



DATA SUMMARY

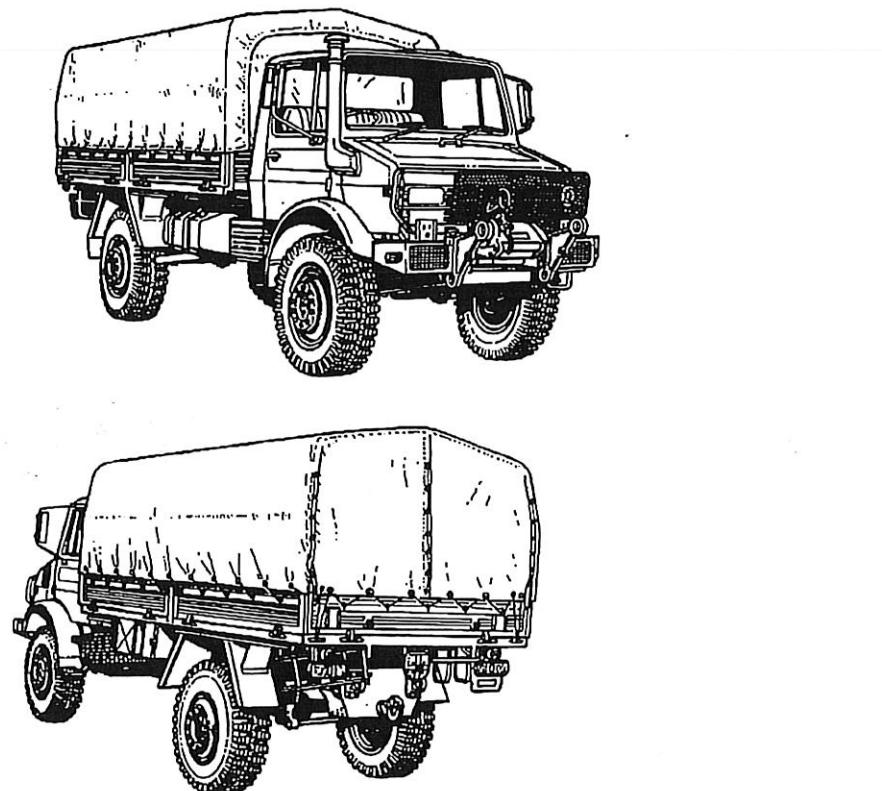


Figure 1 Truck, Cargo, Medium, MC2 - Unimog

General

2. This EMEI lists basic data for the Truck, Cargo, Medium, MC2 – Unimog with or without winch. The basic truck is shown in Figure 1.
3. **Role.** The role of the Unimog is to transport stores and personnel on sealed, second class roads and under limited cross-country conditions.
4. **Description.** The Unimogs are 4 x 4 vehicles which form the basis of Army second line transport and a significant part of Army third line transport. A winch is fitted to some units for vehicle recovery purposes. The vehicle carries a five tonne load.

Detail

5. Dimensions:

a. Height:

(1) Laden	3 010 mm
(2) Unladen	3 130 mm





b.	Height Reduced (With Canopy, Canopy Frame and Hatch Cover Removed):	
(1)	Laden.....	2 580 mm
(2)	Unladen.....	2 615 mm
c.	Length:	
(1)	Without Winch.....	6 545 mm
(2)	With Winch	6 940 mm
d.	Width.....	2 490 mm
e.	Shipping Volume (Unladen):	
(1)	Without Winch:	
(a)	Overall	50.3 m ³
(b)	Height Reduced.....	42.9 m ³
(2)	With Winch:	
(a)	Overall	54.1 m ³
(b)	Height Reduced.....	45.2 m ³
f.	Wheelbase	3 850 mm
g.	Ground Clearance.....	460 mm
h.	Pintle Hook Height (Laden)	705 mm
i.	Track Width.....	1 840 mm
j.	Internal Tray Dimensions:	
(1)	Length	4 050 mm
(2)	Width.....	2 375 mm
(3)	Heighth.....	500 mm

6. Mass:

a.	Unladen:	
(1)	Without Winch:	
(a)	Front Axle	3 810 kg
(b)	Rear Axle	2 790 kg
(c)	Total.....	6 600 kg
(2)	With Winch:	
(a)	Front Axle	4 060 kg
(b)	Rear Axle	2 740 kg
(c)	Total.....	6 800 kg
b.	Maximum Loading:	
(1)	Front Axle	5 300 kg
(2)	Rear Axle	7 000 kg
(3)	Total	12 000 kg

7. Bridge Classification

a.	Unladen	7
b.	Laden	12
c.	Laden (With Trailer).....	21





8. Performance:

- a. Fording Depth 1 200 mm
- b. Turning Circle (Between Walls):
 - (1) Left Lock 16.8 m
 - (2) Right Lock 19.6 m
- c. Angle of Approach:
 - (1) Without Winch 41°
 - (2) With Winch 39°
- d. Angle of Departure 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

9. Wheels and Tyres:

- a. Wheels 8.50x20, 10 stud
- b. Tyres 12.00x20 Radial 18 ply with tubes
- c. Tyre Pressures refer to EMEI Vehicle A 291-5

10. Fuels and Lubricants:

- a. Fuel:
 - (1) Type diesel
 - (2) Capacity 160 L
- b. Cooling System:
 - (1) Water 20 L
 - (2) Corrosion Inhibitor (2% by volume) TEC PG-XL
- c. Engine Crankcase:
 - (1) Type engine oil SAE 40 (OMD-115)
 - (2) Capacity (Maximum) 15 L
 - (3) Capacity (Minimum) 12 L
- d. Main Transmission:
 - (1) Type engine oil SAE 40 (OMD-115)
 - (2) Capacity 10.5 L
- e. PTO Transmission:
 - (1) Type engine oil SAE 40 (OMD-115)
 - (2) Capacity 5.75 L
- f. Front Axle:
 - (1) Type hypoid trans oil SAE 90 (OEP-220)
 - (2) Capacity 2.5 L
- g. Front Wheel Hub Drives:





	(1) Type	hypoid trans oil SAE 90 (OEP-220)
	(2) Capacity	0.6 L each
h.	Rear Axle:	
	(1) Type	hypoid trans oil SAE 90 (OEP-220)
	(2) Capacity	2.5 L
i.	Rear Axle Hub Drives:	
	(1) Type	hypoid trans oil SAE 90 (OEP-220)
	(2) Capacity	0.6 L each
j.	Steering System:	
	(1) Type	steering gear oil SAE 10W (OX-47 Grade 10)
	(2) Capacity	2.25 L
k.	Brake System:	
	(1) Type	brake fluid DOT 4 (OX-8)
	(2) Capacity	1.0 L
l.	Clutch System:	
	(1) Type	brake fluid DOT 4 (OX-8)
	(2) Capacity	0.2 L
m.	Grease Nipples:	
	(1) Type	Shell Retinax LX2 or equivalent (XG-291)
	(2) Quantity	as required
n.	Winch Case:	
	(1) Type	hypoid trans oil SAE 90 (OEP-220)
	(2) Capacity	2.0 L
11.	Engine	
a.	Make	Mercedes-Benz
b.	Model	OM 353.939
c.	No of Cylinders	6 (in line)
d.	Displacement	5.675 L
e.	Turbocharger	Honeywell Garrett
f.	Bore Diameter	97 mm
g.	Stroke length.....	128 mm
h.	Compression Ratio	16.0:1
i.	Compression Pressure (Minimum)	2 MPa (measured on a warm engine)
j.	DIN Output (Minimum)	124 kW at 2800 rpm
k.	Torque Output	520 N.m at 1800 rpm
l.	Firing Order	1-5-3-6-2-4
m.	Valve Type	OHV (mechanical tappets)
n.	Coolant Temperature	80°C to 90°C
o.	Oil Pressure:	
	(1) Normal	200 kPa to 500 kPa





(2)	Hot Low Idle.....	60 kPa (minimum)
p.	Idle Speed.....	700 rpm
q.	Governed Speed	2 800 rpm
r.	Valve Clearance (Cold):	
(1)	Inlet Valves	0.25 mm
(2)	Exhaust Valves	0.40 mm
12.	Clutch:	
a.	Type	hydraulically operated single plate dry clutch
b.	Pressure Plate:	
(1)	Make	Fitchel and Sachs
(2)	Model.....	GFM 300K
(3)	Contact Force.....	10 000 N to 11 200 N
(4)	Throwout Force.....	2 950 N (maximum)
(5)	Throwout Movement	10 mm to 12 mm
c.	Clutch Plate:	
(1)	Make	Fitchel and Sachs
(2)	Model.....	330 GSBL
(3)	Lining.....	Raybestos 1488/05
(4)	Wear (Per Side).....	1.5 mm (maximum)
13.	Main Transmission:	
a.	Type	UG 3/40-8/13.01 GPA
b.	Manufacturer.....	Daimler-Benz
c.	Ratios:	
(1)	Forward.....	13.01/9.02/5.96/4.38/2.97/2.06/1.36/1.00:1
(2)	Reverse	12.06/8.74/5.78/4.24/2.88/2.00/1.32/0.97:1
d.	Shift Mechanism.....	manual with automatic engagement and disengagement of planetary gears, synchromesh on all ratios
e.	Transfer Case	front axle drive engaged by pneumatically operated dog-clutch system
14.	Front Axle:	
a.	Type	AU 3/I S-5.3
b.	Manufacturer.....	Mercedes Benz
c.	Ratios:	
(1)	Overall	6.38:1
(2)	Differential.....	2.18:1
(3)	Wheel Hub Drives.....	2.92:1
15.	Rear Axle:	
a.	Type	HU 3/I S-6.5
b.	Manufacturer.....	Mercedes Benz
c.	Ratios:	
(1)	Overall	6.38:1





(2)	Differential	2.18:1
(3)	Wheel Hub Drives.....	2.92:1

16. Brakes:

- a. Parking Brake.....spring applied actuator on rear brakes, pneumatic release
- b. Foot brake.....pneumatically controlled, hydraulically operated disc brakes
 - (1) Front Wheels dual caliper
 - (2) Rear Wheels single caliper
- c. Automatic Load Dependant Brake.....(ALB) system automatically increases available braking effort at rear wheels as load increases
- d. Engine Brake.....pneumatically operated exhaust manifold butterfly
- e. Operating Pressures

 - (1) Pneumatic.....950 kPa maximum without trailer
 - (2) Hydraulic.....15 MPa maximum

- f. Trailer Brake system:
 - (1) Type dual line
 - (2) Operating Pressure 730 kPa maximum

17. Steering System:

- a. Type.....LS3B
- b. Manufacturer
- c. Design.....hydraulic assisted, recirculating-ball nut system
- d. Hydraulic Supply:
 - (1) Flow Rate.....12 L/min maximum
 - (2) Pressure.....13.5 MPa maximum
- e. Ratio19.33:1

18. Electrical System:

- a. Voltage24 V dc
- b. Generator.....EDE 28 V/100 A
- c. Number of Batteriestwo
- d. Battery Capacity55 Ah each
- e. Earth Polarity.....negative
- f. RF Suppression.....to MIL-STD-461A RE05

19. Trailer Facilities:

- a. Socket Type.....NATO 12-pin
- b. Pintle Hook.....fully rotating
- c. Brakes.....dual line pneumatic

20. PTO Transmission:

- a. Special Version Number.....SA35737
- b. Make.....Daimler-Benz
- c. Ratio4.32:1





- d. Output Speed:
- (1) At 2340 rpm Engine Speed 540 rpm
 - (2) At 2800 rpm Engine Speed 658 rpm
- e. Shift Mechanism manually engaged (vehicle clutch controls applications of power)
21. 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
22. Accessories:
- a. Horn 24 V electrically operated
 - b. Windscreen Wipers 24 V electric, two speed, self parking
 - c. Windscreen Washer 24 V electrically operated, four sprays
 - d. Heater/Demister three speed fan, engine cooling water heated
 - e. Fire Extinguisher 1.5 kg dry powder
23. Associated Information:
- a. SIGC:
 - (1) Truck, Cargo, Without Winch 2320-0045
 - (2) Truck, Cargo, With Winch 2320-0044
 - (3) Truck, Cargo, Without Winch, With Twist Locks 2320-0051
 - (4) Truck, Cargo, With Winch, With Twist Locks 2320-0050
 - b. NSN:
 - (1) Truck, Cargo, Without Winch 2320-66-112-8974
 - (2) Truck, Cargo, With Winch 2320-66-112-8975
 - (3) Truck, Cargo, Without Winch, With Twist Locks 2320-66-128-3146
 - (4) Truck, Cargo, With Winch, With Twist Locks 2320-66-128-3147
 - c. RPS:
 - (1) Truck, Cargo, Without Winch 02155
 - (2) Truck, Cargo, With Winch 02156
 - (3) Truck, Cargo, Without Winch, With Twist Locks 02202
 - (4) Truck, Cargo, With Winch, With Twist Locks 02204
 - d. SCES:
 - (1) Truck, Cargo, Without Winch 01173
 - (2) Truck, Cargo, With Winch 01175
 - (3) Truck, Cargo, Without Winch, With Twist Locks 12072
 - (4) Truck, Cargo, With Winch, With Twist Locks 12073
 - e. User Hand Book 7610-66-156-2407
 - f. Other EMEI:
 - (1) Vehicle A 291-5 General Service B Vehicles Tyre Guide





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|-----|--|----------------------------|
| (2) | <u>Vehicle G 602</u> |Technical Description |
| (3) | <u>Vehicle G 603</u> , <u>Vehicle G 613-1</u> , <u>Vehicle G 613-3</u> |Light Grade Repair |
| (4) | <u>Vehicle G 604</u> |Medium Grade Repair |
| (5) | <u>Vehicle G 604-1</u> |Heavy Grade Repair |
| (6) | <u>Vehicle G 609</u> |Servicing Instruction |
| g. | ILSI..... | ALI MM 10-11 |

MAC CONTROLLED

