

URGENT

*TB 1-1520-238-20-130

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

MAIN LANDING GEAR UPPER SHOCK STRUT, AH-64 SERIES HELICOPTERS

Headquarters, Department of the Army, Washington, D.C.

13 January 2003

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NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

NOTE

MACOM commanders may authorize temporary exception from technical bulletin (TB) requirements IAW 95-1, Ch 6. 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.

1. Summary –

1.1 Background – A fractured main shock strut upper cylinder was discovered on an in-service aircraft. Analysis has revealed that the cause of the fracture was stress corrosion cracking induced by moisture. The crack initiated from the inside circumference of the cylinder at the weep hole and eventually propagated through the entire cylinder wall completely around the circumference.

1.2 Technical Bulletin Purpose – Perform an initial and recurring visual inspections of the upper shock strut cylinder.

2. END ITEMS AFFECTED – All AH-64 series aircraft.

*This TB supersedes USAAMCOM Aviation Safety Action Message AH-64-03-01 141300Z Nov 02.

TB 1-1520-238-20-130

3. ASSEMBLIES/COMPONENTS/PARTS AFFECTED –

3.1 Suspect/discrepant assemblies/components/parts –

NOMENCLATURE	PN	NSN
SHOCK STRUT, MAIN LANDING GEAR	1168100-505	1620-01-147-4775
SHOCK STRUT, MAIN LANDING GEAR	1168100-507	1620-01-465-9232

3.2 Additional assemblies/components/parts to be inspected –

NOMENCLATURE	PN	NSN
LANDING GEAR ASSEMBLY	1168000-509 (LH)	N/A
LANDING GEAR ASSEMBLY	1168000-510 (RH)	N/A
LANDING GEAR ASSEMBLY	1168000-511 (LH)	N/A
LANDING GEAR ASSEMBLY	1168000-512 (RH)	N/A

NOTE

When complying with the requirements of this TB, complete forms and records entries IAW DA PAM 738-751. ULLS-A units will use appropriate “E” forms.

4. INITIAL TAMMS (THE ARMY MAINTENANCE MANAGEMENT SYSTEM) COMPLIANCE REQUIREMENTS –

4.1 Upon receipt of this TB, make the following entry on the DA Form 2408-13-1. Enter a Red Horizontal Dash – status symbol with the following statement: “Comply with the requirements of AH-64-03-ASAM-01 and TB 1-1520-238-20-130 before [####.#] aircraft hours, but NLT (27 November 2002).” (Calculate [####.#] as current aircraft flight hours plus 10 hours). Commanders who are unable to comply with the requirements of this TB within the time frame specified will upgrade the affected aircraft status symbol to a red X.

NOTE

The TAMMS compliance reporting form is available at “www.redstone.army.mil/sof/tamms.xls” (use lower case letters only) or may be obtained from the units servicing LAR. Alternate forms may be approved by the AMCOM SOF Compliance Officer.

NOTE

The TAMMS Compliance Report only confirms the unit has made the initial logbook entry for assigned aircraft. TAMMS Compliance Reports will include aircraft serial numbers (in numerical order), date of entry on DA Form 2408-13-1, unit address, local POC name and phone number.

4.2 TAMMS Compliance Reports – Submit TAMMS Compliance Report via priority email to “safe-adm@redstone.army.mil” NLT (20 November 2002) IAW AR 95-1. If email is not available, the report may be faxed to: SOF Compliance Officer at DSN 897-2111 or (256) 313-2111.

5. TASK/INSPECTION COMPLIANCE REQUIREMENTS –

NOTE

The Task/Inspection Reporting Form is available at “www.redstone.army.mil/sof/log.xls” (use lower case letters only) or may be obtained from the units servicing LAR. This report will cite the message number, date of inspection, aircraft serial number, aircraft hours, component serial number, component hours, and results of the inspection.

- 5.1 Aircraft – Submit Task/Inspection Compliance Report for this TB to Log POC NLT 3 December 2002.
- 5.2 Retail Stock (Installation level and below) – Submit Task/Inspection Compliance Report for this TB to Log POC NLT 27 November 2002. Include unit poc, address and phone number.
- 5.3 Wholesale Stock (Including Depot Stock, Depot Maintenance and Single Stock Fund) – N/A.

6. SPECIAL PROVISIONS TO TB REQUIREMENTS (AIRCRAFT) –

- 6.1 Aircraft at Contractor Facility – Boeing will inspect DD 250 aircraft prior to those aircraft departing for ferry to final destination.
- 6.2 Aircraft in Surface/Air Shipment – Comply with TB requirements NLT 10 hours/14 days after arrival at final destination.

7. TECHNICAL PROCEDURES/INSTRUCTIONS –

- 7.1 Perform visual inspection on or before next 10 hour/14 day scheduled maintenance.

NOTE

Visual inspections can be completed with the shock strut installed.

- 7.1.1 Gain access to the shock IAW TM-1-1520-238-23-2, para 3.18 or IETM.
- 7.1.2 Using a flashlight and mechanics mirror, visually locate the 3/32 inch diameter weep hole ensuring it is not blocked with debris and/or paint. The weep hole is located approximately 7/8 inch below the top of the cylinder.
- 7.1.3 Inspect the area immediately surrounding weep hole and the entire circumference of the shock strut for evidence of base metal cracking and/or fluid leakage. Fluid leakage can be an indication of a cracked shock strut. If no evidence of cracking or seepage is found, visual inspection is complete.
- 7.1.4 If evidence of cracking or leakage is found –
 - 7.1.4.1 Change aircraft status to a red X.
 - 7.1.4.2 Perform the magnetic particle inspection IAW paragraph 7.2. of this TB prior to the next flight.
- 7.1.5 Annotate the DA Form 2408-18 with a 10 hour/14 day recurring inspection. ULLS-A units will use an “800” inspection number for temporary 10 hr/14 d Weep Hole inspection. Perform recurring visual inspection at every 10 hour/14 day scheduled maintenance interval.
- 7.2 Magnetic particle inspection on upper shock strut cylinder with crack anomalies identified during visual inspection.
 - 7.2.1 Remove shock strut IAW TM-1-1520-238-23-2, para 3.18 or IETM.
 - 7.2.2 Remove paint from a 1.5 inch diameter area immediately surrounding the 3/32 inch diameter weep hole of upper shock strut cylinder using chemical stripper listed in para 10.2 of this TB .

NOTE

Take care to keep chemical stripper from intruding into upper cylinder via weep hole. The weep hole is located approximately 7/8 inch below the top of the cylinder.

TB 1-1520-238-20-130

7.2.3 Perform magnetic particle inspection IAW TM-1-1520-264-23, section 4.27 with the following exceptions –

7.2.3.1 Select AC on the AC/DC power switch.

7.2.3.2 Place probe/yoke on the part so that the probe/yoke is parallel with the long axis of the shock strut.

7.2.3.3 Use a three-inch leg distance measured from the inside of the legs. Position one of the probe/yoke legs a minimum of 1/4 inch above the weep hole maintaining contact with the shock strut.



Verify the probe/yoke legs are placed on housing, not on the threaded ring. Improper placement of legs will generate an insufficient magnetic field.

7.2.3.4 Press the test switch and apply a light coat of magnetic particle media at the same time. Remove the media momentarily before removing the current. Current should be applied for no more than five seconds. Verify magnetic field with field indicator.

7.2.3.5 Inspect for cracks using the black light.

7.2.3.6 Demagnetize before moving to the next position, IAW TM-1-1520-264-23, para 4.10.3.8.

7.2.3.7 Reconfigure the probe/yoke legs to match the circumference of the shock strut, maintain the 3 inch leg-to-leg distance as close as possible. Center the stripped area between legs of the probe/yoke.

7.2.3.8 Repeat steps 7.2.3.4. through 7.2.3.6.

7.2.4 If no evidence of cracking is found –

7.2.4.1 Repaint the affected area utilizing primer (MIL-P 23377) and topcoat (MIL-C 46168) per Tm 55-1500-345-23.

7.2.4.2 Install shock strut IAW TM 1-1520-238-23-2, paragraph 3.18 or IETM.

7.2.5 If evidence of cracking is noted –

7.2.5.1 Submit a Category I Quality Deficiency Report (QDR) and contact the Technical POC IAW paragraph 13.1 of this TB.

7.2.5.2 Replace the strut

7.3 Clear the initial entry from paragraph 4.1 and note compliance on DA Form 2408-15.

8. PROCEDURES/INSTRUCTIONS FOR ASSEMBLIES/COMPONENT/PARTS IN WORK OR IN STOCK (AT ALL LEVELS INCLUDING WAR RESERVES) – Annotate the serviceability tag with: “AH-64-03-ASAM-01, Main Landing Gear Upper Strut, not complied with”. Do not remove original condition tags”.

8.1 Items in Retail Stock – Commanders and facility managers that maintain retail stock at installation level and below will complete the following procedures.

8.1.1 Contact the support aviation unit, as required, to perform the procedures required on affected items.

8.1.2 Comply with inspection and correction procedures as required to return items to serviceable stock.

8.1.3 Submit a Task/Inspection report IAW paragraph 5.

8.2 Items in Single Stock Fund and in Work (Overhaul/Repair Facility) – N/A.

8.3 Items in Wholesale Stock – N/A.

9. SPECIAL TOOLS AND FIXTURES REQUIRED – N/A.

10. SUPPLY/PARTS (REQUISITION/DISPOSITION) –

10.1 Parts Required – Parts required and estimated cost will be determined on the part number of the shock strut installed.

10.1.1 If the part number 1168100-505 is installed –

Nomenclature	Part No./NSN	Qty	Cost ea.	Total \$
Shock Strut, Main	1168100-505	2	\$16271.00	\$32542.00
Landing Gear	1620-01-147-4775			
Total cost per aircraft=				\$32542.00

10.1.2 If the part number 1168100-507 is installed –

Nomenclature	Part No./NSN	Qty	Cost ea.	Total \$
Shock Strut, Main	1168100-507	2	\$21706.00	\$43412.00
Landing Gear	1620-01-465-9232			
Total cost per aircraft=				\$43412.00

10.2 Bulk and consumable materials –

Nomenclature	Part No.	NSN
Chemical Stripper	N/A	8010-00-149-9273 (1 pint)
Chemical Stripper	N/A	8010-00-181-7568 (1 gallon)
Primer	MIL-P-23377	8010-01-441-6031 (10cc)
Topcoat	MIL-C-46168	8010-01-316-2219 (1 gallon)

10.3 Requisitioning instructions – Requisition replacement parts using normal supply procedures. All requisitions shall use project code (cc 57-59) “X24” (X-ray-Two-Four).

NOTE

Project code “X24” is required to track and establish a data base of stock fund expenditures incurred by the field as a result of message action.

10.4 Disposition of discrepant parts/components – Hold pending disposition instructions from Log poc.

10.5 Disposition of hazardous material – IAW Environmental Protection Agency directives as implemented by your servicing environmental coordinator (AR 200-1).

11. MAINTENANCE APPLICATION –

11.1 Category of maintenance – AVUM for the visual inspection. AVIM for the magnetic particle inspection.

11.2 Estimated time required –

11.2.1 Time to complete visual inspection – total of 1 man-hour using 1 person.

11.2.2 Time to complete the magnetic particle inspection – Total of 20 man-hours using 2 persons with 10 hours downtime per end item.

12. PUBLICATION REQUIREMENTS –

12.1 References –

12.1.1 AR 95-1.

12.1.2 DA Pam 738-751.

12.1.3 TM 1-1520-264-23, Aviation Unit and Intermediate Maintenance Manual Nondestructive Inspection Procedures for AH-64A Helicopter, 30 Novmber 1996.

12.1.4 TM 1-1520-238-23, Aviation Unit and Intermediate Maintenance Manual for AH-64A Apache Attack Helicopter, 16 May 1994.

TB 1-1520-238-20-130

12.1.5 Interactive Electronic Technical Manual (IETM): TM 1-1520-Longbow/Apache IETM, CD No. 1, Version 3.1.2, Dated 19 Nov98, CD Date 1 Dec 98 or Subsequent.

12.2 Publication changes –

12.2.1 TM 1-1520-238-PM, Phased Maintenance Check List for AH-64A Helicopter.

12.2.2 TM 1-1520-238-23, Aviation Unit and Intermediate Maintenance Manual for AH-64A Apache Attack Helicopter.

12.2.3 TM 1-1520-251-PM/IETM Phased Maintenance Check List for AH-64D Helicopter.

13. POINTS OF CONTACT –

13.1 Technical POCs are –

13.1.1 Primary – Mr. Bill Green, AMSAM-RD-AE-I-P-A, DSN 897-2350 Ext 9832 or Commercial 256-705-9832, fax is (256) 705-9918. Email is “bill.green@rdec.redstone.army.mil”.

13.1.2 Alternate – Mr. Ken Muzzo, AMSAM-RD-AE-I-P-A, DSN 897-2350 Ext 9846 or Commercial 256-705-9846. fax is (256) 705-9918. Email is “kenneth.muzzo@rdec.redstone.army.mil”.

13.2 Logistical POCs are –

13.2.1 Primary – Mr. Mike Sharp, DSN 897-4044 or (256) 313-4044, fax is (256) 313-4374. Email is “mike.sharp@peoavn.redstone.army.mil”.

13.2.2 Alternate – Mr. Wayne Fusselman, DS 897-4043 or (256) 313-4043, fax is (256) 313-4374. Email is “wayne.fusselman@peoavn.redstone.army.mil”.

13.3 Wholesale POC is Mr. Dale Uckele, AMSAM-MMC-AV-A, DSN 897-1346 or (256) 313-1346 Email is “dale.uckele@redstone.army.mil”.

13.4 Forms and records POC is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or (256) 876-5564. Fax is DSN 746-4904 or (256) 876-4904. Email is “ann.waldeck@redstone.army.mil”.

13.5 Safety POCs are –

13.5.1 Primary – Mr. Harry Trumbull (SAIC), AMSAM-SF-A, DSN 897-2095 or (256) 313-2095. Fax is DSN 897-2111 or (256) 313-2111. Email is “harry.trumbull@redstone.army.mil”

13.5.2 Alternate – Mr. Joseph Creekmore, AMSAM-SF-A, DSN 788-8630 or (256) 842-8630, fax is DSN 897-2111 or (256) 313-2111. Email is “joseph.creekmore@redstone.army.mil”.

13.6 Foreign Military Sales POC is Mr. Ronnie W. Sammons, AMSAM-SA-AS-UT, DSN 897-0407 or (256) 313-0407. Fax is DSN 897-0411 or (256) 313-0411. Email is “ronnie.sammons@redstone.army.mil”.

13.7 After hours, contact the AMCOM Operations Center (AOC) DSN 897-2066/7 or (256) 313-2066/7.

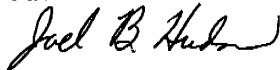
14. LAR INFORMATION:

To find your LAR, you must be a registered user in the Army Electronic Product Support (AEPS) Database; If not request access to AEPS at the public page <http://aeps.ria.army.mil/aepspublic.cfm>. Click on enter AEPS, a security box will appear, Click on “OK”. Then a client authentication box pops up and you can Click “OK” or “CANCEL”. That will bring up the enter network password box where you will enter your user name and password and click “OK”. Once logged into the AEPS Site, click on LAR LOCATOR SERVICE, Logistics Assistance Personnel locator listed under popular applications. Then select the appropriate region, i.e.: CONUS, USAREUR, Far-East, Kuwait. Select the location nearest you and click on a name. This will give you a LAR’s name, DSN and commercial phone number, e–mail address, and photo. If you don’t have access to AEPS, you can also obtain this information by contacting your Senior Command Representative (SCR) for your area. CONUS-EAST (Includes all units east of the Mississippi plus Ft Polk to include National Guard and Reserve Units), DSN 367-6293, Commercial 404-464-6293. CONUS-WEST (Includes all units west of the Mississippi except Ft Polk, to include all National Guard and Reserve Units), DSN 737-0263, Commercial 254-287-0263. FORSCOM (Includes SOUTHCOM, Kuwait, CONUS Units deployed and Reserve Units not otherwise covered) DSN 367-6204, Commercial 404-464-6204: USAREUR (Great Britain, Germany, Belgium, Luxembourg, Italy, Bosnia, Kosovo, and Macedonia) DSN 375-6128/7436, Commercial 01149621-487-3461/6218, FAREAST (Includes Alaska, Hawaii, Korea, Okinawa, Kwajalein, and Japan) DSN 315-722-3036/6579, Commercial 0118232520-6036/6579.

By Order of the Secretary of the Army

ERIC K. SHINSEKI
General, United States Army

Official:



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

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TB 1-1520-238-20-130

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

To: <mpmt%avma28@st-louis-emh7.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.