

B45E Articulated Dump Truck

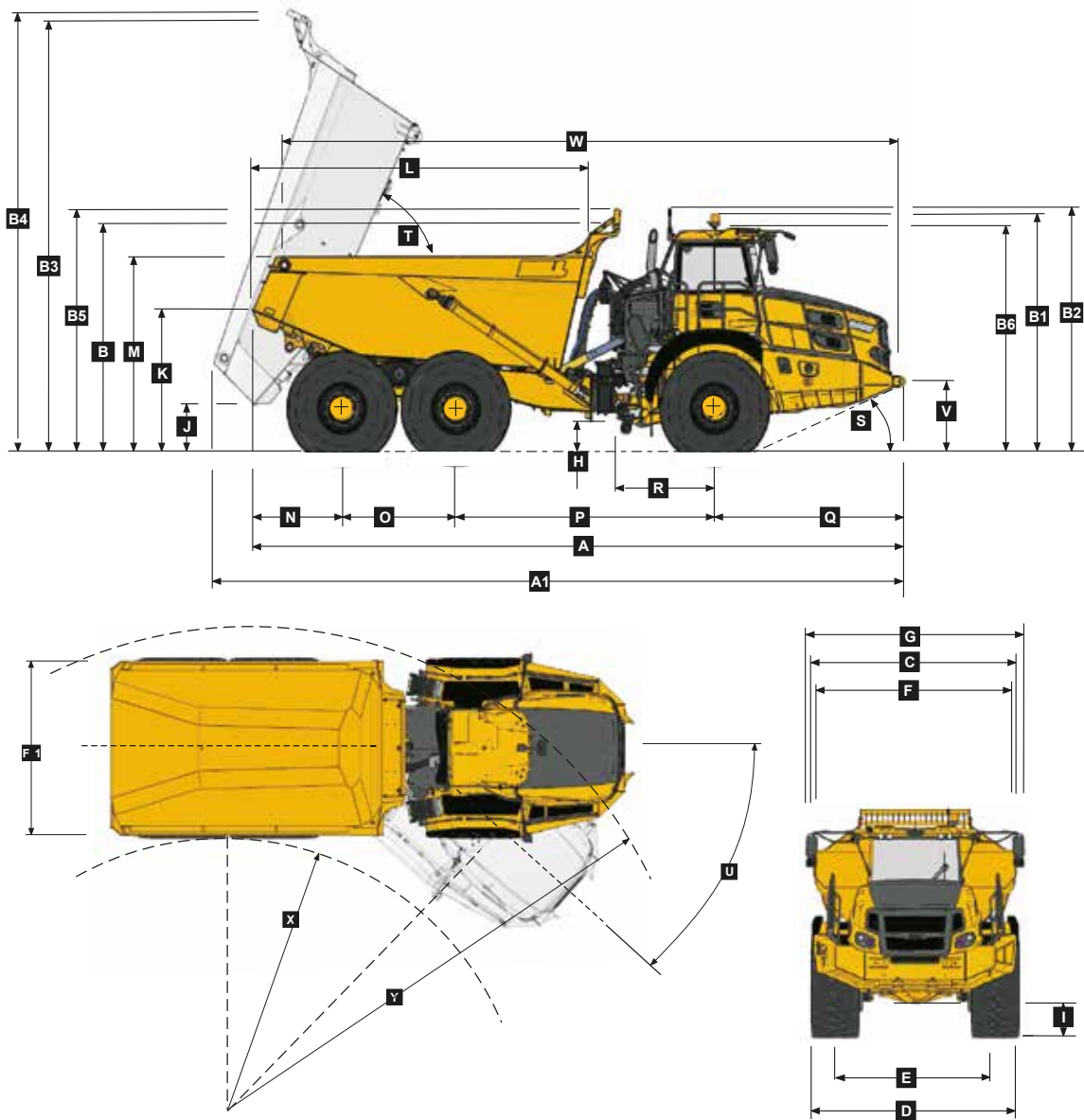


ENGINE Manufacturer Mercedes Benz (MTU) Model OM471LA (MTU 6R 1300) Configuration Inline 6, turbocharged and intercooled Maximum Net Power 390 kW (523 hp) @ 1,600 rpm in accordance with UN ECE R120 Gross Torque 2,600 Nm (1,917 lbft) @ 1,300 rpm Displacement 12.8 liters (781 cu.in) Auxiliary Brake Jacobs Engine Brake® Fuel Tank Capacity 352 liters (93 US gal) AdBlue® Tank Capacity 40 liters (11 US gal) Certification OM471LA (MTU 6R 1300) meets EPA Tier 4 final / EU Stage V emissions regulations	Torque Control Hydrodynamic with lock-up in all gears	Total Retardation Power Continuous: 442 kW (593 hp) Maximum: 854 kW (1,145 hp)	Steering Angle 42°																								
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	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.	WHEELS Type Radial Earthmover Tire 29.5 R 25 (875/65 R 29 optional) FRONT SUSPENSION Semi-independent, leading A-frame supported by hydro-pneumatic suspension struts. Optional active dual springrate Comfort Ride suspension available, including height control.	DUMPING SYSTEM Two double-acting, single stage, dump cylinders Raise Time 12 seconds Lowering Time 11 seconds Tipping Angle 70 deg standard, or any lower angle programmable																								
	AXLES Manufacturer Bell Model 30T Differential High input controlled traction differential with spiral bevel gears Final Drive Outboard heavy duty planetary on all axles	REAR SUSPENSION Pivoting walking beams with laminated rubber suspension blocks. Optional passive dual-springrate Comfort Ride walking beam available.	PNEUMATIC SYSTEM Air drier with heater and integral unloader valve, serving park brake and auxiliary functions System Pressure 8.1 Bar (117 psi)																								
	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 Jacobs Engine Brake®. Automatic retardation through electronic activation of wet brake system.	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 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 4.5	ELECTRICAL SYSTEM Voltage 24 V Battery Type Two AGM (Absorption Glass Mat) type Battery Capacity 2 X 75 Ah Alternator Rating 28V 100A 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>	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																									
			CAB ROPS/FOPS certified 77 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	17,614 (38,832)	No sinkage/Total Contact Area (as recommended by tyre manufacturer)		Calculation method used by competition		Struck Capacity	19.5 (25.5)	Bin liner	1,404 (3,095)
Middle	9,177 (20,232)					SAE 2:1 Capacity	25 (33)	Tailgate	1,030 (2,271)
Rear	8,688 (19,154)	29.5 R 25	kPa (Psi)	29.5 R 25	kPa (Psi)	SAE 1:1 Capacity	29.5 (38)	Wheelset 875/65 R29	
Total	35,479 (78,217)	Front	314 (45.5)	Front	153 (22.2)	SAE 2:1 Capacity	26 (34)	(per vehicle) Add	1,338 (2,950)
LADEN		Mid/Rear	370 (53.7)	Rear	176 (25.5)	with Tailgate		EXTRA WHEELSET	
Front	22,739 (50,131)							29.5 R 25	
Middle	27,115 (59,778)	875/65 R29		875/65 R29		Rated Payload	41,000 kg	(per vehicle) Add	516 (1,138)
Rear	26,626 (58,700)	Front	295 (42.8)	Front	135 (19.6)		(90,390 lb)	875/65 R29	
Total	76,479 (168,607)	Mid/Rear	331 (48)	Rear	154 (22.3)			(per vehicle) Add	1,338 (2,950)

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

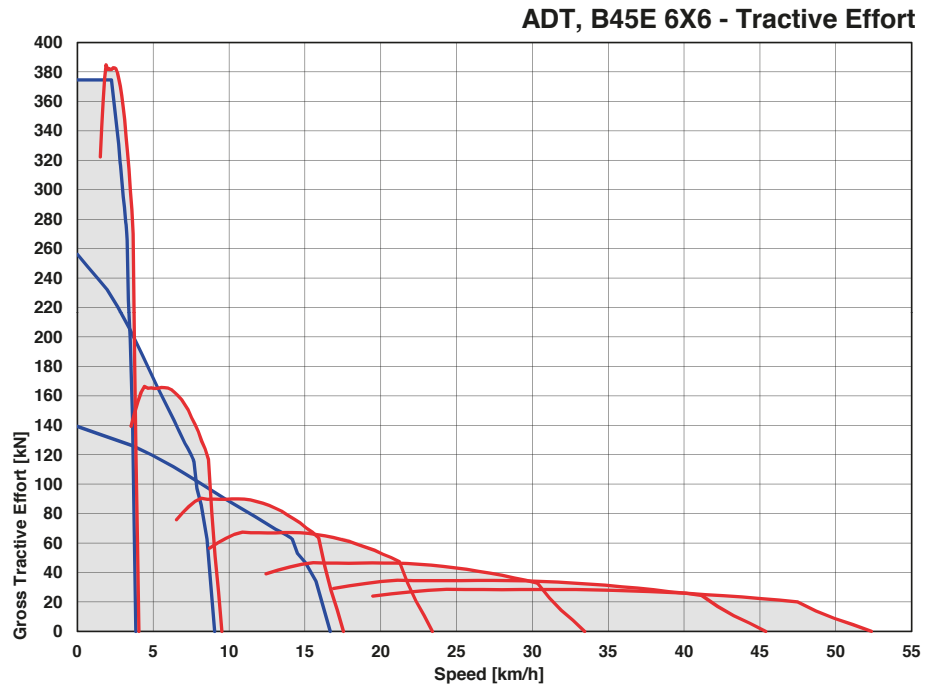
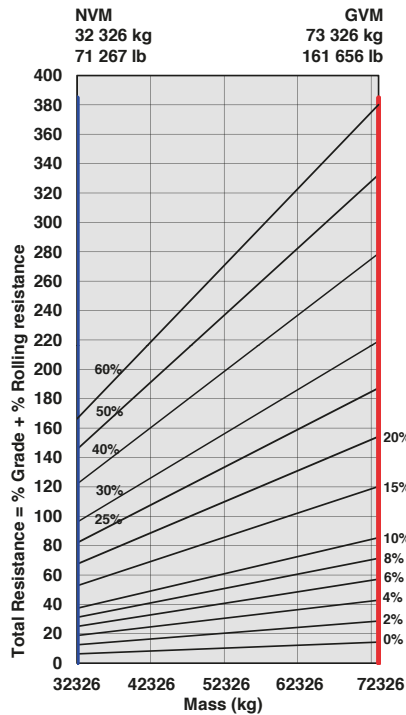


Machine Dimensions

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 Center to Bin Rear	1,540 mm (5 ft.)
B2	Height - Load Light	4,127 mm (13 ft. 6 in.)	O	Mid Axle Center to Rear Axle Center	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 Center to Front Axle Center	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 Center 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 Center to Artic Center	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 Tires - 875/65 R29	3,656 mm (12 ft.)	U	Maximum Articulation Angle	42 °
D	Width over Tires - 29.5R25	3,487 mm (11 ft. 5 in.)	V	Front Tie Down Height	1,262 mm (4 ft. 2 in.)
E	Tire Track Width - 875/65 R29	2,773 mm (9 ft. 1 in.)	W	Machine Lifting Centers	10,569 mm (34 ft. 8 in.)
E	Tire Track Width - 29.5R25	2,725 mm (8 ft. 11 in.)	X	Inner Turning Circle Radius - 875/65R29	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 - 875/65R29	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.)			

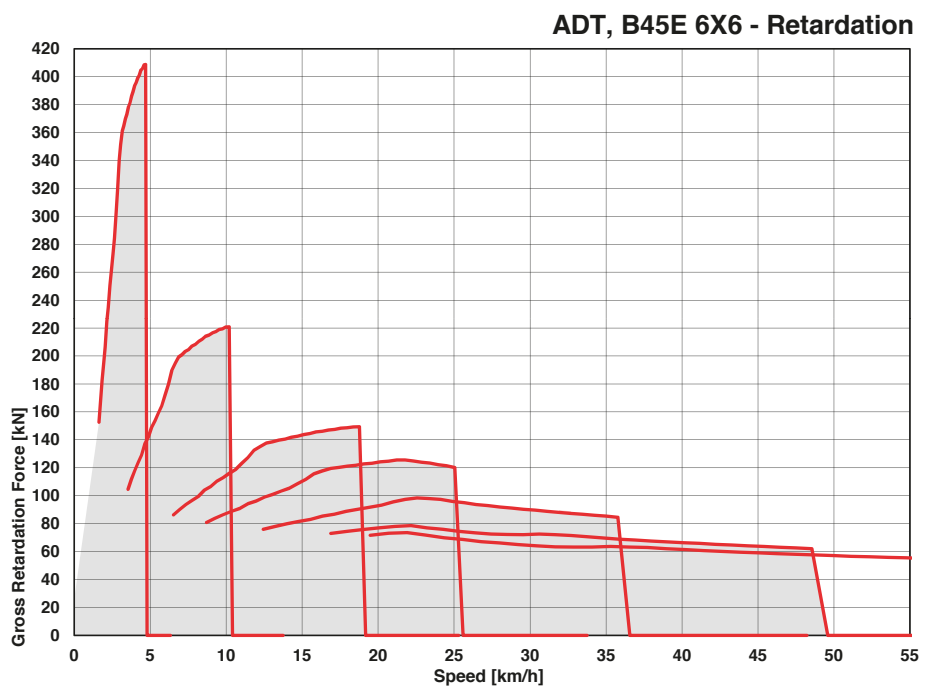
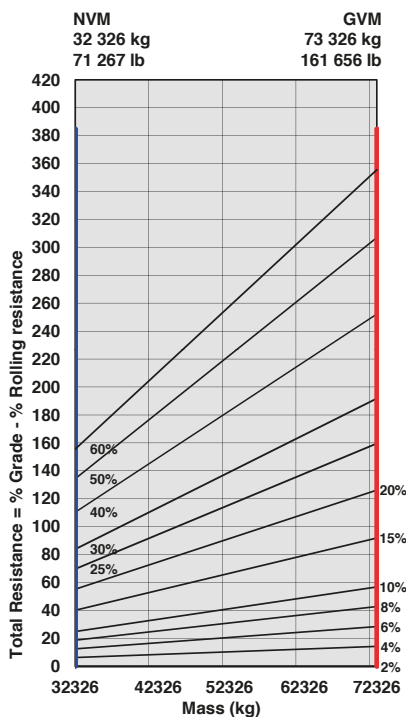
Gradeability/Rimpull

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.



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