317B L
317B LN
Hydraulic Excavator

Cat® 3046 T engine	
Gross power	84 kW/112 hp
Flywheel power	81 kW/109 hp
Operating weight range	17 300 to 18 500 kg
Travel speed	2.8/5.0 km/h
Drawbar pull	154 kN

317B L and 317B LN Hydraulic Excavators

Improved performance and rugged durability combine to maximize productivity.

Operator Station

✔ *Roomy and quiet with ergonomic control placement has excellent sightlines to the work area* to help keep operator fatigue low and production up throughout the entire shift. Optional climate control maintains constant temperature in the cab in both hot and cold weather. **pg. 4-5**

Maestro Electronic Control System

Maximizes fuel efficiency and performance by maintaining the optimum balance between engine speed and hydraulic demand. **pg. 6**

Engine

The 317B L/LN is powered by a 6 cylinder turbocharged Caterpillar 3046 T diesel engine. This engine complies with current worldwide emissions requirements. Associated with Maestro Electronic Control system, it offers very low fuel consumption. **pg. 7**

Improved performance.
Better controllability, higher stick and bucket forces, increased lift capacity, low fuel consumption, simplified service and a more comfortable operator station increase your productivity and lower your operating costs.

Hydraulics

✔ *New higher pressure Caterpillar® hydraulics provide increased break-out and crowd forces to maximize bucket loads and decrease cycle times.* The Cat Maestro Electronic Control System allows smooth, efficient operation. **pg. 8**

Undercarriage

Cat designed excavator undercarriage is stable, durable and low maintenance.

✔ *New smoother track roller frames are easier to clean.* **pg. 10**

Booms, Sticks and Attachments

Two booms and four sticks are available to meet your needs. 317B L/LN offers several combinations of reach and digging forces for optimum versatility. **pg. 12**

Serviceability

✔ *Simplified service through many ground level service points, improved filtration and filter access, and electronic diagnostics means increased productivity.* **pg. 9**

Structures

Caterpillar design and manufacturing techniques assure outstanding durability and service life from these important components. **pg. 11**

Buckets and Teeth

A wide variety of bucket types with aggressive bucket designs take advantage of the 317B's higher digging forces to improve productivity. **pg. 13**

Cat '5 Star Customer Service'

Turns your investment into profit, from purchase to resale through:

- Equipment Management Services for optimum profit
- Maintenance Services for equipment protection
- Predictive Services for optimum machine availability
- Reconditioning Services for lower repair cost
- Your Caterpillar dealer parts support for satisfaction and peace of mind

pg. 14

✔ *New feature*

Operator Station

Designed for comfort and ease of operation.

This operator work station is quiet with ergonomic control placement and convenient adjustments, low lever and pedal effort, ergonomic seat design, and highly efficient ventilation.
The result is a cab that puts the operator firmly and comfortably in control to enhance productivity.

Excellent viewing area through large, wide windows. A large skylight provides upward visibility. The upper front window features a top mounted parallelogram wiper to provide unobstructed front viewing. The front window is also flat for easy service replacement. The upper left side door window can slide open. The lower window provides visibility to the tracks and the ground next to the machine. The rear window offers a good view behind and to the left, aided by a lower hood profile.

Greater control convenience.
Each of the controls is positioned within easy reach of the operator.

The double wall, pressed cab shell is mounted to the swing frame using butyl mounts for reduced sound and vibrations.

1 **Caterpillar Maestro Electronic Control System panel** includes fuel level, hydraulic oil temperature and engine temperature gauges, machine condition indicators, and operator controls in a single console (refer to Maestro Electronic Control System on page 6).

2 **Optional automatic climate control** maintains constant temperature in the cab in both hot and cold weather conditions and, at the touch of a switch, the operator can choose between fresh or recirculated air.

3 **Joysticks control all implements** and swing functions with minimal effort. All electrical provisions are standard for easy retro-fit of auxiliary circuits. This includes two switches on each joystick. The integrated joystick consoles adjust to operator preference. Joystick consoles are suspended as part of the seat arrangement.

4 **Dial throttle** with ten settings for simple, precise repeatable engine speed adjustment.

5 **Hand or foot actuated travel controls** allow the operator to move the excavator while working the boom, stick and bucket. Hand levers are easily removable.

6 **Hydraulic activation control lever** deactivates hydraulic functions and prevents start-up when the operator exits the cab.

7 **The fully adjustable suspension seat (standard)** includes an impressive range of comfort features. In addition to fore/aft height and weight adjustments, it also offers wide arm support, headrest and a retractable seat belt.

Electronic Control System

The Electronic Control System manages the engine and hydraulics for maximum performance.

Maestro Electronic Power Unit Control System controls state-of-the-art hydraulics and engine performance for maximized productivity, increased fuel efficiency, and lower emission and sound levels.

Electronic Engine Underspeed Control balances engine and hydraulic output for maximum performance and fuel efficiency.

- It adjusts hydraulic pump output to maintain engine rpm in optimum range.
- 100 percent of engine hydraulic power is available for the hydraulic system.

Operator control panel allows optimization of performance in all applications. The high contrast back-lit liquid crystal display includes:

1 Power Mode Selector changes engine power and speed at the touch of a switch.
- **Economy Mode** sets engine power at 90 percent and is used during normal and utility operations to reduce fuel consumption and sound levels.
- **Power Up Mode** sets engine power at 100 percent for high production truck loading, trenching and high speed travel.

2 Automatic Engine Speed Control (AEC) reduces engine speed to 1300 rpm during light-load or no-load applications when activated. A switch on the right joystick control lever engages the low idle function reducing engine speed to 1100 rpm. Press again to return to previous setting.

Work Mode Selector matches hydraulic characteristics to the application.

3 Boom Priority Mode gives priority flow to the boom for deep trenching and same level truck loading, where there is significant boom movement relative to swing.

4 Swing Priority Mode gives swing flow priority and is especially suited to extreme swing angle loading.

5 Fine Control Mode optimizes hydraulic pump output for applications like slope finishing or precision lifting which require smoother control.

6 User Mode allows the operator to choose from three submodes:
- **Tamping Mode** adjusts boom speed and force to keep machine motion at a minimum when compacting material with the bucket.
- **Hammer Mode** allows pump flow and hydraulic pressure adjustments to enhance hammer effectiveness.
- **Customer Mode** allows a customized combination of a work mode, power mode, and hydraulic output to be selected, recorded, and recalled for later use.

Machine monitoring system uses a progression of indicators, action lamps, and alarms to inform the operator of machine conditions.

Service Level Mode of the Electronic Power Unit Control delivers fast, detailed diagnosis of machine conditions improving uptime (refer to Serviceability on page 9).

Diagnostic functions primarily intended for service technicians provide a swift electronic scan of the Maestro Electronic Control System from troubleshooting to testing. Rapid diagnosis helps maximize uptime to reduce operating costs.

Cat 3046 T Engine

The six cylinder turbocharged engine is built for power, reliability, outstanding fuel economy.

Automatic Engine Control with convenient one-touch command. Three-stage control maximizes fuel efficiency and reduces sound levels.

- When placed in the “OFF” mode, if a no-load condition or light-load condition continues for more than three seconds, the automatic engine control reduces engine speed by 100 rpm.
- When placed in the “ON” mode, if a no-load condition or light-load condition continues for more than three seconds, the automatic engine control reduces engine speed from high idle to 1300 rpm.
- At any time, the operator can activate a switch on the top of the right control lever to reduce the engine speed to dial 1100 rpm. This feature, referred to as one-touch idle, can be used both to conserve fuel and to reduce engine sound levels. Activate switch again to return to previous level.

Efficient, direct injection fuel system means lower operating cost.

Turbocharged to increase engine power by burning fuel with greater efficiency.

Eight balance, one-piece, forged crankshaft enhances balance and decreases vibration and is induction hardened to improve abrasion resistance.

Heat resistant aluminum alloy pistons have a short compression height, reducing weight and improving efficiency.

Forged, high carbon steel connecting rods with smaller connecting rod to crank radius ratio results in a lightweight, powerful, compact engine.

The 3046 T complies with current worldwide emissions requirements.

Hydraulics

Caterpillar hydraulics deliver power and control to keep material moving at high volume.

Dramatically increased control responsiveness aids operation and improves cycle time.

- Control movements better matched to hydraulic action for improved operator performance.
- Improved swing damping restrains drift and improves positioning during finishing and lifting applications.

Full-time nine percent increase in hydraulic relief pressure increases stick and bucket forces for better productivity, provides nine percent higher lift capacity (at lifting points limited by hydraulic pressure) and a wider range of workable material.

Hydraulic cross-sensing system improves productivity with faster implement speeds and quicker, stronger pivot turns.

- 100 percent of engine horsepower deliverable as hydraulic power.
- Full power to a single motor for strong, fast turns. Balanced power to two pumps for straight travel.

Boom regeneration circuit diverts oil to lower the boom. Pumps have all pressure and flow available for other circuits.

Stick regeneration circuit diverts oil to assist stick-in operation. Flow from the pumps can be directed to other circuits, saving energy.

Fine swing control cushions swing start and stop for better implement control.

Pump flow decreases when controls are in neutral for reduced fuel consumption and sound.

Auxiliary hydraulic valve is standard on the 317B L/LN for use with optional hydraulic circuits.

Hydraulic cylinder snubbers at rod-end of boom cylinders and both ends of stick cylinders cushion shocks, reduce sound and increase cylinder life.

Cat's XT hose meets the critical flexibility and strength demands of the 317B L/LN.

- O-ring face seal couplings provide positive sealing for reliable, leak-free connections.

Caterpillar Hydraulic oil offers maximum protection against rusting, mechanical and corrosive wear in all hydraulic systems. Caterpillar bio-degradable synthetic ester hydraulic oil is factory-installed as an option.

Bio degradable hydraulic oil can be used in the 317B L/LN where desired.

Scheduled Oil Sampling allows for scheduled replacement or repair of components before the machine is stopped because of a major breakdown.

Serviceability

Simplified service and maintenance features save you time and money.

Fast, easy maintenance means improved uptime and better value.

Ground level service points
for fuel-water separator, engine oil filter, battery, radiator fluid level, window washer fluid level and pilot system filter.

Filters and filter locations
make maintenance easier.

- Encapsulated hydraulic oil filter is outside hydraulic tank. This new design avoids spills and hydraulic system contamination during replacement. Indicator in cab signals when the filter needs to be replaced, extending filter service life.
- Radial seal air cleaner has double layered filter core and built-in air precleaner for better filtration. No tools required to change. Operator is alerted to need for filter change.
- Engine oil filter is repositioned for easier access.
- Pilot hydraulic system filter keeps contaminates away from the pilot system. This system includes a Scheduled Oil Sampling port to simplify sampling.
- Swing and travel motor filter removes contaminants, keeping them from returning to the tank.

Design and layout translate to ease of use.

- Front linkage pin puller holes promote easier disassembly of front linkage.
- Cotter pin retained track master pin simplifies disassembly and assembly.
- Steeper roller frame top plate reduces dirt buildup for easier cleaning.

Water separator removes water from fuel even when under pressure and is located in the battery compartment.

Remote greasing block on the boom and two grease points for the swing bearing deliver grease to hard to reach locations.

Maestro Electronic Power Unit Control has diagnostic capabilities for service technician's use. Dealer service technicians can quickly and easily diagnose and adjust machine components, maximizing uptime.

Undercarriage

Durable undercarriage absorbs stresses and provides excellent stability.

Precision robotic welding helps ensure quality welds. These welds increase rigidity, reduce internal stresses and enhance durability for the chassis and track roller frames.

Heavy-duty, modified X-shaped chassis design. Cat undercarriage components are purposely oversized to offer heavy-duty performance and durability.

Strutted track links are sealed for longer life. Track rollers, carrier rollers and idlers are also sealed and lubricated for excellent service life.

Smoother auto shifting two-speed travel motors offer top travel speeds and plenty of pull on slopes or turns.

Long (L) undercarriage maximizes stability and lifting capacity. Long and sturdy undercarriage offers a very stable work platform.

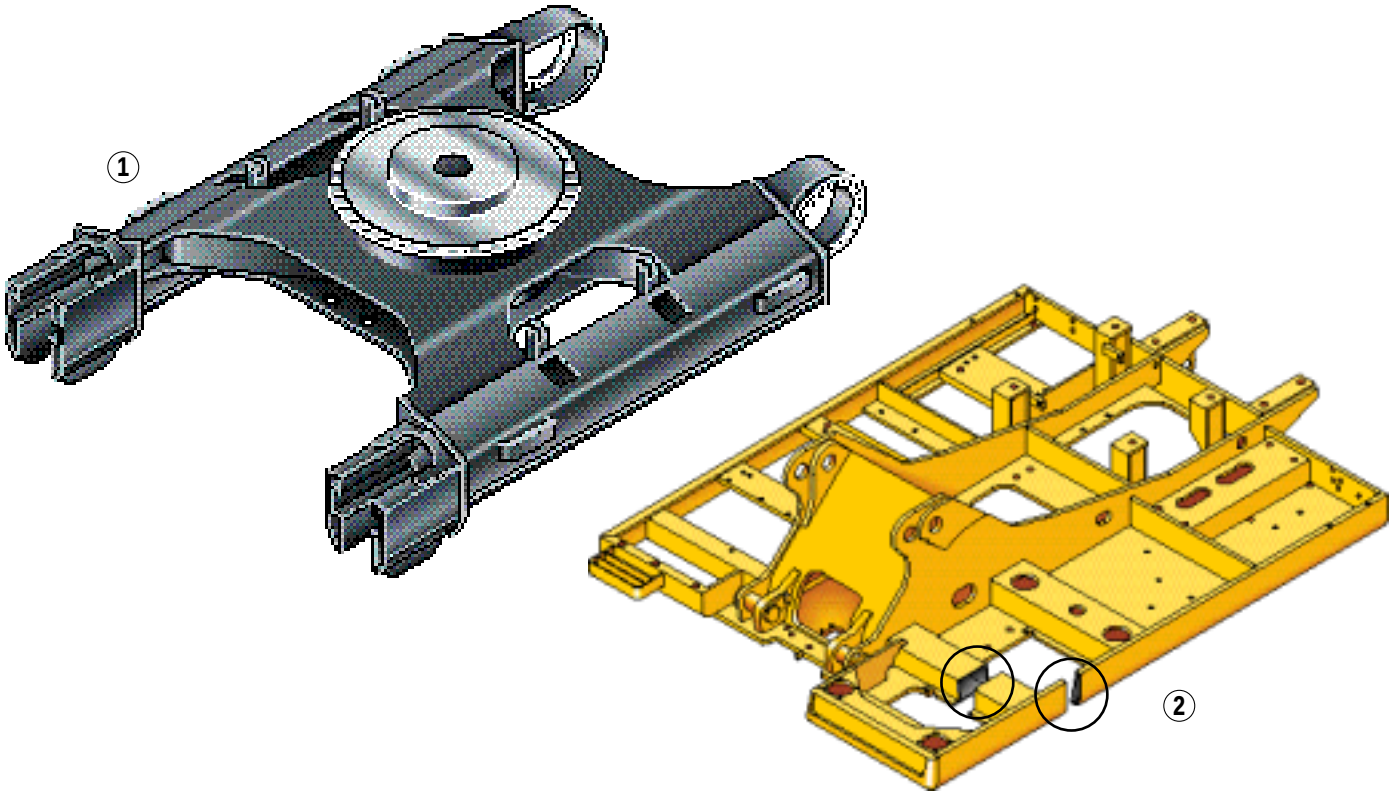
Long and Narrow (LN) undercarriage is also available to ease transportability of the machine.

The elimination of the ledge at carbody and roller frame juncture reduces material build-up and makes digging out easier.

Standard idler guards maintain track alignment. Center section guards are standard. Full length Track Guiding Guards are available for additional protection on side slopes.

Structures

The 317B L/LN structural components are the backbone of the machine's durability.



1 Advanced carbody design stands up in the toughest applications.

- Modified X-shaped, box-section carbody provides excellent resistance to torsional bending.
- Upper structure weight and stresses are distributed evenly across the full length of the track roller frame.
- Smooth transitions and long welds reduce stresses at the carbody-to-roller frame junctions for excellent durability.
- Robotic welding ensures consistent, high-quality welds throughout the manufacturing process.

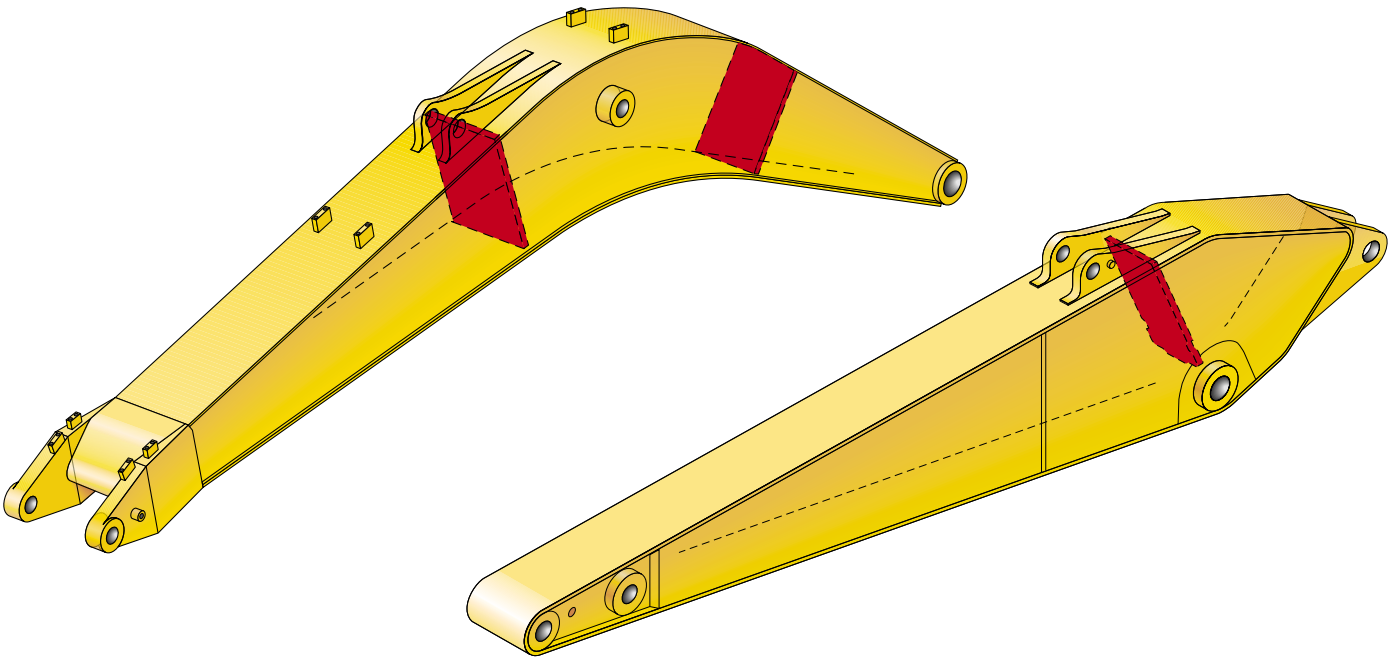
Robotic welded track roller frame pentagonal box section is press-formed to deliver exceptional strength and service life.

2 Rugged main frame is designed for maximum durability and efficient use of materials.

- Outer frame utilizes curved side rails, which are die-formed, for excellent uniformity and strength throughout the length.
- Box section channels improve upper frame rigidity under the cab.
- Inverted U-channels span the width of the main frame and are formed, rather than fabricated, for superior strength and reduced weight.
- Boom tower and main rails are constructed of solid, high-tensile strength steel plates.
- Boom foot and engine mount areas are reinforced for additional strength.

Booms, Sticks and Attachments

The 317B L/LN has designed-in flexibility to help bring total solution for higher production and efficiency to your jobs.



Select the right combination for the job with your Cat dealer and you'll help ensure top production from the start.

Caterpillar excavator booms and sticks are built for performance and long service life.

- Castings and forgings are used at high stress areas such as boom nose, boom foot, boom cylinder and stick foot.
- Large, welded, box-section structures with thick, multi-plate fabrications in high-stress areas.
- Construction allows structures to flex and dissipate stresses.

The choice of two standard application booms and four sticks plus a wide selection of buckets and attachments, means the 317B L/LN offers several combinations of reach and digging forces for optimum versatility.

One-piece boom for all standard applications.

Hydraulic Adjustable Boom (VA) for vertical wall digging, working near obstacles or in tight quarters. The variable geometry boom offers superb flexibility and versatility in the working envelope. With full extension the working range gives both maximum dig depth and reach above ground. Equally, when the VA boom is retracted, it can work closer to its tracks, increase lifting capacity and work in confined areas. All hydraulic adjustments to the VA boom angle can be made from the cab during a work cycle for true versatility. Contact your Cat dealer for further details.

Short stick for mass excavation and maximum breakout force bucket up to 1.0 m^3.

Medium stick for maximum versatility bucket up to 0.94 m^3

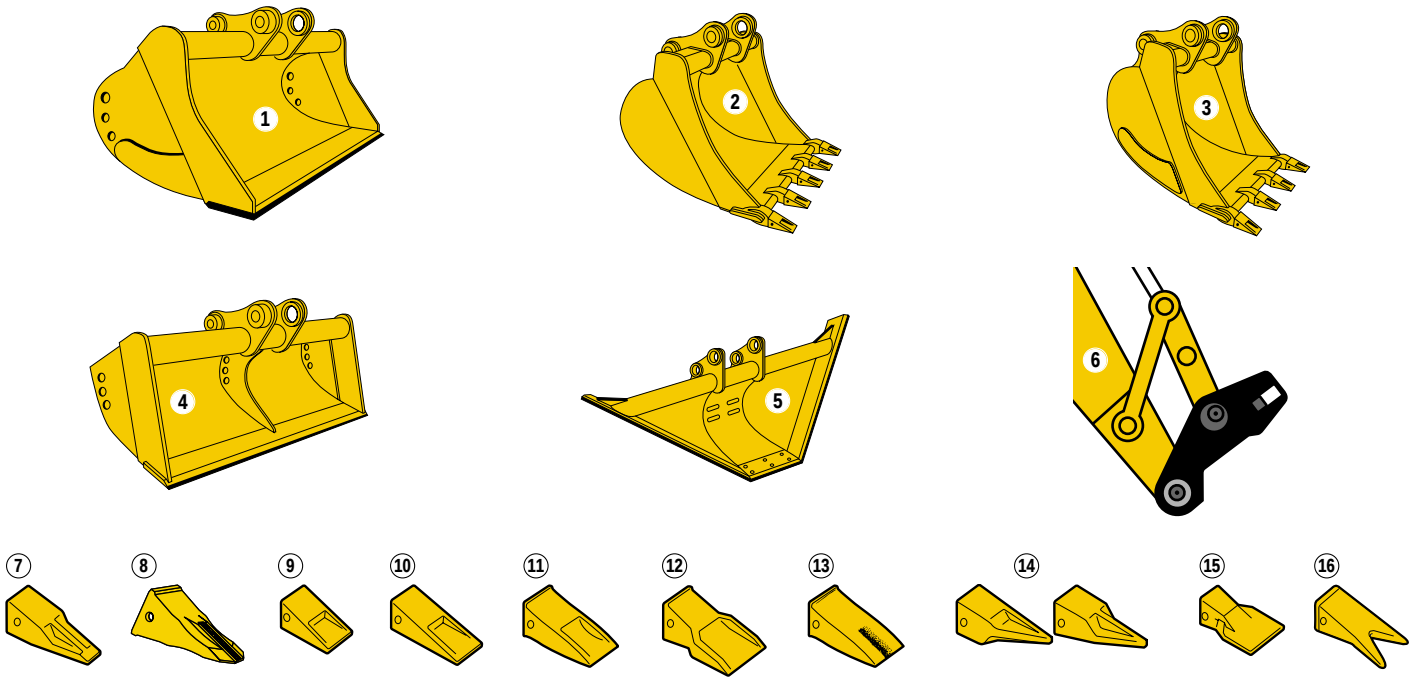
Long stick for all standard applications bucket up to 0.86 m^3

Extra long stick for maximum reach and digging depth bucket up to 0.68 m^3

Choose from a variety of work tools such as hammers, compactors, grapples or crushers. Ask your Cat dealer for information on attachments or special configurations.

Buckets and Teeth

A wide variety of buckets help optimize machine performance. Purpose designed and built to Caterpillar's high durability standards.



1 Utility. Demolition and construction bucket handles bricks and broken concrete, as well as trench filling, floor leveling and bank finishing.

2 Excavation. Digs and loads soft to medium materials such as clay and earth. Features weld on tip adapters, hardened cutting edge and side bars.

3 Extreme Excavation. Digs and loads compact/abrasive materials like earth/rock, sand/clay, sand/gravel, coal, chalk and low abrasion ores. Features bigger ground engaging tools, plus abrasion resistant steel for all wear parts.

4 Ditch Cleaning (DC). Wide, light bucket used mainly with long reach configurations to clean water beds and banks.

5 Trapezoidal (T). To prepare and maintain small irrigation ditches. Features angled sides to shape ditch banks in one operation.

6 All Cat buckets can be fitted for Caterpillar Quick Coupler.

Tip selection

7 Penetration

8 Penetration Long Life

9 Short

10 Long

11 Heavy Duty Long

12 Heavy Duty Abrasion

13 Heavy Duty Long Life

14 Sharp / Corner Sharp

15 Wide

16 Twin Sharp

Cat '5-Star Customer Service'

Your Cat 317B L/LN comes with something unique: Cat '5-Star Customer Service' from your Cat dealer.

Cat '5-Star Customer Service' means peace of mind from the minute you contact your Cat dealer.
By building a partnership with your Cat dealer, you can focus on your business instead of your equipment. Cat '5-Star Customer Service' brings together all the products, services and people from Caterpillar and the Cat dealer network and puts them firmly behind you. Count on them to help you maintain your competitive edge.

Cat '5-Star Customer Service' includes Equipment Management Services to help you make a better business decision.
We'll assist you in selecting the right Cat equipment to suit your need, to optimize productivity. And we'll help you make smarter decisions, assist you with machine selection, purchasing or renting options, financing, and projected owning and operating costs.

Maintenance Services that enable you to maximize machine availability and performance. Every Cat dealer has a wide choice of maintenance products and services to make sure your equipment achieves maximum performance for the lowest possible cost.

Predictive Services to anticipate problems. By anticipating potential problems and preventing unscheduled repairs, Cat Predictive Services make sure that your equipment is always up and ready to run – because maximizing uptime means maximum earning capacity.

Reconditioning Services for a wider choice of repair alternatives.
Caterpillar factory-reconditioned parts and components get your equipment back on the job in the minimum of time and with lower repair costs, contributing to reduced operating costs and a more efficient operation.

Off-the shelf availability of genuine Cat parts. Genuine parts, together with highly experienced, Cat-trained specialists make sure every repair is right first time and your machine is back earning its keep in the shortest possible time.

"Cat '5-Star Customer Service' is our commitment to combine outstanding equipment and services to give you the most cost effective solutions for your business."

Caterpillar and Cat dealers

Engine

Caterpillar 3046 T turbocharged diesel engine.

Ratings at 2100 rpm	kW	hp
Gross power	84	112

The following ratings apply at 2100 rpm when tested under the specified standard conditions for the specified standard:

Net power	kW	hp
ISO 9249	81	109
EEC 80/1269	81	109

Dimensions

Bore	94 mm
Stroke	120 mm
Displacement	5 liters

Power rating conditions

- based on standard air conditions of 25°C and 99 kPa dry barometer
- used 35° API gravity fuel having an LHV of 42 780 kJ/kg when used at 30°C (ref. a fuel density of 838.9 g/liters)
- net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator
- no engine derating required below 2300 m altitude

Features

- fuel injectors control fuel delivery more efficiently, resulting in better performance, fuel economy, and reduced noise and smoke
- 24-volt electric system with 55-amp alternator and two 100-amp h batteries
- low profile, heat-resistant, aluminum alloy pistons
- precision cast cylinder head with helical intake ports
- one-piece, induction hardened forged alloy crankshaft

Steering

Two rocker pedals with detachable hand levers control steering and travel functions.

Controls

- controls are pilot-operated for reduced efforts
- left pedal and lever control left track; right pedal and lever control right track
- when idlers are in front, pushing both pedals or levers forward moves the excavator straight ahead
- when the idlers are in front, rocking both pedals or pulling both levers backward moves the excavator straight back
- moving one pedal or lever more than the other, either forward or backward, results in a gradual turn
- moving one pedal or lever forward and the other pedal or lever backward counter-rotates the tracks for spot turns

Swing Mechanism

Hydrostatic with independent planetary reduction.

Ratings

Swing Torque	39.1 kNm
Swing Speed	9.9 rpm

Features

- the swing mechanism is driven by a pinion gear sealed in a grease bath through a double-reduction planetary gear set
- swing priority and fine control capability are available as work modes
- Standard Fine Swing Control smooths out starts and stops

Cab/FOGS

Bolt-on Falling Object Guard System (FOGS) is available as an attachment.

Cab Certifications

Optional Falling Object Guard System is designed to protect the operator from falling objects, and is certified under ISO 3449/1992 specifications.

Note

The operator sound level meets 89/662 EEC requirements, and is 72 dB(A), when measured following the ISO 6394/1985 standard.

Drive

Drive system is fully hydrostatic.

Ratings

Maximum drawbar pull	154 kN
Maximum travel speed	5.0 km/h

Features

- each track is driven by one independent, automatic shifting, two-speed axial piston motor via integral planetary final drives
- each drive module is well integrated into the roller frame for total protection

Brakes

Service and parking brake features

- wet, multiple-disc brakes are used on the final drive input shafts
- spring-applied, hydraulically released
- actuating a travel control simultaneously releases the brakes
- when the controls are released, the brakes automatically apply

Hydraulic System

Two variable displacement, axial-piston pumps power the boom, stick, swing, bucket, auxiliary and travel circuits. One single-section, gear-type pump powers the pilot circuit.

Main Implement System

Maximum flow	2 x 132 liters/min
Maximum pressure	
Implements	34 300 kPa
Travel	34 300 kPa
Swing	23 000 kPa

Pilot System

Maximum flow	17 liters/min
Maximum pressure	4000 kPa

Cylinders, Bore and Stroke

Boom (2)	110 x 1193 mm
Stick (1)	120 x 1131 mm
Bucket (1)	100 x 1048 mm

Features

- main hydraulic pumps are electronically controlled and dependent on engine speed
- power modes match hydraulic output to application severity
- work modes match hydraulic characteristics to the application
- standard auxiliary hydraulic valve
- boom and stick regeneration system
- Caterpillar XT hose

Implement Controls

Two joystick hand levers actuate boom, stick, bucket and swing (SAE pattern).

Boom/Bucket Controls (right joystick)

- move forward and backward to lower and raise boom
- move left and right to control bucket curl and dump
- button on top is one-touch low idle

Stick/Swing Controls (left joystick)

- move forward and backward to move stick out and in
- move left and right to control direction of swing
- button on top controls horn

Other Features

- oblique movement of either lever operates two functions simultaneously
- manually applied lever on left console cuts off pilot pressure for joysticks and travel controls and electrical power for engine starting circuit

Attachments

- hammer is activated by auxiliary pedal or switch on right side joystick
- auxiliary hydraulic lines are activated by auxiliary pedal
- medium pressure hydraulic lines are activated by switch on left side joystick

Undercarriage

Caterpillar designed and built track-type undercarriage.

	317B L	**317B LN**
Track width*	Ground Pressure	Ground Pressure
500 mm triple grouser	–	51 kPa
600 mm triple grouser	43 kPa	43 kPa
700 mm triple grouser	38 kPa	–
800 mm triple grouser	33 kPa	–

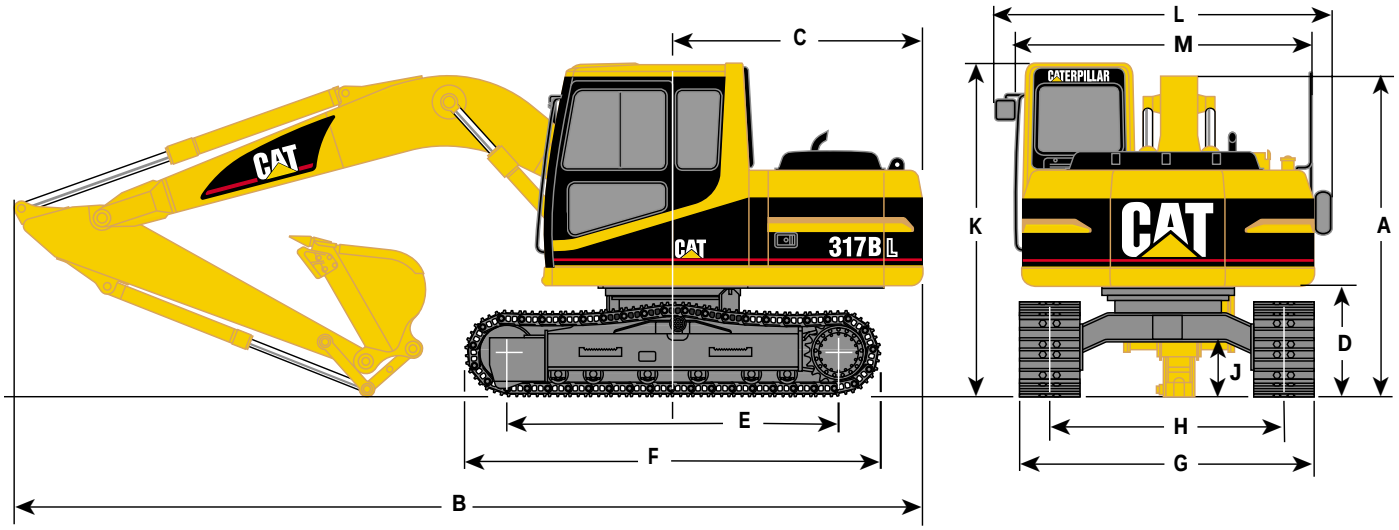
* Custom product undercarriage are available. Consult your Caterpillar dealer for specifics.

Service Refill Capacities

	Liters
Fuel Tank	280
Cooling System	17.3
Engine Oil	13
Swing Drive	3
Final Drive (each)	2.6
Hydraulic system (including tank)	188
Hydraulic tank	105
Optional additional Fuel Tank	80

Dimensions

All dimensions are approximate.



		mm
A	Shipping height (with bucket)	
	Short stick	2680
	Medium stick	2916
	Long stick	2866
	Extra long stick	2996
B	Shipping length	
	Short stick	8401
	Medium stick	8418
	Long stick	8418
	Extra long stick	8433

		mm
C	Tail swing radius	2450
D	Swing ground clearance	1030
E	Length to centers of rollers	3265
F	Track length	4075
G	Shipping width	
	317B L with 600 mm shoes	2800
	317B LN with 500 mm shoes	2495

		mm
H	Track gauge	
	317B L	2200
	317B LN	1995
J	Ground clearance	470
K	Cab height	3040
L	Overall width with mirrors installed	2760
M	Shipping width upper frame	2490

Machine Weights

Machine is equipped with One-piece boom and 850 mm/0.56 cm^3 bucket.
Weights will depend on final machine configuration.

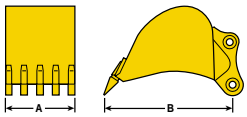
	Short stick kg	Medium stick kg	Long stick kg	Extra long stick kg
317B L				
600 mm triple grouser	17 917	17 840	17 797	17 830
700 mm triple grouser	18 265	18 188	18 145	18 178
800 mm triple grouser	18 437	18 394	18 427	18 517
317B LN				
500 mm triple grouser	17 680	17 590	17 560	17 590
600 mm triple grouser	17 910	17 830	17 790	17 820

Bucket Specifications

Contact your Caterpillar dealer for special bucket requirements.

		Excavation								Extreme Excavation				
A Bite width	mm	600	750	850	1000	1200	1300	1300	1300	600	750	850	1000	1200
B Tip radius	mm	1310	1310	1310	1310	1310	1340	1310	1400	1310	1310	1310	1310	1310
Capacity	m^3	0.35	0.47	0.56	0.68	0.86	0.93	1	1.1	0.35	0.47	0.56	0.68	0.86
Weight	kg	380	410	450	510	580	620	650	755	385	430	470	525	595
Number of teeth		3	3	4	4	5	6	6	5	3	3	4	4	5

		Trapezoidal		Ditch Cleaning		
A Bite width	mm	500	500	1600	1800	2000
SAE rated capacity	m^3	0.38	0.51	0.33	0.37	0.41
Weight	kg	335	395	350	380	440
Slope Ratio		45°	34°	–	–	–



Recommended Maximum Material Density

		Excavation								Extreme Excavation				
Width	mm	600	750	850	1000	1200	1300	1300	1300	600	750	850	1000	1200
Capacity	m^3	0.35	0.47	0.56	0.68	0.86	0.93	1	1.1	0.35	0.47	0.56	0.68	0.86
Weight	kg	380	410	450	510	580	620	650	755	385	430	470	525	595
Short stick	kg/m^3	1800	1800	1800	1800	1800	1500	1500	1500	1800	1800	1800	1800	1800
Medium stick	kg/m^3	1800	1800	1800	1800	1800	1500	1500	1200	1800	1800	1800	1800	1800
Long stick	kg/m^3	1800	1800	1800	1800	1500	1200	1200	1200	1800	1800	1800	1800	1500
Extra long stick	kg/m^3	1800	1800	1800	1800	1200	1200	1200	1200	1800	1800	1800	1800	1200

Material Densities

	*kg/m³		*kg/m³
Clay, dry	1500	Gravel, pit run	1930
Clay, wet	1660	Rock/dirt, 50%	1720
Earth, dry	1510	Sand, dry	1425
Earth, wet	1600	Sand, wet	1700
Loam	1250	Sand and Clay	1600
Gravel, dry	1510	Stone, crushed	1600
Gravel, wet	2000	Top soil	950

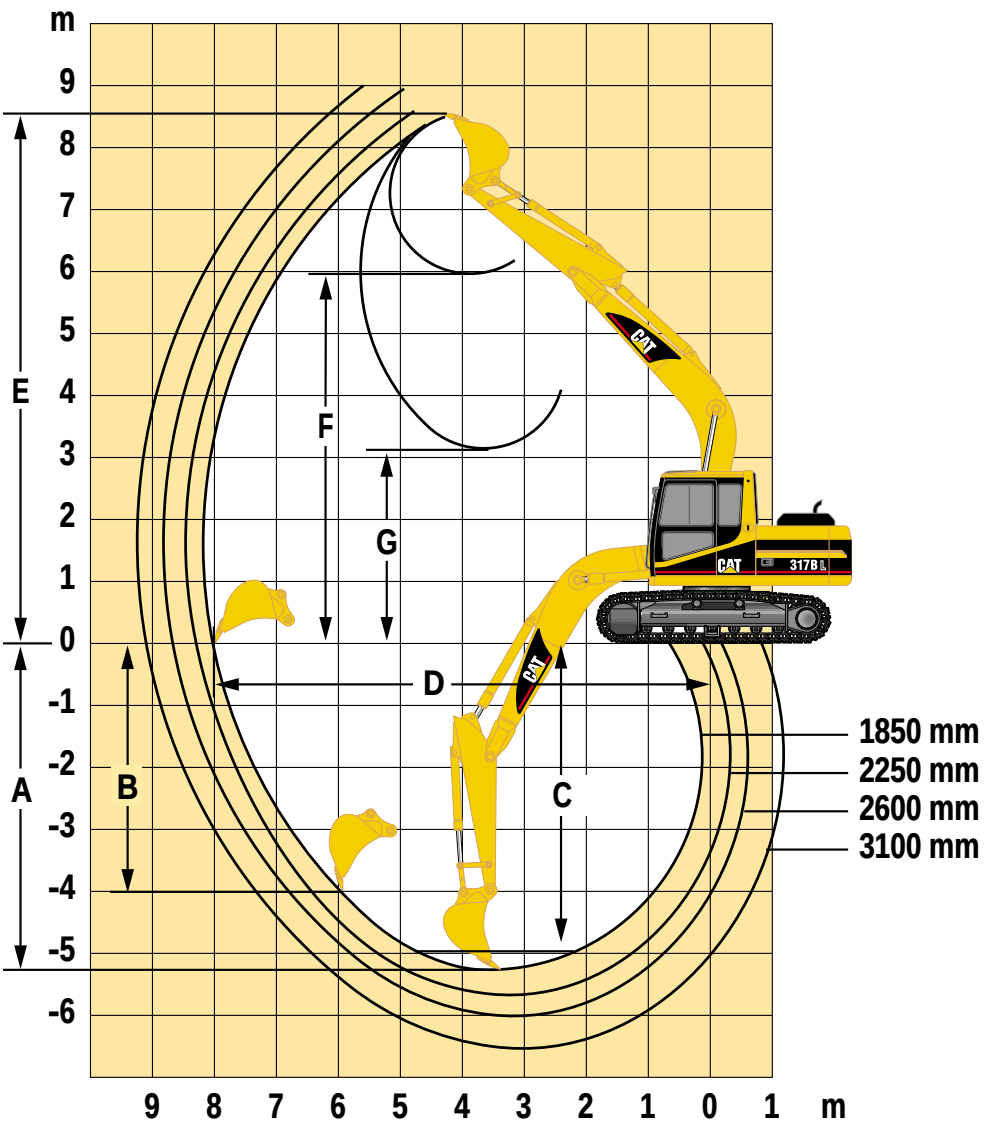
* Kilograms per loose cubic meter
For densities of other materials see Caterpillar Performance Handbook

Boom, Stick and Bucket Compatibility

One-piece boom	Bucket range
Extra long stick	0.35 to 0.68 m³
Long stick	0.35 to 0.86 m³
Medium stick	0.35 to 0.94 m³
Short stick	0.35 to 1.10 m³
Hydraulic Adjustable Boom (VA)	
Extra long stick	0.35 to 0.68 m³
Long stick	0.35 to 0.86 m³
Medium stick	0.35 to 0.94 m³
Short stick	0.35 to 1.10 m³

Working Ranges

With One-piece boom

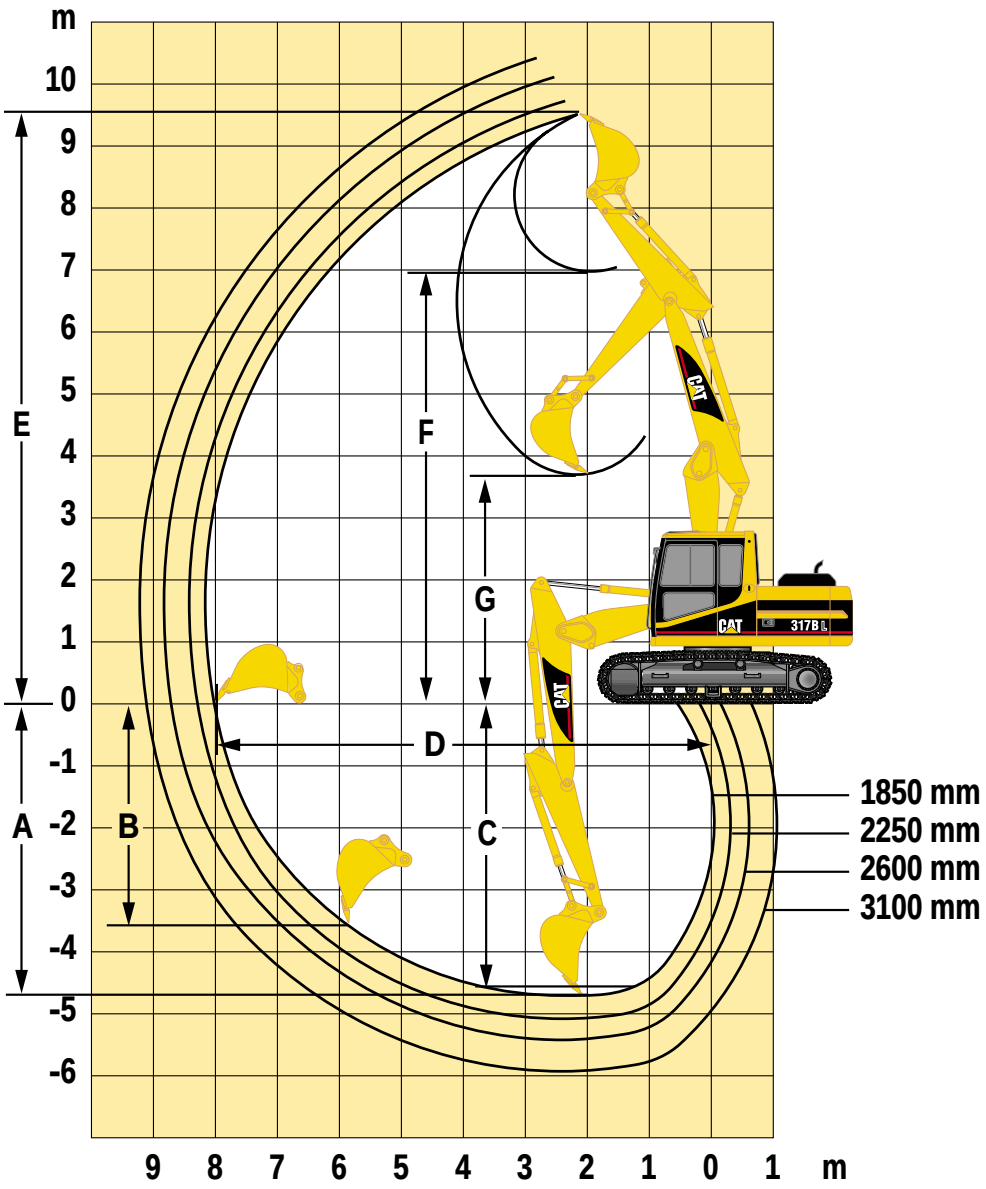


	Short	Medium	Long	Extra long
Stick – Choice of four	**1850 mm**	**2250 mm**	**2600 mm**	**3100 mm**
A Maximum digging depth	5263 mm	5663mm	6013 mm	6513 mm
B Maximum vertical wall digging depth	4018 mm	4159 mm	4992 mm	5164 mm
C Maximum digging depth at 2440 mm flat floor	4965 mm	5360 mm	5778 mm	6276 mm
D Maximum reach at ground level	8007 mm	8290 mm	8706 mm	9102 mm
E Maximum cutting height	8540 mm	8540 mm	8944 mm	9000 mm
F Maximum loading height	5972 mm	5998 mm	6359 mm	6441 mm
G Minimum loading height	3131 mm	2745 mm	2381 mm	1881 mm
Digging forces:				
Stick	95 kN	87 kN	79 kN	70 kN
Bucket	122 kN	102 kN	102 kN	102 kN
Bucket Tip Radius	1308 mm	1308 mm	1308 mm	1308 mm

Note: all measurements were made at bucket teeth ends.

Working Ranges

With Hydraulically Adjustable Boom (VA)



	Short	Medium	Long	Extra long
Stick – Choice of four	**1850 mm**	**2250 mm**	**2600 mm**	**3100 mm**
A Maximum digging depth	4717 mm	5074 mm	5455 mm	5920 mm
B Maximum vertical wall digging depth	3586 mm	3890 mm	4423 mm	4788 mm
C Maximum digging depth at 2440 mm flat floor	4584 mm	4949 mm	5338 mm	5810 mm
D Maximum reach at ground level	7982 mm	8284 mm	8696 mm	9109 mm
E Maximum cutting height	9517 mm	9732 mm	10 119 mm	10 427 mm
F Maximum loading height	6956 mm	7140 mm	7591 mm	7846 mm
G Minimum loading height	3696 mm	3433 mm	3008 mm	2534 mm

Note: all measurements were made at bucket teeth ends.

Lift capacities with One-piece boom

All weights are in kg

317B L
Short stick – 1.85 m
Bucket – 0.93 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*2210	*2210	5.33
6.0 m					*3900	*3900					*1980	*1980	6.84
4.5 m					*5420	*4520	*4030	3160			*1940	*1940	7.64
3.0 m					*5700	4900	*4470	3060			*2010	1860	7.99
1.5 m					*6830	4560	4710	2920			*2180	1810	7.97
Ground					7330	4370	4600	2820			*2490	1950	7.58
–1.5 m			*10 240	*8520	*7260	4350	4590	2810			*3070	2380	6.77
–3.0 m			*9030	*8780	*6260	4480							

317B L
Medium stick – 2.25 m
Bucket – 0.93 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*2300	*2300	5.79
6.0 m											*2120	*2120	7.18
4.5 m					*4170	*4170	*3790	3260			*2120	2010	7.93
3.0 m					*5410	5070	*4310	3150			*2230	1800	8.26
1.5 m					*6680	4730	4810	3010			*2450	1760	8.25
Ground			*5720	*5720	*7420	4520	4690	2900			*2840	1870	7.88
–1.5 m	*5560	*5560	*8360	*8360	7420	4460	4640	2870			*3290	2230	7.11
–3.0 m	*8120	*8120	*9450	8870	*6750	4520							
–4.5 m			*6850	6850									

317B L
Long stick – 2.6 m
Bucket – 0.86 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*1560	*1560	6.39
6.0 m							*3170	*3170			*1420	*1420	7.65
4.5 m					*3830	*3830	*3570	3340			*1400	*1400	8.35
3.0 m			*7630	*7630	*5080	*5080	*4120	3320	*2850	2150	*1450	*1450	8.67
1.5 m			*5340	*5340	*6440	4820	*4770	3070	3360	2090	*1580	*1580	8.66
Ground			*5720	*5720	*7330	4580	4730	2950	3300	2040	*1810	1740	8.32
–1.5 m	*4740	*4740	*8830	8690	7450	4480	4670	2890			*2230	2030	7.6
–3.0 m	*8340	*8340	*10 170	8840	*7050	4520	4700	2920			*2720	*2720	6.36
–4.5 m			*7910	*7910	*5110	4720							

317B L
Extra long stick – 3.1 m
Bucket – 0.68 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*1380	*1380	6.96
6.0 m							*2950	*2950			*1280	*1280	8.1
4.5 m							*3220	*3220	*2160	*2160	*1270	*1270	8.76
3.0 m			*6330	*6330	*4550	*4550	*3820	3300	*3210	2210	*1330	*1330	9.06
1.5 m			*9530	9380	*6010	4920	*4530	3130	3410	2140	*1460	*1460	9.05
Ground			*6820	*6820	*7100	4630	4770	2980	3330	2070	*1680	1620	8.73
–1.5 m	*4610	*4610	*8750	8670	7460	4490	4670	2890	*2930	2040	*2080	1850	8.05
–3.0 m	*7460	*7460	*9670	8750	*7310	4480	4670	2890			*2870	2400	6.91
–4.5 m	*8920	*8920	*9070	9000	*6040	4610							

Load Point Height Load Radius Over Front Load Radius Over Side Load at Maximum Reach

* Limited by hydraulic rather than tipping load.
The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.

317B LN
Short stick – 1.85 m
Bucket – 0.93 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*2210	*2210	5.33
6.0 m					*3900	*3900					*1980	*1980	6.84
4.5 m					*4520	*4520	*4030	2820			*1940	1850	7.64
3.0 m					*5700	4360	*4470	2710			*2010	1630	7.99
1.5 m					*6830	4020	4700	2580			*2180	1590	7.97
Ground					7320	3840	4590	2490			*2490	1710	7.58
–1.5 m			*10 240	7350	*7260	3820	4580	2470			*3070	2100	6.77
–3.0 m			*9030	7600	*6260	3950							

317B LN
Medium stick – 2.25 m
Bucket – 0.93 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*2300	*2300	5.79
6.0 m											*2120	*2120	7.18
4.5 m					*4170	*4170	*3790	2920			*2120	1780	7.93
3.0 m					*5410	4520	*4310	2810			*2230	1590	8.26
1.5 m					*6680	4190	4800	2670			*2450	1540	8.25
Ground			*5720	*5720	*7420	3990	4680	2570			*2840	1640	7.88
–1.5 m	*5560	*5560	*8360	7500	7410	3930	4640	2530			*3290	1970	7.11
–3.0 m	*8120	*8120	*9450	7690	*6750	3990							
–4.5 m			*6850	*6850									

317B LN
Long stick – 2.6 m
Bucket – 0.86 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*1560	*1560	6.39
6.0 m							*3170	3020			*1420	*1420	7.65
4.5 m					*3830	*3830	*3570	3000			*1400	*1400	8.35
3.0 m			*7630	*7630	*5080	4630	*4120	2880	*2850	1900	*1450	*1450	8.67
1.5 m			*5340	*5340	*6440	4280	*4770	2730	3350	1850	*1580	1450	8.66
Ground			*5720	*5720	*7330	4040	4720	2610	3300	1800	*1810	1530	8.32
–1.5 m	*4740	*4740	*8830	7520	7430	3950	4660	2550			*2230	1790	7.6
–3.0 m	*8340	*8340	*10 170	7660	*7050	3990	4690	2580			*2720	2450	6.36
–4.5 m			*7910	*7910	*5110	4180							

317B LN
Extra long stick – 3.1 m
Bucket – 0.68 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m											*1380	*1380	6.96
6.0 m							*2950	*2950			*1280	*1280	8.1
4.5 m							*3220	3090	*2160	2010	*1270	*1270	8.76
3.0 m			*6330	*6330	*4550	*4550	*3820	2950	*3210	1970	*1330	*1330	9.06
1.5 m			*9530	8180	*6010	4380	*4530	2790	3400	1890	*1460	1360	9.05
Ground			*6820	*6820	*7100	4100	4760	2640	3320	1830	*1680	1420	8.73
–1.5 m	*4610	*4610	*8750	7500	7440	3960	4660	2560	*2930	1790	*2080	1630	8.05
–3.0 m	*7460	*7460	*9670	7580	*7310	3950	4660	2560			*2870	2130	6.91
–4.5 m	*8920	*8920	*9070	7820	*6040	4080							

Load Point Height Load Radius Over Front Load Radius Over Side Load at Maximum Reach

* Limited by hydraulic rather than tipping load.
The above loads are in compliance with hydraulic excavator lift capacity ratings standard ISO 10567, they do not exceed 87% of hydraulic lifting capacity or 75% of tipping capacity. Weight of all lifting accessories must be deducted from the above lifting capacities.

Lift capacities with Variable Adjustable boom

All weights are in kg

317B L
Short stick – 1.85 m
Bucket – 0.93 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m			*5000	*5000							*2460	*2460	5.27
6.0 m			*5790	*5790	*5920	5410					*2170	*2170	6.8
4.5 m			*8620	*8620	*6440	5250	*4870	3130			*2100	*2080	7.61
3.0 m					*7640	4880	4860	3020			*2150	1840	7.96
1.5 m					7550	4520	4710	2880			*2300	1800	7.94
Ground					7340	4330	4600	2790			*2600	1940	7.56
–1.5 m			*7930	*7920	*6330	4320	*4330	2790			*2570	2390	6.74
–3.0 m													

317B L
Medium stick – 2.25 m
Bucket – 0.93 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m			*4330	*4330							*2530	*2530	5.77
6.0 m			*4890	*4890	*5250	*5250					*2310	*2310	7.16
4.5 m			*6210	*6210	*6120	5390	*4680	3240			*2280	1990	7.92
3.0 m					*7290	5050	4970	3120			*2370	1770	8.26
1.5 m					7740	4690	4800	2980			*2570	1730	8.24
Ground					7490	4470	4680	2870			*2940	1850	7.88
–1.5 m			*8970	8620	*6890	4420	4650	2840			*2910	2220	7.1
–3.0 m					*4740	4510							
–4.5 m													

317B L
Long stick – 2.6 m
Bucket – 0.86 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m					*3810	*3810					*1750	*2390	6.37
6.0 m					*4190	*4190	*3480	3350			*1570	*1750	7.63
4.5 m			*4350	*4350	*4850	*4850	*4520	3320			*1530	*1570	8.34
3.0 m			*10 680	10 190	*6980	5170	*4930	3200	*3060	2110	*1560	*1530	8.66
1.5 m					7850	4790	*4870	3040	3350	2060	*1680	*1560	8.65
Ground			*5920	*5920	7550	4530	4730	2910	3300	2020	*1900	1630	8.31
–1.5 m			*9300	8620	*7260	4440	4670	2860			*2300	1720	7.59
–3.0 m			*7210	*7210	*5410	4490	*3390	2910				2020	
–4.5 m													

317B L
Extra long stick – 3.1 m
Bucket – 0.68 m³
Shoes – 600 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m					*3400	*3440					*1540	*1930	4.85
6.0 m					*3500	*3500	*3290	*3290			*1410	*1540	6.96
4.5 m					*3910	*3910	*3900	3420	*2400	2230	*1390	*1410	8.11
3.0 m			*9630	*9630	*6230	5310	*4690	3280	*3460	2180	*1390	*1390	8.77
1.5 m			*10 410	9350	*7680	4900	4930	3100	3400	2110	*1430	*1430	9.07
Ground			*7120	*7120	7620	4590	4760	2940	3330	2040	*1550	1520	9.06
–1.5 m	*4670	*4670	*9230	8590	7460	4440	4670	2860	*3070	2020	*1760	1600	8.74
–3.0 m			*8570	*8570	*6170	4450	*4240				*2130	1830	8.07
–4.5 m													

Load Point Height Load Radius Over Front Load Radius Over Side Load at Maximum Reach

* Limited by hydraulic rather than tipping load.
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317B LN
Short stick – 1.85 m
Bucket – 0.93 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m			*5000	*5000							*2460	*2460	5.27
6.0 m			*5790	*5790	*5920	4830					*2170	*2170	6.8
4.5 m			*8620	*8620	*6440	4680	*4870	2780			*2100	1830	7.61
3.0 m					*7460	4330	4850	2680			*2150	1610	7.96
1.5 m					7540	3970	4700	2540			*2300	1570	7.94
Ground					7320	3790	4590	2440			*2600	1700	7.56
–1.5 m			*7930	7300	*6330	3780	*4330	2450			*2570	2100	6.74
–3.0 m													

317B LN
Medium stick – 2.25 m
Bucket – 0.93 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m			*4330	*4330							*2530	*2530	5.77
6.0 m			*4890	*4890	*5250	4960					*2310	2200	7.16
4.5 m			*6210	*6210	*6120	4820	*4680	2890			*2280	1750	7.92
3.0 m					*7290	4500	4960	2780			*2370	1550	8.26
1.5 m					7730	4140	4800	2630			*2570	1510	8.24
Ground					7470	3930	4670	2530			*2940	1620	7.88
–1.5 m			*8970	7430	*6890	3880	4640	2490			*2910	1950	7.1
–3.0 m					*4740	3970							
–4.5 m													

317B LN
Long stick – 2.6 m
Bucket – 0.86 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m					*3810	*3810					*1750	*1750	6.37
6.0 m					*4190	*4190	*3480	2990			*1570	*1570	7.63
4.5 m			*4350	*4350	*4850	*4850	*4520	2970			*1530	*1530	8.34
3.0 m			*10 680	8920	*6980	4610	*4930	2850	*3060	1860	*1560	*1460	8.66
1.5 m					*7840	4240	4860	2690	3340	1810	*1680	1420	8.65
Ground			*5920	*5920	7540	3990	4720	2570	3290	1770	*1900	1510	8.31
–1.5 m			*9300	7440	*7260	3900	4660	2510			*2300	1770	7.59
–3.0 m			*7210	*7210	*7410	3950	3390	2570					
–4.5 m													

317B LN
Extra long stick – 3.1 m
Bucket – 0.68 m³
Shoes – 500 mm

	1.5 m		3.0 m		4.5 m		6.0 m		7.5 m				
													m
7.5 m					*3440	*3440					*1930	*1930	6.96
6.0 m					*3500	*3500	*3290	3120			*1540	*1540	8.11
4.5 m					*3910	*3910	*3900	3070	*2400	1970	*1410	*1410	8.77
3.0 m			*9630	*9320	*6230	4750	*4690	2930	*3460	1930	*1390	*1390	9.07
1.5 m			*10 410	8130	*7680	4340	*4920	2750	3390	1860	*1430	1370	9.06
Ground			*7120	*7120	*7600	4040	4750	2600	3320	1790	*1550	1330	8.74
–1.5 m	*4670	*4670	*9230	7410	7440	3900	4660	2520	*3070	1770	*1760	1400	8.07
–3.0 m			*8570	7510	*6170	3910	4240	2530			*2130	1610	
–4.5 m													

Load Point Height Load Radius Over Front Load Radius Over Side Load at Maximum Reach

* Limited by hydraulic rather than tipping load.
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Standard Equipment

Standard and optional equipment may vary. Consult your Caterpillar dealer for specifics.

Electrical

55 Ampere alternator
Light, storage box mounted (one)
Warning horn
Caterpillar batteries (750 CCA)

Guards

Bottom guard
Track motor guards

Operator environment

Sound and vibration suppressed cab with floor mat
Integrated joystick consoles and suspended as part of seat arrangement, each joystick with 2 auxiliary functions and electrical wiring protection
Fully adjustable suspension seat (KAB525) with:
- ergonomic design
- adjustable armrest
- headrest
- four way adjustable up-down, front-rear
- weight adjustments and retractable seatbelt

High contrast liquid crystal instrument panel and gauges including hydraulic filter clogging warning
Start up level check for hydraulic oil, engine oil and engine coolant
Cab windows:
- clear tinted tempered glass except upper windshield: laminated glass 50/50 Split on the windshield, flat glass
- openable front windshield upper and lower with assistance device
- sliding door window
- polycarbonate skylight

Upper windshield wiper (vertical) and washer
Neutral lever lock out for all controls
Travel control pedals with removable hand levers
Platform with provision for two attachment control pedals
Dial-type throttle
Highly efficient ventilation system: heater and defroster positive filtered ventilation
Radio mounting (DIN) with wiring, antenna and provision for two stereo speakers
Ashtray with light and drink holder
Interior lighting and coat hook
Storage compartment suitable for lunch box and newspaper holder
Literature compartment behind seat
Wiring provision for electrical seat heating and beacon light
12V/5A power supply

Powertrain

Cat 3046T diesel engine with:
- Low Emission, Low Noise version
- 24 volt electric starting and electrical start aid
- Automatic engine speed control with return to idle push button
- Water separator in fuel line

Two speed travel with automatic shift change
Straight line travel
Variable displacement, load sensing hydraulic system
Power mode selector (3 mode)
Work mode selector (5 mode)

Undercarriage

Track type sealed undercarriage with:
- 600 mm triple grouser shoes on 317B L
- 500 mm triple grouser shoes on 317B LN

Hydraulic track adjuster
Center track guiding guards
Step group to meet EU regulations

Other standard equipment

Hydraulic cross sensing system
Auxiliary hydraulic valve (high pressure)
Boom regeneration circuit
Stick regeneration circuit
Reverse swing damping valve
Fine swing control
Automatic swing brake
Hydraulic cylinder snubbers
Caterpillar XT hoses
O-ring face seal couplings
Hydraulic oil cooler
Fire wall between pump compartment and engine
Electronic Power Unit Control with internal diagnostic capabilities
Separate no-oil-drip hydraulic capsule filter avoiding spills and contamination during replacement, with reusable metal tube for the filter element
Scheduled Oil Sampling port
Remote greasing block (boom, swing bearing)
Caterpillar Radial Seal Air Filter
Extended life coolant (-36˚C)
Rearview mirrors, frame-right and cab-left
Counterweight
Machine lifting point plate on counterweight
Door and cap locks plus Caterpillar one key security system
CE Mark included to meet EU directives
Sound package to meet EU requirements

Optional Equipment

(with approximate change in operating weight)

Backhoe

Boom:
- one-piece, with light, left side: 5.1 m VA Boom

Stick:
- 3100 mm
- 2600 mm
- 2250 mm
- 1850 mm

Boom lowering check valve
Stick lowering check valve
VA Boom check valve
Bucket linkage
Buckets and tips
Cat 100 and Cat 115 hammer
Quick coupler
Hydraulic attachments

Electrical

Light:
- boom, right side
- working, cab mounted (two)
- falling objects guard (two)

Travel alarm

Guards

Swivel guard
Front guard
Falling objects guard
Bottom guard, heavy duty
Swing frame side rubber bumper

Operator environment

Air conditioner, with automatic climate control
Sun protective visor, windshield
Rain protective visor, windshield
Radio AM/FM
Wiper, lower window
Optional fully adjustable suspension seat (KAB524) with:
- higher back seat
- tiltable integrated consoles

Suspension seat (KAB524) with heater

Undercarriage

Track:
- 600 mm triple grouser for 317B LN
- 700 mm triple grouser for 317B L
- 800 mm triple grouser for 317B L

Hydraulics

High pressure auxiliary hydraulic arrangements:
- single function arrangement
- combined function arrangement (inclusive of two pump flow)
- two pump flow arrangement

High pressure auxiliary hydraulic lines for boom and stick
Medium pressure hydraulic arrangement
Medium pressure hydraulic lines for boom and stick
Quick coupler hydraulic arrangement
Quick coupler hydraulic lines for boom and stick
Clamshell actuator

Other attachments

Track guiding guard
Cold weather starting kit
Electric refueling pump
Fuel tank, additional capacity (80 liters)
High ambient cooling (52˚C)
Additional counterweight (300 kg) for lifting applications

Consult your Caterpillar dealer for custom product arrangements.

317B L/LN Hydraulic Excavator

HEHH2436 (0998) hr

CATERPILLAR®