

B45E Articulated Dump Truck

ENGINE

Manufacturer
Mercedes Benz (MTU)

Model
OM471LA (MTU 6R 1300)

Configuration
Inline 6, turbocharged and intercooled.

Gross Power
390 kW (523 hp) @ 1 700 rpm

Net Power
369 kW (495 hp) @ 1 700 rpm

Gross Torque
2 460 Nm (1 814 lbf) @ 1 300 rpm

Displacement
12,8 litres (781 cu.in)

Auxiliary Brake
Jacobs Engine Brake®

Fuel Tank Capacity
352 litres (93 US gal)

AdBlue® Tank Capacity
40 litres (11 US gal)

Certification
OM471LA (MTU 6R 1300) meets EU Stage V emissions regulations

TRANSMISSION

Manufacturer
Allison

Model
4700 ORS

Configuration
Fully automatic planetary transmission.

Layout
Engine mounted

Gear Layout
Constant meshing planetary gears, clutch operated

Gears
7 Forward, 1 Reverse

Clutch Type
Hydraulically operated multi-disc

Control Type
Electronic

Torque Control
Hydrodynamic with lock-up in all gears.

TRANSFER CASE

Manufacturer
Kessler

Model
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
Bell

Model
30T

Differential
High input controlled traction 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 middle axles. Wet brake oil is circulated through a filtration and cooling system.

Maximum brake force:
327 kN (73 513 lbf)

Park & Emergency
Spring applied, air released driveline mounted disc.

Maximum brake force:
218 kN (49 008 lbf)

Auxiliary Brake
Automatic engine valve brake. Automatic retardation through electronic activation of wet brake system.

Total Retardation Power
Continuous: 442 kW (593 hp)
Maximum: 854 kW (1 145 hp)

WHEELS

Type
Radial Earthmover

Tyre
29.5 R 25 (875/65 R 29 optional)

FRONT SUSPENSION

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

Option: Electronically controlled adaptive suspension with ride height adjustment.

REAR SUSPENSION

Pivoting walking beams with laminated rubber suspension blocks.

Option: Comfort Ride suspension walking beams, with two-stage sandwich block.

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
330 L/min (87 gal/min)

Pressure
315 bar (4 569 psi)

Filter
5 microns

STEERING SYSTEM

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

Lock to lock turns
5

Steering Angle
42°

DUMPING SYSTEM

Two double-acting, single stage, dump cylinders.

Raise Time
11 seconds

Lowering Time
6 seconds

Tipping Angle
70 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 SPEED

1st	4 km/h	2,5 mph
2nd	9 km/h	6 mph
3rd	17 km/h	11 mph
4th	23 km/h	14 mph
5th	33 km/h	21 mph
6th	44 km/h	27,3 mph
7th	51 km/h	32 mph
R	7 km/h	4 mph

CAB

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

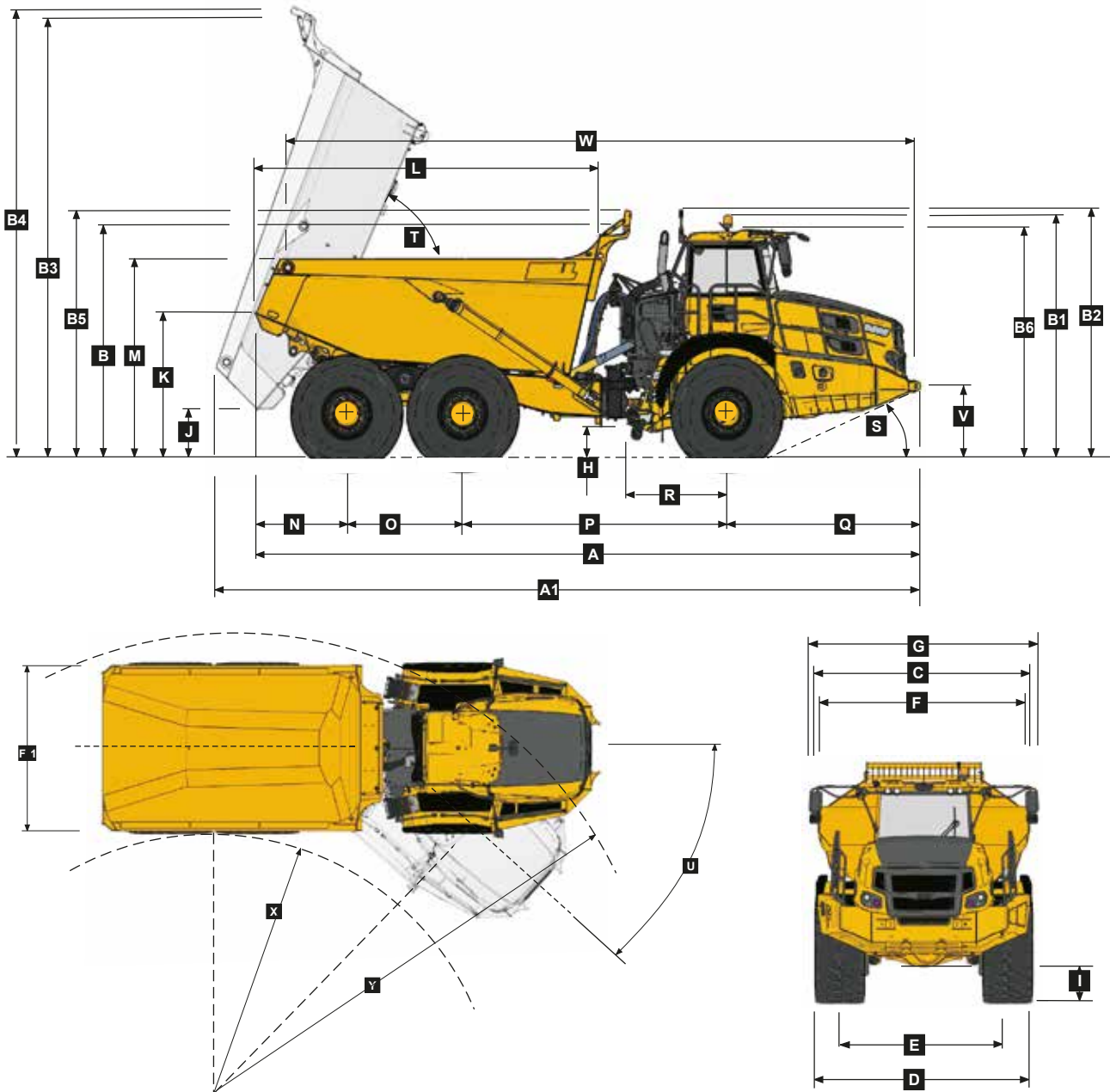
Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE*		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN		BODY	m ³ (yd ³)	kg (lb)	
Front	16 984 (37 443)	(No sinkage/Total Contact Area Method)		Struck Capacity	19,5 (25,5)	Bin liner	1 404 (3 095)
Middle	7 778 (17 148)	29.5 R 25	kPa (Psi)	SAE 2:1 Capacity	25 (33)	Tailgate	1 013 (2 233)
Rear	7 564 (16 676)	Front	321 (47)	SAE 1:1 Capacity	29,5 (38)	875/65 R29	
Total	32 326 (71 267)	Mid & Rear	370 (54)	SAE 2:1 Capacity with Tailgate	26 (34)	(per vehicle) Add	1 182 (2 606)
LADEN						EXTRA WHEELSET	
Front	22 109 (48 742)	875/65 R29	kPa (Psi)			29.5 R 25	800 (1 764)
Middle	25 715 (56 692)	Front	294 (43)	Rated Payload	41 000 kg	875/65 R29	1 024 (2 258)
Rear	25 502 (56 222)	Mid & Rear	331 (48)		(90 390 lb)		
Total	73 326 (161 656)						

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

Dimensions

B45E

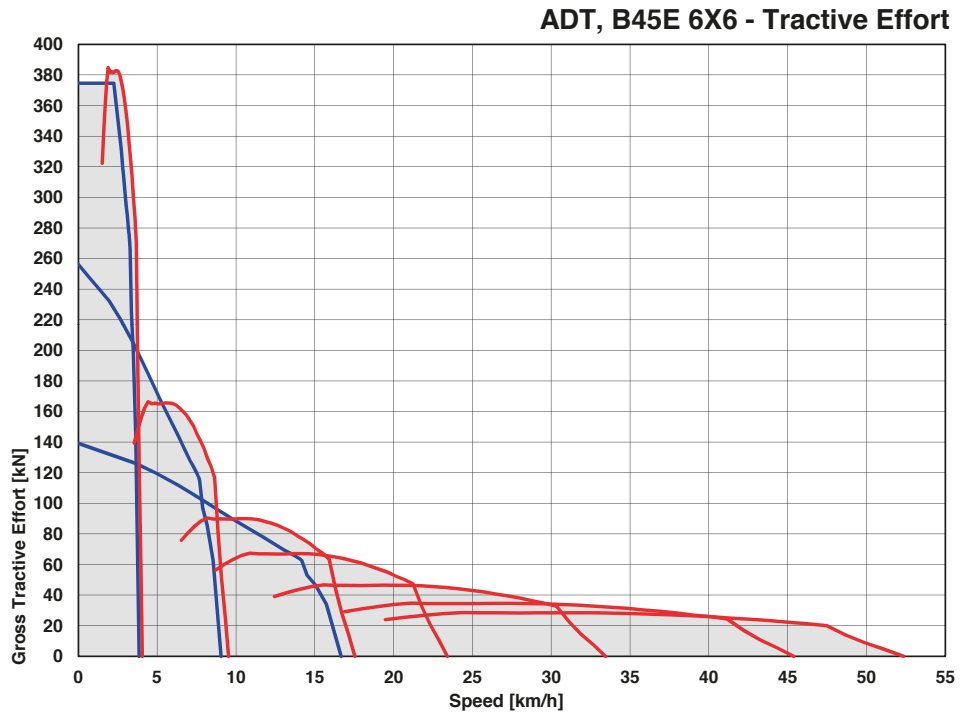
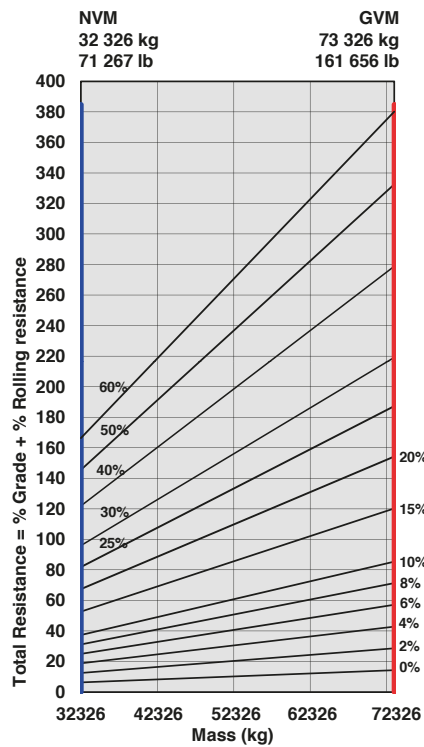


Machine Dimensions

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.)				

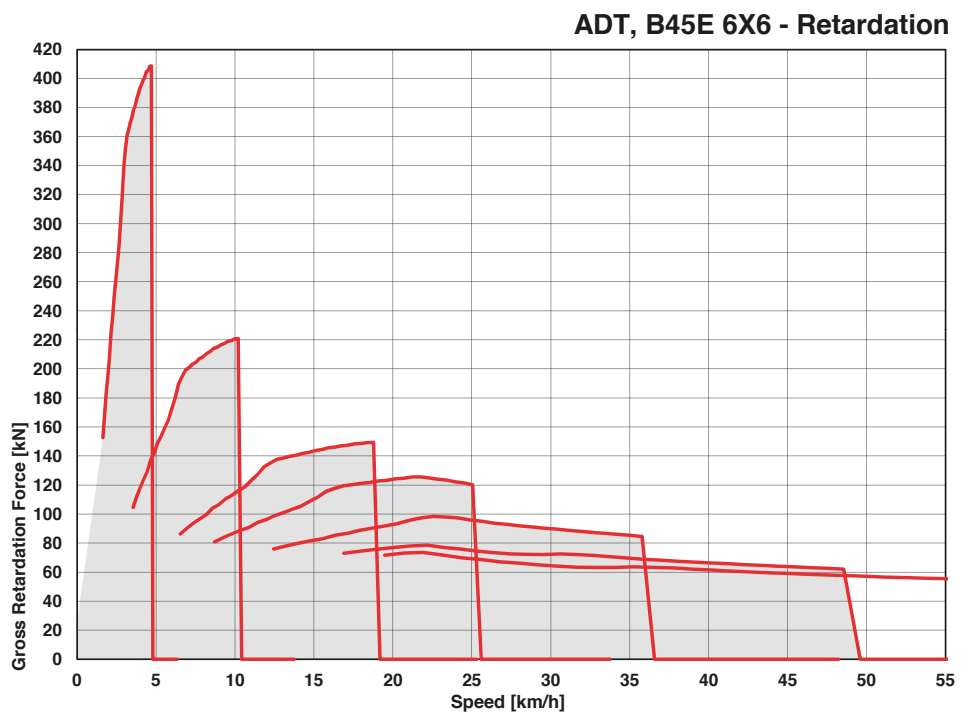
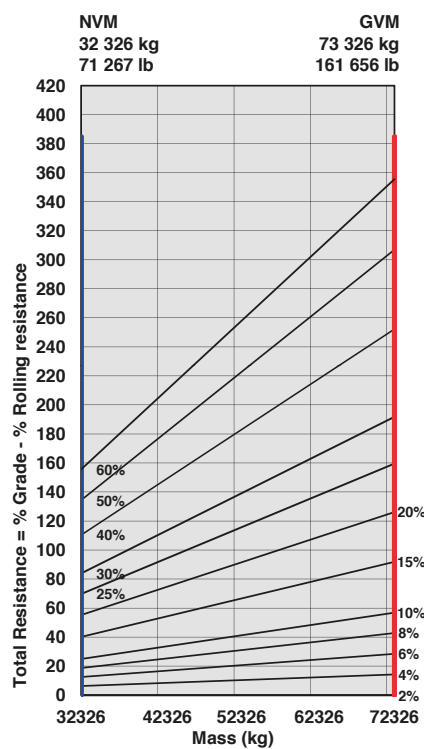
Gradeability/Rimpull

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.



B35E	B40E	B45E	B50E		B35E	B40E	B45E	B50E					
				ENGINE					CAB (continued)				
●	●	●	●	Engine valve brake					Manually adjusted mirrors				
●	●	●	●	Dual element air cleaner with dust ejector valve					Heated mirrors				
●	●	●	●	Precleaner with automatic dust scavenging	●	●	●	●	Electrically adjusted and heated mirrors				
●	●	●	●	Water separator	●	●	●	●	Deluxe 10" colour LCD:				
●	●	●	●	Serpentine drive belt with automatic tensioner					Speedometer / Fuel gauge /				
●	●	●	●	Provision for fast fill					Transmission oil temperature gauge /				
●	●	●	●	Wet-sleeve cylinder liners					Engine coolant temperature gauge /				
				COOLING					LED function/warning indicators and				
●	●	●	●	Crankshaft mounted electronically controlled viscous fan drive					audible alarm / Transmission gear selection /				
●	●	●	●	Fan guard					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 with:				
				ELECTRICAL SYSTEM					Wiper control / Lights / Heated mirrors /				
●	●	●	●	Battery disconnect					Retarding aggressiveness / Transfer case				
●	●	●	●	Halogen drive lights					differential lock / Transmission gear hold /				
▲	▲	▲	▲	LED drive lights					Dump-body tip limit / Automatic dump-body				
●	●	●	●	Air horn					tip settings / Airconditioner/ Heater controls /				
●	●	●	●	Reverse alarm					Preselected Speed Control				
▲	▲	▲	▲	White noise reverse alarm					DUMP BODY				
●	●	●	●	Rotating beacon	●	●	●	●	Dump body mechanical locks (x2). Partially up				
●	●	●	●	Pitch Roll Sensor					and fully up				
●	●	●	●	Halogen Artic reverse light	▲	▲	▲	▲	Body liner				
▲	▲	▲	▲	LED Artic reverse light	▲	▲	▲	▲	Tailgate				
●	●	●	●	LED reverse lights	▲	▲	▲	▲	Body heater				
				STEERING SYSTEM					Less dump body and cylinders				
●	●	●	●	Bi-directional ground-driven secondary steering pump	▲	▲	▲	▲	Low SG bin extensions				
				CAB					▲	▲	▲	▲	Bin pole lockout
●	●	●	●	ROPS/FOPS certification					OTHER				
●	●	●	●	Tilt cab	●	●	●	●	Automatic Traction Control (ATC)				
●	●	●	●	Gas strut-supported door	●	●	●	●	Wet disc brakes				
●	●	●	●	I-Tip programmable dump-body tip settings	●				26.5 R 25 Radial Earthmover tyres				
●	●	●	●	HVAC Climate control system		●	●	▲	29.5 R 25 Radial Earthmover tyres				
●	●	●	●	AM/FM radio with Aux + USB		▲	▲	●	875/65 R 29 Radial Earthmover tyres				
●	●	●	●	Rear window guard	●	●	●	●	Remote grease banks				
●	●	●	●	Wiper/washer with intermittent control	▲	▲	▲	●	Automatic greasing				
●	●	●	●	Tilt and telescoping steering wheel	●	●	●	●	Onboard weighing				
●	●	●	●	Centre-mount air-suspension seat	▲	▲	▲	▲	Load lights: stack				
●	●	●	●	Halogen work lights	▲	▲	▲	●	Comfort ride suspension (Front)				
▲	▲	▲	▲	LED work lights	●	●	●	▲	Comfort ride suspension (Rear)				
▲	▲	▲	▲	Rotating beacon: seat belt installation	●	●	●	●	Reverse camera				
▲	▲	▲	▲	Remote engine and machine isolation	●	●	●	●	Hand rails				
●	●	●	●	Remote battery jump start	●	●	●	●	Cab peak				
●	●	●	●	Retractable 3 point seat belt	▲	▲	▲	▲	High pressure hydraulic filter				
●	●	●	●	Heated seat	▲	▲	▲	▲	Fuel heater				
●	●	●	●	Foldaway trainer seat with retractable seat belt	●	●	●	●	Belly cover				
●	●	●	●	12-volt power outlet	▲	▲	▲	▲	Remote transmission filters				
●	●	●	●	Cab utility bin (removable)	●	●	●	●	Engine and transmission remote drain-gravity				
●	●	●	●	Cup holder	▲	▲	▲	▲	Engine and transmission remote drain-scavenge				
●	●	●	●	Cooled/heated lunch box	▲	▲	▲	▲	Window smash button				
					●	●	●	●	High visibility mirrors				
					●	●	●	●	Fleetm@tic® Classic Package for 2 years				
					●	●	●	●	Electronic bonnet opening				