B50E Articulated Dump Truck

ENGINE

Manufacturer
Mercedes Benz (MTU)

Model
OM473LA (MTU 6R 1500)

Configuration
Inline 6, turbocharged and intercooled

Maximum Net Power
430 kW (577 hp) @ 1 600 rpm in accordance with UN ECE R120

Gross Torque
2 850 Nm (2 102 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

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
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, middle and rear axles. Wet brake oil is circulated through a filtration and cooling system.

Maximum brake force:
488 kN (109 707 lbf)

Park & Emergency
Spring applied, air released driveline mounted disc

Maximum brake force:
215,5 kN (48 446 lbf)

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

Total Retardation Power
Continuous: 546 kW (732 hp)
Maximum: 963 kW (1 291 hp)

WHEELS

Type
Radial Earthmover

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

FRONT SUSPENSION

Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts. Active dual springrate Comfort Ride suspension, including height control.

REAR SUSPENSION

Pivoting walking beams with laminated rubber suspension blocks.

Optional passive dual-springrate Comfort Ride walkingbeam available.

HYDRAULIC SYSTEM

Full load sensing system serving the prioritised 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

Flow
300 L/min (79 gal/min)

Pressure
310 Bar (4 500 psi)

Filter
5 microns

STEERING SYSTEM

Double acting cylinders, with ground-driven emergency steering pump

Lock to lock turns
5,5

Steering Angle
42°

DUMPING SYSTEM

Two double-acting, single stage, dump cylinders

Raise Time
12,5 seconds

Lowering Time
11,5 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
8,1 Bar (117 psi)

ELECTRICAL SYSTEM

Voltage
24 V

Battery Type
Two AGM (Absorption Glass Mat) type

Battery Capacity
2 X 75 Ah

Alternator Rating
28 V 100 A

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

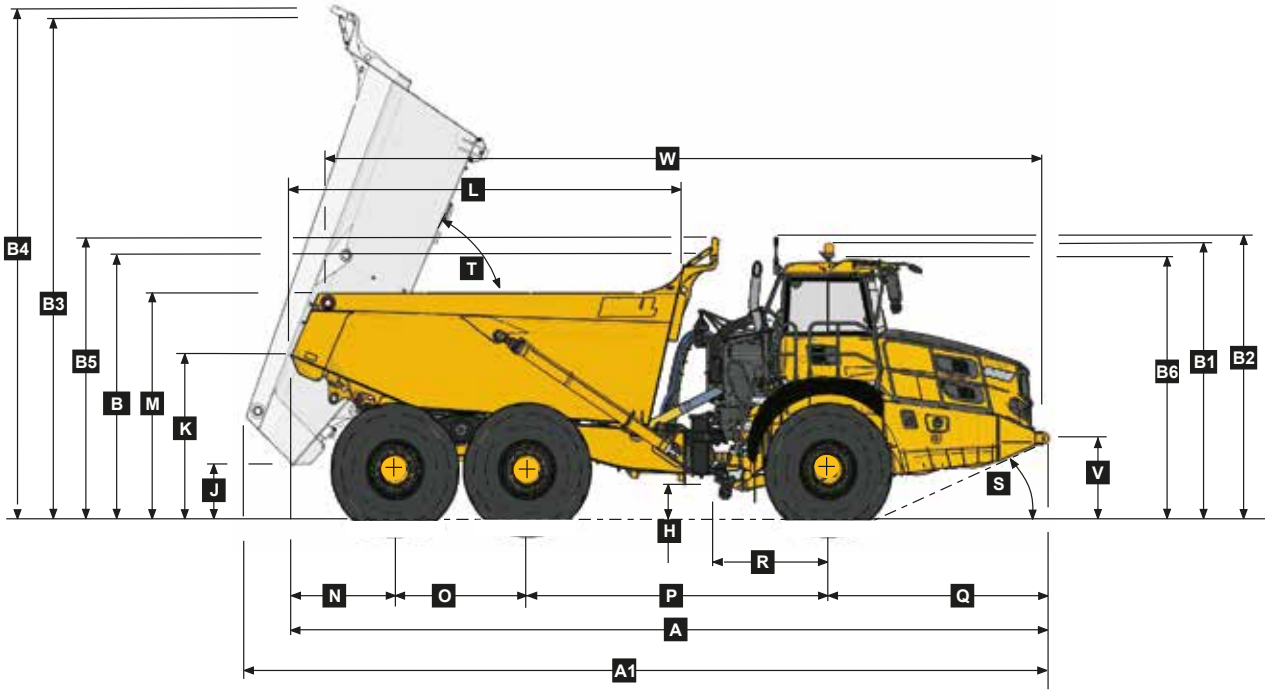
ROPS/FOPS certified 77 dBA internal sound pressure measured according to ISO 6396

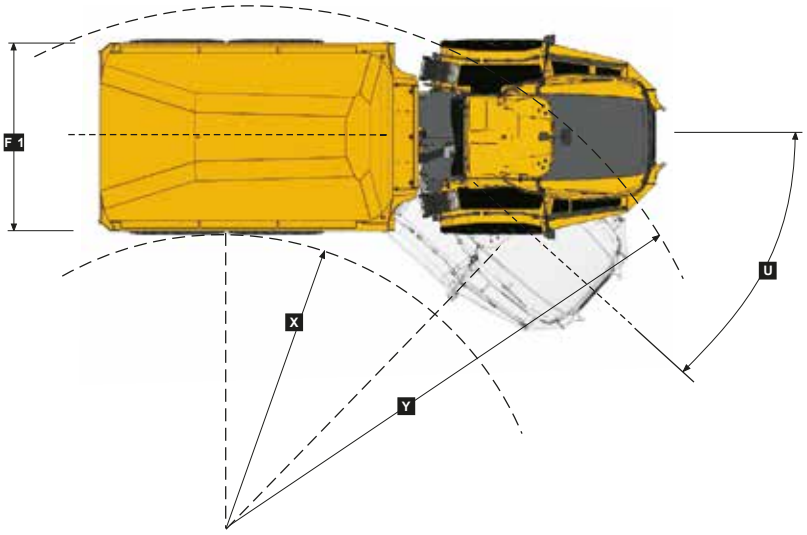
Load Capacity & Ground Pressure

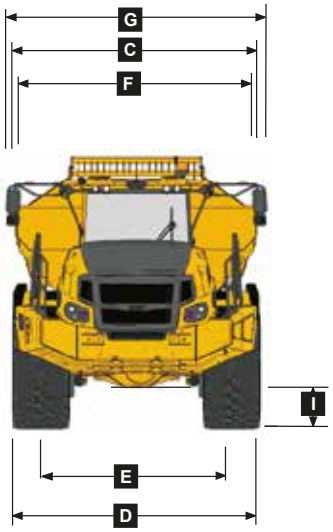
OPERATING WEIGHTS*		GROUND PRESSURE**		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN		BODY	m^3 (yd^3)		kg (lb)
Front	18 313 (40 381)	(No sinkage or Total Contact Area)		Struck Capacity	21,5 (28)	Bin liner	1 495 (3 296)
Middle	10 039 (22 137)	875/65 R29	kPa (Psi)	SAE 2:1 Capacity	27,5 (36)	Tailgate	1 136 (2 505)
Rear	9 934 (21 905)	Front	297 (43,1)	SAE 1:1 Capacity	33 (43)	29.5 R 25	
Total	38 287 (84 423)	Mid & Rear	366 (53,1)	SAE 2:1 Capacity		(per vehicle) Minus	1 334 (2 941)
LADEN				with Tailgate	29 (38)	EXTRA WHEELSET	
Front	24 034 (52 994)	29.5 R 25	kPa (Psi)			29.5 R 25	
Middle	29 879 (65 884)	Front	339 (49,2)	Rated Payload	45 400 kg	(per vehicle) Add	516 (1 138)
Rear	29 774 (65 652)	Mid & Rear	381 (55,3)		(100 107 lb)	875/65 R29	
Total	83 687 (184 530)					(per vehicle) Add	1 338 (2 950)

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

Dimensions





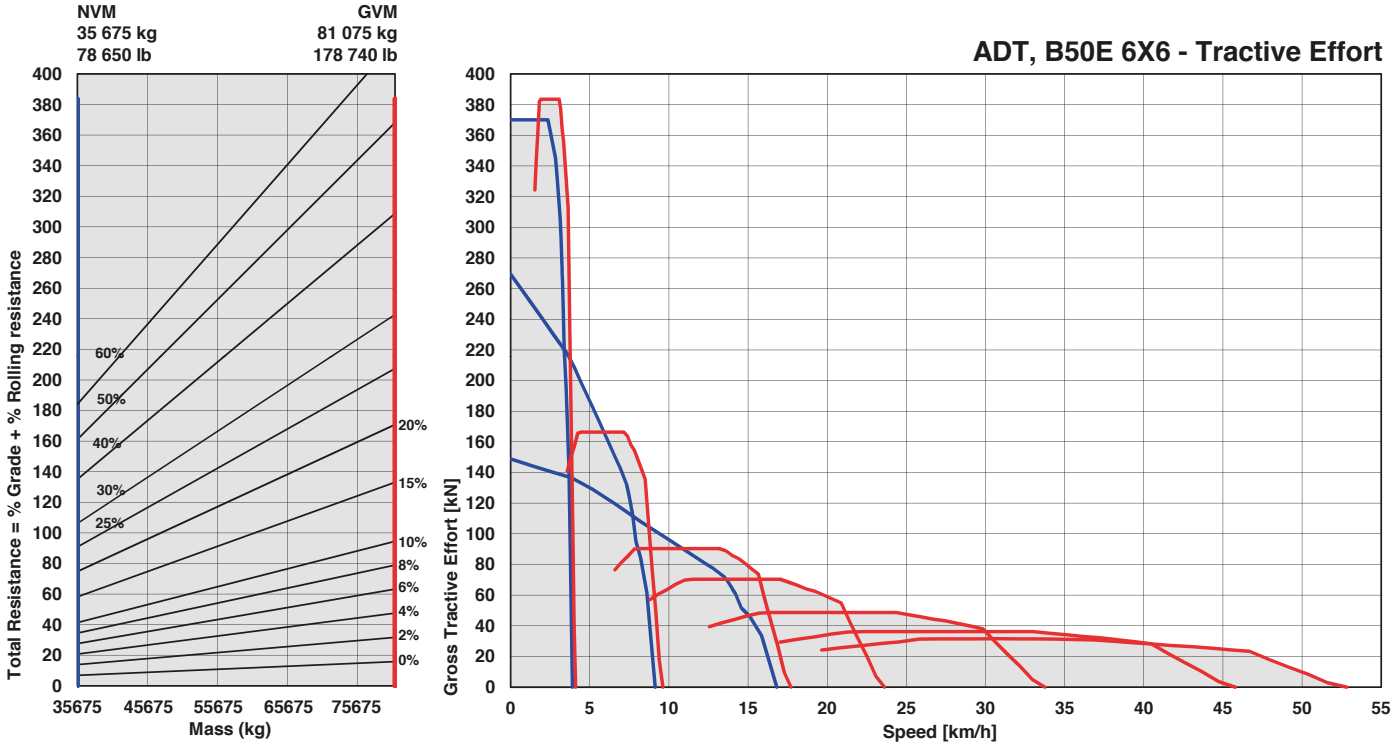


Machine Dimensions

A	Length - Transport Position with Tailgate	11 272 mm	(37 ft.)
A	Length - Transport Position w/o Tailgate	11 272 mm	(37 ft.)
A1	Length - Bin Fully Tipped	11 916 mm	(39 ft. 1 in.)
B	Height - Transport Position w/o Rock Guard	3 822 mm	(12 ft. 6 in.)
B	Height - Transport Position with Rock Guard	3 870 mm	(12 ft. 8 in.)
B1	Height - Rotating Beacon	4 050 mm	(13 ft. 3 in.)
B2	Height - Load Light	4 141 mm	(13 ft. 7 in.)
B3	Bin Height - Fully Tipped w/o Rock Guard	7 325 mm	(24 ft.)
B4	Bin Height - Fully Tipped with Rock Guard	7 430 mm	(24 ft. 5 in.)
B5	Height - Rock Guard Operating Position	4 148 mm	(13 ft. 7 in.)
B6	Height - Cab	3 813 mm	(12 ft. 6 in.)
C	Width over Mudguards	3 790 mm	(12 ft. 5 in.)
D	Width over Tyres - 875/65 R29	3 832 mm	(12 ft. 7 in.)
D	Width over Tyres - 29.5R25	3 714 mm	(12 ft. 2 in.)
E	Tyre Track Width - 875/65 R29	2 949 mm	(9 ft. 8 in.)
E	Tyre Track Width - 29.5R25	2 952 mm	(9 ft. 8 in.)
F	Width over Bin	3 735 mm	(12 ft. 3 in.)
F1	Width over Tailgate	4 057 mm	(13 ft. 4 in.)
G	Width over Mirrors - Operating Position	4 027 mm	(13 ft. 3 in.)
H	Ground Clearance - Artic	558 mm	(21.97 in.)
I	Ground Clearance - Front Axle	555 mm	(21.85 in.)
J	Ground Clearance - Bin Fully Tipped	907 mm	(35.71 in.)
K	Bin Lip Height - Transport Position	2 542 mm	(8 ft. 4 in.)
L	Bin Length	5 714 mm	(18 ft. 9 in.)
M	Load over Height	3 390 mm	(11 ft. 1 in.)
N	Rear Axle Centre to Bin Rear	1 533 mm	(5 ft.)
O	Mid Axle Centre to Rear Axle Centre	1 950 mm	(6 ft. 5 in.)
P	Mid Axle Centre to Front Axle Centre	4 438 mm	(14 ft. 7 in.)
Q	Front Axle Centre to Machine Front	3 351 mm	(11 ft.)
R	Front Axle Centre to Artic Centre	1 558 mm	(5 ft. 1 in.)
S	Approach Angle	23 °	
T	Maximum Bin Tip Angle	70 °	
U	Maximum Articulation Angle	42 °	
V	Front Tie Down Height	1 269 mm	(4 ft. 2 in.)
W	Machine Lifting Centres	10 632 mm	(34 ft. 11 in.)
X	Inner Turning Circle Radius - 875/65 R29	4 694 mm	(15 ft. 5 in.)
X	Inner Turning Circle Radius - 29.5R25	4 753 mm	(15 ft. 7 in.)
Y	Outer Turning Circle Radius - 875/65 R29	9 408 mm	(30 ft. 10 in.)
Y	Outer Turning Circle Radius - 29.5R25	9 349 mm	(30 ft. 8 in.)

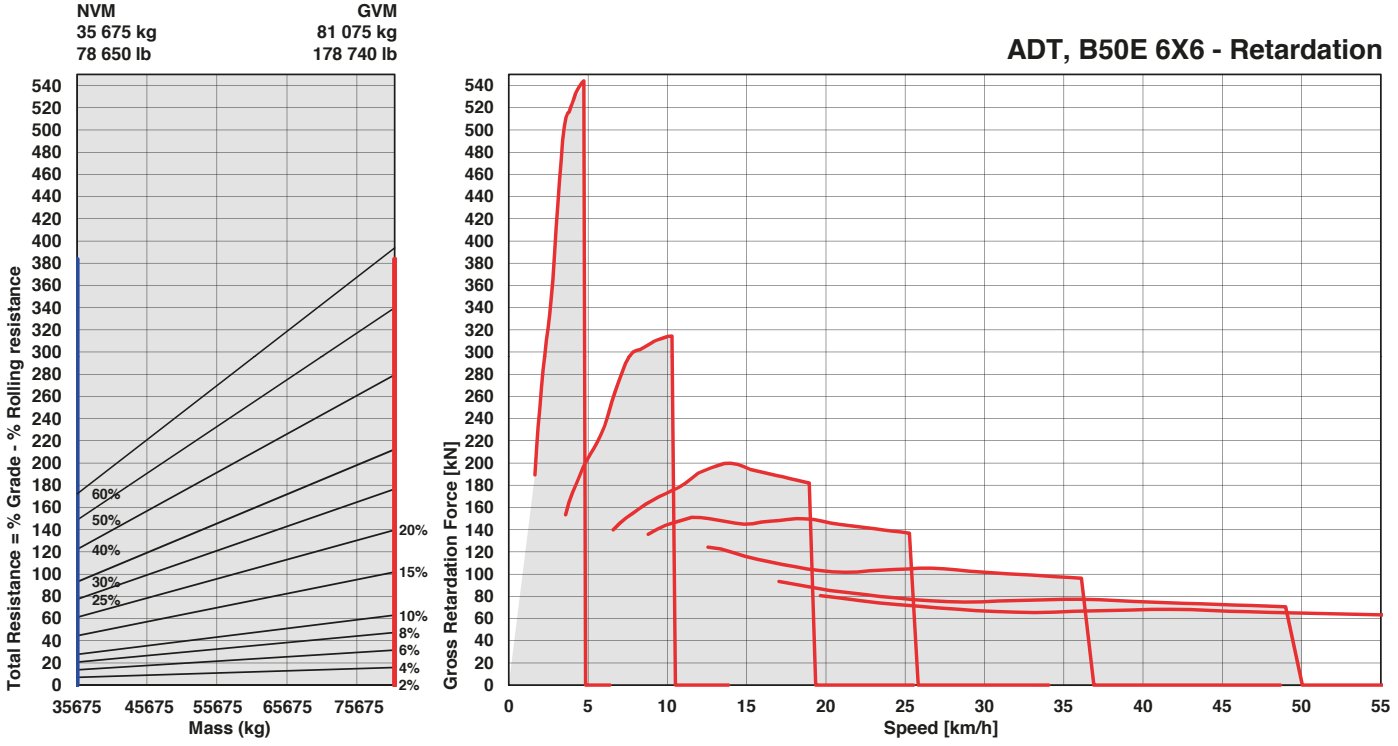
Gradeability/Rimpull

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.



Features and Options

● STANDARD ▲ OPTION

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

B40E	B45E	B50E	
			CAB (continued)
●	●	●	Manually adjusted 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
●	●	▲	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