

# URGENT

\*TB 1-1520-244-20-44

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### ONE-TIME INSPECTION OF ENGINE TO TRANSMISSION DRIVESHAFT ASSEMBLY ON ALL AH-1 SERIES AIRCRAFT

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Headquarters, Department of the Army, Washington, D.C.  
14 May 1997

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#### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR  
SUPERSEDED.

1. Priority Classification. **URGENT.**

**a. Aircraft in Use.** Upon receipt of this TB the condition status symbol of the cited aircraft will be changed to a red horizontal dash. The red horizontal dash may be cleared when the inspection of paragraph 8. below is completed. The affected aircraft shall be inspected as soon as practical but no later than the task/inspection suspense date. Failure to comply with the requirements of this TB within the time frame will cause the status symbol to be upgraded to a red X.

**b. Aircraft in Depot Maintenance.** Aircraft will not be issued until compliance with this TB has been completed.

**c. Aircraft Undergoing Maintenance.** Aircraft will not be released until compliance with this TB has been completed.

**d. Aircraft in Transit.**

(1) Surface/Air Shipment. Within 25 hours or 30 days of arrival.

(2) Ferry Status. Same as paragraph 1.a.

\*This TB supersedes USAATCOM Aviation Safety Action Message 281430Z, APR 97, AH-1-97-ASAM-03.

e. **Maintenance Trainers (Category A and B).** Same as paragraph 1.a.

f. **Component/Parts in Stock Including War Reserves at All Levels (Depot and Others).** N/A.

**2. Task/Inspection Suspense Date.** Within 25 hours or 30 days from receipt of superceded message or this TB, whichever is received first.

**3. Reporting Compliance Suspense Date.** No later than 14 May 97 per paragraph 14.a. of this TB.

**4. Summary of Problem.**

a. It appears that some units have been using TB 1-1500-341-01 as authority to use the UH-1 K-FLEX Driveshaft on AH-1 aircraft. The only authorized K-FLEX Driveshaft for use on the AH-1 is listed in TM 55-1520-236-23P or TM 55-1520-234-23P. The AH-1 K-FLEX still has a retirement life of 1500 hours.

(1) In the mid 1980s the U.S. Army developed a new Main Transmission Driveshaft Assembly to replace the original Greased Super Shaft (PIN 205-040-004-21). After fielding this "new" driveshaft assembly, a common driveshaft (P/N SKCP2281-103) was used on both the UH-1 and AH-1. This was an on-condition driveshaft for both aircraft.

(2) In the late 1980s the U.S. Army and Bell Helicopter reevaluated the flight spectrum of the AH-1 and conducted engineering flight testing to determine the stress and loads on the aircraft. It was found that the engine to transmission misalignment on the AH-1 was larger than the value used to design the UH-1/AH-1 common driveshaft.

(3) A decision was made to install a better Main Transmission Driveshaft Assembly. Bell Helicopter had a commercial driveshaft that was designed to accommodate the engine to transmission misalignment found in flight testing of the AH-1.

(4) MWO 55-1520-244-50-10 required removal of the common driveshaft (P/N SKCP2281-103) and installation of the life limited AH-1 Driveshaft Assembly listed in paragraph 6. The assemblies listed in paragraph 6. are identical regardless of which part number is on the assembly. This MWO had no effect on UH-1 aircraft. The UH-1 continues to use the on-condition Driveshaft Assembly (P/N SKCP2281-103).

(5) In 1989, Safety-of-Flight message (AH-1-89-05) was issued to adjust the lives of several AH-1 components as a result of the engineering flight testing described in paragraph 4.a.(2). That message established the 1500 hour life for the AH-1 K-FLEX Drive Shaft (P/N 204-040-433-101).

b. For manpower/downtime and funding impacts, see paragraph 12.

c. The purpose of this message is to perform a one time inspection to confirm the correct K-FLEX Drive Shaft is installed and replace incorrect drive shaft assemblies with the correct driveshaft assembly.

**5. End Items to be Inspected.** All AH-1 series aircraft.

**6. Assembly Components to be Inspected.**

<b>NOMENCLATURE</b>	<b>PART NUMBER</b>	<b>NSN</b>
Driveshaft Assy, Main Transmission	SKCP2381-1	1615-01-235-7920
Driveshaft Assy, Main Transmission	204-040-433-101	1615-01-235-7920

**7. Parts to be Inspected.** N/A.

**8. Inspection Procedures.**

a. Inspect records of items listed in paragraph 6. (Main Transmission Driveshaft Assembly) for part numbers.

**NOTE**

If you are unable to verify the part number by a records search, a visual inspection of the Main Transmission Driveshaft Assembly is required to determine the part number.

b. If the part number of the Main Transmission Driveshaft Assembly is not one of the part numbers listed in paragraph 6., the item is suspect and shall be replaced in accordance with paragraph 9.

c. If the part number of the Main Transmission Driveshaft Assembly is one of the part numbers listed in paragraph 6., the item is serviceable and the inspection is complete.

**9. Correction Procedures.** Remove the suspect assembly and replace with a serviceable assembly in accordance with TM 55-1520-236-23 and TM 55-1520-234-23 series technical manuals. The common UH-1/AH-1 Driveshaft Assemblies (P/N SKCP2281-103) removed cannot be reused on UH-1 aircraft. They shall be demilitarized in accordance with paragraph 10.d.

**10. Supply/Parts and Disposition.**

a. Parts Required. Items cited in paragraph 6. may be required to replace defective items.

b. Requisitioning Instructions. Requisition replacement parts through normal supply channels using normal supply procedures. All requisitions shall use project code "XDG" per this TB.

**NOTE**

Project code "XDG" is required to track and establish a data base of stock fund expenditures incurred by the field as a result of ASAM actions.

c. Bulk and Consumable Materials. N/A.

d. Disposition. Mutilate in accordance with TM 1-1500-328-23 any assembly which does not meet the inspection criteria cited in paragraph 8.

e. Disposition of Hazardous Material. N/A.

**11. Special Tools, Jigs and Fixtures Required.** N/A.

**12. Application.**

a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM maintenance.

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b. Estimated Time Required.

- (1) Total of 2 man-hours using 1 person.
- (2) Total of 2 hours downtime for one end item.

c. Estimated Cost Impact of Stock Fund Items to the Field. If driveshaft and bolt replacement is required.

<b>NOMENCLATURE</b>	<b>PART NUMBER</b>	<b>NSN</b>	<b>\$ TOTAL</b>
Driveshaft Assembly	206040-433-101	1615-01-235-7920	\$26,101
Bolts	204-040-624-1	5306-00-724-3593	\$34.52

Total cost per aircraft = \$26,1350.52.

- d. TB/MWOs to be Applied prior to or concurrently with this Inspection. TB 1-1520-243-20-24.
- e. Publications which Require Change as a Result of this Inspection. TB 1-1500-341-01.

**13. References.**

- a. TB 1-1500-341-01, dated 01 Jun 96, Subject: Aircraft Components Requiring Maintenance Management and Historical Data Reports.
- b. TB 1-1520-243-20-24, Subject: Replacement of Main Driveshaft Clamp Bolts on All AH-1 and UH-1H/V Aircraft.
- c. TM 55-1520-234-23, Subject: AVUM/AVIM Maintenance Manual for Army Model AH-1P/E/F Helicopters.
- d. TM 55-1520-236-23, Subject: AVUM/AVIM Maintenance Manual for Helicopter, Attack AH-1S (Mod).
- e. TM 55-1520-234-23P, Subject: AVUM/AVIM Repair Parts and Special Tools List for Helicopter, Attack AH-1S.
- f. TM 55-1520-236-23P, Subject: AVUM/AVIM Repair Parts and Special Tools List for Helicopter, Attack AH-1P, AH-1E and AH-1F.
- g. MWO 55-1520-244-50-10, Subject: Modification of Drive System to Install K-FLEX Short Shaft AH-1 Helicopters.
- h. Message, CDRAVSCOM STL MO //AMSAV-XSOFII, 192230Z MAR 89, Subject: Safety-of-Flight Message, Maintenance Mandatory, RCS CSGLD-1860(R1), AH-1 Series Aircraft Revision/Change of Selected Component Lives (AH-1-89-05) (TB 55-1520-244-20-27).

**14. Recording and Reporting Requirements.**

a. Reporting Compliance Suspense Date (Aircraft). Upon entering requirements of this message on DA Form 2408-13-1 for all subject MDS aircraft, forward a priority message, datafax or E-mail to Commander USAATCOM, ATTN: AMSAT-R-X (SOF Compliance Officer), per AR 95-3. Datafax number is DSN 893-2064 or commercial (314) 263-2064. E-mail address is <amsatrxs@emh4.stl.army.mil>. The report will cite this message number, date of entry in DA Form 2408-13-1, the aircraft mission design series (MDS) and serial numbers of aircraft in numerical order.

- b. Task/Inspection Reporting Suspense Date (Aircraft). N/A.
- c. Reporting Compliance Suspense Date (Spares). N/A.
- d. Task/Inspection Reporting Suspense Date (Spares). N/A.
- e. The following forms are applicable and are to be completed in accordance with DA Pamphlet 738-751, dated 15 Jun 92.

(1) DA Form 2408-13, Aircraft Status information Record.

(2) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.

(3) DA Form 2408-15, Historical Record for Aircraft.

(4) DA Form 2408-16, Aircraft Component Historical Record.

(5) DA Form 2410, Component Removal and Repair/Overhaul Record (Required if Main Transmission Driveshaft Assembly is replaced).

**15. Weight and Balance.** N/A.

**16. Points of Contact.**

a. Technical point of contact for this message is Mr. Martin Ohrenberg, AMSAT-R-EIH, DSN 693-1659 or commercial (314) 263-1659.

b. Logistical point of contact for this message is Mr. Joe Dewitt AMCPM-CO-L, DSN 693-2594 or commercial (314) 263-2594.

c. Forms and Records point of contact for this message is Ms. Ann Waldeck, AMSAT-I-MDM, DSN 490-2318 or commercial (314) 260-2318.

d. Material Management (Spares) point of contact is Ms. Leann Stoehr, AMSAT-I-SADA, DSN 693-5937 or commercial (314) 263-5937.

e. Safety point of contact for this message is Mr. Howard Chilton, AMSAT-R-X, DSN 693-1587/2178 or commercial (314) 263-1587/2178.

f. Foreign Military Sales (FMS) recipients requiring clarification of action advised by this message should contact CW5 Jay Nance or Mr. Ron Van Rees, AMSAT-D-S, DSN 693-7844/3216 or commercial (314) 263-7844/3216. Datafax number is 2917.

g. After hours contact ATCOM Command Operations Center (COC) DSN 693-2066/7 or commercial (314) 263-2066/7.

**17. Reporting of Errors and Recommending Improvements.** You can help improve this TB. If you find any mistakes or know of a way to improve these procedures, please let us know. Mail your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander, U.S. Army Aviation and Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Boulevard, St. Louis, Missouri 63120-1798. You may also submit your recommended changes by E-mail directly to <daf2028@dmh1.stl.army.mil>. A reply will be furnished directly to you. Instructions for sending an electronic 2028 may be found at the back of most TMs.

**TB 1-1520-244-20-44**

By Order of the Secretary of the Army:

Official:



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