

B60E 4x4 Articulated Dump Truck



ENGINE

Manufacturer

Mercedes Benz (MTU)

Model

OM473LA (MTU 6R 1500)

Configuration

Inline 6, turbocharged and intercooled

Maximum net power

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

Gross Torque

2,102 lbf (2,850 Nm) @ 1,300 rpm

Displacement

952 cu.in (15.6 liters)

Auxiliary Brake

Jacobs Engine Brake®

Fuel Tank Capacity

130 US gal (494 liters)

AdBlue® Tank Capacity

11 US gal (40 liters)

Certification

OM473LA (MTU 6R 1500) meets EPA Tier 4 final / EU Stage V emissions regulations.

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

Front - Bell

Rear - Kessler

Model

Front: 30T

Rear: 71T

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:

100,264 lbf (446 kN)

Park & Emergency

Spring applied, air released driveline mounted disc

Maximum brake force:

76,659 lbf (341 kN)

Auxiliary Brake

Jacobs Engine Brake®.

Automatic retardation through electronic activation of wet brake system.

Total Retardation Power

Continuous: 770 hp (574 kW)

Maximum: 1,318 hp (983 kW)

WHEELS

Type

Radial Earthmover

Tire

Front: 875/65 R29

Rear: Twin 24.00 R35

FRONT SUSPENSION

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

REAR SUSPENSION

Trailing arm cradle supported by hydro-pneumatic suspension struts, with an additional lateral stabilizer.

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

79 gal/min (330 L/min)

Pressure

4,060 psi (280 Bar)

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, two stage telescopic, dump cylinders

Raise Time

18 seconds

Lowering Time

16.5 seconds

Tipping Angle

55 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

117 psi (8.1 Bar)

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

| | | |
|-----|----------|---------|
| 1st | 2.5 mph | 4 km/h |
| 2nd | 5.6 mph | 8 km/h |
| 3rd | 10.6 mph | 16 km/h |
| 4th | 13.7 mph | 21 km/h |
| 5th | 20 mph | 30 km/h |
| 6th | 27 mph | 41 km/h |
| 7th | 32 mph | 47 km/h |
| R | 4 mph | 6 km/h |

CAB

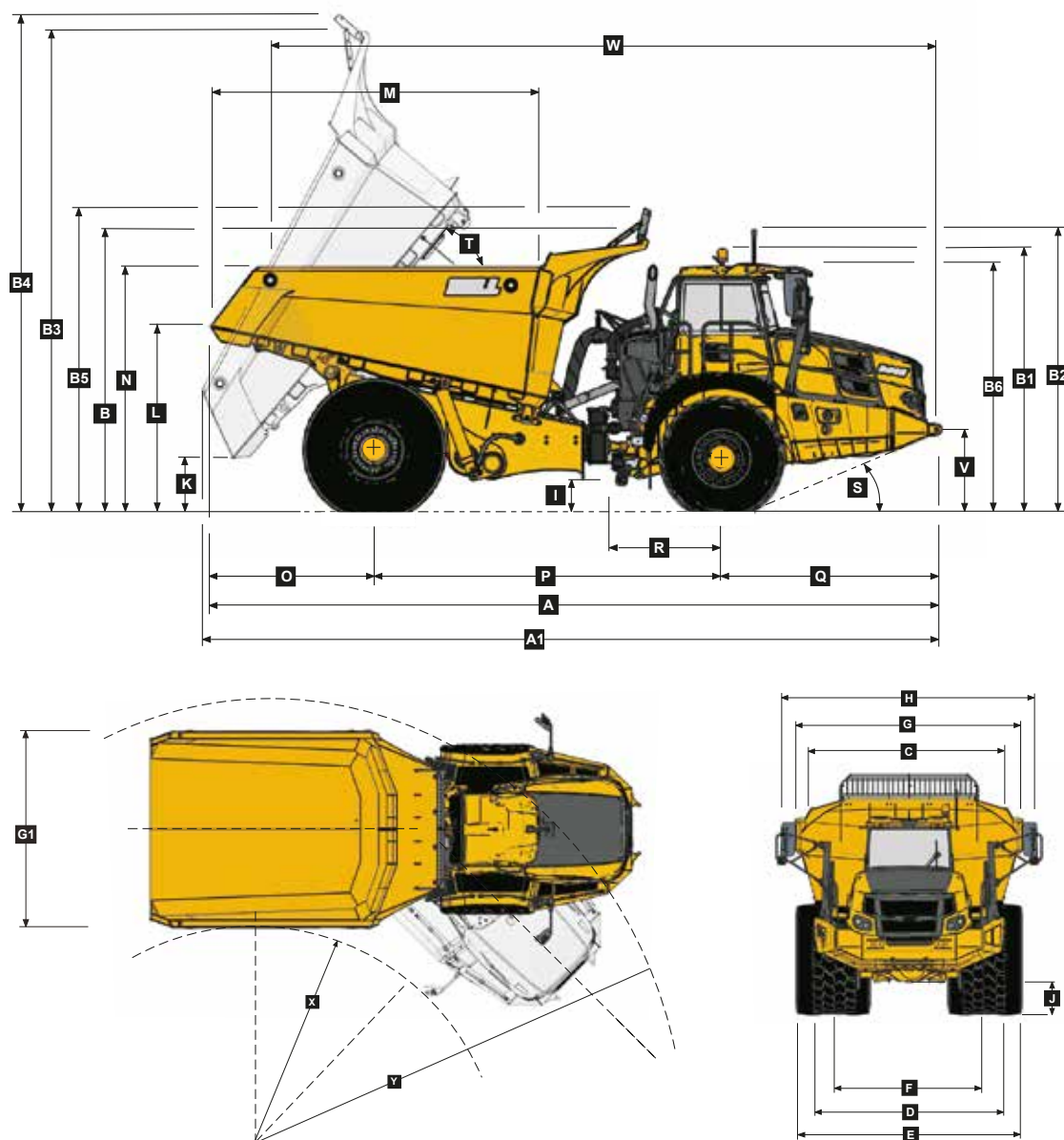
ROPS/FOPS certified 77 dBA internal sound level measured according to ISO 6396.

Load Capacity & Ground Pressure

| OPERATING WEIGHTS | | GROUND PRESSURE | | LOAD CAPACITY | | OPTION WEIGHTS | |
|-------------------|-------------------|----------------------------|------------|--------------------------------|--------------|----------------|---------------|
| UNLADEN | kg (lb) | LADEN | | BODY | m³ (yd³) | | kg (lb) |
| Front | 20,151 (44,425) | (No sinkage/ | | Struck Capacity | 27 (35.3) | Bin liner | 1,117 (2,463) |
| Rear | 25,245 (55,656) | Total Contact Area Method) | | SAE 2:1 Capacity | 35 (45.8) | Tailgate | 1,512 (3,333) |
| Total | 45,396 (100,081) | 875/65 R29 | kPa (Psi) | SAE 1:1 Capacity | 42 (54.9) | EXTRA WHEELSET | |
| | | Front | 333 (48.2) | SAE 2:1 Capacity with Tailgate | 36 (47.1) | | |
| LADEN | | | | | | | |
| Front | 26,751 (58,976) | 24.00 R35 | kPa | | | 875/65 R29 | 1,338 (2,950) |
| Rear | 73,645 (162,359) | Rear | 478 (69.3) | Rated Payload | 55,000 kg | 24.00 R35 | 1,240 (2,734) |
| Total | 100,396 (221,335) | | | | (121,254 lb) | | |

* including additional equipment (tailgate)

Dimensions



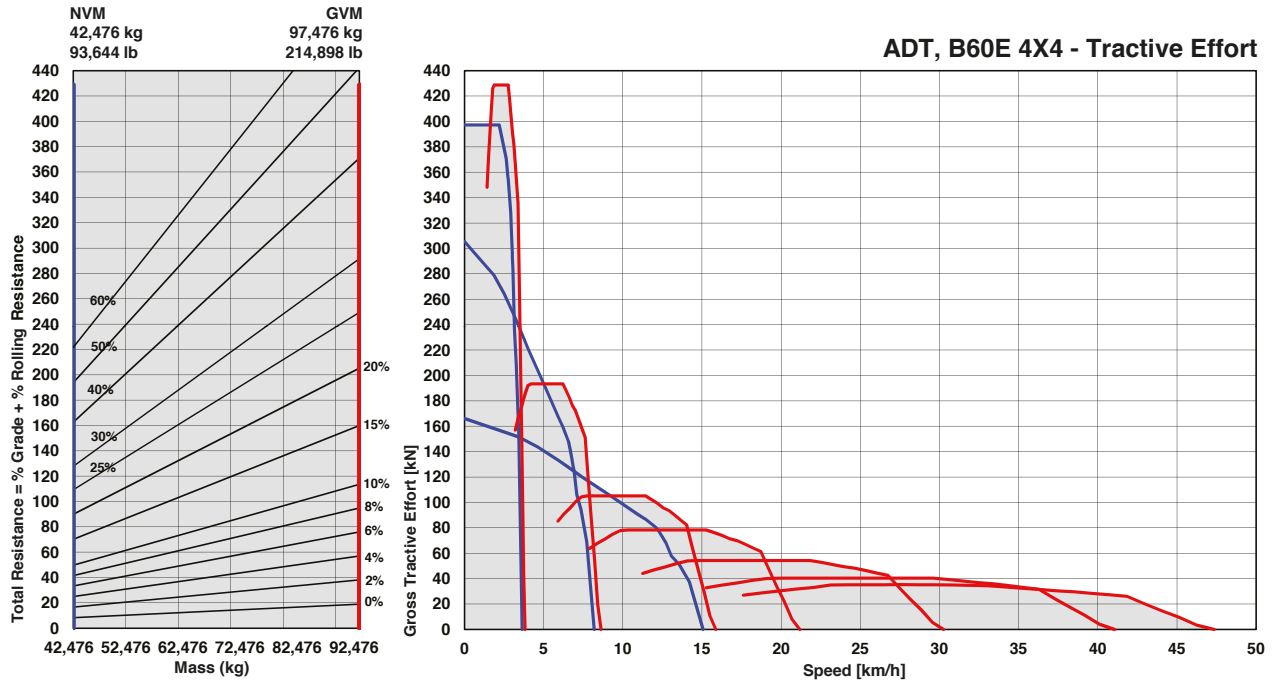
Machine Dimensions

| | | | | | | | |
|----|---------------------------------------------|-----------|-----------------|---|---------------------------------------|-----------|-----------------|
| A | Length - Transport Position | 11,114 mm | (33.23 ft.) | I | Ground Clearance - Artic | 561 mm | (22.09 in.) |
| A1 | Length - Bin Fully Tipped | 11,178 mm | (36 ft. 8 in.) | J | Ground Clearance - Front Axle | 554 mm | (21.81 in.) |
| B | Height - Transport Position w/o Rock Guard | 4,209 mm | (13 ft. 10 in.) | K | Ground Clearance - Bin Fully Tipped | 851 mm | (33.5 in.) |
| B | Height - Transport Position with Rock Guard | 4,212 mm | (13 ft. 10 in.) | L | Bin Lip Height - Transport Position | 2,952 mm | (9 ft. 8 in.) |
| B1 | Height - Rotating Beacon | 4,050 mm | (13 ft. 3 in.) | M | Bin Length | 5,036 mm | (16 ft. 6 in.) |
| B2 | Height - Load Light | 4,333 mm | (14 ft. 2 in.) | N | Load over Height | 3,824 mm | (12 ft. 7 in.) |
| B3 | Bin Height - Fully Tipped w/o Rock Guard | 7,476 mm | (24 ft. 6 in.) | O | Rear Axle Center to Bin Rear | 2,477 mm | (8 ft. 2 in.) |
| B4 | Bin Height - Fully Tipped with Rock Guard | 7,692 mm | (25 ft. 3 in.) | P | Rear Axle Center to Front Axle Center | 5,285 mm | (17 ft. 4 in.) |
| B5 | Height - Rock Guard Operating Position | 4,675 mm | (15 ft. 4 in.) | Q | Front Axle Center to Machine Front | 3,352 mm | (11 ft.) |
| B6 | Height - Cab | 3,813 mm | (12 ft. 6 in.) | R | Front Axle Center to Artic Center | 1,558 mm | (5 ft. 1 in.) |
| C | Width over Mudguards | 3,790 mm | (12 ft. 5 in.) | S | Approach Angle | 22° | |
| D | Width over Front Tires 875/65 R29 | 3,832 mm | (12 ft. 7 in.) | T | Maximum Bin Tip Angle | 55° | |
| E | Width over Rear Tires 24.00R35 | 4,444 mm | (14 ft. 7 in.) | U | Maximum Articulation Angle | 42° | |
| F | Tire Track Width Front 875/65R29 | 2,949 mm | (9 ft. 8 in.) | V | Front Tie Down Height | 1,263 mm | (4 ft. 2 in.) |
| F | Tire Track Width Rear 24.00R35 | 2,992 mm | (9 ft. 10 in.) | W | Machine Lifting Centers | 10,116 mm | (33 ft. 2 in.) |
| G | Width over Bin | 4,487 mm | (14 ft. 9 in.) | X | Inner Turning Circle Radius | 4,246 mm | (13 ft. 11 in.) |
| G1 | Width over Tailgate | 4,800 mm | (15 ft. 9 in.) | Y | Outer Turning Circle Radius | 9,216 mm | (30 ft. 3 in.) |
| H | Width over Mirrors - Operating Position | 5,242 mm | (17 ft. 2 in.) | | | | |

B60E 4x4

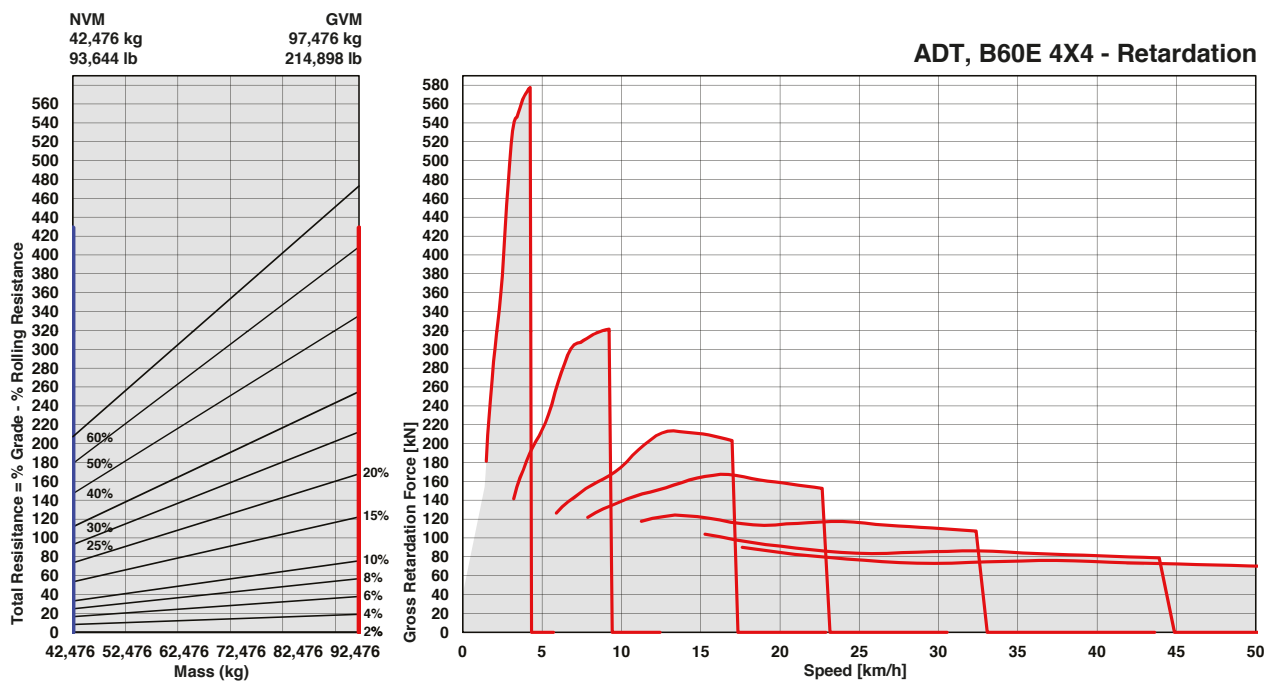
Gradeability/Rimpull

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.



| B30E 4x4 | B45E 4x4 | B60E 4x4 | |
|--------------------------|----------|----------|----------------------------------------------------------------|
| ENGINE | | | |
| ● | ● | ● | 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) | | | |
| ● | ● | ● | 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 / 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 |
| | ▲ | ● | Narrow bin body |
| | ● | ● | Rear wheel mudguards |
| OTHER | | | |
| ● | ● | ● | Automatic Traction Control (ATC) |
| ● | ● | ● | Wet disc brakes |
| ● | ● | ● | 23.5 R25 Radial Earthmover tires (Front) |
| | ● | ● | 775/65 R29 Radial Earthmover tires (Front) |
| | ● | ● | 875/65 R29 Radial Earthmover tires (Front) |
| | ▲ | ● | 26.5 R25 Radial Earthmover tires (Front-optional) |
| ● | ● | ● | 875/65 R29 Radial Earthmover tires (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 5 years |
| ● | ● | ● | Electronic bonnet opening |