

# PL61

Pipelayer



## Engine

Net Power – ISO 9249	97 kW	130 hp
ISO 9249 (DIN)	132 mhp	

## Weights

Operating Weights	18 090-18 640 kg	39,890-41,095 lb
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## Pipelayering Equipment

Maximum Load Capacity	18 145 kg	40,000 lb
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## PL61 Pipelayer Features

### Performance

The easy-to-transport PL61 pipelayer, delivering 18 145 kg (40,000 lb) maximum load capacity with side boom, is designed to provide maneuverability, durability and efficiency for pipeline projects.

### Ease of Operation

Faster steering response means superior maneuverability on the pipe line. Boom, hook and counterweight functions are placed conveniently in one hand, while a comfortable cab with air suspension seat offers ergonomic controls and excellent visibility.

### Serviceability

Purpose-built pipelayer gives you a single source for parts and service on all components. Updated features help speed service and maintenance, and the worldwide Cat® dealer network provides outstanding support, even in remote areas.

### Safety

Rear vision camera, with dedicated display, adds to visibility, while other operator protection features are made common across the Cat pipelayer range for enhanced safety.



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**The PL61 is part of a full line of purpose-built Cat pipe layers designed for performance, safety and serviceability. Easy transport width, combined with the experienced support of the Cat dealer network, means this key pipe line equipment is available when and where you need it.**





# Pipelayer

## Integrated, robust components

### Winches

The heavy-duty winch design works with machine hydraulics for greater productivity. Boom and hook draw works are driven by independent hydraulic winches. Oil-disc brakes provide smooth operation and positive retention of boom and hook positions. A modular, bolt-on design allows for fast replacement and easy field service. Interchangeable parts between hook and boom winch assemblies help reduce cost of downtime.

### Counterweight

Counterweights are contoured to provide a low center of gravity and enhanced visibility to the front and side to aid productivity and job site safety. The counterweight is extended hydraulically for improved load balance and clearance. The PL61 has a maximum load capacity of 18 145 kg (40,000 lb).

### Boom

The light weight, durable boom features high tensile strength steel construction for narrow structures and maximum visibility to the work area. Replaceable boom-mount sleeve bearings aid serviceability and long life.

### Blocks and Hook

Block set profile enhances visibility to the pipe and helps take advantage of the full length of the boom. The heavy-lifting components include hook and boom blocks with sleeve bearings, with a forged hook with latch.

### Drawbar

A robust drawbar tows a wide range of attachments for maximum versatility.



# Operator Environment

## Comfort and productivity

### Cab Comfort

Operator comfort features and excellent visibility all around the machine help operators work more efficiently and contribute to job site safety. Both the Open and Closed Cab offerings have an integrated Roll Over Protective Structure (ROPS) for operator protection. A skylight window and additional mirrors further enhance the operator's visibility all around the machine.

The enclosed cab offers standard air conditioning and maximum glass area for excellent sight lines around the machine and to the trench.

An improved heating/ventilation/air conditioning system better circulates heat around the operator when using an open canopy machine in cold weather. The system also offers better cooling comfort in an enclosed cab.

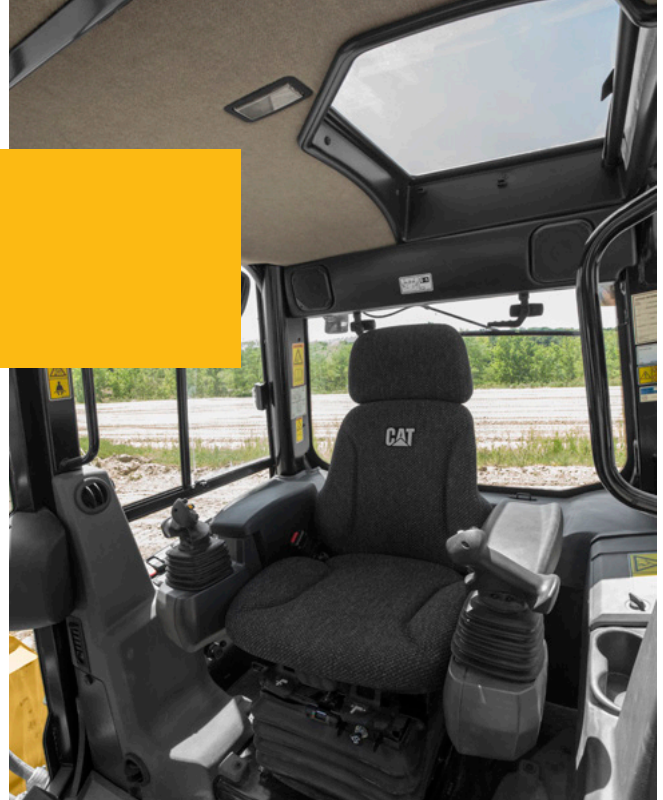
A fully adjustable air suspension seat is available in cloth or vinyl. A 12-volt outlet powers devices like mobile phones and laptop computers.

### Implement and Steering Controls

Electro-hydraulic seat-mounted controls offer precision and quick steering response. Seat-mounted controls isolate vibrations from the operator, and provide independent seat/controls adjustment. Individual wrist pads and armrests can be adjusted independently for optimum comfort.

Low-effort, ergonomically designed controls offer precision and ease of operation. Single left-hand joystick controls machine speed and travel direction. Right-hand joystick places boom, hook and counterweight function controls all in one hand.

Quick Drop Control, when pushed, allows the load on the hook to free fall to the ground in an emergency situation. The quick drop release function is common with other Cat pipelayer models for added ease of use.





# Performance

## Durability and efficiency



- 18 145 kg (40,000 lb) maximum load capacity with side boom.
- Easy transport width at 3240 mm (128 in).
- Proven Cat engine provides reliable power in a wide variety of working conditions.
- Hystat transmission, faster steering response for superior maneuverability on the pipeline. Automatically maintains engine speed to match power requirements for peak performance.
- More robust fuel system with advanced filtration to better withstand poor fuel conditions (applicable to engines emitting equivalent to U.S. EPA Tier 3/ EU Stage IIIA).
- Cold weather package provides added features for cab comfort and more reliable engine starting/performance in cold environments.
- Heavy duty undercarriage is well-suited to aggressive applications like side slopes or working in rocky, uneven terrain. Components are designed for extended wear life in abrasive or high impact footing. Choose narrow or wide tracks to optimize for job site ground conditions.
- Updated cooling package allows more air flow, reducing fan speed for greater efficiency.
- Hydraulic demand fan automatically reduces fan speed in cooler conditions to help save fuel.
- Standard hydraulic reversing fan changes direction to blow debris out of the radiator cores.
- Robotically welded one-piece mainframe is designed and built to absorb high impact shock loads and twisting forces. Oscillation is locked out for greater stability in pipe laying applications.



# Safety

Designed with protection in mind

- Rear vision camera, with dedicated display, adds to visibility for greater safety.
- Load Moment Indicator (LMI) available and is a mandatory attachment where required to meet regional regulations.
- Quick drop release function now common with other Cat pipelayer models for added ease of use.
- Rear window exit now common across Cat pipelayer product line.
- Factory integrated ROPS helps protect operators and machine in case of rollover.

# Emissions Technology

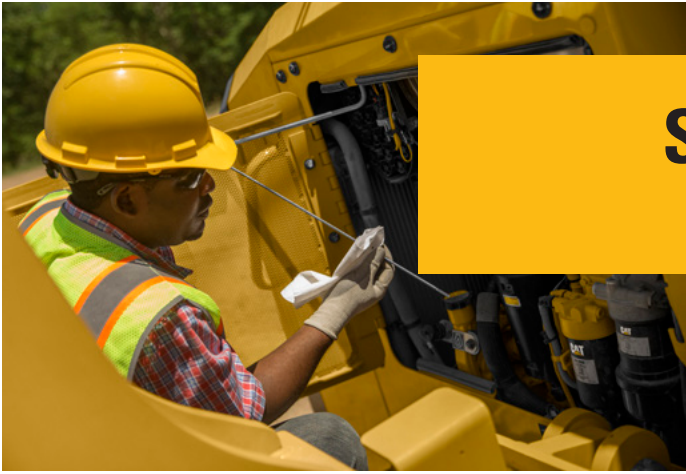
Proven, integrated solutions

For regions utilizing Tier 4 Final/Stage IV emission standards, emissions reduction technology is designed to be transparent – no action required from the operator and no stopping for regeneration. Conveniently refill from ground level when you refuel. When the machine is turned off, a pump will automatically purge the Diesel Exhaust Fluid (DEF) lines to help prevent freezing.

The Diesel Particulate Filter is designed for the life of the engine – no need to clean out. For complete aftertreatment information, please refer to the Operation and Maintenance Manual.







# Service and Maintenance

When uptime counts



Purpose-built pipelayer gives you a single source for parts and service on all components. Worldwide Cat dealer network understands pipeline job site needs for outstanding support, even in remote areas.

- Long service intervals and easy maintenance keep the machine up and running to help lower your owning and operating costs.
- Simplified cable replacement – no need to thread through hood.
- Equipped with Product Link™ which enables remote monitoring, improving overall fleet management effectiveness.
- Large, hinged door on the left side of the engine compartment for easy access to all regular engine maintenance points.
- Larger access panel to engine oil filter and new panel for easy access to fuel filter.
- Easy ground-level access to hydraulic filters located in the left rear service compartment.
- Grouped maintenance and diagnostic points.
- Ecology drains save time when draining fluids and help prevent spills.
- Ground-level access to DEF fill.
- Hydraulic reversing fan offers automatic or manual modes – changes direction to blow debris out of the radiator cores.
- Updated track roller frame design for easier cleanout.

# PL61 Pipelayer Specifications

## Engine

Engine Model	Cat C4.4	
Emissions	Tier 4 Final/Stage IV/ Korea Tier 4	
Bore	105 mm	4.13 in
Stroke	127 mm	4.99 in
Displacement	4.4 L	268.5 in <sup>3</sup>

Engine Model	Cat C7.1	
Emissions	China Nonroad Stage III, India Bharat III, Eurasian Economic Union Stage IIIA, UN ECE R96 Stage IIIA, equivalent to Tier 3/ Stage IIIA	
Bore	105 mm	4.13 in
Stroke	135 mm	5.31 in
Displacement	7.01 L	428.77 in <sup>3</sup>

Engine Power – 2,000 rpm		
SAE J1995	119 kW	160 hp
ISO 14396	117 kW	157 hp
ISO 14396 (DIN)	159 mhp	

Net Power – 2,200 rpm		
SAE J1349	95 kW	128 hp
ISO 9249	97 kW	130 hp
ISO 9249 (DIN)	132 mhp	132 hp

- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler, and alternator.
- Net power is tested per ISO 9249:2007 and SAE J1349:2011.
- Engine power is tested per ISO 14396:2002
- All nonroad Tier 4 Interim and Final, Stage IIIB and IV and Korea Tier 4 diesel engines are required to use only Ultra Low Sulfur Diesel (ULSD) with 15 ppm (mg/kg) of sulfur or less, or up to B20 biodiesel blended with ULSD. B20 should meet ASTM D7467 specification (biodiesel blend stock should meet Cat biodiesel spec, ASTM D6751 or EN 14214). Cat DEO-ULS™ or oils that meet the Cat ECF-3, API CJ-4, and ACEA E9 specification are required. Consult your OMM for further machine specific fuel recommendations.
- DEF used in Cat Selective Catalytic Reduction (SCR) systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241.
- Net power advertised is the power available at the engine flywheel when the engine is equipped with the air cleaner, alternator, A/C compressor at full load and cooling fan at maximum speed.
- No engine derating required up to 3000 m (9,843 ft) altitude; beyond 3000 m (9,843 ft) automatic derating occurs.

<sup>1</sup>Machines equipped with Tier 4 Final/Stage IV emissions reduction technology.

## Undercarriage

Number of Shoes – Each Side	40	
Track Rollers – Each Side	8	
Track Gauge	2000 mm	79 in
Track on Ground	2645 mm	104 in
Track Shoe Width – Narrow	560 mm	22 in
Track Shoe Width – LGP	760 mm	30 in
Ground Contact Area – Narrow	3.29 m <sup>2</sup>	5,100 in <sup>2</sup>
Ground Contact Area – LGP	4.46 m <sup>2</sup>	6,920 in <sup>2</sup>
Ground Pressure <sup>1</sup> – Narrow	53.9 kPa	7.8 psi
Ground Pressure <sup>1</sup> – LGP	40.8 kPa	5.9 psi
Ground Pressure – Narrow	54.0 kPa	7.9 psi
Ground Pressure – LGP	40.9 kPa	6.3 psi

## Weights

	Operating Weight		Shipping Weight	
	kg	lb	kg	lb
Cab, 560 mm/22 in Shoes <sup>1</sup>	18 090	39,890	17 040	37,570
Cab, 760 mm/30 in Shoes <sup>1</sup>	18 560	40,920	17 510	38,600
Cab, 560 mm/22 in Shoes	18 170	40,060	17 110	37,720
Cab, 760 mm/30 in Shoes	18 640	41,095	17 590	38,780

## Hydraulic Controls

Type	Piston type, variable, two sections	
Output – Maximum	540 L/min	142 gal/min
Relief Valve Setting – Counterweight	17 237 kPa	2,500 psi

## Service Refill Capacities

Fuel Tank	260 L	69 gal
DEF Tank <sup>1</sup>	19 L	5 gal
Crankcase (with Filter) <sup>1</sup>	11 L	2.9 gal
Crankcase (with Filter)	18 L	4.8 gal
Final Drives (each)	18.5 L	4.9 gal
Cooling System	30 L	7.9 gal
Hydraulic Tank	64 L	16.9 gal



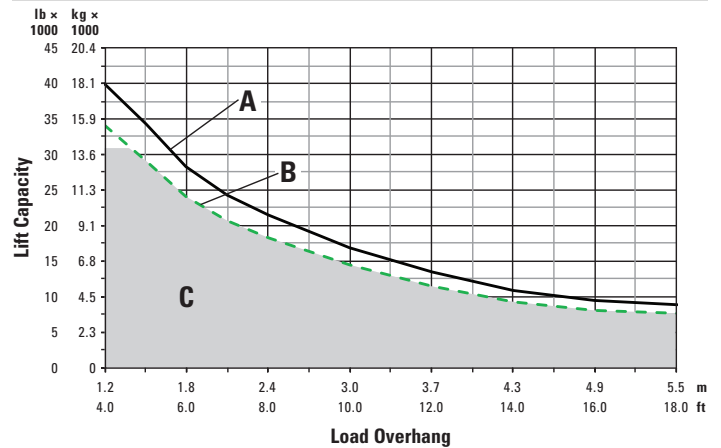
## Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 1.3 kg of refrigerant which has a CO<sub>2</sub> equivalent of 1.859 metric tons.

## Pipelaying Equipment

Maximum Load Capacity	18 145 kg	40,000 lb
Rated Load	15 341 kg	34,000 lb
Working Range	14 016 kg	30,900 lb
Boom Length	5.49 m	18 ft
Hook Winch Drum Diameter	216 mm	8.5 in
Boom Winch Drum Diameter	245 mm	9.63 in
Hook Winch Flange Diameter	398 mm	15.5 in
Boom Winch Flange Diameter	372 mm	14.63 in
Hook Winch Drum Length	254 mm	10 in
Boom Winch Drum Length	254 mm	10 in
Hook Winch Capacity – 16 mm (5/8 in) Diameter	72.9 m	239 ft
Boom Winch Capacity – 16 mm (5/8 in) Diameter	49.4 m	162 ft
Hook with Wire Rope Installed – 16 mm (5/8 in) Diameter	39.6 m	130 ft
Boom with Wire Rope Installed – 16 mm (5/8 in) Diameter	39.6 m	130 ft
Boom Line Speed	46 m/min	151 ft/min
Bare Drum Hook Speed (Low)	33 m/min	108 ft/min
Bare Drum Hook Speed (High)	69.5 m/min	228 ft/min
2-Part Line Hook Speed (Low)	16.5 m/min	54 ft/min
2-Part Line Hook Speed (High)	34.8 m/min	114 ft/min
3-Part Line Hook Speed (Low)	11 m/min	36 ft/min
3-Part Line Hook Speed (High)	23.2 m/min	76 ft/min
Counterweight Extendible	2970 kg	6,547 lb

## PL61 Lift Curve



A – Maximum Load Capacity – ISO 8813:1992, ANSI/ASME B30.14:2015  
 B – Rated Load Capacity – ISO 8813:1992, ANSI/ASME B30.14:2015  
 C – Working Range – ISO 8813:1992, ANSI/ASME B30.14:2015

## Specified Equipment

Diameter Wire Rope	16 mm	5/8 in
Rope Minimum Breaking Strength	183.3 kN	41,200 lb
3-Part Load Line		
3-Part Boom Line		
Standard Boom	5.49 m	18 ft
Total Operating Weight <sup>1</sup>		
Narrow	18 090 kg	39,890 lb
LGP	18 560 kg	40,920 lb

## Standards

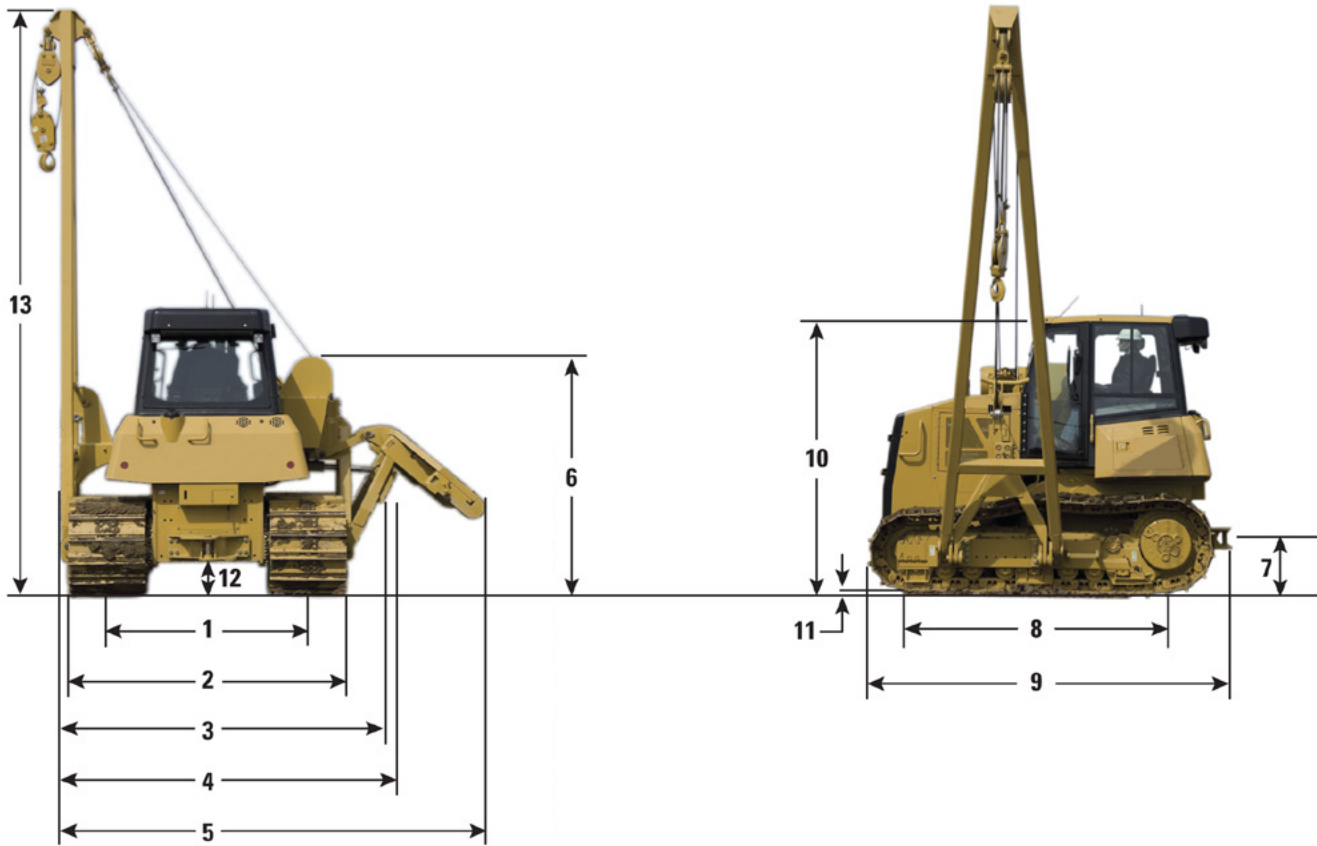
ROPS	ROPS offered by Caterpillar for the machine meets ROPS criteria ISO 3471:2008
Brakes	Brakes meet the standard ISO 10265:2008

<sup>1</sup> Machines equipped with Tier 4 Final/Stage IV emissions reduction technology.

# PL61 Pipelayer Specifications

## Dimensions

All dimensions are approximate.



### Tractor Dimensions

<b>1</b> Track Gauge	2000 mm	79 in
<b>2</b> Width of Tractor (560 mm/22 in shoes)	2560 mm	101 in
Width of Tractor (760 mm/30 in shoes)	2760 mm	109 in
<b>3</b> Width of Tractor Counterweight/Boom Removed	3190 mm	126 in
<b>4</b> Width of Tractor (counterweight retracted)	3240 mm	128 in
<b>5</b> Width of Counterweight Extended	4750 mm	187 in
<b>6</b> Machine Height (tip of winch)	2570 mm	101 in
<b>7</b> Drawbar Height (center of clevis) from Round Face of Shoes	517 mm	20 in
<b>8</b> Length of Track on Ground	2645 mm	104 in
<b>9</b> Operating Length	3850 mm	151 in
<b>10</b> Height of Machine from Tip of Grouser		
Height to the Top of Stack <sup>1</sup>	2850 mm	112 in
Height to the Top of the ROPS Canopy/Cab	2985 mm	118 in
<b>11</b> Grouser Height (narrow shoe)	57 mm	2.2 in
<b>12</b> Ground Clearance from Ground Face of Shoe (per SAE J1234)	350 mm	14 in
<b>13</b> Boom Height [at SAE 1.22 m (4 ft) overhang]	6220 mm	245 in

<sup>1</sup>Machines equipped with Tier 4 Final/Stage IV emissions reduction technology.



## Standard Equipment

Standard equipment may vary. Consult your Cat dealer for details.

### ELECTRICAL

- Starter, electric 24V
- Alarm, backup
- Horn, electric
- Batteries, heavy duty, maintenance free, 900 CCA
- Diagnostic connector
- Integrated lights (four front, two rear)
- Converter, 12V, 10 amp
- Glowplug starting aid
- 3000 m (9,843 ft) altitude operation capability without de-rating
- Starting aid, ether injection

### OPERATOR ENVIRONMENT

- ROPS structure
- Air suspension seat
- Heater
- Seat belt, retractable 76 mm (3 in)
- Armrests, adjustable
- Foot rests
- Display with gauge cluster
- Electronically programmable speed selector
- Electronic engine air cleaner service indicator
- Electronic monitoring and display system
- Electronic water-in-fuel indicator
- Electro-hydraulic implement, travel and steering controls
- Product Link ready, satellite
- 12V power port
- 12V radio ready (plug and play)
- Storage compartment
- Cup holder
- Coat hook
- Rearview mirror, inside
- Mirror
- Engine RPM and gear display
- Hour meter, electronic
- Throttle switch, rotary
- Eco mode
- Controls, seat mounted, fore/aft adjustment
- Single pedal combining deceleration and braking functions
- Independent forward/reverse speed settings
- Heavy duty rubber floor mat

### PIPELAYING EQUIPMENT

- Counterweight, extendible segmented 2970 kg (6,547 lb)

### POWER TRAIN

- Aftercooler, Air to Air (ATAAC)
- Aluminum bar plate cooling system (radiator, power train, aftercooler)
- Hydraulically driven, variable speed fan
- Air cleaner integrated, dust ejector and under hood air intake
- Engine decelerating function (rotary switch and pedal engine speed control)
- Dual path, electronic control, closed-loop hydrostatic transmission
- Selections and electronic control enhancements for the transmission/engine system
- Programmable/selectable bi-directional shifting
- Independent forward/reverse speed settings
- Engine idle shutdown
- Auto engine speed control
- Fuel priming pump, electrical
- Fuel/water separator
- Standard fuel tank
- Muffler, under hood

### UNDERCARRIAGE

- Heavy duty undercarriage
- Idler with standard heavy duty idler
- Lifetime lubricated track with eight bottom rollers and two carrier rollers
- Hydraulic track adjusters
- Guards, center guiding
- Replaceable sprocket rim segments
- Scraper, idler
- Track, heavy duty, 40 sections
  - XL: 560 mm (22 in) extreme service
  - LGP: 760 mm (30 in) extreme service

### HYDRAULICS

- Three-function electro-hydraulic valve
- Load sensing hydraulics
- Single lever, three-function
- Hydraulics, pipelayer system

### FLUIDS

- Antifreeze coolant (–37° C/–34.6° F)
- Extended life coolant
- Cat HYDO Advanced 10 hydraulic fluid
- Basis heater

### OTHER STANDARD EQUIPMENT

- Hinged crankcase guards
- Ecology drains (engine oil, power train and implement oil and engine coolant)
- S·O·S<sup>SM</sup> ports (engine, power train, hydraulics and engine coolant)
- Implement oil filter
- Front pull device
- Hinged radiator louvered grill
- Lockable engine enclosures
- Rigid drawbar
- Swing-out radiator fan

# PL61 Mandatory Attachments and Optional Equipment

## Mandatory Attachments and Optional Equipment

Attachments may vary. Consult your Cat dealer for details.

### ENGINE

- Cat C4.4 turbocharged diesel engine with engine mounted aftertreatment to meet Tier 4 Final/Stage IV/Korea Tier 4 Final emission standards
- Alternator, 115 amp, heavy duty brush type
- Air cleaner, standard

### OR

- Cat C7.1 turbocharged diesel engine to meet China Nonroad Stage III, India Bharat III, Eurasian Economic Union Stage IIIA, UN ECE R96 Stage IIIA emission standards, equivalent to Tier 3/Stage IIIA
- Alternator, 100 amp (24V)

### BOOM

- Boom, 5.48 m (18 ft) – includes boom cable and hook cable 2 × 39.6 m (130 ft), pulleys for load and boom

### OPERATOR ENVIRONMENT

- Standard cab (includes sliding side windows, roof window for boom tip visibility, glued rear windows with an emergency hammer for secondary egress, four wipers, dome light, circulation fan, heater, conditioner, cloth air suspension seat)
- Open canopy, heated<sup>1</sup> (includes roof window for boom tip visibility, circular fan, fan heater, vinyl air suspension seat)
- Open canopy<sup>2</sup> (includes roof window for boom tip visibility, circular fan, fan heater, vinyl air suspension seat)
- Visibility kit, single camera
- Visibility kit, no camera
- Radio, AM/FM/AUX/USB/Bluetooth®

### TECHNOLOGY PRODUCTS

- Product Link, Satellite PL631
- Load Moment Indicator (LMI)

### GUARDS

- Operator guard for open canopy machine

### STARTERS, BATTERIES AND ALTERNATORS

- Ether, starting aid
- Starter, standard
- Starter, low temperature<sup>1</sup>
- Heater, engine coolant (120V)
- Heater, engine coolant (240V)

### FLUIDS

- Antifreeze, -50° C (-58° F)

### BREATHER

- Electrical insulated breather<sup>1</sup> for operation in ambient temperatures of -25° OEC to -40° OEC
  - Cold weather package recommended
- Insulated breather

<sup>1</sup>Machines equipped with Tier 4 Final/Stage IV emissions reduction technology.

<sup>2</sup>Machines that emit equivalent to Tier 3/Stage IIIA.



