

URGENT

*TB 1-1520-237-20-251

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

MAINTENANCE MANDATORY, RCS CSGLD-1860 (R1), ALL UH-60, SERIES AIRCRAFT, REMOVAL OF CHI- CAGO RAWHIDE M/R SPINDLE THRUST BEARINGS WITH SERIAL NUMBERS C325-00001 THROUGH C325-02407

Headquarters, Department of the Army, Washington, D. C.
9 APRIL 2002

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

1. Priority Classification. URGENT

NOTE

IAW AR 95-1, para 6-6a/6-14a, MACOM Commanders may authorize temporary exception from message requirements. Exception may only occur when combat operations or matter of life or death in civil disasters or other emergencies are so urgent that they override the consequences of continued aircraft operation.

a. Aircraft in Use. Upon receipt of this message, make the following entry on the DA Form 2408-13-1. Enter a red horizontal dash // - // status symbol with the following statement: "Inspect Main Rotor Spindle Assemblies IAW TB 1-1520-237-20-251 within the next 10 flight hours, but NLT 9 April 02." Clear the red horizontal dash // - // entry when the procedures IAW paragraphs 8 and 9 are completed. Commanders who are unable to comply with the requirements of this message within the time frame specified will upgrade the affected aircraft status symbol to a red // X //.

b. Aircraft In Maintenance.

(1) Commanders and facility managers will not issue aircraft until they are in compliance with this message.

(2) Aircraft At Contractor Facility

(a) DD-250 aircraft - N/A.

(b) Aircraft in Maintenance at Contractor Facilities - Same as paragraph 1.a..

* This TB supersedes USAAMCOM Aviation Safety Action Message (ASAM), 261600Z MAR 02, UH-60-02-ASAM-05.

c. Aircraft in Transit.

(1) Surface/Air Shipment - Within 10 hours/14 days of arrival.

(2) Ferry Status - Inspect within 10 hours/14 days of arrival at final destination.

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

e. Component/Parts in Stock at All Levels (Depot Level and Others), including War Reserves. Upon receipt of this message, depot and materiel activity commanders will ensure the materiel condition tags of all items in all condition codes listed in paragraphs 6 and 7 are annotated to read: "TB 1-1520-237-20-251 not complied with."

(1) Wholesale Stock. Report receipt of this message IAW paragraph 14.b.(1) NLT 29 March 2002. Upon receipt of this TB, depot and materiel activity commanders will ensure all items in condition codes // a //, // b //, // c //, // d //, and // e //, listed in paragraphs 6 and 7, are placed in condition code // j // and tagged with a Suspended Tag/Label - Materiel, DD Form 1575/DD form 1575-1. Do not remove original condition tags. Report compliance with this message IAW paragraph 14.b.(2) NLT 2 April 2002.

(2) Retail Stock. Report receipt of this TB IAW paragraph 14.c.(1) NLT 29 March 2002. Upon receipt of this TB, Commanders and Facility Managers maintaining retail stock at installation level and below shall contact the supported aviation unit to perform the procedures required IAW paragraphs 8 And 9 on suspect materiel. Dispose of discrepant materiel IAW paragraph 10.. Report compliance with this TB IAW paragraph 14.c.(2) NLT 2 April 2002.

f. Components/Parts in Work (Depot Level and Others). Depot and other maintenance activity commanders will ensure items listed in para 6 and 7 are not issued until they are in compliance with this TB.

2. Task/Inspection Suspense Date. Complete the inspection IAW paragraph 8 within the next 10 flight hours but NLT 9 April 2002 and report IAW paragraph 14.a.(2) NLT 12 April 2002.

3. TAMMS Reporting Compliance Suspense Date. Report compliance IAW paragraph 14.a.(1) NLT 2 April 02.

4. Summary of Problem -

a. Certain non-conforming main rotor spindle elastomeric thrust bearings (P/N SB7002-046/048) manufactured by Chicago Rawhide have experienced buckling resulting from the elastomeric material extruding between the metal shims and the thrust bearing endplates. The buckling can result in the metal shims contacting the spindle, causing damage to the shaft just below the threaded portion of the M/R spindle. This problem is confined to serial numbers C325-00001 through C325-02407 Chicago Rawhide manufactured thrust bearings. In January 1994, AMCOM issued UH-60-94-ASAM-03 requiring removal from service of all suspect thrust bearings. However, follow on reports from the field indicate that not all suspect thrust bearings were purged.

b. Manpower/downtime and funding impacts - See paragraph 12.

c. The purpose of this message is to -

(1) Remove from service all Chicago Rawhide thrust bearings, P/N's SB7002-046 and SB7002-048, serial numbers C325-00001 through C325-02407.

(2) Require publication changes to -

(a) Require immediate replacement of thrust bearings whenever elastomer extrusion is detected.

(b) Enhance PMS-1 thrust bearing inspection requirements to inspect for extruded rubber or rubber debris.

5. End Items to be inspected. All H-60 series aircraft.

6. Assembly Components to be Inspected.

NOMENCLATURE	PART NO.	NSN
Main Rotor Spindle Assy	70102-08200-041	N/A
Main Rotor Spindle Assy	70102-08200-043	N/A
Main Rotor Spindle Assy	70102-08200-046	N/A
Main Rotor Spindle Assy	70102-08200-051	N/A
Main Rotor Spindle Assy	70102-08200-053	N/A
Main Rotor Spindle Assy	70102-08200-055	N/A
Main Rotor Spindle Assy	70102-08200-061	N/A
Main Rotor Spindle Assy	70102-08200-068	N/A
Main Rotor Spindle Assy w/Tie Rod	70070-10030-041	N/A
Main Rotor Spindle Assy w/Tie Rod	70070-10030-042	1615-01-331-2480
Main Rotor Spindle Assy w/Tie Rod	70070-10030-045	N/A
Main Rotor Spindle Assy w/Tie Rod	70070-10030-046	1625-01-249-4107
Main Rotor Spindle Assy and Liner Assy	70070-10030-043	N/A
Main Rotor Spindle Assy Liner Assy and Tie Rod	70070-10030-047	N/A

7. Parts to be Inspected. -

NOMENCLATURE	PART NUMBER	NSN
Bearing, Thrust, Elastomeric	SB7002-046	1615-01-087-4101
Bearing, Thrust, Elastomeric	SB7002-048	3110-01-158-9607
Bearing Assy, Spindle	70102-08100-044	1615-01-082-9250
Bearing Assy, Spindle	70102-08100-047	N/A
Bearing Assy, Spindle	70102-08100-056	3110-01-116-4181
Bearing Assy, Spindle Modified	70083-10001-045	N/A

8. Inspection Procedure.

NOTE

Supplemental information for this TB can be viewed at (use lower case letters only), www.redstone.army.mil/sof/suppl/u60a0205.pdf

Thrust bearings have distinguishing mold lines oriented horizontally from the endplate to the mating flange where it is attached to a spherical bearing when installed. On bearings manufactured by Chicago Rawhide, the lines are approximately two inches apart. All others are approximately one inch apart.

- a. For parts installed on aircraft -

(1) Prepare helicopter for maintenance. Turn off all electrical and hydraulic power prior to conducting this inspection.

(2) Gain access to the lower and side observation holes of the main rotor hub. Using a flashlight, inspect the exterior portion of the thrust bearing IAW TM 1-1520-237-23-3 (para 5-3-1.2) or TM 1-1520-250-23-3 (para 5.3.4, fig 5-16), and paragraph 12.e.(1) and (2) of this TB for the following:

(3) Determine if any elastomer extrusion is noted.

(a) If elastomer extrusion is noted, correct IAW paragraph 9.b..

(b) If no elastomer extrusion is noted, proceed to paragraph 8.a.(4).

(4) Determine if the mold lines are one inch or less apart. If lines are one inch or less apart, the bearing is not a suspect part. Correct IAW para 9.a..

(5) If the mold lines are two inches apart, closely inspect the bearing endplate or mating flange for a blue anodized finish.

(6) If the blue anodized finish is observed, the bearing is not a suspect part. Correct IAW paragraph 9.a..

(7) If the blue anodized finish is not observed, attempt to visually verify the serial number located on the thrust bearing endplate.

(a) If the serial number is not C325-00001 through C325-02407, the bearing is not a suspect part. Correct IAW paragraph 9.a..

(b) If the serial number is C325-00001 through C325-02407, or if the serial number is not visible, correct IAW paragraph 9.b..

b. For parts in supply (at all levels) –

(1) Inspect for elastomer extrusion, the distance between the mold lines, the blue anodized finish of the flange, and the suspect serial number (C325-00001 through C325-02407) IAW the procedures in paragraph 8.a..

(2) If either elastomer extrusion is noted, or the part is otherwise identified as a suspect Chicago Rawhide bearing, proceed to paragraph 9.c..

9. Correction Procedures.

a. If no elastomer extrusion is noted, and it has been determined the bearing is not a suspect part manufactured by Chicago Rawhide, clear the red horizontal dash entry required IAW paragraph 1.a. of this TB.

b. If the thrust bearing exhibits elastomer extrusion, or has been identified as a suspect bearing by serial number, or the serial number can not be determined, proceed as follows :

(1) Remove spindle assembly with the suspect thrust bearing IAW TM 1-1520-237-23-3 (para 5-4-5.1.1) or TM 1-1520-250-23-3 (para 5.3.1.2). If the serial number is identified as C325-00001 through C325-02407:

(a) Remove elastomeric bearing assembly from spindle assembly IAW TM 1-1520-237-23-3 (para 5-4-5.1.2.(d) or TM 1-1520-250-23-3 (para 5.3.1.3).

(b) Disassemble elastomeric assembly (AVIM) IAW TM 1-1520-237-23-3 (para 5-4-5.1.1) or TM 1-1520-250-23-3 (para 5.4.2.1).

(c) Dispose of non-conforming thrust bearing IAW procedures as outlined in paragraph 10.d..

(d) Inspect spindle shaft IAW procedures contained in TM 1-1520-237-23-3 (para 5-4-5.1.3) or TM 1-1520-250-23-3 (PARA 5.3.1.4).

(e) Assemble elastomeric bearing assembly (AVIM) IAW procedures contained in TM 1-1520-237-23-3 (para 5-5-4.1.4) or TM 1-1520-250-23-3 (para 5.4.2.4).

(f) Install elastomeric bearing assembly onto the spindle IAW TM 1-1520-237-23-3 (para 5-4-5.1.12.) or TM 1-1520-250-23-3 (para 5.3.1.12.).

(g) Re-install spindle IAW procedures contained in TM 1-1520-237-23-3, (para 5-4-5.1.13.), or TM 1-1520-250-23-3, (para 5.3.1.13.).

(2) If after removal of the spindle assembly the serial number is verified as not being C325-00001 through C325-02407, re-install spindle IAW procedures contained in TM 1-1520-237-23-3, (para 5-4-5.1.13.), or TM 1-1520-250-23-3, (para 5.3.1.13.).

c. For defective items in supply (at all levels) -

(1) If a suspect thrust bearing is identified, tag the thrust bearing with a Material Condition Tag/Label, DD Form 1577/DD Form 1577-1, Unserviceable (Condemned) Tag/Label - Materiel (Color Red). Annotate remarks block with "Condemned IAW TB 1-1520-237-20-251 and mutilated IAW TM 1-1500-328-23.

(2) If a suspect thrust bearing is identified and is installed on a spindle or bearing assembly, tag the assembly with a Material Condition Tag/Label, DD Form 1577-2/DD Form 1577-3, Unserviceable (Repairable) Tag/Label - Materiel (Color Green). Annotate remarks block with "Unserviceable IAW TB 1-1520-237-20-251).

10. Supply/Parts and Disposition.

a. Parts required - Items cited in paragraphs 7 and 12.c. may be required to replace defective items.

b. Requisition instructions - Requisition replacement parts using normal supply procedures. All requisitions shall use project code (CC 57-59) "X1K" (X-Ray One Kilo).

NOTE

Project code "X1K" is required to track and establish a data base of stock fund expenditures incurred by the field as a result of message actions.

c. Bulk and Consumable Materials - As required.

d. Disposition - Demilitarize/mutilate IAW TM 1-1500-328-23 any part/component which does not meet inspection criteria.

e. Disposition Of Hazardous Material - IAW Environmental Protection Agency directives as implemented by your servicing Environmental Coordinator (AR 200-1).

11. Special Tools, and Fixtures Required..

12. Application.

a. Category of Maintenance.

AVUM for inspection and removal/installation of the spindle assembly. AVIM for disassembly/assembly of the elastomeric assembly. Aircraft downtime will be charged to AVUM/AVIM maintenance as required. Report aircraft non-mission capable maintenance (NMCM) while undergoing inspection and correction IAW this TB. Report aircraft non-mission capable supply (NMCS) while waiting for parts IAW this TB.

b. Estimated Time Required.

(1) Time to complete inspection -

(a) Total of 1 man-hour using 1 person.

(b) Total of 1 hour downtime for one end item.

(2) Time for repair/replacement -

(a) Total of 72 man-hours using 2 persons.

(b) Total of 36 hours downtime for one end item. Estimated downtime does not include time required for MOC/MTF.

c. Estimated cost impact to the field -

NOMENCLATURE	PART NO./NSN	QTY.	COST EA.	TOTAL
Bearing, Thrust, Elastomeric	SB7002-048 3110-01-158-9607	4	\$1887.31	\$7549.24
Bearing Assy, Spindle	70102-08100-044 1615-01-082-9250	4	\$9866.12	\$39464.48
Bolt, Shear	NAS6607-H7 5306-01-111-6677	32	\$0.47	\$15.04
Washer, Recessed	MS20002C4 5310-00-596-1766	32	\$3.64 *	\$3.64 *

*Unit of issue for the Washer, Recessed is 100 each.

Washer	AN960-416L 5310-00-167-0835	32	\$0.02	\$0.64
Nut	MS21083N4 5310-00-903-8282	32	\$0.18	\$5.76

TOTAL COST PER AIRCRAFT = \$49355.70

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 - The following publications shall be changed to reflect this message. A copy of this message shall be inserted in the appropriate TM as authority to implement the change until the printed change is received.

(1) Change TM 1-1520-237-23-3, paragraph 5-3-1.2.c(4), as follows –
"No elastomeric extrusion of thrust bearing is allowed. Elastomeric extrusion normally will be detectable on lower portion of thrust bearing. Replace thrust bearing if any elastomer extrusion is found (para 5-5-4)."

(2) Change TM 1-1520-250-23-3, para 5.3.4.c(3), as follows –
"No elastomeric extrusion of thrust bearing is allowed. Elastomeric extrusion normally will be detectable on lower portion of thrust bearing. Replace thrust bearing if any elastomer extrusion is found (fig 5-16, Sheet 5)."

(3) Add the following statement to TM 1-1520-237-PMS-1, sequence 6.11, (10HR/14 DAY), first inspection bullet, and TM 1-1520-250-PMS-1, sequence 6.11, (10HR/14 DAY), second inspection bullet.
"Inspect spindle for damage and security, check for rubber debris on inside of hub arm or elastomer extrusion of the thrust bearing visible through the two inch observation holes."

13. References.

- a. DA PAM 738-751, 15 March 1999.
- b. TM 1-1520-237-23-3, w/chgs 1 through 6.
- c. TM 1-1520-250-23-3, w/chg 1.
- d. TM 1-1520-237-PMS-1, w/chgs 1 through 4.
- e. TM 1-1520-250-PMS-1, w/chg 1.
- f. TM 1-1500-328-23.

14. Recording and Reporting Requirements.

NOTE

If reporting requirements have already been accomplished IAW UH-60-02-ASAM-05, then the following reporting requirements in this TB have already been met, and are not required again.

a. Aircraft:

(1) TAMMS Reporting Compliance Suspense.

Upon entering requirements of this message on DA Form 2408-13-1 for all effected aircraft, commanders will forward a priority message, fax or email to: CDR, AMCOM, ATTN: AMSAM-SF-A (SOF Compliance Officer), Redstone Arsenal, AL 35898-5000, IAW ar 95-1, NLT date specified in paragraph 3.. Fax number is DSN 897-2111 or (256) 313-2111. Email address is "safeadm@redstone.army.mil". The report will cite this TB number, date of entry on DA Form 2408-13-1, the mission design series and aircraft serial numbers in numerical order.

(2) Task/Inspection Reporting Suspense.

Upon completion of inspection, commanders will forward a priority message to the LOG POC listed in para 16.b.. The report will cite this message and tb number, date of inspection, aircraft hours and serial number, and results of the inspection. Inspection and reports will be completed NLT date specified in paragraph 2..

b. Wholesale Spare Parts/Assemblies. -

(1) Reporting Message Receipt -

Reporting message receipt – depot and materiel activity commanders will report receipt of this message by email or fax to the wholesale materiel (spares) POC listed in para 16c NLT date specified in paragraph 1.e.(1). Provide local POC.

(2) Task/inspection Reporting Suspense -

Depot and materiel activity commanders will provide a DD Form 1225 to the wholesale materiel POC (SPARES) listed in paragraph 16.c NLT date specified in paragraph 1.e.(1). Provide an estimate of the cost reimbursable funding required to move serviceable items on hand listed in paragraphs 6 and 7 to a work area, unpack the materiel, repack the materiel after inspection by AMCOM inspectors, and to return the materiel to storage, as appropriate. Report, by original serviceable condition code, the quantity of materiel placed in condition code //j//. Report by email or fax and provide local POC.

c. Retail Spare Parts/Assemblies.

(1) Reporting Message Receipt -

Commanders and facility managers will report receipt of this TB by email or fax to the LOG POC listed in para 16.b NLT date specified in paragraph 1.e.(2). Provide local POC.

(2) Task/Inspection Reporting Suspense –

Commanders and facility managers will report inspection results to the LOG POC in paragraph 16.b. NLT date specified in paragraph 1.E.(2). Report by email or fax and provide local POC.

d. The following forms are applicable and are to be completed in accordance with DA Pam 738-751, 15 March1999.

NOTE

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

- (1) DA Form 2408-5-1, Equipment Modification Record (M/R Spindle Assy).
- (2) DA Form 2408-13, Aircraft Status Information Record.
- (3) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
- (4) DA Form 2408-16, Aircraft Component Historical Record.
- (5) DA Form 2410, Component Removal And Repair/Overhaul Record (Only if M/R Spindle Assy Is Removed/Replaced).
- (6) DD Form 1574/DD Form 1574-1, Serviceable Tag/Label - Materiel (Color Yellow). Annotate remarks block with "Inspected Serviceable IAW TB 1-1520-237-20-251."
- (7) DD Form 1575/DD Form 1575-1, Suspended Tag/Label - Materiel (Color Brown). Annotate remarks block with "Suspended IAW TB 1-1520-237-20-251."
- (8) DD Form 1577/DD Form 1577-1, Unserviceable (Condemned) Tag/Label - Materiel (Color Red). Annotate remarks block with "Condemned IAW TB 1-1520-237-20-251, And Mutilated IAW TM 1-1500-328-23."

(9) DD Form 1577-2/DD Form 1577-3, Unserviceable (Reparable) Tag/Label - Materiel (Color Green). Annotate remarks block with "Unserviceable IAW TB 1-1520-237-20-251."

15. Weight and Balance. N/A.

16. Points of Contact.

a. Technical point of contact is MR. Ralph Vemmer, AMSAM-RD-AE-I-D-U, DSN 897-2350, EXT 9715 OR (256)705-9715, alternate number is DSN 897-2350, EXT 9719 OR (256)705-9719. FAX IS 256-705-9896. Email is ralph.vemmer@rdec.redstone.army.mil".

b. Logistical point of contact is Mr. Joe Hoover, AMSAM-DSA-UH-L, DSN 645-7898 or (256) 955-7898, datafax is DSN 897-3778 or (256)313-3778. Email is "joe.hoover@uh.redstone.army.mil"

c. Wholesale Materiel POC (Spares) is Ms. Julia Moore, AMSAM-MMC-AV-UA, DSN 897-1301 or (256) 313-1301, Fax is dsn 897-4769. Email is "julia.moore@redstone.army.mil"

d. Forms and Records Point Of Contact is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or (256)897-5564, Datafax is DSN 746-4904 or (256) 876-4904. Email is "ann.waldeck@redstone.army.mil".

e. Safety points of contact are:

(1) Primary – Mr. Harr Trumbull (SAIC), AMSAM-SF-A, DSN 788-8636 or (256) 842-8636, Fax is DSN 897-2111 or (256) 313-2111. Email is "harry.trumbull@redstone.army.mil".

(2) Alternate – Mr. Ron Price, AMSAM-SF-A, DSN 788-8636 or (256) 842-8636, datafax is DSN 897-2111 or (256) 313-2111. Email is "ron.price@redstone.army.mil".

f. Foreign Military Sales recipients requiring clarification of action advised by this TB should contact:

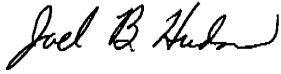
(1) Primary: Mr. Ronnie W. Sammons, AMSAM-SA-CS-NF, DSN 897-6856 or (256) 313-6856. Datafax is DSN 897-6630 or (256) 313-6630. Email "ronnie.sammons@redstone.army.mil".

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

17. Reporting of Errors and Recommended Improvements. You can improve this TB. If you find any mistakes or if you 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, US Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished directly to you. You may also submit your recommended changes by email directly to 2028@redstone.army.mil. Instructions for sending an electronic 2028 may be found at the back of this manual.

By Order of the Secretary of the Army

Official:



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

DISTRIBUTION:
To be distributed in accordance with Initial Distribution Number (IDN), 314043 requirements for
TB 1-1520-237-20-251.

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: 2028@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.

