

# URGENT

\*TB 1-1520-238-20-139

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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### AH 64 SERIES AIRCRAFT PREVENTIVE MAINTENANCE DAILY (PMD), 25 HOURS/14 DAYS PREVENTIVE MAINTENANCE SERVICE (PMS) AND 500 HOURS PHASE MAINTENANCE (PM) INSPECTION IMPLEMENTATION

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

31 AUGUST 2004

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#### REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

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#### NOTE

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#### 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 technical bulletin (TB) requirements IAW AR 95-1, Chapter 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 operations.

**1. PRIORITY CLASSIFICATION. NORMAL.**

1.1. This TB provides information, instructions and authorization to implement the Preventive Maintenance Daily (PMD), Preventive Maintenance Services 25 Hours/14 Days (PMS) and 500 Hours Phase Maintenance (PM) and Special Inspection changes pending incorporation into the Technical Manuals for the AH-64 Series helicopters.

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

**3. REPORTING COMPLIANCE SUSPENSE DATE.** Not applicable.

**4. SUMMARY OF THE PROBLEM.**

4.1. Background - The Apache Project Manager's Office, in agreement with the Aviation Engineering Directorate and AMCOM IMMC, developed a Preventive Maintenance Daily (PMD), increased the Preventive Maintenance Services (PMS) from 10 hours/14 days to 25 hours/14 days and increased the Phase Maintenance (PM) Inspection schedule from 250 hours to 500 hours. After analysis and testing in select units, it has been determined that utilizing the PMD, a 25 hours/14 days PMS along with the change to a 500 hour PM Inspection interval will increase aircraft availability while reducing man-hour requirements without compromising safety.

4.2. TB Purpose -

4.2.1. Implement a PMD after completion of the last flight of the mission day or prior to the first flight of the mission day.

4.2.2. Change from 10 hours/14 days to 25 hours/14 days Preventive Maintenance Service for all AH-64 series helicopters.

4.2.3. Change from 250 hours to 500 hours Phase Maintenance Inspection interval for all AH-64 series helicopters.

4.2.4. To list the new Special Inspections that will be added to TM 1-1520-238-23-1, Paragraph 1.137. and TM 1-1520-Longbow/Apache SPECIAL INSPECTION CHECKLIST. The list of 250 hours Special Inspections currently on the 250/500 hour Phase Maintenance checklist to remain at 250 hours and transferred to the Special Inspections checklist and DA Form 2408-18 (Equipment Inspection List).

**5. IMPLEMENTATION PROCEDURES.**

**NOTE**

TM 1-1520-238-PMD, TM 1-1520-251-PMD, TM 1-1520-238-PMS, TM 1-1520-238-PM and TM 1-1520-251-PM are interchanged throughout this TB. Use of the correct technical manual is dependent upon which airframe is assigned to the unit.

**NOTE**

The PMD, and 25 hours/14 days PMS will not be implemented until sufficient quantities of TM 1-1520-238-PMD or TM 1-1520-251-PMD, TM 1-1520-238-PMS updated to reflect the increase interval to 25 hours/14 days, are on-hand to ensure each individual aircraft receives a copy of the inspection checklist. The PMD and the 25 hours/14 days PMS will be implemented together.

**NOTE**

This technical bulletin is the authority for all references to the 10 hours/14 days inspection listed in TM 1-1520-Longbow/Apache, under Aircraft General Maintenance, Inspection, Schedule Inspection to be changed to read 25 hours/14 days. The current 10 hours/14 days preventive maintenance inspection interval listed in the Interactive Electronic Technical Manual (IETM) is not a printed technical manual, therefore no paper copy of the new General Information and Scope area of the inspection procedures will be produced.

**NOTE**

The 500 hours PM will be implemented as directed below. The Phase Inspection Checklist dated, October 2004, will be utilized for both 250 hours and 500 hours inspections.

5.1. The PMD will be implemented as follows:

5.1.1. When the aircraft receives a copy of TM 1-1520-238-PMD or TM 1-1520-251-PMD, the PMD will be entered IAW DA PAM 738-751 on DA Form 2408-13.

5.1.2. The PMD entry will be cleared when the Preventive Daily Inspection is performed in accordance with TM 1-1520-238-PMD or TM 1-1520-251-PMD, TM 1-1500-328-23 and DA PAM 738-751. The PMD may be accomplished at the completion of the last flight of the mission day or prior to the first flight of the mission day as directed by TM 1-1500-328-23 and Local Unit SOP.

5.2. The 25 hours/14 days PMS will be implemented as follows:

5.2.1. At the completion of the next scheduled 10 hours/14 days PMS and when the aircraft receives a copy of the new PMD manual (airframe specific), update the DA Form 2408-18 Equipment Inspections List for the increase interval to 25 hours.

5.3. The 500 hours PM will be implemented as follows:

5.3.1. The 500 hours PM will be instituted after the completion of a RESET Inspection, or remanufacture (REMAN) or an even numbered (i.e. #2 or #4) phase in the current 1000 hours cycle. If an aircraft completed a Phase #1 or #3 the next phase is due 250 hours from the completion of the last phase.

5.3.2. An example of when the 500 hour interval will start is: If the last phase completed on an aircraft was a Phase #4 at 1498.7 aircraft hours, the next phase due will be 500 hours from that time or 1998.7 aircraft hours.

5.3.3. If an aircraft just completed a Phase #1 at 738.1 aircraft hours, the next phase will be a Phase #2 due at 988.1 aircraft hours. At the completion of the Phase #2 at 988.1 aircraft hours, the next phase due will then be 500 hours from that time or 1488.1 aircraft hours.

5.4. When the aircraft is converted to the new PMD and 25 hours/14 days inspection interval, make an entry on DA Dorm 2408-15 stating "The PMD and 25 hours/14 days inspection interval implemented at (today's date) and current aircraft hours.

**6. SPECIAL INSTRUCTIONS.**

6.1. All items listed in previous Safety of Flight (SOF) messages, Aviation Safety Action Messages (ASAM), Technical Bulletins (TB), TM 1-1520-238-PMS, TM 1-1520-238-23-1 and TM 1-1520-Longbow/Apache requiring 10 flight hours/14 days, or 20 flight hour inspection interval; will be changed from 10 flight hours/14 days to 25 flight hours/14 days. The 25 flight hours inspection interval (PMS) along with the PMD will replace the 10 flight hours inspection interval on all forms and records, technical manuals, previous technical bulletins, and messages.

6.1.1. All existing or future inspections required at less than the 25 flight hours inspection interval will appear under the "Special Inspections" section in TM 1-1520-238-23-1 and TM 1-1520-Longbow/Apache and must be listed on the DA Form 2408-18.

6.2. All items listed in previous Safety of Flight (SOF) messages, Aviation Safety Action Messages (ASAM), Technical Bulletins (TB), TM 1-1520-238-PMS, TM 1-1520-238-23-1, and TM 1-1520-Longbow/Apache requiring 250 flight hours Phase Maintenance inspections will extend this inspection interval to 500 flight hours except as listed below in paragraph 7.

6.2.1. All existing or future inspections required at less than the 500 flight hours inspection interval will appear under the "Special Inspections" section in TM 1-1520-238-23-1 and TM 1-1520-Longbow/Apache and must be listed on the DA Form 2408-18.

**7. TASK PROCEDURES.**

7.1. The following listed inspections will require changes to TM 1-1520-238-23-1 and TM 1-1520-Longbow/Apache. The inspections are common to both the AH-64A and AH-64D with the exception of the Environmental Control Unit (ENCU) AH-64A, the Environmental Control System (ECS) AH-64D and the old style non stainless AH-64A Main Landing Gear.

7.2. The following listed inspections will require change on the DA Form 2408-18.

**NOTE**

This Technical Bulletin is the authority to implement/update TM 1-1520-238-23-1 and TM 1-1520-Longbow/Apache SPECIAL INSPECTIONS until the changes to these manuals are published by The Army's Publishing Directorate (APD).

7.3. Change 10 Hours/14 Days inspection to 25 Hours/14 Days PMS.

7.3.1. Add 10 hour/14 day requirement. "Perform engine 1 and 2 THIR inspection (TM 1-2840-248-23)".

7.3.2. Add 25 hour/14 day requirement. "Inspect ECS evaporator air filters" for AH-64D only.

7.3.2.1. Inspect 4 EFAB and 2 crew compartments filters for AH-64D only. Replace as required

7.4. Add 50 Hour Main Rotor Controls Inspection.

**NOTE**

The dash number following the Inspection Area refers to the section/area in the phase manual the inspection is extracted from.

7.4.1. Main Rotor - 10. Rotating swashplate for cracks, corrosion, grease leakage, and security of lower seal. Pitch link connection bosses for bending, misalignment, and worn or loose bushings. (Every 50 hr, include dial indicator check of bearings and turning of swashplate by hand with lower end of pitch controls disconnected at swashplate to listen and feel for roughness or binding.)

7.4.2. Main Rotor - 10. Visually inspect stationary swashplate for cracks and corrosion. Lateral and torque link connection bosses for bending, misalignment, and worn or loose bushings. Access T205L, T205R, T225.

7.4.3. Main Rotor - 10. Visually inspect rotating scissors for cracks, corrosion, and security. Pivot bearings for wear.

7.4.4. Main Rotor - 10. Visually inspect longitudinal and lateral torque links for cracks, dents, scratches, and corrosion. Attachment bolts for security. Bearings for looseness.

7.4.5. Main Rotor - 10. Visually inspect longitudinal, lateral, and collective bellcranks and attachment bolts for cracks, distortion, corrosion, and excessive play. Check floating bushing clamp-up to rod ends.

7.4.6. Main Rotor - 10. Visually inspect mixer supports for cracks, distortion, and corrosion. Mixer attachment bolts for cracks, corrosion, and security. Check for worn or seized bearings.

7.4.7. Main Rotor - 10. Visually inspect lower shoe for worn scissors bearing and worn plunger bearings.

**NOTE**

The Environmental Control System Inspections is one of the AH-64A and AH-64D Model specific inspection item in this TB that are different. A 125 or 250 hours inspection is performed on the systems in the airframe specified in the inspection procedures. The 125 hours inspection for the ENCU AH-64A is currently listed as a special inspection and therefore does not require addition to TM 1-1520-238-23-1.

7.5. Add 250 Hour/12 Months Environmental Control System Inspections (AH-64D only).

7.5.1. TM 1-1520-251-PM, Left EFAB & MLG - 3. ECS compressor, condensers, evaporator and tubes for leaking and integrity. Inspect ECS system components for signs of leakage or overheating and proper installation. Evacuate and recharge the Environmental Control System.

7.5.2. TM 1-1520-251-PM, Right EFAB & MLG - 4. ECS compressor, condensers, evaporator and tubes for leaking and integrity. Inspect ECS system components for signs of leakage or overheating and proper installation. Evacuate and recharge the Environmental Control System.

7.6. Add 250 Hour/6 MONTH Main Rotor Hub Nut Inspection.

7.6.1. Magnetic Particle inspection on basic and 7-311411102-3 M/R retention nut (TM 1-1520-264-23).

**NOTE**

The old non-stainless Main Landing Gear Mount is an AH-64A Model specific inspection that will require addition to TM 1-1520-238-23-1.

7.7. Add 250 Hour Main Landing Gear Inspection (AH-64A only).

7.7.1. Left FAB and MLG - 3. (Old Design, PN 7-311210000-601 only) Remove main gear shock strut. Inspect from the base of the mount to the end of the shaft. Inspect for pits, groves, scratches and for cracks using Magnetic Particle inspection. Check for distortion or looseness, loose or missing rivets or hardware.

7.7.2. Right FAB and MLG - 4. (Old Design, PN 7-311210000-602 only) Remove main gear shock strut. Inspect from the base of the mount to the end of the shaft. Inspect for pits, groves, scratches and for cracks using Magnetic Particle inspection. Check for distortion or looseness, loose or missing rivets or hardware.

7.8. Add 250 Hour Wing Mount and Flange Inspection.

7.8.1. Left Wing and Pylon - 5. Inspect wing upper mounting flange area and mounting bolts for security, cracks and corrosion. Upper Wing mount fittings for cracks or distortion. Mounting bolts for security, cracks and corrosion. If damage is suspected on mount fitting, remove wing and perform NDI. Lower Wing mount fittings for cracks or distortion. Mounting bolts for security, cracks and corrosion. If damage is suspected on mount fitting, remove wing and perform NDI. Pylon wiring harnesses for security, chafing, and loose connections. Hydraulic and fuel lines for security, chafing, and leakage.

7.8.2. Right Wing and Pylon - 6. Inspect wing upper mounting flange area and mounting bolts for security, cracks and corrosion. Upper Wing mount fittings for cracks or distortion. Mounting bolts for security, cracks and corrosion. If damage is suspected on mount fitting, remove wing and perform NDI. Lower Wing mount fittings for cracks or distortion. Mounting bolts for security, cracks and corrosion. If damage is suspected on mount fitting, remove wing and perform NDI. Pylon wiring harnesses for security, chafing, and loose connections. Hydraulic and fuel lines for security, chafing, and leakage.

7.9. Add 250 Hour Hydraulic Oil Inspection and Service.

7.9.1. Aft Equipment Bay - 11. Utility hydraulic manifold for leakage, corrosion, loose connections, and security. Sight gage for proper fluid level. Check manifold air inlet check valve filter for cleanliness. Replace

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Primary GSE panel fluid filter. Replace Utility hydraulic manifold pressure and return filters. Vent utility accumulator hydraulic pressure by activating emergency hydraulic system and operating flight controls and verify Utility accumulator NITROGEN pressure.

7.9.2. Main Transmission - 9. Primary hydraulic manifold for leakage, corrosion, loose connections, and security. Sight gage for proper fluid level. Check manifold air inlet check valve filter for cleanliness. Replace Primary hydraulic manifold pressure and return filters. Access L200.

7.10. Add 250 Hour Lube Oil Inspection and Service.

7.10.1. Main Transmission - 9. Replace accessory pump oil filter. Remove and clean bypass screen. Access T250L, T290L, T250R, T290R, L325, R200. Change transmission lube oil and filters. Access L200, R200.

7.10.2. Left Engine and Nose Gearbox - 7. Change nose gearbox lube oil and filter.

7.10.3. Right Engine and Nose Gearbox - 8. Change nose gearbox lube oil and filter.

7.11. Add 250 Hour APU Inspection.

7.11.1. Aft Equipment Bay - 11. Remove APU and inspect the APU mounting hardware, mounts and mounting lugs' surfaces for cracks, dents, distortion, elongation and corrosion. APU for cracks in compressor inlet shroud, turbine plenum, or gearbox housing. APU starter for cracks, leakage, and security. APU combustor for cracks or burned-through areas. Change APU fuel filter.

7.12. Add 250 Hour Main and Tail Rotor Drive Inspection.

7.12.1. Main Transmission -9. Mast base for cracks, distortion, and security. Mast support mount and upper ends of support struts for looseness. Inspect the upper portion of mast base support in the areas around the four lightening holes, mast and mixer supports for corrosion and pitting. Access L200, R200.

7.12.2. Main Transmission - 9. Static mast attaching hardware for proper torque. (Use PLI washer method). (500 Hour for Inconel/250 Hour for H-11 hardware.)

7.12.2.1. Main Transmission – 9. Torque check upper case nuts.

7.12.3. Empennage, Tail Rotor, and TLG - 14. Tail rotor and intermediate gearbox mounting NUTS for proper torque. Access L530, L540.

7.13. Add 250 Hour Fuel System Inspection.

7.13.1. Mid and Lower Fuselage – 12. Ammo bay interior fuel cell stress panels for cracks, delamination, distortion, loose or missing fasteners. Ammo bay interior fuel and hydraulic lines, hoses, fuel vent and drain tubes for leakage, chafing, corrosion, and security. Refueling line coupling assemblies for torque stripe and evidence of slippage or leakage. Nitrogen inert components for mounting security, loose or missing hardware, failure of tubes or hoses, and distorted or fractured breakaway valves. Inspect filter drain for obstructions.

7.13.2. Inspect forward fuel cell and pilot's collective bellcrank for chafing and/or interference with flight controls, structural deterioration, security, and damage to host helicopter. (Not required if restraint panel is installed IAW TB 1-1520-238-20-107). Access L160.

7.13.2.1. Perform fuel system leak-check. If forward fuel cell restraint panel/cover is not installed, perform the following inspection:

### NOTE

The forward fuel cell shall be full of fuel. The APU shall be run for 10 minutes with the Nitrogen Inerting System (NIU) functional.

7.13.2.2. Run the APU at least 10 minutes to pressurize the forward fuel cell. Ensure NIU is operational.

7.13.2.3. Gain access to the pilot's collective bellcrank by removing cover L160.

7.13.2.4. Place the pilot collective control in the full down position.

7.13.2.5. Inspect for 1/8th inch (0.125) minimum clearance between the collective bellcrank and forward fuel cell. If clearance is less than 0.125 inch, install fuel cell restraint panel.

7.14. Add 250 Hour Flight Control Inspection.

7.14.1. (AH-64A) CPG decoupler (SPAD) units for cracks, corrosion, security, evidence of interference, and for looseness or lost motion. Access B75R, B90, B120 (BUCS AIRCRAFT ONLY)

7.14.2. (AH-64A only) CPG decoupler (SPAD) shear pins for damage or partial shearing. Access B60 (BUCS AIRCRAFT ONLY)

7.14.3. (AH-64A only) Perform adjustment and electrical check on CPG decoupler (SPAD) units' micro switches. Access B60 (BUCS AIRCRAFT ONLY)

7.14.4. (AH-64A) Pilot decoupler (SPAD) units for cracks, corrosion, security, evidence of interference, and for looseness or lost motion. Access B75R, B90, B120 (BUCS AIRCRAFT ONLY)

7.14.5. (AH-64A only) Pilot decoupler shear pins for damage or partial shearing. (BUCS AIRCRAFT ONLY) Access B90, B120

7.14.6. (AH-64A only) Perform adjustment and electrical check on pilot decoupler (SPAD) units micro switches. (BUCS AIRCRAFT ONLY) Access B90, B120

**8. SPECIAL TOOLS AND FIXTURES REQUIRED.** Not Applicable.

**9. SUPPLY/PARTS (REQUISITION/DISPOSITION).** Not Applicable.

**10. MAINTENANCE APPLICATION.**

10.1. Category of maintenance - AVUM.

10.2. Estimated time required Not applicable.

10.3. TB/MWO/ECP to be applied prior to or concurrently with this Technical Bulletin: Not applicable.

**11. PUBLICATIONS.**

11.1. References:

11.1.1. AR 95-1, Flight Regulations.

11.1.2. DA Pam 738-751, Functional Users Manual For The Army Maintenance Management System - Aviation (TAMMS).

11.1.3. TB 55-1500-337-24, Phase Maintenance System For Army Aircraft.

11.1.4. TM 1-1500-204-23, Volume 1-9, Aviation Unit Maintenance (AVUM), and Aviation Intermediate Maintenance (AVIM) For General Aircraft Maintenance (General Maintenance Practices).

11.1.5. TM 1-1500-328-23, Aeronautical Equipment Maintenance Management Policies and Procedures.

11.1.6. TM 1-1520-238-PM, Phase Maintenance Inspection Checklist For Army AH-64A Helicopter.

11.1.7. TM 1-1520-238-PMD, Preventive Maintenance Daily Inspection Checklist For Army AH-64A Helicopter.

11.1.8. TM 1-1520-238-PMS, Preventive Maintenance Services Inspection Checklist For Army AH-64A Helicopter.

11.1.9. TM 1-1520-238-23 Series Manuals, Aviation Unit and Intermediate Maintenance Manual, Helicopter, Attack, AH-64A Apache.

11.1.10. TM 1-1520-Longbow/Apache (IETM), Interactive Electronic Technical Manual, Aviation Unit and Intermediate Maintenance Manual Helicopter, Attack, AH-64D Longbow Apache.

11.1.11. TM 1-1520-251-PM, Phase Maintenance Inspection Checklist For Army AH-64D Helicopter.

11.1.12. TM 1-1520-251-PMD, Preventive Maintenance Daily Inspection Checklist For Army AH-64A Helicopter.

**NOTE**

This Technical Bulletin is the authority to implement/update the manuals listed below until the changes to these manuals are published by The Army's Publishing Directorate (APD).

11.2. The following publications require change as a result of this Technical Bulletin.

11.2.1. TB 55-1500-337-24, Phase Maintenance System For Army Aircraft.

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- 11.2.2. TM 1-1500-328-23, Aeronautical Equipment Maintenance Management Policies and Procedures.
- 11.2.3. TM 1-1520-238-PM, Phase Maintenance Inspection Checklist For Army AH-64A Helicopter.
- 11.2.4. TM 1-1520-238-PMS, Preventive Maintenance Services Inspection Checklist For Army AH-64A Helicopter.
- 11.2.5. TM 1-1520-238-23 Series Manuals, Aviation Unit and Intermediate Maintenance Manual, Helicopter, Attack, AH-64A Apache.
- 11.2.6. TM 1-1520-Longbow/Apache (IETM), Interactive Electronic Technical Manual, Aviation Unit and Intermediate Maintenance Manual Helicopter, Attack, AH-64D Longbow Apache.
- 11.2.7. TM 1-1520-251-PM, Phase Maintenance Inspection Checklist For Army AH-64D Helicopter.

**12. WEIGHT AND BALANCE.** Not Applicable.

### **13. FORMS AND RECORDS.**

- 13.1. The following forms and records are applicable and are to be completed IAW DA Pam 738-751.
  - 13.1.1. DA Form 2408-13, Aircraft Status Information Record.
  - 13.1.2. DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
  - 13.1.3. DA Form 2408-15, Historical Record for Aircraft.
  - 13.1.4. Da Form 2408-18, Equipment Inspection List.

### **14. POINTS OF CONTACT:**

- 14.1. Primary Technical Point of Contact is Mr. Lee Bumbicka, Commercial (256) 705-9846, DSN 897-9846. E-mail is lee.bumbicka@rdec.redstone.army.mil.
- 14.2. Alternate Technical Point of Contact is Mr. Malcolm Fuller, Commercial (256) 705-9783, DSN 897-9783. E-mail is malcolm.fuller@rdec.redstone.army.mil.
- 14.3. Primary Logistical Point of Contact is Mr. Wayne Fusselman, Commercial (256) 313 4043, DSN 897-4043. E-mail is wayne.fusselman@us.army.mil.
- 14.4. Alternate Logistical Point of Contact is Mr. Michael Sharp, Commercial (254) 287-9399, DSN 737-9399. E-mail is michael.e.sharp@us.army.mil.
- 14.5. Forms and Records Point of Contact is Ann Waldeck, Commercial (256) 876-5564, DSN 746-5564. E-mail is ann.waldeck@redstone.army.mil.



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**TB 1-1520-238-20-139**

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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:** date time group
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:**  
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