URGENT

*TB 1-1520-237-20-232

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

SAFETY OF FLIGHT TECHNICAL, RCS CSGLD-1860 (R1), ALL H-60 SERIES AIRCRAFT, INSPECTION OF MAIN ROTOR FLIGHT CONTROL SELF LOCKING BOLTS

Headquarters, Department of the Army, Washington, D. C. 18 June 2001

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 SOF 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 Main Rotor Flight Control Self Locking Bolts IAW TB 1-1520-237-20-232 NLT 12 June 2001." Clear the Red Horizontal Dash //-// entry when the procedures of para 8 and 9 are complete. 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. NA.

^{*} This TB supersedes USAAMCOM Aviation Safety of Flight Message (SOF), <u>291300ZMAY01</u>, <u>UH-60-01-07</u> and 011800ZJUN01, <u>UH-60-01-08</u>.

- c. Aircraft in Transit.
 - (1) Surface/Air Shipment -Same as paragraph 1.a..
 - (2) Ferry Status Inspect at final destination but NLT 12 June 2001, whichever occurs first.
- d. Maintenance Trainers (Category A, and B). Same as para 1.a..
- e. Component/Parts in Stock at All Levels (Depot Level and Others), including War Reserves. N/A.
- f. Components/Parts in Work (Depot Level and Others). N/A.
- 2. Task/Inspection Suspense Date. Complete inspection requirements of paragraph 8 NLT 12 June 2001and report IAW para 14.a.(2) NLT 26 June 2001.
- 3. Reporting Compliance Suspense Date. Report compliance IAW para 14.a.(1) NLT 6 June 2001.
- 4. Summary of Problem.
- a. Recently the U. S. Navy reported problems with the cyclic authority resulting in an aborted takeoff. Inspection revealed a fractured Self Locking Bolt, P/N 70400-08159-104, in the lateral swashplate link. Engineering analysis confirmed the cause of the fracture to be stress corrosion cracking which originated from corrosion pits on the inner diameter of the bolt.
 - b. For manpower/downtime and funding impacts see para 12.
 - c. The purpose of this TB is to:
 - (1) Inspect all H-60 main rotor Self Locking (Pivot) Bolts, washers, and nuts listed in par 7.
 - (2) Change Self Locking Bolt installation procedures for all H-60 aircraft IAW paragraph 12 of this

TB.

- 5. End Items to be inspected. All H-60 series aircraft.
- 6. Assembly Components to be Inspected.

NOMENCLATURE	PART NUMBER	NSN
Controls Installation, Swashplate Linkage	70400-08200-011/012/ 013/041/042/043	N/A
Controls Installation, Swashplate Linkage	70400-85405-011/012/ 041/042/043	N/A

Parts to be Inspected.

NOMENCLATURE	PART NUMBER	NSN
Bolt, Self Locking	70400-08159-101	5306-01-096-5592
Bolt, Self Locking	70400-08159-102	5306-01-096-5593
Bolt, Self Locking	70400-08159-103	5306-01-096-5594
Bolt, Self Locking	70400-08159-104	5306-01-096-5596
Bolt, Self Locking	70400-08159-105	5306-01-096-5597
Bolt, Self Locking	70400-08159-106	5306-01-096-5598
Bolt, Self Locking	70400-08159-107	5306-01-096-5595
Bolt, Self Locking	70400-08159-108	5305-01-223-8019
Washer	MS20002C12	5310-00-149-9119
Washer	MS20002C14	5310-00-149-9120

Washer	AN960-1216	5310-00-167-0826	
Washer	AN960-1216L	5310-00-167-0842	
Washer	AN960-1416	5310-00-167-0827	
Washer, Special	70400-08161-102	5310-00-110-7216	
Nut	MS9364-17	5310-00-946-8342	
Nut	MS21244-12	5310-01-097-8010	
Nut	MS21244-14	5310-01-108-2539	

8. Inspection Procedures.

a. All Self Locking Bolts (as identified in para 7) will be inspected. The bolt locations are provided in TM 1-1520-237-23P-4, figures 78/79, or TM 1-1520-250-23P-2, Fig 449.

WARNING

All self locking bolts, bellcranks, tie-rods, connecting links, control rods, bellcrank supports, and support fittings are flight safety parts containing critical characteristics which must not be damaged. Provide protective covering as required.

- b. Reposition main rotor so that forward blade is located slightly left of center line.
- c. Remove left and right hand engine air inlet IAW para 4-4-4, TM 1-1520-237-23-3, or para 4.4.1, TM 1-1520-250-23-3.
- d. Remove main transmission fore and aft fairings IAW para 2-4-116, TM 1-1520-237-23-2, or para 2..37.15, TM 1-1520-250-23-2.
- e. Remove forward bolts (70400-08159-101) at fore, aft and lateral control rods and primary servos IAW para 11-4-91/92 and 93 TM 1-1520-237-23-6, or para 11.23/24 and 25, TM 1-1520-250-23-5.
- f. Remove forward attachment bolt (70400-08159-101) of the long control rod at walking beam to facilitate access to aft bolt on the same control rod.
- g. Disconnect main rotor pitch change links at lower rod end bearing IAW para 5-4-17, TM 1-1520-237-23-3, or para 5-10, TM 1-1520-250-23-3. Secure pitch change links away from swashplate.



Damage to swashplate and horn lug areas will result if extreme caution is not used when disconnecting pitch control rod ends. Use extreme caution.

h. Using a minimum of three cargo straps, (as listed in paragraph 11) suspend straps over the forward and each lateral main rotor spindle housing and attach lower portion of the strap to swashplate lug that houses corresponding pitch change link. Carefully operate ratchet mechanism of the straps to raise the swashplate assembly until even with the top of the swashplate guide.



Damage to swashplate and uniball may result if assembly is raised above the swashplate guide.

i. Remove forward, aft and lateral swashplate connecting link expandable pins IAW para 5-4-21, TM 1-1520-237-23-3, or para 5-11, TM 1-1520-250-23-3. Carefully wrap the links with bubble wrap to prevent damage to critical areas of the connecting links.

- j. Remove cotter pin and nut from the bolt to be inspected.
- k. Inspect the nut to determine the presence of silver plating. The nut (except P/N MS9364-17) should be cadmium plated, (gold in color).

WARNING

If a silver colored nut (other than P/N MS9364-17) is installed, the bolt may be subjected to galvanic coupling (corrosion) internally and must be replaced and a category 1 QDR submitted IAW para 10.d.(1).

- I. Moisten a clean cloth with cleaning compound solvent . Thoroughly clean the exposed portion of the bolt, the washers and nut.
- m. Inspect the exposed portion of the bolt, washers, and nuts for cracks and visible corrosion, and check the retaining pin mechanism for binding.

NOTE

Rotate the bolt 360 degrees to view all surfaces. Cracking may occur longitudinally along the bolt in the threaded area, and laterally across the bolt in the area of the retaining balls.

WARNING

During the inspection, if resistance or binding of the bolt plunger mechanism is observed, do not apply CPC to free the mechanism. The inner core of the bolt may be corroded and must be rejected.

- n. If the visual inspection of any bolt is obstructed or otherwise hindered by location, remove the pivot bolt to inspect.
- o. If there is either cracking or corrosion in the areas of the retaining balls, threaded portion of the bolt, or the retaining pin hole in the bolt head, or the there is resistance or binding of the plunger mechanism, proceed to paragraph 9.a..
 - p. If the nut or washers show signs of corrosion, proceed to paragraph 9.b..

WARNING

Absolutely no cracking or corrosion is allowed on the bolt, nut, or washers.

q. If the bolt, nut, and washers show no signs of corrosion, cracks, or binding, proceed to Paragraph 9.c..

9. Correction Procedures.

- a. If binding, cracks or corrosion was found during the inspection, replace the bolt and reinstall IAW paragraph 9.c..
 - b. If the nut or washer are corroded, replace both the nut and washer and reinstall IAW paragraph 9.c..
- c. Prior to reinstalling all bolts and attaching hardware, perform the following for each of the 15 pivot bolts.
- (1) Apply corrosion preventive compound (CPC), Item 114, Appendix D, TM 1-1520-237-23-9 or item 128, Appendix D, TM 1-1520-250-23-6 to each nut and bolt as follows.

- (a) Depress retaining pin to release the retaining ball mechanism and fill the bolt with CPC.
- (b) Apply CPC through one ball hole (while working retaining pin) until excess is seen at the opposite hole. Rotate the bolt 180 degrees and repeat the procedure.
- (c) Spray C PC into both the cotter pin hole and the hole at the end of the bolt. Lightly wipe excess compound from the threads and retaining ball area.
- (d) Apply CPC lightly to the inner cavity of the MS21244-12 and -14 nuts. Do not apply CPC to nut P/N MS9364-17.
- (2) Apply CPC, Item 109, Appendix D, TM 1-1520-237-23-9 or item 126, Appendix D, TM 1-1520-250-23-6, lightly around the outside of the bolt retaining ball area and threads.

NOTE

If CPC (Grade 2), MIL-C-16173, is not available, substitute with MIL-C-16173 (Grade 3), NSN 8030-00-244-1296 for external application on bolt threads and retaining balls.

(3) Reinstall nut IAW TM 1-1520-237-23-6 or TM 1-1520-250-23-5.



Except for nut, P/N MS9364-17, NSN 5310-00-946-8342, no nut that is silver in color will be installed.

WARNING

When torquing nut, slowly approach installation torque. If the customary sharp rise in torque is not noted, the bolt or nut feels as though the metal is yielding, the bolt and nut must be replaced.

- (4) When all 15 pivot bolts and attaching hardware have been reinstalled, remove protective bubble wrap from the swashplate links. Using the cargo straps carefully lower swashplate and guide connecting links into position. Re-install expandable pins IAW para 5-4-21, TM 1-1520-237-23-3 or para 5.11, TM 1-1520-250-23-3.
- (5) Re-install each lower main rotor pitch change link rod end bearing into respective indexed swashplate lug IAW para 5-4-17, TM 1-1520-237-23-3 or para 5.10, TM 1-1520-250-23-3.
- (6) Re-install RH and LH engine air inlet IAW para 4-4-4, TM 1-1520-237-23-3 or para 4.4.1, TM 1-1520-250-23-3.
- (7) Turn on all electric and hydraulic power IAW para 1-6-13 and 1-6-12, TM 1-1520-237-23-1 or para 1.43.17, TM 1-1520-250-23-1.
- (8) Perform flight control hydraulic system check as outlined in applicable maintenance test flight manual (TM 1-1520-237-MTF, TM 1-1520-250-MTF or TM 1-1520-253-MTF).
- (9) Turn off all electric and hydraulic power IAW para 1-6-12 and 1-6-13, TM 1-1520-237-23-1 or para 1.43.17, TM 1-1520-250-23-1.
- (10) Re-install main transmission fore and aft covers IAW para 2-4-116, TM 1-1520-237-23-2 or para 2.37.15, TM 1-1520-250-23-2.
 - (11) Close the main rotor pylon sliding cover.

10. Supply/Parts and Disposition.

a. Parts required. Items cited in paragraph 7 and this paragraph may be required to replace defective items:

NOMENCLATURE	PART NUMBER	NSN
Cotter Pin	RS40-7	5315-00-241-7332
Cotter Pin	MS24665-376	5315-00-236-8362

b. Requisitioning instructions. Requisition replacement parts using normal supply procedures. All requisitions shall use project code (CC 57-59) "X0Q" (X-ray zero quebec).

NOTE

Project code "X0Q" 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:

NOMENCLATURE	PART NUMBER	NSN
Corrosion Prev. Compound	MIL-C-81309	8030-00-938-1947
(Type 2, Class 2)		
Corrosion Prev. Compound	MIL-C-16173	8030-00-244-1297
(Grade 2)		
Corrosion Prev. Compound	MIL-C-16173	8030-00-244-1296
(Grade 3)		
Cleaning Compound Solvent	A-A-59601	6850-00-274-5421
Cleaning Cloth	MIRACLEWIPE L001	7920-00-044-9281
Torque Stripe, #F-1000 or Equiv	N/A	8030-01-211-9576
Bubble Wrap	N/A	8135-00-142-9016

d. Disposition

- (1) For any bolt with cracks and/or binding of the retaining ball release mechanism, or if a nut assembly contains silver plating, (other than nut, MS9364-17), submit a category 1 Quality Deficiency Report (QDR). The bolt assembly, (bolt, washers and nut) will be retained as a set and forwarded expeditiously to: United States Army Aviation and Missile Command, Aviation and Engineering Directorate, AMSAM-RD-AE-I-D-U (ATTN: Mr.Darrell Hutson), Building 5678, RM S-14, Redstone Arsenal, AL, 35898-5000.
- (2) Any bolt with corrosion in the vicinity of retaining balls or threaded portion of the bolt will be retained as an exhibit. Contact the POC in para 16.a. for additional guidance and disposition instructions. Retain bolt, washers and nut as a complete set.
- 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**. In addition to the item listed below refer to special tools list of each particular task in the applicable maintenance manual.

NOMENCLATURE PART NUMBER		NSN	
Cargo strap, 5000LB Capacity	SP4067	1670-00-725-1437	

12. Application.

- a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM. Report aircraft Non-Mission Capable Maintenance (NMCM) while undergoing inspection and correction IAW this TB.
 - b. Estimated Time Required.
 - (1) Inspection Total of 8 man-hours using 2 persons.

- (2) Correction -
 - (a) Reinstall -Total of 5 man-hours using 1 person.
 - (b) MOC -Total of 1 man-hour using 1 person.
- (3) Total estimated downtime for inspection and correction 14 man-hours.
- c. Estimated cost impact to the field.

NOMENCLATURE	PART NO./NSN	QTY.	COST EA.	TOTAL
Bolt, Self Locking	70400-08159-101 5306-01-096-5592	8	\$33.40	\$267.20
Bolt, Self Locking	70400-08159-102 5306-01-096-5593	2	\$33.95	\$67.90
Bolt, Self Locking	70400-08159-103 5306-01-096-5594	1	\$36.28	\$36.28
Bolt, Self Locking	70400-08159-104 5306-01-096-5596	1	\$45.37	\$45.37
Bolt, Self Locking	70400-08159-105 5306-01-096-5597	1	\$45.29	\$45.29
Bolt, Self Locking	70400-08159-106 5306-01-096-5598	1	\$50.93	\$50.93
Bolt, Self Locking	70400-08159-107 5306-01-096-5595 (UH-60A only)	1	\$52.00	\$52.00
Bolt, Self Locking	70400-08159-108 5305-01-223-8019 (UH60L only)	1	\$93.22	\$93.22
Washer	MS20002C12 5310-00-149-9119	15	\$.17	\$2.55
Washer	MS20002C14 5310-00-149-9120	1	\$.25	\$.25
Washer	AN960-1216 5310-00-167-0826	11	\$.07	\$.77
Washer	AN960-1216L 5310-00-167-0842	3	\$.04	\$.12
Washer	AN960-1416 5310-00-167-0827	1	\$.07	\$.07
Washer, Special	70400-08161-102 5310-01-110-7216	2	\$8.19	\$16.38
Nut	MS9364-17 5310-00-946-8342	2	\$9.76	\$19.52

Nut	MS21244-12	14	\$6.63	\$92.82
	5310-01-097-8010			
Nut	MS21244-14	1	\$20.11	\$20.11
	5310-00-108-2539			

Total Cost per Aircraft (UH-60A) = \$649.66 Total Cost per Aircraft (UH-60L) = \$690.88

- 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. A copy of this TB will be inserted in the appropriate TM as authority to implement the change until the printed change is received.
 - (1) TM 1-1520-237-23-6:
 - (a) The following paragraphs will be changed as indicated below;

Para 11-4-91.1.3, Install Forward Control Rod

Para 11-4-92.1.3, Install AFT Control Rod

Para 11-4-93.1.3, Install Lateral Control Rod

Para 11-4-94.1.3, Install Long Control Rod

Para 11-4-95.1.3, Install Swashplate Links

Para 11-4-100.1.3, Install Walking Beam

Para 11-4-101.1.3, Install Forward Bellcrank

(b) Add the following procedural prior to step b. in each task identified IAW paragraph 12.e.(1) (a) above.

CAUTION

If resistance or binding of the retaining ball mechanism is observed when pin is actuated, do not apply corrosive preventive compound to free the mechanism. The inner core of the bolt is corroded and must be rejected.

"Prior to installing the special self-retaining bolt, depress the retaining pin and fill the bolt with corrosion preventive compound (CPC), Item 114, Appendix D. Apply CPC through one ball hole (while working the retaining pin) until excess is seen at the opposite ball hole. Rotate the bolt 180 degrees and repeat procedure at the second hole. Spray CPC into the cotter pin hole. While working retaining pin, apply CPC at the pin hole in the bolt head and into the hole at the threaded end of the bolt. Lightly wipe excess CPC from the threads and the retaining ball area. Apply CPC Item 109, Appendix D, to the exterior retaining ball area and threads."

(c)

- (2) TM 1-1520-250-23-5:
 - (a) The following paragraphs will be changed as indicated below;

Para 11.25.23, Install Forward Control Rod

Para 11.25.24. Install AFT Control Rod

Para 11.25.25, Install Lateral Control Rod

Para 11.25.26, Install Long Control Rod

Para 11.25.27, Install Swashplate Links

Para 11.26.4, Install Walking Beam

Para 11.26.5, Install Forward Bellcrank

(b) Add the following procedural step prior to step b. in each task identified IAW paragraph 12.e.(2) (a) above.

CAUTION

If resistance or binding of the retaining ball mechanism is observed when pin is actuated, do not apply corrosive preventive compound to free the mechanism. The inner core of the bolt may be corroded and must be rejected.

"Prior to installing the special self-retaining bolt, depress the retaining pin and fill the bolt with corrosion preventive compound (CPC), Item 128, Appendix D. Apply CPC through one ball hole (while working the retaining pin) until excess is seen at the opposite ball hole. Rotate the bolt 180 degrees and repeat procedure at the second hole. Spray CPC into the cotter pin hole. While working retaining pin, apply CPC at the pin hole in the bolt head and into the hole at the threaded end of the bolt. Lightly wipe excess CPC from the threads and the retaining ball area. Apply CPC Item 126, Appendix D, to the exterior retaining ball area and threads.

13. References.

- a. DA PAM 738-751.
- b. TM 1-1520-237-23-1/2/3/6.
- c. TM 1-1520-237-23P-4.
- d. TM 1-1520-250-23-1/2/3/5.
- e. TM 1-1520-250-23P-2
- f. TM 1-1520-237-23-9, Appendix D.
- g. TM 1-1520-250-23-6, Appendix D.
- h. TM 1-1520-237-MTF.
- i. TM 1-1520-250-MTF.
- j. TM 1-1520-253-MTF.

14. Recording and Reporting Requirements.

- a. Aircraft:
- (1) Reporting Compliance Suspense. Upon entering requirements of this TB on DA Form 2408-13-1 for all effected 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, IAW AR 95-1, NLT date specified in Paragraph 3. Datafax number is DSN 897-2111 or commercial (256) 313-2111. E-Mail address is "safeadm@redstone.army.mil". The report will cite the message and 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 Date . Upon completion of inspection, Commanders will forward a priority message to the Logistical Point of C ontact listed in para 16.b.. The report will cite this message and TB number, date of inspection, aircraft serial number, aircraft hours, and results of the inspection. Inspect and report NLT dates specified in paragraph 2.
 - b. Wholesale Spare Parts/Assemblies. N/A
 - c. Retail Spare Parts/Assemblies. N/A
- 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 2408-13, Aircraft Status Information Record.
- (2) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
- (3) DA Form 2408-15. Historical Record for Aircraft.
- 15. Weight and Balance. N/A.
- 16. Points of Contact.

- a. Technical point of contact is Mr. Darrell Hutson, AMSAM-RD-AE-I-D-U, DSN 897-8082 or Commercial (256) 313-8082. Datafax is 897-6053. Alternate DSN 897-6030, Commercial (256) 313-6030, E-mail is "darrell.hutson@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. E-mail is "joe.hoover@uh.redstone.army.mil"
- c. Wholesale materiel point of contact (Spares) is Mr. Dan Delao, AMSAM-MMC-VS-UB, DSN 897-1303 or (256) 313-1303, datafax is DSN 897-4770. E-mail is "daniel.delao@redstone.army.mil".
- d. Forms and records point of contact for this TB is Ms. Ann Waldeck, AMSAM-MMC-MA-NM, DSN 746-5564 or (256) 876-5564, Datafax is DSN 746-4904. E-mail is "ann.waldeck@redstone.army.mil".
 - e. 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 897-2111 or (256) 313-2111. E-mail is "harry.trumbull@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. E-mail 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 897-6656 or (256) 313-6656. Datafax is DSN 897-6630 or (256) 313-6630. E-mail "ronnie.sammons@redstone.army.mil".
- (2) Alternate: MR. Paul W. Tarr, AMSAM-SA-CS-NF, DSN 897-6861 or (256) 313-6861. Data-fax is DSN 897-6630 or (256) 313-6630. E-mail "tarrpw@redstone.army.mil".
- g. After hours contact AMCOM Command Operations Center (COC) DSN 897-2066/7 or (256) 313-2066/7. Huntsville, AL is GMT minus 6 hrs.
- 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. You may also submit your recommended changes by E-mail directly to 2028@redstone.army.mil. A reply will be furnished directly to you.

By Order of the Secretary of the Army:

Official:

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

Joel B Hul JOEL B. HUDSON Administrative Assistant to the Secretary of the Army 0115503

DISTRIBUTION:

To be distributed in accordance with initial distribution number (IDN) 313977 requirements for TB 1-1520-237-20-232.

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

Address: 4300 Park
 City: Hometown

5. *St:* MO6. *Zip:* 77777

Date Sent: 19-OCT-93
 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

27. Text:

26. Total: 123

This is the text for the problem below line 27.