

B45E 4x4 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

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
Bell

Model
Front: Bell 30T
Rear: Kessler D106

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

Rear: High input limited slip differential with spiral bevel gears. Traction control functionality provided through speed sensors and brake activation.

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:
330 kN (74 187 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: 442 kW (593 hp)
Maximum: 854 kW (1 145 hp)

WHEELS

Type
Radial Earthmover

Tyre
Front: 775/65 R29 (26.5 R25 optional)
Rear: 21.00 R35 Dual

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 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
280 Bar (4 060 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, two stage telescopic, dump cylinders

Raise Time
13 s

Lowering Time
13 s

Tipping Angle
55° 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

VEHICLE SPEEDS

Gear	km/h	mph
1st	3,5	2,1
2nd	8	5
3rd	15	9
4th	21	13
5th	31	19
6th	42	26
7th	48	30
R	6	3,7

CAB

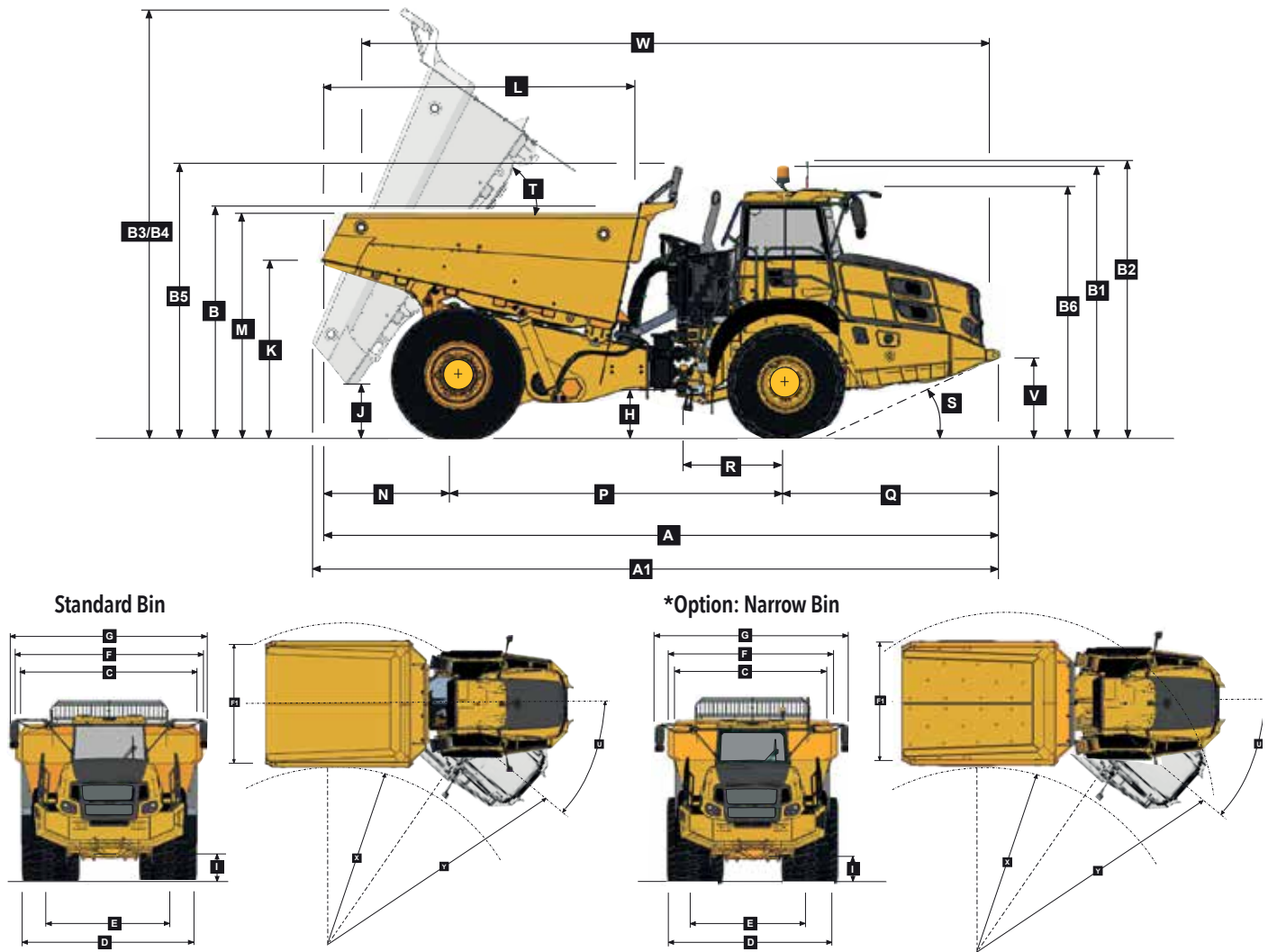
ROPS/FOPS certified 72 dBA internal sound level measured according to ISO 6396.

Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN		BODY	m³ (yd³)	kg (lb)	
Front	19 005 (41 899)	No Sinkage/Total Contact Area		Struck Capacity	19,5 (25,5)	Bin liner	1 022 (2 253)
Rear	19 312 (42 576)	775/65 R29	kPa (Psi)	SAE 2:1 Capacity	25 (33)	Tailgate	1 373 (3 026)
Total	38 317 (84 475)	Front	398 (58)	SAE 1:1 Capacity	29,5 (38)		
				SAE 2:1 Capacity with Tailgate	26 (34)	EXTRA WHEELSET	
LADEN		21.00 R35	kPa (Psi)			775/65 R29	888 (1 958)
Front	22 757 (50 171)	Rear	429 (62)			21.00 R35	1 012 (2 231)
Rear	56 560 (124 693)			Rated Payload	41 000 kg		
Total	79 318 (174 866)				(90 390 lbs)		

B45E 4x4

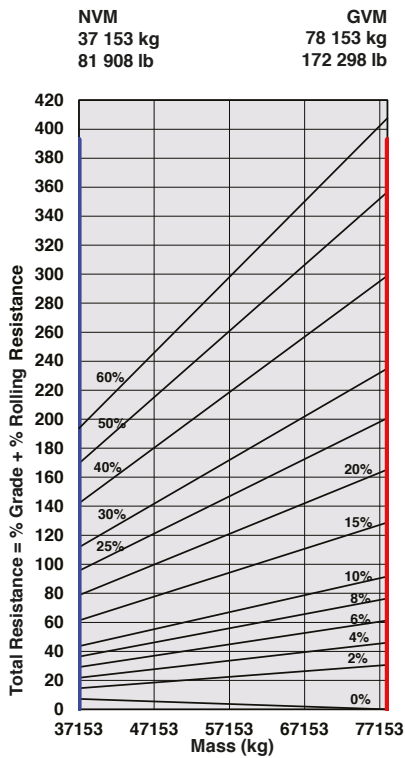
Dimensions



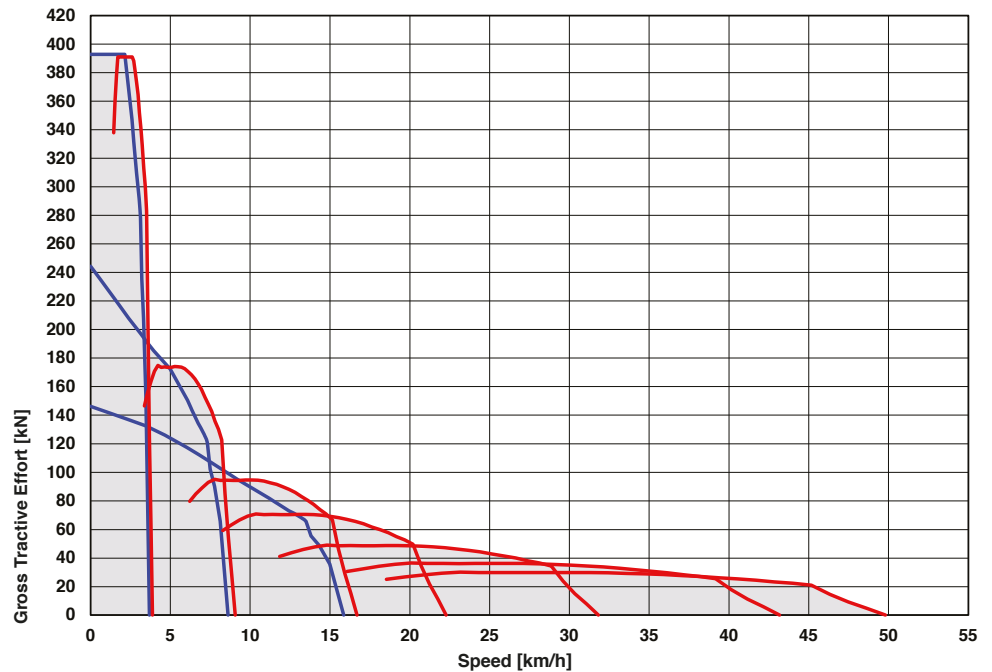
Machine Dimensions		
A	Length - Transport Position with Tailgate	10 405 mm (34 ft. 13 in.)
A*	Option	10 352 mm (33 ft. 96 in.)
A	Length - Transport Position w/o Tailgate	10 339 mm (33 ft. 11 in.)
A*	Option	10 336 mm (33 ft. 91 in.)
A1	Length - Bin Fully Tipped	10 427 mm (34 ft. 20 in.)
A1*	Option	10 576 mm (34 ft. 70 in.)
B	Height - Transport Position w/o Rock Guard	3 703 mm (12 ft. 14 in.)
B*	Option	3 874 mm (12 ft. 71 in.)
B	Height - Transport Position with Rock Guard	4 176 mm (13 ft. 70 in.)
B*	Option	4 374 mm (14 ft. 35 in.)
B1	Height - Rotating Beacon	4 038 mm (13 ft. 3 in.)
B2	Height - Load Light	4 127 mm (13 ft. 6 in.)
B3	Bin Height - Fully Tipped w/o Rock Guard	6 228 mm (20 ft. 43 in.)
B3*	Option	6 327 mm (20 ft. 7.76 in.)
B4	Bin Height - Fully Tipped with Rock Guard	6 485 mm (21 ft. 27 in.)
B4*	Option	6 585 mm (21 ft. 60 in.)
B5	Height - Rock Guard Operating Position	4 206 mm (13 ft. 79 in.)
B5*	Option	4 374 mm (14 ft. 35 in.)
B6	Height - Cab	3 802 mm (12 ft. 47 in.)
C	Width over Mudguards	4 000 mm (13 ft. 12 in.)
C*	Option	3 603 mm (11 ft. 82 in.)
D	Width over Front Tyres 775/65R29	3 556 mm (11 ft. 8 in.)
D1	Width over Front Tyres 26.5R25	3 425 mm (11.2 ft.)
D	Width over Rear Tyres 21.00R35	3 960 mm (13 ft.)
E	Tyre Track Width Front 775/65R29	2 905 mm (9.5 ft.)
E1	Tyre Track Width Front 26.5R25	2 793 mm (9.2 ft.)
E	Tyre Track Width Rear 21.00R35	2 677 mm (8.8 ft.)
F	Width over Bin	4 265 mm (13 ft. 99 in.)
F*	Option	3 960 mm (12 ft. 99 in.)
F1	Width over Tailgate	4 639 mm (15 ft. 21 in.)
F1*	Option	4 275 mm (14 ft. 03 in.)
G	Width over Mirrors - Operating Position	4 545 mm (14 ft. 91 in.)
H	Ground Clearance - Artic	545 mm (21.46 in.)
I	Ground Clearance - Front Axle	543 mm (21.34 in.)
J	Ground Clearance - Bin Fully Tipped	890 mm (2 ft. 11 in.)
K	Bin Lip Height - Transport Position	2 630 mm (8 ft. 62 in.)
K*	Option	2 618 mm (8 ft. 59 in.)
L	Bin Length	4 833 mm (15 ft. 10 in.)
L*	Option	4 913 mm (16 ft. 12 in.)
M	Load over Height	3 485 mm (11 ft. 43 in.)
M*	Option	3 671 mm (12 ft. 04 in.)
N	Rear Axle Centre to Bin Rear	2 084 mm (6 ft. 10 in.)
P	Rear Axle Centre to Front Axle Centre	5 000 mm (16.4 ft.)
Q	Front Axle Centre to Machine Front	3 256 mm (10 ft. 8 in.)
R	Front Axle Centre to Artic Centre	1 558 mm (5 ft. 1 in.)
S	Approach Angle	24°
T	Maximum Bin Tip Angle	55°
U	Maximum Articulation Angle	42°
V	Front Tie Down Height	1 262 mm (4 ft. 2 in.)
W	Machine Lifting Centres	9 673 mm (31 ft. 73 in.)
W*	Option	9 697 mm (31 ft. 81 in.)
X	Inner Turning Circle Radius	3 956 mm (12.9 ft.)
Y	Outer Turning Circle Radius	8 655 mm (28.4 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.

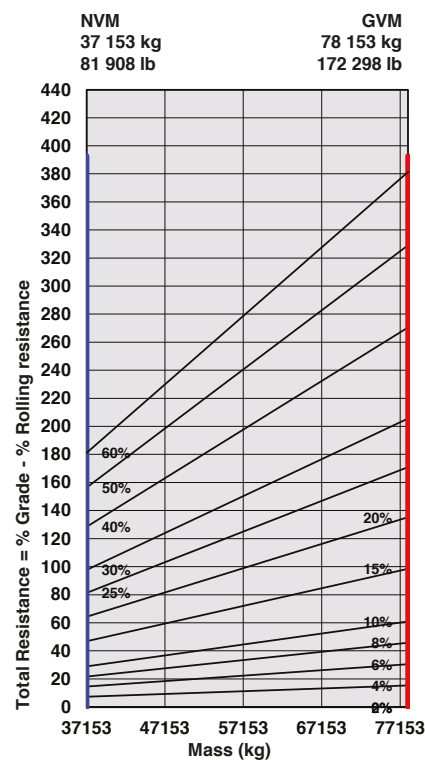


ADT, B45E 4X4 - Tractive Effort

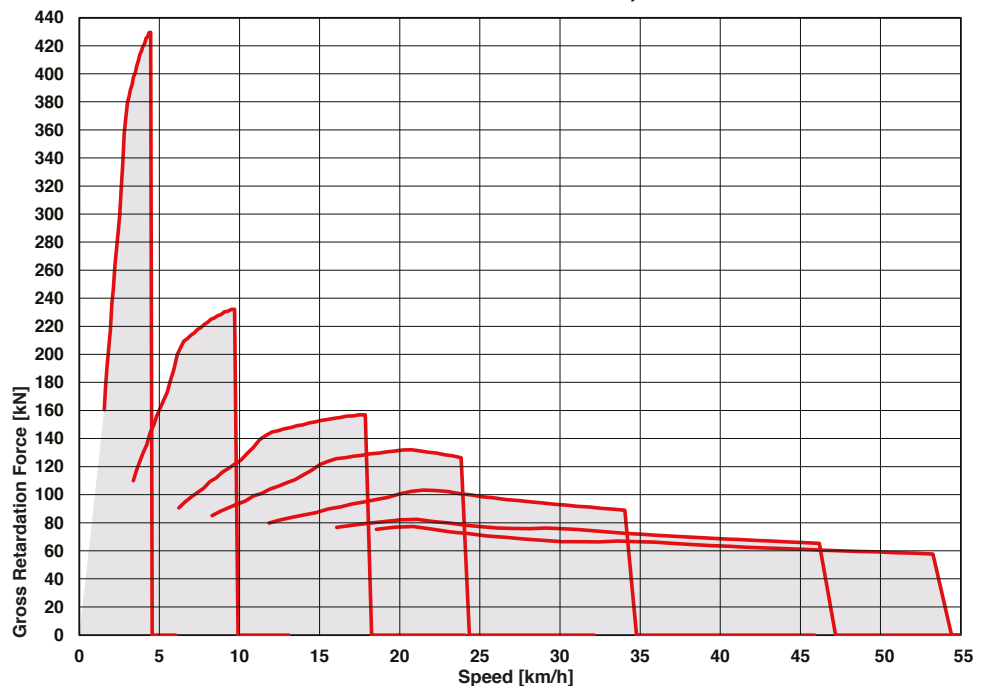


Retardation

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.



ADT, B45E 4x4 - Retardation



B30E 4x4	B45E 4x4	B60E 4x4	
ENGINE			
●			Engine valve brake
	●	●	Jacobs Engine 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
●	●	●	Rotating beacon
●	●	●	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
		▲	Heated mirrors

B30E 4x4	B45E 4x4	B60E 4x4	
CAB (continued)			
●	●		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 lock
▲	▲	▲	Partial body liner
▲	▲	▲	Tailgate
▲	▲	▲	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)
	●		775/65 R29 Radial Earthmover tyres (Front)
		●	875/65 R29 Radial Earthmover tyres (Front)
	▲		26.5 R25 Radial Earthmover tyres (Front-optional)
●			875/65 R29 Radial Earthmover tyres (Rear)
	●		21.00 R35 Dual (Rear)
		●	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