# DESETES MI

ARTICULATED DUMP TRUCKS

### B18D | B20D | B25D | B30D | B35D | B40D | B50D





Extensive use of high-strength, lightweight materials gives these trucks the best payload-to-mass ratios and hauling efficiencies in

## Get more from your truck

#### If you're looking to deliver more to your bottom line, choose Bell Articulated Dump Trucks.

These D-series ADTs handle heaped payloads with faster cycle times and best-in-class fuel efficiency - so you'll move more material at lower cost. They're highly reliable, too, with high-strength, welded-alloy steel chassis and components that are durable and optimised for no unnecessary weight. And with their oscillating frame joint, articulated steering, and high-floatation tyres, these hard working haulers won't let wet weather or steep grades dampen your plans.



Specifications	B18D	B20D	B25D	B30D	B35D	B40D	B50D
Gross power	170 kW	170 kW	205 kW	240 kW	290 kW	315 kW	390 kW
Operating mass							
Empty	15 640 kg	14 710 kg	18 400 kg	18 690 kg	28 230 kg	29 850 kg	34 520 kg
Loaded	33 640 kg	32 711 kg	41 600 kg	45 990 kg	60 730 kg	66 851 kg	79 920 kg
2:1 heaped capacity	11 m <sup>3</sup>	11 m <sup>3</sup>	13,8 m <sup>3</sup>	16,6 m <sup>3</sup>	20,1 m <sup>3</sup>	22,6 m <sup>3</sup>	27,5 m <sup>3</sup>
Rated payload	18 000 kg	18 000 kg	23 200 kg	27 300 kg	32 500 kg	37 000 kg	45 400 kg

Add enhancements such as a Tier 3 emission-certified engine, solid state electrical system and spacious, redesigned cab with refined controls, and you have everything you need to maximise uptime and productivity.

With their oscillating frame and high-floatation tyres, Bell trucks won't leave you stuck on muddy, rutted or hilly terrain.

The redesigned soundsuppressed cab features fatiguebeating controls, advanced diagnostic monitor and a sealedswitch module for convenient, fingertip operation of numerous functions.

Fuel-efficient Tier 3 emissioncertified engines deliver clean power without compromise in all conditions. Leading-edge emissions technology ensures rapid engine response and dependable cold-start performance.

Limited-slip differentials (B18D to B30D), controlled traction differentials (B35D to B50D) and transfer case diff-lock provide a traction boost in poor underfoot conditions.

The best-in-class payload-to-weight ratio means that more of your fuel cost is spent moving the material, not the machine - decreasing your cost per tonne.

The fully automatic six-speed planetary transmission with torque converter lock up maximises fuel efficiency.

Automatic retardation slows the truck when the operator backs off the accelerator pedal - for more confidence on steep grades and enhanced brake life.

Electronic unit injection and common-rail fuel systems provide high injection pressures even at low engine speed for improved cold-starting ability, low-speed response, and reduced emissions.

High-travel suspension keeps all tyres in constant ground contact for optimum traction.

The short front end provides an industry-best approach angle that allows these ADTs to attack steep terrain.



The B20D is the most versatile ADT. It is full on-highway road legal in certain countries, while being a true earthmover in every sense.







- 1. Transfer case inter-axle differential delivers equal torque to each axle when traction is favourable. When conditions get ugly, engage the diff-lock on the go to deliver torque to the tyres that can best use it.
- 2. The central oscillation joint, high suspension travel on all axles, and balanced weight distribution provide the agility and ability to navigate hostile terrain.
- 3. Front-suspension damping helps minimize vibration, while the centremounted seat reduces the roll often experienced in off-road conditions - for comfortable productivity.
- 4. Available tailgate helps retain more material for bigger loads. It automatically opens as dump body is raised.





**Bell ADTs give you the competitive edge.** Boasting faster haul cycles and industryleading fuel economy, they move material at the lowest cost per tonne of any comparable-size truck. Best in-class payload-to-mass ratio gives you more power and agility to carry the load, for maximum productivity and profitability. What really sets these apart from other material movers is their ability to thrive on rough terrain, steep grades and mud. Try one to appreciate the difference.

 Who says you can't take it with you? There's a place for a coffee cup, in-door storage for an insulated flask or other carry-ons, and even a hot/cold box for refreshments.

 An intuitive monitor reveals vital operating information, detailed diagnostic readings of most sensors and switches and dump body function settings.

Speed Control.

operator fatigue.

so they're easier to view and operate.

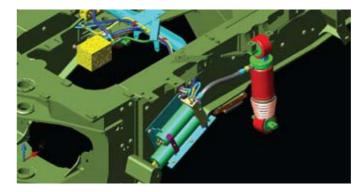
the glass clear and cab comfortable.

exceptional all-around visibility.

You won't find retarder pedals or levers in a Bell truck. Retarder aggressiveness is simply set on the switch pad. Everything else is automatic.

## **Our innovative Comfort Ride system...**

... is available as an option on the B35, B40 and B50 trucks to even further enhance ride comfort by ensuring minimal whole body vibration exposure. Productivity increases, through increased cycle times, and reduced haul road maintenance are even further benefits of the simple, but extremely successful system. Long haul cycles with rough, hard roads will see maximum benefit, especially on the unladen run.

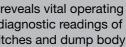


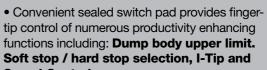
The front suspension consists of independent suspension cylinders that allow the oil flow and pressure to be constantly changed to minimise the effects of machine movement. Sensors in the frame continually measure and accommodate for bumps in the surface while lateral sensors also measure any roll and constantly adjust cylinders to accommodate for this.

# **Built for comfort**

What operator wouldn't want to climb behind the wheel of a Bell ADT? It's spacious, quiet, climate-controlled cab is loaded with productivity-boosting comfort and convenience features that rival some SUVs.

From the state-of-the-art multifunction monitor and fully customisable controls to airsuspension seat, tilt/telescoping steering wheel and optional CD player with high-output speakers, the D-series provides everything your operators need to perform at their best. Unparalleled comfort.





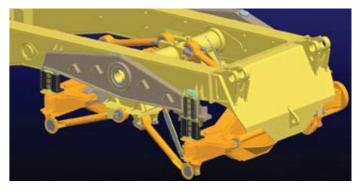






The standard sound-suppression package significantly reduces noise levels and

- The adaptive transmission control adjusts clutch engagement to ensure smooth, consistent shifts throughout the life of the truck.
- A fully adjustable air-suspension seat is optimally positioned behind the front axle to help smooth out the ride when the going gets rough.
- Easy-to-understand instruments and intuitive controls wrap around the operator
- A heavy-duty bi-level climate-control system with automotive-style louvres keeps
- The spacious centre-mount seat and a comprehensive mirror package provide



The incorporation of the dual stage sandwich block allows for differing suspension characteristics between laden and unladen runs. The simple mechanical solution has proved durable while being extremely effective in smoothing out the ride.

Automatic transmission retardation provides superior braking power and reduces service brake wear.

Hydraulically actuated dry-disc brakes deliver consistent "on-themark" braking, even in cold weather. Simplified design makes them easy to maintain.

Oil-immersed wet-disc brakes on the B50D and B40D (optional on B35D and B30D) are virtually maintenance-free.

B50D and B40D hydraulic, transmission, and service brake oil coolers employ a hydraulically driven fan that runs only as needed, helping conserve power and fuel.

Efficient viscous direct-drive fans in all Bell trucks provide engine and charge-air cooling.

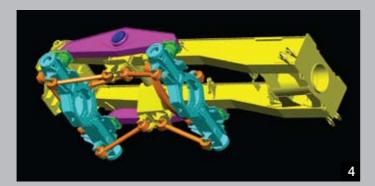








Built smarter to work harder, these lean machines boast the material-moving muscle you need without the mass to feed. Their lower mass reduces powertain and structural stress.



- 1. The high-strength steel chassis delivers strength and rigidity without excess weight.
- 2. Planetary powershift transmission controls optimise shift points and protect the transmission from operator error and abuse. Thicker clutch plates, generous lubrication flow, and heavy-duty cooling ensure long life.
- 3. High-strength steel and widely spaced taper roller bearings in the articulation area enhance long-term durability.
- 4. Rough terrain demands tough suspensions such as the kind on a Bell ADT. Heavy-duty components absorb shocks and come back for more. You get best-in-class ground clearance, too.

Other uptime-boosting features include

enhanced diagnostics, solid-state sealed switches and re-inforced articulation joints to list but a few. When you know how they're built, you'll run a Bell.

## Here's the lowdown on daily operating costs

You won't have to dig deep to uncover the many ways we've simplified service and made the D-series less expensive to maintain. Easy-to-reach dipsticks, see-through reservoirs, sight guages and grouped service points make guick work of the daily routine. High-hour oil and filter change intervals reduce costs and planned downtime. Quick-change filters and extended engine and hydraulic oil-service intervals reduce costs and provide more uptime. Plus, an advanced diagnostic monitor and diagnostic test ports help you troubleshoot problems and make informed maintenance decisions.

The engine dipstick and oil fill, oil and fuel filters and coolant reservoir are readily accessible.

Available environmental drains allow quick, nospill changes.

Engine, transmission and hydraulic oil-change intervals of 500 hrs and 2 000 hrs add up to more uptime and less expense.

The load-sensing hydraulic system was designed with simplicity in mind. Fewer components result in greater reliability and service ease.

Your Bell Service Centre has the parts and backup you need to stay productive and offers a wide variety of preventative maintenance and support programmes to help you control costs.



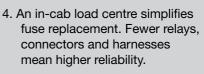


2. If something goes wrong, the diagnostic monitor provides service codes and supporting info to help you quickly pinpoint the problem.



3. Easily accessible test ports allow technicians to troubleshoot problems more quickly.







5. See-through fluid reservoirs (B18D to B30D) and sight gauges let you check fluid levels at a glance.



6. The centralised lube bank places difficult-to-reach nipples within reach. The convenient lube chart helps ensure that nothing gets overlooked.



## Safety is our Business too

By listening to our customers and reacting quicker to a changing workplace we provide a vehicle that exceeds application safety standards.

equipment.

checks.

The exclusive on-board weighing option presents the operator with real time information on the payload while the machine is being loaded. A 'limp home' mode can also be activated if the machine is significantly over-loaded.

The park brake automatically applies when neutral is selected and it is not possible to engage neutral at speed. Torque dependent park brake release (hill assist) ensures no roll back on slopes.



the state of the states



The best in class retarder and engine braking automatically applies when the operator lifts his foot off the accelerator. Retarder aggressiveness can be simply adjusted on the sealed switch module ensuring maximum descent control for all conditions.

a contract & the contract

All trucks can be set up to automatically sound the horn when starting or switching between forward and reverse.

• The incorporation of a Pitch and Roll sensor in the vehicle allows the bin to not be operated if the truck is in an unsafe position.



• Keyless start, driver identity, and access codes ensures no unauthorized operation of your



• Reverse cameras are available for factory or on site fitment ensuring full view when reversing.



• Full hand-rails (to ISO 2876) can be installed to provide even more safety when performing engine



• Both operator or site selectable maximum speed control allows the vehicle to automatically deaccelerate and apply the retarder to prevent onsite speeding.



• Optional Tyre pressure monitoring System ensures that the operator has real time information on all tyres pressure and temperature conditions.





## ...we got you covered

Through our own Network as well as approved dealers and strategic alliances we can supply and support to the Global market. Develop a lasting and meaningful partnership with Bell Equipment through Bell Assure, your tailor made support structure furnished with all the after-sales tools you need to give you best value, peace of mind and a unique aftersales experience.







German Manufacturing Facility

tool.

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**Used** - Through the Bell Equipment used network, global opportunities can be explored to ensure best residual value when upgrading your trucks. Used units include full condition assessments guaranteeing peace of mind as well as different options to meet your criteria and budget.

**Finance** - Finance options can be tailored to your business needs through strong partnerships in all regions. Professional interaction and industry know how ensures fast and easy access to packages that meet your business profile helping you win.

Parts - We believe there is more to Bell Equipment Company than simply our machines. We have an international network of dealers and subsidiaries stocking genuine Bell Parts you would expect available immediately. We pride ourselves that all care is taken to ensure the quality of replacement Bell Parts we stock meets the same stringent quality requirements as the parts we use in building our machines.

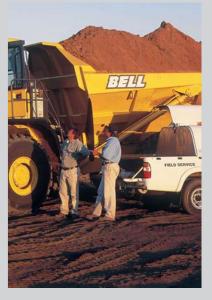
Technical Support - Bell Customer Support centres are located in key positions throughout all territories in which we operate to ensure that Bell Equipment is able to effectively support its products worldwide through parts availability and technical backup. As the worlds one stop shop, Bell Equipment also provides factory direct support for a full line of solid equipment 24 hours a day 365 days a year through Bell Technical Support. Such support includes Factory Technical Analysts, International Product Support, Training and complete literature.

Fleetmatic - Fleet management just got smarter. In its quest to provide lowest cost per tonne solutions to its customers and push the boundaries of earthmoving technology, Bell Equipment has developed Fleetm@tic, its own remote satellite fleet management











## Fleet management just got smarter

**Bell Fleetm@tic is an** essential tool in running your business whether used for optimising your production, controlling your fleet or detecting any losses. The cutting edge Fleetm@tic technology keeps Bell owners in touch with their equipment all the time. It provides accurate up-to-date operational data, production data, fault data as well as machine location and movements, in a cost effective and effortless manner.



Easily Locate and track your machine on an interactive web based map, which allows you to zoom into your worksite to within several meters. Cutting edge Iridium technology ensures global coverage and unsurpassed reliability. Geofence boundaries can easily be set up with notification to both operator and owner when these boundaries have been crossed.

Receive on-line or email reports that cover each machine in your fleet. Reports cover everything you need to manage your site effectively. A Spreadsheet format can also be simply downloaded which will allow you to manipulate the data to meet your current reporting structure. All data can also be sorted by operator based on their individual code that is entered on the vehicle before startup.

Historic playback allows you to check on which route and stockpiles are being worked on to ensure optimal efficiency. Data can be used to reconstruct events, giving you all the information to take any corrective action. Time bar reporting is also beneficial to those machines out on rent.

Solid state, sealed componentry ensures maximum reliability in even the harshest environments.

#### **Packages:**

Fleetm@tic Std gives a daily report. This data includes position, tonnage, fuel, distance and speed; in effect all of the information from the previous day. Reports are available in a downloadable daily, weekly and monthly format.

Fleetm@tic Max has all the features of Std, and in addition packaged production data is sent every shift. Reports can be split by up to three different shifts. Ten event messages per day are also included in the reports. Events can also be set up for immediate reporting via a predetermined cell phone number.

Fleetm@tic Max Plus has all the features of Std and Max, but offers virtually real-time monitoring. Packaged data is also sent at ignition on and off, and at loading and tipping. Individual load cycle reports are also available. For instance it is possible to see the machine's location within the last several minutes, or fuel consumption and tonnage for the last haul cycle for virtual real-time control

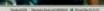
#### Information below is included in the basic data download.

- Date
- Odometer (km)
- Hours
- Tonnes moved
- Loads
- Distance
- Fuel level (litres)

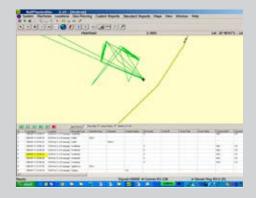
- Fault codes
- Fuel burn (l/hr)
- Idle time laden (%)
- Idle time un-laden (%)
- Overload (%)
- Speed (km/h)
- Over rev count

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- Brake usage (%)
- Events
- Cycle Times



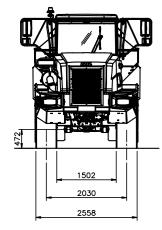
	B18D	B20D							
ENGINE Configuration Aspiration Cooling system Gross power Net Power Gross torque Net torque Displacement Fuel tank capacity	Mercedes Benz OM906LA I-6 with exhaust brake and Engine Valve Brake (EVB) Turbocharged and intercooled Single pass radiator & charge air cooler 170 kW (228 hp) @ 2,200 rpm SAE J1349 165 kW (221 hp) @ 2,200 rpm 810 Nm (597 lbft) @ 1,050 -1,850 rpm SAE J1349 780 Nm (575 lbft) @ 1,050 -1,850 rpm 6,37 litres (389 cu.in) 200 I (58 US gal)	Mercedes Benz OM906LA I-6 with exhaust brake and Engine Valve Brake (EVB) Turbocharged and intercooled Single pass radiator & charge air cooler 170 kW (228 hp) @ 2,200 rpm SAE J1349 165 kW (221 hp) @ 2,200 rpm 810 Nm (597 lbft) @ 1,050 -1,850 rpm SAE J1349 780 Nm (575 lbft) @ 1,050 -1,850 rpm 6,37 litres (389 cu.in) 200 I (58 US gal)							
TRANSMISSION Layout Gear layout Clutch type Torque converter layout Vehicle speeds	ZF 6HP592C with integral retarder Engine mounted box with rear output Constant meshing planetary gears Hydraulically operated multidisc Hydrodynamic, with lock-up in all gears 1st 2nd 3rd 4th 5th 6th R 8 13 22 31 45 50 9 km/h 5 8 13.7 19.3 28 31 5.6 mph	ZF 6HP592C with integral retarder Engine mounted box with rear output Constant meshing planetary gears Hydraulically operated multidisc Hydrodynamic, with lock-up in all gears 1st 2nd 3rd 4th 5th 6th R 8 13 22 31 45 50 9 km/h 5 8 13.7 19.3 28 31 5.6 mph							
TRANSFER CASE Output differential	VGR 13 200 Interaxle 50/50 (6x4) [66/33 (6x6 mode)] proportional differential, pneumatically lockable whilst stationary or on the move.	VGR 13 100 Interaxle 50/50 proportional differential, pneumatically lockable whilst stationary or on the move.							
<b>AXLES</b> Differential type Final drive type Housing type	Bell 14T Spiral bevel type with Limited Slip Outboard heavy duty planetary Steel fabricated	Bell 14T Spiral bevel type with Limited Slip Outboard heavy duty planetary Steel fabricated							
BRAKING SYSTEM SERVICE BRAKE Maximum brake force PARK & EMERGENCY Maximum brake force AUXILLIARY BRAKE Maximum retardation	Dual circuit, full hydraulic actuation caliper brakes on all wheels 164 kN (36,900 lbf) Spring applied, air released driveline mounted disc. 396 kN (89,000 lbf) Automatic exhaust brake and Engine Valve Brake (EVB) 442 kW (593 hp)	Dual circuit, full hydraulic actuation caliper brakes on all wheels 164 kN (36,900 lbf) Spring applied, air released driveline mounted disc. 396 kN (89,000 lbf) Automatic exhaust brake and Engine Valve Brake (EVB) 442 kW (593 hp)							
WHEELS Tyre: Size Type Maximum ground pressure (laden)	20,5R25 Radial Earthmover 134 kPa (19 psi)	20,5R25 Radial Earthmover 134 kPa (19 psi)							
SUSPENSION SYSTEM Front: Type Rear: Type	Semi-independent leading arm type linkages supported by nitrogen/oil struts Pivoting walking beams equalise the load on each axle with laminated suspension blocks. Each axle is coupled to the chassis by a system of four rubber-bushed links for ideal vertical movement.	Semi-independent leading arm type linkages supported by nitrogen/oil struts Pivoting walking beams equalise the load on each axle with laminated suspension blocks. Each axle is coupled to the chassis by a system of four rubberbushed links for ideal vertical movement.							
HYDRAULIC SYSTEM Flow Pressure Filter	Variable displacement with load sensing system. A ground-driven, load sensing emergency steer- ing pump is integrated into the main system 184 l/min (48.6 US gal/min) 25 MPa (3,915 psi) 10 micron	Variable displacement with load sensing system. A grounddriven, load sensing emergency steering pump is integrated into the main system 184 I/min (48.6 US gal/min) 25 MPa (3,915 psi) 10 micron							

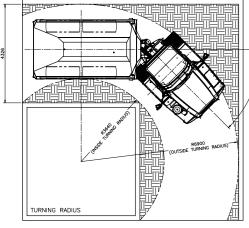
	B18D	B20D
PNEUMATIC SYSTEM System pressure	Air drier with heater and integral unloader valve, serving park brake and auxiliary functions 850 kPa (123 psi)	Air drier with heater and integral unloader valve, serving park brake and auxiliary functions 850 kPa (123 psi)
<b>ELECTRICAL SYSTEM</b> Voltage Battery Type Battery capacity Alternator rating	24 V Two maintenance free permanently sealed 2 x 105 Ah (optional 2 extra batteries) 28 V 80 A	24 V Two maintenance free permanently sealed 2 x 105 Ah (optional 2 extra batteries) 28 V 80 A
STEERING SYSTEM Angle Lock to lock turns	Hydrostatically actuated by two double acting cylinders, with ground-driven emergency steering pump. +- 45 degrees 4,1	Hydrostatically actuated by two double acting cylinders, with ground-driven emergency steering pump. +- 45 degrees 4,1
BODY Capacity: Struck Heaped, SAE 2:1 SAE 1:1 Rated payload Raise time Power down time Tipping angle	8,5 m <sup>3</sup> (11.1 cu.yd) 11 m <sup>3</sup> (14.4 cu.yd) 13,6 m <sup>3</sup> (17,8 cu.yd) 18,000 kg (35,683 lbs) 12 s 6 s 70 degrees	8,5 m <sup>3</sup> (11.1 cu.yd) 11 m <sup>3</sup> (14.4 cu.yd) 13,6 m <sup>3</sup> (17,8 cu.yd) 18,000 kg (35,683 lbs) 12 s 6,0 s 70 degrees
<b>OPERATING WEIGHTS</b> Empty: Front Middle Rear Total	8,270 kg (18,320 lbs) 3,810 kg ( 7,683 lbs) 3,560 kg ( 7,147 lbs) 15,640 kg (33,151 lbs)	7,700 kg (17,130 lbs) 3,590 kg ( 7,915 lbs) 3,350 kg ( 7,385 lbs) 14,710 kg (32,430 lbs)
Laden: Front Middle Rear Total	9,170 kg (19,522 lbs) 12,360 kg (26,936 lbs) 12,110 kg (26,387 lbs) 33,640 kg (72,845 lbs)	8,657 kg (19,085 lbs) 12,147 kg (26,780 lbs) 11,907 kg (26,250 lbs) 32,711 kg (72,115 lbs)
6x6	Additional 230 kg	



**B20D** 

### **B18D**





#### GRADEABILITY

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.

140

120

100

20

140

120

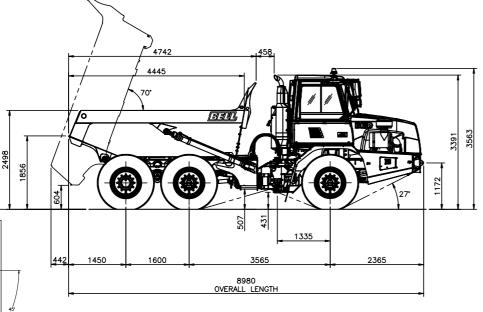
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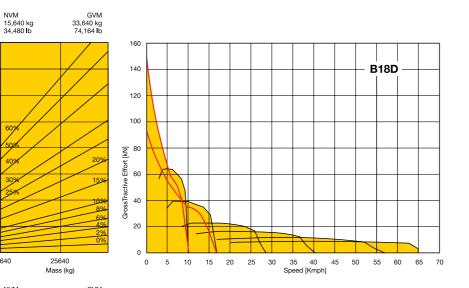
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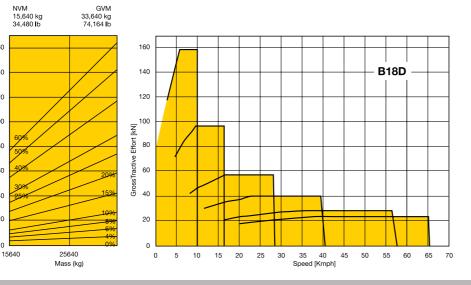
- 2. From this intersection, move straight left across charts until line intersects rimpull curve.
- 3. Read down from this point to determine maximum speed attained at that tractive resistance.

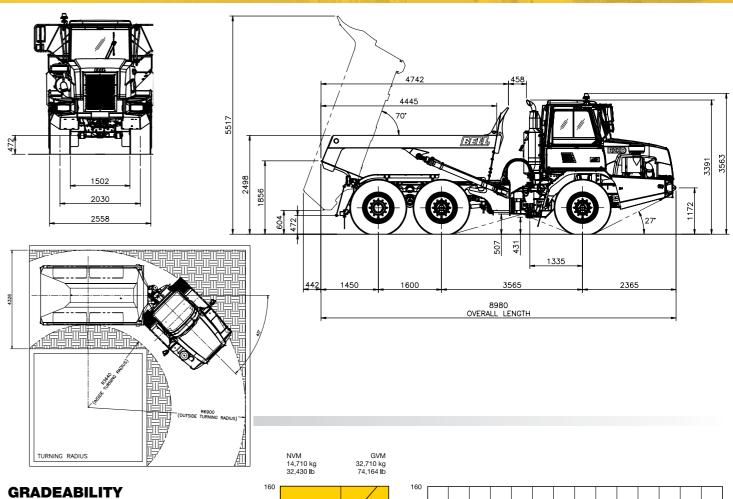
#### RETARDATION

- 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.









- 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.
- 3. Read down from this point to determine maximum speed attained at that tractive resistance.

1. Determine retardation force required by

2. From this intersection, move straight left across charts until line intersects the curve.

NOTE: 2% typical rolling resistance is

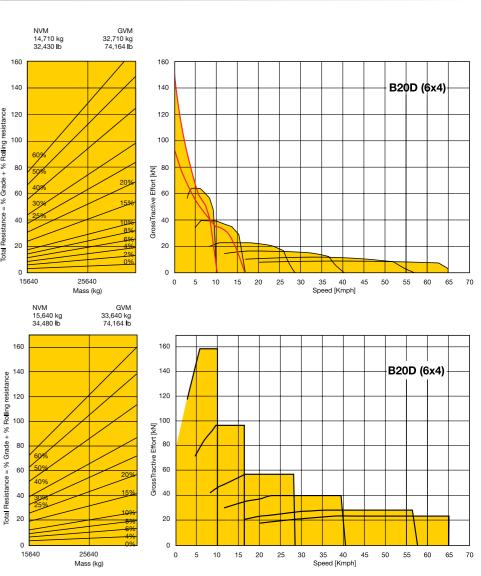
3. Read down from this point to determine

already assumed in chart.

maximum speed.

finding intersection of vehicle mass line.

RETARDATION



### **B20D**

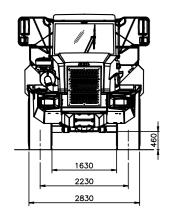
	B25D	B30D		
ENGINE Gross power Net Power Gross torque Net torque Displacement Fuel tank capacity Auxilliary Brake Certification Non Regulated Regulated	Mercedes Benz inline 6 cylinder, turbocharged, intercooled, low emission diesel engine 205 kW (275 hp) @ 2,200 rpm 198 kW (265 hp) @ 2,200 rpm 1,000 Nm (736 lbft) @ 1,200 -1,600 rpm 970 Nm (714 lbft) @ 1,200 -1,600 rpm 6,37 litres (389 cu.in) 340 I (90 US gal) Exhaust brake Engine Valve Brake (EVB) OM 906 LA.111/4-00 meets Europe (EU) step2; OM 906 LA.23A/1 meets Europe (EU) step 3	Mercedes Benz inline 6 cylinder, turbocharged, intercooled, low emission diesel engine 240 kW (322 hp) @ 2,200 -1,600 rpm 232 kW (311 hp) @ 2,200 -1,600 rpm 1,250 Nm (922 lbft) @ 1,200 - 1,600 rpm 1,200 Nm (885 lbft) @ 1,200 - 1,600 rpm 7,2 litres (439 cu.in) 340 I (90 US gal) Exhaust brake Engine Valve Brake (EVB) OM 926 LA.111/4-00 meets Europe (EU) step 2; OM 926 LA.E3A/1 meets Europe (EU) step 3		
TRANSMISSION	Engine mounted, fully automatic ZF planetary	Engine mounted, fully automatic ZF planetary		
Torque Converter Model Control Type	transmission with six forward gears and one reverse gear. Hydrodynamic with lock-up in all gears. 6HP592C Ecomat 2 plus Electronic	transmission with six forward gears and one reverse gear. Hydrodynamic with lock-up in all gears. 6HP592C Ecomat 2 Plus Electronic		
TRANSFER BOX Manufacturer Model Layout Output Differential	Remote mounted VGR 13100 Three in-line helical gears. 67/33 torque proportioning, Pneumatically lockable on the move.	Remote mounted VGR 13100 Three in-line helical gears. 67/33 torque proportioning, Pneumatically lockable on the move.		
AXLES Model	High strength steel fabricated with spiral bevel type gears on the limited slip locking differential and heavy duty outboard planetary gears. Bell 15T	High strength steel fabricated with spiral bevel type gears on the limited slip locking differential and heavy duty outboard planetary gears. Bell 18T		
BRAKING SYSTEM SERVICE BRAKE	Dual circuit, full hydraulic actuation caliper brakes	Dual circuit, full hydraulic actuation caliper brakes		
Maximum brake force PARK & EMERGENCY	on all wheels 164 kN (36,900 lbf) Spring applied, air released driveline mounted disc.	on all wheels 164 kN (36,900 lbf) Spring applied, air released driveline mounted disc.		
Maximum brake force AUXILLIARY BRAKE	396 kN (89,000 lbf) Automatic exhaust brake and Engine Valve Brake (EVB)	396 kN (89,000 lbf) Automatic exhaust brake and Engine Valve Brake (EVB) 442 kW (593 hp)		
Maximum retardation WHEELS	442 kW (593 hp) Earthmover	Earthmover		
Tyre FRONT SUSPENSION	23.5R25 Semi-independent, quad rubber mounted leading arm linkages supported by nitrogen and oil filled struts.	23.5R25 Semi-independent, quad rubber mounted leading arm linkages supported by nitrogen and oil filled struts.		
REAR SUSPENSION	Pivoting walking beams, distributing equal load through laminated rubber suspension blocks. Each axle is coupled to the chassis by four rubber-bushed links for ideal vertical movement. Full load sensing system incorporating a ground driven emergency steering pump.	Pivoting walking beams, distributing equal load through laminated rubber suspension blocks. Each axle is coupled to the chassis by four rubber-bushed links for ideal vertical movement. Full load sensing system incorporating a ground driven emergency steering pump.		
<b>HYDRAULIC SYSTEM</b> Flow Pressure Filter	184 l/min (48.6 gal/min) 25 Mpa (3,915 psi) 10 micron	184 l/min (48.6 gal/min) 25 Mpa (3,915 psi) 10 micron		
STEERING SYSTEM Lock to lock turns Steering Angle	Hydrostatically actuated, low effort, fast acting. Two double-acting steering cylinders 4.1 +-45°	Hydrostatically actuated, low effort, fast acting. Two double-acting steering cylinders 4.1 +-45°		

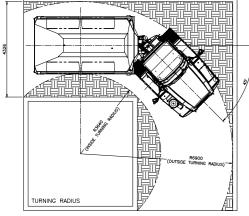
	B25D	B30D								
DUMPING SYSTEM Raise Time Lowering Time Tipping Angle	Two double-acting, single stage, dump cylinders 12 s 6 s 70°	Two double-acting, single stage, dump cylinders 12 s 6 s 70°								
PNEUMATIC SYSTEM System Pressure	Air drier with heater and integral unloader valve, serving park brake and auxilliary functions 810 kPa (117 psi)	Air drier with heater and integral unloader valve, serving park brake and auxilliary functions 850 kPa (123 psi)								
<b>ELECTRICAL SYSTEM</b> Voltage Battery Type Battery Capacity Alternator Rating	24 V Two maintenance free permanently sealed 2 X 105 Ah 28 V 80 A	24 V Two maintenance free permanently sealed 2 X 105 Ah 28 V 80 A								
VEHICLE SPEEDS	1st         2nd         3rd         4th         5th         6th         R           8         13         22         31         44         53         8         km/h           5         8         14         19         28         33         5         mph	1st2nd3rd4th5th6thR813223144538km/h58141928335mph								
OPERATING MASSES Front Middle Rear Total	UNLADENLADEN9,620 kg (21,208 lbs)12,860 kg (28,351 lbs)4,420 kg (9,744 lbs)14,400 kg (31,747 lbs)4,360 kg (9,612 lbs)14,340 kg (31,614 lbs)18,400 kg (40,565 lbs)41,600 kg (91,712 lbs)	UNLADENLADEN9,710 kg (21,407 lb)13,350 kg (29,432 lbs)4,490 kg (9,899 lb)16,320 kg (35,979 lbs)4,490 kg (9,899 lb)16,320 kg (35,979 lbs)18,690 kg (41,204 lb)45,990 kg (101,391 lbs)								
<b>GROUND PRESSURE</b> Front Middle Rear	UNLADEN         LADEN           92 kPa (3,5 psi)         250 kPa (36psi)           43 kPa (6 psi)         303 kPa (44 psi)           41 kPa (6 psi)         302 kPa (44psi)	UNLADEN         LADEN           95 kPa (13.8 psi)         271 kPa (39 psi)           47 kPa (6.8 psi)         337 kPa (49 psi)           46 kPa (6.7 psi)         337 kPa (49 psi)								
LOAD CAPACITY Struck Capacity SAE 2:1 Capacity SAE 1:1 Capacity SAE 2:1 Capacity with Autogate	10,8 m <sup>3</sup> (14,1 cu.yd) 13,8 m <sup>3</sup> (18.1 cu.yd) 16,9 m <sup>3</sup> (22.1 cu.yd) 14,5 m <sup>3</sup> (19 cu.yd)	12,9 m <sup>3</sup> (16,9 cu.yd) 16,6 m <sup>3</sup> (21.7 cu.yd) 20,3 m <sup>3</sup> (26.6 cu.yd) 17,4 m <sup>3</sup> (22.8 cu.yd)								
Rated Payload	23 200 kg (51,147 lbs)	27 300 kg (60,186 lbs)								



**B30D** 

### **B25D**



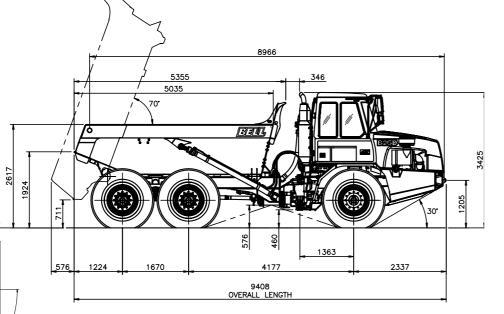


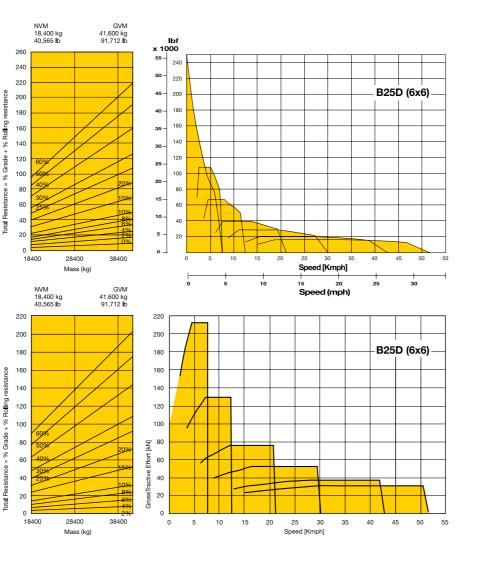
#### GRADEABILITY

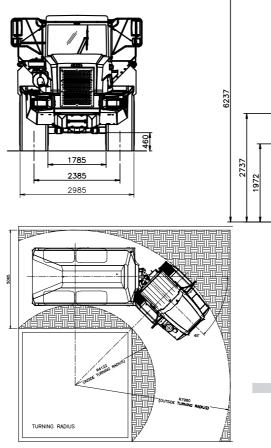
- Determine tractive resistance by finding intersection of vehicle mass line and grade line. NOTE: 2% typical rolling resistance is already assumed in chart and grade line.
- 2. From this intersection, move straight left across charts until line intersects rimpull curve.
- 3. Read down from this point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

#### RETARDATION

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







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#### GRADEABILITY

RETARDATION

- 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.
- 3. Read down from this point to determine maximum speed attained at that tractive resistance.

1. Determine retardation force required by

2. From this intersection, move straight left

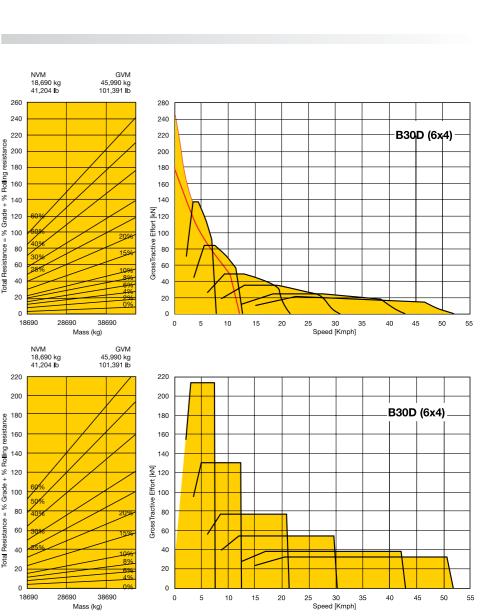
3. Read down from this point to determine

already assumed in chart.

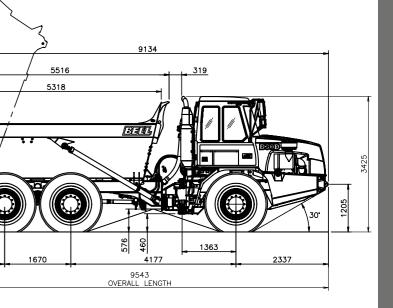
maximum speed.

finding intersection of vehicle mass line.

across charts until line intersects the curve. NOTE: 2% typical rolling resistance is



### **B30D**



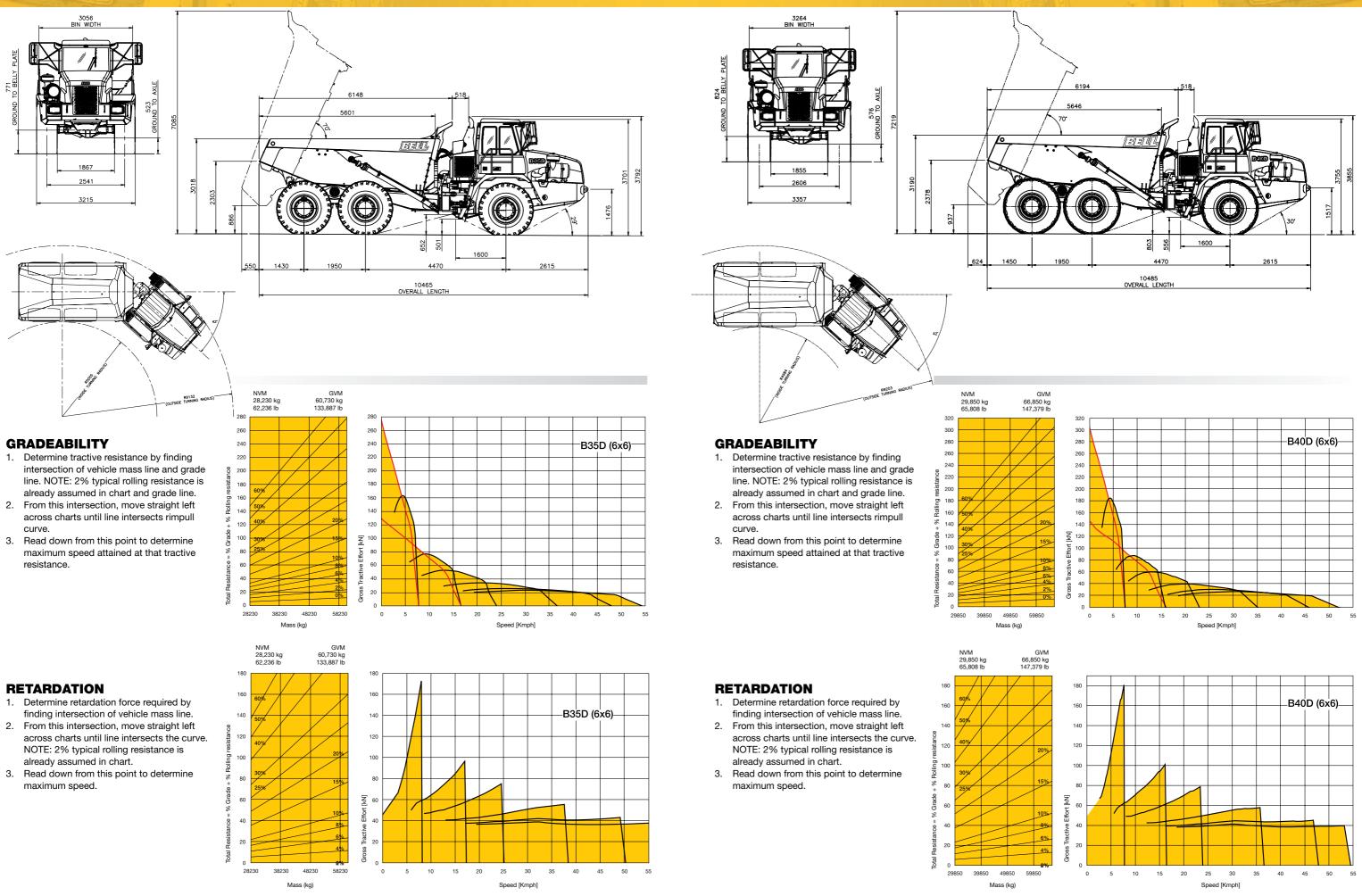
	B35D	B40D		
ENGINE Gross power Net Power Gross torque Net torque Displacement Fuel tank capacity Auxilliary Brake Certification	Mercedes Benz V6, turbocharged, intercooled, low emission diesel engine 290 kW (389 hp) @ 1,800 rpm 283 kW (380 hp) @ 1,800 rpm 1,850 Nm (1,362 lbft) @ 1,300 rpm 1,824 Nm (1,343 lbft) @ 1,300 rpm 11,95 litres (730 cu.in) 485 litres (128 US gal) Automatic exhaust brake Engine Valve Brake (EVB)	Mercedes Benz V6, turbocharged, intercooled, low emission diesel engine 315 kW (422 hp) @ 1,800 rpm 308 kW (413 hp) @ 1,800 rpm 2,000 Nm (1,473 lbft) @ 1,300 rpm 1,974 Nm (1,453 lbft) @ 1,300 rpm 11,95 litres (730 cu.in) 485 litres (128 US gal) Automatic exhaust brake Engine Valve Brake (EVB)		
Non Regulated Regulated	OM 501 LA.E2/1-00 meets Europe (EU) step2; OM 501 LA.E3A/1 meets Europe (EU) step 3	OM 501 LA.E2/1-00 meets Europe (EU) step2; OM 501 LA.E3A/1 meets Europe (EU) step 3		
TRANSMISSION Torque Converter Model Control Type	Engine mounted, fully automatic Allison planetary transmission with six forward gears and one reverse gear. Hydrodynamic with lock-up in all gears. 4500R ORS Electronic	Engine mounted, fully automatic Allison planetary transmission with six forward gears and one reverse gear. Hydrodynamic with lockup in all gears. 4500R ORS Electronic		
TRANSFER BOX Manufacturer Model Layout Output Differential	Remote mounted VGR 17100 Three in-line helical gears. Interaxle 33/67 proportional differential, Pneumatically lockable whilst stationary or on the move.	Remote mounted VGR 17100 Three in-line helical gears. Interaxle 33/67 proportional differential, Pneumatically lockable whilst stationary or on the move.		
AXLES Model Brakes Max brake force Parking Brake Max brake force Total Retardation	<ul> <li>High strength steel fabricated with spiral bevel type gears on the Controlled Traction differential and heavy duty outboard planetary gears.</li> <li>Bell 25T</li> <li>Dual circuit, hydraulically actuated dry disc brakes on all three axles.</li> <li>193 kN (43,388 lbf)</li> <li>Spring applied, air released driveline mounted disc.</li> <li>440 kN (98,920 lbf)</li> <li>575 kW (771 hp)</li> </ul>	High strength steel fabricated with spiral bevel type gears on the Controlled Traction differential and heavy duty outboard planetary gears. Bell 25T Dual circuit, full hydraulic actuation wet disc brakes on front and middle axles. 218 kN (49,010 lbf) Spring applied, air released driveline mounted disc. 440 kN (98,920 lbf) 575 kW (771hp)		
WHEELS Tyre	Earthmover 26.5R25	Earthmover 29.5R25		
FRONT SUSPENSION	Semi-independent, leading A-frame supported by nitrogen/oil struts.	Semi-independent, leading A-frame supported by nitrogen/oil struts.		
REAR SUSPENSION	Pivoting walking beams equalise the load on each axle with laminated suspension blocks. Each axle is coupled to the chassis by a Tri-Link system of four rubber-bushed links for ideal vertical movement and a transverse link for lateral restraint.	Pivoting walking beams equalise the load on each axle with laminated suspension blocks. Each axle is coupled to the chassis by a Tri-Link system of four rubber-bushed links for ideal vertical movement and a transverse link for lateral restraint.		
HYDRAULIC SYSTEM Flow Pressure Filter	Variable displacement with load sensing system incorporating a ground driven emergency steering pump. 300 l/min (79,26 gal/min) 25 Mpa (3,626 psi) 10 micron	Variable displacement with load sensing system incorporating a ground driven emergency steer- ing pump. 300 l/min (79,26 gal/min) 25 Mpa (3,626 psi) 10 micron		
STEERING SYSTEM Lock to lock turns Steering Angle	Hydrostatically actuated by two double acting cylinders, with ground-driven emergency steering pump. 4.7 +-42°	Hydrostatically actuated by two double acting cylinders, with ground-driven emergency steering pump. 4.7 +-42°		

	B35D	B40D								
DUMPING SYSTEM Raise Time Lowering Time Tipping Angle	Two double-acting, single stage, dump cylinders 13 s 7,6 s 70°	Two double-acting, single stage, dump cylinders 13 s 7,6 s 70°								
PNEUMATIC SYSTEM System Pressure	Air drier with heater and integral unloader valve, serving park brake and auxilliary functions 810 kPa (117 psi)	Air drier with heater and integral unloader valve, serving park brake and auxilliary functions 810 kPa (117 psi)								
<b>ELECTRICAL SYSTEM</b> Voltage Battery Type Battery Capacity Alternator Rating	24 V Two maintenance free permanently sealed 2 X 105 Ah 28 V 80 A	24 V Two maintenance free permanently sealed 2 X 105 Ah 28 V 80 A								
VEHICLE SPEEDS	1st         2nd         3rd         4th         5th         6th         R           8         17         24         37         48         54         6,3         km/h           5         10.6         15         23         30         33.8         3.9         mph									
OPERATING MASSES Front Middle Rear Total	UNLADEN         LADEN           14,120 kg (31,129 lbs)         18,350 kg (40,455 lbs)           7,060 kg (15,565 lbs)         21,195 kg (46,727 lbs)           7,050 kg (15,543 lbs)         21,185 kg (46,705 lbs)           28,230 kg (62,236 lbs)         60,730 kg (133,887 lbs)	UNLADENLADEN14,650 kg (32,298 lbs)19,587 kg (43,182 lbs)7,810 kg (17,218 lbs)23,842 kg (52,563 lbs)7,390 kg (16,292 lbs)23,422 kg (51,637 lbs)29,850 kg (65,808 lbs)66,851 kg (147,381 lbs)								
<b>GROUND PRESSURE</b> (At 15% sinkage of unloaded radius and specified weights) Front Middle Rear	UNLADEN LADEN 108 kPa (15.7 psi) 303 kPa (44 psi) 58 kPa (8.4 psi) 338 kPa (49 psi) 58 kPa (8.4 psi) 338 kPa (49 psi)	UNLADEN LADEN 99 kPa (14 psi) 254 kPa (37 psi) 49 kPa (7 psi) 316 kPa (46 psi) 47 kPa (7 psi) 314 kPa (46 psi)								
LOAD CAPACITY Struck Capacity SAE 2:1 Capacity SAE 1:1 Capacity SAE 2:1 Capacity with Autogate Rated Payload	15,9 m <sup>3</sup> (20.8 cu.yd) 20,1 m <sup>3</sup> (26.3 cu.yd) 24,6 m <sup>3</sup> (32.2 cu.yd) 20,7 m <sup>3</sup> (27.1 cu.yd) 32 500 kg (71.650 lbs)	18 m <sup>3</sup> (23.5 cu.yd) 22,6 m <sup>3</sup> (29.6 cu.yd) 27,4 m <sup>3</sup> (35.8 cu.yd) 23,4 m <sup>3</sup> (30.6 cu.yd) 37 000 kg (81.571 lbs)								

### **B35D**

**B40D** 

## **B35D**



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### **B40D**

	B50D						
ENGINE Configuration Aspiration Cooling system	Mercedes Benz OM502LA V-8 Turbocharged and intercooled Liquid cooled with single pass radiator as well as charge air cooler						
Gross power Net power Gross torque Net torque Displacement Fuel tank capacity Auxilliary Brake Certification	390 kW (523 hp) @ 1,800 rpm SAE J1349 382 kW (512 hp) @ 1,800 rpm 2,200 Nm (1,622 lbft) @ 1,200 rpm SAE J1349 2,147 Nm (1,584 lbft) @ 1,200 rpm 15,93 litres (730 cu.in) 640 litres (169 US gal) Automatic exhaust brake Engine Valve Brake (EVB)						
Non Regulated Regulated	OM 502 LA.E2/1-00 meets Europe (EU) step2; OM 502 LA.E3A/1 meets Europe (EU) step 3						
TRANSMISSION Layout Gear layout Gears Clutch type Control type Torque converter layout Vehicle speeds 1st 2nd 3rd 4th 5th 6th Reverse	Full automatic planetary transmission with integral retarder Engine mounted with rear output Constant meshing planetary gears, clutch operated 6 Forward, 1 Reverse Hydraulically operated multi-disc Electronic Hydrodynamic, with lockup in all gears 6,9 km/h (4,3 mph) 14,6 km/h (9,1 mph) 21,2 km/h (13,3 mph) 32,4 km/h (20,3 mph) 42,4 km/h (26,5 mph) 48,2 km/h (30,1 mph) 5,7 km/h (3,7 mph)						
<b>TRANSFER CASE</b> Layout Output differential	VGR 17100 Three in-line helical gears Interaxle 33/67 proportional differential, pneumatically/ spring lockable whilst stationary or on the move.						
AXLES Final drive type Housing type	High strength steel fabricated with spiral bevel type gears on the Controlled Traction differential and heavy duty outboard planetary gears. Outboard heavy duty planetary on all axles Steel fabricated						
BRAKING SYSTEM SERVICE BRAKE Maximum brake force	Dual circuit, full hydraulic oil immersed wet multidisc brakes on all three axles 399 kN (89,699 lbf)						
PARK & EMERGENCY Maximum brake force Maximum brake force	Spring applied, air released driveline mounted disc. 440 kN (98,920 lbf)-Static 105 kN (23,605 lbf)-Dynamic						
<b>RETARDATION SYSTEM</b> ENGINE BRAKE Maximum retardation power TRANSMISSION RETARDER Total retardation power (excl. service brakes)	Automatic exhaust brake and Engine Valve Brake (EVB) 340 kW (456 hp) Integral hydrodynamic, output speed dependant, six selectable levels of retardation 550 kW (737 hp)						
<b>WHEELS</b> Tyre size Type	875/65 R29 Radial Earthmover						
SUSPENSION Front type Rear type	Semi-independent leading A-frame supported by nitrogen/oil struts Pivoting walking beams equalize the load on each axle with laminated suspension blocks. Each axle is coupled to the chassis by a Tri-Link system of three rubber-bushed links for ideal vertical movement and a transverse link for lateral restraint						

	B50D					
HYDRAULIC SYSTEM Pump Type Application Flow Pressure Filter	Full load sensing system serving functions. A ground-driven, load system Variable displacement, loadsens Steering, tipping, hydraulic brak 350 I/min (92.5 US gal/min) 25 MPa (3,626 psi) 5 micron					
PNEUMATIC SYSTEM System pressure	Air drier with heater and integra 750 kPa (109 psi)					
<b>ELECTRICAL SYSTEM</b> Voltage Battery type Battery capacity Alternator rating	24 V Two maintenance free permane 2 x 105 Ah (optional 2 extra bat 28 V 80 A					
STEERING SYSTEM Angle Lock to lock turns	Hydrostatically actuated by two pump. +- 42° 4,2					
DUMPING SYSTEM Raise time Power down time Tipping angle	Two double-acting, single stage, o 11.2 s (60° tip angle) 9.9 s (60° tip angle) 70° standard, or any lower angl					
OPERATING MASSES Front Middle Rear Total	UNLADEN         LADE           17,550 kg (38,691 lbs)         23,44           8,500 kg (18,739 lbs)         28,22           8,470 kg (18,673 lbs)         28,25           34,520 kg (76,104 lbs)         79,92					
<b>GROUND PRESSURE</b> (At 15% sinkage of unloaded radius and specified weights) Front Middle Rear	UNLADEN LADE 100 kPa (14.6 psi) 314 k 53 kPa (7.7 psi) 365 k 49 kPa (7.1 psi) 365 k					
LOAD CAPACITY Struck Capacity SAE 2:1 Capacity SAE 1:1 Capacity SAE 2:1 Capacity with Autogate	21,6 m <sup>3</sup> (28.3 cu.yd) 27,5 m <sup>3</sup> (36.1 cu.yd) 34,5 m <sup>3</sup> (45.12 cu.yd) 28.7 m <sup>3</sup> (37.5 cu.yd)					
Rated Payload	45 400 kg (100.090 lbs)					



ng the prioritized steering, body tipping, suspension and brake ad sensing emergency steering pump is integrated into the main

nsing piston ke charging, suspension and cooling fan drive

al unloader valve, serving park brake and auxiliary functions

ently sealed atteries)

o double acting cylinders, with ground-driven emergency steering

dump cylinders

gle programmable

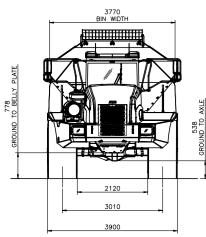
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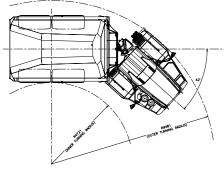
440 kg (51,676 lbs) 225 kg (62,292 lbs) 255 kg (62,225 lbs) 920 kg (176,193 lbs)

ΞN

kPa (45psi) kPa (53 psi) kPa (53 psi)

## **B50D**





#### GRADEABILITY

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.

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300

280

260

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120

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80

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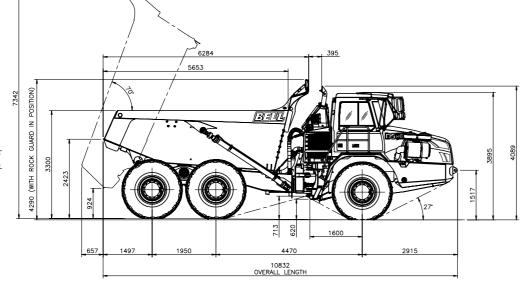
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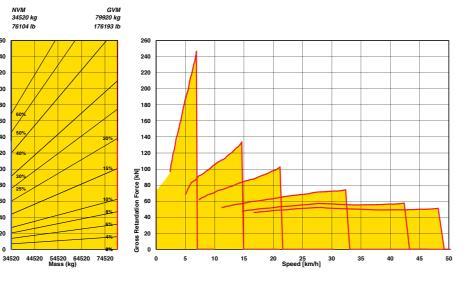
- 2. From this intersection, move straight left across charts until line intersects rimpull curve.
- 3. Read down from this point to determine maximum speed attained at that tractive resistance.





#### 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.

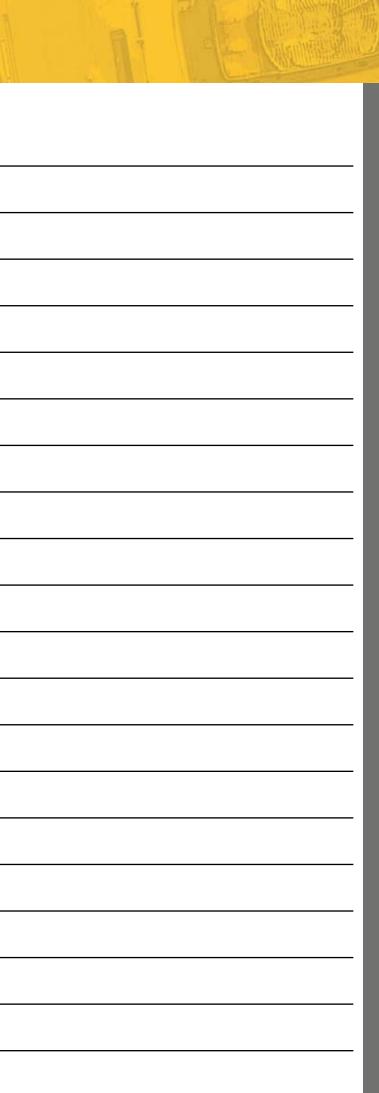


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B18D		Š/a			BA	BE	● Standard ▲ Option	B			ES A	a			Standard A Option
							Engine								Cab (continued)
					•	•	Wet-sleeve cylinder liners	•	•	•	•	•	•	•	Retractable seat belt
					•	•	Engine valve brake and exhaust brake	•	•	•	•	•	•	•	Foldaway trainer seat with retractable seat belt
					•	•	Dual-element air cleaner with dust ejector valve	•	•	•	•	•	•	•	12-volt power outlet
					•	•	Precleaner	•	•	•	•	•	•	•	Cup holder
					•	•	Water separator	•	•	•	•	•	•	•	Cooled/heated lunch box
					•	•	Provision for fast fill	•	•	•	•	•	•	•	Ashtray
					•	•	Serpentine drive belt with automatic tensioner		•			•	•	•	Electric adjustable and heated mirrors
									•	•	•	•	•	•	Deluxe monitor:
							Cooling								Analog speedometer / Fuel gauge /
					•	•	Crankshaft-mounted viscous-drive fan								Transmission oil temperature gauge /
					•	•	Remote proportionally controlled hydraulic								Engine coolant temperature gauge /
			Γ		-	-	Fan drive								LED function/warning indicators and audible
					•	•	Fan guard								alarm / Transmission gear selection /
					•										Tachometer / Battery voltage / Hour meter /
							Pneumatic System								Odometer / Fuel consumption / Tip counter /
					•	•	Engine-mounted compressor								Trip timer / Trip distance / Metric/English units
						•	Air drier with heater								/ Service codes/diagnostics
					•		Integral unloader valve								Backlit sealed switch module functions:
		1			•										Wiper control / Lights / Heated mirrors /
							Electrical System								Retarding aggressiveness / Controlled traction
					•	•	Battery disconnect								differentials (B35D/B40D/B50D) / Transfer case
						•	Drive lights								differential lock / Transmission gear hold /
							Deluxe work lights								Dump-body tip limit / Automatic dump-body
							Electric Hooter								tip settings / Airconditioner/ Heater controls /
					•		Air Horn								Preselected Speed Control
							Reverse alarm								Treselected Speed Control
					-										Dump Body
							Rotating Beacon Pitch Roll Sensor								
<b>  </b>		1	"		•										
							Standard Custom								Body liner
					_		Steering System								Tailgate
•	╹	"	"		•	•	Ground-driven secondary steering pump								Body heater
															Less dump body and cylinders
					_		Cab ROPS/FOPS certification								Other
					•										Other
					•		Tilt cab	-	•						20.5R25 radial earthmover tyres
					•		Gas strut-supported door			•	•				23.5R25 radial earthmover tyres
					•		I-Tip programmable dump-body tip settings							_	26.5R25 radial earthmover tyres
					•		Air conditioner						•		5
<b> • •</b>			1		•									•	· · · · · · · · · · · · · · · · · · ·
							AM/FM radio/CD player							_	Remote grease banks
					•		Rear window guard								
					•	•	Wiper/washer with intermittent control		•			•	•		Onboard Weighing
<b> • •</b>		<b> </b>	1		•		Tilt and telescoping steering wheel								Load lights
• •	╹	<b> </b> •		•	•	•	Centre-mount air-suspension seat								Comfort Ride Suspension
															Reverse Camera
11	I.	I	I	I			I								Hand Rails
															Tyre Pressure Monitoring



### **Features and Options**

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All dimensions are shown in millimetres, unless otherwise stated between brackets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. Photographs featured in this brochure may include optional equipment.

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