TRUCK, CARGO, WITH CRANE, HEAVY, MC3, MACK

REPLACEMENT OF PTO HYDRAULIC TAIL FITTING AND INSTALLATION OF HOSE SUPPORT BRACKET

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 replacement of the PTO pump tail fitting with a more robust fitting and the installation of a hose support bracket.

2. Associated Publications. Reference may be necessary to the latest issue of the following documents:
   b. TRAMM, Volume 3, Section 2, Chapter 2, Fleet Engineering Change Management Process; and

3. Authority. ECO MHB 008/04 is the authority to carry out this modification.

GENERAL

4. Modification Application. This modification is to be applied to Mack Cargo with Crane Vehicles.

5. Items Affected. This modification alters the hydraulic PTO pump.

6. 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.

7. Action Required. Actions detailed in this instruction are to be performed by technical maintenance organisations authorised to carry out Light, Medium or Heavy Grade Repairs, utilising technicians ECN 229 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.

8. Estimated Workhours. For initial planning purposes only, it is estimated that this modification will take two workhours to perform.

9. Stores Required. The stores required are listed in Table 1. All stores are to be demanded through normal supply channels.

10. Items to be Removed. The items to be removed are listed in Table 2. All stores removed are to be processed in accordance with the DSCM.
DETAIL

11. Replacement of PTO Hydraulic Tail Fitting. The procedure is as follows:

a. Close supply valve located beneath the reservoir (see Figure 1).

![Figure 1 Supply Valve in Closed Position](image)

**NOTE**
The “bash plate” may be removed for ease of access.

b. Place suitable receptacle to catch oil (approx 2 L), which will drain from the disconnected hose beneath the PTO pump.

c. Cut cable ties, if fitted.

d. Loosen hose clamp at the 90 degree elbow tail fitting and remove hydraulic hose from fitting.

e. Drain hydraulic oil from the hose.

**NOTE**
If either the jamnut or O ring is damaged, the damaged item is to be discarded and replaced.

f. Loosen jamnut on the tail fitting.

g. Remove fitting from PTO pump by spinning off.

**NOTE**
Ensure flat side of jamnut faces towards body of new fitting (see Figure 2).

h. Remove O ring from fitting and save.

i. Remove jamnut from fitting and save.

j. Discard the removed 90 degree elbow fitting.

k. Clean O ring, jamnut and female connection on PTO pump.

l. Screw jamnut onto new fitting winding all the way on (see Figure 2).
m. Fit O ring onto new fitting (see Figure 3).

NOTE
Ensure the O ring is located centrally in the recess of the boss (see Figure 3).

n. Apply a light coating of Loctite 569 (hydraulic sealant) to the thread of the new fitting.

o. Screw fitting into the input side of the PTO pump until the O ring mates with the PTO pump.

NOTE
Ensure fitting is facing downwards to the rear at an angle of approximately 45 degrees (see Figure 4).

p. Secure the jamnut.

q. Replace hydraulic hose on to the new tail fitting and tighten the hose clamp.
12. Hose Support Clamp Fitting

a. Insert 1½ by 3/8 inch UNF bolt (fitted with washer) through hole in chassis rail, behind primary fuel filter (see Figure 5).

![Figure 5](image)

**Figure 5  Location of Hole for Hose Bracket Fitting**

**NOTE**

Ensure the thread of the bolt faces outwards (see Figure 6).

![Figure 6](image)

**Figure 6  Bolt Alignment**

b. Place bracket over bolt (see note below).

**NOTE**

Either hole may be used to mount the bracket, ensuring as much hose slack is taken up as possible.

c. Secure the bracket with washer and Nyloc nut.

**NOTE**

It may be necessary to remove the primary fuel filter to gain sufficient access to secure the nut.

d. Route cable tie through hole in bracket and secure fuel lines and hydraulic hoses (see Figure 7).
Figure 7  Securing Fuel Lines and Hydraulic Hoses

e. Apply cable ties to hydraulic hoses as necessary (see Figure 7).
f. Replace bash guard and primary fuel filter (if removed).
g. Open supply valve.
h. Check for any leaks.
i. Check hydraulic oil level (top up if required).

13. 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 #45 on the modification record plate;
b. complete the modification details in the GM 120 – Record Book for Service Equipment; and
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:

WO2 Tech Adviser Mack
Mdm/Hvy B Vehicles
LV SPO, DMO
Victoria Barracks, St Kilda Rd
SOUTHBANK VIC 3006
### Table 1  Stores Required

<table>
<thead>
<tr>
<th>Item</th>
<th>NSN</th>
<th>Supplier Part No</th>
<th>Designation or Description</th>
<th>Unit of Issue</th>
<th>Qty per Kit</th>
<th>Qty per Equip</th>
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<tbody>
<tr>
<td>1</td>
<td>4320-66-152-4600</td>
<td>40QE39413M</td>
<td>Connector, Fluid, Pump, Adaptor Hose Assembly, Power Take Off, Mack, MC3</td>
<td>ea</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4320-66-152-4601</td>
<td>29QE49412M</td>
<td>Bracket Mounting Hose, Power Take Off Pump, Mack, MC3</td>
<td>ea</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>5360-66-122-5630</td>
<td></td>
<td>Bolt, Machine, ( \frac{3}{8} ) inch, 24 TPI, UNF, 1 ½ inch lg, High Tensile</td>
<td>ea</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>5310-00-087-7493</td>
<td></td>
<td>Washer, Flat RD, Steel, Cad Plated W/Chromate, 0.380 inch ID, 0.905 inch OD, 0.104 inch thk</td>
<td>ea</td>
<td>N/A</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>5310-66-018-2087</td>
<td></td>
<td>Nut, Self-Locking, Hexagon UNF, 2B, P Steel, Type T, Cad Plated, ( \frac{3}{8} ) inch, W/Nylon Insert</td>
<td>ea</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>8030-66-049-6180</td>
<td>Loctite 569</td>
<td>Sealing Compound Retain Metal Parts, Grade Hydraulic Sealant, Medium Strength, Brown 50 mL</td>
<td>as req’d</td>
<td>N/A</td>
<td>as req’d</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Jamnut (Note 1)</td>
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<td>ea</td>
<td>N/A</td>
<td>1 (if req’d)</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>O Ring (Note 1)</td>
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<td>ea</td>
<td>N/A</td>
<td>1 (if req’d)</td>
</tr>
</tbody>
</table>

Note 1: If the jamnut or O ring require replacing, order the Elbow, 90 Deg Assembly, P/No. HIABHTPR34P112, and discard unwanted items.

### Table 2  Items to be Removed

<table>
<thead>
<tr>
<th>Item</th>
<th>NSN</th>
<th>Supplier Part No</th>
<th>Designation or Description</th>
<th>Qty per Equip</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NIC</td>
<td>HIABHTPR34P112</td>
<td>Elbow, 90 degree, Suction Hose Tail, 1 ½ inch lg, 38 mm OD by ( \frac{3}{8} ) inch BSPP</td>
<td>1</td>
</tr>
</tbody>
</table>

END

Distribution List: VEH G 53.0 – Code 2 (Maint Code)
(Sponsor: LV SPO, Med/Hvy B Vehicles)