ROUTINE

*** TB 1-1520-240-30-02**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CH-47D AIRCRAFT DESERT OPERATIONS SPECIAL INSPECTION AND CLEANING

Headquarters, Department of the Army, Washington D.C.
31 May 2006

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. Purpose. To provide an expeditious inspecting and cleaning requirement to remove salt/salt-laden sand and other contaminants from aircraft involved in Desert operations. Environmental conditions within the Desert Southwest Asia (SWA) Theater of Operations were conducive to the introduction of salt-laden sand and other corrosive and damaging substances into the interior surface of the aircraft. These substances, if allowed to remain, will accelerate the corrosion and wear process and lead to premature failure of the aircraft components and structure. Immediate removal of these substances is imperative in order to minimize future corrosion damage and failure of components. This Technical Bulletin (TB) is issued to provide special inspection and cleaning procedures for all redeployed aircraft.

2. Priority Classification. NORMAL.

a. Aircraft in Use. Upon receipt of this TB the condition status symbol of the cited aircraft will be changed to a Red Dash (–). The Red Dash (–) may be cleared when the inspection, cleaning and maintenance procedures of paragraph 9 and the correction procedures required in paragraph 10 are completed. The affected aircraft shall be scheduled into maintenance at the earliest possible time to complete this task.

b. Aircraft in Use. No later than 2 years after date of redeployment.

c. Aircraft in Storage. No later than 2 years after date of redeployment.

3. End Items To Be Inspected. All aircraft and Mission Equipment after redeployment from Desert Theaters of Southwest Asia.

4. Assembly Components To Be Inspected. Not applicable.

5. Parts To Be Inspected. Not applicable.

* This TB supersedes TB 1-1520-240-30-02, dated 28 February 2005.

6. Application.

a. Category of Maintenance. AVIM.

b. Time Required. Estimated man-hours to accomplish this task: 8788 using 4 to 9 personnel.

c. Estimated Cost of Impact of Stock Fund Items to the Field: TBD.

d. TBs/MWOs to be applied prior to or concurrently with this inspection: Contact Project OLR for MWOs that may be applied with AMCOM Reset Program.

e. Publications which require change as a result of this inspection. Not applicable.

7. Supply/Parts and Disposition.

NOTE

Identification of components replaced or repaired on aircraft since their return from desert operations in Southwest Asia will decrease aircraft downtime and expedite completion of requirements established by this TB as inspection of these components is not required.

NOTE

Control substitution of components, modules and other parts is authorized and will be documented using a locally produced form, regardless of component historical records requirement. All DA Form 2410 item requirements will be completed prior to releasing aircraft to the owning unit.

NOTE

The owning unit will ensure that the aircraft first aid kits are inspected prior to Reset induction and that the kits will remain serviceable throughout the Reset process, additionally the unit will provide cartridge activated devices (squibs) as required and/or insure the fire bottle squib life is well beyond the anticipated Reset completion date.

a. Review all component historical forms and records for retirement and overhaul requirements. Ensure owning unit requisitions components due overhaul or retirement. Ensure all DA Form 2408-17 items are inventoried prior to beginning the AMCOM Reset Program.

b. Parts Required. As required.

c. Requisitioning Instructions. Requisition using normal supply procedures and assigned Project Code (02V).

d. Bulk and Consumable Material. As required.

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

CAUTION

When using low pressure air for cleaning, do not exceed 30 psi.

9. Inspection Procedures. Inspect in accordance with below listed publications and the Reset Inspection Checklist provided in this technical bulletin. Disassemble in accordance with technical instructions to permit inspection, cleaning and repair of the areas:

CAUTION

Do not use high pressure air fluids in and around the aircraft avionics closet, cockpit, flight control areas and side slip/static ports.

a. Comply with the requirements of: TB 1-1500-200-20-31, TB 1-2840-265-23, TB 11-1500-361-24, TM 55-1520-240-Cargo-PMD (PMD-ALL), 400 Hour Maintenance Checklist (CSP), AMCOM CH-47 Corrosion Assessment Checklist, the Reset Inspection Checklist and TM 1-1520-240-23, Task 1-87 and Task 1-92.1.

b. Remove Aft Pylon in accordance with TM 1-1520-240-23-2, Task 2-306 and Task 2-307.

NOTE

Contact Reset Program Integrator for ERFS II inspection and repair procedures.

NOTE

Preserve fuel cells as required in accordance with TM 1-1520-240-23, Task 10-18.

c. Inspect Mission Equipment (ERFS II, HICHS, EAPS, etc.) for cleanliness and condition.

(1) Remove Engine Air Particle Separators (EAPS) and ship Engine Air Particle Separators to Sierra Army Depot for cleaning, inspection, preservation and storage; contact the Reset Program Integrator for instructions.

(2) For transportability equipment, contact the Reset Program Integrator for instructions.

10. Correction Procedures.

a. Repair and correct all flight safety discrepancies discovered during the inspection procedures of paragraph 9 of the TB. Replace all unserviceable parts or components and where feasible correct any remaining discrepancies.

WARNING

Degreasing solvent, MIL-PRF-680A, Type III, 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-I-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 is 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-680A, Type III.

NOTE

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

NOTE

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

b. Perform requirements of the 400 Hour Cycle Service Program (CSP), next CSP due will be the 200 Hour CSP. Modular PMD Cycle will continue in sequence from the scheduled sequence number prior to Reset induction.

c. Touch-up Paint as required in accordance with 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. Aircraft will be inventoried, weighed and DD Form 365 series updated prior to returning aircraft to the owning unit.

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

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

b. DA Form 2408-5-1, Equipment Modification Record (Component).

c. DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.

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

13. Points of Contact.

a. Reset Program Logistical point of contact is Mr. George K. Hellman, AMSAM-OPS-R, DSN 645-8468, commercial (256) 955-8468.

b. Technical point of contact is Mr. Matt Wesselschmidt, SFAE-AV-CH-T, DSN 897-3376 or commercial (256) 313-0734.

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

d. Point of contact for Technical Documentation is Mr. James Appleton, SFAE-AV-CH-L, DSN 897-0729 or commercial (256) 313-0729.

e. Wholesale Material (Supply) point of contact (spares) is Ms. Geri Reddy, AMSAM-MMC-AV-CA, DSN 897-3370 or commercial (256) 313-3370.

f. ULLS-A point of contact is Mr. San Yen Lee, AMSRD-AMR-AE-KA, 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.

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Clean aircraft inside and out IAW TM 1-1500-344-23, TB 1-1500-200-20-31 and the appropriate cleaning section of the aircraft TM. Ensure all sand and other foreign matter is removed.				
	Perform a Preventive Maintenance Daily (PMD) IAW TM 55-1520-240-Cargo-PMD (PMD-ALL).				
	Inspect airframe for cleanliness, corrosion and condition. Use U.S. Army AMCOM Corrosion Prevention & Control Center of Excellence CH-47 Corrosion Assessment Checklist (contact the Logistical point of contact for copies of this Checklist).				
	Perform lube requirements IAW TM 1-1520-240-23, Task 1-87.				
	Perform special inspections as required IAW TM 1-1520-240-23, Task 1-92.1.				
	Perform 400 Hour Maintenance Checklist (400 Hr CSP).				
	Comply with TB 1-2840-265-23, T-55 Engine Reset.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Inspect all electrical wiring, wire bundles and connectors for cleanliness and condition. Inspect wires for chaffing and foreign debris (sand/dirt). Clean wires with cloth or soft bristle brush and low compressed air. Disconnect, clean and inspect all electrical connectors. Preserve electrical connectors IAW TM 1-1500-343-23.				
	Inspect all antennas and antenna connectors for serviceability. If available apply AV-Dec corrosion preventative gasket kit to antenna mount surfaces and connectors. (Contact Reset Program Integrator for kit information.)				
	Verify the electrical and mechanical integrity of the External Power Service Receptacle (no loose or burned pins).				
	Inspect cockpit Mechanical Flight Controls (Pedal Boxes removed) for condition and cleanliness. With Pedal Boxes removed, clean all exposed surfaces/areas.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Clean and inspect cockpit area, Aircraft Survivability Equipment (ASE), instruments and related navigational/avionics components for cleanliness and condition IAW TM 1-1500-343-23, TM 11-1520-240-23, TB 11-1500-361-24 and TM 1-1520-240-23. Clean and inspect center console, overhead console and Power Distribution Panel (PDP) areas.				
	Remove cockpit transfer bellcranks and cockpit transfer shaft. Inspect bellcranks, shaft, and shaft supports IAW TM 1-1520-240-23, Tasks 11-11 and 2-351. A light and mirror may be required for shaft support inspections. Repair minor damage to the bellcranks, shaft, and shaft supports IAW TM 1-1520-240-23-9, Tasks 11-12 and 11-13. Repair minor damage to the protective coat and mating surface dissimilar metal contact IAW TM 1-1520-240-23-9, Tasks 11-12, 11-13, and 2-351. If the shaft support mount hub material thickness is eroded by more than 10 percent at any point around the perimeter, the support should be removed and replaced.				
	Clean, inspect and lubricate all rod end bearings to ensure all old grease has been purged. Refer to TM 1-1520-240-23-9, Tasks 11-2 through 11-15.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Clean and inspect avionics closet, Aircraft Survivability Equipment (ASE), and related navigational/avionics components for cleanliness and condition IAW TM 1-1500-343-23, TM 11-1520-240-23, TB 11-1500-361-24 and TM 1-1520-240-23. Clean and inspect mount areas and verify electrical bonding of avionic/navigational equipment racks and hardware to aircraft grounds.				
	Remove the avionics cooling fan assembly and duct. Clean and inspect the fan and ducting.				
	Purge Pitot-Static and Sideslip Sense systems per TM 1-1520-240-23-7, Task 8-26.				
	If necessary, remove aircraft heater, intake/exhaust ducting and fuel drain lines. Inspect and clean aircraft heater and aircraft heater ducting with vacuum cleaner and/or low pressure air.				
	Remove and inspect Forward, Aft, and Center cargo hooks for cleanliness. Inspect and clean manual release mechanisms. Check for proper operation and inspect cables and linkages for binding.				
	Inspect Fwd and Aft Landing Gear Torque Boxes (landing gear not removed and disassembled) and surrounding internal areas for cleanliness, condition, corrosion and deformity of structures.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Inspect Fuel Cells and Fuel Pods IAW TM 1-1520-240-23-8, Task 10-4 for cleanliness and condition. Additionally determine the manufacture date of the fuel cell by checking the manufacturer markings on the cell. Any fuel cell older than 10 years will be completely removed from the pod and inspected for material separation and cracking. Pay special attention to seams and reinforced areas.				
	Inspect APU for cleanliness and condition, pay particular attention to the inlet area and rotors. Replace APU fuel and oil filters. Drain and service APU.				
	Remove Engine Air Particle Separators (EAPS), if installed, and inspect mounts, and rails for condition. Ship Engine Air Particle Separators to Sierra Army Depot for cleaning, inspection, preservation and storage.				
	Remove #1 and #2 Engine Transmissions and inspect for cleanliness and condition.				
	Remove #1 and #2 Engines. Comply with TB 1-2840-265-23.				
	Perform Non-Destructive Inspection of the #1 and #2 Forward and Aft Engine Mount assemblies.				
	Remove and inspect all Sync/Drive Shaft assemblies for cleanliness IAW TM 1-1520-240-23-5, Task 6-10.1.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove Rotary-Wing Blades. Clean, inspect and remove blade tape and L-100 paint from leading edges.				
	Remove Rotary-Wing Head assemblies. Disassemble and inspect all bearings, pins and splines. Replace all seals.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove and inspect Forward Transmission for cleanliness and condition. Inspect support structure for cleanliness, cracks and distortions. Pay particular attention to transmission mount area, FWD of STA 95.00 (Fwd and Aft Sides), remove existing proseal prior to conducting inspection. Refer to TM 1-1520-240-23-5 for inspection procedures for the transmission and TM 1-1520-240-23-2, Task 2-71 and 2-370 for support structure inspections. Treat and repair any corrosion found. Inspect transmission sump/reservoir sight gauges. If gauges are cloudy or fluid level cannot be determined, the sight gauges shall be cleaned or if necessary replaced. With transmission oil coolers removed, inspect coolers and fans for cleanliness and condition. If necessary, use low pressure water/garden hose to reverse flow or back flush fins to ensure removal of foreign material. Inspect oil coolers and oil cooler mating surfaces for corrosion. Treat and repair any corrosion found.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove and inspect Combining Transmission for cleanliness and condition. Inspect Torque Box for cleanliness, cracks and distortions. Refer to TM 1-1520-240-23-5 for inspection procedures for the transmission and TM 1-1520-240-23-2, Tasks 2-274.1 and 2-370 for support structure inspections. Treat and repair any corrosion found. Inspect transmission sump/reservoir sight gauges. If gauges are cloudy or fluid level cannot be determined, the sight gauges shall be cleaned or if necessary replaced. With transmission oil coolers removed, inspect coolers and fans for cleanliness and condition. If necessary, use low pressure water/garden hose to reverse flow or back flush fins to ensure removal of foreign material. Inspect oil coolers and oil cooler mating surfaces for corrosion. Treat and repair any corrosion found.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove and inspect Aft Transmission for cleanliness and condition. Inspect support structure for cleanliness, cracks and distortions. Refer to TM 1-1520-240-23-5 for inspection procedures for the transmission and TM 1-1520-240-23-2, Task 2-370, for support structure inspections. Treat and repair any corrosion found. Inspect transmission sump/reservoir sight gauges. If gauges are cloudy or fluid level cannot be determined, the sight gauges shall be cleaned or if necessary replaced. With transmission oil coolers removed, inspect coolers and fans for cleanliness and condition. If necessary, use low pressure water/garden hose to reverse flow or back flush fins to ensure removal of foreign material. Inspect oil coolers and oil cooler mating surfaces for corrosion. Treat and repair any corrosion found.				
	Drain and service all Transmission Oil Systems.				
	Replace all Transmission Oil Filters.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove Aft Pylon IAW TM 1-1520-240-23-2, Task 2-306 and Task 2-307.1. Inspect Fuselage/Pylon support structure and mating surface (WL +72.00) for cleanliness, cracks and distortion. Treat and/or repair any corrosion or damage found. Perform visual inspection of Aft Pylon main mounts at STA 482.00, STA 534.00 and STA 594.00. Inspect for cleanliness, cracks and distortion. Treat and/or repair any corrosion or damage found.				
	Inspect all Hydraulic Flight Control Dynamic components for cleanliness and condition.				
	Remove all air ducting to hydraulic coolers. Clean reservoir cooler assembly fins with low pressure air. If necessary, use low pressure water/garden hose to reverse flow or back flush fins to ensure removal of foreign material.				
	Remove Utility and Flight Control Hydraulic cooling fans. Clean fan motors with vacuum cleaner/low pressure air to remove foreign material. Visually inspect (do not disassemble) for condition and corrosion. Using a flashlight, examine impeller for missing blades, dents, gouges, chips, or distortion. Pay particular attention to the area around the impeller hub.				
	Inspect Mission Equipment (ERFS II, EAPS, etc.) for cleanliness and condition.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove HICHS, if installed, inspect, disassemble, clean and repair as required IAW TM 55-1680-358-12&P.				

By Order of the Secretary of the Army:

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