

B45E 4x4 Articulated Dump Truck

ENGINE

Manufacturer
Mercedes Benz (MTU)

Model
OM471LA (MTU 6R 1300)

Configuration
Inline 6, turbocharged and intercooled

Gross Power
390 kW (523 hp) @ 1 700 rpm

Net Power
369 kW (495 hp) @ 1 700 rpm

Gross Torque
2 460 Nm (1 814 lbf) @ 1 300 rpm

Displacement
12,8 litres (781 cu.in)

Auxiliary Brake
Jacobs Engine Brake®

Fuel Tank Capacity
352 litres (93 US gal)

AdBlue® Tank Capacity
40 litres (11 US gal)

Certification
OM471LA (MTU 6R 1300) meets EU Stage V emissions regulations.

TRANSMISSION

Manufacturer
Allison

Model
4700 ORS

Configuration
Fully automatic planetary transmission

Layout
Engine mounted

Gear Layout
Constant meshing planetary gears, clutch operated

Gears
7 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
W2400

Layout
Remote mounted

Gear Layout
Three in-line helical gears

Output Differential
Interaxle 29/71 proportional differential. Automatic inter-axle differential lock.

AXLES

Manufacturer
Bell

Model
Front: Bell 30T
Rear: Kessler D106

Differential
Front: High input controlled traction Differential with spiral bevel gears.

Rear: High input limited slip differential with spiral bevel gears. Traction control functionality provided through speed sensors and brake activation.

Final Drive
Outboard heavy duty planetary on all axles

BRAKING SYSTEM

Service Brake
Dual circuit, full hydraulic actuation wet disc brakes on front and rear axles. Wet brake oil is circulated through a filtration and cooling system.

Maximum brake force:
330 kN (74 187 lbf)

Park & Emergency
Spring applied, air released driveline mounted disc

Maximum brake force:
379 kN (85 203 lbf)

Auxiliary Brake
Automatic Jacobs Engine Brake®. Automatic retardation through electronic activation of wet brake system.

Total Retardation Power
Continuous: 442 kW (593 hp)
Maximum: 854 kW (1 145 hp)

WHEELS

Type
Radial Earthmover

Tyre
Front: 775/65 R29 (26.5 R25 optional)
Rear: 21.00 R35 Dual

FRONT SUSPENSION

Semi-independent, leading A-frame supported by hydropneumatic suspension struts.

Suspension is electronically controlled adaptive suspension with ride height adjustment.

REAR SUSPENSION

Trailing arm cradle supported by hydro-pneumatic suspension struts, with an additional lateral stabiliser.

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
330 L/min (87 gal/min)

Pressure
315 bar (4 569 psi)

Filter
5 microns

STEERING SYSTEM

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

Lock to lock turns
5

Steering Angle
42°

DUMPING SYSTEM

Two double-acting, two stage telescopic, dump cylinders

Raise Time
13 s

Lowering Time
13 s

Tipping Angle
55° 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	3,5 km/h	2,1 mph
2nd	8 km/h	5 mph
3rd	15 km/h	9 mph
4th	21 km/h	13 mph
5th	31 km/h	19 mph
6th	42 km/h	26 mph
7th	48 km/h	30 mph
R	6 km/h	3,7 mph

CAB

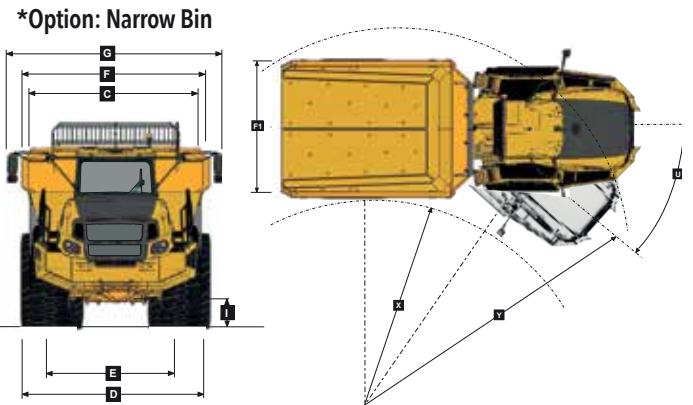
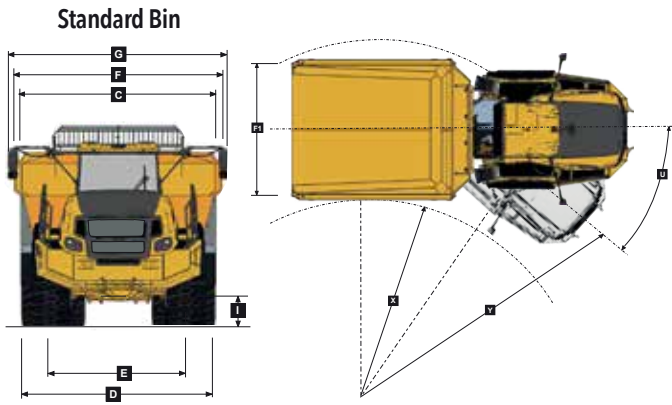
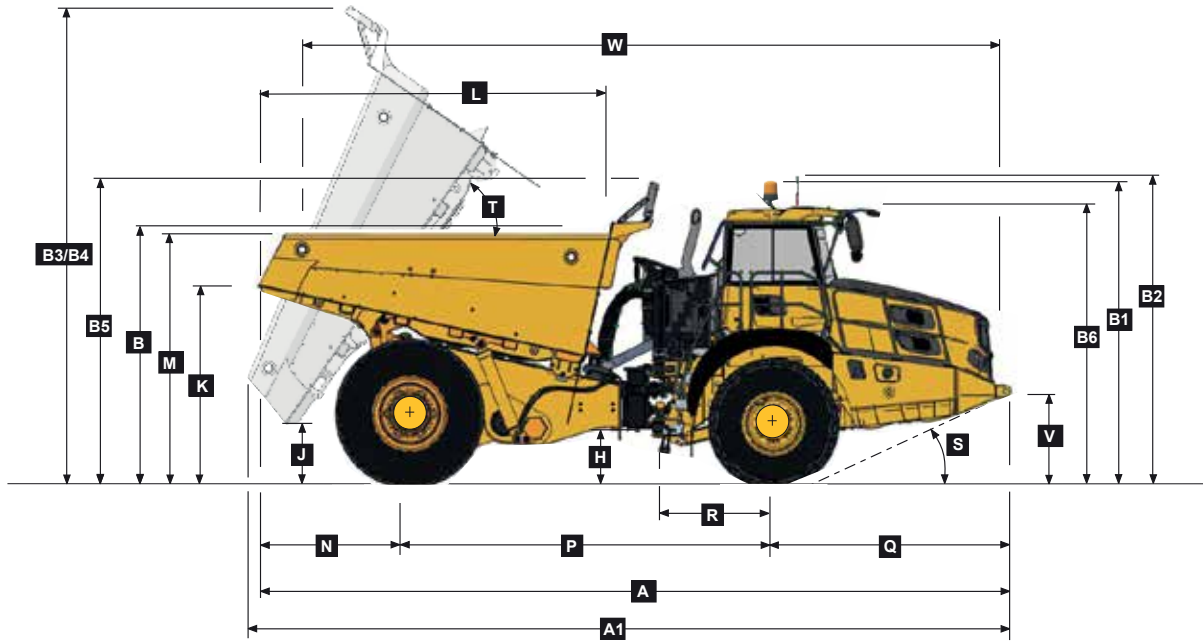
ROPS/FOPS certified 72 dBA internal sound level measured according to ISO 6396.

Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN		BODY	m³ (yd³)	kg (lb)	
Front	19 005 (41 899)	No Sinkage/Total Contact Area		Struck Capacity	19,5 (25,5)	Bin liner	1 022 (2 253)
Rear	19 312 (42 576)	775/65 R29	kPa (Psi)	SAE 2:1 Capacity	25 (33)	Tailgate	1 373 (3 026)
Total	38 317 (84 475)	Front	398 (58)	SAE 1:1 Capacity	29,5 (38)		
				SAE 2:1 Capacity with Tailgate	26 (34)	EXTRA WHEELSET	
LADEN		21.00 R35	kPa (Psi)			775/65 R29	888 (1 958)
Front	22 757 (50 171)	Rear	429 (62)			21.00 R35	1 012 (2 231)
Rear	56 560 (124 693)			Rated Payload	41 000 kg		
Total	79 318 (174 866)				(90 390 lbs)		

B45E 4x4

Dimensions

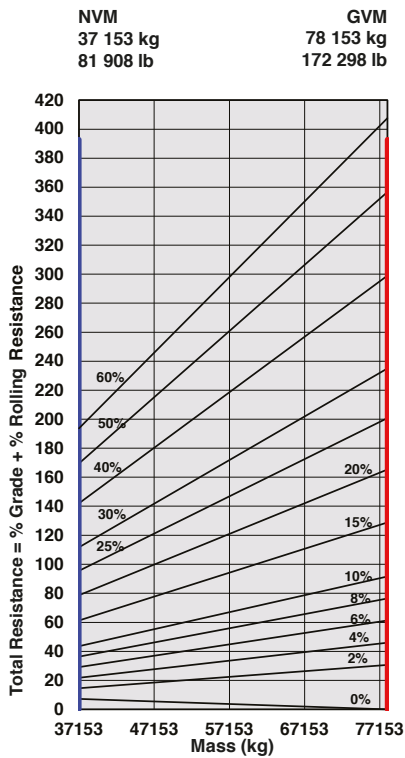


Machine Dimensions

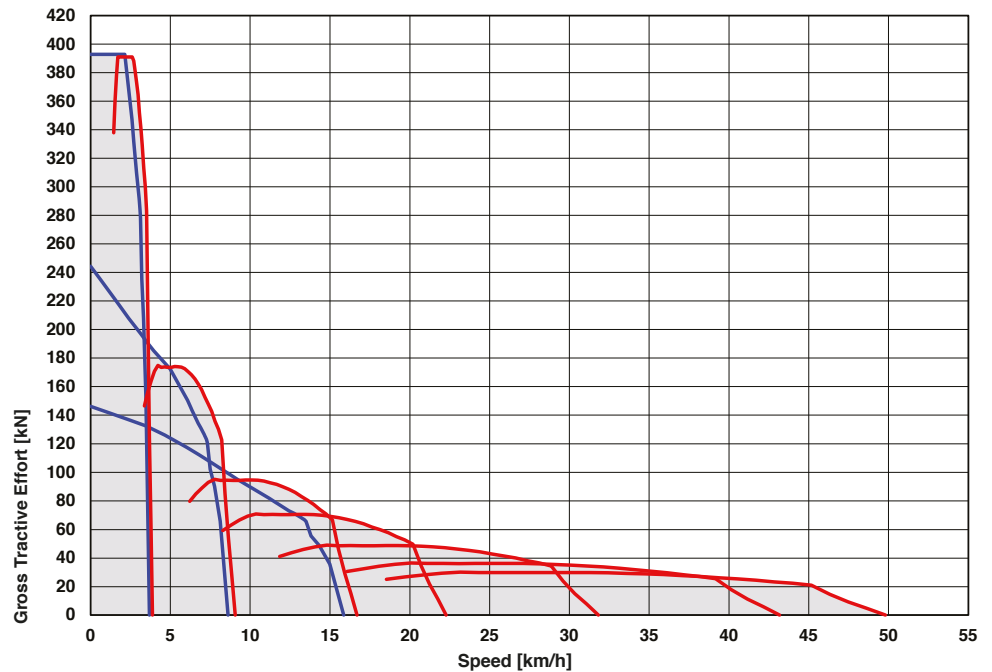
A	Length - Transport Position with Tailgate	10 405 mm (34 ft. 13 in.)	F	Width over Bin	4 265 mm (13 ft. 99 in.)
A*	Option	10 352 mm (33 ft. 96 in.)	F*	Option	3 960 mm (12 ft. 99 in.)
A	Length - Transport Position w/o Tailgate	10 339 mm (33 ft. 11 in.)	F1	Width over Tailgate	4 639 mm (15 ft. 21 in.)
A*	Option	10 336 mm (33 ft. 91 in.)	F1*	Option	4 275 mm (14 ft. 03 in.)
A1	Length - Bin Fully Tipped	10 427 mm (34 ft. 20 in.)	G	Width over Mirrors - Operating Position	4 545 mm (14 ft. 91 in.)
A1*	Option	10 576 mm (34 ft. 70 in.)	H	Ground Clearance - Artic	545 mm (21.46 in.)
B	Height - Transport Position w/o Rock Guard	3 703 mm (12 ft. 14 in.)	I	Ground Clearance - Front Axle	543 mm (21.34 in.)
B*	Option	3 874 mm (12 ft. 71 in.)	J	Ground Clearance - Bin Fully Tipped	890 mm (2 ft. 11 in.)
B	Height - Transport Position with Rock Guard	4 176 mm (13 ft. 70 in.)	K	Bin Lip Height - Transport Position	2 630 mm (8 ft. 62 in.)
B*	Option	4 374 mm (14 ft. 35 in.)	K*	Option	2 618 mm (8 ft. 59 in.)
B1	Height - Rotating Beacon	4 038 mm (13 ft. 3 in.)	L	Bin Length	4 833 mm (15 ft. 10 in.)
B2	Height - Load Light	4 127 mm (13 ft. 6 in.)	L*	Option	4 913 mm (16 ft. 12 in.)
B3	Bin Height - Fully Tipped w/o Rock Guard	6 228 mm (20 ft. 43 in.)	M	Load over Height	3 485 mm (11 ft. 43 in.)
B3*	Option	6 327 mm (20 ft. 7.76 in.)	M*	Option	3 671 mm (12 ft. 04 in.)
B4	Bin Height - Fully Tipped with Rock Guard	6 485 mm (21 ft. 27 in.)	N	Rear Axle Centre to Bin Rear	2 084 mm (6 ft. 10 in.)
B4*	Option	6 585 mm (21 ft. 60 in.)	P	Rear Axle Centre to Front Axle Centre	5 000 mm (16.4 ft.)
B5	Height - Rock Guard Operating Position	4 206 mm (13 ft. 79 in.)	Q	Front Axle Centre to Machine Front	3 256 mm (10 ft. 8 in.)
B5*	Option	4 374 mm (14 ft. 35 in.)	R	Front Axle Centre to Artic Centre	1 558 mm (5 ft. 1 in.)
B6	Height - Cab	3 802 mm (12 ft. 47 in.)	S	Approach Angle	24°
C	Width over Mudguards	4 000 mm (13 ft. 12 in.)	T	Maximum Bin Tip Angle	55°
C*	Option	3 603 mm (11 ft. 82 in.)	U	Maximum Articulation Angle	42°
D	Width over Front Tyres 775/65R29	3 556 mm (11 ft. 8 in.)	V	Front Tie Down Height	1 262 mm (4 ft. 2 in.)
D1	Width over Front Tyres 26.5R25	3 425 mm (11.2 ft.)	W	Machine Lifting Centres	9 673 mm (31 ft. 73 in.)
D	Width over Rear Tyres 21.00R35	3 960 mm (13 ft.)	W*	Option	9 697 mm (31 ft. 81 in.)
E	Tyre Track Width Front 775/65R29	2 905 mm (9.5 ft.)	X	Inner Turning Circle Radius	3 956 mm (12.9 ft.)
E1	Tyre Track Width Front 26.5R25	2 793 mm (9.2 ft.)	Y	Outer Turning Circle Radius	8 655 mm (28.4 ft.)
E	Tyre Track Width Rear 21.00R35	2 677 mm (8.8 ft.)			

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.

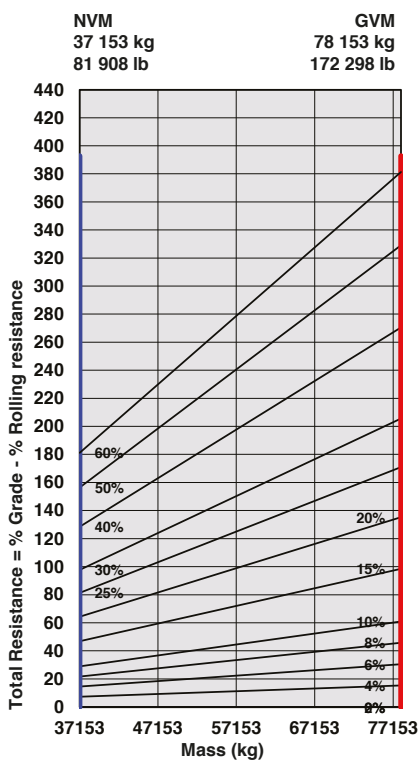


ADT, B45E 4X4 - Tractive Effort



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.



ADT, B45E 4x4 - Retardation

