ROUTINE

TB 1-1520-271-30-01

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

CH-47F AIRCRAFT DESERT OPERATIONS SPECIAL INSPECTION AND CLEANING

Headquarters, Department of the Army, Washington D.C.
15 April 2009

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can improve this manual. 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 send in your comments electronically to our E-mail address: 2028@redstone.army.mil or by fax 256-842-6546/DSN 788-6546. For the World Wide Web use: https://amcom2028.redstone.army.mil. Instructions for sending an electronic 2028 can be found at the back of this manual.

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THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.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.

6. Application.

a. Category of Maintenance. AVIM.

b. Time Required. Estimated man-hours to accomplish this task: 8845 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 AVN Field Maintenance Director 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 ensure 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 air pressure 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 or 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, TB 43-0242, TM 1-1520-271-PMS1, TM 1-1520-271-PMS3, TM 1-1520-271-PMS4, AMCOM CH-47 Corrosion Assessment Checklist, the Reset Inspection Checklist, TM 1-1500-323-24-1, TM 1-1500-344-23 Volumes 1-4, and TM 1-1520-271-23&P.

b. Remove Aft Pylon in accordance with TM 1-1520-271-23&P.

NOTE

Preserve fuel cells as required in accordance with TM 1-1520-271-23&P.

(1) Remove sheet metal cover plates, P/N 114S2906-129 and 114S2906-130, in center cargo hook area (side plates that have catch for center cargo door latch) by drilling out rivets.

(2) Clean and inspect area behind cover panels for corrosion. If necessary, treat for corrosion and re-paint area.

(3) Clean and inspect back side of cover panel. If necessary, treat for corrosion and re-paint.

(4) If panels were secured using blind rivets, use same in re-attaching panel. If panels were secured with solid rivets, then go one diameter higher and re-secure panels with blind rivets; however, adequate rivet edge distance shall be maintained.

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

(1) Remove, clean, inspect, and repair Engine Air Particle Separators (EAPS) in accordance with TM 1-1520-271-23&P. If inspection indicates the need for Depot level repair return to Commander, Sierra Army Depot, Attn: Doug Kern CH-47 Aviation Support, Bldg 355, Herlong, CA 96113, (520) 827-4648, DODAAC - W62G2X.

(2) Clean, inspect, and repair HICHS in accordance with TM 55-1680-358-12&P.

(3) Clean, inspect, and repair ERFS II in accordance with TM 1-1560-312-23&P.

(4) Return Transportability Equipment to Commander, Sierra Army Depot, Attn: Doug Kern CH-47 Aviation Support, Bldg 355, Herlong, CA 96113, (520) 827-4648, DODAAC - W62G2X.

d. Comply with Overhaul and Retirement Schedule (M00123) and Special Inspections (M00124).

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 TM 1-1520-271-PMS1-4, next PMS due will be PMS-2.

c. Touch-up Paint as required in accordance with TM 55-1500-345-23 and TB 43-0242.

d. Apply MIL-PRF-81309 Type II, Class 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. William Gordon, AMSAM-OPS-R, DSN 645-6760, commercial (256) 955-6760.

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 Ms. Terri Julian, SFAE-AV-CH-L, DSN 788–2607 or commercial (256) 842–2607.

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.

g. AMCOM Corrosion Project Manager is Mr. Steve F. Carr, AMRDEC, DSN 746-7472 or commercial (256) 876–7472.

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 TM 1-1520-271-23&P. Ensure all sand and other foreign matter is removed.				
	Perform modular daily inspection IAW TM 1-1520-271-PMS1 (MOD ALL).				
	Perform in-depth corrosion inspection in accordance with TM 1-1520-271-PMS4.				
	Perform lube requirements IAW TM 1-1520-271-23&P, Servicing & Lubrication (M00077).				
	Perform special inspections as required IAW TM 1-1520-271-23&P, Special Inspections (M00124).				

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, arcing, and foreign debris (sand/dirt). Clean wires with cloth or soft bristle brush and low compressed air. Disconnect, clean and inspect all electrical connectors IAW TM 1-1520-271-23&P. Preserve electrical connectors IAW TM 1-1500-344-23.				
	Inspect all antennas and antenna connectors for serviceability. If available apply AV-Dec corrosion preventative gasket kit to antenna mount surfaces and connectors.				
	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 IAW TM 1-1520-271-23&P. Clean, inspect, and lubricate all rod end bearings to ensure old grease has been purged IAW TM 1-1520-271-23&P.				

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 1-1500-344-23, TM 11-1520-271-23&P, TB 11-1500-361-24, TM 1-1520-271-23&P and TM 1-1500-323-24-1. Clean and inspect center console, overhead console and Power Distribution Panel (PDP) areas.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove transfer bellcranks and transfer bellcrank shaft. Inspect bellcranks, shaft, and shaft supports IAW TM 1-1520-271-23&P, Maintenance, Flight Control System, Flight Controls (General) (M02246) and Maintenance, Airframe, INTERIOR STRUCTURES DETAILS AND REPAIR PARTS/MATING SURFACES DISSIMILAR METAL CONTACT (M00560). A light and mirror may be required for shaft support inspections. Repair minor damage to the bellcranks, shaft, and shaft supports IAW TM 1-1520-271-23&P, Maintenance, Flight Control System, Flight Controls (General) (M02246). Repair minor damage to the protective coat and mating surface dissimilar metal contact IAW TM 1-1520-271-23&P, Maintenance, Flight Control System, Flight Controls (General) (M02246) and Maintenance, Airframe, INTERIOR STRUCTURES DETAILS AND REPAIR PARTS/MATING SURFACES DISSIMILAR METAL CONTACT (M00560). 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.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Clean, inspect and lubricate all rod end bearings to ensure all old grease has been purged IAW TM 1-1520-271-23&P, Maintenance, Flight Control System, Flight Controls (General) (M02246).				
	Clean and inspect avionics closet, Aircraft Survivability Equipment (ASE), and related navigational/avionics components for cleanliness and condition IAW TM 1-1500-344-23, TM 11-1520-271-23, TB 11-1500-361-24 and TM 1-1520-271-23&P. Clean and inspect mount areas and verify electrical bonding of avionic/navigational equipment racks and hardware to aircraft grounds (M02782).				
	Remove avionics cooling fan. Clean fan 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 ducting for condition.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Purge Pitot-Static and Sideslip Sense systems IAW TM 1-1520-271-23&P, Maintenance, Instrument Systems, Flight Instruments, Pitot-Static and Sideslip Sensing System, Purge, (M01759).				
	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.				
	Remove inspection panel from fwd landing gear torque boxes. 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 1-1520-271-23&P, Maintenance, Fuel Systems, Inspect Fuel Tank Assemblies (M02099), 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.				
	Remove #1 and #2 Engine Transmissions and inspect for cleanliness and condition.				
	Remove #1 and #2 Engines. Comply with TB 1-2840-265-23.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	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 1-1520-271-23&P, Maintenance, Drive Train System, Drive Shafting, Install, Clean and Inspect (M01068).				
	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.				
	Remove Fwd and Aft Swashplate. Clean and inspect rotating ring (M01031), sliding sleeve bearing (M01032), and ball spherical bearing (AVIM) (M01037) IAW TM 1-1520-271-23&P.				

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 1-1520-271-23&P for inspection procedures for the transmission (Maintenance, Drive Train, Forward Transmission (M01113), Maintenance, Airframe, Cockpit Support Structures (M00217), and Maintenance, Airframe, Corrosion (M00578) 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. 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 1-1520-271-23&P, Maintenance, Drive Train, Combining Transmission (M01145) for inspection procedures for the transmission and Maintenance, Airframe, Combining Transmission Support Fittings (M00474) and Maintenance, Airframe, Corrosion (M00578) 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. 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 1-1520-271-23&P, Maintenance, Drive Train, Aft Transmission (M01169), for inspection procedures for the transmission and Maintenance, Airframe, Corrosion (M00578), 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. 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 forward, aft, and combining transmission oil systems IAW TM 1-1520-271-23&P.				
	Replace forward, aft, and combining transmission oil filters (main and aux) IAW TM 1-1520-271-23&P.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	Remove, inspect, and clean (or replace as required) forward, aft, and combining transmission chip detectors and debris screens IAW TM 1-1520-271-23&P.				
	Remove Aft Pylon IAW TM 1-1520-271-23&P, Maintenance, Airframe, Aft Pylon – Shaft Installed (M00512), Shaft Removed (M00513). 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.				

Reset Inspection Check list		Area Name and No.		Aircraft Serial No.	Date
	Inspection Requirements	**Status**	**Faults and/or Remarks**	**Action Taken**	**Initial**
	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 (Winch, Paratroop Anchor Line and System, Litter Provisions System, Countermeasures System, Microclimate Cooling System, etc.) for cleanliness and condition IAW TM 1-1520-271-23&P.				
	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:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:

JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0908407

Distribution:
To be distributed in accordance with the initial distribution number (IDN) 344970, requirements for TB 1-1520-271-30-01.

These are the instructions for sending an electronic 2028

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
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.