

# URGENT

\*TB 1-1520-238-20-133

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### WING MOUNTING NUTS/BOLTS, ALL AH-64 SERIES AIRCRAFT

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

10 March 2003

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#### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

#### NOTE

This Technical Bulletin (TB) is issued IAW AR 95-1 and has not been transmitted to units subordinate to addressees. Addressees will immediately retransmit this message to all subordinate units, activities or elements affected or concerned. MACOM's will immediately verify this transmission to the AMCOM SOF Compliance Officer (AMSAM-SF-A, safeadm@redstone.army.mil).

#### NOTE

MACOM commanders may authorize temporary exception from TB requirements IAW AR 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 – While removing a wing during maintenance, a wing mounting bolt was found to have no torque and was subsequently discovered to have a cracked barrel nut. Wing barrel nuts (P/Ns HS 5483-820 and HS 5483-1018) are subject to cracking. Failure of the barrel nuts can lead to loss of the wing.

#### 1.2 TB Purpose –

1.2.1 Require initial and recurring inspections of the wing mounting hardware.

\*This TB supersedes USAAMCOM Aviation Safety Action Message AH-64-03-ASAM-04 241550Z Feb 03.

## TB 1-1520-238-20-133

1.2.2 Require replacement of wing mounting hardware with new configuration P/N bolts and nuts.

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

### **3. ASSEMBLIES/COMPONENTS/PARTS AFFECTED** –

3.1 The following components are the new configuration hardware required for installation IAW this message.

<b>NOMENCLATURE</b>	<b>P/N</b>	<b>NSN</b>
Nut, Self-Locking, Barrel	HS5813-10 vendor P/N SL4133-10	5310-01-439-0839
Nut, Self-Locking, Barrel	HS5813-8 vendor P/N SL4133-8E	5310-01-347-6828
Retainer, Nut and Bolt	NAS578-8B	5340-00-874-7391
Retainer, Nut and Bolt	NAS578-10B	5340-00-064-6088
Bolt, Machine	HS5683-10-13 vendor P/N VS3582-10-30, BC0020CE6A1-30	
Bolt, Machine	HS5683-10-30	5306-01-331-2592
Bolt, Machine	HS5683-8-21 vendor P/N VS3582-8-21, BC0020CE6A8-21, AIC917-8-21	5306-01-331-2591

3.2 The following components are the old configuration hardware, requiring replacement IAW this message.

<b>NOMENCLATURE</b>	<b>P/N</b>	<b>NSN</b>
Nut, Self-Locking, Barrel	HS5483-1018	5310-01-311-7077
Nut, Self-Locking, Barrel	HS5483-820	N/A
Nut, Self-Locking, Barrel	HS4504-10	N/A
Nut, Self-Locking, Barrel	HS4504-08	N/A
Bolt, Machine	HS5482-10	N/A
Bolt, Machine	HS4441-10	N/A
Bolt, Machine	HS4441-08	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-04

NLT 10 Mar 03.” 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 3 Mar 03 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 13 Mar 03.

5.2 Retail Stock (Installation level and below) – N/A.

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 in AVUM, AVIM, or Depot level maintenance – Commanders, facility managers and contractors will not issue aircraft until they are in compliance with this TB.

6.2 Aircraft at Contractor Facility – DD 250 aircraft will be inspected and corrected (IAW para 7.4) prior to departing for ferry to final destination.

6.3 Aircraft in Transit – Unit commanders in receipt of deployment orders for contingency operations and are unable to comply prior to the initial Task/Inspection suspense date may defer initial inspection requirements IAW surface/air shipment or ferry status instructions, as appropriate.

6.3.1 Surface/air shipment – Comply with TB requirements within 14 days of arrival at final destination.

6.3.2 Ferry status – Comply with TB requirements within 14 days of arrival at final destination.

**7. TECHNICAL PROCEDURES/INSTRUCTIONS –** This TB directs the eventual replacement of the wing barrel nuts and bolts with new hardware (Nuts, P/Ns HS5813-8 and HS5813-10) (Bolts, HS5683-10-30 or HS5683-8-21), if not already installed. The initial inspection requires a torque verification within 14 days. The recurring inspection requires a torque verification every 30 days until the torque has been lowered IAW with para 7.2. After the torque has been reduced, a torque verification at the lower torque values is required every 30 days until the hardware has been inspected and replaced.

7.1 Initial and recurring (every 30 days before torque reduction) wing mounting bolt torque verification. Perform the following initial inspection NLT 10 Mar 03 and recurring (every 30 days) torque verification of the wing mounting bolt until the torque has been lowered IAW para 7.2.

## TB 1-1520-238-20-133

- 7.1.1 Remove access covers/fairings to gain access to the wing bolts.
  - 7.1.1.1 For the AH-64A, remove access covers (LW9 and RW9) and fairings (LW10, LW11, RW10 and RW11).
  - 7.1.1.2 For the AH-64D, remove access covers (5LW10, 5LW11, 5RW10 and 5RW11).
- 7.1.2 Torque verification. Using a torque wrench set to the following setting, ensure the bolt does not turn.
  - 7.1.2.1 Upper wing bolts, set wrench to 198 foot-pounds.
  - 7.1.2.2 Lower wing bolts, set wrench to 81 foot-pounds.
- 7.1.3 If bolt turns, replace bolt and barrel nut IAW para 7.4.
- 7.1.4 If bolt does not turn, retorquing wing barrel bolts to the required value as follows.
  - 7.1.4.1 Torque upper wing bolts to 220 foot-pounds.
  - 7.1.4.2 Torque lower wing bolts to 90 foot-pounds.
- 7.1.5 Reinstall access covers/fairings.
- 7.1.6 Clear the initial entry from para 4.1 and make the following entry on the DA Form 2408-13-1. Enter a Red Diagonal / status symbol with the following entry: "Reduce wing bolt torque IAW AH-64-03-ASAM-04 during next phase but NLT 1 Feb 04".
- 7.1.7 Annotate the DA Form 2408-18 with a recurring 30 day inspection (IAW para 7.1) for the wing mounting bolts until in compliance with either para 7.2 or 7.4. ULLS-A units will use an "800" inspection number for the recurring 30 day wing bolt torque verification.
- 7.2 Torque reduction and lubricant application. During the next phase inspection, but NLT than 1 Feb 04, reduce the torque on the wing mounting bolts and apply lubrication to the bolt threads as follows. This procedure will be performed on all eight mounting bolts (two upper and two lower on each wing), removing only one bolt at a time. .
  - 7.2.1 Remove access covers/fairings to gain access to the wing bolts.
    - 7.2.1.1 For the AH-64A, remove access covers (LW9 and RW9) and fairings (LW10, LW11, RW10 and RW11).
    - 7.2.1.2 For the AH-64D, remove access covers (5LW10, 5LW11, 5RW10 and 5RW11).
  - 7.2.2 Remove wing stores IAW TM 9-1090-208-23-1 or IETM.
  - 7.2.3 Remove upper bolt and washer (TM 1-1520-238-23P, fig 137, items 1 and 2) or lower bolt and washer (TM 1-1520-238-23P, fig 137, items 3 and 4) (or the IETM) from the wing.
  - 7.2.4 Inspect bolt for damage. No damage allowed.
  - 7.2.5 Lubricate the bolt threads using MIL-T-83483. Ensure lubricant is applied only to the threads.
  - 7.2.6 Install bolt and washer. When installing lower bolts, ensure bolt length is 2.058 to 2.088 inches.
  - 7.2.7 Torque upper bolts to 120 foot-pounds and torque lower bolts to 70 foot-pounds.
  - 7.2.8 Repeat para 7.2.3 to 7.2.7 for all wing mounting bolts.
  - 7.2.9 Reinstall the wing stores IAW TM 9-1090-208-23-1 or IETM.
  - 7.2.10 Reinstall access covers/fairings.
  - 7.2.11 Clear the entry required by paragraph 7.1.6 and make the following entry on the DA Form 2408-13-1. Enter a Red Diagonal / status symbol with the following entry: "Replace wing mounting hardware IAW AH-64-03-ASAM-04 NLT 1 Feb 06".
  - 7.2.12 Annotate the DA Form 2408-18 with a recurring 30 day inspection (IAW para 7.3) for the wing mounting bolts until in compliance with para 7.4. ULLS-A units will use an "800" inspection number for the recurring 30 day wing bolt torque verification.
- 7.3 Recurring (every 30 days after torque reduction) wing mounting bolt torque verification. Perform the following recurring wing mounting bolt torque verification every 30 days until the hardware has been replaced IAW para 7.4 of this TB.
  - 7.3.1 Remove access covers/fairings to gain access to the wing bolts.

7.3.1.1 For the AH-64A, remove access covers (LW9 and RW9) and fairings (LW10, LW11, RW10 and RW11).

7.3.1.2 For the AH-64D, remove access covers (5LW10, 5LW11, 5RW10 and 5RW11).

7.3.2 Torque verification. Using a torque wrench set to the following setting, ensure the bolt does not turn.

7.3.2.1 Upper wing bolts, set wrench to 108 foot-pounds.

7.3.2.2 Lower wing bolts, set wrench to 63 foot-pounds.

7.3.3 If bolt turns, replace bolt and barrel nut IAW para 7.4.

7.3.4 If bolt does not turn, retorque wing barrel bolts to the required value as follows.

7.3.4.1 Torque upper wing bolts to 120 foot-pounds.

7.3.4.2 Torque lower wing bolts to 70 foot-pounds.

7.3.5 Reinstall access covers/fairings.

7.4 Wing mounting hardware inspection/replacement. All wing mounting hardware (bolts and nuts) will be removed and inspected NLT 1 Feb 06 to ensure new configuration hardware is installed. This procedure will be performed on all eight mounting bolts (two upper and two lower on each wing), removing only one bolt at a time.

7.4.1 Remove the ammunition storage magazine IAW TM 9-1090-208-23 or IETM.

7.4.2 Remove access covers/fairings to gain access to the wing bolts.

7.4.2.1 For the AH-64A, remove access covers (LW9 and RW9) and fairings (LW10, LW11, RW10 and RW11).

7.4.2.2 For the AH-64D, remove access covers (5LW10, 5LW11, 5RW10 and 5RW11).

7.4.3 Remove wing stores IAW TM 9-1090-208-23-1 or IETM.

7.4.4 Remove upper bolt and washer (TM 1-1520-238-23P, fig 137, items 1 and 2) or lower bolt and washer (TM 1-1520-238-23P, fig 137, items 3 and 4) (or the IETM) from the wing.

7.4.5 Remove barrel nut (TM 1-1520-238-23P, fig 78, items 4, 6, 19, or 22) and retainer (fig 78, items 3, 5, 18, or 21) (or the IETM).

7.4.6 Inspect the barrel nuts and bolts for authorized part numbers or vendor markings. New configuration barrel nuts are P/Ns HS5813-8 (Vendor P/N SL4133-8E) and HS5813-10 (Vendor P/N SL4133-10). New configuration bolts are P/Ns HS5683-10-13 (Vendor P/Ns VS3582-10-30, BC0020CE6A1-30), HS5683-10-30 (Vendor P/Ns VS3582-10-30, AIC917-10-30, BC0020CE6A1-30) and HS5683-8-21 (Vendor P/Ns VS3582-8-21, BC0020CE6A8-21, AIC917-8-21). The vendor markings are located on the bolt head and the barrel end of the barrel nut. If new configuration hardware is not installed, or cannot be determined, replace with new configuration hardware.

#### **NOTE**

If new configuration hardware is not available, the old configuration hardware may be installed provided that the recurring inspections IAW this TB are completed and new configuration hardware is installed NLT 1 Feb 06.

7.4.7 Inspect the barrel nut and bolt for damage. No damage allowed.

7.4.8 Install the upper wing barrel nut (HS5813-10) and retainer (NAS578-10B) or the lower barrel nut (HS5813-8) and retainer (NAS578-8B) in the support holes. Lightly tap into place.

7.4.9 Lubricate the bolt threads using MIL-T-83483. Ensure lubricant is applied only to the threads.

7.4.10 Install upper bolt (HS5683-10-30) or lower bolt (HS5683-8-21) and washer. When installing lower bolt, ensure lower bolt length is 2.058 to 2.088 inches.

7.4.11 Torque the upper bolts to 120 foot-pounds and lower bolts to 70 foot-pounds.

7.4.12 Repeat paragraph 7.4.4 to 7.4.11 for the remaining wing barrel nuts and bolts on each wing.

7.4.13 Install the ammunition storage magazine IAW TM 9-1090-208-23 or the IETM.

## TB 1-1520-238-20-133

7.4.14 Reinstall access covers/fairings.

7.4.15 Reinstall wing stores IAW TM 9-1090-208-23-1 or IETM.

7.4.16 Clear the aircraft records to indicate the aircraft has complied with this message. The recurring torque verification is no longer required.

7.5 Clear the entries for the recurring inspection and hardware replacement 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) – N/A.

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

### 10. SUPPLY/PARTS (REQUISITION/DISPOSITION) –

#### 10.1 Parts Required –

Nomenclature	Part No./NSN	Qty	Cost ea.	Total \$
Nut, Self-Locking, Barrel	HS5813-10	4	\$301.58	\$1206.32
Nut, Self-Locking, Barrel	HS5813-8	4	\$111.70	\$446.80
Bolt, Machine	HS5683-10-30	4	\$21.03	\$84.12
Bolt, Machine	HS5683-8-21	4	\$24.36	\$97.44
Retainer, Nut and Bolt	NAS578-8B	4	\$0.44	\$1.76
Retainer, Nut and Bolt	NAS578-10B	4	\$4.27	\$17.08

Total cost per aircraft = \$1853.52

#### 10.2 Bulk and consumable materials –

NOMENCLATURE	P/N	NSN
Lubrication	MIL-T-83483	8030-00-087-8630

10.3 Requisitioning instructions – Requisition replacement parts using normal supply procedures. All requisitions shall use Project Code (CC 57-59) "X2B" (X-ray-two-bravo).

#### NOTE

Project Code (CC 57-59) is required to track and establish a data base of stock fund expenditures incurred by the field as a result of message actions.

10.4 Disposition of discrepant parts/components – Demilitarize/mutilate IAW TM 1-1500-328-23.

10.5 Disposition of hazardous material – N/A.

### 11. MAINTENANCE APPLICATION –

11.1 Category of maintenance – AVUM.

11.2 Estimated time required –

11.2.1 Time to lower the torque – total of 4 man-hours using 1 person with 4 hours downtime per end item.

11.2.2 Time to perform the recurring torque verification – total of 2 man-hours using 1 person with 2 hours downtime per end item.

11.2.3 Time to inspect/replacement of barrel nuts – total of 16 man-hours using 2 persons with 8 hours downtime per end item.

## 12. PUBLICATION REQUIREMENTS –

### 12.1 References –

12.1.1 TM 1-1520-238-23 Aviation Unit and Intermediate Maintenance Manual for AH-64A Apache Attack Helicopter, 16 May 94.

12.1.2 Interactive Electronic Technical Manual (IETM): TM 1-1520-Longbow/Apache IETM, dated 29 May 2002, or subsequent.

12.1.3 TM 1-1520-238-23P, Aviation Unit and Intermediate Maintenance Repair Parts and Special Tools List for AH-64A Apache Attack Helicopter, 28 May 1996.

12.1.4 TM 9-1090-208-23-1.

12.1.5 TM 1-1500-328-23.

### 12.2 Publication changes –

12.2.1 TM 1-1520-238-23, para 2.25 and 2.121. The cautions will be changed using only the authorized bolt, barrel nut and retainer part numbers. In addition the wing bolts torque values will be changed and the requirement for lubrication on the wing bolts will be added.

12.2.2 TM 1-1520-238-23P, Figure 78, the P/N for item number 4 will be changed from SL4133-8E to HS 5813-8.

12.2.3 IETM. Same as para 12.2.1 and 12.2.2 (IETM has the vendor P/N SL4133-8E listed, should be HS 5813-8).

## 13. POINTS OF CONTACT –

13.1 Technical POC is – Mr. Andy Fabery, AMSAM-RD-AE-I-P-A, DSN 897-2350 ext 9825 or (256) 705-9825. Fax is (256) 705-9918. Email is “andrew.fabery@rdec.redstone.army.mil”.

### 13.2 Logistical POCs are –

13.2.1 Primary – Mr. Mike Sharp (AEPCO), 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, DSN 897-4043 or (256) 313-4043, fax is (256) 313-4374. Email is “wayne.fusselman@peoavn.redstone.army.mil”.

13.3 Wholesale Material POC (spares) is Mr. H. E. Rowland, DLA, DSN 695-6054 or (804) 279-6054. Fax is DSN 695-5695. Email is “H.Rowland@dla.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. Randall Rushing (SAIC), AMSAM-SF-A, DSN 897-2092 or (256) 313-2092. Fax is DSN 897-2111 or (256) 313-2111. Email is “randall.rushing@redstone.army.mil”.

13.5.2 Alternate – Mr. Howard Chilton, AMSAM-SF-A, DSN 897-2068 or (256) 313-2068. Fax is DSN 897-2111 or (256) 313-2111. Email is “howard.chilton@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”.

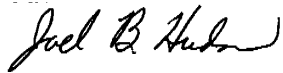
13.7 After hours, contact the AMCOM Operations Center (AOC) DSN 897-2066/7 or (256) 313-2066/7.



**TB 1-1520-238-20-133**

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

**Official:**



**JOEL B. HUDSON**

Administrative Assistant to the  
Secretary of the Army

0306502

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

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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.

