

# B40E Articulated Dump Truck

ENGINE	TRANSFER CASE	WHEELS	DUMPING SYSTEM
<b>Manufacturer</b> Mercedes Benz (MTU)	<b>Manufacturer</b> Kessler	<b>Type</b> Radial Earthmover	Two double-acting, single stage, dump cylinders.
<b>Model</b> OM471LA (MTU 6R 1300)	<b>Series</b> W2400	<b>Tyre</b> 29.5 R 25 (875/65 R 29 optional)	<b>Raise Time</b> 12 seconds
<b>Configuration</b> Inline 6, turbocharged and intercooled.	<b>Layout</b> Remote mounted	<b>FRONT SUSPENSION</b> Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts.  Optional active dual springrate Comfort Ride suspension available, including height control.	<b>Lowering Time</b> 11 seconds
<b>Maximum Net Power</b> 380 kW (510 hp) at 1 600 rpm in accordance with UN ECE R120	<b>Gear Layout</b> Three in-line helical gears		<b>Tipping Angle</b> 70 deg standard, or any lower angle programmable
<b>Gross Torque</b> 2 600 Nm (1 917 lbf) @ 1 300 rpm	<b>Output Differential</b> Interaxle 29/71 proportional differential. Automatic inter-axle differential lock.		<b>PNEUMATIC SYSTEM</b> Air drier with heater and integral unloader valve, serving park brake and auxiliary functions.
<b>Displacement</b> 12,8 litres (781 cu.in)	<b>AXLES</b>	<b>REAR SUSPENSION</b> Pivoting walking beams with laminated rubber suspension blocks.  Optional passive dual-springrate Comfort Ride walking beam available.	<b>System Pressure</b> 8,1 Bar (117 psi)
<b>Auxiliary Brake</b> Jacobs Engine Brake®	<b>Manufacturer</b> Bell		<b>ELECTRICAL SYSTEM</b>
<b>Fuel Tank Capacity</b> 352 litres (93 US gal)	<b>Model</b> 30T		<b>Voltage</b> 24 V
<b>AdBlue® Tank Capacity</b> 40 litres (11 US gal)	<b>Differential</b> High input controlled traction differential with spiral bevel gears	<b>HYDRAULIC SYSTEM</b> 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.	<b>Battery Type</b> Two AGM (Absorption Glass Mat) type.
<b>Certification</b> OM471LA (MTU 6R 1300) meets EU Stage V / EPA Tier 4 Final emissions regulations	<b>Final Drive</b> Outboard heavy duty planetary on all axles.		<b>Battery Capacity</b> 2 X 75 Ah
TRANSMISSION	BRAKING SYSTEM		<b>Alternator Rating</b> 28V 100A
<b>Manufacturer</b> Allison	<b>Service Brake</b> Dual circuit, full hydraulic actuation wet disc brakes on front and middle axles. Wet brake oil is circulated through a filtration and cooling system.	<b>Pump Type</b> Variable displacement load sensing piston	<b>MAX. VEHICLE SPEED</b>
<b>Model</b> 4700 ORS		<b>Flow</b> 300 L/min (79 gal/min)	1st 4 km/h 2,5 mph
<b>Configuration</b> Fully automatic planetary transmission.	<b>Maximum brake force:</b> 327 kN (73 513 lbf)	<b>Pressure</b> 310 Bar (4 500 psi)	2nd 9 km/h 6 mph
<b>Layout</b> Engine mounted	<b>Park &amp; Emergency</b> Spring applied, air released driveline mounted disc.	<b>Filter</b> 5 microns	3rd 17 km/h 11 mph
<b>Gear Layout</b> Constant meshing planetary gears, clutch operated	<b>Maximum brake force:</b> 218 kN (49 008 lbf)		4th 23 km/h 14 mph
<b>Gears</b> 7 Forward, 1 Reverse	<b>Auxiliary Brake</b> Jacobs Engine Brake®. Automatic retardation through electronic activation of wet brake system.	<b>STEERING SYSTEM</b> Double acting cylinders, with ground-driven emergency steering pump.	5th 33 km/h 21 mph
<b>Clutch Type</b> Hydraulically operated multi-disc		<b>Lock to lock turns</b> 4,5	6th 44 km/h 27,3 mph
<b>Control Type</b> Electronic	<b>Total Retardation Power</b> Continuous: 442 kW (593 hp) Maximum: 854 kW (1 145 hp)	<b>Steering Angle</b> 42°	7th 51 km/h 32 mph
<b>Torque Control</b> Hydrodynamic with lock-up in all gears.			R 7 km/h 4 mph
			<b>CAB</b> ROPS/FOPS certified 77 dBA internal sound pressure measured according to ISO 6396.

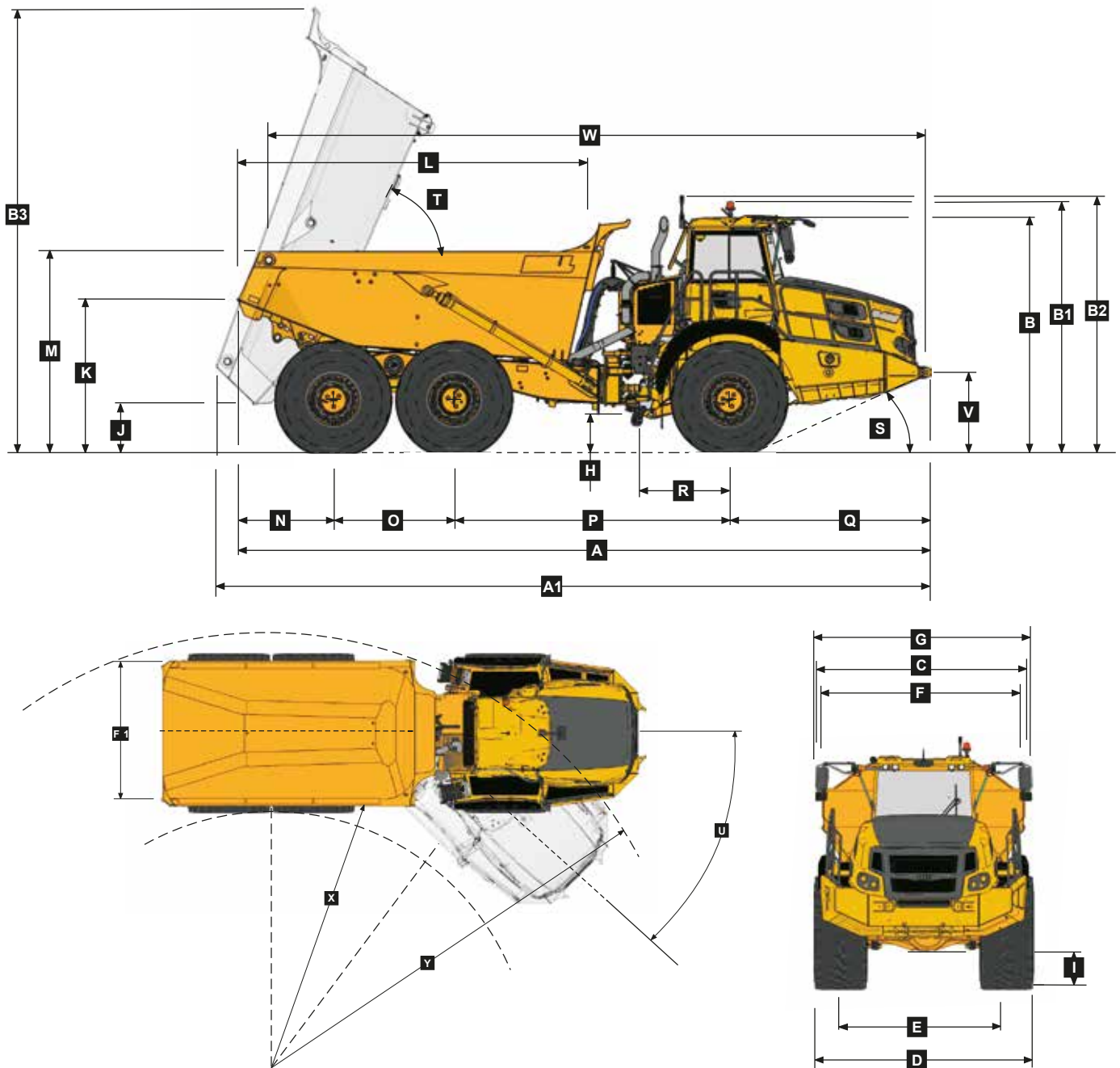
## Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE*				LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN				BODY	m³ (yd³)		kg (lb)
Front	16 816 (37 072)	No sinkage/Total Contact Area (as recommended by tyre manufacturer)	Calculation method used by competition			Struck Capacity	19 (25)	Bin liner	1 369 (3 018)
Middle	8 997 (19 834)					SAE 2:1 Capacity	24 (31)	Tailgate	1 002 (2 209)
Rear	8 784 (19 365)	29.5 R 25	kPa (Psi)	29.5 R 25	kPa (Psi)	SAE 1:1 Capacity	28,5 (37)	Wheelset 875/65 R29	
Total	34 596 (76 271)	Front	310 (45)	Front	151 (21,9)	SAE 2:1 Capacity with Tailgate	24,5 (32)	(per vehicle) Add	1 338 (2 950)
LADEN		Mid/Rear	367 (53,2)	Rear	169 (24,5)			EXTRA WHEELSET	
Front	21 691 (47 820)							29.5 R 25	
Middle	26 059 (57 450)	875/65 R29		875/65 R29		Rated Payload	39 000 kg	(per vehicle) Add	516 (1 138)
Rear	25 846 (56 981)	Front	293 (42,5)	Front	131 (19)		(85 980 lb)	875/65 R29	
Total	73 596 (162 251)	Mid/Rear	329 (47,7)	Rear	149 (21,6)			(per vehicle) Add	1 338 (2 950)

\* 29.5R25 Ground pressures calculated with Michelin XADN+ Tyre. 875/65R29 Groundpressures calculated with Michelin XAD65-1 Tyre.

# B40E

## Dimensions

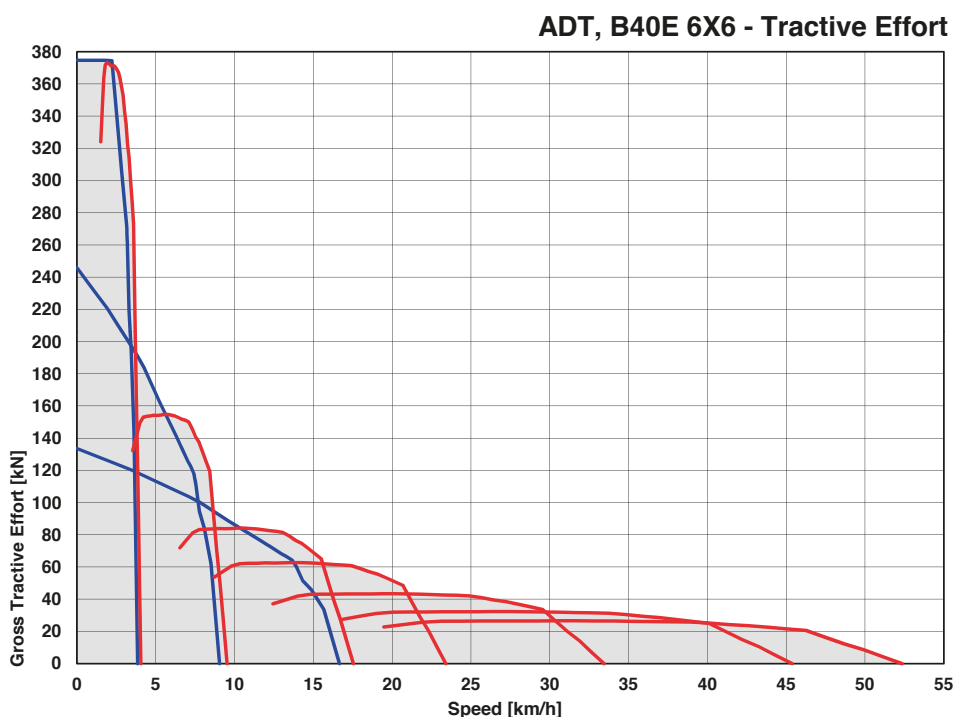
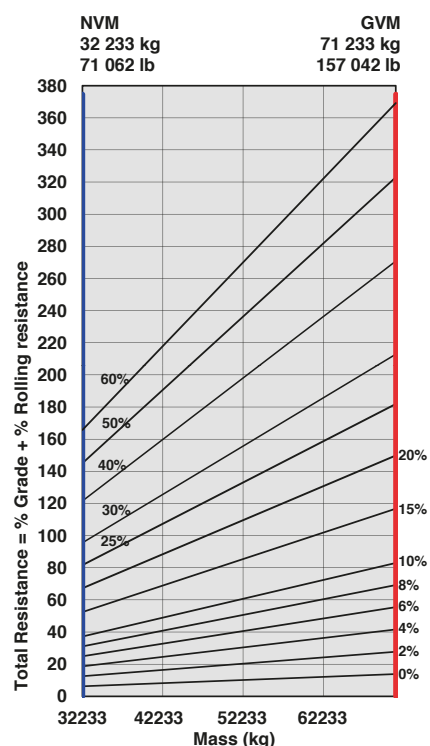


### Machine Dimensions

A	Length - Transport Position with Tailgate	11 197 mm (36 ft. 9 in.)	K	Bin Lip Height - Transport Position	2 519 mm (8 ft. 3 in.)
A	Length - Transport Position w/o Tailgate	11 186 mm (36 ft. 8 in.)	L	Bin Length	5 742 mm (18 ft. 10 in.)
A1	Length - Bin Fully Tipped	11 742 mm (38 ft. 6 in.)	M	Load over Height	3 271 mm (10 ft. 9 in.)
B	Height - Transport Position	3 804 mm (12 ft. 6 in.)	N	Rear Axle Centre to Bin Rear	1 543 mm (5 ft.)
B1	Height - Rotating Beacon	4 040 mm (13 ft. 3 in.)	O	Mid Axle Centre to Rear Axle Centre	1 950 mm (6 ft. 5 in.)
B2	Height - Load Light	4 129 mm (13 ft. 7 in.)	P	Mid Axle Centre to Front Axle Centre	4 438 mm (14 ft. 7 in.)
B3	Bin Height - Fully Tipped	7 316 mm (24 ft.)	Q	Front Axle Centre to Machine Front	3 255 mm (10 ft. 8 in.)
C	Width over Mudguards	3 495 mm (11 ft. 6 in.)	R	Front Axle Centre to Artic Centre	1 558 mm (5 ft. 1 in.)
D	Width over Tyres - 875/65 R29	3 656 mm (12 ft.)	S	Approach Angle	24 °
D	Width over Tyres - 29.5R25	3 487 mm (11 ft. 5 in.)	T	Maximum Bin Tip Angle	70 °
E	Tyre Track Width - 875/65 R29	2 773 mm (9 ft. 1 in.)	U	Maximum Articulation Angle	42 °
E	Tyre Track Width - 29.5R25	2 725 mm (8 ft. 11 in.)	V	Front Tie Down Height	1 265 mm (4 ft. 2 in.)
F	Width over Bin	3 372 mm (11 ft.)	W	Machine Lifting Centres	10 594 mm (34 ft. 9 in.)
F1	Width over Tailgate	3 662 mm (12 ft.)	X	Inner Turning Circle Radius - 875/65 R29	4 782 mm (15 ft. 8 in.)
G	Width over Mirrors - Operating Position	3 614 mm (11 ft. 10 in.)	X	Inner Turning Circle Radius - 29.5R25	4 866 mm (16 ft.)
H	Ground Clearance - Artic	545 mm (21.46 in.)	Y	Outer Turning Circle Radius - 875/65 R29	9 320 mm (30 ft. 7 in.)
I	Ground Clearance - Front Axle	545 mm (21.46 in.)	Y	Outer Turning Circle Radius - 29.5R25	9 235 mm (30 ft. 4 in.)
J	Ground Clearance - Bin Fully Tipped	876 mm (34.5 in.)			

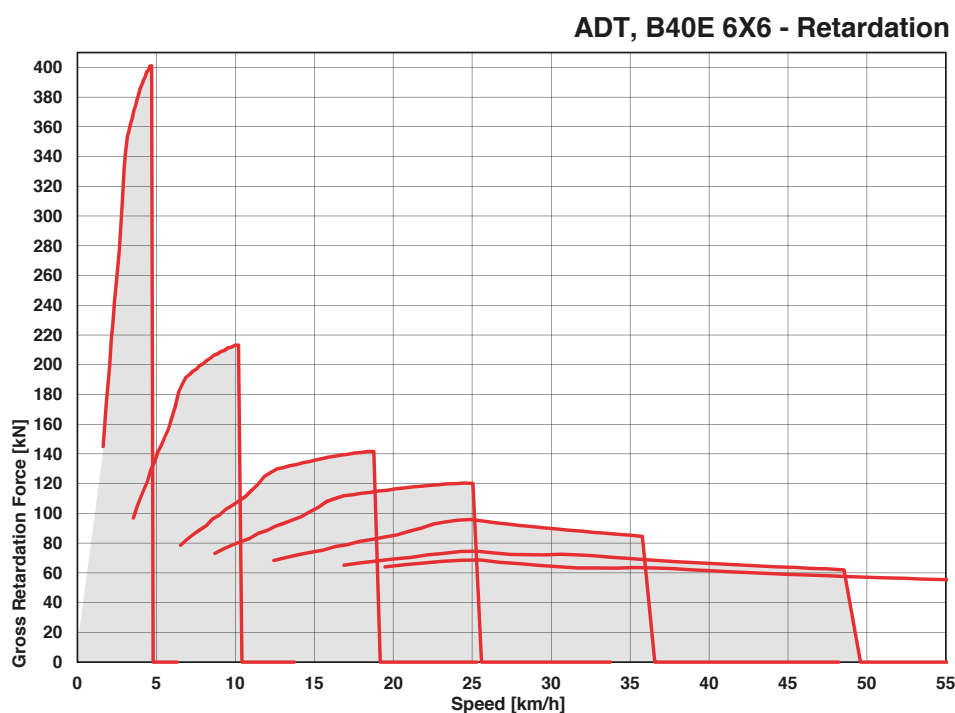
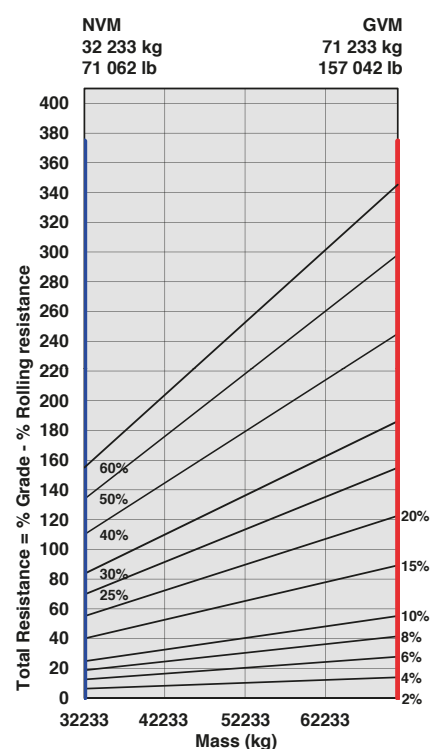
## Gradeability/Rimpull

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.



B35E	B40E	B45E	B50E		
				ENGINE	
●	●	●	●	Jacobs Engine Brake®	
●	●	●	●	Dual element air cleaner with dust ejector valve	
●	●	●	●	Precleaner 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	
▲	▲	▲	▲	PDS Hardware	
●	●	●	●	Battery disconnect	
●	●	●	●	Halogen drive lights	
▲	▲	▲	▲	LED drive lights	
●	●	●	●	Air horn	
●	●	●	●	Reverse alarm	
▲	▲	▲	▲	White noise reverse alarm	
●	●	●	●	Rotating beacon	
●	●	●	●	Pitch Roll Sensor	
●	●	●	●	Halogen Artic reverse light	
▲	▲	▲	▲	LED Artic reverse light	
●	●	●	●	LED reverse lights	
				STEERING SYSTEM	
●	●	●	●	Unidirectional pump	
▲	▲	▲	▲	Bi-directional pump	
				CAB	
●	●	●	●	ROPS/FOPS certification	
●	●	●	●	Tilt cab	
●	●	●	●	Gas strut-supported door	
●	●	●	●	I-Tip programmable dump-body tip settings	
●	●	●	●	HVAC semi-climate control system	
●	●	●	●	AM/FM radio with Aux + USB	
●	●	●	●	Rear window guard	
●	●	●	●	Wiper/washer with intermittent control	
●	●	●	●	Tilt and telescoping steering wheel	
●	●	●	●	Centre-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	
				CAB (continued)	
				Manually adjusted mirrors	
				Heated mirrors	
●	●	●	●	Electrically adjusted and heated mirrors	
●	●	●	●	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	
●	●	●	●	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	
				DUMP BODY	
●	●	●	●	Dump body mechanical locks (x2). Partially up	
				and fully up	
▲	▲	▲	▲	Body liner	
▲	▲	▲	▲	Tailgate	
▲	▲	▲	▲	Body heater	
▲	▲	▲	▲	Less dump body and cylinders	
▲	▲	▲	▲	Low SG bin extensions	
▲	▲	▲	▲	Bin pole lockout	
				OTHER	
●	●	●	●	Automatic Traction Control (ATC)	
●	●	●	●	Wet disc brakes	
●				26.5 R 25 Radial Earthmover tyres	
	●	●	▲	29.5 R 25 Radial Earthmover tyres	
	▲	▲	●	875/65 R 29 Radial Earthmover tyres	
●	●	●		Remote grease banks	
▲	▲	▲	●	Automatic greasing	
●	●	●	●	Onboard weighing	
▲	▲	▲	▲	Load lights: stack	
▲	▲	▲	●	Comfort ride suspension (Front)	
▲	▲	▲	▲	Comfort ride suspension (Rear)	
▲	▲	▲	▲	Reverse camera	
●	●	●	●	Hand rails	
▲	▲	▲	▲	HSE Hand rails	
●	●	●	●	Cab peak	
▲	▲	▲	▲	High pressure hydraulic filter	
▲	▲	▲	▲	Fuel heater	
●	●	●	●	Belly plate	
▲	▲	▲	▲	Belly covers	
▲	▲	▲	▲	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	

The compilation of standard and optional equipment may vary by market region. Please check with your local distributor.