

TRUCK, DUMP HEAVY, MC3 – MACK

DUMP HOIST HYDRAULIC FILTER INSTALLATION

MODIFICATION INSTRUCTION

This instruction is authorised for use by command of the Chief of Army. It provides direction, mandatory controls and procedures for the operation, maintenance and support of equipment. Personnel are to carry out any action required by this instruction in accordance with EMEI General A 001.

Introduction

1. This instruction details the incorporation of an in-line filter to the hydraulic hoist system of the Mack R Series dump variants. The filter is installed between the hoist control valve and the oil reservoir.
2. The installation of this kit is necessary to remove contaminants and particles from the hoist hydraulic system. Fitment will ensure longer service life of hoist components.
3. The kit incorporates a filter, filter head, protection plate, two hoses and two elbow connectors. Additionally, the kit comes with the necessary hardware to enable installation by unit technicians either in barracks or in the field.
4. **Associated Publications.** Reference may be necessary to the latest issue of the following documents:
 - a. Technical Regulation of Army Materiel Manual (TRAMM), Volume 3, Section 2, Chapter 2, Annex D;
 - b. MEMA, Volume 1, Chapter 9 – Army Unit Stores Accounts; and
 - c. MEMA, Volume 2, Chapter 20 – Army Unit Stores Accounts.
5. **Authority.** ECO number MHB 023/02 is the authority to carry out this modification.

General

6. **Modification Application.** This modification applies to all Mack R model dump variants on issue to units and all stocks on issue or in service storage.
7. **Items Affected.** This modification alters the following assembly:
 - a. spare wheel carrier RH bracket.
8. **Priority – Group 2.** All applicable equipment is to be modified:
 - a. when next in a workshop for Light, Medium or Heavy Repair; or
 - b. prior to issue from depot or pool stock.

NOTE

Where modification would delay priority issues of depot or pool stock, equipment may be issued unmodified providing the equipment record book is endorsed appropriately.

9. **Action Required.** Actions detailed in this instruction are to be performed by RAEME workshops utilising unit technicians ECN 229-2 or civilian equivalents, authorised to carry out Light, Medium or Heavy Repairs.

NOTE

On receipt of this instruction, enter all relevant information other than date completed in the modifications section of the GM 120 – Record Book for Service Equipment.

10. **Estimated Workhours.** For initial planning purposes only, it is estimated that this modification will take 2.0 workhours to perform.
11. **Stores Required.** The stores required are listed in Table 1. All stores are to be demanded through normal supply channels.
12. **Items to be Removed.** Items to be removed are listed in Table 2. All stores removed are to be processed in accordance with the MEMA, Volume 1, Chapter 9 and MEMA, Volume 2, Chapter 20.

WARNING

SET THE HOIST CONTROL TO LOWER, AND THE PTO CONTROL TO OUT. SAFETY GLASSES ARE TO BE WORN WHEN WORKING UNDER THE VEHICLE.

Detail

13. The procedure for installing the filter to the Mack R model dump hoist hydraulic system is as follows:
 - a. Attach the filter head (Table 1, Item 2) to the spare wheel carrier bracket on the RH chassis rail and immediately forward of the hoist hydraulic oil reservoir.

- b. Using the protection plate (Table 1, Item 8) as a template, scribe a mark where two holes will be drilled. Ensure the plate is butted against the existing frame bracket and the short edge aligned to the edge of the wheel bracket as shown in Figure 1 below.

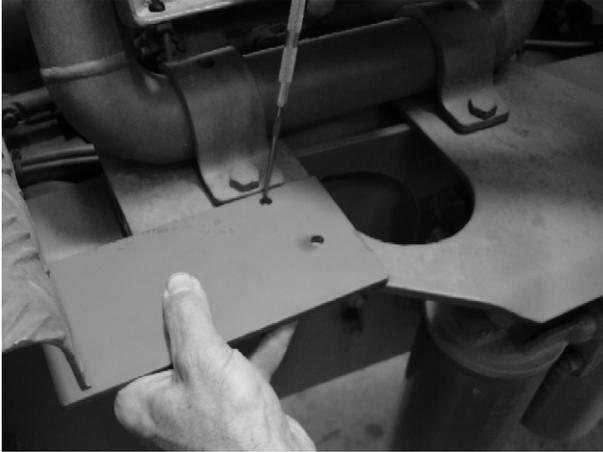


Figure 1 – Filter Mounting Template

- c. Drill two holes in the spare wheel carrier bracket using a 10 mm drill bit.
- d. Loosely fit the protection plate and filter head to the carrier bracket with both bolts to ensure correct alignment.

NOTE

The filter head is mounted with the inlet port marked IN, facing towards the driver's cabin.

- e. Remove the filter head to the workbench. Assemble the elbow connectors (Table 1, Item 4) supplied with the kit to the inlet and outlet ports. Ensure both connectors will face downward when the filter head is mounted to the vehicle, as shown in Figure 2.

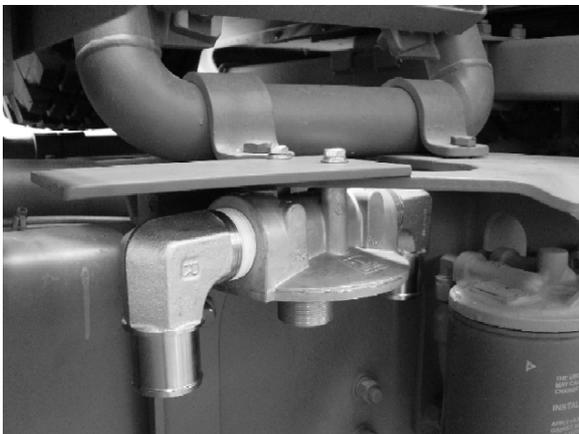


Figure 2 – Filter Head Mounted

NOTE

Loctite 569 to be used on elbow fitting threads.

- f. Mount the protection plate and filter head complete with elbow connectors to the spare wheel carrier bracket. Once the filter head, protection plate and bolts are in position, torque the mounting bolts to 9 ftlbs (12 N.m).

NOTE

Some kits contain a single length of hose, which will require cutting to the correct lengths of 910 mm and 1225 mm.

- g. Assemble the long hose (Table 1, Item 5) to the inlet port of the filter head and the short hose (Table 1, Item 6) to the outlet port of the filter head. Secure with clamps (Table 1, Item 7) supplied with the kit.

WARNING

BEFORE CONTINUING ENSURE THAT THE HYDRAULIC FLUID IS SUFFICIENTLY COOL TO AVOID BURNS.

- h. At the hoist control valve, shown at Figure 3, identify the low pressure (LP) return hose. This hose connects between the valve outlet port and the base of the hydraulic oil reservoir.



Figure 3 – Hoist Control Valve

- i. Place a suitable receptacle directly beneath the control valve. Remove the hose from the elbow connector of the control valve. Plug the hose end with a suitable plastic plug.
- j. Connect the longer hose from the filter head inlet port (nearest driver's cabin) to the control valve outlet port and secure using the clamp supplied with the kit.

NOTE

The following action is performed with fluid retained in the hydraulic oil reservoir. There will be fluid loss during this procedure. Take all necessary steps to contain the spill of fluid.

- k. At the oil reservoir, remove the other end of the hose detailed at Para 13.h. Connect the shorter hose from the filter head outlet port and secure using the clamp supplied with the kit.
- l. Using a suitable size spanner, align the elbow connector at the base of the oil reservoir towards the hydraulic filter to remove excessive bending of the hose as shown at Figure 4.



Figure 4 – Positioning Return Elbow

- m. Use cable ties at appropriate points to secure the hoses from excess movement.
- n. Fit the oil seal to the filter and install the filter to the filter head in accordance with manufacturer's instructions. Figure 5 shows the completed filter installation.



Figure 5 – Completed Filter Installation

- o. Check that the hydraulic oil reservoir has sufficient fluid prior to operating the hoist. If necessary top up with OM-65.

14. Post Modification Testing. To ensure the kit has been correctly installed operate the hoist and check hoses and fittings for signs of leakage. Rectify as necessary. Recheck fluid level after initial test.

15. Recording Action. On completion of the modification, the following action is to be taken in accordance with TRAMM, Volume 3, Section 2, Chapter 2, Annex D:

- a. Deface the number 34 on the vehicle modification record plate; and
- b. Complete the modification details in the GM 120 – Record Book for Service Equipment.
- c. Forward the modification completion details using form GM 119 – Advice of Change in Build State (TRAMM, Volume 3, Section 2, Chapter 3, Annex C) to:

Fleet Manager, Hvy B Veh
MOB SPO, DMO
Victoria Barracks, St Kilda Rd
SOUTHBANK VIC 3006

Table 1 – Stores Required

Item	NIIN	Mfr Part No	Designation or Description	Unit of Issue	Qty per Kit	Qty per Equip
1	66-149-0810	FA9799-RFD1K	Filter Kit	KT		1
Filter Kit consists of the following Items						
2	TBA	T10VOR	Filter Head C/- Bolts, Washers	EA	1	
3	TBA	FB10	Filter	EA	1	
4	TBA	3340-2420	Elbow	EA	2	
5	TBA	SR-24	Hose	MT	1225 mm	
6	TBA	SR-24	Hose	MT	910 mm	
7	TBA	GBS50/20	Clamp	EA	4	
8	TBA	HTE/FMB	Protection Plate	EA	1	

Table 2 – Items to be Removed

Item	NSN	Mfr Part No	Designation or Description	Qty per Equip
9	Nil NSN	X70RG23 P32	Hose, LP, 1.5 inch	1
10	Nil NSN	X70RG22	Clamp, Hose Number 2	2

UNCONTROLLED WHEN PRINTED

END

Distribution List: **VEH G 53.0 – Code 2** (Maint Level)
(Sponsor: MOB SPO, Hvy B Veh)
(ECO: MHB 023/02)