

**B30E | B60E** 



# **B30E 4x4** Articulated Dump Truck



**FNGINE** 

Manufacturer Mercedes Benz

Model OM926LA

Configuration
Inline 6, turbocharged and intercooled

Gross Power 240 kW (322 hp) @ 2 200 rpm

Net Power 232 kW (311 hp) @ 2 200 rpm

Gross Torque 1 300 Nm (959 lbft) @ 1 200 -1 600 rpm

Displacement 7,2 litres (469 cu.in)

Auxiliary Brake
Jacobs Engine Brake®

Fuel Tank Capacity 379 litres (100 US gal)

Certification
OM926LA meets EU Stage II/EPA
Tier 2 emissions regulations

#### **TRANSMISSION**

Manufacturer Allison

Model 3400 ORS

Configuration
Fully automatic planetary
transmission

Layout Engine mounted

Gear Layout
Constant meshing planetary
gears, clutch operated

Gears

6 Forward, 1 Reverse

Clutch Type Hydraulically operated multidisc

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 Front: Bell 18T Rear: Bell 36T

Front 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 wet disc brakes
on front and rear axles. Wet
brake oil is circulated through a
filtration and cooling system.

Maximum brake force: 284 kN (63 859 lbf)

Park & Emergency
Spring applied, air released
driveline mounted disc

Maximum brake force: 396 kN (89 000 lbf)

**Auxiliary Brake** 

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

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

Type Radial Earthmover

Tyre

Front: 23.5 R25 Rear: 875/65 R29

**FRONT SUSPENSION** 

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

Optional: Adaptive Comfort Ride suspension.

**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, I

Steering Angle 45°

**DUMPING SYSTEM** 

Two double-acting, single stage, dump cylinders

Raise Time

**Lowering Time** 

6 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

VEHI	CLE SPEEDS	
1st	7 km/h	4 mph
2nd	12 km/h	8 mph
3rd	19 km/h	12 mph
4th	27 km/h	17 mph
5th	39 km/h	24 mph
6th	45 km/h	28 mph
R	7 km/h	4 mph

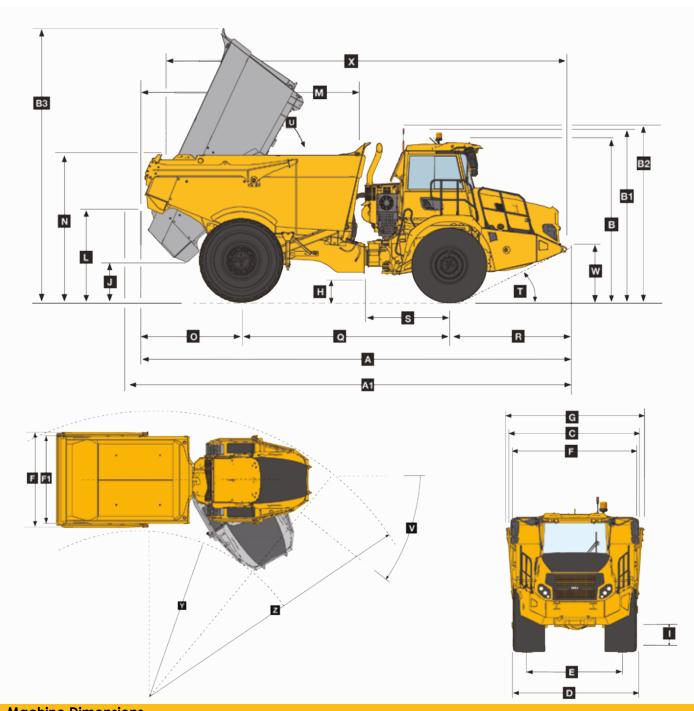
#### CAB

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-N	o Sinkage	BODY	m³ (yd³)		kg (lb)
Front	10 453 (23 045)	23.5 R 25	kPa (Psi)	Struck Capacity	15 (19,5)	EXTRA WHEELSET	
Rear	11 064 (24 392)	Front	278 (40)	SAE 2:1 Capacity	18,5 (24)	23.5 R25	565 (1 246)
Total	21 517 (47 437)			SAE 1:1 Capacity	21 (27,5)	875/65 R29	1 024 (2 258)
		875/65 R 29	kPa (Psi)				
LADEN		Rear	467 (67)	Rated Payload	28 000 kg		
Front	12 819 (28 261)				(61 729 lbs)		
Rear	36 698 (80 905)						
Total	49 517 (109 166)						

# Dimensions



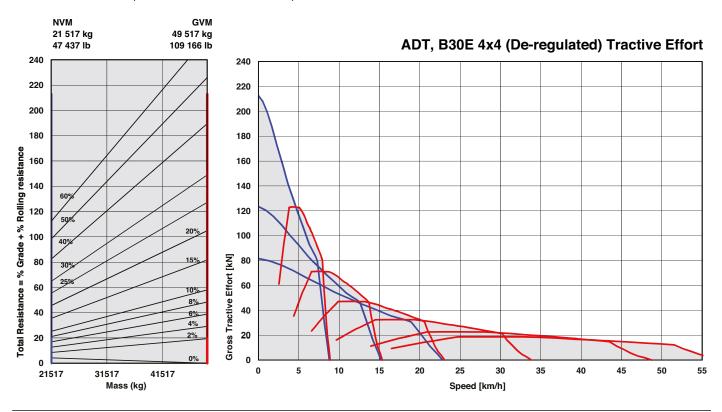
## **Machine Dimensions**

Α	Length - Transport Position	9 193 mm	(30.16 ft.)
Α1	Length - Bin Fully Tipped	9 675 mm	(31.74 ft.)
В	Height - Transport Position	3 426 mm	(11.24 ft.)
B1	Height - Rotating Beacon	3 661 mm	(12.01 ft.)
B2	Height - Load Light	3 747 mm	(12.29 ft.)
В3	Bin Height - Fully Tipped	5 397 mm	(17.7 ft.)
С	Width over Mudguards	2 985 mm	(9.79 ft.)
D	Width over Tyres - 23.5R25	2 940 mm	(9.64 ft.)
D1	Width over Tyres - 875/65 R29	3 270 mm	(10.72 ft.)
Ε	Tyre Track Width - 23.5R25	2 356 mm	(7.72 ft.)
E1	Tyre Track Width - 875/65 R29	2 385 mm	(7.82 ft.)
F	Width over Bin	3 140 mm	(10.3 ft.)
F1	Width over Tailgate	3 453 mm	(11.32 ft.)
G	Width over Mirrors - Operating Position	3 260 mm	(10.69 ft.)
Н	Ground Clearance - Artic	537 mm	(1.76 ft.)
1	Ground Clearance - Front Axle	488 mm	(1.6 ft.)

J	Ground Clearance - Bin Fully Tipped	374 mm	(1.22 ft.)
I	Bin Lip Height - Transport Position	2 310 mm	(7.57 ft.)
М	Bin Length	4 425 mm	(14.51 ft.)
N	Load over Height	3 150 mm	(10.33 ft.)
0	Rear Axle Centre to Bin Rear	2 093 mm	(6.86 ft.)
Q	Rear Axle Centre to Front Axle Centre	4 565 mm	(14.97 ft.)
R	Front Axle Centre to Machine Front	2 602 mm	(8.53 ft.)
S	Front Axle Centre to Artic Centre	1 362 mm	(4.46 ft.)
T	Approach Angle	25 °	
U	Maximum Bin Tip Angle	70 °	
V	Maximum Articulation Angle	45 °	
W	Front Tie Down Height	1 075 mm	(3.52 ft.)
Χ	Machine Lifting Centres	7 968 mm	(26.14 ft.)
Υ	Inner Turning Circle Radius - 23.5R25	3 526 mm	(11.56 ft.)
Z	Outer Turning Circle Radius - 23.5R25	7 316 mm	(24 ft.)

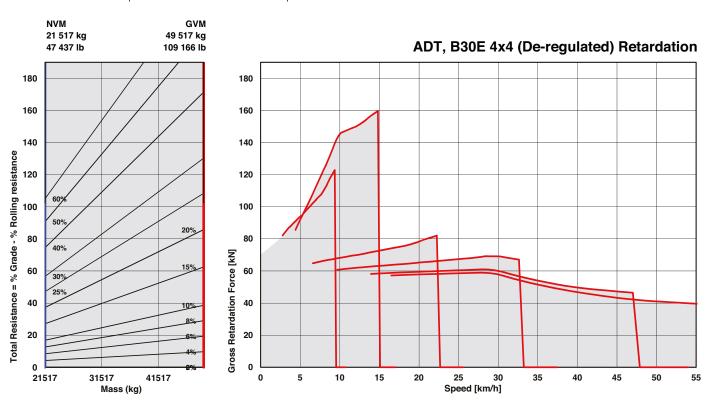
# Gradeability/Rimpull

- 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.



## 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.





Cutting edge technology, helping you run your fleet smarter. Providing accurate, up-to-date operational data, production data and diagnostic data.

The key to a productive and profitable fleet, lies in the ability to monitor and manage your machines and operators efficiently. Machine operational data is processed and compiled into useful production and performance statistics, accessible via the Bell Fleetm@tic® website. These reports are also automated and emailed directly to you. The two monitoring packages that we have available, are:

- The Classic Package supplies you with good enough information for you to have a very good understanding of how your machine is operating for each shift that it runs. This package comes standard with the machine for 2 years.
- The Premium Package is focused on customers who need to have extremely detailed information of the machine's operation. For this package we offer similar information to that of the Classic Package but for each individual laden unladen cycle. In addition, live tracking is available on the Fleetm@tic® website on a per minute basis.

## Fleetm@tic®:

- Maximise productivity
- Generate machine utilisation reports
- · Identify operator training requirements
- Pro-active maintenance planning
- Implement safety features

- · Receive machine fault codes as well as suggested trouble shooting procedures
- Protect investments
- · Receive real time geospatial data



# B60E All Wheel Drive

The Bell B60E offers our customers more tonnage than ever before, and at a related lower cost per tonne.

It keeps all of the traditional Bell safety and productivity features while still offering off-road capability that non-ADT solutions cannot match.

Bell has a history of leading the ADT industry and offering our customers more in two distinct ways - through the innovations that we apply to our products and our principle that larger trucks give lower cost per tonne. These two factors are ideally combined in the B60E to give a real value adding package.

The Bell B60E has been developed as a result of the Bell tradition of listening to our customers. They were looking for a machine that would perform better than conventional haulage solutions in slippery and undulating conditions, but didn't need the 'go anywhere' ability of a 3 axle 6x6 ADT.

In response Bell has filled this conspicuous gap in the market with the B60E crossover solution.

The B60E has been enthusiastically received, giving productivity during adverse weather conditions when other machines are unable to operate, and also tolerating less site maintenance, which has large cost and hassle implications for many sites.



- The oscillation joint is what makes an ADT. It keeps the wheels on the ground ensuring traction when driving over rough terrain. The B60E has inherited the oscillation joint of the B50E, which has been strengthened appropriately.
- By configuring the driveline to direct drive to all wheels, the Bell B60E can go places where conventional trucks cannot.
- At 35m³ this is the largest ADT bin in the world today. You can carry more material and make more money, it's that simple.



- Articulated steering between the front and rear chassis produces much tighter turning circles than a steered axle, and makes the B60E an ideal machine for tight sites.
- In deep soft mud it won't necessarily match its 3 axle counterparts but it has proven itself to be a more than capable machine in challenging conditions.



# **B60E 4x4** Articulated Dump Truck



#### **FNGINE**

Manufacturer
Mercedes Benz (MTU)

Model OM473LA (MTU 6R 1500)

Configuration
Inline 6, turbocharged and intercooled

Gross Power 430 kW (577 hp) @ 1 700 rpm

Net Power 405 kW (543 hp) @ 1 700 rpm

**Gross Torque** 2 750 Nm (2 028 lbft) @ 1 300 rpm

Displacement 15,6 litres (952 cu.in)

Auxiliary Brake
Jacobs Engine Brake®

Fuel Tank Capacity 630 litres (166 US gal)

Certification

OM473LA (MTU 6R 1500) is EU Stage IIIA / EPA Tier 3 emission level equivalent.

#### **TRANSMISSION**

Manufacturer Allison

Model 4800 ORS

Configuration
Fully automatic planetary

transmission

Layout Engine mounted

Gear Layout
Constant meshing planetary
gears, clutch operated

7 Forward, 1 Reverse

Clutch Type Hydraulically operated multidisc

Control Type Electronic Torque Control
Hydrodynamic with lock-up in
all aears

#### **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 Front - Bell Rear - Kessler

Model Front: 30T Rear: 71T

Differential

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

Rear: Centre input open differential with spiral bevel aears.

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: 437 kN (98 242 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: 574 kW (770 hp) Maximum: 983 kW (1 318 hp)

#### **WHEELS**

Type Radial Earthmover

Tyre

Front: 875/65 R29 Rear: Twin 24.00 R35

#### **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, suspension and brake functions. A ground-driven, load sensing emergency steering pump is integrated into the main system.

Pump Type Variable displacement load sensing piston

330 L/min (87 gal/min)

250 bar (3 626 psi)

Filter 5 microns

#### STEERING SYSTEM

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

Lock to lock turns 4,9 Steering Angle 42°

#### **DUMPING SYSTEM**

Two double-acting, two stage telescopic, dump cylinders

Raise Time 17 seconds

Lowering Time 18 seconds

Tipping Angle 55 deg 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

MAX	VEHICLE SP	EED
1st	4 km/h	2,5 mph
2nd	8 km/h	5,6 mph
3rd	16 km/h	10,6 mph
4th	21 km/h	13,7 mph
5th	30 km/h	20 mph
6th	41 km/h	27 mph
7th	47 km/h	32 mph
R	6 km/h	4 mph

#### CAB

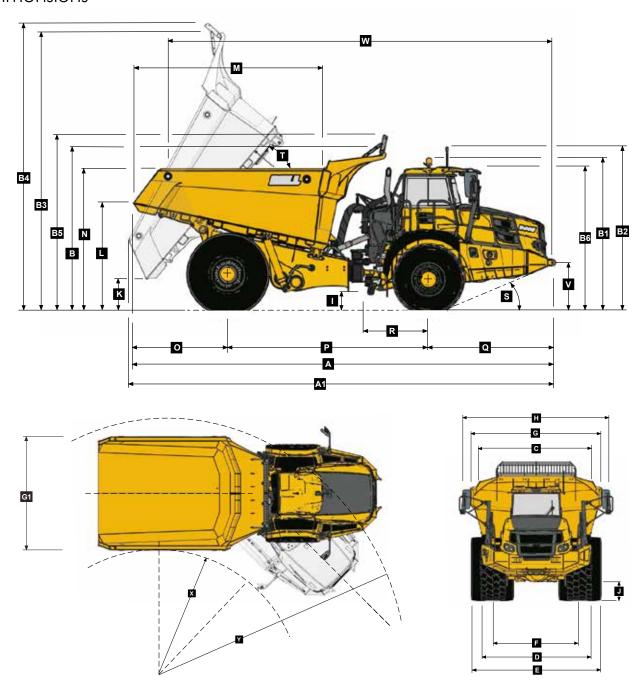
ROPS/FOPS certified 77 dBA internal sound level measured according to ISO 6396.

## Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE*		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LAI	DEN	BODY	m³ (yd³)		kg (lb)
Front	20 211 (44 558)	(No sinkage/		Struck Capacity	27 (35,3)	Bin liner	1 116 (2 460)
Rear	22 265 (49 086)	Total Contact Area Method)		SAE 2:1 Capacity	35 (45,8)	Tailgate	1 516 (3 342)
Total	42 476 (93 644)	875/65 R29	kPa (Psi)	SAE 1:1 Capacity	42 (54,9)		
		Front	333 (48)	SAE 2:1 Capacity		EXTRA WHEELSET	
LADEN				with Tailgate	35,6 (46,6)	875/65 R29	1 024 (2 258)
Front	26 811 (59 108)	24.00 R35	kPa			24.00 R35	1 240 (2 734)
Rear	70 665 (155 768)	Rear	469 (68)	Rated Payload	55 000 kg		
Total	97 476 (214 898)				(121 254 lb)		

<sup>\*</sup> Front ground pressure calculated with Michelin XAD65-1 tyre. Rear ground pressure calculated with Michelin XDT B tyre.

# Dimensions



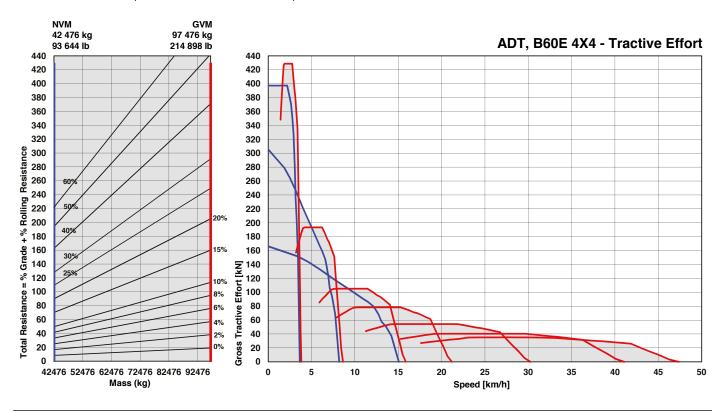
## **Machine Dimensions**

Α	Length - Transport Position	11 114 mm	(33.23 ft.)
A1	Length - Bin Fully Tipped		(36 ft. 8 in.)
В	Height - Transport Position w/o Rock Guard		(13 ft.10 in.)
В	Height - Transport Position with Rock Guard	4 212 mm	(13 ft.10 in.)
B1	Height - Rotating Beacon	4 050 mm	(13 ft. 3 in.)
B2	Height - Load Light	4 333 mm	(14 ft. 2 in.)
В3	Bin Height - Fully Tipped w/o Rock Guard	7 476 mm	(24 ft. 6 in.)
В4	Bin Height - Fully Tipped with Rock Guard	7 692 mm	(25 ft. 3 in.)
B5	Height - Rock Guard Operating Position	4 675 mm	(15 ft. 4 in.)
В6	Height - Cab	3 813 mm	(12 ft. 6 in.)
C	Width over Mudguards	3 790 mm	(12 ft. 5 in.)
D	Width over Front Tyres 875/65 R29	3 832 mm	(12 ft. 7 in.)
Ε	Width over Rear Tyres 24.00R35	4 444 mm	(14 ft. 7 in.)
F	Tyre Track Width Front 875/65R29	2 949 mm	(9 ft. 8 in.)
F	Tyre Track Width Rear 24.00R35	2 992 mm	(9 ft. 10 in.)
G	Width over Bin	4 487 mm	(14 ft. 9 in.)
G1	Width over Tailgate		(15 ft. 9 in.)
Н	Width over Mirrors - Operating Position	5 242 mm	(17 ft. 2 in.)

I	Ground Clearance - Artic	561 mm	(22. 09 in.)
J	Ground Clearance - Front Axle	554 mm	(21. 81 in.)
K	Ground Clearance - Bin Fully Tipped	851 mm	(33. 5 in.)
L	Bin Lip Height - Transport Position	2 952 mm	(9 ft. 8 in.)
М	Bin Length	5 036 mm	(16 ft. 6 in.)
N	Load over Height	3 824 mm	(12 ft. 7 in.)
0	Rear Axle Centre to Bin Rear	2 477 mm	(8 ft. 2 in.)
Р	Rear Axle Centre to Front Axle Centre	5 285 mm	(17 ft. 4 in.)
Q	Front Axle Centre to Machine Front	3 352 mm	(11 ft.)
R	Front Axle Centre to Artic Centre	1 558 mm	( 5 ft.1 in.)
S	Approach Angle	22 °	
T	Maximum Bin Tip Angle	55 °	
U	Maximum Articulation Angle	42 °	
٧	Front Tie Down Height	1 263 mm	(4 ft.2 in.)
W	Machine Lifting Centres	10 116 mm	(33 ft. 2 in.)
Χ	Inner Turning Circle Radius	4 246 mm	(13 ft 11 in.)
Υ	Outer Turning Circle Radius	9 216 mm	(30 ft. 3 in.)

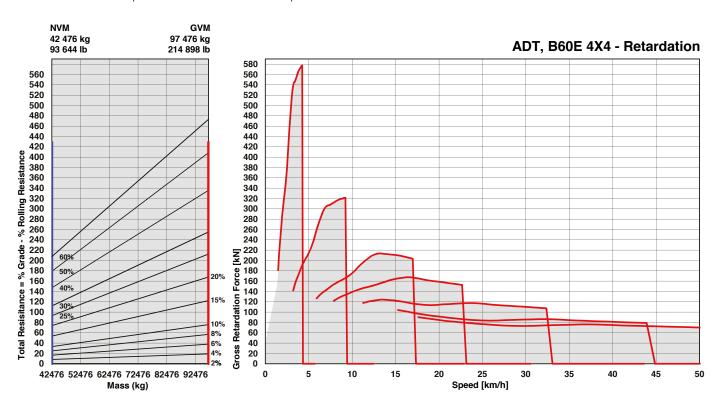
# Gradeability/Rimpull

- 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.



# B30E 4x4 B60E 4x4

#### FNGINE

- Engine valve brake
- Dual element air cleaner with dust ejector valve
- Pre-cleaner with automatic dust scavenging
- Water separator
- Serpentine drive belt with automatic tensioner
- Provision for fast fill
  - Wet-sleeve cylinder liners

#### COOLING

- Crankshaft mounted electronically controlled viscous fan drive
- Fan guard

#### PNEUMATIC SYSTEM

- | Engine-mounted compressor
- Air drier with heater
- Integral unloader valve

#### **ELECTRICAL SYSTEM**

- Battery disconnect
- Halogen drive lights
  - LED drive lights
- Air horn
- Reverse alarm
- ▲ White noise reverse alarm
- Pitch roll sensor
- ▲ LED Artic reverse light
- Halogen artic reverse lights
- LED reverse lights

#### STEERING SYSTEM

 Bi-directional ground-driven secondary steering pump

#### CAB

- ROPS/FOPS certification
- Tilt cab
- Gas strut-supported door
- I-Tip programmable dump-body tip settings
- HVAC Climate control system
- AM/FM radio with Aux + USB
- Rear window guard
- Wiper/washer with intermittent control
- Tilt and telescoping steering wheel
- Center-mount air-suspension seat
- Halogen work lights
- ▲ LED work lights
- ▲ Rotating beacon: seat belt installation
- ▲ Remote engine and machine isolation
- ▲ Remote battery jump start
- Retractable 3 point seat belt
- Heated seat
- Foldaway trainer seat with retractable seat belt
- 12-volt power outlet
- Cab utility bin (removable)
- Cup holder
- Cooled/heated lunch box

# B30E 4×4 B60E 4×4

#### **CAB** (continued)

- Manually adjusted mirrors
- ▲ Heated mirrors
- Electric adjustable and heated mirrors
- Deluxe 10" color 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

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 / Air conditioner/Heater controls /
 Preselected Speed Control

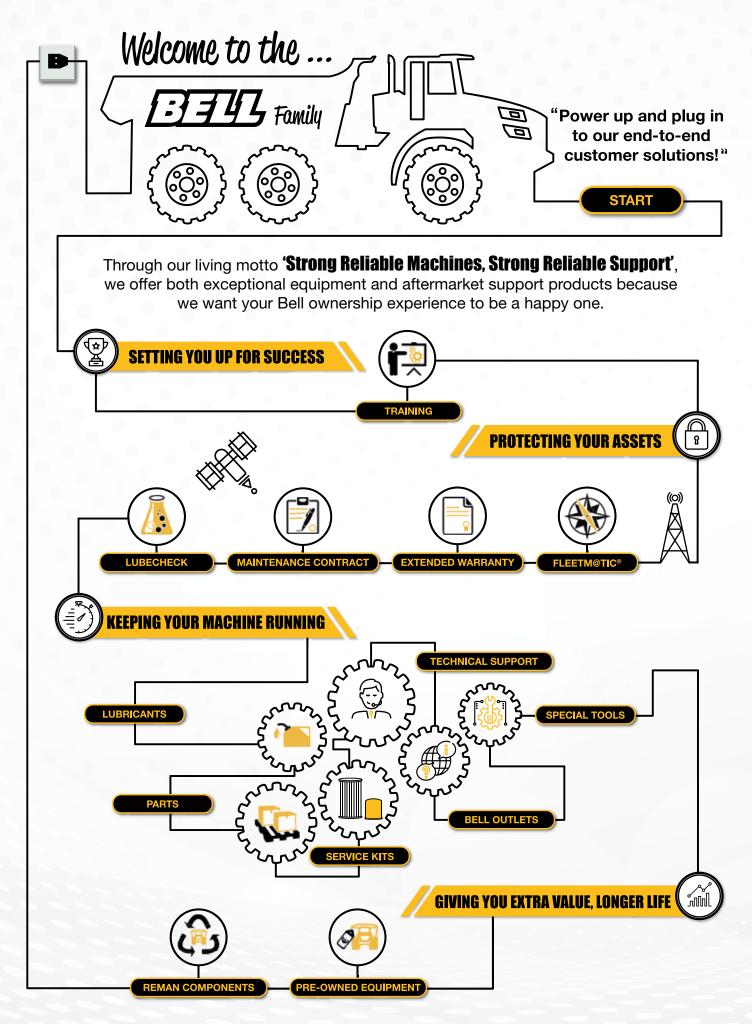
#### **DUMP BODY**

- Dump body mechanical locks (x2). Partially up and fully up
- ▲ Body liner (Partial for B60E)
- ▲ Body heater
- ▲ Less dump body and cylinders
  - ▲ Bin pole lockout

    Rear wheel mudguards

#### OTHER

- Automatic Traction Control (ATC)
- Wet disc brakes
- 23.5 R25 Radial Earthmover tyres (Front)
- 875/65 R29 Radial Earthmover tyres (Rear)
  - 875/65 R29 Radial Earthmover tyres (Front)
  - Twin 24.00 R35 Dual (Rear)
- Remote grease banks
- ▲ Automatic greasing
- Onboard Weighing
- ▲ | Load lights: stack
- Comfort ride suspension (Front)
  - Comfort ride suspension (Rear)
- ▲ Reverse camera
- Hand rails
- Cab peak
- High pressure hydraulic filter
- ▲ Fuel heater
- Belly cover
- Cross member cover
  - Remote transmission filters
- Engine and transmission remote drain-gravity
  - ▲ Engine and transmission remote drain-scavenge
- ▲ Window smash button
  - High visibility mirrors
- Fleetm@tic® Classic Package for 2 years
- Electronic bonnet opening



**SUPPORTING YOU EVERY STEP OF YOUR BELL OWNERSHIP EXPERIENCE** 

# Notes

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# Notes

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All dimensions are shown in millimeters, unless otherwise stated between brackets.

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Strong Reliable Machines Strong Reliable Support

