

**VOLVO BACKHOE LOADER**

**BL60**



**VOLVO**

*Courtesy of Machine.Market*

# BUILT FROM EXPERIENCE.

For over 80 years, people have looked to Volvo Construction Equipment for productive, profitable machines. The tradition continues with the Volvo BL60 Backhoe Loader. It's loaded in all the right places, building direct customer feedback with years of Volvo loader and excavator expertise.

## **Designed to fit your needs**

Although the blueprints for the Volvo BL60 Backhoe Loader were drafted by a skilled team of Volvo engineers, the inspiration for its design was taken from construction industry professionals just like you.

By incorporating direct customer input into every phase of development, Volvo engineers were able to create a reliable, value-priced machine that delivers increased profitability to operations of all size.

## **Tried and tested**

To ensure the BL60 Backhoe Loader meets the strict quality standards applied to all Volvo products, the machine was put through rigorous onsite tests to prepare it for the daily assault of deep trenching, heavy lifting, loading, craning and more. But the real strength of its design is derived from its well-matched Volvo components - from loader to bucket - designed, built and functioning as one focused system. The result is reliable, productive operation year after year.

## **Proven power plant**

The Volvo BL60 is equipped with a proven Volvo turbo diesel engine that delivers 86 hp (64 kW) of consistent and responsive power. The machine's Powershuttle gearbox features four fully synchronized gears and electro-hydraulic switching between forward and reverse. And, for better balance, the transmission is mounted directly to the engine.

## **Durability through and through**

The undercarriage and frame of the Volvo BL60 are built tough for extended long life. Every hydraulic line, fitting, pin and bolt is corrosion protected, and all hydraulic fittings employ O-ring face seal technology to ensure dry hydraulic joints. All electrical components are of the highest quality and all connections feature a waterproof, snap-together design.



- The Volvo engine delivers proven power.



- More care, built in from the ground up.



- Durable undercarriage and frame.

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- Chassis integrated tie-down hooks.
- Durable box-welded construction.
- 5,295 lb (2402 kg) loader lift capacity.





# A BETTER WAY TO DIG.

It's all here: customer-driven design, power and reliability. And with dig depths, breakout forces and operating capacities rated higher than virtually every competitive model in its price class, the Volvo BL60 rises to your challenges - every day. It's a better way, and it's all Volvo.

## Built to perform

The Volvo BL60's boom features a closed, box-welded construction with fewer components - and fewer welds - to give it superior strength. The swing post is composed of cast iron, which allows for flexible movement and swing while still maintaining uncompromising strength and durability.

## Power to execute

To dig into those tough sites, the BL60's backhoe provides a 14'3" (4,351 mm) (dig depth and 11,915 lbf (53 kN)) of bucket dig force. The machine's narrow, curved boom provides excellent visibility and outstanding load capacity to simplify digging and loading operations.

For safe travel on roads, the boom can be hydraulically locked, and there's a locking pin to secure the swing arm in place.

## Flexible operation

Today's jobsite demands that backhoe loaders adapt to the work at hand. That's why the BL60 has optional features like an extendible dipper and a mechanical attachment bracket. And for added versatility and comfort, operators can choose between excavator or backhoe control patterns.

## Performance under pressure

The Volvo BL60's box-welded loader bucket is powered by a large, reinforced torque tube and friction-welded dual lift cylinders. The loader is configured along a sloped hood line to provide optimum visibility. In addition, flow-sharing hydraulics and self-leveling provide fast, efficient cycle times. And the loader features a center-mounted bucket cylinder for a better view of the bucket corners and more power for digging.

## More room to work

The Volvo BL60's 1.3 cubic yard (1 m<sup>3</sup>) General Purpose Standard Bucket helps you move more material with every load, for faster cycle times, greater productivity and increased profitability. For added versatility, an optional Multi-Purpose Bucket lets you perform up to nine separate functions. And no matter which configuration you choose, both can be outfitted with optional bolt-on teeth or a reversible cutting edge.



- S-style boom enhances visibility.



- Integrated, heavy-duty safety struts.



- 1.3 cubic yard general purpose bucket.

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- Sloped hood offers optimum visibility.
- Fully opening one-piece windshield.
- 11,915 lbf (53 kN) backhoe digging force.





# YOUR SAFETY - OUR PRIORITY.

When you work in unforgiving terrains, safety is a necessity, not a luxury. The Volvo BL60 delivers the features you need. From easily accessible service points and integrated loader safety strut, to the retractable seat belt and mechanical parking brake, the BL60 is built for safe operation.

## Set your sights on any job

Whether you choose the ROPS or cab version, the Volvo BL60 operator station was built for your work. With strategically placed posts and wide, flat cab windows, you get unobstructed, panoramic views of the site from virtually any working angle. In addition, cab windows can be opened fully or partially for increased ventilation.

## Take control of the site

The Volvo BL60's controls are ergonomically placed to reduce fatigue and maximize productivity. Comfortable grips and responsive handling allow operators to raise, lower, tilt, return-to-dig and float with precision and speed. Well-lit display indicators are configured on the right side console for easy access. The console features a lockable guard to prevent damage and theft. Additional lockable storage for tools, gloves and manuals is also provided.

Entering and exiting the machine is simplified with easy-to-reach handrails and serrated steps on either side of the machine. And for added safety in low-light conditions, the BL60 is equipped with two front and two rear halogen working lights, hazard flashers and a back-up alarm.

## A higher level of comfort

Extend your operating season with a standard heater/defrost system. And with the optional Care Cab, get more comfort features like a cushioned, adjustable suspension seat and provisions for a radio.

## More care, built in

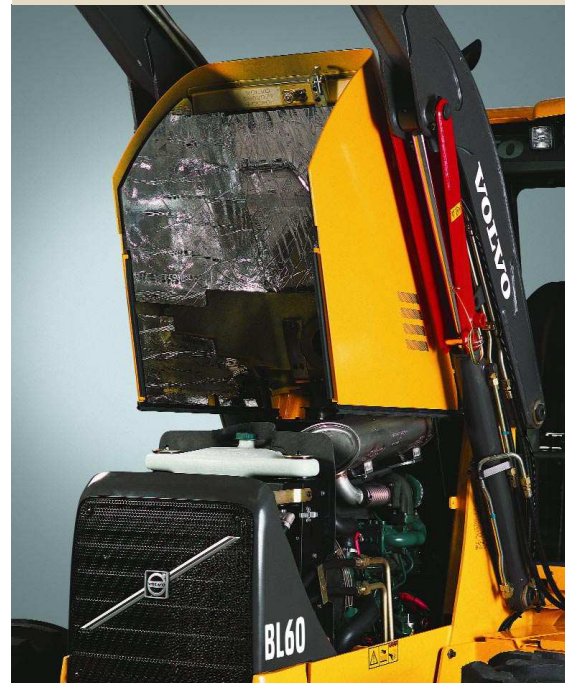
To provide maximum uptime and machine life, the Volvo BL60's design allows for fast and convenient maintenance with 50-hour greasing intervals, a tilt-up hood, ground-level fluid checks, common filter access points, reliable and fixed-flow hydraulics. It doesn't get any simpler: quality components, thoughtfully arranged to make servicing easy. That's what Volvo likes to call more care, built in.

## Designed to go the distance

When you can't afford to lose a single day's work to service or repairs, it pays to go with a name you can trust. Volvo Backhoe Loaders are backed by a standard Volvo warranty and a reliable dealer/service network to keep you up and running. Contact your local Volvo dealer to learn about the benefits of available extended warranty programs.



- Entry and exit: quick, safe and easy.



- Rear-tilting one-piece hood.



- Ground-level service; long intervals.

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- Ergonomic controls reduce fatigue.
- ROPS/FOPS certified safety cage.
- A spacious cab with a comfortable seat.



# SPECIFICATIONS

## Engine

Low-emission 62 kW (83 net hp), turbocharged 4-cylinder liquid-cooled Volvo diesel engine with a 28% torque rise.

<b>Model</b>	<b>Volvo D4D</b>
<b>Displacement</b>	<b>244 cu in (4.04 l)</b>
<b>Compression ratio</b>	<b>19:1</b>
<b>Rated speed</b>	<b>2,200 rpm</b>
<b>Maximum torque @ 1,500 rpm</b>	<b>287 lb.ft (390 Nm)</b>

## Electrical system

Weatherproof connections. Standard 12-volt, 690 CCA. battery with dual battery option. Standard 95 amp alternator.

## Drivetrain

Foot operated differential lock allows 100% full lock on rear axle. Final reduction in wheel hubs by a three pinion outboard planetary drive.

## Travel speed

Maximum speed, forward/reverse

<b>1</b>	<b>3.66 mph (5.9 km/h)</b>
<b>2</b>	<b>5.9 mph (9.5 km/h)</b>
<b>3</b>	<b>12.55 mph (20.2 km/h)</b>
<b>4</b>	<b>24.1 mph (38.8 km/h)</b>

## Brakes

Multi-plate, oil-immersed, servo power assisted, self-adjusting inboard disc brakes with four wheel drive automatically engaged in third and fourth gear. Independent, interlocking, twin serrated brake pedals. Parking brake engaged by a mechanical lever.

## Steering

Hydrostatic steering with protected double acting single cylinder behind the front axle with remote grease fitting for axle pivot pin.

## Two Wheel drive

<b>Turns lock to lock</b>	<b>4.25</b>
<b>Steering angle of</b>	<b>56°</b>

Turning circle over the wheels

<b>With brakes</b>	<b>20.60 ft (6.28 m)</b>
<b>Without brakes</b>	<b>25.59 ft (7.8 m)</b>

Turning circle over the loader bucket

<b>With brakes</b>	<b>30.97 ft (9.44 m)</b>
<b>Without brakes</b>	<b>35.10 ft (10.7 m)</b>

## Four Wheel Drive

<b>Turns lock to lock</b>	<b>3.5</b>
<b>Steering angle of</b>	<b>55°</b>

Turning circle over the wheels

<b>With brakes</b>	<b>27.36 ft (8.34 m)</b>
<b>Without brakes</b>	<b>31.82 ft (9.7 m)</b>

Turning circle over the loader bucket

<b>With brakes</b>	<b>36.38 ft (11.09 m)</b>
<b>Without brakes</b>	<b>40.29 ft (12.28 m)</b>

## Hydraulic system

Open-center, flow-sharing with single gear type pump powering the digging elements and attachments.

<b>Max. flow</b>	<b>30.6 gal/min (116 l/min)</b>
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Working pressure,

<b>Excavator</b>	<b>3,625 psi (250 bar)</b>
<b>Loader</b>	<b>3,190 psi (220 bar)</b>
<b>System capacity</b>	<b>29 gal (110 l)</b>

## Weight

2WD canopy machine with general purpose loader bucket with 24 in. heavy-duty backhoe bucket, 740 lb. counterweight, 175 lb. operator, full fuel tank, and standard dipper.

<b>Operating weight</b>	<b>16125 lb (7314 kg)</b>
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## Transmission

Completely sealed 12.2 in. diameter torque converter mounted to engine flywheel with a flexplate. Powershuttle gear box with four forward and four reverse fully-synchronized gears. Electro-hydraulic forward/reverse switch on the steering column.

## Service fill capacities

<b>Cooling system</b>	<b>5 gal (19 l)</b>
<b>Fuel tank</b>	<b>31.7 gal (120 l)</b>
<b>Engine oil (w/filter)</b>	<b>3.7 gal (14 l)</b>

Rear axle

<b>Differential oil capacity 2 gal (14 l)</b>
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Front axle (4WD)

<b>Differential oil capacity 1.7 gal (6.5 l)</b>	
<b>Hydraulic reservoir</b>	<b>13.5 gal (51 l)</b>
<b>Hydraulic system</b>	<b>29 gal (110 l)</b>

## Backhoe performance

High-performance backhoe is closed box welded, narrow and curved, and includes a hydraulic boom lock and manual swing locking pin. Cast iron swing post. Cushioned swing, boom and bucket cylinders. Extendible dipper increases the reach by 39 in. Manually and externally adjustable nylatron extendible dipper wear pads.

## Standard dipper

<b>Bucket width</b>	<b>24 in (610 mm)</b>
<b>Bucket capacity</b>	<b>7.4 cu ft (0.21 m³)</b>
<b>Bucket digging force (SAE J1179)</b>	<b>11,915 lbf (53 kN)</b>
<b>Dipper digging force (SAE J1179)</b>	<b>8,160 lbf (36.3 kN)</b>
<b>Bucket rotation</b>	<b>194°</b>

## Extendible dipper

<b>Bucket width</b>	<b>24 in (610 mm)</b>
<b>Bucket capacity</b>	<b>7.4 cu ft (0.21 m³)</b>
<b>Bucket digging force (SAE J1179)</b>	<b>11,915 lbf (53 kN)</b>
<b>Dipper digging force (SAE J1179)</b>	
<b>Ret.</b>	<b>8,160 lbf (36.3 kN)</b>
<b>Ext.</b>	<b>6,227 lbf (27.7 kN)</b>
<b>Bucket rotation</b>	<b>194°</b>

## Loader performance

Volvo patented single, low-effort levers control all loader functions. Loader features a single cylinder and is self-leveling with float and return-to-dig. Loader is box weld constructed with large diameter torque tube and friction welded dual lift cylinders. Optional Boom Suspension System (ride control). 1.3 cu. yd., 92.5 in. wide, general purpose or multi-purpose buckets with optional teeth and reversible bolt-on cutting edges. Integral safety strut. Weekly (50-hour) greasing intervals.

## Lift capacity at full height

<b>(with 1.3 cu. yd general purpose bucket)</b>	<b>5,295 lf (2402 kg)</b>
<b>Bucket breakout force</b>	<b>10,004 lbf (44.5 kN )</b>
<b>Loader arm breakout force</b>	<b>9,262 lbf (41.2 kN)</b>

Cycle Times:

<b>Raise to full height</b>	<b>4.1 sec</b>
<b>Dump time</b>	<b>1.9 sec</b>
<b>Culr time</b>	<b>2.4 sec</b>
<b>Lower</b>	<b>3.4 sec</b>

## Tires

Rear tires:

<b>19.5Lx24</b>
<b>or 21Lx24 (option)</b>
<b>or Goodyear 19.5Lx24, 12 PR IT525 (option)</b>
<b>or Goodyear 21Lx24, 12 PR IT525 (option)</b>

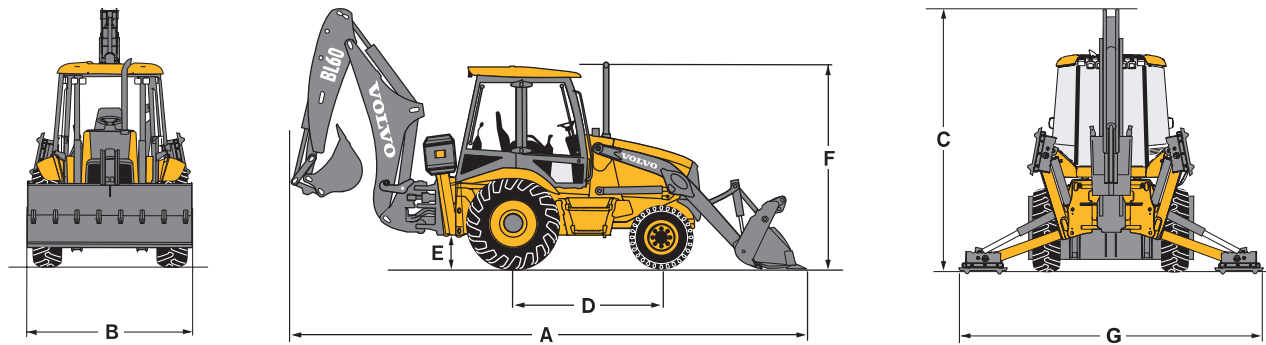
2WD Front:

<b>Goodyear 11Lx16, 12 PR, Laborer Tread</b>
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4WD Front:

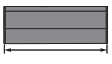


<b>12Lx16.5</b>
<b>or Goodyear 12Lx16.5, 12 PR, Sure Grip Lug (option)</b>







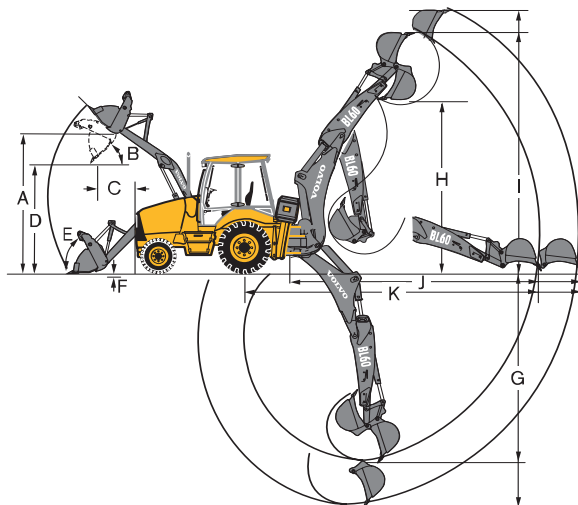


### Dimensions - Transport Position

A - Overall length	23'7" (7,192 mm)
B - Overall width	7'8" (2,350 mm)
Stabiliser width	7'7" (2,303 mm)
C - Overall height	12'4" (3,755 mm)
D - Wheelbase 4WD	7'1" (2,171 mm)
E - Ground clearance - frame	1'2" (345 mm)
F - Height to top of ROPS (cab and canopy)	9'5" (2,862 mm)
G - Width over extended stabilizers	12'10" (3,908 mm)

Loader buckets			
	Width	Weight	Capacity
General Purpose bucket	92.5" 2,350 mm	1,102 lb 500 kg	1.3 cu yd 1,000 l
Multi-purpose bucket	92.5" 2,350 mm	1,741 lb 790 kg	1.3 cu yd 1,000 l

Backhoe buckets				
	Width	Weight	Capacity	Nbr. Teeth
Heavy-Duty backhoe bucket	12" 305 mm	262 lb 119 kg	2.8 cu ft .08 cu m	3
	18" 457 mm	326 lb 148 kg	5.3 cu ft .15 cu m	4
	24" 610 mm	386 lb 175 kg	7.4 cu ft .21 cu m	5
	36" 910 mm	507 lb 230 kg	12.0 cu ft .34 cu m	6
Grading bucket	4 ft 1,215 mm	297 lb 135 kg	5.7 cu ft .16 cu m	-
	5 ft 1,515 mm	348 lb 158 kg	7.4 cu ft .21 cu m	-



### Loader dimensions

A - Height to hinge pin	11'4" (3,447 mm)
B - Dump angle	48 deg
C - Dump reach	2'4" (761 mm)
D - Dump height (@ 45° dump angle)	8'10" (2,684 mm)
E - Bucket rollback	40 deg
F - Dig depth below grade	7" (168 mm)
Bucket breakout force	10,004 lbf (44.5 kN)

### Backhoe dimensions - Standard dipper

G - Digging depth SAE 2ft (0.61m) flat bottom	14'3" (4,315 mm)
Digging depth SAE 8ft (2.50m) flat bottom	12'11" (3,934 mm)
H - Loading height	12'2" (3,710 mm)
I - Operating height	18' (5,495 mm)
J - Reach from swing post	19'1" (5,808 mm)
K - Reach from rear axle	22'10" (6,959 mm)
Bucket digging force (SAE J1179)	11,915 lbf (53 kN)
Dipper digging force (SAE J1179)	8,160 lbf (36.3 kN)

### Backhoe dimensions - Extendible dipper

G - Digging depth SAE 2ft (0.61m) flat bottom	Ret - 14'3" (4,315 mm) Ext - 17'6" (5,338 mm)
H - Loading height	Ret - 12'2" (3,710 mm) Ext - 14'2" (4,322 mm)
I - Operating height	Ret - 18'0" (5,495 mm) Ext - 20'0" (6,107 mm)
J - Reach from swing post	Ret - 19'1" (5,808 mm) Ext - 22'4" (6,804 mm)
K - Reach from rear axle	Ret - 22'10" (6,959 mm) Ext - 26'1" (7,955 mm)
Bucket digging force (SAE J1179)	11,915 lbf (53 kN)
Dipper digging force (SAE J1179)	Ret - 8,161 lbf (36.3 kN) Ext - 6,227 lbf (27.7 kN)
Bucket rotation	194 deg
Swing torque	19,177 lbf (19 kN-m)



# LIFTING CAPACITY

Lift capacity figures comply with SAE J31.

All figures are stated in pounds (kilograms).

The large arc indicates boom-lift.

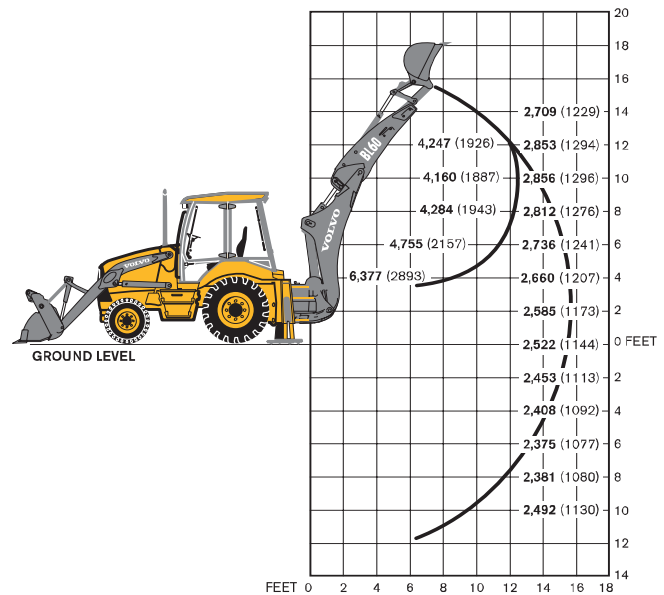
The small arc indicates dipper-lift with the boom at 63 degrees.

## BL60 Backhoe with Standard Dipper

Equipped with 24" heavy-duty backhoe bucket,

1.3 cu. yd. heavy-duty loader bucket,

11-16 SL front tires, 19.5L-24 rear tires

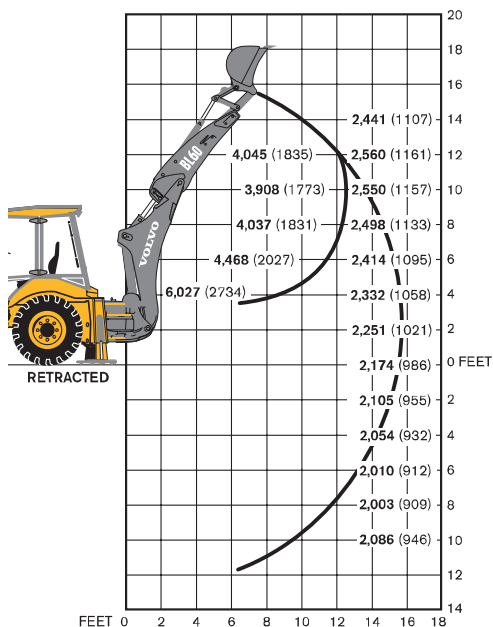


## BL60 Backhoe with Extendible Dipperstick, Retracted

Equipped with 24" heavy-duty backhoe bucket,

1.3 cu. yd. heavy-duty loader bucket,

11-16 SL front tires, 19.5L-24 rear tires

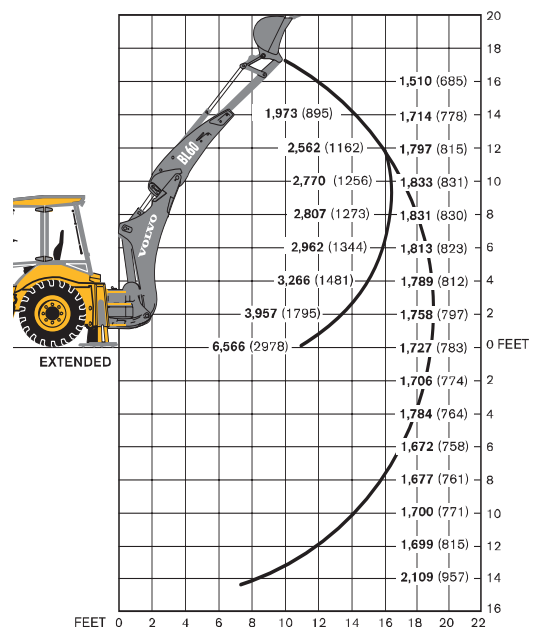


## BL60 Backhoe with Extendible Dipperstick, Extended\*

Equipped with 24" heavy-duty backhoe bucket,

1.3 cu. yd. heavy-duty loader bucket,

11-16 SL front tires, 19.5L-24 rear tires





## STANDARD EQUIPMENT

### General

One-piece, unitized mainframe and componentized driveline. Machine tie down and lift points, cast iron front bumper. Resilient rear fenders, right side mounted fuel tank, toolbox. Flip-open, rear-tilting, one-piece hood for ease of service. Sealed pins and bushings provide 50-hour lubrication interval. Machine includes operator manual, AEM safety manual, service and safety decals.

### Cab

Meets SAE ROPS/FOPS requirements, dual entry, serrated steps and easy to reach handrails, deluxe trim, suspended cloth seat and 2 in (51 mm) retractable seat belt, fixed steering column, hand and foot throttle, interior rearview mirror, dome light. Two front and two rear work lights, back-up alarm, horn with front/rear facing access, warning buzzer, hazard flashers and turn signals. 12 volt mobile power socket, cup holders, coat hook, storage trays. Heater/defroster system, cab pressurization, front/rear windshield wiper/washer, 4 flat, tinted side windows that open fully or partially, one-piece slide-open rear window.

### Canopy

Meets SAE ROPS/FOPS requirements, dual entry, serrated steps and easy to reach handrails, non-suspended vinyl seat and 2 in (51 mm) retractable seat belt, fixed steering column, hand and foot throttle, interior rearview mirror. Two front and two rear work lights, back-up alarm, horn with front/rear facing access, hazard flashers and turn signals. 12 volt mobile power socket and storage trays. Sealed switches on right side instrument panel with lockable vandal guard.

### Loader

Fabricated arms with dual lift cylinders and single, center-mounted dump cylinder, optional choice of buckets. Two spool loader valve. Transmission disconnect on loader lever. Forward/reverse transmission direction

lever on steering column. Mechanical self-leveling system, loader arm float and bucket return-to-dig.

### Engine

Volvo 244 cu in (4,04 l), 83 SAE Net hp, turbocharged diesel engine which meets or exceeds EPA compliance requirements. Self-cleaning, dual element air cleaner, spin-on fuel filter, fuel and water separator, high ambient tilting cooling package, front grill, key-activated manifold cold start assist, anti-freeze protection. 500-hour service interval.

### Front Axle - 2WD

Curved, cast iron bar axle with centrally-mounted and protected steering cylinder. Remote grease fitting for axle pivot pin. Hydrostatic power steering utilizes main hydraulic pump via priority valve. Eight-bolt pattern wheel hub.

### Front Axle - 4WD

Double reduction with outboard planetary drive. Hydrostatic power steering utilizes main hydraulic pump via priority valve. Eight-bolt pattern wheel hub.

### Transmission

Four speeds forward and four speeds reverse. Synchronized shifting in all gears, powershift direction change, 12.2 in (310 mm) diameter torque converter, transmission disconnect switch on loader control lever and transmission shift lever, 100% foot-activated differential lock, spin-on oil filter.

### Rear Axle

Double reduction with outboard planetary drive. Switch-activated differential lock. Ten-bolt pattern wheel hub.

### Brakes

Internal, multi-disc, oil-immersed, hydraulically-actuated and power-assisted self-adjusting service brakes. Brake pedals operable either independently or locked together. Internal parking brake. 4WD units equipped with 4WD assist braking in third and fourth gears.

### Electrical System

12 volt system. Meets IP65 water ingress test standard. 95 amp alternator, one 900 CCA low-maintenance battery. Two front-adjustable 55 watt halogen work lights and two rear-adjustable 55 watt halogen work lights. Central fuse panel plus fuses and relays within battery box. Neutral start circuit and weatherproof connectors.

### Instrumentation & Controls

Right side instrument panel with audible and visual warning system. Instruments to monitor the following machine functions: engine coolant temperature, engine rpm, machine hours, fuel level, engine preheating, engine oil pressure, air cleaner restriction, transmission oil temperature, service indicator, battery charging, hydraulic filter restriction and hydraulic oil temperature.

### Hydraulic System

Open-center, flow-sharing system with gear pump, maximum flow of 29 gal (110 l) per minute and system pressure of 3,625 psi (250 bar). O-ring face seal hydraulic fittings, locking hydraulic tank cap. Hoses and tubing designed for long life and ease of service.

### Backhoe

Centermount, standard dipper with 14'3" (4,315 mm) maximum dig depth, optional extendible dipper with 17'6" (5,338 mm) maximum dig depth, choice of 2 lever "SAE Backhoe" or "SAE Excavator" pattern controls, hydraulic boom lock, and manual swing lock. State-of-the-art, high-performance backhoe, wide stance stabilizers with dirt pads and anti-drift valves, twin cylinder swing system, optional choice of buckets and control patterns.

### Security

Single key system for ignition, cab doors, fuel cap, canopy unit vandal cover (on ROPS units), toolbox and engine compartment.

### Warranty

12 month limited warranty included. Variety of optional Customer Assurance Plans available.

## OPTIONAL EQUIPMENT

### Operator's Area

Boom Suspension System (ride control). Rotating beacon with in-cab switch. AM-FM stereo cassette radio with speakers for cab. Air-conditioning for cab. Front windshield and wiper for canopy. 3 in (76 mm) wide retractable seat belt. Exterior rearview mirrors. Tilt steering column. Additional work lights. Floor mat (canopy). Vandal guard for cab. Cup holder (canopy). Tool kit. Plastic roof (canopy). Sun visor.

### Backhoe Attachment Bracket

Mechanical attachment bracket. Lift eye. Plastic pads for standard pad. Flip over stabilizer pads.

### Backhoe Auxiliary Hydraulics

Hydraulic breaker circuit kit. Includes valve, control switch, boom pipework and machine end quickcouplers.

### Loader Attachments

Fork kit for General Purpose loader bucket. Fork kit for Multi-purpose loader bucket.

### Loader Hydraulics Required with Multi-purpose bucket

Loader hydraulics and loader arm pipework for operation of multi-purpose bucket.

### Cutting Edges and Teeth

Bucket teeth, bolt-on, set of 8. Bolt-on cutting edge for bucket, reversible.

### Miscellaneous

Anti-theft device. Hand held hydraulic circuit. Special Paint. Special quantities (Call Volvo Order Desk).





Volvo Construction Equipment is different. The company's products are designed, built and supported in a different way. That difference comes from our 170-year engineering heritage. A heritage of thinking first about the people who actually use the machines. About how to make them safer, more comfortable, more productive. About the environment we all share. The result of that thinking is a growing range of machines and a global support network dedicated to helping you do more. People around the world are proud to use Volvo. And we're proud of what makes Volvo different – **More care. Built in.**



*All products are not available in all markets. Under our policy of continuous improvement, we reserve the right to change specifications and design without prior notice. The illustrations do not necessarily show the standard version of the machine.*

# **VOLVO**

## **Construction Equipment**

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