

TRUCK, GUN TRACTOR/AMMO TRANSPORTER, HEAVY, MC3 – MACK

FITTING OF TOWING EXTENSION

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 fitting of an extension to the tow hook assembly of the Mack Gun Tractor/Ammunition Transporter to prevent barrel strike.
2. **Associated Publications.** Reference may be necessary to the latest issue of the following documents:
 - a. Technical Regulation of Army Materiel Manual (TRAMM);
 - b. TRAMM, Volume 3, Section 2, Chapter 2, Fleet Engineering Change Management Process; and
 - c. Defence Supply Chain Manual (DSCM).
3. **Authority.** ECO MHB 001/05 is the authority to carry out this modification.

GENERAL

4. **Modification Application.** This modification is to be applied to all Mack R model Gun Tractor/Ammunition variants.
5. **Items Affected.** This modification alters the Tow Hook Assembly.
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 unit 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 2 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 Defence Supply Chain Manual.

Modification of the Gun Tractor/Ammunition Truck. The procedure is as follows:

- a. Remove the tow hook assembly as follows:
 - (1) Remove the dust cap from the drawbar.
 - (2) Remove and discard the split pin.
 - (3) Remove the castellated nut from the drawbar.
 - (4) Remove the spring washer, the recessed washer and the packing preformed from the drawbar.
 - (5) Remove the towing assembly from the vehicle.
 - (6) Remove and discard the four nuts and bolts that mount the draw bar guide onto the chassis.
 - (7) Remove the draw bar guide from the rear chassis crossmember.
- b. Remove and discard the six nuts and bolts from under the cross member/chassis rail.
- c. Fit the extension as follows:

WARNING

A two man lift is to be employed whilst fitting the securing hardware to alleviate the possibility of injury to personnel.

- (1) Align extension with existing holes in chassis rails.

NOTE

Holes on the extension are not to be elongated more than 0.75 mm to allow correct alignment of extension. Holes that require greater than 0.75 mm elongation are to be plugged and drilled to suit the extension.

- (2) Fit the six new $4\frac{1}{2}$ inch \times $\frac{3}{4}$ inch bolts supplied, in a four down and two up pattern, and loosely fit the nuts utilising 12 of the washers supplied.

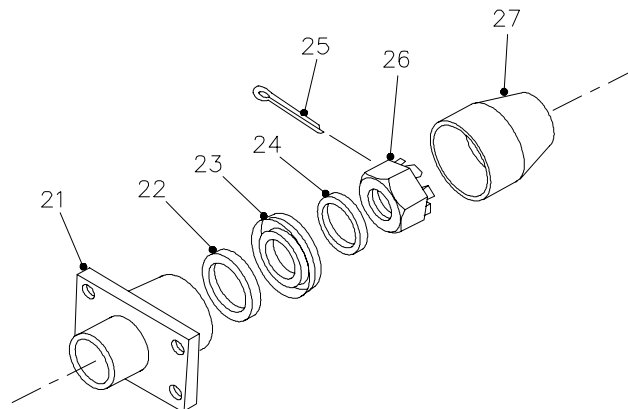
NOTE

The outer two bolts are in the down position, whilst the middle bolt is in the up position (see Figure 1).



Figure 1 Chassis Rail Bolts Alignment

- (3) Fit four new 3½ inch × ¾ inch bolts on the extension/C-channel interface and loosely fit nuts utilising eight of the washers supplied.
- (4) Torque all 10 nuts to 500 N.m (370 lbf.ft).
- d. Replace the tow hook assembly as follows (see Figure 2 for parts breakdown):
 - (1) Secure the drawbar guide to the inside of the towing extension, using the four 4 inch × ¾ inch bolts, nuts and the remaining eight washers supplied.
 - (2) Torque nuts to 500 N.m (370 lbf.ft).
 - (3) Replace the towing assembly into the extension.
 - (4) Refit the packing preformed, the recessed washer and the spring washer (in this order) to the drawbar.
 - (5) Refit the castellated nut and torque to 500 N.m (370 lbf.ft).
 - (6) Replace the split pin.
 - (7) Refit the dust cap to the draw bar.



Item	Detail
21	Guide, Draw Bar
22	Packing, Preformed
23	Washer, Recessed Steel
24	Washer, Spring Tension Steel
25	Pin, Cotter Steel, 8 mm Dia, 80 mm Lg
26	Nut Plain, Castellated, Hexagon
27	Cap, Protective, Dust and Moisture Seal

Figure 2 Pictorial Parts Breakdown

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Figure 3 Completed Modification

12. Post Modification Testing.

- a. An independent inspection of the completed modification is to be carried out by the ASM or delegate.
- b. A road test is to be carried with the vehicle towing a gun for a minimum of 50 kilometres on second class roads.
- c. Post road test, the securing hardware is to be inspected for tension and any signs of movement.
- d. Loose fasteners are to be inspected for serviceability and, if serviceable, retorqued. Unserviceable fasteners are to be replaced.

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 49 on the vehicle modification record plate.
- 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:

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

Table 1 Stores Required

Item	NSN	Mfr Part No	Designation or Description	Unit of Issue	Qty per Kit	Qty per Equip
1	66-148-2849	ASSY-25108	Hook, Pintle Extension, Gun Tractor, Mack, Heavy MC3 (includes all fittings)	Kit	1	1

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Table 2 Items to be Removed

Item	NSN	Mfr Part No	Designation or Description	Qty per Equip
1	66-120-5366	1AX178	Bolt, Machine Hex	4
2	66-120-5367	35AX683	Washer, Flat Steel	4
3	66-018-1015	21AX440	Nut, Self-Locking, Hexagon	4
4	NIC	1AX190	Bolt Hex	6
5	01-149-6185	21AX786	Nut, Self-Locking	6
6	NIC	35AX683	Washer Hardened	6
7	66-123-0339	FADD66 125	Pin, Cotter, Steel, 8 mm Dia, 80 mm Lg	1

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END

Distribution List: **VEH G 26.0 – Code 2** (Maint Level)
(Sponsor: LV SPO, Med/Hvy B Vehicles)