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B25E Articulated Dump Truck

ENGINE

Manufacturer
Mercedes Benz

Model
OM936LA

Configuration
Inline 6, turbocharged and intercooled

Gross Power
210 kW (281 hp) @ 2,200 rpm

Net Power
201 kW (269 hp) @ 2,200 rpm

Gross Torque
1,150 Nm (848 lbft) @ 1,200 -1,600 rpm

Displacement
7.7 liters (469 cu.in)

Auxiliary Brake
Jacobs Engine Brake®

Fuel Tank Capacity
302 liters (79.78 US gal)

AdBlue® Tank Capacity
31 l (8.2 US gal)

Certification
OM936LA meets EPA Tier 4 final/ Stage V 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

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 Jacobs Engine Brake®.
Automatic, adjustable, integral, hydrodynamic transmission retarder. Output shaft speed dependent.

Total Retardation Power
Continuous: 318 kW (426 hp)
Maximum: 588 kW (788 hp)

WHEELS

Type
Radial Earthmover

Tire
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
45°

DUMPING SYSTEM

Two double-acting, single stage, dump cylinders

Raise Time
14.5 s

Lowering Time
7.5 s

Tipping Angle
70° standard, or any lower angle programmable

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
28V 80A

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

CAB

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

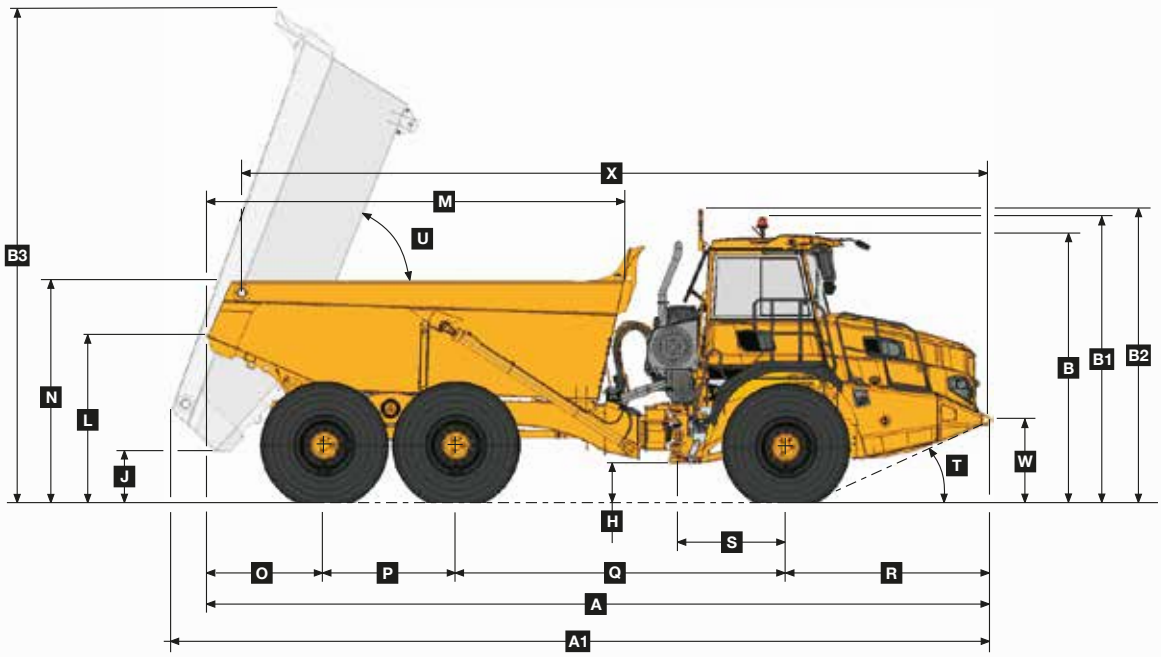
Load Capacity & Ground Pressure

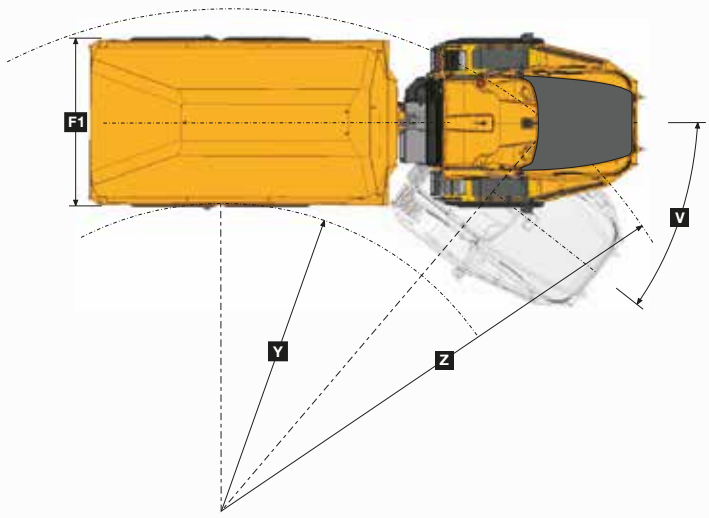
OPERATING WEIGHTS		GROUND PRESSURE				LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN (No sinkage)		LADEN (15% sinkage)		BODY	m^3 (yd^3)		kg (lb)
Front	10,085 (22,230)	23.5 R 25	kPa (Psi)	23.5 R 25	kPa (Psi)	Struck Capacity	12 (15.7)	Bin liner	1,050 (2,314)
Middle	4,805 (10,600)	Front	246 (36)	Front	230 (33)	SAE 2:1 Capacity	15 (19.5)	Tailgate	769 (1,695)
Rear	4,770 (10,520)	Middle	337 (49)	Middle	283 (41)	SAE 1:1 Capacity	18 (23.5)	Extra wheelset	565 (1,246)
Total	19,660 (43,350)	Rear	337 (49)	Rear	283 (41)	SAE 2:1 Capacity			
LADEN						with Tailgate	15.5 (20.3)		
Front	12,825 (28,274)								
Middle	15,435 (34,028)					Rated Payload	24,000 kg		
Rear	15,400 (33,951)						(52,911 lbs)		
Total	43,660 (96,253)								

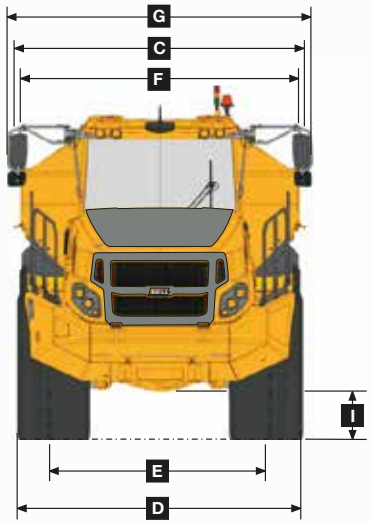
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Dimensions

B25E







Machine Dimensions

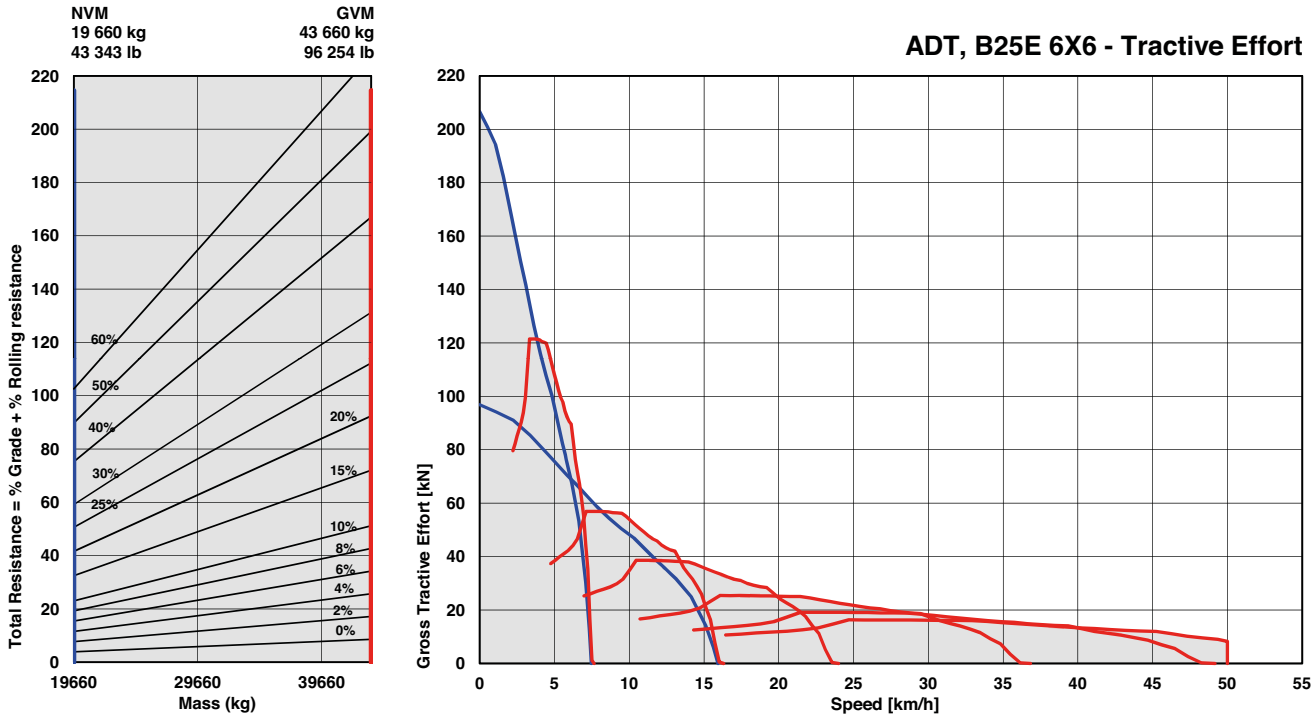
A	Length - Transport Position	9,953 mm	(32 ft. 7 in.)
A1	Length - Bin Fully Tipped	10,311 mm	(33 ft. 9 in.)
B	Height - Transport Position	3,426 mm	(11 ft. 2 in.)
B1	Height - Rotating Beacon	3,661 mm	(12 ft.)
B2	Height - Load Light	3,747 mm	(12 ft. 3 in.)
B3	Bin Height - Fully Tipped	6,255 mm	(20 ft. 6 in.)
C	Width over Mudguards	2,985 mm	(9 ft. 9 in.)
D	Width over Tires - 23.5R25	2,940 mm	(9 ft. 7 in.)
E	Tire Track Width - 23.5R25	2,356 mm	(7 ft. 8 in.)
F	Width over Bin	2,700 mm	(8 ft. 10 in.)
F1	Width over Tailgate	2,998 mm	(9 ft. 10 in.)
G	Width over Mirrors - Operating Position	3,260 mm	(10 ft. 8 in.)
H	Ground Clearance - Artic	537 mm	(21.14 in.)
I	Ground Clearance - Front Axle	488 mm	(19.21 in.)
J	Ground Clearance - Bin Fully Tipped	670 mm	(26.38 in.)
K	Ground Clearance - Under Run Bar	N/A	

L	Bin Lip Height - Transport Position	2,176 mm	(7 ft. 1 in.)
M	Bin Length	5,272 mm	(17 ft. 3 in.)
N	Load over Height	2,763 mm	(9 ft.)
O	Rear Axle Center to Bin Rear	1,500 mm	(4 ft. 11 in.)
P	Mid Axle Center to Rear Axle Center	1,670 mm	(5 ft. 5 in.)
Q	Mid Axle Center to Front Axle Center	4,181 mm	(13 ft. 8 in.)
R	Front Axle Center to Machine Front	2,602 mm	(8 ft. 6 in.)
S	Front Axle Center to Artic Center	1,362 mm	(4 ft. 5 in.)
T	Approach Angle	25 °	
U	Maximum Bin Tip Angle	70 °	
V	Maximum Articulation Angle	45 °	
W	Front Tie Down Height	1,075 mm	(3 ft. 6 in.)
X	Machine Lifting Centers	9,477 mm	(31 ft. 1 in.)
Y	Inner Turning Circle Radius - 23.5R25	4,110 mm	(13 ft. 5 in.)
Z	Outer Turning Circle Radius - 23.5R25	8,000 mm	(26 ft. 2 in.)

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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.



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.

