

# ROUTINE

TB 1-1520-240-20-155

## DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

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# CH-47D AIRCRAFT DESERT OPERATIONS ENHANCED DESERT MAINTENANCE (EDM)

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Headquarters, Department of the Army, Washington, D.C.  
1 July 2004

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### NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED

**1. Purpose.** This Technical Bulletin (TB) is issued to provide additional inspection criteria to the regularly scheduled Phase inspections performed in desert operations.

Environmental conditions within the Desert Southwest Asia (SWA) Theater of Operations are conducive to the introduction of dust and sand to the aircraft and components. Dust and sand can easily cause failure of such items as cyclic and collective electrical switches, digital entry keyboards, radio turning knobs, and circuit breakers. Sand erosion causes wear on rotors heads, leading edges of rotor blades, Teflon bearings, and all turbine wheel blades. Blowing sand gradually degrades optical instruments and windscreens by pitting and scratching. Sand, dirt, and dust accumulation on oil cooler surfaces creates loss of cooling efficiency in an environment where that ability is paramount. Sand mixed with oil forms an abrasive paste. Lube fittings and bearing seals require more frequent inspection. Heat soaking of sensitive electronic "black boxes" will produce increased failures and demands on aircraft cooling systems.

### **2. Priority Classification.** NORMAL

a. Aircraft in Use. Upon receipt of this Technical Bulletin the condition status symbol of the cited aircraft will be changed to a Red Dash (-) at the next scheduled Phase Inspection. The Red Dash (-) may be cleared when the procedures of paragraph 9 of the TB are completed.

b. Aircraft in Use. Next scheduled Phase Inspection.

c. Aircraft in Storage. Next scheduled Phase Inspection if aircraft is returned to service in desert conditions.

**3. End Items to be inspected.** All aircraft and installed Mission Equipment operated in Desert conditions.

**4. Assembly Components to be inspected.** Not applicable.

**5. Parts to be inspected.** Not applicable.

**6. Application.**

- a. Category of Maintenance. AVIM.
- b. Time Required. Estimated man-hours to accomplish this task. TBD.
- c. Estimated Cost of Impact of Stock Fund Items to the Field. N/A.
- d. TB/MWOs to be applied prior to or concurrently with this inspection: MWO application must be coordinated with Theater Commander and AMCOM Depot CFT Personnel.
- e. Deferred maintenance shall be accomplished concurrently with this inspection.
- f. Publications which require change as a result of this inspection. Not Applicable

**7. Supply/Parts and Disposition.** Not Applicable.

**8. Special Tools, Jigs and Fixtures Required.** As required.

**9. Inspection Procedures.** Inspect at next scheduled Phase Inspection IAW TM 55-1520-240-PM and disassemble IAW applicable technical instructions to permit inspection, cleaning and repair of the following areas:

- a. Ensure all engine, transmission and hydraulic oil samples have been submitted for analysis.

**NOTE**

Engines rely on inlet particle separator systems, if installed, to reduce engine wear. These systems are not as efficient at Idle RPM. Sand can accumulate in the blades of the power generating wheels. This sand will eventually glaze, which inhibits cooling and heat expansion.

- b. Inspect engine inlet and exhaust area for sand entrapment.

**NOTE**

Rotor blades require one of two current solutions. Blade painting requires relatively high repetition and inspection. Blade taping requires skilled application and an increase in rotor track and balance. Both solutions are short-term and require diligence by the crew during preflight and post flight inspections, as well as phase inspections.

- c. Main rotor blades. Clean, inspect, repair, and replace blade tape and L-100 paint, if necessary.

**NOTE**

If available, use the "Foam-It" aircraft wash system to aid in the cleaning of the hydraulic and transmission fans and coolers. Use only approved soap per the manufacturer's specifications.

- d. Remove all air ducting to hydraulic coolers and clean fan motors with low compressed air to remove foreign material. Clean reservoir cooler assembly fins with low pressure air.

e. Inspect transmission fans and coolers for cleanliness and condition. Use low compressed air to clean out transmission coolers. If transmission sump or reservoir component has sight gauges that are cloudy or fluid level cannot be determined, the sight gauges shall be cleaned and if necessary, replaced.

f. Inspect ASE, Instruments and related navigational/avionics components for cleanliness and condition.

(1) Clean and inspect mount areas.

(2) Remove the avionics cooling fan assembly and duct.

(3) Clean and inspect the fan and ducting.

(4) Clean and inspect ASE, Avionics and navigation electrical, antenna and grounding cables.

(5) Perform functional check of ASE equipment.

g. Perform US Army AMCOM Corrosion Prevention & Control Center of Excellence CH-47 Corrosion Assessment Checklist. Contact the Logistical or Technical POC for this checklist.

h. Inspect Mission Equipment (ERFS II, HICHS, EAPs, etc) for cleanliness and condition.

**NOTE**

Protective cover should be used at all times. Windscreens, blade covers, nose covers and engine inlet covers should be installed when not in use. Covers should fit tight to avoid flapping.

i. Inspect aircraft covers for condition and serviceability.

j. Perform torque check of all engine mounts.

**10. Correction Procedures.**

**NOTE**

If available, use the "Foam-It" aircraft wash system to aid in the cleaning of the aircraft exterior and components. Use only approved soap per the manufacturer's specifications.

a. Comply with requirements of TB 1-1500-200-20-30.

**WARNING**

Degreasing solvent, MIL-PRF-680, is combustible and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames or other sources of ignition.

**WARNING**

Cleaning Compound, MIL-PRF-85570, can irritate eyes and skin. Wear protective gloves and goggles. Avoid repeated or prolonged contact with skin.

**WARNING**

Isopropyl Alcohol, TT-1-735, is flammable and toxic to eyes, skin, and respiratory tract. Wear protective gloves and goggles/face shield. Avoid repeated or prolonged contact. Use only in well ventilated areas (or use approved respirator as determined by local safety/industrial hygiene personnel). Keep away from open flames, sparks or other sources of ignition.

**NOTE**

For degreasing, use MIL-PRF-680, Type II.

**NOTE**

For aqueous cleaner, use MIL-PRF-85570, Type II.

**NOTE**

In place of Trichlorotrifluoroethane, use Isopropyl Alcohol, TT-1-735, Grade B.

b. Repair all faults discovered during the inspection procedures of paragraph 9 of this TB. Replace all unserviceable parts or components.

c. Touch-up Paint as required IAW TM 55-1500-345-23.

d. Apply MIL-C-81309 Type II Corrosion Preventive Compound (CPC) (8030-00-938-1947) or equivalent to water entrapment areas, airframe mating surfaces, bilge areas, and any other corrosion prone areas.

**11. Weight and Balance.** Perform IAW AR 95-2.

**12. Recording and Reporting Requirements.** Per DA Pamphlet 738-751.

a. DA Form 2408-5, Equipment Modification Record.

b. DA Form 2408-13, Aircraft Inspection and Maintenance Record.

c. DA Form 2408-15, Aircraft Historical Record.

**13. Points of Contact.**

a. Point of contact for this action is Mr. Jim Boyer, SFAE-AV-CH-L, DSN 897-3378 or commercial (256) 313-3378.

b. Technical point of contact is Mr. Matt Wesselschmidt, SFAE-AV-CH-T, DSN 897-3376 or commercial (256) 313-3376.

c. Point of Contact for Logistics is Mr. Bill Olson, SFAE-AV-CH-L, DSN 897-3379 or commercial (256) 313-3379.

d. Point of contact for Technical Documentation is Mr. James Appleton, AMSAM-MMC-AV-CA, DSN 897-1436 or commercial (256) 313-1436.

e. Wholesale Material (Supply) point of contact is Ms. Geri Reddy, AMSAM-MMC-AV-CA, DSN 897-1454 or commercial (256) 313-1454.

f. Point of contact for Records and Forms is Ms. Ann Waldeck, AMSAM-MMC-MA-MM, DSN 746-5564 or commercial (256) 876-5564.

g. ULLS-A point of contact is Mr. Alan Burleson, AMSAM-MMC-MA-NM, DSN 746-4468 or commercial (256) 876-4468.

**14. Reporting of Errors and Recommending 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, U.S. Army Aviation and Missile Command, ATTN: AMSAM-MMC-MA-NP, Redstone Arsenal, AL 35898-5000. A reply will be furnished to you. You may also provide DA Form 2028 information to AMCOM via e-mail, fax, or the World Wide Web. Our fax number is; DSN 788-6546 or commercial 256-842-6546. Our e-mail address is: 2028@redstone.army.mil. For the World Wide Web Use: <https://amcom2028.redstone.army.mil>.

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