URGENT

***TB 1–1520–248–20–60**

DEPARTMENT OF THE ARMY TECHNICAL BULLETIN

ONE TIME AND RECURRING INSPECTION OF CARTRIDGE TYPE FUEL BOOST PUMP ASSEMBLY ON ALL OH–58D HELICOPTERS

Headquarters, Department of the Army, Washington, D. C.
8 November 2001

NOTE

THIS PUBLICATION IS EFFECTIVE UNTIL RESCINDED OR SUPERSEDED.

1. Priority Classification. URGENT.

a. Aircraft in Use. Upon receipt of this Technical Bulletin (TB) make the following entry on DA Form 2408–13–1. Enter a Red Horizontal Dash status symbol with the following statement: Inspect Fuel Boost Pump Assembly in accordance with TB 1–1520–248–20–60 prior to next flight, but not later then 26 October. Clear Red Horizontal Dash entry when procedures in paragraphs 8. and 9. are completed. Affected aircraft shall be inspected as soon as practical but. not later than 26 October 2001. Commanders unable to comply with requirements of this TB within time frame specified will upgrade affected aircraft status symbol to a Red X.

b. Aircraft in Maintenance Facility.

(1) Aircraft in AVUM, AVUM, or DEPOT. Commanders and Facility Managers will not be issued aircraft until they are in compliance with this TB .

(2) Aircraft at Contractor Facility. Will inspect DD 250 aircraft prior to those aircraft departing for ferry to final destination.

c. Aircraft in Transit.

(1) Surface/Air Shipment. Same as paragraph 1. a.

(2) Ferry Status. Inspect at final destination.

d. Maintenance Trainers (Category A and B). Same as paragraph 1. a.

e. Component/Parts in Stock Including War Reserves at All Levels (Depot and Others). Upon receipt of this TB, Depot and Materiel Activity Commanders will ensure material condition tags of all items in all codes listed in paragraph 6. and 7. are annotated to read “TB 1–1520–248–20–60 Inspection of Cartridge Type Fuel Boost Pump Assembly, not complied with.”

(1) Wholesale Stock. Not applicable.

(2) Retail Stock. Report receipt of this TB in accordance with paragraph 14. c. (2). Upon receipt of this TB Commanders and Facility Managers maintaining retail stock at instillation level and below shall contact supported aviation unit to perform procedures required in accordance with paragraphs 8. and 9. on subject materiel. Dispose of discrepant material in accordance with paragraph 10. Report compliance with this TB in accordance with paragraph 14. d. (2).

*This TB supersedes Oh–58–02–ASAM–01 102228Z Oct. 01

f. Components/Parts in work (Depot Level and Others). Depot and other Maintenance Activity Commanders will ensure items listed in paragraphs 6. and 7. are not issued until they are in accordance with this TB.

2. **Task/Inspection Suspense Date.** Complete Inspection in accordance with paragraph 8. prior to next flight but not later than 26 October 2001 and report in accordance with paragraph 14. a. (2) not later than 31 October 2001.

3. **Reporting Compliance Suspense Date.** Report compliance in accordance with paragraph 14. a. (1) not later than 1 November 2001.

4. **Summery of Problem.**

a. Background.

(1) During two accident investigations, the inlet shutoff valve arm of the cartridge type fuel pump was found bent. This condition may result in power loss or flameout due to restriction of fuel flow. OH–59–93–ASAM–05 and TB 1–1520–248–20–18 were sent out in 1993 and manual changes were made addressing the bent inlet shut off valve arm. However, the problem has resurfaced. The procedures for replacing fuel pump cartridge including CAUTIONS and WARNINGS had been removed from the aircraft technical manuals due to the task being in the fuel boost pump manual TM 55–2915–335–30&P. Procedures to replace the fuel pump cartridge are being reinstated into the aircraft technical manual since it is an AVUM task.

(2) In addition to the bent arm, the umbrella check valve on top of the pump housing was missing. There is a WARNING in Task 10–1–19, TM 1–1520–248–23–4 to ensure check valve is installed. The check valve aids the pump in venting fuel from the pump motor and impeller cavities but, more importantly, is essential to ensure that fuel does not leak from the pump canister once pump cartridge is removed. Note that operating performance of pump is not affected by absence of check valve.

(3) The fuel boost pump had apparently been run without fuel causing some internal damage. A CAUTION will be added to the operational check tasks to not run pump without fuel. The fuel acts as a coolant and lubricant for the pump internal components. In addition other manual changes are being initiated.

b. For manpower/downtime and funding impacts, refer to paragraph 12.

c. The purpose of this TB is three–fold:

(1) Perform a one time inspection of cartridge type fuel boost pump inlet shut off valve arm for condition.

(2) Change PPM inspections 3, 6, 9, 12, and 15 to provide for recurring inspection for presence of umbrella check valve on top of boost pump housing.

(3) Initiate manual changes concerning maintenance and installation/removal procedures for boost pump.

5. **End Items to be Inspected.** All Army OH–58D aircraft.

6. **Assembly/Component(s) to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Pump, Submerged	206–062–687–101	2915–01–124–5222

7. **Parts to be Inspected.**

NOMENCLATURE	PART NUMBER	NATIONAL STOCK NUMBER
Inlet Valve Stem Assembly	E6–66–1	4820–01–181–9246

8. **Inspection Procedures.**

a. Remove fuel sump panel located on lower fuselage by removing eight screws and washers, Task 10–1–17, TM 1–1520–248–23–4.

b. Determine configuration of boost pump:

(1) If cartridge type boost pump is not installed, inspection is complete.

(2) Reinstall sump access panel, Task 10–1–19, TM 1–1520–248–23–4. Proceed to paragraph 9.

(3) If cartridge type boost pump is installed, proceed to paragraph 8. c.

WARNING

A bent inlet shutoff valve arm may prevent the shutoff valve from completely opening causing a restricted fuel flow.

CAUTION

Apply pressure directly over valve spring when opening or closing valve stem assembly. Trying to compress valve spring from free end of valve arm will cause valve arm to bend. When removing or installing shoulder screw, keep valve stem depressed.

c. Inlet Shutoff Valve Inspection.

(1) While applying upward pressure on stem (spring) side of inlet shutoff valve, remove shoulder screw from shutoff valve arm. Release pressure and allow valve to close. Observe that valve moves approximately 3/16 inch from open to close position.

NOTE

Pictures of the inlet shutoff valve arm to be inspected and the install/removal task for the cartridge can be viewed at "http://www.redstone.army.mil/sof/suppl/o58s0201.pdf". If you can not reach this website, contact Technical Point of Contact listed in paragraph 16. a. for a copy.

(2) Shutoff Valve Arm Inspection.

(a) If arm is not bent, inspection is complete, proceed to paragraph 8. c. (3).

(b) If arm is obviously bent, proceed to paragraph 9.

(3) Position fuel shutoff lever arm to align with screw hole. Apply pressure to valve stem (spring) end of arm. Install shoulder screw with negative electrical lead between shoulder of screw and cartridge base. Tighten screw to provide good electrical contact. Lockwire screw.

(4) Perform Operational Check.

(a) Set BATT 1 Switch to BATT 1. Perform fuel boost pump electrical operational check, Step 17. b., Task 2–6–34 or Step 18. b., Task 2–6–35, TM 1–1520–248–T–1.

(b) Set BATT 1 Switch to OFF. Reinstall sump access panel, Task 10–1–19, TM 1–1520–248–23–4

9. Correction Procedures.

a. Remove boost pump, Task 101–17, TM 1–1520–248–23–4.

b. Replace defective shutoff valve, TM 55–2915–335–30&P or replace entire pump.

c. Install new or repaired boost pump, Task 101–19, TM 1–1520–248–23–4.

d. After inspection and if required replacement of fuel boost pump, Red Horizontal Dash will be cleared.

e. The following are manual changes as a result of this TB.

(1) Task for removing/installing fuel boost pump cartridge will be added to TM 1–1520–248–23–4, Chapter 10.

(2) TM 1–1520–248–23–4, Tasks 10–1–17 and 10–1–19 Warning and Caution will be added concerning input valve arm when removing/installing electrical leads.

(3) TM 1–1520–248–T–1, Tasks 2–6–34 and 2–6–35 Caution will be added to operational check tasks to not run boost pump without fuel in tank.

(4) TM 1–1520–248–PPM, add new inspection 4.3, performed every third PPM (120 hours), “using flashlight and mirror, inspect through refuel port for missing or damaged umbrella check valve on top of boost pump housing. (Inspection should be performed with 250 lbs. or less of fuel.) Replace umbrella check valve Task 2–11, TM 55–2915–335–30&P”. Add reference to Task 2–11, TM 55–2915–335–30&P for recurring umbrella check valve inspection in the PPM.

(5) Reword Warnings in Tasks 10–1–16 and 10–1–19 in TM 1–1520–248–23–4 as follows:

WARNING

Engine surging/flameout may occur when all the following conditions exist: Fuel level falls below top of boost pump housing in fuel tank if umbrella check valve is not installed, inlet shutoff valve arm is bent restricting fuel flow, and pump is inoperative.

10. Supply/Parts and Disposition.

a. Parts Required. Items cited in paragraph 12. c. may be required to replace unserviceable items.

b. Requisitioning Instructions. Requisition replacement parts through normal supply channels using normal supply procedures. All requisitions shall use project code (CC 57–59) “X16” (X–RAY–ONE–SIX).

NOTE

Project code “X16” is required to track and establish a data base of stock fund expenditures incurred by the field as a result of TB actions

c. Bulk and Consumable Materials. Not applicable.

d. Disposition. Dispose of removed parts/components in accordance with normal supply procedures. All turn–in documents must include project code (CC 57–59) “X16” (X–RAY–ONE–SIX).

e. Disposition of Hazardous Material. In accordance with Environmental Protection Agency directives as implemented by your servicing Environmental Coordinator (AR 200–1).

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

12. Application.

a. Category of Maintenance. AVUM. Aircraft downtime will be charged to AVUM. Report aircraft Non–Mission Capable Maintenance (NMCM) while undergoing inspection and correction in accordance with this TB. Report aircraft Non–Mission Capable Supply (NMCS) while waiting for parts in accordance with this TB.

b. Estimated Time Required.

(1) Time to complete inlet valve arm inspection.

(a) Total of 2 man–hours using one person.

(b) Total of 2 hours downtime for one end item.

(2) Time to complete pump remove/install.

(a) Total of 5 man–hours using two persons.

(b) Total of 2.5 hours downtime for one end item.

c. Estimated Cost Impact to the Field.

NOMENCLATURE	PART NUMBER NATIONAL STOCK NUMBER	QTY.	COST EACH	TOTAL $
Pump, Submerged	206–062–687–101/2915–01–124–5222	1	$ 848.00	$ 848.00
Inlet Valve Stem Assy.	E6–66–1/4820–01–181–9246	1	$ 23.10	$ 23.10
Umbrella Check Valve	E6–34–1/5410–01–070–5681	1	$ 3.17	$ 3.17

Maximum total cost per aircraft = $ 874.27

d. TB/MWOs to be Applied Prior to or Concurrently with this Inspection. Not applicable.

e. Publications Which Require Change as a Result of This Inspection.

(1) TM 1–1520–248–23–4 and TM 1–1520–248–T–1 shall be changed to reflect this TB.

(2) TM 1–1520–248–PPM add new inspection 4.3, perform every 3, 6, 9,12, and 15 PPM (120 Hrs.) “Using flashlight and mirror, inspect through refueling port for presence of umbrella check valve in top of boost pump housing. (Inspection should be performed with 250 Lbs. or less of fuel.”

(3) TM 1–1520–248–23–4, Tasks 10–1–16 and 10–1–19, reword Warnings to add “with pump inoperative and restricted flow”.

(4) A copy of this TB shall be inserted in appropriate TM as authority to implement changes until printed changes are received.

13. **Reference.**

a. DA PAM 738–751, 15 March 1999.

b. TM 1–1520–248–23–4, 28 February 2000.

c. TM 1–1520–248–T–1, 28 February 2000.

d. TM 1–1520–248–PPM, 30 April 1999.

e. TM 55–2915–335–30&P, 21 October 1988.

14. **Recording and Reporting Requirements.**

a. Aircraft.

(1) Reporting Compliance Suspense. Upon entering requirements of this TB on DA Form 2408-13-1 on all effected aircraft, Commanders will forward a priority message, datafax or E-Mail to Commander, AMCOM, ATTN: AMSAM–SF–A (SOF Compliance Officer), Redstone Arsenal, AL. 35898–5000, in accordance with AR 95–1, not later than date specified in paragraph 3. Datafax number is DSN 897–2111 or Commercial 256–313–2111. E-Mail address is safeadm@redstone.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.

(2) Task/Inspection Reporting Suspense. If bent inlet valve arm is found, unit will forward a priority e–mail message to Technical Point of Contact listed in paragraph 16. a. for tracking purposes. E–Mail will cite this TB number, date of inspection, aircraft serial number, aircraft and component hours, and results of inspection. Inspection and reports will be completed not later than date specified in paragraph 2.

b. Wholesale Spare Parts/Assemblies.

(1) Reporting Message Receipt. Not applicable.

(2) Task/Inspection Reporting Suspense. Not applicable.

c. Retail Spare Parts/Assemblies.

(1) Reporting Message Receipt. Not applicable.

(2) Task/Inspection Reporting Suspense. Commanders and Facility Managers will report inspection results to Logistics Point of Contact in paragraph 16. b. not later than date specified in paragraph 1. e. (2). Report quantity inspected by condition code and resulting condition code. Report by e–mail or datafax and provide local point of contact.

d. The following forms are applicable and are to be completed in accordance with DA PAM 738-751,15 March 1999:

NOTE

ULLS–A users will use applicable E forms.

(1) DA Form 2408–13, Aircraft Status Information Record.

(2) DA Form 2408-13-1, Aircraft Inspection and Maintenance Record.

(3) DA Form 2408-15, Historical Record for Aircraft.

(4) DD Form 1574/DD Form 1574–1, Serviceable Tag/Label Materiel (color yellow). Annotate Remarks block with, TB 1–1520–248–20–60 Inspection of Cartridge Type Fuel Boost Pump assembly not complied with.

(5) DD Form 1577–2/DD Form 1577–3, Unserviceable (Reparable) Tag/Label Materiel (color green). Annotate Remarks block with, Unserviceable in accordance with TB 1–1520–248–20–60 Inspection of Cartridge Type Fuel Boost Pump assembly.

15. **Weight and Balance.** Not applicable.

16. **Points of Contact.**

a. Technical point of contact for this TB is Mr. Kevin Cahill, AMSAM–RD–AE–I–D–O, DSN 645–9544 or 256–955–9544, datafax 955–9536. E–Mail kevin.cahill@redstone.army.mil.

b. Logistical point of contact for this TB is Mr. Ray Hensley, AMSAM–DSA–ASH–L, DSN 645–7441 or 256–955–7441, datafax 256–955–7125. E–Mail raymond.hensley@redstone.army.mil.

c. Wholesale point of contact (Spares) is MAJ.. Scott Waggoner, DLA, DSN 695–6399 or 804–279–6389, datafax DSN 695–5695. E–Mail swaggoner@dsa.mil.

d. Forms and records point of contact for this TB is Ms. Ann Waldeck, AMSAM–MMC–RE–FF, DSN 746–5564 or 256–876–5564, datafax DSN 746–4904. E–Mail ann.waldeck@redstone.army.mil.

e. Safety Points of Contact are:

(1) Primary – Mr. Frank Rosebery (SAIC), AMSAM–SF–A, DSN 788–8631 or 256–842–8631, datafax DSN 897–2111 or 256–313–2111. E–Mail frank.rosebery@redstone.army.mil

(2) Alternate – Mr. Ron Price, AMSAM–SF–A, DSN 897–2111 or 256–313–2111. E–Mail ron.price@redstone.army.mil.

f. Foreign Military Sales (FMS) recipients requiring clarification of action advised by this TB should contact:

(1) Primary – Mr. Ronnie W. Sammons, AMSAM–SA–CS–NF, DSN 897–6856 or 256–313–6856, datafax DSN 897–6630 or 256–313–6630. E–Mail ronnie.sammons@redstone.army.mil.

(2) Alternate – Mr. Paul W. Tarr, AMSAM–SA–CS–NF, DSN 897–6861 or 256–313–6861, datafax DSN 897–6330 or 256–313–6330. E–Mail paul.tarr@redstone.army.mil.

g. After hours contact AMCOM Command Operations Center (COC) DSN 897-2066/7 or commercial 256–313–2066/7.

By Order of the Secretary of the Army:

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