

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 (2,028 lbft) @ 1,300 rpm Displacement 15.6 liters (952 cu.in) Auxiliary Brake Jacobs Engine Brake® Fuel Tank Capacity 494 liters (130 US gal) AdBlue® Tank Capacity 40 liters (11 US gal) Certification OM473LA (MTU 6R 1500) meets EPA Tier 4 final / EU Stage V emissions regulations.	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.	Total Retardation Power Continuous: 546 kW (732 hp) Maximum: 963 kW (1,291 hp) WHEELS Type Radial Earthmover Tire 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 walking beam available. HYDRAULIC SYSTEM Full load sensing system serving the prioritized 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 28V 100A																								
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	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.		MAX. VEHICLE SPEED <table><tr><td>1st</td><td>4 km/h</td><td>2.5 mph</td></tr><tr><td>2nd</td><td>9 km/h</td><td>6 mph</td></tr><tr><td>3rd</td><td>17 km/h</td><td>11 mph</td></tr><tr><td>4th</td><td>23 km/h</td><td>14 mph</td></tr><tr><td>5th</td><td>33 km/h</td><td>21 mph</td></tr><tr><td>6th</td><td>44 km/h</td><td>27.3 mph</td></tr><tr><td>7th</td><td>51 km/h</td><td>32 mph</td></tr><tr><td>R</td><td>7 km/h</td><td>4 mph</td></tr></table> CAB ROPS/FOPS certified 77 dBA internal sound level measured according to ISO 6396.	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
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																									

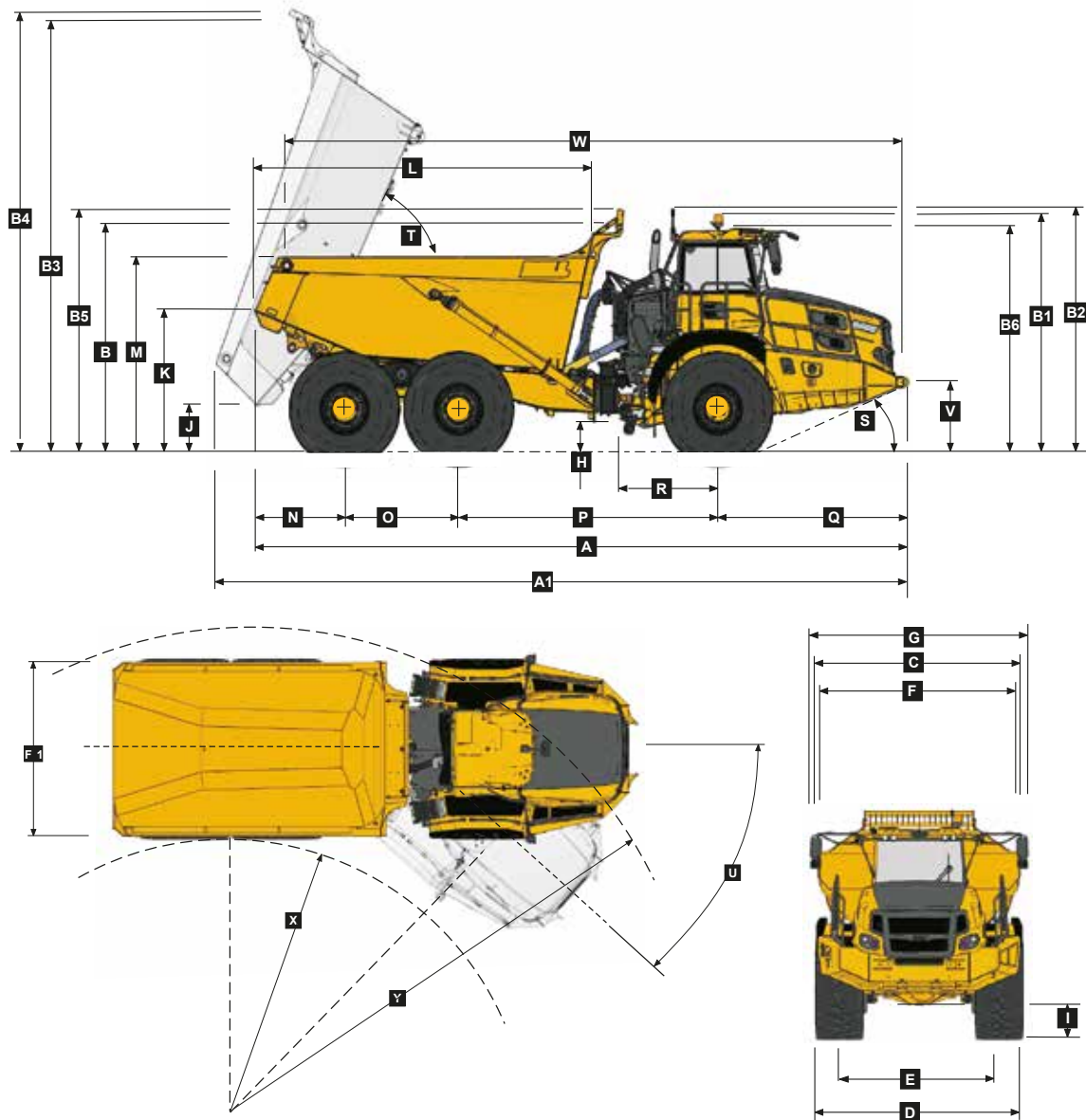
Load Capacity & Ground Pressure

OPERATING WEIGHTS		GROUND PRESSURE*		LOAD CAPACITY		OPTION WEIGHTS	
UNLADEN	kg (lb)	LADEN		BODY	m³ (yd³)		kg (lb)
Front	18,313 (40,373)	(No sinkage/Total Contact Area Method)		Struck Capacity	21.5 (28)	Bin liner	1,495 (3,296)
Middle	10,039 (22,132)	875/65 R29	kPa (Psi)	SAE 2:1 Capacity	27.5 (36)	Tailgate	1,136 (2,505)
Rear	9,934 (21,901)	Front	297 (43.1)	SAE 1:1 Capacity	33 (43)	29.5 R 25	
Total	38,287 (84,408)	Mid & Rear	366 (53.1)	SAE 2:1 Capacity with Tailgate	29 (38)	(per vehicle) Minus	1,334 (2,941)
LADEN						EXTRA WHEELSET	
Front	24,034 (52,986)	29.5 R 25	kPa (Psi)			29.5 R 25	
Middle	29,879 (65,872)	Front	339 (49.2)	Rated Payload	45,400 kg	(per vehicle) Add	516 (1,138)
Rear	29,774 (65,640)	Mid & Rear	381 (55.3)		(100,090 lb)	875/65 R29	
Total	83,687 (184,498)					(per vehicle) Add	1,338 (2,950)

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

Dimensions

B50E

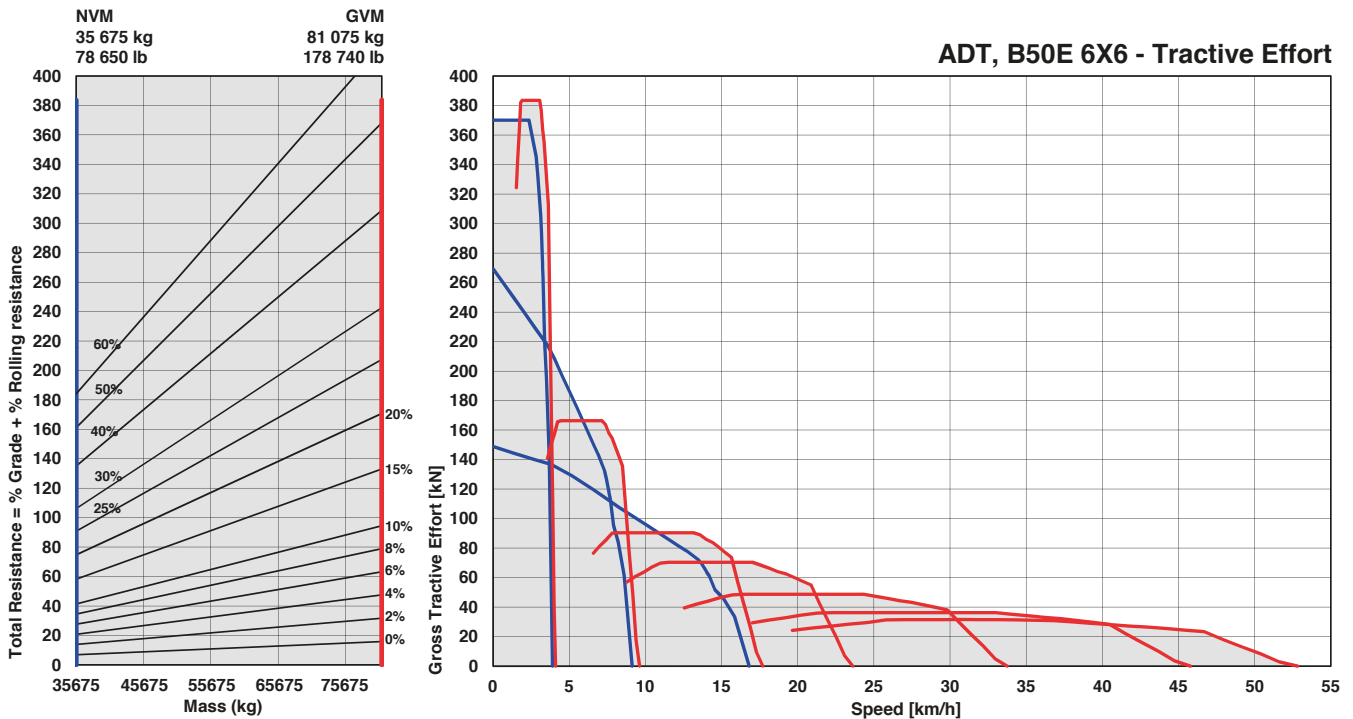


Machine Dimensions

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 Tires - 875/65 R29	3,832 mm	(12 ft. 7 in.)
D	Width over Tires - 29.5R25	3,714 mm	(12 ft. 2 in.)
E	Tire Track Width - 875/65 R29	2,949 mm	(9 ft. 8 in.)
E	Tire 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 Center to Bin Rear	1,533 mm	(5 ft.)
O	Mid Axle Center to Rear Axle Center	1,950 mm	(6 ft. 5 in.)
P	Mid Axle Center to Front Axle Center	4,438 mm	(14 ft. 7 in.)
Q	Front Axle Center to Machine Front	3,351 mm	(11 ft.)
R	Front Axle Center to Artic Center	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 Centers	10,632 mm	(34 ft. 11 in.)
X	Inner Turning Circle Radius - 875/65R29	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 - 875/65R29	9,408 mm	(30 ft. 10 in.)
Y	Outer Turning Circle Radius - 29.5R25	9,349 mm	(30 ft. 8 in.)

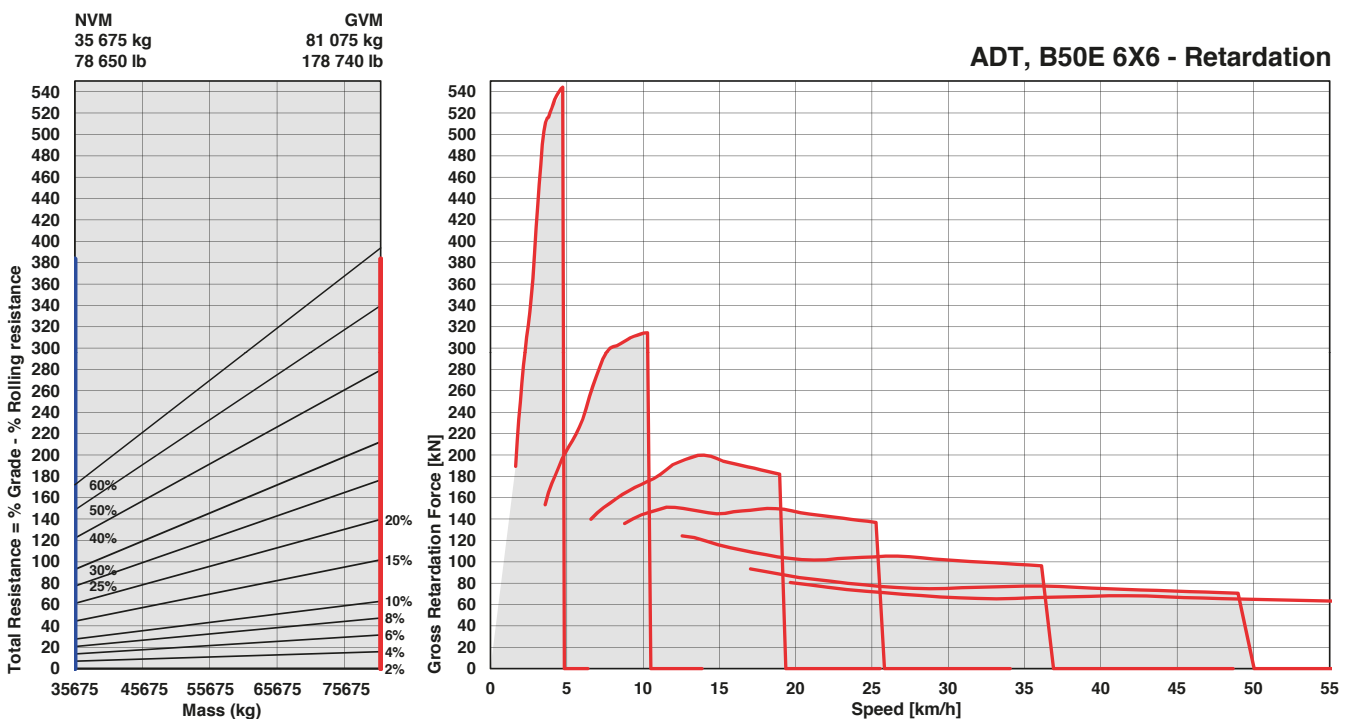
Gradeability/Rimpull

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 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
●	●	●	Uni-directional pump
▲	▲	▲	Bi-directional 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
●	●	●	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

B40E	B45E	B50E	
			CAB (continued)
			Manually adjusted mirrors
			Heated mirrors
●	●	●	Electrically adjusted 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 / 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
▲	▲	▲	Bin extensions
▲	▲	▲	Bin pole lockout
			OTHER
●	●	●	Automatic Traction Control (ATC)
●	●	●	Wet disc brakes
●	●	▲	29.5 R 25 Radial Earthmover tires
▲	▲	●	875/65 R 29 Radial Earthmover tires
●	●		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 5 years
●	●	●	Electronic hood opening