

TRAILER, CARGO, MEDIUM, MC3, HAULMARK TWO-AXLE DOG MEDIUM AND HEAVY GRADE REPAIR

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.

GENERAL

INTRODUCTION

1. This EMEI details all the Medium and Heavy Grade Repair procedures for the Trailer, Cargo, Medium, MC3, Two-axle Dog.

Associated Publications

2. Reference may be necessary to the latest issue of the following documents:
- a. [Defence Road Transport Instructions](#) (DRTI);
 - b. [SCES 12098](#) – Trailer, Cargo, Medium, MC3;
 - c. [EMEI Vehicle A 291-1](#) – Tyres and Tubes – Care and Maintenance of B Vehicles;
 - d. [EMEI Vehicle A 291-5](#) – Tyres and Tubes – General Service B Vehicles Tyre Guide;
 - e. [EMEI Vehicle H 620](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Data Summary;
 - f. [EMEI Vehicle H 623](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Light Grade Repair;
 - g. [EMEI Vehicle H 626-1](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Repair Manual;
 - h. [EMEI Vehicle H 629](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Servicing Instruction;
 - i. [EMEI Vehicle H 629-1](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Repair Policy for Rear Chassis Diagonal Cross Member;
 - j. [EMEI Vehicle H 629-2](#) – Trailer, Cargo, Medium, MC3, Haulmark Two-axle Dog – Repair of Cracking in the Web Plate;
 - k. [EMEI Workshop D 180](#) – Flaw Detection – Flaw Detection - Non Destructive – General Instruction;
 - l. [EMEI Workshop D 701](#) – Painting of Army Equipment – Repair Policy for Equipment Painted in Polyurethane Paint – General Instruction;
 - m. [EMEI Workshop E 410](#) – Occupational Health and Safety Instructions – Asbestos – General Instruction;
 - n. [EMEI Workshop E 621](#) – Safety Precautions - Welding – Arc Welding Operation – General Instruction;
 - o. [EMEI Workshop E 652](#) – Occupational Health and Safety Instructions – Application and Removal of Polyurethane Paints and Solvents – General Instruction;
 - p. [EMEI Workshop J 003](#) – Welding Techniques, General – Electric Welding Processes and Procedures – General Instruction;
 - q. [Repair Parts Scale 02213](#);
 - r. [Defence Safety Manual](#) (SAFETYMAN);
 - s. [Material Safety Data Sheets](#) (MSDS) – Product Information Sheets; and
 - t. [Technical Regulation of Army Material Manual](#) (TRAMM).

Authorised Personnel

3. Repairs are to be conducted by the following technical tradespersons:
 - a. Vehicle Mechanic ECN 229,
 - b. Fitter Armament ECN 146,
 - c. Metalsmith ECN 235-2, or
 - d. civil equivalents qualified in accordance with the requirements of the TRAMM.

Safety

WARNING

Do not work on the trailer without the use of an axle stand beneath the axle. Place the axle stand as close to the raised wheel as possible. This procedure is required for all repairs and maintenance activities involving positioning of body parts in potential crush zones of the vehicle. Failure to comply may result in serious injury or death.

Personnel working on this equipment are to adhere to all industrial safety standards, work practices and equipment operating and maintenance instructions relating to the equipment.

Some assemblies contain powerful springs and injury can result if they are not properly disassembled. Use only proper tools and observe all precautions relevant to the use of the tools.

DETAIL

General Instructions

CAUTION

It is vitally important that dirt and other foreign matter are not allowed to enter the hydraulic system during repairs. Dirt or fluid other than clean hydraulic fluid in the system will cause almost immediate failure.

NOTE

Plug or protect openings to prevent dirt entering the system. Use plastic plugs or covers only for this purpose. Do not use cloth or paper as plugs or covers.

Disconnect the trailer electrical connector from the towing vehicle before removing any electrical system components.

When disconnecting electrical connectors, hoses and fittings, remove sufficient clamps in order to gain the necessary slack to avoid damage to connectors and fittings.

Discard all used gaskets, seals, cotter pins, tab washers, lock pins, key washers and lock washers.

Use only genuine replacement parts and components.

Replacement hardware, tubing, hose fittings, etc. are to be of equivalent size, type, length and strength to the original equipment.

4. Use only those lubricants specified in the Servicing Instruction EMEI Vehicle H 629 and the User Handbook.
5. Any fastenings of fittings being tightened to prescribed torques are to have dry, clean threads unless otherwise specified. When specified, thread sealants are to be applied to dry, clean, oil free threads.

6. Replace all devices with stripped threads or damaged parts.

Identification Numbers

7. Table 1 lists the location of the identification information on the equipment.

Table 1 Location of Identification Information

Serial	Item	Location
1	Axle assemblies	Centre of axle beam, opposite brake chamber mountings
2	Ballrace	Outer circumference, to rear of trailer
3	Spare wheel winch	Front panel of winch assembly

Special Tools and Gauges

8. Special tools required to perform the tasks are detailed in EMEI Vehicle H 623.

Repairs

9. Medium/Heavy Grade Repair includes repair of the following components:
- a. the axles, and
 - b. the spring hangers.

Axles

10. **Removal.** Remove the axles as follows:

WARNING

Prior to removal of any components of the trailer running gear ensure that the trailer frame is correctly supported, with all weight removed from the suspension components. Failure to comply may result in serious injury or death.

NOTE

Reference to EMEI Vehicle H 623 is required for the removal and installation of assemblies.

- a. Chock the trailer wheels.
- b. Loosen the wheel nuts.
- c. Support the trailer frame on approved safety stands.
- d. Support the axle to be removed on approved safety stands.
- e. Ensure that the weight of each axle is correctly supported.
- f. Remove the wheels, from the axle to be removed.
- g. Remove the brake chambers.

NOTE

If insufficient clearance is available, remove the radius rods completely.

- h. Remove the radius rod bolts, tapered bushes and steel sleeve securing the radius rod to the axle and swing the radius rod clear.

NOTE

Take care that the axle does not roll to one side due to the weight imbalance.

- i. Remove the U-bolt nuts securing the axle to the springs.
 - j. Lower the axle away from the springs, using a suitable jack.
11. **Installation.** Install the axles as follows:

NOTE

Ensure that the spring centre bolts are correctly located into the spring seats welded to the axle tube.

- a. Lift the axle assembly up to the springs, using a suitable jacking device.
- b. Place the U-bolts in position, ensuring that all the threads are in functional order.
- c. Fit the flat washers and nuts and tighten them to 415 N.m..

NOTE

If necessary, refit the radius rods.

- d. Swing the radius rods into position.
- e. Insert the radius rod bolts, tapered bushes and steel sleeve securing the radius rod to the axle and tighten the radius rod bolts to 100 N.m.
- f. Install the brake chambers.
- g. Fit the wheels to the axle.
- h. Check and adjust the brakes and axle alignment.

Spring Hangers

12. **Removal.** Remove the spring hangers as follows:

WARNING

Prior to removal of any components of the trailer running gear ensure that the trailer frame is correctly supported, with all weight removed from the suspension components. Failure to comply may result in serious injury or death.

If the trailer is, or is suspected of being painted with polyurethane paint (PUP), instructions in EMEI Workshop D 701 and Workshop E 652 must be followed.

CAUTION

Take care to prevent excessive damage to the parent material.

NOTE

The spring hangers are welded to the dolly frame.

- a. Remove the springs in accordance with EMEI Vehicle H 623.
 - b. Grind away the weld material holding the hangers to the frame.
 - c. Remove the hangers.
13. **Replacement.** Replace the spring hangers as follows:
- a. Ensure that surfaces to be welded are free of any rust or scale and they are flat and flush fitting.

NOTE

All welds to the top of the hanger brackets are to be 10 mm fillets.

- b.** Position the spring hangers for welding so they are correctly located and square with the frame.



Do not weld across the flanges.

- c.** Tack-weld the castings in place.
- d.** Recheck the location and correct them as necessary.
- e.** Weld them into place.
- f.** Patch paint the areas exposed with enamel (alkyd) paint.
- g.** Replace springs in accordance with EMEI Vehicle H 623.

Post-repair Testing

- 14.** Test the trailer in accordance with EMEI Vehicle H 623 at the completion of any repairs.

UNCONTROLLED IF PRINTED

END

Distribution List: **VEH H 04.0 – Code 3** (Maint Code)
(Sponsor: LV SPO, Mdm/Hvy B Vehicles)
(Authority: LVSP0 ECO 043/08)