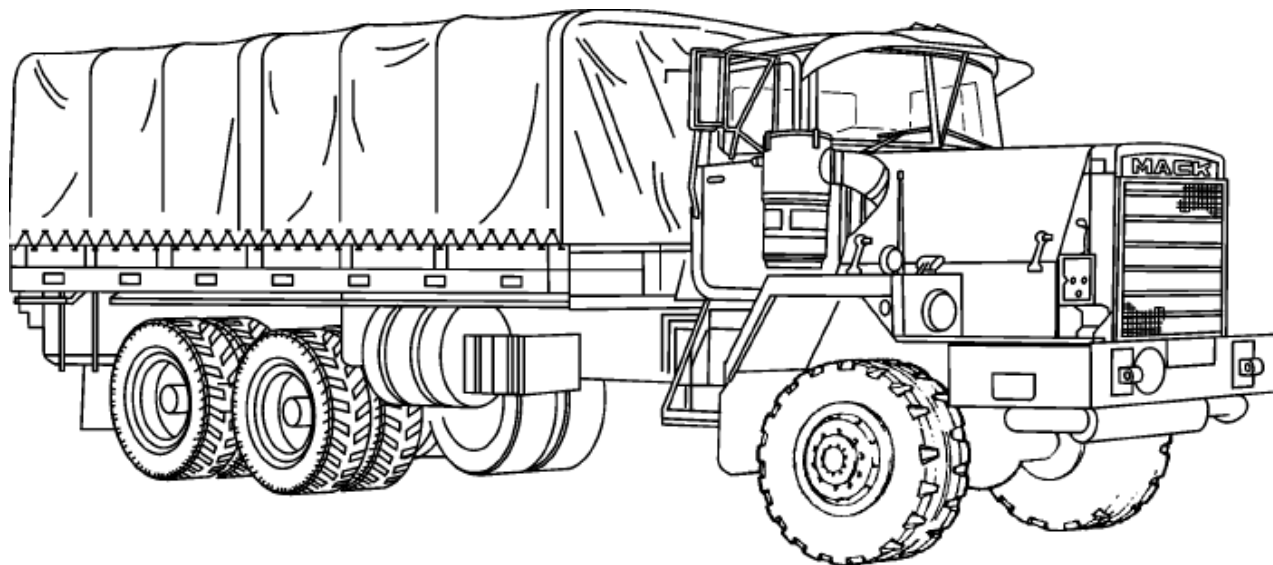


**TRUCK, CARGO, HEAVY, MC3 – MACK**  
**DATA SUMMARY**

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.



**Figure 1 Truck, Cargo, Heavy, MC3 (Mack)**

**General**

1. This EMEI lists basic data for the Truck, Cargo, Heavy, MC3 (Mack) as shown in Figure 1.
2. **Role.** The role of this equipment is to transport stores on sealed, second-class roads and under most cross-country conditions.
3. **Description.** The Truck, Cargo, Heavy, MC3 (Mack) is a 6x6 vehicle designed to negotiate any terrain or gradient that will allow wheel traction. The vehicle carries an eight-tonne load cross country and a ten-tonne load on highways.
4. **Tyres and Tyre Pressures.** For details of tyres and tyre pressures, reference shall be made to EMEI Vehicle A 291-5.

**Detail**

**5. Dimensions:**

- a. Width..... 2 500 mm
- b. Length ..... 9 600 mm
- c. Height (Unladen)..... 3 155 mm
- d. Height (Laden) ..... 3 125 mm
- e. Height Reducible..... 2 946 mm
- f. Shipping Cubage:
  - (1) Overall ..... 75.7 m<sup>3</sup>
  - (2) Reducible ..... 70.7 m<sup>3</sup>

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- g.** Cargo Tray Dimensions:
  - (1) Length ..... 5 840 mm
  - (2) Width..... 2 500 mm
  - (3) Height of Cargo Sides (from cargo tray)..... 350 mm
  - (4) Height of the Canopy (from the cargo tray) ..... 1 635 mm
- h.** Height of the Tray above Ground:
  - (1) Unladen:
    - (a) Front..... 1 498 mm
    - (b) Rear..... 1 450 mm
  - (2) Cross-country Laden:
    - (a) Front..... 1 489 mm
    - (b) Rear..... 1 450 mm
  - (3) Reduced Height (air bag suspension deflated):
    - (a) Front..... 1 455 mm
    - (b) Rear..... 1 333 mm
- i.** Wheelbase ..... 5 465 mm
- j.** Track:
  - (1) Front..... 1 911 mm
  - (2) Rear ..... 1 810 mm
- k.** Ground Clearance:
  - (1) Unladen ..... 273 mm
  - (2) Cross-country Laden ..... 273 mm
- l.** Towing Pintle Height:
  - (1) Unladen ..... 875 mm
  - (2) Cross-country Laden ..... 865 mm
  - (3) Reduced Height (air bag suspension deflated) ..... 755 mm

**6. Mass:**

- a.** Unladen:
  - (1) Front Axle ..... 5 070 kg
  - (2) Rear Bogie..... 6 510 kg
  - (3) Total ..... 11 580 kg
- b.** Maximum Loading (highway):
  - (1) Front Axle ..... 6 000 kg
  - (2) Rear Bogie..... 15 860 kg
  - (3) Total ..... 21 860 kg
- c.** Maximum Loading (cross country):
  - (1) Front Axle ..... 5 580 kg
  - (2) Rear Bogie..... 13 990 kg
  - (3) Total ..... 19 570 kg

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**7. Wheels and Tyre Size:**

- a. Wheels..... 8.00 x 20, 3-piece, 10-stud disc
- b. Tyres..... 12.00 by 20, 18-ply rating

**8. Engine:**

- a. Manufacturer ..... Mack
- b. Type ..... EM6-285
- c. No. of Cylinders ..... 6 (in-line)
- d. Bore ..... 123.8 mm
- e. Stroke ..... 152.4 mm
- f. Power:
  - (1) 1 200 rpm ..... 184 kW
  - (2) 1 800 rpm ..... 212 kW
  - (3) 2 100 rpm ..... 211 kW
- g. Maximum Torque..... 1 464 N.m (1080 lbf.ft) at 1 200 rpm
- h. Engine Operating Range ..... 1 200 rpm to 2 100 rpm
- i. No Load Maximum ..... 2 280 rpm
- j. Engine Idle Speed ..... 525 rpm to 575 rpm
- k. Firing Order..... 1-5-3-6-2-4
- l. Displacement..... 11 L
- m. Compression Ratio ..... 15.0:1
- n. Turbocharger ..... Honeywell-Garret TV63
- o. Engine Brake Type..... Jacob Dynatard

**9. Transmission:**

- a. Manufacturer ..... Mack
- b. Type ..... TRL 1078
- c. Gear Ratios:
  - (1) First ..... 8.59:1
  - (2) Second..... 4.99:1
  - (3) Third ..... 2.84:1
  - (4) Fourth..... 1.66:1
  - (5) Fifth..... 1.00:1
  - (6) Reverse ..... 8.81:1

**10. Transfer Case:**

- a. Manufacturer ..... Mack
- b. Type ..... TC150, two-speed
- c. Gear Ratios:
  - (1) High ..... 0.768:1
  - (2) Low ..... 1.992:1
  - (3) Front..... 0.966:1

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- 11. **Clutch:**
  - a. Manufacturer ..... Spicer
  - b. Type..... AS1552 (CL79), cable-controlled
- 12. **Front Axle:**
  - a. Manufacturer ..... Fabco
  - b. Type..... SDA-18B
- 13. **Rear Bogie:**
  - a. Manufacturer ..... Mack
  - b. Type..... SS441W
- 14. **Propeller Shaft:**
  - a. Manufacturer ..... Spicer
  - b. Type:
    - (1) Front..... 1610 series
    - (2) Rear ..... 1810 H. D. series
- 15. **Steering:**
  - a. Manufacturer ..... Sheppard
  - b. Type..... model 592 integrated power assist steering (Mack SGP49)
- 16. **Suspension:**
  - a. Front ..... 7 leaf semi-elliptical springs
  - b. Rear:
    - (1) Manufacturer ..... Neway
    - (2) Type ..... ARDST2446 airbag suspension
- 17. **Air Compressor:**
  - a. Manufacturer ..... Bendix-Westinghouse
  - b. Type..... TU-FLO501
  - c. Capacity..... 830 kPa
  - d. Drive..... engine-driven shaft
  - e. Lubrication ..... engine oil pressure
- 18. **Airconditioning (R-3130-MR Type):**
  - a. Airconditioning Unit:
    - (1) Manufacturer ..... Red Dot Corporation
    - (2) Model ..... R-3130-MR
    - (3) Refrigerant ..... R134A
  - b. Compressor:
    - (1) Manufacturer ..... Sanden
    - (2) Model ..... SD7H15HD
    - (3) Oil Capacity ..... 270 cc (9.1 fl oz)
    - (4) Oil Type ..... polyalkylene glycol

- c.** Condenser:
  - (1) Manufacturer..... Modine
  - (2) Model..... 21ORD54M

**19. Airconditioning (Crisp-Air Type):**

- a.** Airconditioning Unit:
  - (1) Manufacturer..... Crisp-Air
  - (2) Model..... KTMA0601 or KTMA0602
  - (3) Refrigerant ..... R134A
- b.** Compressor:
  - (1) Manufacturer..... Sanden
  - (2) Model..... SD7H15
  - (3) Oil ..... SP-20
- c.** Condenser:
  - (1) Manufacturer..... Sanden
  - (2) Model..... CD2484

**20. Bridge Classification .....22**

**21. Electrical System:**

- a.** Type of System .....24 V dc
- b.** Alternator ..... EDE 28 V, 100 amps
- c.** Number of Batteries ..... Two 12 V dc
- d.** Capacity ..... 61 Ampere-hour
- e.** Terminal Grounded .....negative
- f.** Radio Suppression DEF (AUST) 172, MIL-STD-461A..... RE 05

**22. Fuels and Lubricants:**

- a.** Fuel:
  - (1) Type ..... diesel (automotive)
  - (2) Capacity ..... 265 L
- b.** Cooling System (including conditioner) ..... 54 L
- c.** Engine Crankcase:
  - (1) Type ..... OMD-115
  - (2) Capacity (including filters) ..... 55.3 L
- d.** Front Axle:
  - (1) Type ..... OEP-220
  - (2) Capacity ..... 11.4 L
- e.** Intermediate Axle:
  - (1) Type ..... OEP-220
  - (2) Capacity ..... 12.0 L
- f.** Rear Axle:
  - (1) Type ..... OEP-220
  - (2) Capacity ..... 11.2 L

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- g.** Gearbox:
  - (1) Type ..... OEP-220
  - (2) Capacity ..... 10.4 L
- h.** Transfer Case:
  - (1) Type ..... OEP-220
  - (2) Capacity ..... 11.5 L
- i.** Power Steering:
  - (1) Type ..... OMD-115
  - (2) Capacity ..... 7.75 L

**23. Brakes:**

- a.** Air System ..... dual line
- b.** Service Brakes:
  - (1) Front ..... self-adjusting wedge
  - (2) Rear ..... self-adjusting wedge
- c.** Emergency/Parking Brakes ..... spring-actuated on all rear wheels
- d.** Warning Devices ..... low air buzzer and light

**24. Performance:**

- a.** Fording Depth ..... 800 mm
- b.** Turning Circle:
  - (1) Between Curbs ..... 24 100 mm
  - (2) Between Walls ..... 25 100 mm
- c.** Approach Angle:
  - (1) Air Spring Suspension Inflated:
    - (a) Cross-country Laden ..... 33 degrees
    - (b) Unladen ..... 33 degrees
  - (2) Air Spring Suspension Deflated:
    - (a) Cross-country Laden ..... 36 degrees
    - (b) Unladen ..... 36 degrees
- d.** Departure Angle:
  - (1) Air Spring Suspension Inflated:
    - (a) Cross-country Laden ..... 28 degrees
    - (b) Unladen ..... 28 degrees
  - (2) Air Spring Suspension Deflated:
    - (a) Cross-country Laden ..... 23 degrees
    - (b) Unladen ..... 23 degrees
- e.** Maximum Gradeability ..... 1 in 2
- f.** Recommended Towed Load:
  - (1) Highway ..... 17 000 kg
  - (2) Cross country ..... 10 000 kg

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- g.** Fuel Consumption Target..... 40 litres/100 km
- h.** Range ..... approx 500 km

**25. Trailer Facilities:**

- a.** Socket Type..... NATO 12 pin
- b.** Pintle Hook ..... fully rotating, lockable
- c.** Brakes..... twin line compressed air (gladhand coupling)

**26. Point of Contact:**

DMO-LAND SYSTEMS DIVISION  
CGSVSPO – Med/Hvy B Vehicles  
Defence Plaza Melbourne  
661 Bourke Street  
MELBOURNE VIC 3000  
Tel: (03) 9282 3639

**27. Associated Information:**

- a.** SIGC ..... 2320-0031
- b.** NSN..... NSN 2320-66-104-2875
- c.** SCES ..... 011851
- d.** RPS ..... 02160
- e.** ILSI ..... ALI MM 10-8
- f.** User Handbook..... 7610-66-115-4727
- g.** [EMEI Vehicle A 029-3](#) ..... Vehicles – General, Servicing of B Vehicles – General Instructions
- h.** [EMEI Vehicle A 291-5](#) ..... Tyres and Tubes, General Service B Vehicle Tyre Guide – Operator Instructions
- i.** [EMEI Vehicle G 702](#)..... Truck, Cargo, Heavy, MC3 – Mack – Technical Description
- j.** [EMEI Vehicle G 703](#)..... Truck, Cargo, Heavy, MC3 – Mack, Including Truck, Cargo, Winch, Heavy, MC3 – Mack – Light Grade Repair
- k.** [EMEI Vehicle G 703-1](#) ..... Truck, Cargo, Heavy, MC3 – Mack, Including Truck, Cargo, Winch, Heavy, MC3 – Mack – Unit Repair (air spring suspension)
- l.** [EMEI Vehicle G 704](#)..... Truck, Cargo, Heavy, MC3 – Mack, Including Truck, Cargo, Winch, Heavy, MC3 – Mack – Medium Grade Repair
- m.** [EMEI Vehicle G 704-1](#) ..... Truck, Cargo, Heavy, MC3 – Mack, Including Truck, Cargo, Winch, Heavy, MC3 – Mack – Heavy Grade Repair
- n.** [EMEI Vehicle G 709](#)..... Truck, Cargo, Heavy, MC3 – Mack, All Variants – Servicing Instruction

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**END**

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