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 three modifications to the transfer case oil cooler modification completed in accordance with EMEI Vehicle G 797-18.

NOTE
EMEI Vehicle G 797-18 has been cancelled. Therefore, this modification instruction only affects those vehicles that have had the transfer case cooling and filtration system modification (modification strike 36) completed.

This transfer case oil cooler modification is not to be completed on any vehicle that has not been modified in accordance with EMEI vehicle G 797-18.

Vehicles that have been modified in accordance with EMEI Vehicle G 797-18 are not to have the modification reversed.

2. Associated Publications. Reference may be necessary to the latest issue of the following documents:
   b. Electronic Supply Chain Manual (ESCM), Volume 4, Section 3 – Supply Management Processes, Stores Accounting General, ESCM website http://escmv4web/8210.htm; and

3. Authority. ECO LVSP0 031/05 is the authority to carry out this modification.

GENERAL
4. Modification Application. This modification is to be applied to trucks modified in accordance with EMEI Vehicle G 797-18 (modification strike 36) prior to its cancellation.

5. Items Affected. This modification alters the following components introduced in accordance with EMEI Vehicle G 797-18:
   a. Oil Cooler Plug. The current steel oil cooler plug is replaced by a brass plug to overcome oil leak problems associated with the steel plug.
   b. Filter. The current oil filter is replaced with a larger capacity filter, complete with an adaptor and base plate to facilitate the fitting of the filter.
   c. Relief Valve. To overcome the difficulties experienced with the removal, installation and cleaning of the current relief valve, a multi-piece valve, with an elongated external case, replaces the current one.

6. Priority – Group 2. All applicable equipment is to be modified:
   a. when next in a workshop for Light, Medium or Heavy Grade 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 unit technicians ECN 229-2 (Vehicle Mechanic) or tri-service/civilian equivalents.

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. **Task Recording.** No standard job has been raised in MMM to record the implementation of this modification.

9. **Estimated Workhours.** For initial planning purposes only, it is estimated that this modification will take one and a half workhours to perform.

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

<table>
<thead>
<tr>
<th>Serial</th>
<th>NSN</th>
<th>Mfr Part No</th>
<th>Designation or Description</th>
<th>Unit of Issue</th>
<th>Qty per Equip</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2590-66-155-3737</td>
<td>NMX-10-18-24-05-01</td>
<td>Kit, Circulation Unit, Plug</td>
<td>Kit</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4330-66-153-5679</td>
<td>NMX-10-18-15-14</td>
<td>Adaptation Kit</td>
<td>Kit</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>4330-66-153-5686</td>
<td>NMX-10-18-24-03-F01</td>
<td>Filter Kit</td>
<td>Kit</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>4330-66-154-0119</td>
<td>NMX-CV-100</td>
<td>Valve, Relief</td>
<td>ea</td>
<td>1</td>
</tr>
</tbody>
</table>

11. **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 ESCM.

<table>
<thead>
<tr>
<th>Serial</th>
<th>NSN</th>
<th>Mfr Part No</th>
<th>Designation or Description</th>
<th>Qty per Equip</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>N/A</td>
<td>Z7B05/NF E 27-180-M10x6</td>
<td>Screw, Set, Socket Hd, M10 x 1 mm pitch x 6 mm long</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>4730 66-152-3347</td>
<td>Z01G8/10-18-24-03-90</td>
<td>Strainer Element, sediment oil filter, spin-on type, 10 to 20 micron, 25 LPM (max), MRWP 8 bar, ¾ in -16 UNF - 2B THD, 65 mm dia by 90 mm hgt, min burst pressure 17.5</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
<td>Z7B05/D04B2-6.9U</td>
<td>Valve, Cartridge</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
<td>Z7B05/BS-014</td>
<td>O ring, 0.489 in ID by 0.070 in thick, AS568A-014, Viton</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>N/A</td>
<td>Z4470/22068-10</td>
<td>O ring, 7/8 in UNO, 0755 in ID by 0.097 in thick, AS568A – 910, Viton</td>
<td>1</td>
</tr>
</tbody>
</table>

**DETAIL**

**Oil Cooler Plug**

12. **Replacement.** Replace the oil cooler plug as follows:

   a. Remove the transfer case cooler pump/filter assembly in accordance with EMEI Vehicle G 703.
   b. Clean the transfer case cooler pump/filter assembly.
   c. Secure the transfer case cooler pump/filter assembly in a vice, with the cooler pump/filter base facing upwards.
d. Remove and discard the oil cooler plug (Figure 1).
e. Apply Loctite 569 (or equivalent) to the threads of the new oil cooler plug.
f. Install the oil cooler plug (Figure 2).

Do not tighten the new oil cooler plug with an Allen key. Using an Allen key may damage the plug and not provide sufficient tightness.

g. Tighten the oil cooler plug with a spanner until approximately one to one and a half threads protrude above the face of the cooler pump/filter assembly base.
h. Remove and discard the cap screw and nut from oil cooler plug.
i. File the oil cooler plug level with the base of the cooler pump/filter base (Figure 3).
j. Remove the transfer case oil cooler pump/filter assembly from the vice.
k. Retain the transfer case modification plate (supplied with the kit) for installation at the completion of the modification.

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**Oil Cooler Filter**

13. **Replacement.** Replace the oil cooler filter as follows:

   a. Remove the oil cooler filter.
   
   b. Remove and clean the threaded insert, which the oil cooler filter screws on to (Figure 4).

   c. Coat half the threads of the threaded insert with Loctite 569 (or equivalent).
   
   d. Reinstall the coated end of the threaded insert and hand tighten it.
   
   e. Apply Loctite 569 (or equivalent) to the threads of the filter adaptor (Figure 5).
   
   f. Install the filter adaptor and tighten it.

   g. Apply a light coat of oil to the O ring of the filter seat, and install the filter seat on the threaded rod (Figure 6).
h. Apply a light film of oil to the gasket on the oil filter.
i. Install the oil filter.

Relief Valve

14. **Replacement.** Replace the relief valve as follows:
   a. Remove the relief valve (Figure 7).

![Filter Adaptor](image1.png)
*Figure 5  Filter Adaptor*

![Filter Seat](image2.png)
*Figure 6  Filter Seat*

![Relief Valve](image3.png)
*Figure 7  Relief Valve*
b. Install the new relief valve (Figure 8).

c. Tighten the valve to 5 N.m.

Figure 8  New Relief Valve Installed

Modification Plate

a. Deface the bottom, left-hand square of the modification record plate with a drill or similar tool (Figure 9).

b. Remove the top left-hand cap screw from the oil cooler/filter assembly (Figure 9).

c. Position the modification plate over the hole and secure it with the cap screw (Figure 9).

d. Tighten the cap screw to 9–10 N.m.

e. Refit the transfer case cooler pump/filter assembly in accordance with EMEI Vehicle G 703.

Figure 9  Modification Plate

15. Post Modification Testing. Complete the post modification testing as follows:

a. Start and run the engine.

b. Check for leaks (rectify as necessary).

c. Shutdown the engine.
On completion of the modification, the following action is to be taken in accordance with TRAMM-L:

a. Complete the modification details in the GM 120 – Record Book for Service Equipment.

b. Forward the modification completion details using form GM 119 – Advice of Change in Build State to:

   Fleet Manager, Med/Hvy B Vehicles Section
   CGSVSPO, DMO
   7th Floor, Defence Plaza, 661 Bourke St.
   MELBOURNE VIC 3001