

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

INSPECTION OF T63-A-700/T63-A-720 ENGINE FUEL
PUMP FILTER BYPASS VALVE
FOR PROPER OPERATION ON OH-58A/C AND OH-6
SERIES AIRCRAFT

Headquarters, Department of the Army, Washington, D. C.
1 October 1995

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NOTE

THIS TB REPLACES TB 1-2840-241-20-14, DATED 15 JANUARY 1994, AND THIS PUBLICATION IS EFFECTIVE UNTIL SOONER RESCINDED OR SUPERSEDED.

1. Priority Classification. ROUTINE

a. Aircraft in Use. Upon receipt of this Technical Bulletin (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 of paragraph 8 below is completed. The affected aircraft shall be inspected as soon as practical but no later than the task/inspection suspense date.

b. Aircraft in Depot Maintenance. Aircraft engines with 0 hours Time Since Overhaul (TSO) or Time Since New (TSN) need not be inspected. The fuel pump has been tested. Aircraft will not be issued until compliance with this TB has been completed.

c. Aircraft Undergoing Maintenance. Same as paragraph 1.a.

d. Aircraft in Transit.

(1) Surface/Air Shipment. Within 15 hours or 30 days of arrival.

(2) Ferry Status. Same as paragraph 1.a.

e. Maintenance Trainers (Category A, B, and Others). Same as paragraph 1.a.

f. Component/Parts in Stock Including War Reserves at All Levels (Depot and Others). N/A.

2. Task/Inspection Suspense Date. Inspect and repair within 15 hours/30 days.

3. Reporting Compliance Suspense Date. N/A.

4. Summary of the Problem.

- a. Previous inspection of Desert Shield/Desert Storm aircraft has revealed deficiencies in the engine driven fuel pump and bypass.
- b. For manpower/downtime and funding impacts, see paragraph 12.
- c. The purpose of this TB is to perform a functional test of the engine driven fuel pump on the remainder of aircraft not previously inspected, and to implement this functional test on a repetitive basis (phase inspection for all aircraft).

NOTE

This inspection does not replace inspection required by TB 1-2840-241-20-6 on all aircraft returning from Southwest Asia.

5. End Items to be Inspected. All OH-58A/C and OH-6 series aircraft with T63-A-700/T63-A-720 engines.

6. Assembly Components to be Inspected.

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Engine, Assembly T63-A-720	6887191	2840-01-013-1339
Engine, Assembly T63-A-700	6874201	2840-01-179-5536

7. Parts to be Inspected. All configuration pumps are to be inspected, only prime NSNs are listed below.

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Pump Assembly, Fuel	23003114	2915-01-109-7171
Pump Assembly, Fuel	6899253	2915-01-070-5675
Pump Assembly, Fuel	6854292	2915-00-924-7791

8. Inspection Procedures. For aircraft which were addressed in TB 1-2840-241-20-6, this inspection complete. Others conduct the following inspection within the task/inspection date and time. This inspection will be required at each phase inspection thereafter for all aircraft.

a. Test the engine fuel pump filter bypass valve for proper operation as follows:

(1) Remove fuel filter in accordance with TM 55-2840-241-23, paragraph 5-10, or TM 55-2840-231-23, paragraph 6-27. Inspect fuel filter for signs of closing or other unsatisfactory conditions. Fuel filter may be reused if determined to be in a satisfactory condition.

(2) Install a cap, NAS 813-14 or NAS 813-8 on the filter boss.

(3) Remove the after filter sense line from the fuel filter pressure switch and install AN815-3 fitting in the line.

(4) Install approximately 36 inches of 3/8 inch clear plastic tubing, NSN 4720-00-764-0714, on the fitting and install a small funnel in the free end.

(5) With the cap still installed over the filter boss, install the filter cover. Provide a container to catch fuel from the tubing on the after filter port line. Save this fuel for paragraph 8.a.(7).

(6) Momentarily actuate the fuel boost pump. The fuel filter caution light should illuminate and fuel should flow from the tubing indicating the prim pump bypass is working. Refer to paragraph 9 for corrective action if the bypass is not working.

(7) Remove the filter cover. Fill the clear tubing with fuel (saved from paragraph 8.a(6) to raise the fuel level 12 to 24 inches above the fuel pump after filter sense fine port.

(8) Observe the filter housing area for leakage. Leakage exceeding 10 drops per minute is not acceptable. Refer to paragraph 9 for corrective action.

(9) Remove the cap from the filter boss and remove the fitting and tubing from the after fuel pump filter sense line.

(10)Reconnect the after fuel pump filter sense line to the fuel filter pressure switch.

b. Reinstall or replace the fuel filter as required in accordance with TM 55-2840-241-23, paragraph 5-10, or TM 55-2840-231-23, paragraph 6-27.



Replace both fuel filter o-rings when reusing same filter.

9. Correction Procedures

a. If fuel pump failed bypass test in paragraph 8.a.(6) or 8.a(8) then clean as follows:

(1) Remove fuel pump in accordance with TM 55-2840-241-23, paragraph 5-9, or TM 55-2840-231-23, paragraph 6-15.

(2) Remove fuel filter in accordance with TM 55-2840-241-23, paragraph 5-10.

(3) Remove and clean the bypass valve as follows:

(a) Argo-Tech/TRW pump, NSN 2915-01-070-5675, P/N 6899253.

- 1 Cut and remove lockwire which retains the filter bypass valve in the gear housing.
- 2 Unscrew and remove the valve housing, refer to TM 55-2840-241-23P, figure 22, item 17.
- 3 Remove spring, item 20 and valve, item 19.
- 4 Clean the rubber face of the valve using petroleum solvent.
- 5 Inspect for excessive deterioration of rubber. If deteriorated, replace valve, item 19, NSN 2915-01-070-5391.
- 6 Clean seat in the pump and filter bowl area using petroleum solvent.
- 7 Install the filter bypass valve, ensure that rubber face is against the seat, and install spring.
- 8 Replace o-ring, item 18, NSN 5330-01-105-8892. Lubricate and install it in groove in the filter bypass valve housing.
- 9 Screw valve housing into gear housing. Torque to 75 to 100 inch-pound and safety wire.

(b) Sunstrand/Pesco pump NSN 2915-01-109-7171, PIN 23003114.

- 1 Cut and remove lockwire which retains the cap, reference TM 55-2840-241-23P, figure 21, item 11.
- 2 Unscrew and remove the cap, item 11.
- 3 Remove spring, item 14; shim, item 15 if installed; piston, item 16; and sleeve, item 17.
- 4 Clean the piston and sleeve using petroleum solvent
- 5 Clean the gear housing at the bypass valve area and filter bowl area using petroleum solvent.
- 6 Replace o-ring, item 18, NSN 5330-00-248-3838. Lubricate lightly and engage in sleeve, item 17.
- 7 Install sleeve in gear housing.
- 8 Install piston in the sleeve, shim (if installed) and the spring.

9 Replace o-ring, item 12, NSN 5330-00-263-8031. Lubricate and install in the groove on the cap.

10 Screw cap into gear housing and torque to 140 - 160 inch-pound and safety wire.

(c) Pump, NSN 2915 00-924-7791, P/N 6854292.

1 Cut and remove lockwire retaining filter bypass plug in the pump housing, reference TM 55-2840-231-23, figure 13, item 9.

2 Unscrew and remove plug, item 9.

3 Remove spring, item 11, piston, item 13, and sleeve, item 14.

4 Remove and discard o-ring, item 10, and o-ring, item 15.

5 Clean the piston, item 13, and sleeve, item 14 using petroleum solvent, reference TM 55-2840-231-23, figure 13, item 1.

6 Clean bypass valve area and filter bowl area of the pump housing, item 64 using petroleum solvent.

7 Replace o-ring, item 15, NSN 5330-00-248-388. Lubricate lightly, reference TM 55-2840-231-23, Appendix D, item 4, and install sleeve, item 14.

8 Install sleeve, item 14, in pump housing, item 64.

9 Install piston, item 13 and spring, item 11 in sleeve, item 14.

10 Replace o-ring, item 10, NSN 5330-00-263-8031. Lubricate, reference TM 55-2840-231-23, Appendix D, item 14, and install plug, item 9.

11 Install cap, item 9, into pump housing, item 64, torque to 105 to 125 inch-pounds, and safety wire.

b. Test bypass per paragraph 8.a(5) and 8.a.(6). If bypass malfunction is not corrected by cleaning/replacing bypass valve, replace fuel pump

c. Reinstall fuel pump in accordance with TM 52840-241-23, paragraph 5-9, or TM 55-2840-231-23, paragraph 6-16. Prior to installing fuel inlet line to pump, actuate aircraft boost pump to purge any contaminated fuel from line.

10. Supply/Parts and Disposition.

a. Parts Required. Items cited in paragraphs 6 and 7 may be required to replace defective items.

b. Requisitioning Instructions. Requisition replacement parts through normal supply channels using normal supply procedures. All requisitions shall use project code 'CSB' per this TB. The use of project code CSB will allow requisitioning of these depot level items.

NOTE

Project code "CSB" is required to track SOF costs in an attempt to establish a future fund to reimburse units for stock fund expenditures created by SOF messages.

c. Bulk and Consumable Materials. N/A.

d. Disposition. Dispose of removed parts/components in accordance with normal supply procedures. A Quality Deficiency Report (QDR) is required, if item has less than 100 hours service.

e. Disposition of Hazardous Material. N/A.

11. Special Tools, Jigs and Fixtures Required. N/A.

12. Application.

a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM.

- b. Time Required.
 - (1) Total of 4 man-hours using 1 person.
 - (2) Total of 4 hours downtime for one end item.
- c. Estimated Cost Impact of Stock Fund Items to the Field. N/A.
- d. TB/AWOs to be Applied Prior to or Concurrently with this Inspection. N/A.
- e. Publications Which Require Change as a Result of This Inspection. TM 55-2840-241-23, TM 55-1520-228-PM, and TM 55-2840-231-23 shall be changed to reflect this TB. A copy of this TB shall be inserted in the appropriate TM as authority to implement the change until the printed change is received.

13. References.

- a. TM 55-2840-241-23.
- b. TM 55-2840-231-23.

14. Recording and Reporting Requirements.

- a. Upon entering requirements of this TB on DA Form 2408-13-1 on all subject MDS aircraft, forward a priority message, datafax or E-Mail to Commander, ATCOM, A'TTN: AMSAT-C-XS (SOF Compliance Officer), per AR 95-3. Datafax number is DSN 693-2064 or commercial (314) 263-2064. E-Mail address is AM- SATCXS@ST-LOUIS-EMH4.ARMY.MIL". The report will cite this TB number, date of entry in DA Form 2408-13-1, the aircraft mission design series and serial numbers of aircraft in numerical order.
- b. The following forms are applicable and are to be completed in accordance with DA PAM 738-751, 15 June 1992:
 - (1) DA Form 2408-5, Equipment Modification Record.
 - (2) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.
 - (3) DA Form 2408-15, Historical Record for Aircraft.
 - (4) DA Form 2408-18, Equipment Inspection List.

15. Weight and Balance. N/A.

16. Points of Contact.

- a. Technical point of contact for this TB is Ms. Marie George, AMSAT-R-EPE, DSN 693-1161 or commercial (314) 263-1161.
- b. Logistical point of contact for this TB is Mr. Glen Duvall, AMSAT-I-WAU, DSN 693-2081 or commercial (314) 263-2081.
- c. Forms and records point of contact for this TB is Ms. Ann Waldeck, AMSAT-I-MDM, DSN 693-1758 or commercial (314) 263-1758.
- d. Safety Point of contact for this TB is Mr. Lyell Myers. AMSAT-C-XS, DSN 693-2258 or commercial (314) 263-2258.
- e. Foreign Military Sales (FMS) recipients requiring clarification of action advised by this TB should contact Mr. Ron Van Rees or MW4 Jay Nance, AMSAT-I-IOA, DSN 693-3659 or commercial (314) 263-3659.
- f. After hours contact ATCOM Command Operations Center (COC) DSN 693-2066/7 or commercial (314) 263-2066/7.

17. Reporting of Errors and Recommending Improvements. You can help 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 Troop Command, ATTN: AMSAT-I-MP, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished to you. You may also submit your recommended changes by E-mail directly to <daf2028@st-louis-emh7.army.mil>. A reply will be furnished directly to you.

The following format shall be used for electronic 2028s. 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.

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1. **From:** Joe Smith
2. **Unit:** home
3. **Address:** 4300 Park
4. **City:** Hometown
5. **St:** MO
6. **Zip:** 7777
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.

☆

By Order of the Secretary of the Army:

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