

# URGENT

TB 1-1520-240-20-130

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### MANDATORY INSPECTION FOR UNTESTED FLIGHT SAFETY PART (FSP) BOLTS, PART NUMBER 114R3650-6 AND 114R3650-11 ON ALL CH-47D, MH-47D AND MH-47E AIRCRAFT

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

23 October 2000

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**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

#### 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THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.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 for untested FSP P/N 114R3650-6 and 114R3650-11 bolts in accordance with CH-47-01-ASAM-02 (TB 1-1520-240-20-130) within the next 15 flight hours, but no later than 18 November 2000." Clear the red horizontal dash // -// entry when the procedures in accordance with paragraph 8 and 9 are completed. The affected aircraft shall be inspected as soon as practical but no later than 18 November 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 message.

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

This TB supersedes USAAMCOM Message 191716Z Oct00 CH-47-01-ASAM-02.

**TB 1-1520-240-20-130**

- d. Aircraft in Transit.
  - (1) Surface/Air Shipment. Same as paragraph 1a.
  - (2) Ferry Status. Same as paragraph 1a.
- e. Maintenance Trainers (Category A and B). Same as paragraph 1a.
- f. Component/Parts in Stock at All Levels (Depot and Others). Including War Reserves –
  - (1) Wholesale Stock – N/A.

(2) Retail Stock – Upon receipt of this message, 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 10d.

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

**2. Task/Inspection Suspense Date.** Complete the inspection in accordance with paragraph 8 within the next 15 flight hours but no later than 18 November 2000 and report in accordance with paragraph 14b.

**3. Reporting Compliance Suspense Date.** Report compliance in accordance with paragraph 14a no later than 23 November 2000.

**4. Summary of the Problem.**

a. The original qualification (fatigue testing) of Flight Safety Parts was done by Boeing Helicopters under Army direction. The fatigue testing of these parts substantiated their service life and the parts design was considered qualified. In October 1995 a change in the Army Flight Safety Part (FSP) policy required that parts manufactured by authorized vendors/suppliers and originally qualified by the prime contractor must be fatigue tested. The 114R3650-6 and 114R3650-11 bolt assemblies are Flight Safety Parts. The 114R3650-6 bolts (2 per forward rotor head) attach the forward cyclic trim actuator, and fixed link, to the swashplate. The 114R3650-11 bolt (1 per forward and aft rotor head) attach the drive scissors upper arm to the drive scissors lower arm. Some of the 114R3650-6 and 114R3650-11 bolts, manufactured by Boeing authorized vendors/suppliers, were fielded before they were qualified as an alternate source by fatigue testing.

- b. For manpower/downtime and funding impacts see paragraph 12.
- c. The purpose of this Technical Bulletin is to –
  - (1) Inspect all 114R3650-6 and 114R3650-11 bolts installed on H-47 aircraft and in stock.
  - (2) Replace all suspect bolts at the next phase inspection, but no later than 20 October 2001.

**5. End Items to be Inspected.** All H-47 series aircraft.

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

**7. Parts to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Bolt Assembly	114R3650-6	1615-00-003-1148
Bolt Assembly	114R3650-11	1615-00-003-1153

**8. Inspection Procedures.**

**NOTE**

There may be two different five digit codes marked on the part. The five digit code 81996 is not the manufacturers cage code. If found, the number 81996 identifies the part as having been manufactured in accordance with a government technical data package (TDP). Use the other five-digit code which is the manufacturers cage code.

a. 114R3650-6 Bolt Assembly –

(1) Locate both applications of the 114R3650-6 bolt assembly – attachment, cyclic trim actuator; and fixed link to the swashplate, forward rotor head (TM 55-1520-240-23P, Figure 177, Item 38) or TM 1-1520-252-23P, Figure 05-6, Item 38).

(2) Identify the five digit manufacturers cage code or manufacturers name on the bolt head. If the 114R3650-6 bolt is marked with either of the following, the bolts are serviceable.

(a) 56878 or SPS for parts manufactured by SPS Technologies Inc.

(b) 84256 or Avibank for parts manufactured by Avibank Manufacturing Co.

b. 114R3650-11 bolt Assembly –

(1) Locate the two applications of the 14R3650-11 bolt assembly – attachment, drive scissors upper arm to the drive scissors lower arm, forward and aft rotor heads (TM 55-1520-240-23p, Figure 177, Item 45 or TM 1-1520-252-23P, Figure 05-6, Item 45).

(2) Identify the five digit manufacturers cage code or manufacturers name on the bolt head. If the 114R3650-11 bolt is marked with either 84256 or Avibank, the bolt is serviceable.

c. If the 114R3650-6 and 114R3650-11 bolts are determined serviceable, the red horizontal dash // – // will be cleared and compliance with CH-47-01-ASAM-02 (TB 1-1520-240-20-130) will be noted.

d. If the markings on the bolts are anything other than the cage codes or manufacturers name listed in accordance with paragraph 8a (2) and 8b (2) above, or if the cage code or manufacturers name cannot be identified, proceed to the correction procedures in paragraph 9.

**9. Correction Procedures.**

a. Clear the red horizontal dash // – // and make the following entry on the DA Form 2408-13-1. Enter a red horizontal dash // – // status symbol with the following statement: "Replace untested (enter either P/N 114R3650-6 and/or 114R3650-11) bolts at the next phase inspection interval but no later than 20 October 2001, whichever occurs first."

b. At the next scheduled phase inspection, but no later than 20 OCT 01 –

(1) Remove and replace unserviceable 114R3650-6 bolts with a tested bolt from the supply system that is serviceable as defined in paragraph 8 above.

(a) H-47D Aircraft – Refer to TM 55-1520-240-23-4, Task 5-116 (Removal) and Task 5-132 (Install).

(b) MH-47E Aircraft – Refer to TM 1-1520-252-23-5, Task 5-168 (Removal) and Task 5-187 (Install).

(2) Remove and replace unserviceable 114R3650-11 bolts with a tested bolt from the supply system that is serviceable as defined in paragraph 8 above.

(a) H-47D Aircraft – Refer to TM 55-1520-240-23-4, Task 5-101 (Removal), Task 5-112 (Install).

(b) MH-47E aircraft – Refer to TM 1-1520-252-23-5, Task 5-152 (Removal), Task 5-163 (Install).

c. After completion of the above correction procedure, the red horizontal dash // – // entry will be cleared and compliance with CH-47-01-ASAM-02 (TB 1-1520-240-20-130) will be noted.

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

a. Parts Required. Items cited in paragraph 7 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) "X08" (XRAY-ZERO-EIGHT).

**NOTE**

Project code "X08" 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 in accordance with TM 1-1500-328-23 any part/component which does not meet inspection criteria.
- e. Disposition of Hazardous Material. N/A.

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

**12. Application.**

- a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM.
- b. Estimated Time Required-
  - (1) For Inspection -
    - (a) Total of 1 man-hour using 2 persons.
    - (b) Total of 1 hour downtime for one end item.
  - (2) For Replacement -
    - (a) Total of 15 man-hours using 3 persons.
    - (b) Total of 5 hours downtime for one end item.
- c. Estimated Cost Impact to the Field.

NOMENCLATURE	PART NO./ NSN	QUANTITY	COST EACH	TOTAL
Bolt Assembly	114R3650-6/ 1615-00-003-1148	2	\$89.56	\$179.12
Bolt Assembly	114R3650-11/ 1615-00-003-1153	2	\$171.70	\$343.40

**TOTAL COST PER AIRCRAFT = \$522.52**

- 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. DA PAM 738-751, 15 MAR 99.
- b. TM 55-1520-240-23.
- c. TM 55-1520-240-23P.
- d. TM 1-1520-252-23.
- e. TM 1-1520-252-23P.
- f. TM 1-1500-328-23.

**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-47-01-ASAM-02 (TB

1-1520-240-20-130), 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, PEO Aviation, ATTN: Mr. Bill Olson, SFAE-AV-CH-L, DSN 897-3379 or commercial (256) 313-3379, datafax is DSN 897-4348. E-mail is "william.olson@peoavn.redstone.army.mil". The report will cite CH-47-01-ASAM-02 (TB 1-1520-240-20-130), date of inspection, aircraft serial number, aircraft hours, and results of the inspection. Inspection and reports will be completed no later than 1 December 2000.

c. Reporting Message Receipt (SPARES). N/A.

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

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-47-01-ASAM-02 (TB 1-1520-240-20-130)."

(5) DD Form 1577/DD Form 1577-1, Unserviceable (Condemned) Tag/Label - Materiel (color red). Annotate remarks block with "Condemned in accordance with CH-47-01-ASAM-02 (TB 1-1520-240-20-130) and mutilated in accordance with TM 1-1500-328-23."

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

**16. Points of Contact.**

a. Technical point of contact 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 is Mr. Bill Olson, SFAE-AV-CH-L, DSN 897-3379 or commercial (256) 313-3379, datafax is (256) 313-4348. E-mail is "william.olson@peoavn.redstone.army.mil".

c. Forms and Records point of contact is Ms. Ann Waldeck, AMSAM-MMC-RE-FF, DSN 746-5564 or commercial (256) 876-5564, datafax is DSN 746-4904. E-mail is "ann.waldeck@redstone.army.mil".

d. Safety points of contact are -

(1) Primary - Mr. Harry Trumbull (SAIC), AMSAM-SF-A, DSN 897-2095 or commercial (256) 313-2095, datafax is DSN 895-2111 or commercial (256) 313-2111. E-mail is "harry.trumbull@redstone.army.mil".

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

e. Foreign Military Sales recipients requiring clarification of action advised by this Technical Bulletin should contact

(1) CW5 Joseph L. Wittstrom, Security Assistance Management, AMSAM-SA, DSN 897-0410 or commercial (256) 313-0410. E-mail is "wittstromjl@redstone.army.mil"

(2) Mr. Ronnie W. 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".

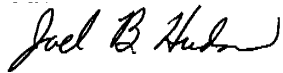
**TB 1-1520-240-20-130**

f. After hours contact the AMCOM COMMAND OPERATIONS CENTER (COC) DSN 897-2066/7 or commercial (256) 313-2066/7. Huntsville, AL is GMT minus 5 hours.

**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*  
0029704

**DISTRIBUTION:**

To be distributed in accordance with Initial Distribution Number (IDN) 31349, requirements for TB 1-1520-240-20-130.

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.

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE



# 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 decigrams = .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: 078574-000**