

TRUCK, CARGO, MEDIUM, MC2, 4x4, MERCEDES BENZ U1750L, W/WINCH

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.



Truck, Cargo, Medium, MC2, 4x4, Mercedes Benz U1750L, W/Winch

General

1. This EMEI lists the basic data for the Truck, Cargo, Medium, MC2, 4x4, Mercedes Benz U1750L, W/Winch.
2. **Role.** The role of this vehicle is to carry unit equipment and general stores or personnel in support of RAAF operations. The vehicle is also capable of towing single and dual axle trailers up to 8 tonnes.
3. **Description.** The truck is a Mercedes Benz Unimog, model U1750L/38 4x4 cab chassis which has been fitted with a winch, cargo tray, side and tailgates, canopy bows and canopy.

Physical Data

4. Mass:

a. Unladen:

- (1) Front Axle 4060 kg
- (2) Rear Axle 2740 kg
- (3) Total 6800 kg

b. Maximum Loading (highway):

- (1) Front Axle 4600 kg
- (2) Rear Axle 6000 kg
- (3) Total 10 000 kg

c. Maximum Loading (cross country):

- (1) Front Axle 4500 kg
- (2) Rear Axle 6500 kg
- (3) Total 11 000 kg

5. Dimensions:

- a. Length Overall 6940 mm
- b. Width Overall 2490 mm
- c. Height Overall 3140 mm
 - (1) Laden 3020 mm
 - (2) Unladen 3140 mm

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- d. Height Reduced (canopy bows removed):
 - (1) Laden 2590 mm
 - (2) Unladen 2625 mm
- e. Shipping Cubage (unladen):
 - (1) Overall 54.3 m³
 - (2) Height Reduced 45.4 m³
- f. Wheel Base 3850 mm
- g. Ground Clearance 470 mm
- h. Pintle Hook Height (laden) 740 mm
- i. Track 1840 mm
- j. Internal Tray Dimensions:
 - (1) Length 4050 mm
 - (2) Width 2375 mm
 - (3) Height 500 mm

6. Bridge Classification 12

General

7. Performance:

- a. Fording Depth 1200 mm
- b. Turning Circle (between curbs) 16.8 m
- c. Approach Angle (approx) 39°
- d. Departure Angle (approx) 33°
- e. Maximum Gradient 60%
- f. Recommended maximum gross combination mass:
 - (1) Highway 24 500 kg
 - (2) Cross-Country 19 000 kg
- g. Fuel Consumption (approx) 25 L/100 km
- h. Range (approx) 600 km

8. Wheels and Tyres:

- a. Wheels 10.00V-20
- b. Tyres:
 - (1) Make/Model Michelin Pilot XL
 - (2) Size 13.00 R20
- c. Tyre Pressures:
 - (1) Highway:
 - (a) Front 310 kPa (45 psi)
 - (b) Rear 550 kPa (80 psi)
 - (2) Cross Country:
 - (a) Front 240 kPa (35 psi)
 - (b) Rear 448 kPa (65 psi)

- (3) Mud and Sand:
 - (a) Front 137 kPa (20 psi)
 - (b) Rear 207 kPa (30 psi)

9. Fuels, Lubricants and Coolant refer Table 1

Table 1 – Fuels, Lubricants and Coolant

Assembly	Capacity	Type/Grade
Fuel	160 L	Diesel
Cooling system	20 L	TEC50
Engine crankcase	15 L (max) 12 L (min)	OMD 115
Main transmission	10.5 L	OMD 115
PTO transmission	5.75 L	OMD 115
Front axle	2.5 L	OEP 220
Front drive hubs	600 ml	OEP 220
Rear axle	2.5 L	OEP 220
Rear drive hubs	600 ml	OEP 220
Steering system	2.25 L	OX 47 (grade 10)
Brake system	1 L	OX (Aust) 8
Clutch system	200 ml	OX (Aust) 8
Grease nipples	as required	XG-291
Winch case	2 L	OEP 220

10. Engine:

- a. Make and Model Mercedes Benz, OM 366A, six cylinder in-line diesel, direct injection with exhaust gas driven turbo-charger
- b. Displacement 5675 cm³
- c. Bore Diameter 97 mm
- d. Stroke Length 128 mm
- e. Compression Ratio 17.25:1
- f. Compression Pressure 28 bar
(measured on a warm engine)
- g. DIN Output 125 kW at 2600 rpm
- h. Torque Output 560 Nm at 1400-1700 rpm
- i. Firing Order 1-5-3-6-2-4
- j. Valve Type OHV (mechanical tappets)
- k. Coolant Temperature 95°C
- l. Oil Pressure:
 - (1) Normal 2–5 bar
 - (2) Hot Low Idle 0.6 bar (minimum)
- m. Idle Speed 700 rpm
- n. Governed Speed 2600 rpm

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- 11. Clutch:**
- a. Type hydraulically operated, single plate dry clutch
 - b. Pressure Plate:
 - (1) Make Fitchel and Sachs
 - (2) Model GFM 300K
 - c. Clutch Plate:
 - (1) Make Fitchel and Sachs
 - (2) Model 330 GSBL
- 12. Main Transmission:**
- a. Type UG 3/40-8/13.01 GPA
 - b. Make Daimler Benz
 - c. Gear Ratios refer Table 2

Table 2 – Gear Ratios

Forward	Ratio	Reverse	Ratio
1	13.01	1	12.60
2	9.02	2	8.74
3	5.96	3	5.78
4	4.38	4	4.24
5	2.97	5	2.88
6	2.06	6	2.00
7	1.36	7	1.32
8	1.00	8	0.97

- d. Shift Mechanism manual shift with automatic engagement and dis-engagement of planetary gears, synchromesh on all ratios.
 - e. Transfer Case front axle drive engaged by pneumatically operated dog-clutch mechanism.
- 13. Power Take Off Transmission:**
- a. Make Daimler-Benz
 - b. Special; Version Number SA35737
 - c. Ratio 4.32:1
- 14. Winch:**
- a. Type F64M1 SW05
 - b. Make Werner and Co
 - c. Line Pull 62 kN (maximum)
 - d. Cable Length 30 m (maximum)
 - e. Cable Diameter 14 mm
- 15. Front Axle:**
- a. Type 737.204
 - b. Make Mercedes Benz

- c. Ratios:
 - (1) Overall 6.38:1
 - (2) Differential 2.18:1
 - (3) Wheel hub drives 2.92:1
- 16. Rear Axle:**
- a. Type 747.209
 - b. Make Mercedes Benz
 - c. Ratios:
 - (1) Overall 6.38:1
 - (2) Differential 2.18:1
 - (3) Wheel hub drives 2.92:1
- 17. Brakes:**
- a. Parking Brake spring applied actuation on rear brakes, pneumatic release.
 - b. Foot Brake pneumatically controlled, hydraulically operated disc brakes with single calipers on rear discs and dual on the front
 - c. Engine Brake pneumatically operated exhaust manifold butterfly
 - d. Operating Pressures:
 - (1) Pneumatic up to 950 kPa (without trailer)
 - (2) Hydraulic up to 15 MPa
 - e. Trailer Brake System:
 - (1) Type dual line
 - (2) Operating Pressure up to 730 kPa
- 18. Steering System:**
- a. Type LS3B
 - b. Make Mercedes Benz
 - c. Design hydraulically assisted recirculating ball
 - d. Hydraulic Supply:
 - (1) Flow Rate 12 L/min (maximum)
 - (2) Pressure 13.5 MPa (maximum)
 - e. Ratio 19.33:1
- 19. Electrical System:**
- a. Voltage 24 V dc
 - b. No of Batteries 2 × 12 V
 - c. Battery Capacity 120 Ah
 - d. Earth Polarity negative
 - e. RF Suppression Mill Std 461A. RE05

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f. Bulb Types refer Table 3

Table 3 – Bulb Types

	Capacity @ 24 V	Bulb Shape to Din 72601
Front Lights		
High/Low beam headlights	55 W/50 W	A24 V
Parking lights	4 W	HL24 V
Blackout marker lights	18 W	R24 V
Turn indicator lights	21 W	RL24 V
Clearance lights side mirrors	4 W	L24 V
Reduced headlight	18 W	R24 V
Rear Lights		
Stop/Tail lights	21 W/5 W	SL24 V
Blackout tail lights	2 W	H24 V
Blackout brake lights	2 W	H24 V
Reversing lights	10 W	G24 V
Clearance lights	4 W	HL24 V
Convoy cross lights	2 W	H24 V
Interior Lights		
Control/indicator lights	2 W	H24 V
Map reading light	2 W	H24 V
Cabin roof light	10 W	H24 V

20. Trailer Facilities:

- a. Socket Type NATO 12 pin,
12 V and 24 V sockets
- b. Pintle Hook fully rotating
- c. Safety Chain Hooks 2
- d. Brakes dual line, pneumatic

21. Associated Information:

- a. NSN 2320 66 149 2005
- b. CES 11753
- c. RPS 02156
- d. Warranty EMEI Vehicle A 119-21
- e. Technical Description
..... EMEI Vehicle G 652
- f. Unit Repair EMEI Vehicle G 653
(pending)
- g. Field Repair EMEI Vehicle G 654
(pending)
- h. Base Repair EMEI Vehicle G 654-1
(pending)
- i. Servicing Instruction ... EMEI Vehicle G 659
(pending)

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END

List VEH G 31.3 - Code 1 (DMO MDM B VEH)