

URGENT

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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

Headquarters, Department of the Army, Washington, D.C.
21 December 1999

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

NOTE

THIS PUBLICATION is EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

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

a. Aircraft in Use. Upon receipt of this message enter a red dash //-// condition status symbol on the aircraft 2408-13-1. The red dash //-// entry shall state "Inspection and correction procedures required in accordance with Safety of Flight CH-47-00-03, paragraphs 8 and 9." Inspect the aircraft as soon as possible but not later than the task inspection suspense date. For aircraft not inspected by the task inspection suspense date, change the aircraft status symbol to a red //X//.

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.

(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: N/A.

g. Components/Parts in Work (Depot Level and Others.) N/A/

This TB supersedes USAAMCOM Message 061833Z DEC 99 SOF CH-47-00-03

- 2. Task/Inspection Suspense Date.** Within 10 flight hours / 14 days from the date time group of this message.
- 3. Reporting Compliance Suspense Date.** No later than 29 December 1999 in accordance with paragraph 14a of this Technical Bulletin.

4. Summary of the Problem.

a. Safety of Flight messages CH-47-99-02, CH-47-99-03, CH-47-99-04, and CH-47-99-05 grounded all H-47 aircraft, provided inspection requirements, and released some aircraft for restricted flight. The aircraft released for restricted flight contained forward and aft transmissions which had all planetary gear bearing assemblies identified with the serial number prefix VB". The restriction limited flight operations to a maximum of 80 percent dual engine torque. Analytical investigations, testing of discrepant gear/bearing assemblies, results of gear bearing assemblies inspections, and research of historical data have led to a risk determination that the 80 percent dual engine torque operating limitation imposed by Safety of Flight message CH-47-99-04 can be increased to the new operating limitation identified in paragraph 9.

NOTE

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

NOTE

Transmissions which have had all gear/bearing assemblies inspected and have been re-identified by serial number prefix "MG" are considered serviceable in accordance with Safety of Flight message CH-47-99-03.

- b. For manpower/downtime and funding impacts, see paragraph 12.
- c. The purpose of this Technical Bulletin is to increase to 100 percent dual engine torque, the 80 percent dual engine torque limitation imposed by Safety of Flight message CH-47-99-04 on aircraft with both transmissions with "VB" serial numbered gear/bearing assemblies installed.

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

6. Assembly Components to be Inspected. N/A.

7. Parts to be Inspected. N/A.

8. Inspection Procedures. Inspect the aircraft DA Form 2408-13 and 2408-13-1 for a circled red //X// entry which states Aircraft restricted to flight operations at a maximum of 80 percent dual engine torque." Aircraft operating under this flight restriction will have a new operating limitation as defined in paragraph 9.

9. Correction Procedures. The circled red //X// condition status symbol and entry previously entered in accordance with Safety of Flight message CH-47-99-04 stating 'Aircraft restricted to flight operations at a maximum of 80 percent dual engine torque.' shall be cleared. A new circled red //X// entry shall state Aircraft restricted to flight operations at a maximum of 100 percent dual engine torque." For aircraft that exceed the 100 percent dual engine torque limit, change the aircraft condition status symbol to a red //X//. The red //X// entry shall state 'Aircraft exceeded 100 percent dual engine torque limitation, replace forward and aft main transmissions in accordance with Safety of Flight CH-47-00-03.'" Aircraft which exceed this limitation are authorized a one time flight, to the nearest secure maintenance facility.

NOTE

Aircraft placed on a red //X// condition status as a result of this message will require replacement of the forward and aft transmissions. Transmissions which exceed the 100 percent dual engine torque operational limitation will require overhaul, at which time they will be inspected and re-identified in accordance with Safety of Flight message CH-47-99-03. The replacement components in accordance with paragraph 9 of this Technical Bulletin

constitutes a condition change and will not be included in accident cost computations in accordance with AR 385-40, paragraph 2-11.B. (8). Those components replaced due to visible physical damage will be included in the accident cost.

NOTE

Aircraft which do not have //BOTH// forward and aft transmissions identified by serial number prefix "MG" are restricted to the operational limitations of this Safety of Flight message.

10. Supply/Parts and Disposition.

- a. Parts Required. N/A.
- b. Requisitioning Instructions. N/A.
- c. Bulk and Consumable Materials. N/A.
- d. Disposition. N/A.

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

12. Application.

- a. Category of Maintenance. AVUM.
- b. Estimated Time Required for Inspection. Total of 0.1 man-hours using one person.
- c. Estimated Cost Impact to the Field. N/A.
- d. TB/MWOs to be Applied Prior to or Concurrently with this Inspection. N/A.
- e. Publications Which Require Change as a result of this Inspection. N/A.

13. References.

- a. CH-47-99-02
- b. TB 1-1520-240-20-113 (SOF CH-47-99-03).
- c. TB 1-1520-240-20-114 (SOF CH-47-99-04).
- d. TB 1-1520-240-20-115 (SOF CH-47-99-05).

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). N/A.
- 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 2408-13, Aircraft Status Information Record.

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

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

15. Weight and Balance. N/A.

16. Points of Contact.

a. Technical point of contact for this TB is Mr. Matt Wesselschmidt, AMSAM, RD-AE-E-I-C-H, DSN 897-3380 or commercial (256) 313-3380, datafax is EXT 4348. E-mail address is "matthew.wesselschmidt@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 "olsenw@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, AM SAM-SF-A, DSN 788-8632 or commercial (256) 842-8632, datafax is DSN 897-2111 or (256) 313-2111. 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. 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-SACS-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:

ERIC K. SHINSEKI
General, United States Army
Chief of Staff

Official:

JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
9934303

DISTRIBUTION:

To be distributed in accordance with Initial Distribution Number (IDN) 313867, requirements for TB 1-1520-240-20-116.

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: "Whoever" <whoever@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.

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH PUBLICATION

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.

PARA-GRAPH

FIGURE NO.

TABLE NO.

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT.

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

THE METRIC SYSTEM AND EQUIVALENTS

WEIGHT MEASURE

1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
 1 Kilogram = 1000 Grams = 2.2 lb.
 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
 1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
 1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

TEMPERATURE

$5/9(^{\circ}\text{F} - 32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
its	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
ometers per Liter	Miles per Gallon	2.354
ometers per Hour	Miles per Hour	0.621



TB 1-1520-240-20-116

PIN: 077737-000