.25 in ²
NUMBER OF REPAIRS	One per leg			
EDGE DENTS, NICKS	0.001 in	0.010 in	0.010 in	0.025 in

FIGURE 5: Damage Limits – KAFlex Driveshaft

NOTES:

1. No cracks are permitted
2. Repairs must be no less than 1.000 inch apart.
3. Repairs not to be within 0.500 inches of bolt hole.
4. Faying surfaces must be free of any raised metal areas.
5. All repairs to be smooth at maximum depth and smoothly blended with surrounding surface.
6. Exposed bare metal may be touched up with products defined in drawing SKSP1500-TOUCHUP or Zinc Chromate, primer color T, even though it does not blend cosmetically with Sermetel coating, can be used if Sermetel touch-up products are unavailable.
7. Sides and corners of flex frames are to be treated as  areas.
8. If damage results from contact with transmission isolation mount, proceed as follows:
 - a. If contact with Lord (Barry) mount (P/N 206-030-539-303) occurs, return driveshaft to Kamatics for evaluation.
 - b. If contact with Lord (Barry) mount (P/N 206-030-539-101 or -005) occurs during unusual and severe condition and depth of damage to top cover does not exceed .025", lightly stone smeared aluminum/ceramic coating on corners of flex frames, end fittings and interconnect ears to remove raised material and sharp edges. Restore coating per Note 6 as necessary. If damage to top cover exceeds .025", return driveshaft to Kamatics for evaluation.
9. If damage exceeds limit specified in this section, return driveshaft to Kamatics Corporation. Include description of reason for return and copy of Historical Record Card with the driveshaft.

SECTION 6
TYPE CERTIFICATE

Following is a copy of:

1. FAA Supplemental Type Certificate Number SH7767SW
2. EASA Supplemental Type Certificate 10052951.

United States Of America
Department of Transportation - Federal Aviation Administration
Supplemental Type Certificate

Number SH7767SW

This Certificate issued to Kamatics Corporation
1330 Blue Hill Avenue
Bloomfield, Connecticut 06002

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 6 of the Civil Air Regulations.

Original Product Type Certificate Number : H2SW
Make : Bell
Model : 206A, 206A-1, 206B, 206B-1

Description of Type Design Change:

Installation of a Kamatics Kaflex Drive Shaft Assembly in accordance with Kamatics Corporation Dwg. SKCP 2782, Revision A, dated March 30, 1990, or later FAA-approved revision.

For Bell aircraft incorporating the tail rotor drive shafts identified below, a Kamatics Kaflex Inertia Kit, Dwg. SKCP 3244, original, dated May 5, 2001, or later FAA-approved revisions, must be installed.

Limitations and Conditions:

1. Bell 206 aircraft with Tail Rotor Drive Shaft Part Numbers 206-040-383-101, 206-040-383-105, 206-040-387-103, 206-040-387-105 and 206-040-387-107 must have the Kamatics Kaflex Inertia Kit, Dwg. SKCP 3244 installed.
2. Compatibility of this modification with previously installed equipment must be determined by the installer.

The STC holder will provide each person it permits to use this certificate to alter the product written evidence of the agreement in a form acceptable to the Administrator.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application : September 12, 1988

Date reissued : June 11, 1990

Date of issuance : May 4, 1990

Date amended : June 1, 2001



By direction of the Administrator

Robert G. Mann Jr.
(Signature)

Robert G. Mann
Manager
Boston Aircraft Certification Office

(Title)



SUPPLEMENTAL TYPE CERTIFICATE

10052951

This Supplemental Type Certificate is issued by EASA, acting in accordance with Regulation (EC) No. 216/2008 on behalf of the European Community, its Member States and of the European third countries that participate in the activities of EASA under Article 66 of that Regulation and in accordance with Commission Regulation (EU) No. 748/2012 to

KAMATICS CORPORATION

1330 BLUE HILLS AVENUE
BLOOMFIELD 06002
USA

and certifies that the change in the type design for the product listed below with the limitations and conditions specified meets the applicable Type Certification Basis and environmental protection requirements when operated within the conditions and limitations specified below:

Original Type Certificate Number : EASA.IM.R.512
Type Certificate Holder : BELL HELICOPTER TEXTRON CANADA
Type Design - Model : 206A, 206B
Original STC Number : FAA STC SH7767SW

Description of Design Change:

Installation of KAMATICS Kaflex Main Rotor Driveshaft Kit in accordance with drawing SKCP2782

EASA Certification Basis:

The Certification Basis (CB) for the original product remains applicable to this certificate/ approval. The requirements for environmental protection and the associated certified noise and/ or emissions levels of the original product are unchanged and remain applicable to this certificate/ approval

See Continuation Sheet(s)

For the European Aviation Safety Agency,

Date of issue: 14 April 2015



Massimo MAZZOLETTI
Head of Rotorcraft Department

Note:
The following numbers are listed on the certificate:
EASA current Project Number: 0010034301-001

SUPPLEMENTAL TYPE CERTIFICATE - 10052951 - KAMATICS CORPORATION

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Associated Technical Documentation:

Flight Manual Supplement for Bell 206A/206B Kaflex Main Rotor Driveshaft Installation, Revision N/C, dated June 28, 2006

or later revisions of the above listed documents approved by EASA in accordance with EASA ED Decision 2004/04/CF (or subsequent revisions of this decision)^a and/ or the Technical Implementation Procedures of EU/ USA Bilateral Agreement.

Service Instruction Number SIN2348 Revision K
Installation Drawing SKCP2782 Revision F
Installation Drawing SKCP3244 Revision C

Limitations/Conditions:

Bell 206 rotorcraft with tail rotor drive shaft part numbers 206-040-383-101, 206-040-383-105, 206-040-387-103, 206-040-387-105 and 206-040-387-107 must have the Kamatics Kaflex Inertia Kit, drawing SKCP3244 Revision C or later, installed.

Prior to installation of this design change it must be determined that the interrelationship between this design change and any other previously installed design change and/ or repair will introduce no adverse effect upon the airworthiness of the product.

- end -

Note:

The following numbers are listed on the certificate:
EASA current Project Number: 0010034301-001

SUPPLEMENTAL TYPE CERTIFICATE - 10052951 - KAMATICS CORPORATION

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SECTION 7
INSTALLATION DRAWING

Following are copies of the installation drawing in the STC 7767SW:

SKCP2782 SH 1, 2, 3

SKCP3244 SH 1

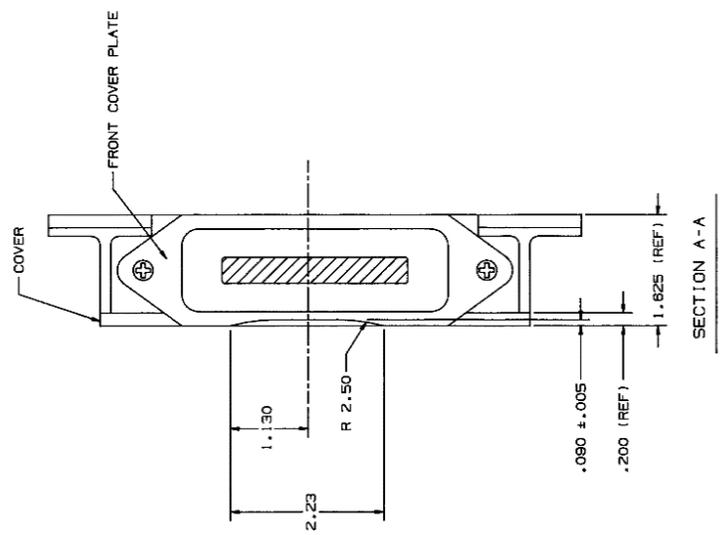
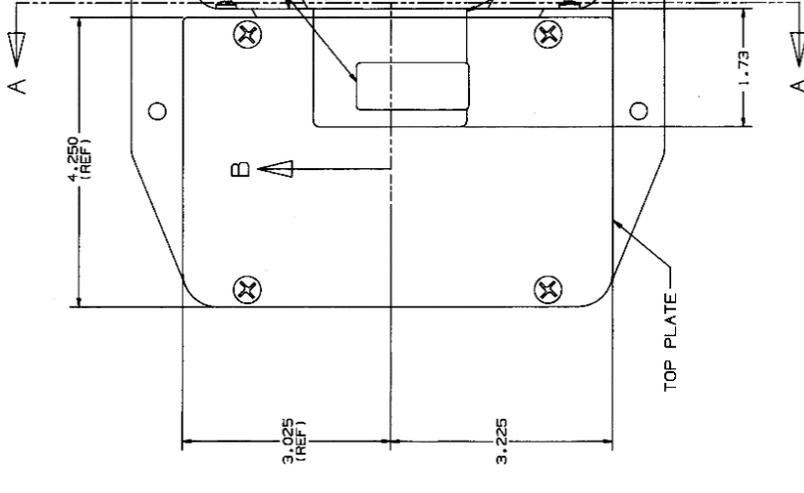
SPECIAL PROPRIETARY NOTICE

INFORMATION CONTAINED HEREIN IS CONSIDERED PROPRIETARY TO LORD BARRY HELICOPTER DIVISION, LORD BARRY HELICOPTERS, INC. INFORMATION CONTAINED HEREIN IS GRANTED OR CONSIDERED FOR ANY SPECIAL AGREEMENT WITH KAMATICS.

DATE 25 JANUARY 1986.



SECTION B-B



SECTION A-A

NOTICE OF PROPRIETARY RIGHTS

INFORMATION CONTAINED HEREIN IS THE PROPERTY OF LORD BARRY HELICOPTERS, INC. INFORMATION CONTAINED HEREIN IS GRANTED OR CONSIDERED FOR ANY SPECIAL AGREEMENT WITH KAMATICS.

DATE 25 JANUARY 1986.

5. REASON FOR REMARK: TO REDUCE PROBABILITY OF INTERFERENCE BETWEEN KAFLEX DRIVESHAFT SKCP2349-101 AND LORD (BARRY) TRANSMISSION ISOLATION MOUNT.
 4. REINSTALL ISOLATION MOUNT IN ACCORDANCE WITH THE MAINTENANCE AND OVERHAUL MANUAL. DO NOT USE UNAUTHORIZED SHIMS, ADJUSTERS OR SPacers BETWEEN BHT AND ISOLATION MOUNT AND THE ROOF TOP RIVETS.
 3. LEAVE THE FRONT COVER PLATE UNINSTALLED WHILE MAKING THE 90° DEEP RELIEF CUT IN THE COVER AND LEAVE COVER ON THE PROPER POSITION. USE CLASS 7 SEALANT (BHT) 299-947-107 TYPE (1) CLASS 7 SEALANT.
 2. MODIFY THE TOP COVER OF LORD (BARRY) ISOLATION MOUNT (BHT) P/N 206-030-539-005 OR -1011 AS SHOWN ABOVE. BREAK SHARP EDGES. REFER TO BHT TECHNICAL BULLETIN 206-78-13 REV A FOR PROCEDURE.
 1. NOTE: SINCE BARRY HAS MERGED WITH LORD, THE ABOVE TWO ISOLATION MOUNTS (BHT) PART NUMBER 206-030-539-005 OR -1011 MAY HAVE "LORD" NAME PLATES ON THEM, OLDER MOUNTS MAY STILL HAVE "BARRY" NAME PLATE ON THEM.
 1. REMOVE ISOLATION MOUNT FROM HELICOPTER PER INSTRUCTIONS IN THE MAINTENANCE MANUAL.
- NOTES: UNLESS OTHERWISE SPECIFIED:

QTY	REQD	CODE	IDENTIFYING NO	PART OR DESCRIPTION	STOCK SIZE	MATERIAL	SPECIFICATION	GEN. CAT.	NOTE
LIST OF MATERIAL									
APPROVED		DATE		KAMATICS CORPORATION BLOOMFIELD CONN 06002					
DRAWN BY		FASCIANO		11/24/81					
CHECKED BY		DESIGN							
PROJ. ENG		CHIEF ENG							
TOLERANCES		UNLESS OTHERWISE SPECIFIED		REWORK OF TOP PLATE (LORD (BARRY) ISOLATION MOUNT BHT) P/N 206-030-539-101, -005 1 FOR 206 AVB HELICOPTERS					
DIMENSIONS		PER MIL-STD-10		SIZE CODE IDENT NO. SKCP2782					
SCALE		D		150632					
NEXT ASSY				SHEET 3 OF 3					



SECTION 8
WEIGHT & BALANCE

The KAflex Main Driveshaft retrofit has negligible effect on weight and balance of the helicopter.



KAMATICS

Kamatiks Corporation
1330 Blue Hills Avenue
Bloomfield, CT 06002, USA
+1 860.243.9704



KAMATICS

Kamatiks Corporation
1330 Blue Hills Avenue
Bloomfield, CT 06002, USA
+1 860.243.9704

FLIGHT MANUAL SUPPLEMENT FOR BELL 206A/206B KAFLEX DRIVESHAFT INSTALLATION

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT FOR BELL 206A / 206B KAFLEX DRIVESHAFT INSTALLATION

LOG OF REVISIONS

This supplement shall be attached to the flight manual for the Bell 206A/206B with SKCP2348-101 Kaflex Driveshaft Installation in accordance with S.T.C. No. SH7767SW.

The information contained herein supplements the information of the basic flight manual. For limitations, procedures and performance data not contained in this supplement, consult the basic flight manual.

Approved: 
Manager, Boston Aircraft Certification
Office
ANB-150

REVISION NO.	PAGES REVISED	REMARKS	DATE	APPROVED
N/C	1,2,3,4	Pages		

Manager, Boston Aircraft Certification Office, ANB-150

JUN 28 2006

FAA APPROVED: _____
REVISED: _____

JUN 28 2006

FAA APPROVED: _____
REVISED: _____



KAMMATICS

Kamatiks Corporation
1330 Blue Hills Avenue
Bloomfield, CT 06002, USA
+1 860.243.9704

ROTORCRAFT FLIGHT MANUAL SUPPLEMENT FOR BELL 206A/206B KAFLEX MAIN ROTOR DRIVESHAFT INSTALLATION

DESCRIPTION:

The KAflex Driveshaft Installation replaces an existing Bell main rotor gear driveshaft with a KAflex driveshaft.

SECTION 1 – Operating Limitations

Weight/CG Limitations

Actual weight and CG change with KAflex driveshaft is negligible.

SECTION 2 – Operating Procedures

Preflight Inspection:

1. KAflex Main Rotor Driveshaft
 - a. General Condition – CHECK for broken, loose and missing hardware
 - b. Flex Frame and Mount Bolt Torque Stripes – CHECK ALIGNED

CAUTION: DO NOT ATTEMPT TO RE-TIGHTEN FLEX FRAME BOLTS OR NUTS IF LOOSE. REMOVE FROM ROTORCRAFT AND RETURN TO KAMMATICS CORPORATION.

JUN 28 2008

FAA APPROVED: _____
REVISED: _____

COMPONENT NAME: _____
 PART NUMBER: _____
 SERIAL NUMBER: _____
 PAGE _____ OF _____



KAFLEX DRIVESHAFT HISTORICAL SERVICE RECORD

INSTALLATION DATA						A/C HOURS SCH. FOR O/H RETIRE HRS./DATE	REMOVAL DATA				
DATE	INSTALLED ON A/C	BY (ACTIVITY)	INSTALLED AT A/C HRS.	COMP. HRS.			DATE	REMOVED AT A/C HRS.	COMP. HRS.		REASON FOR REMOVAL
				SINCE NEW	SINCE O/H				SINCE NEW	SINCE O/H	

TECHNICAL DIRECTIVES AND HISTORY OF OVERHAUL

DIRECTIVE NUMBER IF APPLICABLE	TIME/DATE EFFECTIVITY	DESCRIPTION	COMPLIANCE	
			BY (ACTIVITY)	DATE

1,500 HOUR INSPECTIONS AND ANY OTHER REPAIRS / MAINTENANCE PERFORMED ON THE DRIVESHAFT MUST BE RECORDED ON THIS HISTORICAL DATA CARD

