

# URGENT

\*TB 1-1520-244-20-45

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### ONE TIME INSPECTION OF AH-1 SERIES AIRCRAFT WITH RETENTION FITTING INSTALLED: P/N 540-011-113-1, NSN 1615-00-866-6005; SERIAL NUMBERS STARTING WITH "IT"

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Headquarters, Department of the Army, Washington, D. C.  
26 October 1999

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#### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. **Priority Classification.** URGENT.

#### NOTE

See AR 95-1, paragraph 6-6.a., for exception authority of major commanders.

**a. Aircraft in Use.** Upon receipt of this TB, the condition status symbol of the cited aircraft will be changed to a **Horizontal Red Dash //--//**. The **Horizontal Dash** entry shall state "Complete the inspection requirements of Safety of Flight Message AH-1-00-01 prior to next flight." The **Horizontal Red Dash //--//** may be cleared when the inspection specified in paragraph 8 and the corrective action of paragraph 9 is completed. The affected aircraft shall be inspected as soon as practical, but no later than the task/inspection suspense date. Failure to comply with the requirements of this TB within the time frame will cause the status symbol to be upgraded to a **Red //X//**.

**b. Aircraft in Depot Maintenance.** Aircraft will not be issued until compliance with this TB has been completed.

**c. Aircraft Undergoing Maintenance.** Aircraft will not be released until compliance with this TB has been completed.

\*This TB supersedes USAMMCOM Safety of Flight (SOF) Message AH-1-00-01, 081942Z, Oct 99.

**d. Aircraft in Transit.**

(1) **Surface/Air Shipment.** Same as paragraph 1.a.

(2) **Ferry Status.** Same as paragraph 1.a.

**e. Maintenance Trainers (Category A and B).** Not applicable.

**f. Report Receipt of This TB IAW Paragraph 14C(1).** Upon receipt of this TB, all serviceable items (Condition Codes **//A//**, **//B//**, **//C//**, **//D//**, and **//E//**) listed in paragraphs 6 and 7 located in wholesale depot storage shall be placed in condition code **//J//** and tagged with a suspended tag/label – Material, DD Form 1575/DD Form 1575-1, annotated to read “SOF, AH-1-00-01, TB 1-1520-244-20-45, Imperial tooling retention fitting, not complied with.” Do not remove original condition tags. Report compliance with this TB IAW paragraph 14.d.(1).

**g. Component/Parts in Stock at All Levels (Depot and Others)** . Items listed in paragraphs 6 and 7 in work will not be issued until compliance with this TB is complete.

**2. Task/Inspection Suspense Date.** Prior to next flight or no later than 1 November 1999, whichever occurs first. Aircraft away from home station are authorized a one time flight, with intermediate stops, to a suitable maintenance facility to comply with this TB. The one time flight is limited to a maximum of five flight hours.

**3. Reporting Compliance Suspense Date.** No later than 01 November 1999 in accordance with paragraph 14.a. of this TB.

**4. Summary of the Problem.**

**a. Background.** During testing, several retention fittings were found to have improperly manufactured threads. Additionally, one part was found to have a low hardness level. The suspect parts were manufactured by Imperial Tooling and Machine Company (CAGE Code 30333).

**b. For Manpower/Downtime and Funding Impacts.** See paragraph 12.

**c. Purpose of this TB:** To require a one time inspection and removal of defective retention fittings manufactured by Imperial Tooling and Machine Company (CAGE CODE 30333) currently installed on aircraft and from all stock.

**5. End Items to be inspected.** All AH-1 series aircraft.

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

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Hub Assembly, Main	540-011-101-25	1615-01-014-6007
	540-011-101-129	1615-01-300-5539
	540-011-101-131	1615-01-299-8099

**7. Parts to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Retention Fitting	540-011-113-1	1615-00-866-6005

## 8. Inspection Procedures.

### a. Parts Installed on Aircraft.

(1) Inspect the DA Form 2408-16 and check the serial numbers of the two fittings, P/N 540-011-113-1, installed. If the serial number of either fitting begins with "IT", proceed to paragraph 9.

(2) If neither retention fitting has a serial number beginning with "IT", the inspection is complete. Compliance with this message (AH-1-00-01) and TB 1-1520-244-20-45 will be noted.

### b. Parts/Assemblies in Stock.

(1) Retention fitting P/N 540-011-113-1, NSN 1615-00-866-6005.

(a) Visually inspect all retention fittings, P/N 540-011-113-1, NSN 1615-00-866-6005 for serial numbers beginning with "IT". The serial number will be found inside, on the bottom of the part (the end with the threads).

(b) Verify that the tag or label reflects the serial number found on the retention fitting.

(c) If the serial number begins with "IT", proceed to paragraph 9.

(d) If the retention fitting does not have a serial number beginning with "IT", the inspection is complete. Parts will be re-tagged serviceable (yellow tag) DD Form 1574. Compliance with SOF AH-1-00-01 and TB 1-1520-244-20-45 will be noted.

(2) Hub Assembly, Main, P/N and NSN IAW paragraph 7.

(a) Inspect the DA Form 2408-16 of all serviceable or unserviceable hub assemblies. Verify the serial numbers of the two retention fittings, P/N 540-011-113-1, NSN 1615-00-866-6005, installed. If the serial number of either retention fitting begins with "IT", proceed to paragraph 9.

(b) If neither retention fitting has a serial number beginning with "IT", the inspection is complete. Hub assemblies will be re-tagged serviceable (yellow tag) DD Form 1574, or unserviceable, repairable (green tag) DD Form 1577-2, depending on the condition of the hub assembly prior to inspection. Compliance with SOF AH-1-00-01 and TB 1-1520-244-20-45 will be noted on all related forms.

## 9. Correction Procedures.

a. For suspect retention fittings installed on aircraft, change the status symbol of the affected aircraft to a **RED //X//** until the suspect retention fittings are replaced by serviceable retention fittings from supply, or until the suspect retention fitting has been inspected IAW the requirements stated in paragraph 9.c.

### NOTE

**The hub assembly must be disassembled by an AVIM or Depot level maintainer IAW TM 55-1520-236-23.**

### b. Parts In Stock At All Levels:

(1) Suspect retention fittings in stock will be subjected to the inspection specified in paragraph 9.c. below.

(2) Suspect retention fittings installed in serviceable or unserviceable hub assemblies in stock will be removed from the hub by an AVIM or Depot level maintainer and subjected to the inspection specified in paragraph 9.c. below.

### c. Inspection Procedure.

### NOTE

**Inspection must be performed by a qualified 10ID DOL Technical Inspector.**

(1) The inspection of this part is not within the criteria for funding under the SOF process. However, because of limited quantity in wholesale stockage and the long lead time for procurement (17

months), units will ship their "IT" serial numbered fittings to the Directorate of Logistics (DOL), 10th Mountain Division (10ID) and Ft. Drum for performance of the required inspections.

(a) The 10ID DOL, Aviation Maintenance Branch will perform the hardness test IAW paragraph 9.c.(2), and the root radius check IAW paragraph 9.c.(3). within 24 hours of receipt and inform the unit telephonically of result. Fittings that pass inspection will be modified IAW paragraph 9.d.(1) and return to user within 5 working days. The 10ID DOL will destroy fittings failing the inspection IAW paragraph 10.d.

(b) AMCOM will fund the cost of the inspections on fittings shipped to the 10ID DOL by ARNG users. Removal, transportation to and from the 10ID DOL, and reinstallation of fittings passing the tests will be the responsibility of the ARNG Bureau.

(c) Foreign Military Sales (FMS) recipients desiring to use this service should process their fittings to the 10ID DOL IAW instructions provided by the FMS points of contact listed in paragraph 16.f.

(d) The SHIP TO address for all retail recipients is: Commander, 10th Mountain Division, and Ft Drum, Directorate of Logistics, ATTN: Aviation Maintenance Branch, Bldg P2050, Ft. Drum, NY 13602. The DODAAC for this activity is W81GJX. The 10ID DOL point of contact is Mr. Lloyd Garnsey, Commercial (315) 772-7538 or DSN 341-7538.

(2) The 10ID DOL will conduct a Rockwell hardness check on the flat area on the top of the part (the end opposite the threads). The Rockwell "C" hardness in this area should be 35.5 – 39.5 HRC per ASTM E18. If the part has a hardness outside the 35.5 – 39.5 HRC range, proceed to paragraph 9.d. for parts failing the hardness test. For parts that have passed the hardness test, proceed to paragraph 9.c.(2).

(3) The 10ID DOL will conduct an inspection of the threads per ANSI/ASME B1.3M. Acceptable methods are profile tracing (with suitable fixture) or optical comparator and toolmakers microscope. The root radius of the thread shall be .0094 to .0113 inches. If the part is determined to have a conforming root radius, it has passed inspection. If the part is determined to have a nonconforming root radius, the part has failed the inspection and will be dispositioned IAW paragraph 9.d.

d. Disposition of parts after inspection.

(1) Retention fittings that have passed both the hardness test and thread root radius check will have their serial number modified by adding an "X" to the serial number (example: IT\*\*\*X). This must be accomplished by Vibroetch. This modification of the retention fitting serial number will require that a DA Form 2410, Copy 3 (M-Loss) and copy 2 (S-Gain) be submitted to AMCOM IAW DA PAM 738-751, dated 15 March 1999.

**NOTE**

**Reinstallation of fittings into hubs is per TM 55-1520-236-23. Fittings must be within TM 55-1520-236-23, Figure 5-36, tolerances to be reinstalled.**

(a) Retention fittings removed from aircraft that passed the inspection in paragraph 9.c. may be reinstalled and the **RED //X//** may be cleared. Records must be updated to note the modified serial number and compliance with SOF AH-1-00-1 and TB 1-1520-244-20-45.

(b) Retention fittings from stock that passed the inspection in paragraph 9.c. will be tagged with DD Form 1574 or DD Form 1574-1, serviceable (yellow tag). Note the modified serial number and compliance with SOF AH-1-00-1 and TB 1-1520-244-20-45.

(c) Hub assemblies will be re-tagged as they were prior to the inspection, after retention fittings passing inspection are reinstalled. Note the modified serial number of the retention fitting and compliance with SOF AH-1-00-01 and TB 1-1520-244-20-45.

(2) Retention fittings that have failed either the hardness test or thread root radius check will be condemned and dispositioned per paragraph 10.d.

**10. Supply/Parts and Disposition.**

**a. Parts Required.** Items cited in paragraphs 6 and 7 may be required to replace defective items. Other parts that may be required are:

NOMENCLATURE	NSN
PIN	5315-00-891-8384
PIN	5315-00-891-8383
SEAL	5330-00-929-1046
RADIUS RING	1615-00-960-0321

**b. Requisitioning Instructions.** Requisition replacement parts using normal supply procedures. All requisitions shall use Project Code (CC 57-59) "XF2" (XRAY-FOXTROT-TWO).

**NOTE**

Project code XF2 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.** Demilitarize/mutilate any part/component which does not meet inspection criteria IAW TM 1-1500-328-23, dated 28 Feb 95. Report the serial number of any fittings demilitarized to the technical point of contact listed in paragraph 15.a. by phone, datafax, or e-mail.

**e. Disposition of Hazardous Material.** In accordance with Environmental Protection Agency directives as implemented by your servicing environmental coordinator (AR 200-1).

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

**12. Application.**

**a. Category of Maintenance.**

- (1) Aircraft records check and Hub removal/installation – AVUM
- (2) Removal and reinstallation of fitting – AVIM.
- (3) Inspection of fittings – Depot.

**b. Estimated Time Required.**

- (1) Total of 0.5 man-hour using 1 person to conduct the records check.
- (2) Removal and reinstallation of the hub and retention fittings:
  - (a) Total of 40 man-hours using 2 persons.
  - (b) Total of 20 hours downtime for one end item.
- (3) Inspection of fitting: Total of 1 hour using 1 person.

**c. Estimated Cost Impact to the Field.**

NOMENCLATURE	P/N	NSN	QTY.	COST EA.
Retention Fitting	540-011-113-1	1615-00-866-6005	2	\$182.80

Total cost per aircraft = \$365.60.

- 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. TM 55-1520-236-23.
- b. ASTM E18.
- c. ANSI/ASME B1.3M.
- d. DA PAM 738-751.
- e. TM 1-1500-328-23.

**14. Recording and Reporting Requirements.**

**a. Reporting Compliance Suspense Date (Aircraft).** Upon entering requirements of this SOF message/TB on DA Form 2408-13-1 for all subject mission design series (MDS) aircraft, forward a priority message, datafax or E-mail to CDR, AMCOM, ATTN: AMSAM-SF-A (SOF Compliance Officer) in accordance with (IAW) 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 this message/TB number, date of entry on DA Form 2408-13-1, aircraft MDS, and serial numbers of aircraft in numerical order.

- b. **Task/Inspection Reporting Suspense Date (Aircraft).** N/A.
- c. **Reporting Message/TB Receipt (Spares).** N/A.
- d. **Task/Inspection Reporting Suspense Date (Spares).** N/A.

**(1) Materiel in Wholesale Depot Storage.** Report compliance with this message/TB to the Wholesale Materiel Point of Contact (spares) listed in paragraph 16.c. within seven (7) days of the date of this message/TB on DD Form 1225. Provide the cost of compliance with this message/TB 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.** Report compliance with this message/TB to the logistical point of contact in paragraph 16.b. within 14 days of the date of this message/TB. Report the quantity 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 Pamphlet 738-751, dated 15 March 1999:**

**NOTE**

Unit Level Logistics System-Aviation (ULLS-A) users will use applicable electronic "-E" forms.

- (1)** DA Form 2408-5-1, Equipment Modification Record (Retention Fitting).
- (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.
- (6) DA Form 2410, Component Removal and Repair/Overhaul Record.
- (7) DD Form 1574/DD Form 1574-1, Serviceable Tag/Label – Materiel (Color Yellow). Annotate Remarks Block with “Inspected Serviceable IAW SOF AH-1-00-01 and TB 1-1520-244-20-45”.
- (8) DD Form 1575/DD Form 1575-1, Suspended Tag/Label – Materiel (Color Brown). Annotate Remarks Block with “Suspended IAW SOF AH-1-00-01 and TB 1-1520-244-20-45”.
- (9) DD Form 1577/DD Form 1577-1, Unserviceable (Condemned) Tag/Label – Materiel (Color Red). Annotate remarks block with “Condemned IAW SOF AH-1-00-01 and TB 1-1520-244-20-45”.
- (10) DD Form 1577-2/DD Form 1577-3, Unserviceable (Reparable) Tag/Label – Materiel (Color Green). Annotate remarks block with “Unserviceable IAW SOF AH-1-00-01 and TB 1-1520-244-20-45”.

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

**16. Points of Contact**

a. Technical points of contact for this message/TB are:

(1) Primary – Mr. Gerald Johnson, AMSAM-AR-E-I-B-H, DSN 645-9545 or Commercial (256) 955-9545, Datafax is DSN 645-9536. E-mail is <gerald.johnson@redstone.army.mil>.

(2) Alternate – Ms. Denise Bouchard, AMSAM-AR-E-I-B-H, DSN 645-9740 or Commercial (256) 955-9740. Datafax is DSN 645-9536. E-mail is <denise.bouchard@redstone.army.mil>.

b. Logistical points of contact for this message/TB are:

(1) Primary – Mr. Leonard Monk, AMSAM-DSA-AS-ASH-L, DSN 645-7605 or Commercial (256) 955-7605. Datafax is DSN 645-7125. E-mail is <leonard.monk@redstone.army.mil>.

(2) Alternate – Mr. Edward Grimbald, AMSAM-DSA-AS-ASH-L, DSN 645-7968 or Commercial (256) 955-7968. Datafax is DSN 645-7125. E-mail is <edward.grimbald@redstone.army.mil>.

c. Wholesale Materiel points of contact (Spares) are:

(1) Primary – Ms. Sandra Walls, AMSAM-MMC-VS-UN, DSN 897-1089 or Commercial (256) 313-1089. Datafax is DSN 897-1558. E-mail is <walls-sj@redstone.army.mil>.

(2) Alternate – Mr. Dale Mitchell, AMSAM-MMC-VS-UN, DSN 897-1139 or Commercial (256) 313-1139. Datafax is DSN 897-1558. E-mail is <mitchell-df@redstone.army.mil>.

d. Forms and Records point of contact for this message/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 message 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 recipients requiring clarification of action advised by this message/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 W. 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.

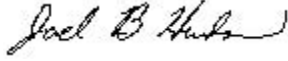
g. After hours contact the AMCOM Command Operations Center (COC) DSN 897-2066/2067 or Commercial (256) 313-2066/2067.

**17. Reporting of Errors and Recommending 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-LS-LP, Redstone Arsenal, Alabama 35898-5230. A reply will be furnished to you. You may also send in your comments electronically to our E-mail address at <ls-lp@redstone.army.mil>, or by datafax at DSN 788-6546 or commercial (256) 842-6546. Instructions for sending a DA Form 2028 by E-mail may be found at the back of most Technical Manuals.



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

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