

B45E Articulated Dump Truck

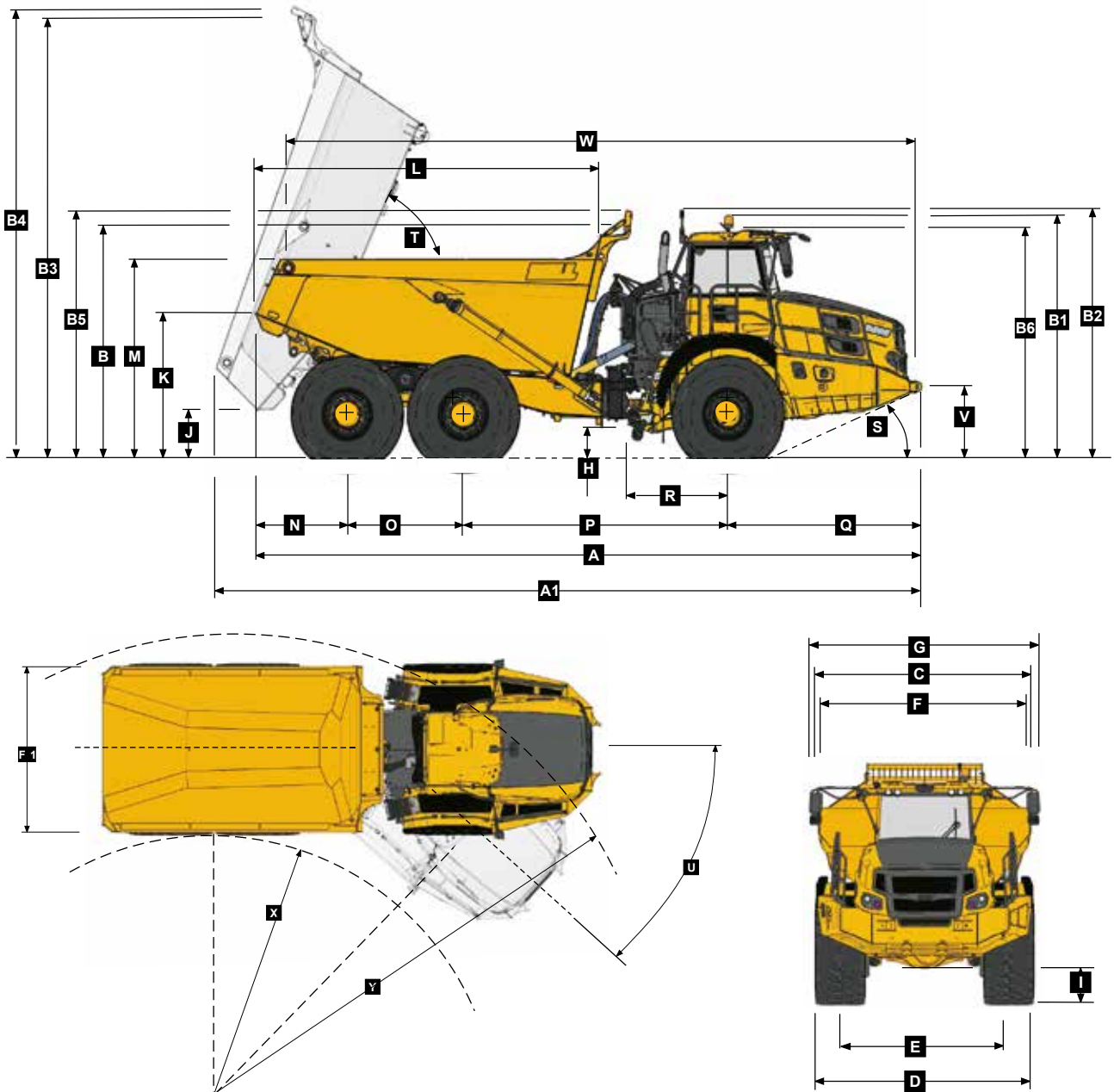
ENGINE	TRANSFER CASE	WHEELS	DUMPING SYSTEM
Manufacturer Mercedes Benz (MTU)	Manufacturer Kessler	Type Radial Earthmover	Two double-acting, single stage, dump cylinders
Model OM471LA (MTU 6R 1300)	Model W2400	Tyre 29.5 R 25 (875/65 R 29 optional)	Raise Time 12 seconds
Configuration Inline 6, turbocharged and intercooled	Layout Remote mounted	FRONT SUSPENSION Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts	Lowering Time 11 seconds
Maximum Net Power 390 kW (523 hp) @ 1 600 rpm in accordance with UN ECE R120	Gear Layout Three in-line helical gears	Optional active dual springrate Comfort Ride suspension available, including height control.	Tipping Angle 70 deg standard, or any lower angle programmable
Gross Torque 2 600 Nm (1 918 lbf) @ 1 300 rpm	Output Differential Interaxle 29/71 proportional differential. Automatic inter-axle differential lock.	REAR SUSPENSION Pivoting walking beams with laminated rubber suspension blocks	PNEUMATIC SYSTEM Air drier with heater and integral unloader valve, serving park brake and auxiliary functions
Displacement 12,8 litres (781 cu.in)	AXLES Manufacturer Bell	Optional passive dual-springrate Comfort Ride walking beam available.	System Pressure 8,1 Bar (117 psi)
Auxiliary Brake Jacobs Engine Brake®	Model 30T	HYDRAULIC SYSTEM Full load sensing system serving the prioritised steering, body tipping and brake functions. A ground-driven, load sensing emergency steering pump is integrated into the main system.	ELECTRICAL SYSTEM Voltage 24 V
Fuel Tank Capacity 533 litres (140.8 US gal)	Differential High input controlled traction differential with spiral bevel gears		Battery Type Two AGM (Absorption Glass Mat) type
Certification OM471LA (MTU 6R 1300) is EU Stage IIIA / EPA Tier 3 emission level equivalent	Final Drive Outboard heavy duty planetary on all axles		Battery Capacity 2 X 75 Ah
TRANSMISSION			Alternator Rating 28 V 100 A
Manufacturer Allison	BRAKING SYSTEM Service Brake Dual circuit, full hydraulic actuation wet disc brakes on front and middle axles. Wet brake oil is circulated through a filtration and cooling system.	Pump Type Variable displacement load sensing piston	MAX. VEHICLE SPEED
Model 4700 ORS	Maximum brake force: 327 kN (73 513 lbf)	Flow 300 L/min (79 gal/min)	1st 4 km/h 2,5 mph
Configuration Fully automatic planetary transmission	Park & Emergency Spring applied, air released driveline mounted disc	Pressure 310 Bar (4 500 psi)	2nd 9 km/h 6 mph
Layout Engine mounted	Maximum brake force: 218 kN (49 008 lbf)	Filter 5 microns	3rd 17 km/h 11 mph
Gear Layout Constant meshing planetary gears, clutch operated	Auxiliary Brake Jacobs Engine Brake®. Automatic retardation through electronic activation of wet brake system.	STEERING SYSTEM Double acting cylinders, with ground-driven emergency steering pump	4th 23 km/h 14 mph
Gears 7 Forward, 1 reverse	Total Retardation Power Continuous: 442 kW (593 hp) Maximum: 854 kW (1 145 hp)	Lock to lock turns 4,5	5th 33 km/h 21 mph
Clutch Type Hydraulically operated multi-disc		Steering Angle 42°	6th 44 km/h 27,3 mph
Control Type Electronic			7th 51 km/h 32 mph
Torque Control Hydrodynamic with lock-up in all gears			R 7 km/h 4 mph
			CAB 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	17 775 (39 187)	No sinkage/Total Contact Area (as recommended by tyre manufacturer)	Calculation method used by competition	29.5 R 25	kPa (Psi)	Struck Capacity	19,5 (25,5)	Bin liner	1 404 (3 095)
Middle	7 883 (17 379)					SAE 2:1 Capacity	25 (33)	Tailgate	1 030 (2 271)
Rear	7 394 (16 301)	29.5 R 25	kPa (Psi)	29.5 R 25	kPa (Psi)	SAE 1:1 Capacity	29,5 (38)	875/65 R29	
Total	33 052 (72 867)	Front	314 (45,5)	Front	153 (22,2)	SAE 2:1 Capacity		(per vehicle) Add	1 338 (2 950)
LADEN		Mid/Rear	370 (53,7)	Mid/Rear	176 (25,5)	with Tailgate	26 (34)	EXTRA WHEELSET	
Front	22 900 (50 486)							29.5 R 25	
Middle	25 821 (56 926)	875/65 R29		875/65 R29		Rated Payload	41 000 kg	(per vehicle) Add	516 (1 138)
Rear	25 332 (55 848)	Front	295 (42,8)	Front	135 (19,6)		(90 390 lb)	875/65 R29	
Total	74 052 (163 257)	Mid/Rear	331 (48)	Mid/Rear	154 (22,3)			(per vehicle) Add	1 338 (2 950)

* Includes additional equipment. ** 29.5R25 Groundpressures calculated with Michelin XADN+ Tyre. 875/65R29 Groundpressures calculated with Michelin XAD65-1 Tyre.

Dimensions

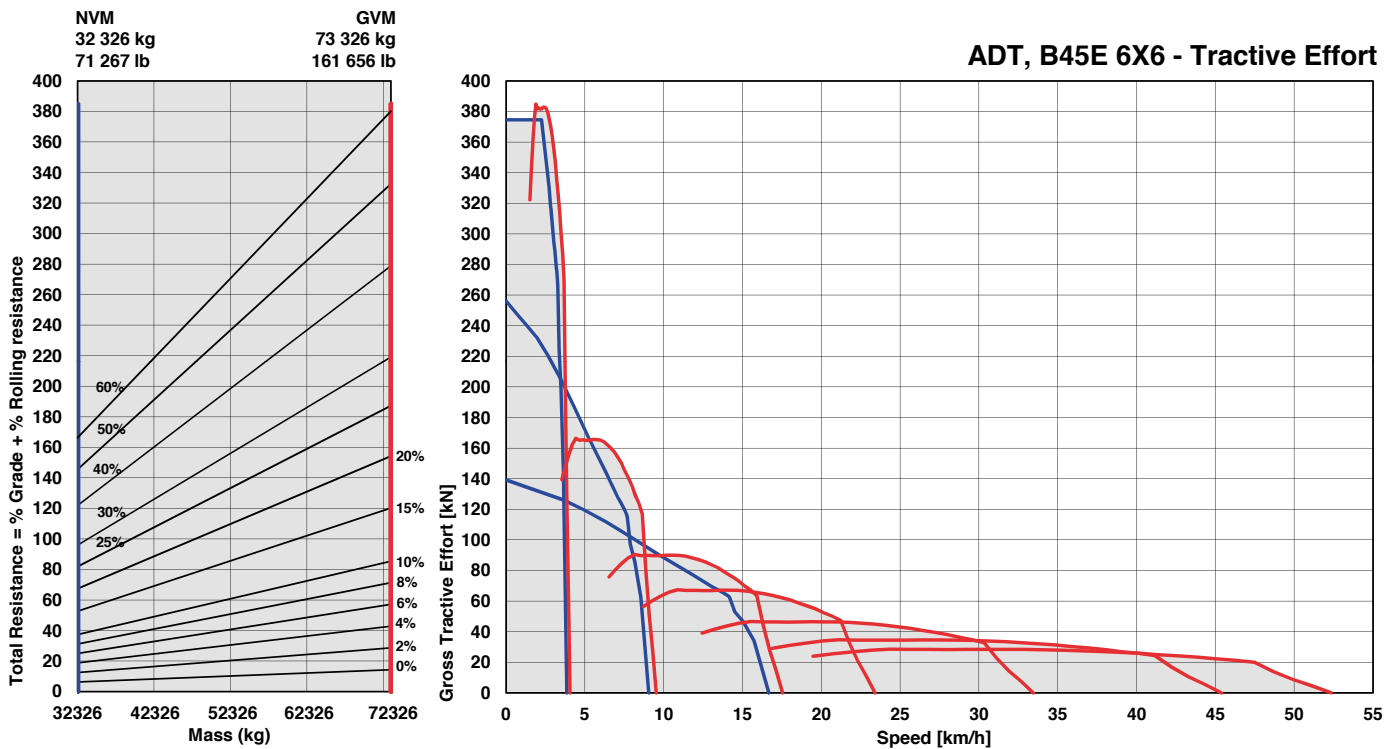


Machine Dimensions

A	Length - Transport Position with Tailgate	11 184 mm (36 ft. 8 in.)	I	Ground Clearance - Front Axle	543 mm (21.34 in.)
A	Length - Transport Position w/o Tailgate	11 184 mm (36 ft. 8 in.)	J	Ground Clearance - Bin Fully Tipped	880 mm (34.65 in.)
A1	Length - Bin Fully Tipped	11 778 mm (38 ft. 8 in.)	K	Bin Lip Height - Transport Position	2 521 mm (8 ft. 3 in.)
B	Height - Transport Position w/o Rock Guard	3 802 mm (12 ft. 6 in.)	L	Bin Length	5 753 mm (18 ft. 10 in.)
B	Height - Transport Position with Rock Guard	3 844 mm (12 ft. 7 in.)	M	Load over Height	3 316 mm (10 ft. 11 in.)
B1	Height - Rotating Beacon	4 038 mm (13 ft. 3 in.)	N	Rear Axle Centre to Bin Rear	1 540 mm (5 ft.)
B2	Height - Load Light	4 127 mm (13 ft. 6 in.)	O	Mid Axle Centre to Rear Axle Centre	1 950 mm (6 ft. 5 in.)
B3	Bin Height - Fully Tipped w/o Rock Guard	7 340 mm (24 ft. 1 in.)	P	Mid Axle Centre to Front Axle Centre	4 438 mm (14 ft. 7 in.)
B4	Bin Height - Fully Tipped with Rock Guard	7 448 mm (24 ft. 5 in.)	Q	Front Axle Centre to Machine Front	3 256 mm (10 ft. 8 in.)
B5	Height - Rock Guard Operating Position	4 123 mm (13 ft. 6 in.)	R	Front Axle Centre to Artic Centre	1 558 mm (5 ft. 1 in.)
B6	Height - Cab	3 802 mm (12 ft. 6 in.)	S	Approach Angle	24 °
C	Width over Mudguards	3 495 mm (11 ft. 6 in.)	T	Maximum Bin Tip Angle	70 °
D	Width over Tyres - 875/65 R29	3 656 mm (12 ft.)	U	Maximum Articulation Angle	42 °
D	Width over Tyres - 29.5R25	3 487 mm (11 ft. 5 in.)	V	Front Tie Down Height	1 262 mm (4 ft. 2 in.)
E	Tyre Track Width - 875/65 R29	2 773 mm (9 ft. 1 in.)	W	Machine Lifting Centres	10 569 mm (34 ft. 8 in.)
E	Tyre Track Width - 29.5R25	2 725 mm (8 ft. 11 in.)	X	Inner Turning Circle Radius - 875/65 R29	4 782 mm (15 ft. 8 in.)
F	Width over Bin	3 448 mm (11 ft. 4 in.)	X	Inner Turning Circle Radius - 29.5R25	4 866 mm (16 ft.)
F1	Width over Tailgate	3 738 mm (12 ft. 3 in.)	Y	Outer Turning Circle Radius - 875/65 R29	9 320 mm (30 ft. 7 in.)
G	Width over Mirrors - Operating Position	4 027 mm (13 ft. 3 in.)	Y	Outer Turning Circle Radius - 29.5R25	9 235 mm (30 ft. 4 in.)
H	Ground Clearance - Artic	545 mm (21.46 in.)			

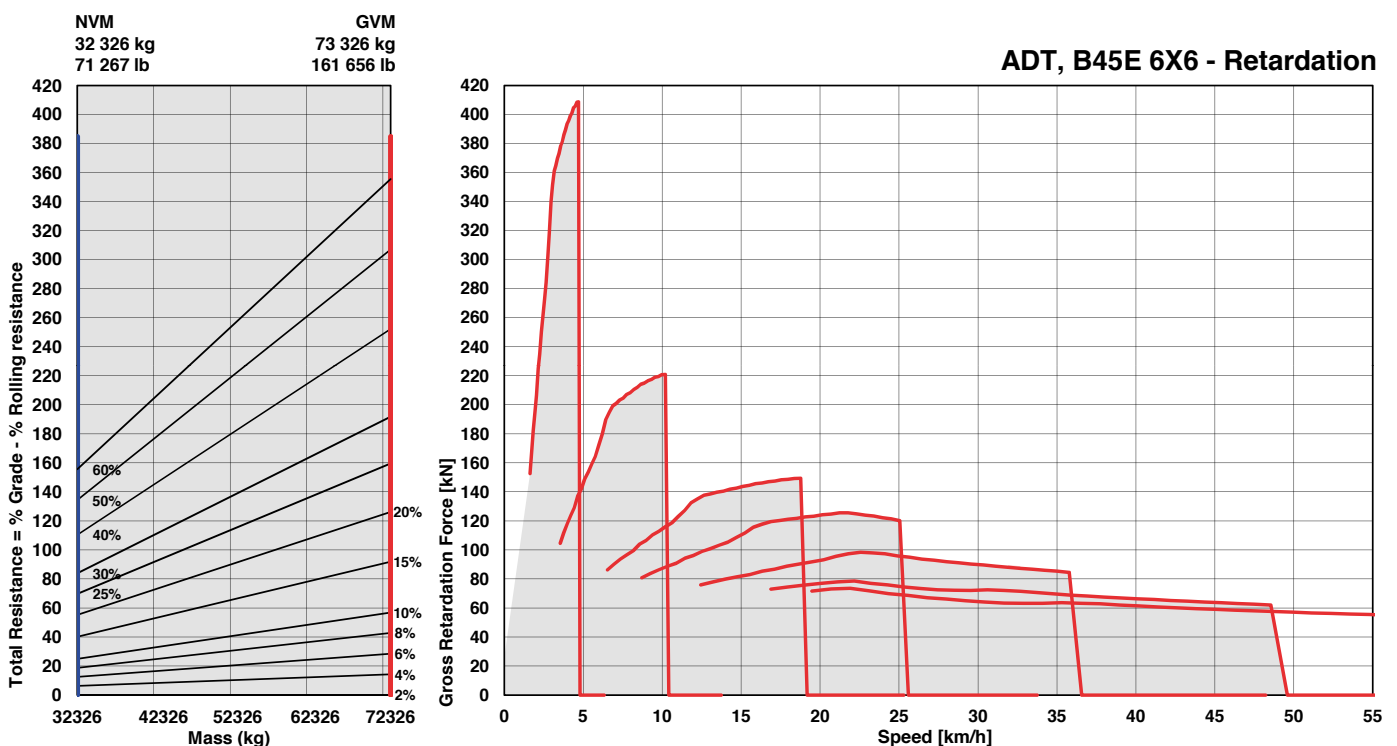
Gradeability/Rimpull

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.



B40E	B45E	B50E	
			ENGINE
●	●	●	Jacobs Brake Engine®
●	●	●	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 as an option
●	●	●	Battery disconnect
●	●	●	Drive lights
▲	▲	▲	LED Drive lights
●	●	●	Air horn
●	●	●	Reverse alarm
▲	▲	▲	White noise reverse alarm
●	●	●	LED reverse lights
●	●	●	Rotating beacon
●	●	●	Pitch Roll Sensor
●	●	●	Halogen Artic reverse light
▲	▲	▲	LED Artic reverse light
			STEERING SYSTEM
●	●	●	Unidirectional pump
▲	▲	▲	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 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
●	●	●	Foldaway trainer seat with retractable seat belt
●	●	●	12-volt power outlet
●	●	●	Cab utility bin (removable)
●	●	●	Cup holder
●	●	●	Cooled/heated lunch box
●	●	●	Manually adjusted mirrors

B40E	B45E	B50E	
			CAB (continued)
▲	▲	▲	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
▲	▲	▲	High volume dump body
▲	▲	▲	Triangular bin caps
			OTHER
●	●	●	Automatic Traction Control (ATC)
●	●	●	Wet disc brakes
●	●	▲	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
▲	▲	▲	Engine oil quick drain connector