URGENT

TB 1-1520-240-20-123

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

MANDATORY INSPECTION OF FORWARD AND AFT SLIDER SHAFT SEALS ON ALL CH–47D, MH–47D AND MH–47E AIRCRAFT

Headquarters, Department of the Army, Washington, D. C.
2 August 2000

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. Priority Classification. Urgent

NOTE

In accordance with AR 95–1, paragraph 6–6A, MACOM Commanders may authorize temporary exception from ASAM 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 Technical Bulletin, make the following entry on the DA Form 2408–13–1. Enter a red horizontal dash //**–**// status symbol with the following statement: "Inspect the forward and aft slider shaft seals in accordance with CH–47–00–ASAM–05 (TB 1–1520–240–20–123) within the next 10 flight hours, but no later than 9 AUG 2000." Clear the red horizontal dash //**–**// entry when the procedures in accordance with paragraph 8 are completed. The affected aircraft shall be inspected as soon as practical but no later than 9 AUG 2000. Commanders who are unable to comply with the requirements of this Technical Bulletin within the time frame specified will upgrade the affected aircraft status symbol to a red //**X**//.

b. Aircraft in Depot Maintenance. Depot Commanders will not issue aircraft until they are in compliance with this Technical Bulletin.

c. Aircraft Undergoing Maintenance. Commanders and Facility Managers will not issue aircraft until they are in compliance with this Technical Bulletin.

d. Aircraft in Transit.

(1) Surface/Air Shipment. Prior to first flight.

(2) Ferry Status.

This TB supersedes USAAMCOM Message 261321Z JUL 00 CH–47–00–ASAM–05.

(a) Inspect at final destination.

(b) Boeing will inspect DD 250 aircraft prior to those aircraft departing for ferry to final destination.

e. Maintenance Trainers (Category A and B). Comply no later than 22 September 2000.

f. Component/Parts in Stock at All Levels (Depot and Others) including War Reserves. Upon receipt of this Technical Bulletin, Depot and Materiel Activity Commanders will ensure the material condition tags of all items in all condition codes listed in paragraph 6 with cage code 59213 are annotated to read "CH–47–00–ASAM–05 (TB 1–1520–240–20–123), Inspection of the Forward and Aft Slider Shaft Seals, Not Complied With".

(1) Wholesale Stock – Report receipt of this Technical Bulletin, in accordance with paragraph 14C (1). Upon receipt of this Technical Bulletin, Depot and Materiel Activity Commanders will ensure all serviceable items (condition codes //A//, //B//, //C//, //D//, and //E//) listed in paragraph 6 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 Technical Bulletin in accordance with paragraph 14D (1).

(2) Retail Stock – Report receipt of this Technical bulletin in accordance with paragraph 14C (2). Upon receipt of this Technical Bulletin, Commanders and Facility Managers maintaining retail stock at Installation level and below shall contact the supported aviation unit to perform the procedures required in accordance with paragraphs 8 and 9 on suspect materiel. Dispose of discrepant materiel in accordance with paragraph 10. Report compliance with this Technical Bulletin in accordance with paragraph 14D. (2).

g. Components/Parts in Work (Depot Level and Others) – Depot and other Maintenance Activity Commanders will ensure items listed in paragraph 6 are not issued until they are in compliance with this Technical Bulletin.

2. **Task/Inspection Suspense Date.** Complete the inspection in accordance with paragraph 8 within the next 10 flight hours but no later than 9 AUG 2000 and report in accordance with paragraph 14B.

3. **Reporting Compliance Suspense Date**. Report compliance in accordance with paragraph 14A no later that 16 AUG 2000.

4. **Summary of the Problem**.

a. A unit reported receipt of a defective slider shaft seal assembly from the supply system. The metal portion of the seal assembly extended out to the edge of the rubber seal. This condition places the metal portion of the seal assembly unacceptably close to the vertical rotor shafts.

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

c. The purpose of this Technical Bulletin is to visually inspect the slider shaft seal assemblies for defects.

5. **End Items to be inspected**. All H–47 series aircraft.

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

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
SLIDER SHAFT SEAL ASSEMBLY	145R3131-1	1615-01-113-0258
SLIDER SHAFT SEAL ASSEMBLY	145R3131-2	1615-01-113-0261

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

8. **Inspection Procedures**.

NOTE
Disassembly is not required for visual inspection.

NOTE
The seal is made up of two separate halves around each rotor shaft.
Each half needs to be inspected.

a. For seal assemblies that are installed on the aircraft –

(1) Gain access to the slider shaft –

(a) Aft Slider Seal Assembly – TM 55–1520–240–23P, Figure 199, Item 203, or TM 1–1520–252–23P, Figure 6–25, Item 194.

(b) Forward Slider Seal Assembly – TM 55–1520–240–23P, Figure 179, Item 33, or TM 1–1520–252–23P, Figure 6–2, Item 33.

(2) Using a flashlight and inspection mirror, locate the dust seal on top of the slider shaft and verify that the rubber seal overlaps the inside edge of the metal base.

(3) Perform the inspection procedures in accordance with Task 6–58, Step 7 of TM 55–1520–240–23, or Task 6–68, Step 7 of TM 1–1520–252–23.

(4) If the inside diameter of the rubber seal extends beyond the inside edge of the metal base in accordance with 8A (2), and meets the clearances specified in accordance with 8A (3), the inspection of the aft seal is complete.

(5) If the inside diameter of the rubber is found to be even with the inside diameter of the metal base, proceed to paragraph 8B.

b. If the seal assembly around the aft or forward rotor shaft is found defective –

(1) Remove the seal assembly. To gain adequate access to the seal assembly it may be necessary to first remove the rotor head and rain shield (C/MH–47D – TM 55–1520–240–23, Chapters 5 and 6, and MH–47E – TM 1–1520–252–23, Chapters 5 and 6).

(2) Remove the seal from the slider shaft.

(3) Inspect the vertical rotor shaft for any damage that may have been caused as a result of the defective seal.

(a) If damage is found to the vertical rotor shaft, contact the technical point of contact in paragraph 16A.

(b) If no damage is found to the vertical rotor shaft, proceed to paragraph 9.

c. For seal assemblies not installed on the aircraft –

(1) Identify all seal assemblies with cage code 59213.

(2) Perform a visual inspection to ensure the inside diameter of the rubber extends past the inside diameter of the metal base.

(a) The inside diameter of the metal base should measure 7.5 inches and the inside diameter of the rubber should extend beyond the inside diameter of the metal base by at least 0.375 inches.

(b) If the seal falls within these parameters, the inspection of the seal is complete.

(c) If the rubber is even with the metal base, proceed to paragraph 9.

9. **Correction Procedures.** If a Seal Assembly is found to be defective –

a. Replace the seal with a properly manufactured seal and reassemble.

b. If no seals are available, send the seal to the AVIM support facility where the seal assembly can be reworked to the proper specifications. Notify the logistal point of contact in paragraph 16B who will forward the technical drawings to the LAR.

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 using normal supply procedures. All requisitions shall use project code (CC 57-59) "X01", "(X-RAY-ZERO-ONE)".

NOTE

Project code "X01", is required to track and establish a data base of stock fund expenditures incurred by the field as a result of SOF actions.

c. Bulk and Consumable Materials. N/A.

d. Disposition. Hold any discrepant part/component for possible rework instructions from logistical point of contact in paragraph 16B.

e. Disposition of Hazardous Material. N/A.

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

12. **Application**.

a. Category of Maintenance.

(1) AVUM for inspection and reinstallation as required.

(2) AVIM for rework of the seal assembly.

b. Estimated Time Required-

(1) To conduct the initial inspection –

(a) Total of 0.5 man–hours using 1 person.

(b) total of 0.5 hour downtime for one end item.

(2) To remove and replace a seal assembly –

(a) Total of 16 man–hours using 4 persons.

(b) Total of 4 hours downtime for one end item.

c. Estimated Cost Impact to the Field.

NOMENCLATURE	PN/NSN	QUANTITY	COST EACH	TOTAL
SLIDER SHAFT SEAL ASSEMBLY	145R3131-1/ 1615-01-113-0258	2	$111.74	$223.48
SLIDER SHAFT SEAL ASSEMBLY	145R3131-2/ 1615-01-113-0261	2	$162.08	$324.16

TOTAL COST PER AIRCRAFT = $547.64

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 – TM 55-1520-240-23 and TM 1-1520-252-23 shall be changed to reflect this Technical Bulletin. A copy of this Technical Bulletin shall be inserted in the appropriate TM as authority to implement the change until the printed change is received. Changes to the TM's will be as follows –

(1) TM 55-1520-240-23, Task 6-50, Instruction 33, shall be changed to read as follows: "Position seal halves (64 and 65) on shaft (54). Apply a light coat of oil (E253), (E254), or (E254.1) to the thread of 12 bolts (66). Install the bolts and washers (67). Ensure that a minimum clearance of 0.050 inch exists between the rubber seal and the surface of the rotor shaft. If a minimum clearance does not exist, move the seal (64 or 65) radially as far away from the shaft as possible and recheck clearance. Torque the bolts to 60 inch–pounds."

(2) TM 55–1520–240–23, Task 6–54, Instruction 35, and TM 1–1520–252–23, Task 6–64, Instruction 35, shall be changed to read "Position two halves of seal (35) on shaft (31). Install 12 washers (36) and bolts (34). Ensure that a minimum of clearance of 0.050 inch exists between the rubber seal (35) and the surface of the rotor shaft (31). If a minimum clearance does not exist, move the seal (35) radially as far away from the shaft (31) as possible and recheck clearance. Torque bolts to 60 inch–pounds. Lock wire bolts (34). Use lock wire (E278)."

(3) TM 1–1520–252–23, Task 6–59, Instruction 34, shall be changed to read as follows: "Coat threads of bolts (70) with oil (E303) and position seal halves (68 and 69) on shaft (58). Install 12 bolts (70) and washers (71). Wear gloves (E226). Ensure that a minimum clearance of 0.050 inch exists between the rubber seal and the surface of the rotor shaft. If a minimum clearance does not exist, move the seal (64 or 65) radially as far away from the shaft as possible and recheck clearance. Torque bolts to 60 inch–pounds."

13. **References.**

a. TM 55–1520–240–23.

b. TM 55–1520–240–23P.

c. TM 1–1520–252–23.

d. TM 1–1520–252–23P.

e. DA PAM 738–751.

14. **Recording and Reporting Requirements**.

a. Reporting Compliance Suspense Date (Aircraft). Upon entering requirements of this Technical Bulletin on DA Form 2408-13-1 on all subject MDS aircraft, Commanders will 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 commercial (256) 313–2111. E-Mail address is safeadm@redstone.army.mil. The report will cite CH–47–00–ASAM–05 (TB 1–1520–240–20–123), 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, Commanders will forward a priority message to: Commander, AMCOM, ATTN: SFAE–AV–CH–L (Mr. William Olson, DSN 897–3379, or commercial (256) 313–3379, datafax is 897–4348, e–mail is "william.olson@peoavn@redstone.army.mil".)The report will cite CH–47–00–ASAM–05 (TB 1–1520–240–20–123), date of inspection aircraft serial number, aircraft and component hours, and results of the inspection. Inspection and reports will be completed no later than 11 August 2000.

c. Reporting Message Receipt (SPARES).

(1) Materiel in Wholesale Depot Storage – Depot and Materiel Activity Commanders will report receipt of this message by e–mail or datafax to the wholesale materiel (SPARES) point of contact listed in paragraph 16C no later than 11 August 2000. Provide a local point of contact.

(2) Materiel in Retail Storage – Commanders and Facility Managers will report receipt of this message by e–mail or datafax to the logistical point of contact listed in paragraph 16B no later than 18 August 2000. Provide a local point of contact.

d. Task/Inspection Reporting Suspense Date (SPARES).

(1) Materiel in Wholesale Depot Storage – Depot and Materiel Activity Commanders will report compliance with this message to the Wholesale Materiel point of contact (SPARES) listed in paragraph 16C no later than 18 August 2000 on DD Form 1225. Provide the cost of compliance with this message to include 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 e–mail or datafax and provide local point of contact.

(2) Materiel in Retail Storage – Commander and Facility Managers will report compliance with this message to the logistical point of contact in paragraph 16B no later than 9 August 2000. Report the quanti-

ty inspected by condition code and the resulting condition code. Report by e–mail or datafax and provide local point of contact.

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.

(4) DD Form 1574/DD Form 1574-1, Serviceable Tag/Label – Materiel (color yellow). Annotate remarks block with "Inspected serviceable in accordance with CH-47-00-ASAM-05 (TB 1-1520-240-20-123)."

(5) DD Form 1575/DD Form 1575-1, Suspended Tag/Label – Materiel (color brown). Annotate remarks block with "Suspended in accordance with CH-47-00-ASAM-05 (TB 1-1520-240-20-123)."

(6) DD Form 1577-2/DD Form 1577-3, Unserviceable (repairable)Tag/Label – Materiel (color green). Annotate remarks block with "Unserviceable in accordance with CH-47-00-ASAM-05 (TB 1-1520-240-20-123)."

(7) SF 368, Product Quality Deficiency Report.

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

16. **Points of Contact**.

a. Technical point of contact for this TB is Mr. Larry Wieschhaus, AMSAM-RD-AE-I-P-C, DSN 897-3341 or commercial (256) 313-3341, datafax is DSN 897-4348 or commercial (256) 313-4348. e–mail is "larry.wieschhaus@redstone.army.mil".

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

c. Wholesale Materiel point of contact (SPARES) is Mr. Paul Hughes, DSCR–XB, DSN 695–6328 or commercial (804) 279–6328, datafax is DSN 695–5190. E–mail is "phughes@dscr.dla.mil".

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 points of contact for this TB are –

(1) Primary – Mr. Harry Trumbull (SAIC), AMSAM-SF-A. DSN 897–2095 or commercial (256) 313–2095, datafax is DSN 897–2111 or commercial (256) 313-2111. E–mail is "harry.trumbull@redstone.army.mil".

(2) Alternate – Mr. Russell Peusch, AMSAM-SF-A, DSN 788-8632 or 897–2091, or commercial (256) 842-8632 or (256) 313–2091, datafax is DSN 897-2111 or commercial (256) 313-2111. E–mail is "russel.peusch@redstone.army.mil".

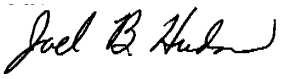
f. Foreign Military Sales recipients requiring clarification of action advised by this message should contact CW5 Joseph L. Wittstrom, Security Assistance Management, AMSAM-SA, DSN 897-0410 or commercial (256) 313-0410. E–mail is "wittstromjl@redstone.army.mil" or Mr. Ronnie Sammons, AMSAM-SA-CS-NF, DSN 897-0408 or commercial (256) 313-0408, 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:

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



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0021403

DISTRIBUTION:
To be distributed in accordance with Initial Distribution Number (IDN) 313926, requirements for TB 1-1520-240-20-123.

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.

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.

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER	SIGN HERE

TEAR ALONG PERFORATED LINE

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 dekagram = 10 grams = .35 ounce
1 hectogram = 10 dekagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	newton-meters	1.356	metric tons	short tons	1.102
pound-inches	newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

PIN: 078372-000