Technical Data - B18E

ENGINE

Mercedes Benz OM 924 LA

Gross Power
160 kW (214 hp) @ 2,200 rpm

Net Power
152 kW (204 hp) @ 2,200 rpm

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

Displacement
4,80 litres (293 cu.in)

Fuel Tank Capacity
200 l (53 US gal)

Auxiliary Brake
Exhaust brake
Engine Valve Brake (EVB)

Certification
OM 924 LA meets EU Stage IIIA/EPA Tier 3 emissions regulations

TRANSMISSION

Standard Non-retarder: Allison 3000P ORS
Optional Retarder: Allison 3000PR ORS

Layout
Engine mounted

Gear Layout
Constant meshing planetary gears

Gears
Automatic: 6 Forward, 1 Reverse

Clutch Type
Hydraulically operated multidisc

Control Type
Electronic

Torque Control
Hydrodynamic, with lock-up in all gears

TRANSFER BOX

Bell GR 8000

Layout
Remote mounted

Gear Layout
Three in-line helical gears

Output Differential
Interaxle torque proportional, 67/33
Automatic inter axle diff lock

AXLES

Bell 18T
Axle housings: fabricated steel
Differentials: high input limited slip on front and middle axle.
Final drive: outboard planetary.

BRAKING SYSTEM

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

Maximum Brake Force
244 kN (54,720 lbf) with standard tyres.

Park & Emergency
Spring applied air released, driveline mounted disc

Maximum Brake Force
181,5 kN (40,802 lbf)

Auxiliary Brake
Automatic exhaust brake and Engine Valve Brake (EVB).
Variable Adjustable Hydraulic retarder in transmission.

Maximum Retardation
119 kW (159 hp)
540 kW (724 hp) with retarder option

WHEELS

Type
Radial Earthmover

Tyre
20.5R25

FRONT SUSPENSION

Semi-independent, leading A-frame supported by hydro-pneumatic (oil/nitrogen) suspension struts.

REAR SUSPENSION

Pivoting walking beams with laminated rubber suspension blocks

HYDRAULIC SYSTEM

Variable displacement load sensing

Flow
155 l/min (41,5 gal/min)

Pressure
27 MPa (3,915 psi)

Filter
5 microns

STEERING SYSTEM

Double-acting cylinders with ground driven emergency steering pump

Lock to lock turns
4.32

Steering Angle
45°

DUMPING SYSTEM

Double-acting, single stage cylinders

Raise Time
10 s

Lowering Time
5,5 s

Tipping Angle
70°

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	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

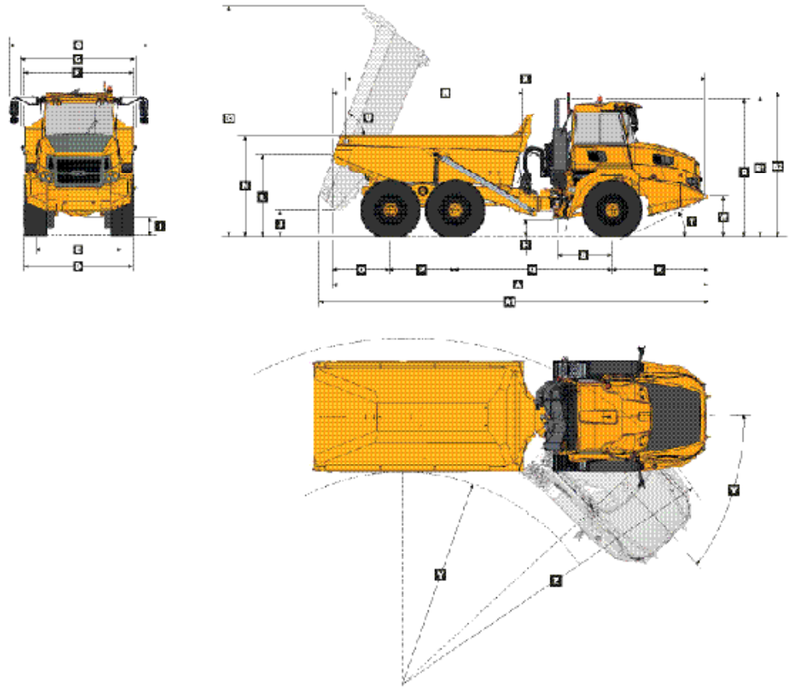
CAB

ROPS/FOPS certified
76 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	m³ (yd³)		kg (lb)
Front	8,075 (17,802)	20.5R25	kPa (Psi)	20.5R25	kPa (Psi)	Struck Capacity	9 (11)	Bin liner	802 (1,768)
Middle	3,885 (8,565)	Front	221 (32)	Front	145 (21)	SAE 2:1 Capacity	11 (14,5)		
Rear	3,329 (7,339)	Middle	302 (44)	Middle	185 (27)	SAE 1:1 Capacity	13,5 (17,5)		
Total	15,289 (33,706)	Rear	302 (44)	Rear	185 (27)				
LADEN						Rated Payload	18,000 kg		
Front	10,023 (22,097)						(39,683 lbs)		
Middle	11,815 (26,048)								
Rear	11,450 (25,243)								
Total	33,288 (73,387)								

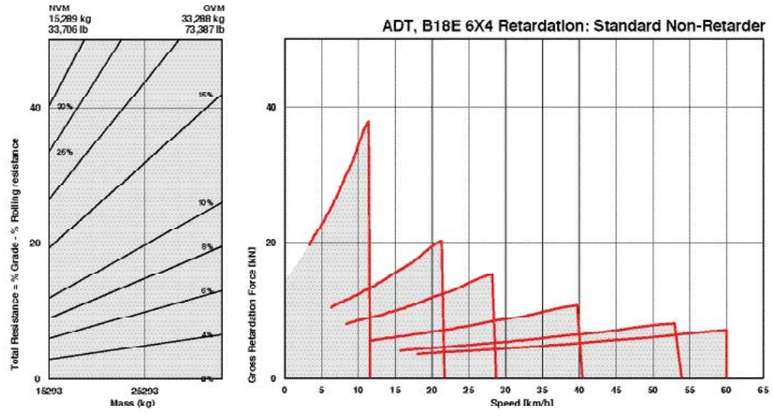
Dimensions



Machine Dimensions			
A	Length - Transport Position	8271	mm
A1	Length - Bin Fully Tipped	9573	mm
B	Height - Transport Position	3454	mm
B1	Height - Rotating Beacon	3595	mm
B2	Height - Load Light	3639	mm
B3	Bin Height - Fully Tipped	5743	mm
C	Width over Mudguards	2968	mm
D	Width over Tyres - 20.5R25	2550	mm
E	Tyre Track Width - 20.5R25	2022	mm
F	Width over Bin	2540	mm
G	Width over Mirrors - Operating Position	3280	mm
H	Ground Clearance - Artic	470	mm
I	Ground Clearance - Front Axle	444	mm
J	Ground Clearance - Bin Fully Tipped	704	mm
K	Ground Clearance - Under Run Bar	N/A	
L	Bin Lip Height - Transport Position	2660	mm
M	Bin Length	4709	mm
N	Load over Height	2833	mm
O	Rear Axle Centre to Bin Rear	1449	mm
P	Mid Axle Centre to Rear Axle Centre	1830	mm
Q	Mid Axle Centre to Front Axle Centre	3865	mm
R	Front Axle Centre to Machine Front	2357	mm
S	Front Axle Centre to Artic Centre	1381	mm
T	Approach Angle	25	°
U	Maximum Bin Tip Angle	70	°
V	Maximum Articulation Angle	45	°
W	Front Tie Down Height	1828	mm
X	Machine Lifting Centre	3845	mm
Y	Inner Turning Circle Radius - 20.5R25	3954	mm
Z	Outer Turning Circle Radius - 20.5R25	7309	mm

Retardation

1. Determine retardation force required by finding intersection of vehicle mass line.
2. From this intersection, move straight left 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.



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 left across charts until line intersects rimpull curve.
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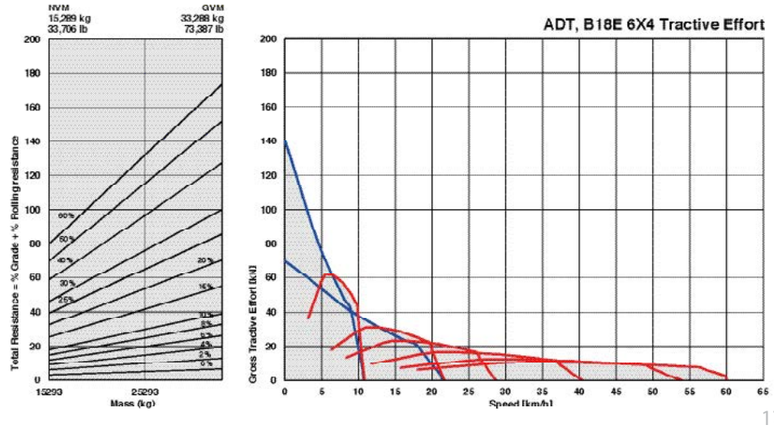

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Lowering Time
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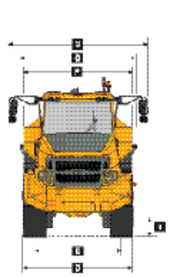
ROPS/FOPS certified
76 dBA internal sound level measured according to ISO 6396.

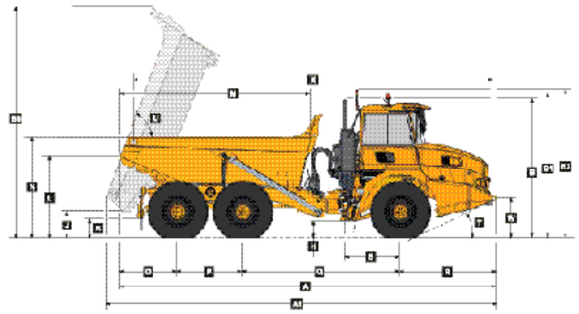
Load Capacity & Ground Pressure

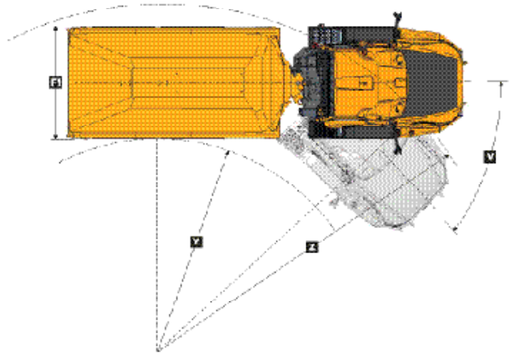
OPERATING WEIGHTS		GROUND PRESSURE				LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN (No sinkage)		LADEN (15% sinkage)		BODY	m^3 (yd^3)		kg (lb)
Front	7,698 (16,971)	20.5R25	kPa (Psi)	20.5R25	kPa (Psi)	Struck Capacity	9 (11)	Bin liner	497 (1,096)
Middle	3,984 (8,783)	Front	221 (32)	Front	145 (21)	SAE 2:1 Capacity	11 (14,5)		
Rear	3,445 (7,595)	Middle	302 (44)	Middle	185 (27)	SAE 1:1 Capacity	13,5 (17,5)		
Total	15,127 (33,349)	Rear	302 (44)	Rear	185 (27)				
LADEN						Rated Payload	18,000 kg		
Front	10,023 (22,097)						(39,683 lbs)		
Middle	11,895 (26,224)								
Rear	11,531 (25,422)								
Total	33,449 (73,742)								

Note: The B20E is a road legal truck and as such, the unladen weight is quoted without operator and fuel. All other Bell machines are quoted with operator and full fuel.

Dimensions







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B	Height - Transport Position	3454	mm
B1	Height - Rotating Beacon	3535	mm
B2	Height - Load Light	3489	mm
B3	Bin Height - Fully Tipped	6742	mm
C	Width over Mudguards	2538	mm
D	Width over Tyres - 20.5R25	2980	mm
E	Tyre Track Width - 20.5R25	2622	mm
F	Width over Bin	2540	mm
F1	Width over Tail Lights	2582	mm
G	Width over Mirrors - Operating Position	3260	mm
H	Ground Clearance - Artic	470	mm
I	Ground Clearance - Front Axle	446	mm
J	Ground Clearance - Bin Fully Tipped	794	mm
K	Ground Clearance - Under Run Bar	636	mm
L	Bin Lip Height - Transport Position	3000	mm
M	Bin Length	4709	mm
N	Load over Height	2883	mm
O	Rear Axle Centre to Bin Rear	1443	mm
P	Mid Axle Centre to Rear Axle Centre	1830	mm
Q	Mid Axle Centre to Front Axle Centre	1855	mm
R	Front Axle Centre to Machine Front	2357	mm
S	Front Axle Centre to Artic Centre	1381	mm
T	Approach Angle	35	°
U	Maximum Bin Tip Angle	70	°
V	Maximum Articulation Angle	45	°
W	Front Tip Down Height	1926	mm
X	Machine Lateral Centres	1646	mm
Y	Inner Turning Circle Radius - 20.5R25	3954	mm
Z	Outer Turning Circle Radius - 20.5R25	7306	mm

Retardation

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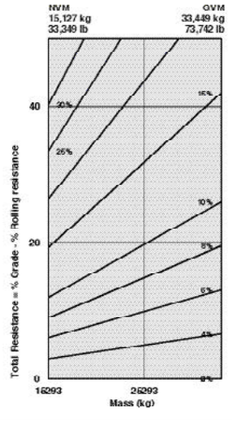

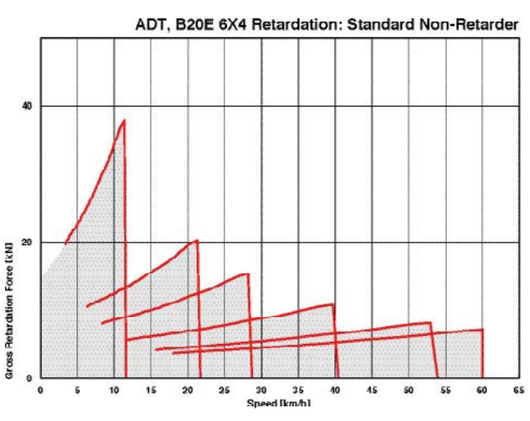

Gradeability / Rimpull

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2. From this intersection, move straight left across charts until line intersects rimpull curve.
3. Read down from this point to determine maximum speed attained at that tractive resistance.