

# URGENT

TB 1-1520-240-20-114

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### INSPECTION OF ALL CH-47D, MH-47D AND MH-47E AIRCRAFT FOR FORWARD AND AFT TRANSMISSION GEAR/BEARING ASSEMBLIES IDENTIFIED BY SERIAL NUMBER PREFIX "VB"

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Headquarters, Department of the Army, Washington, D. C.  
25 September 1999

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#### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. **Priority Classification.** NOTE – See AR95-1, paragraph 6-6A, for Exception Authority of Major Commanders.

a. Aircraft in Use. Safety of Flight message CH-47-SOF-99-02 placed all H-47 series aircraft on a red //X// condition status symbol. The red //X// imposed by CH-47-SOF-99-02 may be cleared on some aircraft if the inspection procedures of paragraph 8 and the correction procedures with operating limitation of paragraph 9 of this message are complied with. Aircraft which remain on red //X// will be maintained in flyable storage with the following restrictions: ground run-ups are restricted to operation with ECL at ground position, with flat blade pitch and neutral flight controls.

b. Aircraft in Depot Maintenance. Same as paragraph 1a.

c. Aircraft Undergoing Maintenance. Same as paragraph 1a.

d. Aircraft in Transit.

(1)Surface/Air Shipment. Same as paragraph 1a. Prior to first flight on arrival.

(2)Ferry Status.

(a)Same as paragraph 1a.

(b)Those aircraft that have a DD 250 and are at Boeing Helicopters will be inspected prior to ferry to final destination.

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

f. Component/Parts in Stock at All Levels (Depot and Others) including War Reserves: Upon receipt of this TB the material condition tags of all items in all condition codes listed in paragraphs 6 and 7 shall be annotated to read "SOF CH-47-99-04, (TB 1-1520-240-20-114) Not Complied With."

(1)Wholesale Stock. N/A.

(2)Retail Stock. Upon receipt of this TB commanders and others maintaining retail stock at installation level and below shall contact the supported aviation unit to perform the inspection required by paragraph 8 and the correction procedures of paragraph 9 on discrepant materiel. Report compliance with this message in accordance with paragraph 14d(2).

g. Components/Parts in Work (Depot Level and Others. Items listed in paragraphs 6 and 7 in work will not be issued until compliance with this TB.

**2. Task/Inspection Suspense Date.** Within 5 working days from date of this TB.

**3. Reporting Compliance Suspense Date.** No later than 21 September 1999 in accordance with paragraph 14a of this TB..

**4. Summary of the Problem.**

a. One discrepant second stage planetary transmission gear/bearing assembly identifiable to "VB" serial number prefix was found. Four discrepant second stage planetary transmission gear/bearing assemblies identifiable to "GG" serial number prefix were found. The discrepancies were not detected by the required inspection procedures at time of manufacture. These gears are located in the forward and aft transmissions. An analytical investigation and research of historical data have led to a risk determination that gear/bearing assemblies identifiable by a serial number prefix "VB" are considered serviceable with improbable risk of failure (i.e. crack propagation) if the operating limitation identified by paragraph 9 are adhered to.

**NOTE**

Gear/bearing assemblies with serial number prefix "GG" are considered unserviceable and must be inspected in accordance with CH-47-99-03.

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

c. The purpose of this TB is to inspect all forward and aft transmission records for specific part number/serial number combinations. Transmissions with all first and second stage gear/bearing assemblies identified by serial number prefix "VB" are considered serviceable with operating limitation.

**5. End Items to be inspected.** All CH-47D, MH-47D, and MH-47E aircraft.

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

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
TRANSMISSION, FORWARD	145D1300 - ALL	1615-01-317-6446
		1615-01-312-5162
		1615-01-296-3090
		1615-01-306-6971
		1615-01-216-3827
TRANSMISSION, AFT	145D2300 - ALL	1615-01-315-4071
		1615-01-327-1297
		1615-01-296-3091
		1615-01-307-4842
		1615-01-216-3829

**7. Parts to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
GEAR/BEARING ASSY	145DS010-3	N/A
GEAR/BEARING ASSY	145DS010-5	3110-01-228-1647

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
GEAR/BEARING ASSY	145DS0106	3110-01-353-7369
GEAR/BEARING ASSY	145DS0108	3110-01-353-7369
GEAR/BEARING ASSY	145DS0116	3020-01-114-9550
GEAR/BEARING ASSY	145DS011-8	3110-01-232-7708
GEAR/BEARING ASSY	145DS011-9	3110-01-350-3674
GEAR/BEARING ASSY	145DS011-11	3110-350-3674

## 8. Inspection Procedures.

a. Inspect the Forward and Aft Transmission DA Form 2408-16 Aircraft Component Historical Records.

b. If the Forward Transmission DA Form 2408-16 lists four 1st stage gear/bearing assemblies with part number 145DS011-6 or -8 with serial number prefix "VB" and six 2nd stage gear/bearing assemblies with part number 145DS010-3 or -5 with serial number prefix "VB", that transmission is considered serviceable with operating limitation as defined by paragraph 9.

c. If the aft transmission DA Form 2408-16 lists four 1st stage gear/bearing assemblies with part number 145DS011-6 or -8 with serial number prefix "VB" and six 2nd stage gear/bearing assemblies with part number 145DS010-3 or -5 with serial number prefix "VB", that transmission is considered serviceable with operating limitation as defined by paragraph 9.

### NOTE

All twenty forward and aft transmission gear/bearing assembly serial numbers must begin with prefix "VB" for the aircraft to be considered serviceable with the operating limitation as defined by paragraph 9.

d. If either transmission DA Form 2408-16 lists any gear/bearing assemblies with part number 145DS010-6 or -8 or 145DS011-9 or -11 or serial numbers with a "GG" prefix, the transmission is unserviceable and the aircraft will remain on a red //X// condition status until the transmission is replaced with one which has been inspected in accordance with SOF CH-47-99-03.

e. If a transmission DA Form 2408-16 does not identify all installed first or second stage gear/bearing assemblies by serial number, the transmission is considered suspect and unserviceable and the aircraft will remain on a red //X// condition status. Transmission build records are being obtained to determine if they are serviceable. Contact logistical point of contact in paragraph 16b for build record information.

## 9. Correction Procedures.

a. Transmissions which contain gear/bearing assemblies as identified in paragraphs 8b and 8c above are considered serviceable with operating limitation. If two serviceable transmissions are installed on same aircraft, the red "X" status symbol required by Safety of Flight message CH-47-99-02 shall be changed to a circled red //X//. The circled red //X// entry shall state "Aircraft restricted to flight operations at a maximum of 80 percent dual engine torque." Aircraft which exceed this limitation are authorized an immediate one time flight to the nearest secure maintenance facility and the aircraft shall be placed on a red //X// condition status.

### Caution

Immediate action must be taken to reduce stress when the cruise guide indicator enters the red and yellow striped band (CH/MH-47D) or the red band (MH-47E). This can be accomplished by lowering thrust control lever, reducing airspeed, releasing back pressure on the cyclic stick, or by reducing the severity of the maneuver. High load maneuvering conditions may cause the 80 percent dual engine torque limit to be exceeded.

### NOTE

To ensure torque reduction of both forward and aft transmissions, when loading aircraft, attempt to maintain neutral center of gravity.

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- b. Preflight planning shall ensure above limitation is not exceeded.
- c. Transmissions that do not have gear/bearing assemblies serial number data on the DA Form 2408-16 are unserviceable pending a search of depot records for serviceable gear/bearing assemblies in the suspect transmission. Contact the logistical point of contact in paragraph 16b.
- d. Report the results of the inspection in accordance with paragraph 14b.
- e. For aircraft with analog gages, the engine torque meter indicator shall be red taped at 80 percent to identify this operating limitation for aircraft which have transmissions identified in paragraph 8b and 8c. For those aircraft with multi-function displays, a placard noting this operating limitation will be affixed adjacent to the display. This marking shall be removed when serviceable transmissions defined by reference 13b are installed.

### 10. Supply/Parts and Disposition.

- a. Parts Required. N/A.
- b. Requisitioning Instructions. Units should not requisition replacement transmissions at this time. Future messages will provide requisitioning instructions.
- c. Bulk and Consumable Materials. N/A.
- d. Disposition. N/A.
- e. Disposition of Hazardous Material. N/A.

### 11. Special Tools and Fixtures Required. N/A.

### 12. Application.

- a. Category of Maintenance. Continue reporting aircraft downtime in accordance with CH-47-99-02 (Depot Maintenance).
- b. Estimated Time Required for Inspection. Total of 1 man-hour using 1 person.
- c. Estimated Cost Impact to the Field. N/A.
- d. TB/MWOs to be Applied Prior to or Concurrently with this Inspection. TB 1-1520-240-20-113.
- e. Publications Which Require Change as a result of this Inspection. N/A.

### 13. References.

- a. CH-47-99-02
- b. CH-47-99-03 (TB 1-1520-240-20-113)

### 14. Recording and Reporting Requirements.

a. Reporting Compliance Suspense Date (Aircraft). Upon entering requirements of this TB on DA Form 2408-13-1 on all subject MDS aircraft, forward a priority message, datafax or E-Mail to Commander, AMCOM, ATTN: AMSAM-SF-A (SOF Compliance Officer), Redstone Arsenal, AL 35898-5000, in accordance with AR 95-1. Datafax number is DSN 897-2111 or (256) 313-2111. E-Mail address is safeadm@redstone.army.mil. The report will cite this TB number, date of entry in DA Form 2408-13-1, the aircraft mission design series and serial numbers of aircraft in numerical order.

b. Task/Inspection Reporting Suspense Date (Aircraft). Upon completion of inspection, units will forward a priority message to the logistical point of contact in paragraph 16b. The report will cite this message number, date of inspection, aircraft serial number and forward and aft transmission serial numbers of aircraft released for flight. Inspection and reports will be completed no later than 7 days after task/inspection suspense date.

- c. Reporting Message Receipt (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 Pam 738-751, 15 Mar 99.

**NOTE**

ULLS-A users will use applicable "E" Forms.

(1) DA Form 2408-5-1, Equipment Modification Record (Transmission).

(2) DA Form 2408-13, Aircraft Status Information Record.

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

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

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

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

**16. Points of Contact.**

a. Technical point of contact for this TB is Mr. Larry T. Wieschhaus, AMSAM-AR-E-I-C-H, DSN 897-3341 or commercial (256) 313-3341, datafax is (256) 313-4348. e-mail is "larry.wieschhaus@redstone.army.mil". Secondary technical point of contact is Mr. Matt Wesselschmidt, AMSAM-AR-E-I-C-H, DSN 897-3380 of commercial (256) 313-3380, datafax is (256) 313-4348. E-mail is "wesselschmidt-ml@redstone.army.mil".

b. Logistical point of contact for this TB is Mr. Bill Olson, SFAE-AV-CH-L, DSN 897-3379 or commercial (256) 313-3379, datafax is (256) 313-4348. E-mail is "olsonw@peoavn.redstone.army.mil".

c. Wholesale Materiel point of contact (SPARES). N/A.

d. Forms and Records point of contact for this TB is Ms. Ann Waldeck, AMSAM-MMC-RE-FF, DSN 746-5564 or commercial (256) 876-5564, datafax is DSN 746-4904. E-mail is "waldeck-ab@redstone.army.mil".

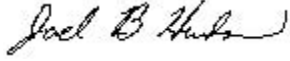
e. Safety point of contact for this TB is Mr. Robert D. Brock, AMSAM-SF-A, DSN 788-8632 or commercial (256) 842-8632. E-mail is "bob.brock@redstone.army.mil". The alternate point of contact is Mr. Howard Chilton, AMSAM-SF-A, DSN 897-2068 or commercial (256) 313-2068, datafax is DSN 897-2111 or commercial (256) 313-2111. E-mail is "howard.chilton@redstone.army.mil".

f. Foreign Military Sales (FMS) recipients requiring clarification of action advised by this TB should contact CW5 Joseph L. Wittstrom, Security Assistance Management, AMSAM-SA, DSN 897-0681, or commercial (256) 313-0681. E-mail is "wittstromjl@redstone.army.mil" or Mr. Ronnie Sammons, AMSAM-SA-CS-NF, DSN 897-0869 or commercial (256) 313-0869, datafax is DSN 897-0411 or commercial (256) 313-0411. E-mail is "sammonsrw@redstone.army.mil". Huntsville, AL is GMT minus 6 hours.

g. After hours contact the AMCOM Command Operations Center (COC) DSN 897-2066/7 or commercial (256) 313-2066/7.

**By Order of the Secretary of the Army:**

Official:



JOEL B. HUDSON  
*Administrative Assistant to the  
Secretary of the Army*

9925701

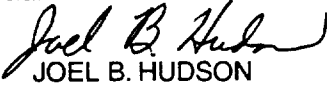
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*General, United States Army  
Chief of Staff*

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JOEL B. HUDSON  
*Administrative Assistant to the  
Secretary of the Army*  
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The following format must be used if submitting an electronic 2028. The subject line must be exactly the same and all fields must be included; however only the following fields are mandatory: 1, 3, 4, 5, 6, 7, 8, 9, 10, 13, 15, 16, 17, and 27.

From: "Whomever" <whomever@avma27.army.mil>

To: <ls-lp-@redstone.army.mil>

Subject: DA Form 2028

1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St:** MO
6. **Zip:** 77777
7. **Date Sent:** 19-OCT-93
8. **Pub no:** 55-2840-229-23
9. **Pub Title:** TM
10. **Publication Date:** 04-JUL-85
11. **Change Number:** 7
12. **Submitter Rank:** MSG
13. **Submitter FName:** Joe
14. **Submitter MName:** T
15. **Submitter LName:** Smith
16. **Submitter Phone:** 123-123-1234
17. **Problem:** 1
18. **Page:** 2
19. **Paragraph:** 3
20. **Line:** 4
21. **NSN:** 5
22. **Reference:** 6
23. **Figure:** 7
24. **Table:** 8
25. **Item:** 9
26. **Total:** 123
27. **Text:**

This is the text for the problem below line 27.



PIN: 077561-000