B25E 6x6 23 000 L Articulated Water Tanker

BELL

ENGINE
Manufacturer
Mercedes Benz

Model
OM906LA

Configuration
Inline 6, turbocharged and intercooled.

Net Power
205 kW (275 hp) @ 2 200 rpm in accordance with UN ECE R120

Gross Torque
1 100 Nm (811 lbft) @ 1 200 -1 600 rpm

Displacement
6,37 litres (389 cu.in)

Auxiliary Brake
Exhaust Valve Brake
Engine Valve Brake

Fuel Tank Capacity
379 litres (100 US gal)

Certification
OM906LA meets EU Stage II/EPA Tier 2 emissions regulations.

TRANSMISSION
Manufacturer
Allison

Model
3500PR ORS

Configuration
Fully automatic planetary transmission with integral retarder.

Layout
Engine mounted

Gear layout
Constant meshing planetary gears, clutch operated

Gears
6 Forward, 1 Reverse

Clutch Type
Hydraulically operated multi-disc

Control Type
Electronic

Torque Control
Hydrodynamic with lock-up in all gears.

TRANSFER CASE
Manufacturer
Kessler

Series
W1400

Layout
Remote mounted

Gear Layout
Three in-line helical gears

Output Differential
Interaxle 33/67 proportional differential. Automatic inter-axle differential lock.

AXLES
Manufacturer
Bell

Model
15T

Differential
High input limited slip differential with spiral bevel gears.

Final Drive
Outboard heavy duty planetary on all axles

BRAKING SYSTEM
Service Brake
Dual circuit, full hydraulic actuation dry disc brakes with 8 calipers (4F, 2M, 2R).

Maximum brake force:
184 kN (41 400 lbf)

Park & Emergency
Spring applied, air released driveline mounted disc.

Maximum brake force:
195 kN (43 900 lbf)

Auxiliary Brake
Automatic exhaust valve brake and engine valve brake. Automatic, adjustable, integral, hydrodynamic transmission retarder. Output shaft speed dependant.

Total Retardation Power
250kW (335 hp) Continuous
539 kW (723 hp) Maximum

WHEELS
Type
Radial Earthmover

Tyre
23.5 R 25

FRONT SUSPENSION
Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts

REAR SUSPENSION
Pivoting walking beams with laminated rubber suspension blocks

HYDRAULIC SYSTEM
Full load sensing system serving the prioritized steering, body tipping and brake functions. A ground-driven, load sensing emergency steering pump is integrated into the main system.

Pump Type
Variable displacement load sensing piston

Flow
165 l/min (44 gal/min)

Pressure
28 Mpa (4 061 psi)

Filter
5 microns

STEERING SYSTEM
Double acting cylinders, with ground-driven emergency steering pump.

Lock to lock turns
4,1

Steering Angle
45º

PNEUMATIC SYSTEM
Air drier with heater and integral unloader valve, serving park brake and auxiliary functions.

System Pressure
810 kPa (117 psi)

ELECTRICAL SYSTEM
Voltage
24 V

Battery Type
Two AGM (Absorption Glass Mat) type

Battery Capacity
2 X 75 Ah

Alternator Rating
28 V 80 A

VEHICLE SPEEDS
1st	7 km/h	4 mph
2nd	15 km/h	9 mph
3rd	23 km/h	14 mph
4th	35 km/h	22 mph
5th	47 km/h	29 mph
6th	50 km/h	31 mph
R	7 km/h	4 mph

WATER TANK
Tank capacity
23 000 Litres

WATER TANKER PLUMBING
Centrifugal water pump

Rate of Flow
1 800 L/min

Head
50 m

CAB
ROPS/FOPS certified 72 dBA internal sound level measured according to ISO 6396.

Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE		LOAD CAPACITY	
UNLADEN	**kg (lb)**	**LADEN (No sinkage)**			
Front	9 632 (21 235)	**23.5 R 25**	**kPa (Psi)**	Rated Payload	23 000 litres
Middle	5 568 (12 275)	Front	246 (36)		(6 000 gallons)
Rear	5 528 (12 187)	Middle	337 (49)		
Total	20 728 (45 697)	Rear	337 (49)		
LADEN					
Front	12 372 (27 276)				
Middle	16 198 (35 710)				
Rear	16 158 (35 622)				
Total	44 728 (98 608)				

Dimensions
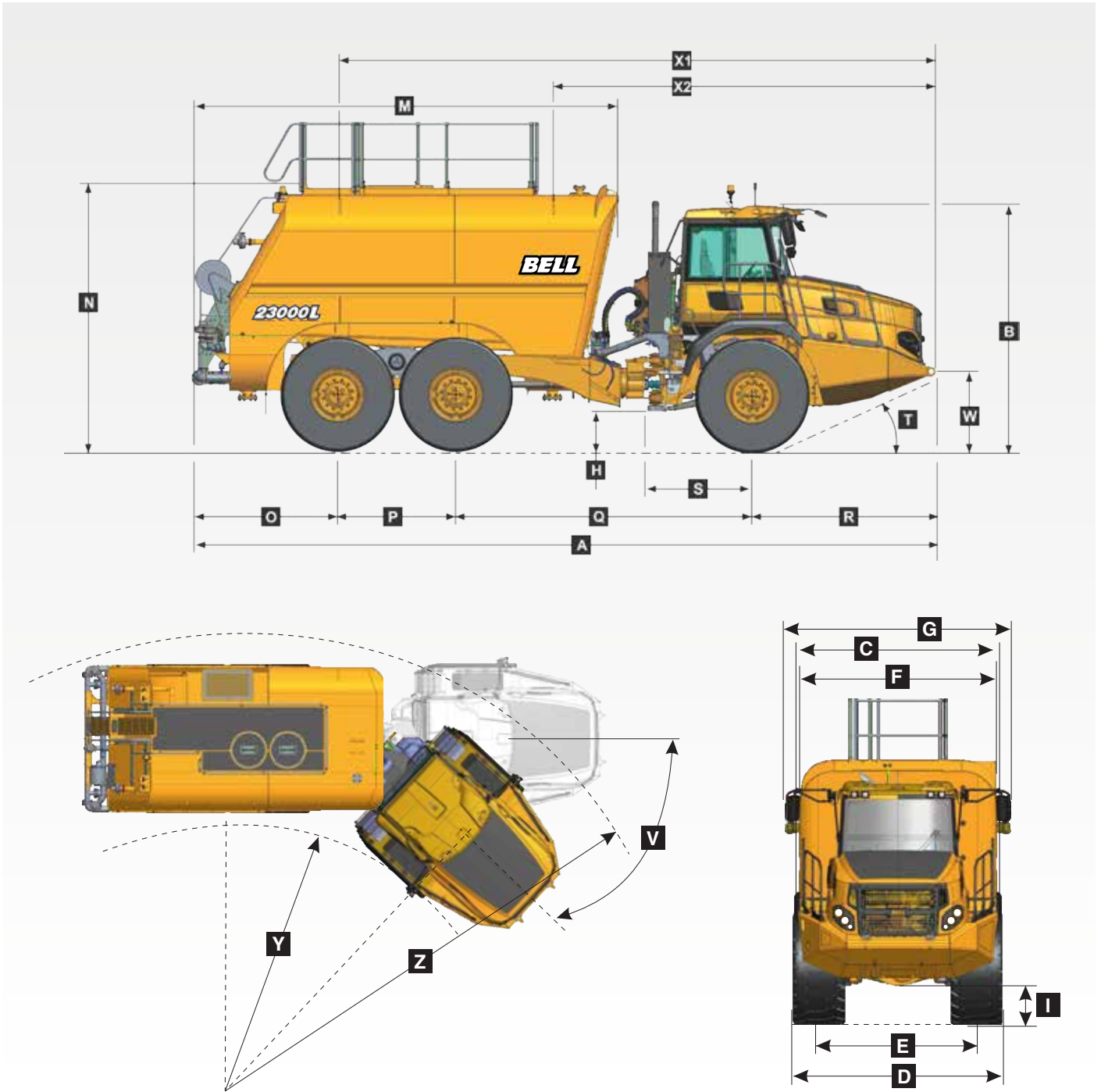
Machine Dimensions

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A	Length - Transport Position	10355 mm	(34 ft. 6 in.)	O	Rear Axle Centre to Bowser / Tank Rear	2 072 mm	(6 ft. 10 in.)
B	Height - Transport Position	3 436 mm	(11 ft. 3 in.)	P	Mid Axle Centre to Rear Axle Centre	1 670 mm	(5 ft. 6 in.)
C	Width over Mudguards	2 985 mm	(9 ft. 6 in.)	Q	Mid Axle Centre to Front Axle Centre	4 181 mm	(13 ft. 9 in.)
D	Width over Tyres - 23.5R25	2 940 mm	(9 ft. 8 in.)	R	Front Axle Centre to Machine Front	2 602 mm	(8 ft. 9 in.)
E	Tyre Track Width - 23.5R25	2 356 mm	(7 ft. 9 in.)	S	Front Axle Centre to Artic Centre	1 362 mm	(4 ft. 65 in.)
F	Width over Tank / Bowser	2 855 mm	(9 ft. 4 in.)	T	Approach Angle	25°	
F	Width over Tank / Bowser (with hose)	3 005 mm	(9 ft. 4 in.)	V	Maximum Articulation Angle	45°	
G	Width over Mirrors - Operating Position	3 260 mm	(10 ft. 8 in.)	W	Front Tie Down Height	1 075 mm	(3 ft. 6 in.)
H	Ground Clearance - Artic	537 mm	(1 ft. 9 in.)	X1	Tank Lifting Centres	8 359 mm	(27 ft. 5 in.)
I	Ground Clearance - Front Axle	488 mm	(1 ft. 7 in.)	X2	Front Lifting Centre to Tank Lifting Centre	5 334 mm	(17 ft. 6 in.)
M	Tank / Bowser Length	6 020 mm	(19 ft. 9 in.)	Y	Inner Turning Circle Radius - 23.5R25	4 110 mm	(13 ft. 6 in.)
N	Maximum Tank Height	3 510 mm	(12 ft. 8 in.)	Z	Outer Turning Circle Radius - 23.5R25	8 000 mm	(26 ft. 3 in.)

Gradeability/Rimpull

1. Determine tractive resistance by finding intersection of vehicle mass line and grade line. NOTE: 2% typical rolling resistance is already assumed in chart and grade line.
2. From this intersection, move straight right across charts until line intersects rimpull curve.
3. Read down from this point to determine maximum speed attained at that tractive resistance.

NVM
20 728 kg
45 697 lb

GVM
44 728 kg
98 608 lb
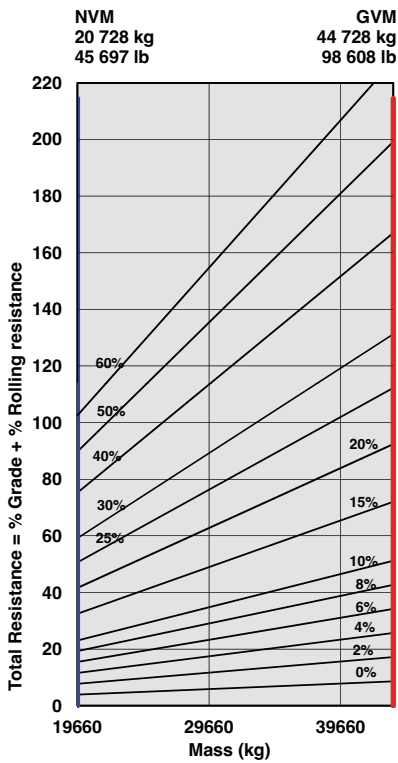
B25E 6x6, 23 000 L Water Tanker - Tractive Effort
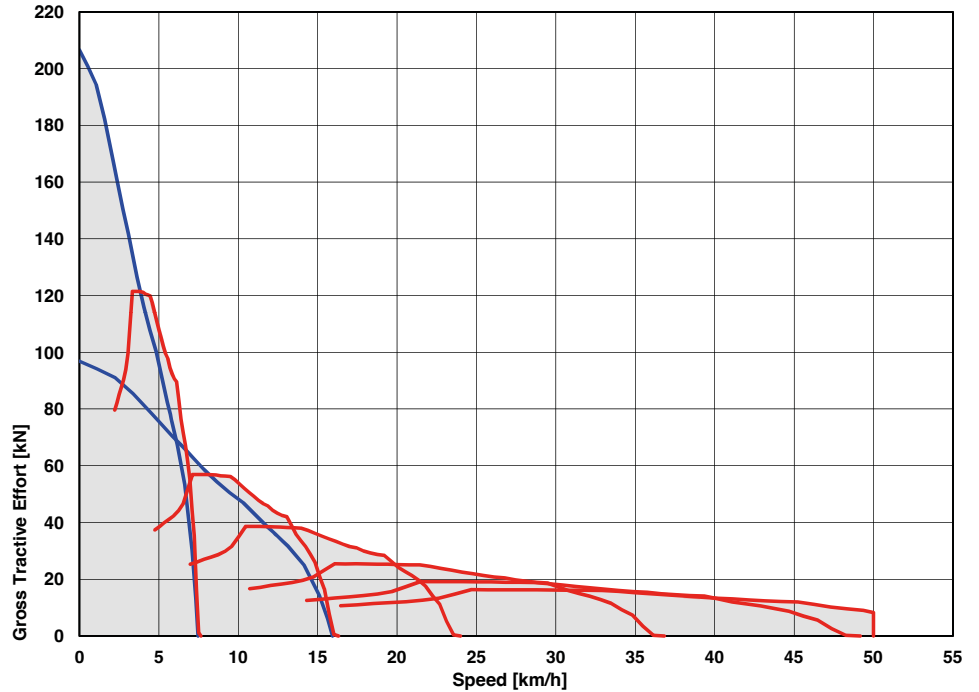
Retardation

1. Determine retardation force required by finding intersection of vehicle mass line.
2. From this intersection, move straight right across charts until line intersects the curve. NOTE: 2% typical rolling resistance is already assumed in chart.
3. Read down from this point to determine maximum speed.

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45 697 lb

GVM
44 728 kg
98 608 lb
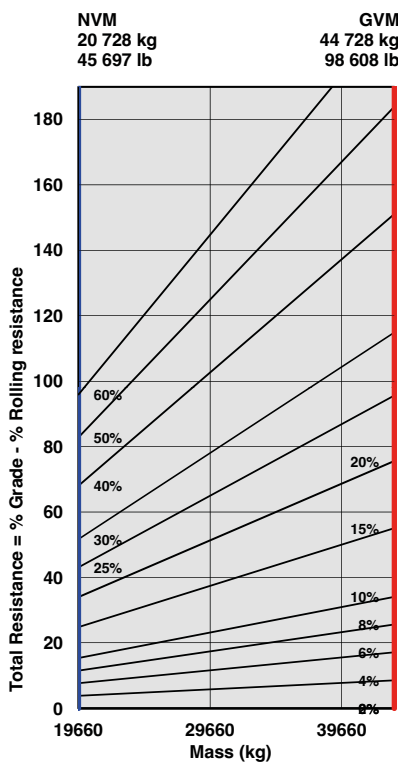
B25E, 23 000 L Water Tanker - Retardation