

BI8E Articulated Dump Truck

ENGINE

Manufacturer
Mercedes Benz

Model
OM924LA

Configuration
Inline 4, turbocharged and intercooled.

Maximum Net Power
160 kW (214 hp) @ 2 200 rpm in accordance with UN ECE R120

Gross Torque
810 Nm (597 lbft)
@ 1 200 -1 600 rpm

Displacement
4,80 litres (293 cu.in)

Auxiliary Brake
Exhaust Valve Brake
Engine Valve Brake

Fuel Tank Capacity
195 litres (53 US gal)

Certification
OM924LA meets Euro III emissions regulations

TRANSMISSION

Manufacturer
Allison

Model
Standard Non Retarder:
3000P ORS
Optional Retarder: 3000PR 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 multidis

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.

Maximum brake force:
244 kN (54 720 lbf)

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

Maximum brake force:
182 kN (40 802 lbf)

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

Total Retardation Power
Continuous non-retarder:
99 kW (133 hp).
Continuous retarder:
144 kW (193 hp).
Maximum non-retarder:
99 kW (133 hp).
Maximum retarder:
505 kW (677 hp).

WHEELS

Type
Radial Earthmover

Tyre
20.5 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
202 L/min (53 gal/min)

Pressure
310 Bar (4 500 psi)

Filter
5 microns

STEERING SYSTEM

Double-acting cylinders with ground driven emergency steering pump.

Lock to lock turns
4,5

Steering Angle
45°

DUMPING SYSTEM

Two double-acting, single stage, dump cylinders

Raise Time
8,5 s

Lowering Time
7 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
8,1 Bar (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	11 km/h	7 mph
2nd	20 km/h	12 mph
3rd	27 km/h	17 mph
4th	38 km/h	24 mph
5th	50 km/h	31 mph
6th	50 km/h	31 mph
R	7 km/h	4 mph

CAB

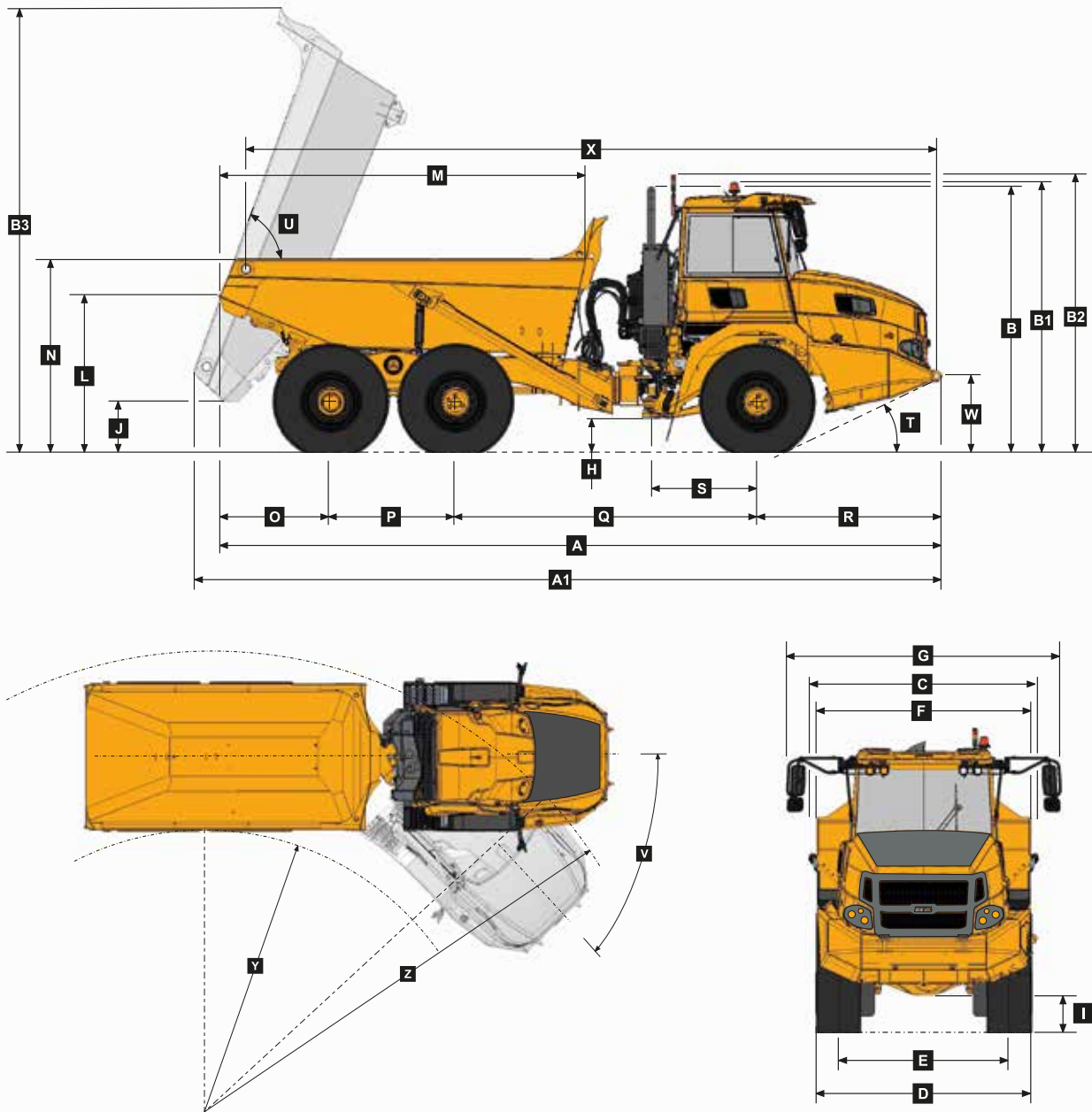
ROPS/FOPS certified.

Load Capacity & Ground Pressure

OPERATING WEIGHTS				GROUND PRESSURE		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN*		LADEN*		LADEN		BODY	m ³ (yd ³)		
Tare	kg (lb)**	ISO 6016	kg (lb)***	(No sinkage or Total Contact Area)	kPa (Psi)	Struck Capacity	9 (11)	Bin liner	779 (1 718)
Front	7 955 (17 541)	Front	9 840 (21 693)	20.5 R 25		SAE 2:1 Capacity	11 (14,5)	Tailgate	633 (1 396)
Middle	3 740 (8 247)	Middle	11 730 (25 860)	Front	236 (34,2)	SAE 1:1 Capacity	13,5 (17,5)	EXTRA WHEELSET	
Rear	3 330 (7 343)	Rear	11 540 (25 441)	Middle	310 (45)	Rated Payload	18 000 kg	20.5 R 25	
Total	15 025 (33 130)	Total	33 110 (72 995)	Rear	310 (45)		(39 690 lbs)	(per vehicle) Add	132 (291)
ISO 6016	kg (lb)***								
Front	9 755 (21 510)								
Middle	11 730 (25 865)								
Rear	11 540 (25 446)								
Total	33 025 (72 820)								

* Includes additional mass. ** No fuel, no operator. *** Full fuel and operator

Dimensions

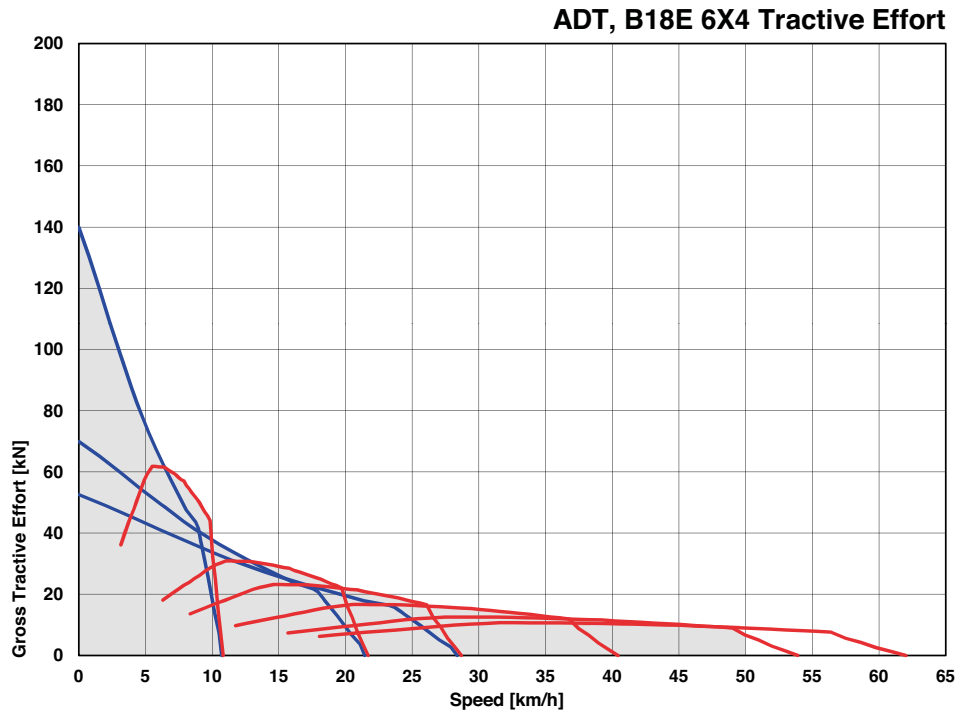
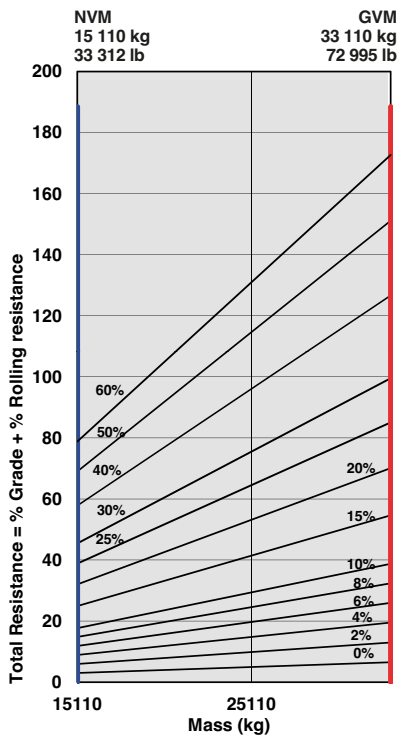


Machine Dimensions

A	Length - Transport Position	9 271 mm (30 ft. 5 in.)	L	Bin Lip Height - Transport Position	2 060 mm (6 ft. 9 in.)
A1	Length - Bin Fully Tipped	9 573 mm (31 ft. 5 in.)	M	Bin Length	4 709 mm (15 ft. 5 in.)
B	Height - Transport Position	3 454 mm (11 ft. 4 in.)	N	Load over Height	2 533 mm (8 ft. 3 in.)
B1	Height - Rotating Beacon	3 595 mm (12 ft.)	O	Rear Axle Centre to Bin Rear	1 449 mm (4 ft. 9 in.)
B2	Height - Load Light	3 689 mm (12 ft. 1 in.)	P	Mid Axle Centre to Rear Axle Centre	1 600 mm (5 ft. 2 in.)
B3	Bin Height - Fully Tipped	5 743 mm (18 ft. 10 in.)	Q	Mid Axle Centre to Front Axle Centre	3 865 mm (12 ft. 8 in.)
C	Width over Mudguards	2 568 mm (8 ft. 5 in.)	R	Front Axle Centre to Machine Front	2 357 mm (7 ft. 8 in.)
D	Width over Tyres - 20.5R25	2 550 mm (8 ft. 4 in.)	S	Front Axle Centre to Artic Centre	1 361 mm (4 ft. 5 in.)
E	Tyre Track Width - 20.5R25	2 022 mm (6 ft. 7 in.)	T	Approach Angle	26°
F	Width over Bin	2 540 mm (8 ft. 4 in.)	U	Maximum Bin Tip Angle	70°
F1	Width over Tail Lights	2 582 mm (8 ft. 5 in.)	V	Maximum Articulation Angle	45°
G	Width over Mirrors - Operating Position	3 260 mm (10 ft. 8 in.)	W	Front Tie Down Height	1 028 mm (3 ft. 4 in.)
H	Ground Clearance - Artic	479 mm (1 ft. 6 in.)	X	Machine Lifting Centres	8 845 mm (29 ft.)
I	Ground Clearance - Front Axle	444 mm (1 ft. 5 in.)	Y	Inner Turning Circle Radius - 23.5R25	3 954 mm (12 ft. 11 in.)
J	Ground Clearance - Bin Fully Tipped	704 mm (2 ft. 3 in.)	Z	Outer Turning Circle Radius - 23.5R25	7 309 mm (23 ft. 11 in.)
K	Ground Clearance - Under Run Bar	535 mm (1 ft. 9 in.)			

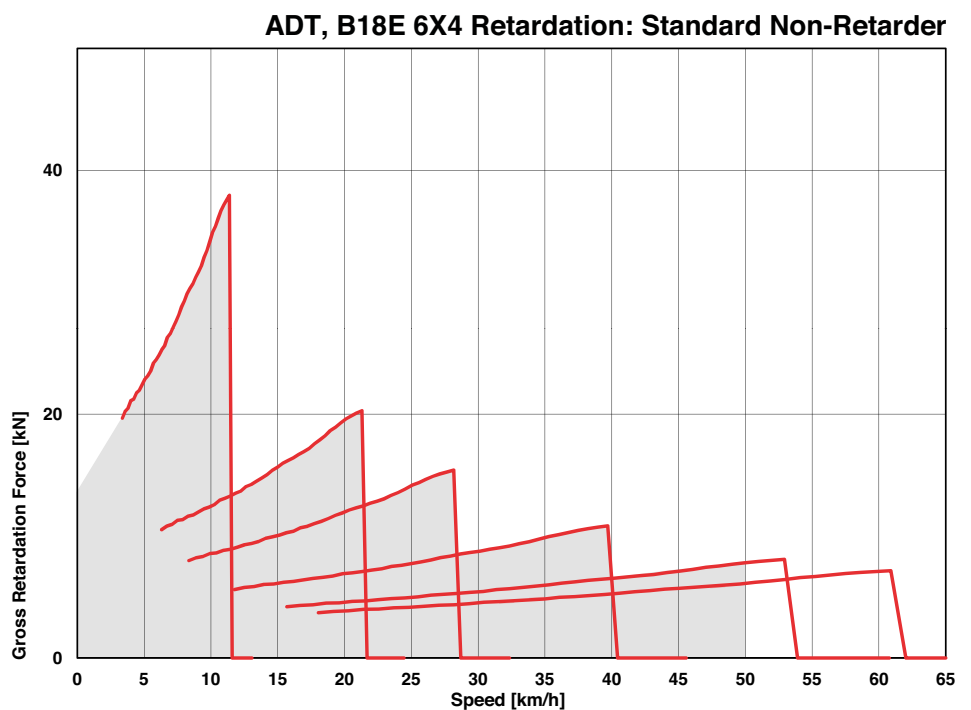
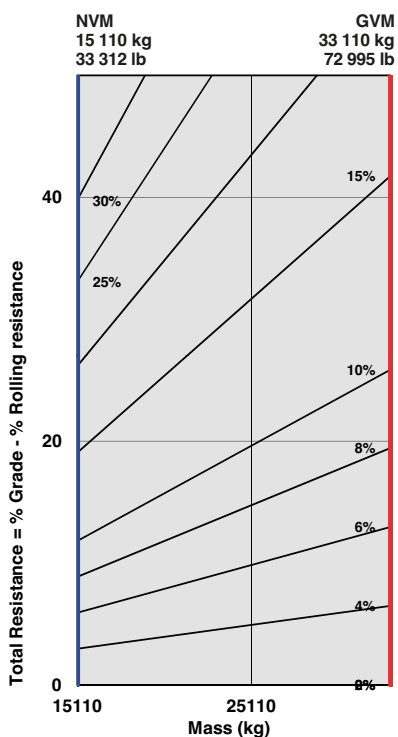
Gradeability/Rimpull

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.



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.



B18E	B20E	B25E (6x4)	B25E	B30E		B18E	B20E	B25E (6x4)	B25E	B30E	
ENGINE						CAB (continued)					
●	●	●	●	●	Engine valve brake and exhaust brake	●	●	●	●	●	Remote battery jump start
●	●	●	●	●	Dual element air cleaner with dust ejector valve	●	●	▲	▲	▲	High visibility mirrors
●	●	●	●	●	Precleaner with automatic dust scavenging	●	●	●	●	●	12-volt power outlet
●	●	●	●	●	Water separator	●	●	●	●	●	Cup holder
●	●	●	●	●	Serpentine drive belt with automatic tensioner	▲	▲	▲	▲	▲	Electric adjustable and heated mirrors
COOLING						●	●	●	●	●	Cooled/heated lunch box
●	●	●	●	●	Crankshaft mounted electronically controlled viscous fan drive	●	●	●	●	●	Backlit sealed switch module functions with: Wiper control / Lights / Heated mirrors / Retarding aggressiveness / Transfer case differential lock / Transmission gear hold / Dump-body tip limit / Automatic dump-body tip settings / Airconditioner/Heater controls / Preselected Speed Control
●	●	●	●	●	Fan guard	●	●	●	●	●	Deluxe 10" colour LCD: Speedometer / Fuel gauge / Transmission oil temperature gauge / Engine coolant temperature gauge / LED function/warning indicators and audible alarm / Transmission gear selection / Tachometer / Battery voltage / Hour meter / Odometer / Fuel consumption / Tip counter / Trip timer / Trip distance / Metric/English units / Service codes/diagnostics
PNEUMATIC SYSTEM						DUMP BODY					
●	●	●	●	●	Engine-mounted compressor	●	●	●	●	●	Partial up dump-body mechanical
●	●	●	●	●	Air drier with heater	▲	▲	▲	●	●	Fully up dump-body mechanical lock
●	●	●	●	●	Integral unloader valve	▲	▲	▲	▲	▲	Body liner
ELECTRICAL SYSTEM						▲	▲	▲	▲	▲	Tailgate
●	●	●	●	●	Battery disconnect	▲	▲	▲	▲	▲	Body heater
●	●	●	●	●	Drive lights	▲	▲	▲	▲	▲	Less dump body and cylinders
●	●	●	●	●	Air horn	▲	▲	▲	▲	▲	Greedy boards (200 mm)
●	●	●	●	●	Reverse alarm	OTHER					
▲	▲	▲	▲	▲	White noise reverse alarm	●	●	●	●	●	Automatic Traction Control (ATC)
●	●	●	●	●	Rotating beacon	●	●	●	●	●	20.5R25 Radial earthmover tyres
●	●	●	●	●	Pitch Roll sensor	●	●	●	●	●	23.5R25 Radial earthmover tyres
▲	▲	▲	▲	▲	LED Artic reverse light	●	●	●	●	●	Remote grease banks
▲	▲	▲	▲	▲	Halogen Artic reverse light	▲	▲	▲	▲	▲	Automatic greasing
●	●	●	●	●	LED reverse light	●	●	●	●	●	Onboard weighing
STEERING SYSTEM						▲	▲	▲	▲	▲	Load lights: stack
▲	▲	▲	▲	▲	Bi-directional ground driven secondary steering pump	▲	▲	▲	▲	▲	Comfort ride suspension (Front)
●	●	●	●	●	Ground-driven secondary steering pump	▲	▲	▲	▲	▲	Comfort ride suspension (Rear)
CAB						▲	▲	▲	▲	▲	Reverse camera
●	●	●	●	●	ROPS/FOPS certification	▲	▲	▲	▲	▲	HSE hand rails
●	●	●	●	●	Tilt cab	●	●	●	●	●	Cab peak
●	●	●	●	●	Gas strut-supported door	▲	▲	▲	▲	▲	High pressure hydraulic filter
●	●	●	●	●	I-Tip programmable dump-body tip settings	▲	▲	▲	▲	▲	Fuel heater
●	●	●	●	●	HVAC Climate control system	●	●	●	●	●	Belly cover
●	●	●	●	●	AM/FM radio with Aux + USB	▲	▲	▲	▲	▲	Cross member cover
●	●	●	●	●	Rear window guard	▲	▲	▲	▲	▲	Remote transmission filters
●	●	●	●	●	Wiper/washer with intermittent control	▲	▲	▲	▲	▲	Window smash button
▲	▲	▲	▲	▲	Extra wide wiper system	●	●	●	●	●	Electronic bonnet opening
●	●	●	●	●	Tilt and telescoping steering wheel	▲	▲	▲	▲	▲	
●	●	●	●	●	Centre-mount air-suspension seat	▲	▲	▲	▲	▲	
●	●	●	●	●	Retractable 3-point seat belt	▲	▲	▲	▲	▲	
●	●	●	●	●	Foldaway trainer seat with retractable seat belt	▲	▲	▲	▲	▲	
▲	▲	▲	▲	▲	Rotating beacon: seat belt installation	▲	▲	▲	▲	▲	
●	●	●	●	●	Halogen work lights	▲	▲	▲	▲	▲	
▲	▲	▲	▲	▲	LED work lights	▲	▲	▲	▲	▲	
▲	▲	▲	▲	▲	Remote engine and machine isolation	●	●	●	●	●	