

URGENT

*TB 1-1520-237-20-243

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

SAFETY OF FLIGHT, TECHNICAL, RCS CSGLD-1860 (R1), ALL H-60 SERIES AIRCRAFT, INSPECTION MAIN ROTOR BLADE EXPANDABLE PINS

Headquarters, Department of the Army, Washington, D. C.
21 FEBRUARY 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 TB make the following entry on the DA Form 2408-13-1. Enter a Red Horizontal Dash // - // status symbol with the following statement: "Inspect Expandable Pins, IAW TB 1-1520-237-20-243 within the next 10 flight hours, but not later than 19 February, 2002." Clear the Red Horizontal Dash // - // entry when the procedures IAW para 8 are completed. The affected aircraft shall be inspected as soon as practical, but NLT 19 February, 2002. 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 //.

b. Aircraft in Maintenance.

(1) Aircraft in AVUM, AVIM or Depot Level Maintenance. Same as Paragraph 1.a..

(2) Aircraft at Contractor Facility – Same as Paragraph 1.a..

c. Aircraft in Transit.

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

(2) Ferry Status – Same as Paragraph 1.a..

* This TB supersedes USAAMCOM Safety Of Flight (SOF) Message, 042032Z FEB 02, UH-60-02-05.

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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 TB, Depot and Materiel Activity Commanders will ensure the Materiel Condition Tags of all items in all condition codes listed in paragraph 7 are annotated to read: "TB 1-1520-237-20-243, Inspection of Main Rotor Blade Pins, not complied with.

(1) Wholesale Stock. N/A

(2) Retail Stock. 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. NLT 19 February, 2002.

f. Components/Parts in Work (Depot Level and Others). N/A.

2. Task/Inspection Suspense Date. Complete the inspection IAW paragraph 8 within the next 10 flight hours, but NLT 19 February, 2002 and report IAW para 14.a.(2) NLT 22 February 2002.

3. Reporting Compliance Suspense Date. Report compliance IAW paragraph 14.a.(1) NLT 8 February 2002.

4. Summary of Problem.

a. During the required maintenance action of Safety Of Flight Message UH-60-01-09 (TB 1-1520-237-20-233), Inspection and Correction, blade pins were discovered with a discrepant (off center) staking of the pivot pin in the cam handle. AMCOM Engineering determined that this discrepancy may potentially induce subsurface of surface micro cracks that could result in early failure of the pin or increase the probability of corrosion. No field rework to blend out these markings is under development or authorized because the published procedures for blending could potentially remove/reduce the force holding the pivot pin in place. All expandable pins with this discrepancy will be returned to the manufacturer for rework. Safety Of Flight Message UH-60-01-12 mandated that the main rotor blade be lifted at every 10 Hour/14 Day PMS-1 inspection as part of the tension check. Engineering further analyzed this procedure and determined that the complete pin tension check, which includes lifting the blade and partially removing the pin out far enough for the top two expandable segments to be visible above the blade cuff, is not required at every 10 Hour/14 Day PMS-1 inspection. The complete pin tension check, which includes lifting the blade and partially removing the pin out far enough for the top two expandable segments to be visible above the blade cuff, will be accomplished at a new interval of 30 hours.

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

c. The purpose of this TB is to

(1) Accomplish a one time visual inspection of all expandable pins for manufacturing discrepancy.

(2) Accomplish an initial complete pin tension check within the next 10 flight hours but NLT 19 February, 2002.

(3) Supercede the 10 hour/14 day PMS-1 inspection of the expandable pin imposed by paragraphs 9.b. and 9.c., of TB 1-1520-237-20-236 (SOF Message UH-60-01-12), pin tension check during the 10 hour/14 day PMS-1 inspection.

(4) Add a new task to the 30 hour special inspection to accomplish the complete expandable pin tension check.

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

6. Assembly Components to be Inspected. N/A.

7. Parts to be Inspected. -

NOMENCLATURE	PART NUMBER	NSN
Pin, Expanding Grip	70103-08107-102	5315-01-329-0707
Pin, Expanding Grip	70103-08107-103	No NSN Assigned

8. Inspection Procedures.

a. Using 1X to 2X magnification, inspect the surface of the aluminum cam handle immediately adjacent (within one quarter of an inch) to the pivot pin in the cam handle, both sides of the handle, as follows:

(1) Check for any visible deformation of the cam handle material surface that gives the appearance of an out-of-round condition of the countersunk area in the handle, off-center staking of the pin, or multiple staking of the pin.

NOTE

Supplemental information regarding the particular manufacturing anomaly described above is available on the AMCOM Safety website "<http://www.redstone.army.mil/sof/suppl/u60s0205.pdf>" and the safety message section of the UH-60 KAMNET (<http://www.uhpo.redstone.army.mil>).

(2) If the material surface deformation is found, proceed to paragraph 9.a..

b. Check main rotor blade expandable pin for security and tension as follows:

NOTE

There must not be any binding of the expandable pin by the main rotor blade when the tension is checked. The main rotor blades and blade pins do not have to be removed for this inspection.

(1) Using proper procedures, carefully raise the main rotor blade to remove any binding of the expandable blade pins.

(2) Release expandable pin handle from the lower nut and open handle.

(3) Pull the pin out far enough for the top two expandable segments to be visible above the blade cuff. Verify that the pin is not fractured by observing the corresponding movement of the lower end of the core pin. Do not completely remove the pin.

(4) If the pin is not defective, re-install and check the closing tension on the handle as follows:

(a) Using spring scale, place end of spring scale in the handle nut hole and pull down in a closing direction.

(b) Keeping the spring force perpendicular to the long, riveted section of the handle, the force required to close handle must be a minimum of 25 pounds.

NOTE

If the force required to close the handle is exceptionally high (difficult to close handle), check for binding of the pin by the main rotor blade. Reducing the nut torque to reduce the closing force should not be necessary.

(c) If force is 25 pounds or above, close and secure handle. Ensure that at least two threads extend beyond the nut. The inspection is complete.

(d) If force is not at least 25 pounds, tighten nut. Rotate nut 1/6 (one sixth) turn and re-check closing force. Repeat until minimum of 25 pounds closing force is obtained. Ensure that at least two threads extend beyond nut after proper requirements are met. If a minimum of two threads are not exposed, clean the expandable pin according to paragraph 1-4-6 of TM 1-1520-237-23-1, or paragraph 1.39.5 of TM 1-1520-250-23-1. After cleaning, repeat the tension test according to paragraph 8.b.(4).

(5) If inspection criteria is not met, proceed to paragraph 9.b..

c. Implement a recurring 30 hour inspection IAW paragraph 8.b.. ULLS-A units will use inspection number A65 for the recurring 30 hour expandable pin inspection. Following the initial inspection, this recurring 30 hour inspection will be part of the scheduled 30 hour special inspection.

NOTE

During the PMS-1 inspections the only requirement is to open and close the handle verifying resistance during closing, see paragraph 12 for changes to PMS-1 blade pin inspection. Lifting the blade

and partially removing the pin out far enough for the top two expandable segments to be visible above the blade cuff is not required unless there is indication of a fault. Lifting the blade and partially removing the pin out far enough for the top two expandable segments to be visible above the blade cuff is required during the 30 hour inspection interval.

d. Supercede the PMS-1 inspection imposed in TB 1-1520-237-20-236, paragraphs 9.b. and 9.c. with the PMS-1 inspections of paragraphs 12.e.(1) and 12.e.(2) within this TB.

e. Implement the technical manual changes IAW paragraph 12.e..

f. The red horizontal dash // - // will be cleared when the paragraph 8 inspection is complete. Report IAW paragraph 14.a.(2)..

9. Correction Procedures.

a. If inspection criteria IAW paragraph 8.a. is not met:

(1) Make the following red dash // - // entry on the DA Form 2408-13-1 "Inspect Blade Expandable Pin Serial Number XXXXXXXX IAW TB 1-1520-237-20-243 at XXXX.X Aircraft Hours or XXXXX Date." Visually inspect discrepant pin handles for cracks every 10 hours/14 days until the discrepant pins are replaced.

(2) Make the following red diagonal / \ / \ entry on the DA Form 2408-13-1 "Blade Expandable Pin Serial Number XXXXXXXX Requires Replacement NLT 4 October, 2002 IAW TB 1-1520-237-20-243." Replace the expandable pin as soon as practicable but NLT 4 October, 2002 unless replaced earlier for other causes (i.e. corrosion, other damage, etc.). Contact LOG POC for instructions to obtain replacement pins and disposition instructions.

b. If inspection criteria in paragraph 8.b. is not met, replace pin.

10. Supply/Parts and Disposition.

a. Parts Required - Items cited in paragraph 7. may be required to replace defective items.

b. Requisitioning Instructions – Contact Logistical Point Of Contact in paragraph 16.b. for requisitioning instructions.

c. Bulk and Consumable Materials. N/A.

d. Disposition - Hold any discrepant part/component pending disposition instructions from Logistical Point Of Contact in paragraph 16.b.

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.. N/A.

12. Application.

a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM maintenance. 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 4 man-hours using 4 persons.

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

(2) Time For Replacement Of Pin (s) In One Main Rotor Blade –

(a) Total of 4 man-hours using 4 persons.

(b) Total of 1 hour downtime.

c. Estimated cost impact to the field.

NOMENCLATURE	PART NO./NSN	QTY.	COST EA.	TOTAL
Pin, Expanding Grip	70103-08107-102 5315-01-329-0707	8	\$168.61	\$1348.88
Pin, Expanding Grip	70103-08107-103 No NSN Assigned	8	\$168.61	\$1348.88

Total Cost per Aircraft = \$1348.88

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.

NOTE

A copy of this TB shall be inserted it the front of the appropriate TM as authority to implement the change until the printed change is received.

(1) Technical Manual, Preventive Maintenance Services, 10 Hour/14 Day Inspection Checklist (TM 1-1520-237-PMS-1), sequence number 6.18, (10 Hour/14 Day), change first sub-task to read “Open handle and check main rotor blade expandable pins for security. Make sure handle is firmly in place over lower nut when closed. If no resistance is felt on closure, perform main rotor blade pin tension check. If the pin becomes unseated when the handle is opened or the pin was unseated prior to opening the handle, carefully raise the main rotor blade, using proper procedures, to remove any binding of the expandable blade pin and then reseal the pin.”

(2) Technical Manual, Preventive Maintenance Services, 10 Hour/14 Day Inspection Checklist (TM 1-1520-250-PMS-1), sequence number 6.18, (10 Hour/14 Day), change first sub-task to read “Open handle and check main rotor blade expandable pins for security. Make sure handle is firmly in place over lower nut when closed. If no resistance is felt on closure, perform main rotor blade pin tension check. If the pin becomes unseated when the handle is opened or the pin was unseated prior to opening the handle, carefully raise the main rotor blade, using proper procedures, to remove any binding of the expandable blade pin and then reseal the pin.”

(3) Technical Manual, TM 1-1520-237-23-1, paragraph 1-7-10, every 30 hours. Add a new task 1-17-10.17, titled, “Main Rotor Blade Pin Tension Check”, from paragraph 8.b. of this TB, to check main rotor blade expandable pins for correct tension and security.

(4) Technical Manual, TM 1-1520-250-23-1, paragraph 1.45.9, every 30 hours. Add a new task 1.49.9, titled, “Main Rotor Blade Pin Tension Check”, from paragraph 8.b. of this TB, to check main rotor blade expandable pins for correct tension and security.

13. References.

- a. DA PAM 738-751.
- b. TM 1-1520-237-23-1
- c. TM 1-1520-237-PMS-1
- d. TM 1-1520-250-23
- e. TM 1-1520-250-PMS-1
- f. TB 1-1520-237-20-233 (UH-60-01-09)
- g. TB 1-1520-237-20-236 (UH-60-01-12)

14. Recording and Reporting Requirements.

a. Aircraft:

(1) TAMMS Reporting Compliance Suspense.

Upon entering requirements of this message on DA Form 2408-13-1 for all affected aircraft, commanders

will forward a priority message, datafax 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.. Datafax 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 in DA Form 2408-13-1, the aircraft mission design series and serial numbers of aircraft in numerical order.

(2) Task/Inspection Reporting Suspense.

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

b. Wholesale Spare Parts/Assemblies. N/A.

c. Retail Spare Parts/Assemblies.

(1) Reporting message receipt - N/A

(2) Task/Inspection Reporting Suspense - Commanders and facility managers will report inspection results to the Logistical Point Of Contact in paragraph 16.b. NLT date specified in paragraph 1.e.(2). Report the quantity inspected by condition code and the resulting condition code. Report by email or datafax and provide local point of contact.

d. 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 2408-5-1, Equipment Modification Record (Expandable Pin)

(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 (If pin is removed/replaced)

(5) DA Form 2408-18, Equipment Inspection List

(6) DA Form 2410, Component Removal and Repair/Overhaul Record (If pin is removed/replaced)

(7) DD Form 1574/DD Form 1574-1, Serviceable Tag/Label - Materiel (Color Yellow). Annotate remarks block with "inspected Serviceable IAW TB 1-1520-237-20-243."

(8) DD Form 1577-2/DD Form 1577-3, unserviceable (Repairable) Tag/Label - Materiel (Color Green). Annotate Remarks Block with "Unserviceable IAW TB 1-1520-237-20-243."

15. Weight and Balance. N/A.

16. Points of Contact.

a. Technical point of contact is Mr. Darren Baucum, AMSAM-RD-AE-I-D-U, DSN 897-2350 ext 9696, comm 256-705-9696, Fax 256-705-9896, email darren.baucum@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 897-1176 or (256) 313-1176, Fax is dsn 746-4591. 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. Frank Rosebery (SAIC), AMSAM-SF-A, DSN 788-8631 or (256) 842-8631, Fax is DSN 897-2111 or (256) 313-2111. Email is "frank.rosebery@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”.

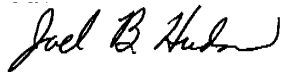
g. After hours contact AMCOM Command Operations Center (COC) DSN 897-2066/7 or (256) 313-2066/7.

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.”

TB 1-1520-237-20-243

By Order of the Secretary of the Army:

Official:



JOEL B. HUDSON
Administrative Assistant to the
Secretary of the Army
0204204

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

DISTRIBUTION:

To be distributed in accordance with Initial Distribution Number (IDN) 314031 requirements for TB 1-1520-237-20-243.

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.