

TRUCK, CARGO, HEAVY, MC3 – MACK

REPLACEMENT OF CARGO TIE-DOWN RING

MISCELLANEOUS 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 procedure to be used when replacing an unserviceable cargo tie-down ring on the Truck, Cargo, Heavy, MC3 – Mack family of vehicles.

2. **Associated Publications.** Reference may be necessary to the latest issue of the following documents:

- a. EMEI Vehicle G 704-1 Truck, Cargo, Heavy, MC3 – Mack Base Repair;
- b. EMEI Workshop D 700 – Painting of Army Equipment;
- c. EMEI Workshop E Section – Occupational Health and Safety;
- d. EMEI Workshop J Section – Welding and Cutting Equipment;
- e. MEMA, Volume 1, Chapter 9 – Army Unit Stores Accounts; and
- f. MEMA, Volume 2, Chapter 20 – Accounting for Repair Parts.

General

3. **Action Required.** Actions detailed in this instruction are to be performed by RAEME workshops authorised to carry out Light and Medium Grades of Repair. Welding and cutting is only to be performed by the following tradespeople:

- a. Metalsmith, ECN 235-1;
- b. Metalsmith, ECN 235-2; or
- c. civilian employees and contractors who are qualified welders.

4. **Estimated Workhours.** For initial planning purposes only, it is estimated that this procedure will take 0.75 workhours to perform.

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

Detail

6. The procedure is as follows:

- a. Remove any stores, POL and any other flammable items from the vehicle, and place in an area more than 6 metres from the vehicle.
- b. Remove and retain the rubber that surrounds the tie-down ring.
- c. Place fire blankets, or other appropriate fire-proof material, around the cargo tie-down ring, to prevent sparks from entering the opening in the coaming.
- d. Remove the damaged ring from the tray by cutting the ring, using either a grinder or flame-cutting equipment.

WARNING

THE USE OF GRINDING OR FLAME-CUTTING EQUIPMENT MAY CAUSE PERSONAL INJURY.

- e. Prepare the ends of the replacement ring for welding in accordance with the joint preparation details in Fig 1.

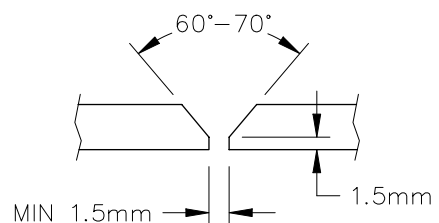


Figure 1 – Joint Preparation Details

- f. Thread the replacement cargo tie-down ring around the welded bar on the tray.

g. Use oxygen and acetylene equipment to heat the ring at the bend point, as shown in Fig 2. Heat the ring until it is cherry-red in colour. Bend the ring in the direction to bring the open ends into alignment. Ensure a minimum gap of 1.5 mm is left between the two ends, as shown in Fig 1.

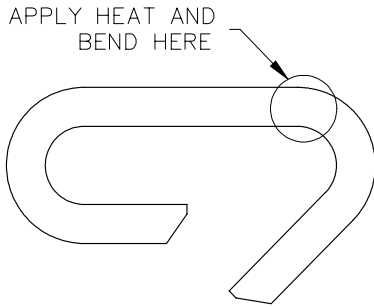


Figure 2 – Cargo Tie-down Ring – Heat and Bend Position



TAKE CARE TO HEAT THE RING EVENLY AND DO NOT ALLOW LOCALISED AREAS TO BECOME OVER-HEATED.

- h. Weld joint with either:
- (1) the manual metal arc welding process, using electrodes that conform to classification E4818 of AS/NZS 1553.1 1995; or
 - (2) the gas metal arc welding process, using wire that conforms to classification ES4-GC/M-W503AH of AS/NZS 2717.1 1996.
- i. Grind the weld to remove any sharp edges or splatter; take care not to reduce the diameter of the tie-down ring at the weld, to less than the parent metal.
 - j. Remove the fire blankets.
 - k. Paint all bare metal surfaces IAW EMEI Workshop D 700 – Painting of Army Equipment.
 - l. Re-install the rubber sheet into the tray coaming.

Table 1 – Stores Required

Item	NSN	Mfr Part No	Description
1	5340-66-139-0962	X40RH218B	Ring, Tie Down

UNCONTROLLED WHEN PRINTED

END

Distribution List: **VEH G 50.0 – Code 2** (Maint Level)
(Sponsor: MOB SPO, Mdm and Hvy B Vehicles, Mack)