

BL14TH

TYRE HANDLER

Salient Features :

- Turbo charged sturdy engine
- Electronic Transmission
- Articulated power steering
- Limited slip differential
- Center point articulation
- To carry a tyre size from 18x25 to 36x51



Tyre Lifting Capacity : 3500 kg

Operating Mass : 21,500 kg

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TYRE HANDLER

Salient Features :

Sturdy direct injection type, turbo charged BEML Diesel Engine for sustained power and fuel economy.

Articulated power steering for higher maneuverability and faster cycles.

Limited slip differential front and rear axles for positive traction while loading.

Rear axle oscillation offers stability to the machine on rough and uneven terrains.

Centre point articulation for safer steering operation.

Neutral starter switch in the circuit to avoid engine starting when transmission gear shift lever is not in neutral.

Continuous rotation of the gripping pads.

Smooth rotation of the Head assembly.

Upto 1,91,334 N of gripping force on the tyre.

Lateral carriage movement of 200 mm for precision side shift alignment.

Optimum operator control and visibility.

A complete range of large off-the-road tyre handling capabilities.

All wheel drive and the articulating features of the carrier vehicle.



ENGINE

Make	BEML LTD.
Model	BS6D105-1
Type	Water cooled 4 cycle, over head valve, direct injection type, turbo charged diesel engine.
No. of Cylinders	6
Bore & Stroke	∅ 105 x 125 mm
Displacement	6.5 l (6,499 cc)

HORSE POWER

Rated BHP	110 kW(148 HP) @ 2000 rpm
Flywheel power	94 kW(126 HP) @ 2000 rpm
Maximum torque	565 Nm (58kgm) @ 1400 rpm

FUEL SYSTEM

Type	BOSCH type, MICO FIP system
Governor	Mechanical, all speed control

LUBRICATION SYSTEM

Method	Gear pump, forced lubrication
Cooler	Water cooled

ELECTRICALS

Starting method	Electric
Starting motor	24V, 4.5 kW
Alternator	24V, 45A
Battery	24V (2 x 12V), 150 Ah

COOLING SYSTEM

Radiator	Continuous finned flat tube de-aeration type tank
Pump	Centrifugal pump
Fan	Blower type
Air cleaner Type	Dry, 2-stage, horizontal
Air compressor capacity	160 CC

TRANSMISSION

Torque Converter

Model	W340
Type	Hydrodynamic
Stall ratio	3.095 : 1

Transmission

Model	4WG190 ERGO POWER
Type	Rear mounted multi speed power shift electronic control transmission with four forward & three reverse speeds
Controls	Manual Range Selector

BRAKES

Service brakes	Wet multiple disc type. Air over Hydraulic actuated.
Parking brake	Disc type, spring applied and hydraulic released operating pressure @ 126 kg/cm ² .

STANDARD EQUIPMENT

Ammeter, Air pressure gauge, Engine oil pressure gauge, Transmission oil temperature gauge, Engine Hour meter, Engine water temperature gauge, Head lights and rear lights, Horn, Starter key switch, Alternator, Regulator, Batteries, Foot throttle, Fenders, Canopy, Tool box, Fire extinguisher 2kg, Reverse light and alarm, Side indicator lamp, Battery charging indicator, High beam indicator, Parking brake applied indicator, Low air pressure warning.



HYDRAULICS SYSTEM

Pump Type	Vane Pump
Capacity	272 l/min
Relief Pressure	13.73 MPa (140 kg/cm ²)
Control Valve Type	Double spool type
Positions	
Lift System	Raise, Hold and Lower
Dump System	Roll back, hold and dump
Lift Cylinders	
Type	Double acting
No. of Cylinders	2
Bore x Stroke	∅ 150 x 860 mm
Dump Cylinder	
Type	Double acting
No. of Cylinders	1
Bore x Stroke	∅ 160 x 410 mm



AXLES & FINAL DRIVE

Axles	
Type	Front axle is fixed, and Rear axle oscillates up or down by 10°, (total 20°)

Final Drive	
Type	Four wheel drive full floating with planetary reduction in each wheel.

Travel Speeds	
Forward km/h (m/s)	Reverse km/h (m/s)
1st 6.28 (1.74)	1st 6.61 (1.84)
2nd 11.66 (3.24)	2nd 12.24 (3.4)
3rd 21.43 (5.95)	3rd 22.34 (6.2)
4th 31.4 (8.72)	---



TYRES

Tyres	
Standard	23.5 x 25 ~ 20 PR Tube less (Filled with liquid ballast)

Rims	
Type	Flange type
Size	19.50 x 25
Max. gradeability	25% (~14°)



STEERING SYSTEM

Type	Articulated, full power steering 25° on either side
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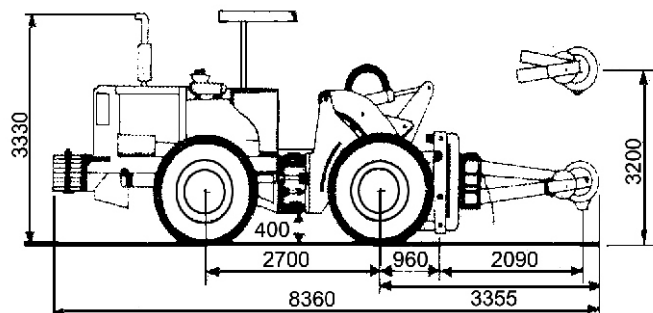
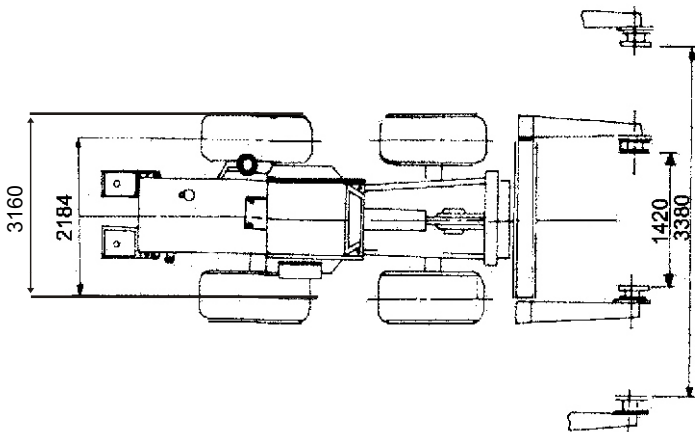
Steering Pump	
Type	Vane Pump
Flow	272 l/min @ 2000 rpm
Relief valve setting pressure	17.61 MPa (175 kg/cm ²)

Steering cylinder	
Type	Double acting
No. of cylinders	2
Bore x Stroke	∅ 90 x 535 mm
Turning radius	7200 mm



DIMENSIONS

Overall length	8360 mm
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SERVICE CAPACITIES

System	(litres)
Cooling system	45
Fuel Tank	185
Engine	25
Transmission (inclusive of drop box)	27
Front axle	35
Rear axle	35
Brake oil tank	2.8
Hydraulic tank	195



FILTRATION

Engine	Replaceable micro paper element filter for lubrication as well as for fuel line is provided.
Transmission	Replaceable element type of filter is provided.
Hydraulic System	Magnetic plug and replaceable element type filter is provided.



TECHNICAL DATA

Capacity	To carry a tyre mounted on rim weighing upto 3500 kg. Tyre sizes from 18.00 x 25 to 36.00 x 51.
Clamping span	1420 mm to 3380 mm
Hand Axial Rotation	360° continuous
Lateral Rotation	350°
Clamping pads	610 mm round cups with grip lugs
Lateral rotation speeds	20 ~ 30 seconds
Axial rotation speed	10 seconds
Clamping action	Independently controlled
Clamping Safety	
Lock	Safety check valves on clamping side of cylinder
Clamping force	19504 kg
Side shift action	200 mm total, 100 mm each side of centre line
Lift Height	3200 mm



TYRE HANDLER HYDRAULIC SYSTEM

Pump type	Vane Type
Capacity	50 litres / min
Relief Pressure	175 kg/cm ²
Hydraulic control	Five spool control valve having a flow rate of 50 litres/min with a relief setting of 175 kg/cm ² . The oil to the control valve is supplied by carrier vehicle hydraulic system / auxiliary hydraulic system.



COUNTER WIEHGT

Counter Weight:	Rear mounted counter weight weighing 3000 kgs and tyres filled with 75% Cacl ₂ or water.
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OPERATING MASS

Operating mass	21,500 kg approx.
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Material and specifications are subject to change without notice, Illustrations may include optional equipment & accessories

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A Govt. of India Miniratna Company Under Ministry of Defence

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