

DEPARTMENTS OF THE ARMY AND THE AIR FORCE
TECHNICAL BULLETIN

AVIATION GROUND POWER UNIT
(FUEL FILTER/SEPARATOR REPLACEMENT)

NSN 1730-01-144-1897

Headquarters, Departments of the Army and the Airforce, Washington D.C.

30 January 1998

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help 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 Publication and Blank Forms), or DA Form 2028-2 located in the back of this manual directly to: Commander, US Army Aviation and Missile Command, ATTN: AMSAM-MMCLS-LP, Redstone Arsenal, AI 35898-5230. You may also submit your recommended changes by E-Mail directly to ls-lp@redstone.army or by fax 205-842-6546/DSN 788-6546. A reply will be furnished directly to you. Instruction for sending an electronic 2028 may be found at the back of this manual immediately preceding the hard copy 2028.

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1. Introduction. This TB details the changes to replace the Kaydon filter/separator (P/N SD420056) with a Racor filter/separator (P/N 660R-10) that uses a Racor R60T 10 micron filter.

NOTE

Lower items affected are Fuel System Installation (P/N 83-14503) and Fuel Filter Support (P/N 83-15053).

2. Tools/Equipment Required.

- a. Two crescent wrenches 8 inches or standard wrench set up to 13/16 open end wrenches.
- b. Drain pan to collect spilled fuel.
- c. Torque wrench with 11/16 crowfoot.
- d. Allen wrench (15/16 inch).

3. Material Required.

- a. Pipe thread with teflon for diesel fuel. Vendors: Jet Lube V2 /Seal Pro teflor paste.

CAUTION

Do not use teflon tape to seal pipe threads.

- b. Shop towels.

4. Removal of Kaydon Filter. Refer to Figure 1.

- a. Turn the AGPU OFF.
- b. Turn the fuel valve OFF.
- c. Position the drain pan under the AGPU fuel pump. Drain the fuel.
- d. Remove fuel tube, item 4 at only the fuel pump elbow, item 10.
- e. Remove fuel hose, item 36 at only the filter separator connection at item 15. Use two wrenches to stabilize the hose and loosen the fitting.
- f. Remove fasteners items 27, 28, 29 holding the fuel support bracket to the AGPU frame. The easiest method to loosen the screws is to reach around the air cleaner box just to the right of the filter separator. There are weldnuts secured to the inside of the AGPU frame that are not to be removed. The removed fasteners will be used to attach the new filter support bracket.
- g. Disconnect the battery cable from the battery.

- h. Remove the filter separator from the AGPU.
- i. Remove the 90 degree fuel tube item 4 from the filter separator and item 15 that was connected to item 4. The fuel tube item 4 will be reused for the new filter/separator.
- j. Remove items 15, 34, and 35 from the filter separator.
- k. Clean items 15, 34, and 35 and inspect threads for damage. If acceptable, these items will be reused for the new filter separator. Replace damaged or corroded items. Replace items that could possibly leak.
- l. Clean the area of the AGPU frame in the location of the Kaydon filter separator.

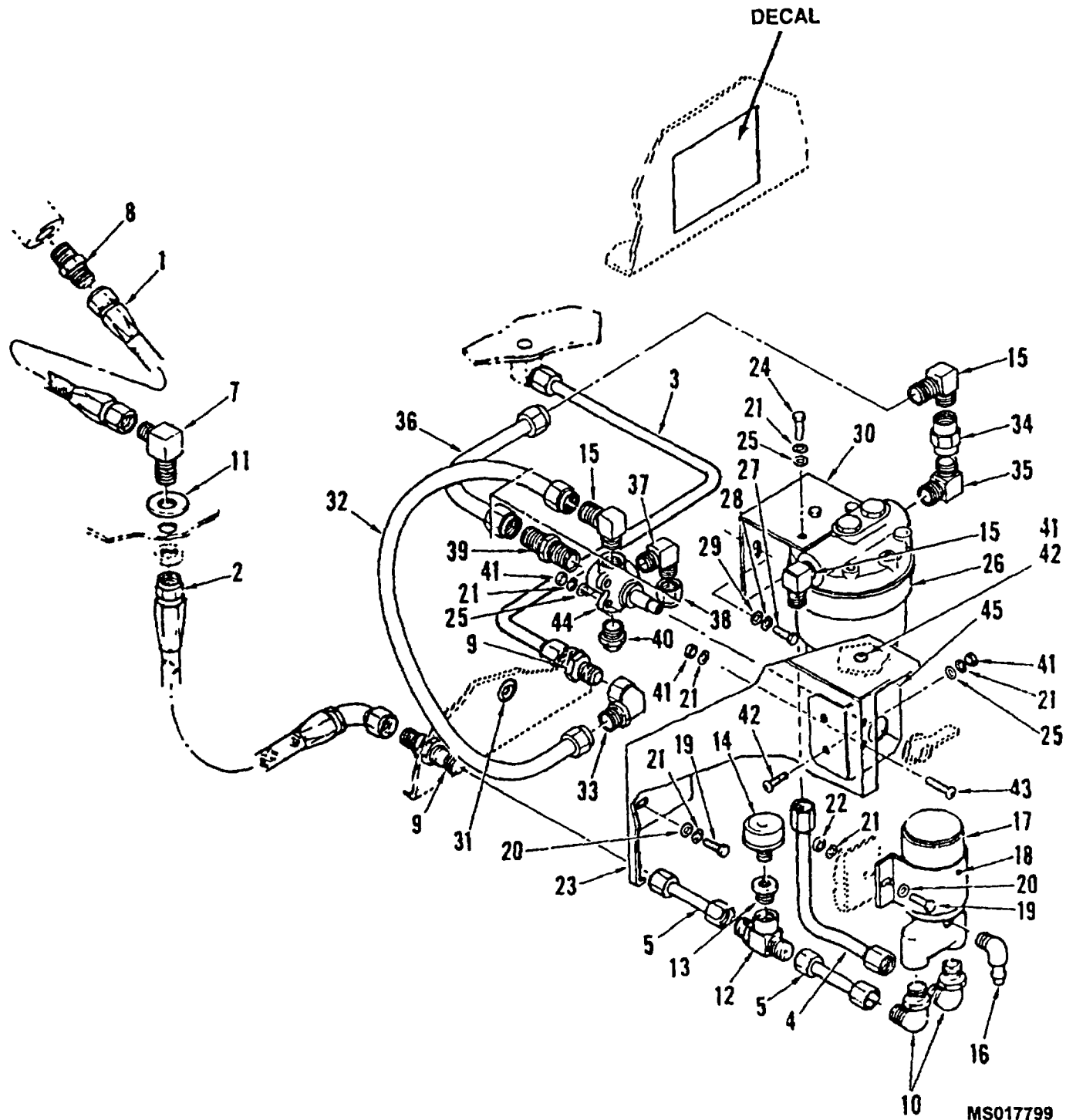


Figure 1. Fuel Pump and Filter Installation

5. Installation of Racor Filter /Separator. Refer to figure 2.

a. Installation of fittings The plumbing fittings that are to be installed in the Racor filter separator must be cleaned and coated with adequate pipe sealant to make a leak proof seal. The filter separator is on the suction (unpressurized) side of the pump; therefore, air leaks will occur that are very hard to find. These leaks will affect the priming and pressurization of the fuel for the turbine. **GOOD WORKMANSHIP IS EXTREMELY IMPORTANT WHEN ATTACHING THE FITTINGS OR PLUGS TO THE FILTER SEPARATOR. MAKE SURE THE CONNECTIONS ARE TIGHT AND TORQUED IF REQUIRED.** Torque the swivel fittings to the required torque of Appendix D, TM 55-1730-229-12.

b. Remove the filter element by unscrewing the element from the filter head. If the gasket is lodged from the filter element, install it with the flat side adjacent to the filter element.

c. Using a 5/16 allen wrench install the five plugs at the inlet and outlet ports as shown in figure 2 at locations 1, 3, 5, 6, 7. The plugs are located in a plastic bag that is supplied with the Racor filter separator. Use pipe dope and install them per para a. above.

d. Installation of the inlet fittings Refer to figure 1 and figure 2. Install 90 degree elbow (item 35, figure 1), and adapter tube (item 15, figure 2). Orient the plumbing assembly at 50 degree as shown in figure 3. Use pipe dope and install per para a, above.

e. Installation of outlet fitting Install 90 degree elbow (item 15, figure 1) with the flared end pointing down. Use pipe dope and install per para a, above.

f. Attachment of fuel filter support (P/N 83-15053-2) to filter head Position the support as shown in figure 3 with the leg with the smaller holes (.25 in. dia) adjacent to the filter head. The two slots should be below the filter head and will attach to the AGPU frame. Hardware supplied to attach the support is four MS27183-52 washers, two MS90725-10 1/4x20 UNC x 1.25 screws, two MS35338-44 lockwashers, two MS51967-2 nuts, 1/4-20 UNC-2B. Do not tighten the nuts until after the final installation on the AGPU.

g. Attachment of the filter to the AGPU Hardware (two screws, two washers, two lockwashers) removed in para 4g will be used to mount the fuel support bracket and filter head to the AGPU frame in the same location as the Kaydon filter was mounted. Do not tighten the nuts until after the final installation.

h. Attach the fuel hose (item 36, figure 1) to (item 15, figure 3). Do not tighten the fitting.

i. Attach the 90 degree fuel tube (item 4, figure 1) to the outlet port's elbow (item 15, figure 1). Do not tighten the fitting.

j. Tighten all fastener hardware.

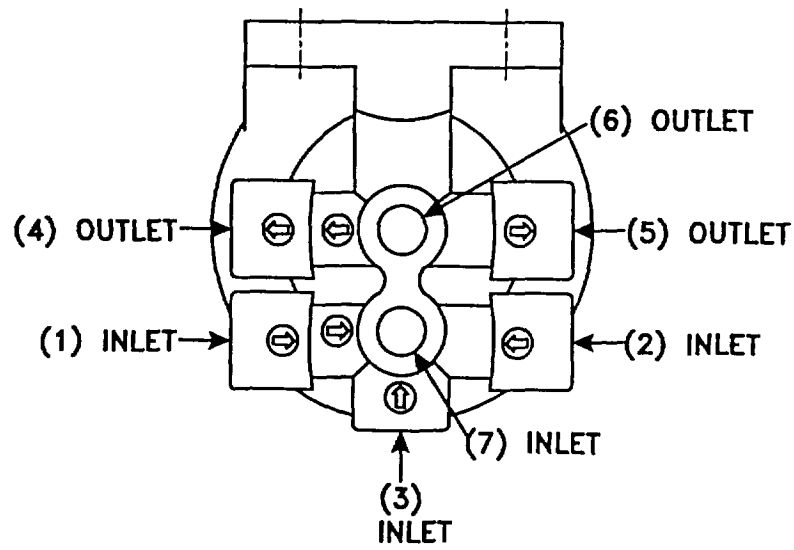
k. Torque all fluid fittings as identified in para a, above.

l. Check that the filter element gasket is installed with the flat side against the filter element. Attach the filter element to the filter head and hand tighten. The filter element should not touch any of the surrounding hardware. If the element touches any of the surrounding hardware then adjust the position by loosening the fasteners and adjusting the filters position.

m. Bleed system per TM 55-1730-229-12.

n. Operate the AGPU in accordance with TM 55-1730-229-12. Observe the filter separator and fluid connections for any leaks.

6. Illustrated Parts Breakdown for the Racor filter is shown in figure 4.



HEAD TOP VIEW
4 INLET/ 3 OUTLET FUEL PORTS
ARE: 3/8" - 18 NPTF
(SAEJ476)

MS017800

Figure 2. Racor Filter/ Separator Installation
(TOP VIEW)

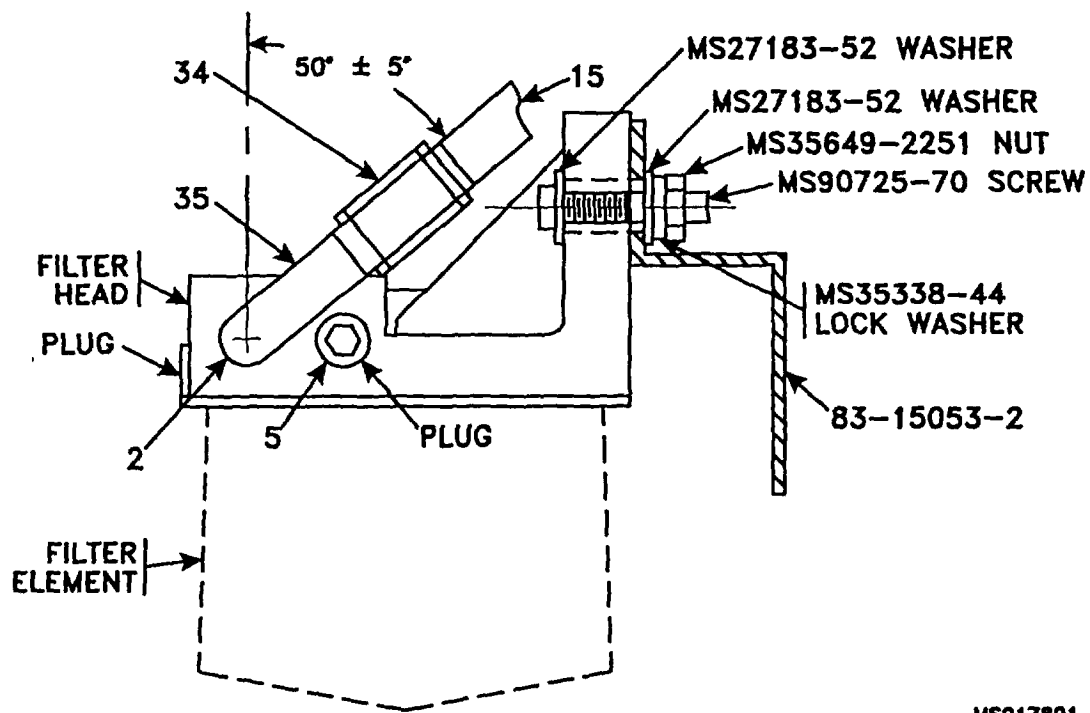


Figure 3. Racor Filter/ Separator Installation
(RIGHT SIDE VIEW)

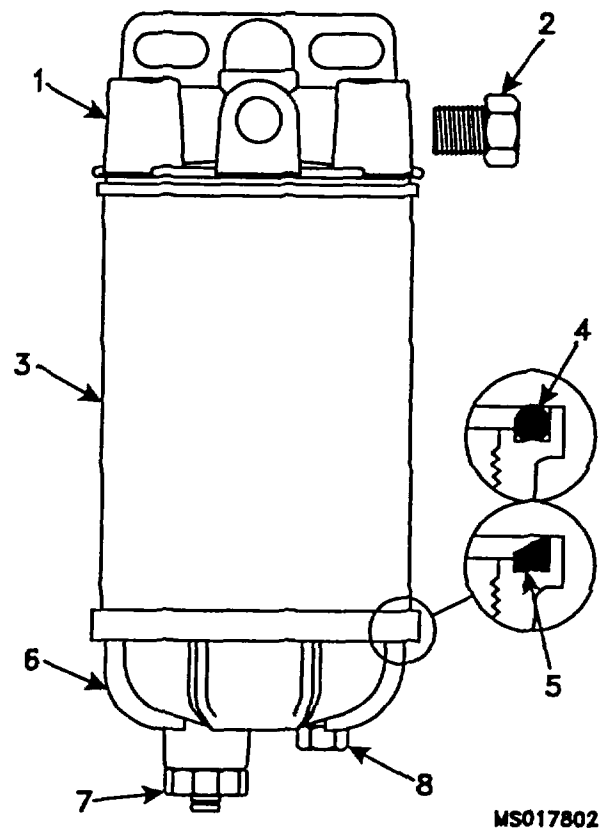
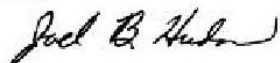


Figure 4. Illustrated Parts Breakdown

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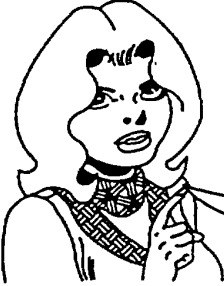
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1. **From:** Joe Smith
2. Unit: home
3. **Address:** 4300 Park
4. **City:** Hometown
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6. **Zip:** 77777
7. **Date Sent** 19-OCT-93
8. **Pub no:** 55-2840-229-23
9. **Pub Title:** TM
10. **Publication 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.

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Ft. Leonardwood, MO 63108

DATE SENT

22 August 1992

PUBLICATION NUMBER

TM 1-1520-250-10

PUBLICATION DATE

15 June 1992

PUBLICATION TITLE

Operator's manual MH60K Helicopter

BE EXACT PIN-POINT WHERE IT IS

IN THIS SPACE, TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
6	2-1 a		
B1		4-3	

In line 6 of paragraph 2-1a the manual states the engine has 6 cylinders. The engine on my set only has 4 cylinders. Change the manual to show 4 cylinders.

Callout 16 in figure 4-3 is pointed at a bolt. In key to figure 4-3, item 16 is called a shim. Please correct one or the other

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PUBLICATION TITLE
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