

PL72

Pipelayer



Engine

Engine Model	Cat® C9.3	
Emissions	U.S. EPA Tier 4 Final/ EU Stage V or U.S. EPA Tier 3/ EU Stage IIIA equivalent	

Net Power (Rated Speed)

ISO 9249/SAE J1349	158 kW	211 hp
ISO 9249/SAE J1349 (DIN)	214 mhp	

Weights

Operating Weight	31 278 kg	68,945 lb
Shipping Weight	27 145 kg	59,846 lb
Lift Capacity	40 823 kg	90,000 lb

PL72 Features

Performance

A Cat® C9.3 engine, integrated power train with differential steering and updated hydraulic system work together to provide power and improved machine maneuverability for any pipelayer application. Electro-Hydraulics offer greater response and precise control to the variable speed motors of the heavy duty winch for greater machine productivity.

Slope Capability

Improved machine center of gravity and lengthened track-roller frame with repositioned rear idler places more track on the ground, enhancing slope capability.

Operator Interface

Quiet, pressurized cab, heated/ventilated seat option and operator interface with diagnostics and electronic system monitoring. All implements are controlled by the single joystick control and the differential steering paired with dual brake pedals enhance machine steering and control, especially on slopes and within narrow operating environments.

Cold Weather Strategy

Equipped with electronically monitored and controlled cold weather strategy, in addition to a new Zero Speed Fan, the new PL72 helps you meet emission standards and operate reliably in severe climates.

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Cat® pipelayers have been the standard of the pipeline industry for decades. A worldwide network of Cat dealers, in tune with the special high production needs of pipeliners, supports these durable and dependable machines. Cat pipelayers are purpose-built to meet the unique demands of pipeline customers. And like every Cat machine, Pipelayers are designed for long life, serviceability and rebuild capability to help keep owning and operating costs low. The PL72 answers customer needs for increased lift capacity, enhanced slope capability, ease of operation, performance and transportability.

Pipelayer

Purpose-built, robust components

Winches

Proven heavy-duty winch design works with electrohydraulic control for more precise control. Boom and hook are driven by independent hydraulic winches. Oil-disc brakes provide smooth operation and positive retention of boom and hook positions. A modular pin-on design allows for fast removal and easy field service. Interchangeable parts between hook and boom winch assemblies help reduce cost and downtime. The winch profile is compact and enhances visibility.

Counterweight

Counterweight profile adds weight where you need it most to provide you the needed lift capacity. Segments are contoured to help lower the machine center of gravity and are extended hydraulically for improved load balance and clearance. An electronic counterweight kickout switch limits retraction of the extendible counterweight to the correct, retracted position. New counterweight rod holder provides convenient storage when counterweights are removed for transport.

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 bearings aid serviceability and long life.

Blocks and Hook

Short profile block set enhances visibility to the work area and helps maximize the working range. The heavy-lifting components include hook and boom blocks with sleeve bearings, a forged hook with latch and serviceable handle, and ductile iron sheaves. Updated block holder allows for convenient storage of the block set during transport.

Pinned Pipelayer Frame Structure

Heavy duty frame structures are designed to be easily pinned together to provide robust strength and durability, in addition to improved serviceability.





Operator Station

Designed for productive comfort

The latest PL72 pipelayer offers operators added comforts like a quieter cab, adjustable armrests and heated/ventilated seat options.

- Rollover Protection Structure (ROPS) provides added operator protection for open or enclosed operator stations.
- A durable access ladder aids with access/egress to the operator station, and can be removed to minimize the machine shipping envelope. Ladder features a grated top step to provide added visibility to the trench.
- Additional mirrors further enhance the operator's visibility around the machine.
- Ergonomically designed seat is positioned for enhanced visibility to the working area and for convenient access to the machine control lever, switches and pedals.
- LCD Dash Display provides added machine diagnostics to the operator, in addition to allowing operators to create a personalized profile and operational settings.
- HVAC system provides heat from ducting and dash vents to the operator for Open Cab (OROPS).

Optional enclosed cab is fully sealed, filtered and pressurized for operator comfort in demanding pipeline applications. The cab height meets shipping requirements and may be shipped by truck without removing the cab and ROPS. Glass area is maximized for visibility and better sight lines around the machine and to the trench. A large skylight window with sliding shade provides a clear view from the seat to the boom and blocks.

Implement and Steering Controls

Ergonomically designed for ease of operation



Pipelayer Control

Implement joystick places all pipelayer implement controls and functionality into one hand. Low-effort, ergonomically designed and positioned control handle allows simultaneous, precise positioning of the load line, boom, and extendible counterweight.

- 1) Increment/decrement buttons on the implement handle provide continuous adjustable throttle.
- 2) Thumb rocker controls the counterweight extension and retraction.
- 3) Joystick pushed forward lowers the hook and joystick rearward raises the hook. Joystick left lowers the boom and joystick right raises the boom.
- 4) Quick drop activation.
- 5) Ergonomically positioned machine control switch panel provides easy access to the multiple switch functions of the machine.

Quick Drop Control

Quick drop control, when pushed downward, will allow the load on the hook line to fall freely to the ground. This control activation is to be used only in emergency situations, where the load must be quickly released.



Dual Brake Pedal Controls

Dual brake pedal controls provide enhanced maneuverability and steering control, especially in slope applications. Brakes are electronically applied and hydraulically actuated.

Differential Steering Control

A planetary differential turns the machine by speeding up one track and slowing down the other, while maintaining full power to both. This contributes to superior maneuverability in tight areas of operation, as well as enhanced slope capability. Differential steering also aids performance in soft ground conditions, as both tracks are powered during turning. The low effort steering tiller aids in ergonomic, ease of operation.



Serviceability and Maintenance

Because uptime matters



Get routine service done quickly so you can get back to work.

- Full left-side engine serviceability.
- Easy open engine enclosure doors allow you to maintain three points of contact for added safety.
- Standard high speed oil change.
- Ground level access to power train filters and fuel tank drain.
- Hydraulic system pressure taps for quick monitoring.
- Major components like the engine, transmission, and final drives are modular so they can be more quickly removed for service, saving you cost and downtime.
- Single plane cooling for easy cleanout.
- Durable aluminum bar plate construction for superior heat transfer and corrosion resistance.
- Reduced plugging with six fins per inch.
- In cooler conditions, the Zero Speed Hydraulic fan will remain off until component temperatures require cooling.
- Standard reversing fan.
- Ecology drains help prevent spills.





Renowned Cat[®] Dealer Support

Experience counts

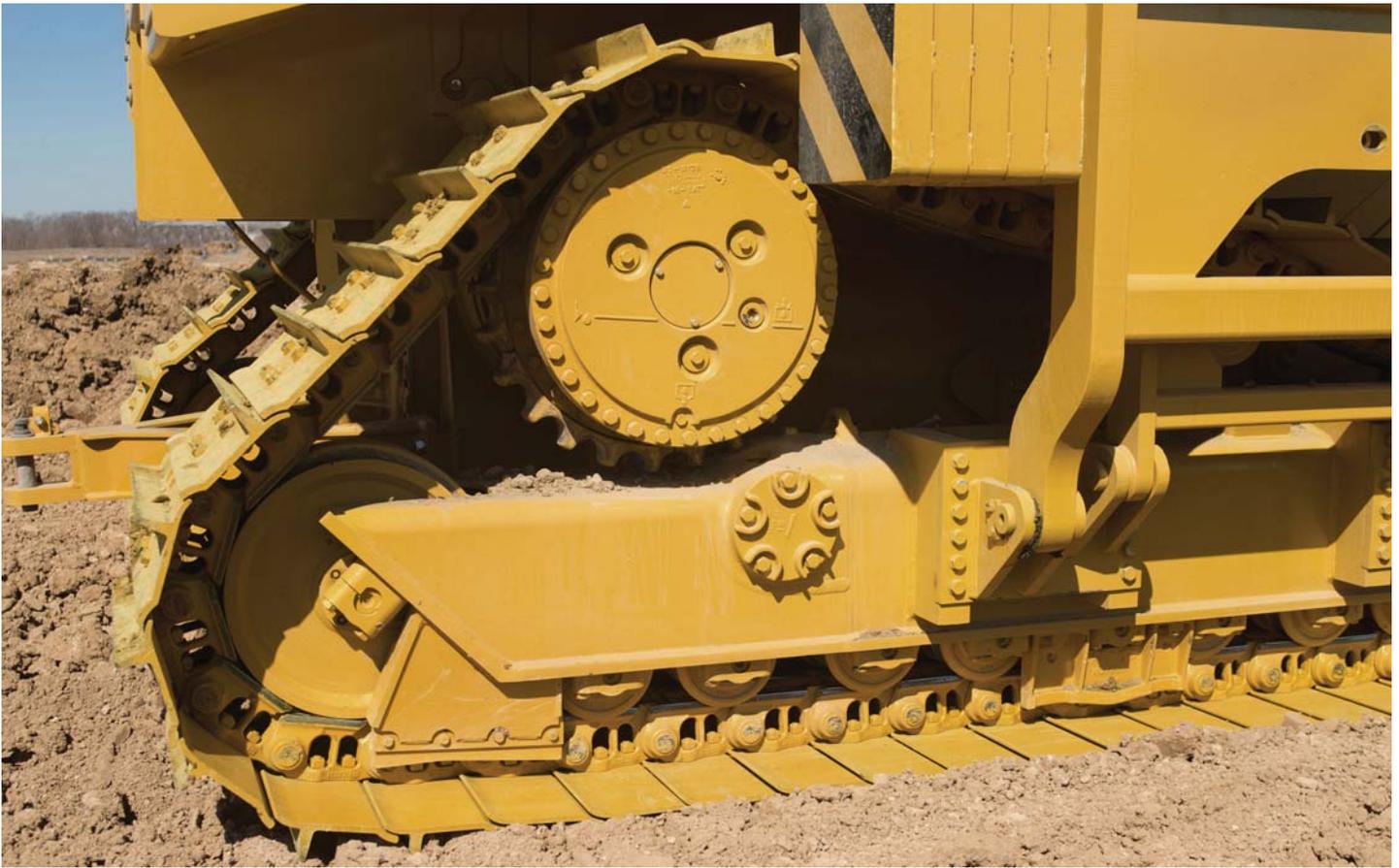
Experience matters when it comes to supporting customers in a challenging industry like pipelining. Cat dealers excel at providing parts availability and equipment service to even the most remote areas. With more than 10,000 service technicians employed in over 3,000 Cat dealer locations around the world, Cat parts and service resources and capabilities are beyond compare.

- Manage costs with preventive maintenance programs like Custom Track Service, S-O-SSM analysis, and guaranteed maintenance contracts.
- Stay productive with best-in-class parts availability. Cat dealers can even help you with operator training to help you boost your profits.

And when it's time for machine replacement, your Cat dealer can help you save even more with Genuine Cat Reman parts. Receive the same warranty and reliability as new products at cost savings of 40 to 70 percent for power train and hydraulic components.

CAT PRODUCT LINK[™] and VISIONLINK[®]

Cat Product Link[™] telematics technology helps take the complexity out of managing your jobsites by gathering data generated by your equipment, materials and people and serving it up to you in customizable formats. Product Link collects data automatically from your assets – any type and any brand. Access information anytime, anywhere with VisionLink[®] – and use it to make informed decisions that boost productivity, lower costs, simplify maintenance and more. Satellite and/or cellular subscriptions are available.



Undercarriage

Engineered for performance

Differential Steering

Differential steering maintains full power to both tracks for best-in-class turning, even with a loaded boom. When one track speeds up, the other slows down an equal amount, so you have better maneuverability in tight areas of operation.

You also are equipped with dual brake pedal controls to provide additional maneuverability and steering control, especially in slope applications. The machine brakes are electronically actuated and hydraulically applied.

The PL72 features a non-suspended, Cat elevated sprocket undercarriage. Track roller frame length remains extended, with rear idler positioned downward, resulting in more track on the ground to enhance machine stability, especially in slope applications.

Undercarriage components are built for long life and ease of serviceability. Rollers and idlers feature Duo-Cone™ seals to help prevent oil loss and dirt entry into the system. Tubular roller frame design resist bending and twisting, with added reinforcement where operating loads and stresses are highest. Cat Tough Steel sprocket segments are precision machined after heat treat for proper fit. Segments can be removed or replaced without breaking the track.

Pipelayer track is designed for high-impact and high load applications. The Positive Pin Retention Sealed and Lubricated Track is an exclusive Caterpillar design that locks the link to the pin for enhanced service life. Track shoes help optimize the machine for performance in demanding underfoot conditions.

Safety

Designed with protection in mind

Underlying Strength

The Pipelayer mainframe is engineered to handle the most demanding applications. The purpose built pipelayer mainframe is built to absorb high impact shock loads and twisting forces, and full box section frame rails are designed to keep components rigidly aligned. Heavy steel casting of the main case and pinned E-bar provide machine strength and durability. Top and bottom rails are continuous rolled sections, with no machining, that help provide superior mainframe durability.

The final drives are elevated well above the ground level work area to protect them from impact loads, abrasion, and contaminants. Caterpillar uses robotic welding techniques in the assembly and manufacturing of the case and frames. The deep penetration and consistency of robotic welding ensures quality for a long, durable life.

- Standard Load Moment Indicator (LMI) measures percentage of lift capacity by calculating actual weight on the hook, boom angle (for overhang), and machine angle. The load information is wirelessly fed to the display where the operator can better manage the load for enhanced safety during the lowering-in process.
- Convenient steps, handles and guardrail provide safe access/egress.
- Seat belt indicator registers a fault code through Product Link if the operator fails to buckle up, helping to improve job site safety.
- Electronic fluid level verification at startup for coolant, power train, engine oil and DEF means you can make fewer trips up and down from the operator station.
- A standard operator presence detection system allows the machine to idle when the operator is not seated, but locks out the power train to avoid unintentional movement.
- Rear vision camera is standard, and two additional cameras can be added as an option to further enhance visibility around the machine.



Emissions Technology

Proven, integrated solutions

Emissions reduction technology is designed to regenerate automatically in the background while you work. Efficient use of Diesel Exhaust Fluid (DEF) improves overall fluid and fuel efficiency.



Aftertreatment Technologies

To meet the additional 80% reduction in NO_x emissions required by U.S. EPA Tier 4 Final/EU Stage V emission standards, Caterpillar engineers added Selective Catalytic Reduction (SCR) to the already proven aftertreatment solution.

Diesel Exhaust Fluid

Selective Catalytic Reduction utilizes Diesel Exhaust Fluid (DEF), which can be conveniently refilled when you refuel. A gauge on the dash displays your fluid level. When the machine is turned off, a pump will automatically purge the DEF lines to help prevent the fluid from freezing in the lines and pump in colder environments. A symbol on the dash and a light/symbol on the left fender service center indicate when the purge is complete and that it is safe to turn off the electrical disconnect. If the engine/aftertreatment temperatures are high, a delayed engine shutdown will activate automatically to cool the machine and then purge the lines. For complete aftertreatment information, please refer to your machine's Operation and Maintenance Manual.

Engine

Engine Model	Cat C9.3	
Emissions	Tier 4 Final/Stage V or Tier 3/EU Stage IIIA equivalent	
Engine Power (Maximum)		
SAE J1995	192 kW	257 hp
ISO 14396	190 kW	255 hp
ISO 14396 (DIN)	258 mhp	
Net Power (Rated Speed)		
ISO 9249/SAE J1349	158 kW	211 hp
ISO 9249/SAE J1349 (DIN)	214 mhp	
Net Power (Maximum)		
ISO 9249/SAE J1349	182 kW	245 hp
ISO 9249/SAE J1349 (DIN)	248 mhp	
Bore	115 mm	4.5 in
Stroke	149 mm	5.9 in
Displacement	9.3 L	567.5 in ³

- Rated power occurs at 2,000 rpm.
- Maximum power occurs at 1,600 rpm.
- Net power advertised is the power available at the engine flywheel when the engine is equipped with a fan at maximum speed, air cleaner, muffler, and alternator.
- Net power is tested per ISO 9249:2007 and SAE J1349:2011.
- No deratings required up to 2286 m (7,500 ft) automatic derating occurs.
- All non-road Tier 4 Interim and Final, Stage IIIB, Stage IV, Stage V, Japan 2014 and Korea Tier 4 Final diesel engines are required to use only ultra-low sulfur diesel (ULSD) fuels containing 15 ppm (mg/kg) sulfur or less. Biodiesel blends up to B20 (20% blend by volume) are acceptable when blended with 15 ppm (mg/kg) sulfur or less 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.
- Diesel Exhaust Fluid (DEF) used in Cat Selective Catalytic Reduction (SCR) systems must meet the requirements outlined in the International Organization for Standardization (ISO) standard 22241.

Air Conditioning System

The air conditioning system on this machine contains the fluorinated greenhouse gas refrigerant R134a (Global Warming Potential = 1430). The system contains 2.5 kg of refrigerant which has a CO₂ equivalent of 3.575 metric tonnes.

Undercarriage

Shoe Width	760 mm	30 in
Shoes/Side	45	
Grouser Height	65 mm	2.6 in
Pitch	203 mm	8.0 in
Ground Clearance	372 mm	14.6 in
Track Gauge	2286 mm	90 in
Track on Ground	3270 mm	10 ft 9 in
Ground Contact Area (ISO 16754)	5.42 m ²	8,406 in ²
Ground Pressure (ISO 16754)	56.6 kPa	8.2 psi
Carrier Rollers/Side	1	
Track Rollers/Side	8	

Transmission

1 Forward	3.8 km/h	2.3 mph
2 Forward	6.6 km/h	4.1 mph
3 Forward	11.4 km/h	7.1 mph
1 Reverse	4.8 km/h	3.0 mph
2 Reverse	8.4 km/h	5.2 mph
3 Reverse	14.6 km/h	9.0 mph
Drawbar Pull		
1 Forward	382 kN	86,000 lb
2 Forward	221 kN	49,800 lb
3 Forward	119 kN	26,800 lb

Service Capacities

Cooling System	51.0 L	13.4 gal
Fuel Tank	415 L	109.6 gal
Engine Crankcase and Filter	24.6 L	6.5 gal
Diesel Engine Fluid (DEF)	17.1 L	4.5 gal
Power Train Oil System	148.0 L	39.1 gal
Hydraulic Tank Oil	100 L	26.4 gal
Final Drives (Each Side)	13.5 L	3.6 gal
Winch Case (Boom)	5.7 L	1.5 gal

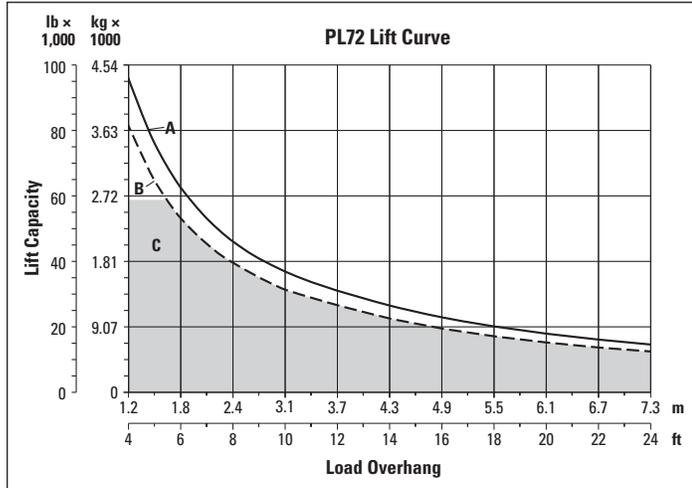
PL72 Pipelayer Specifications

Weights

Operating Weight	31 278 kg	68,945 lb
Shipping Weight	27 145 kg	59,846 lb

Operating Specifications

Lift Capacity	40 823 kg	90,000 lb
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A – Maximum Load Capacity*

B – Rated Load Capacity*

C – Working Range*

*Per ISO 8813:1992

Components

Upper Boom Block Mass	117 kg	258 lb
Lower Boom Block Mass	101 kg	223 lb
Upper Hook Block Mass	117 kg	258 lb
Lower Hook Block Mass	136 kg	300 lb
6.1 m (20 ft) Boom	909 kg	2,004 lb
7.3 m (24 ft) Boom	1162 kg	2,562 lb

Pipelayer Equipment

Hydraulic Winches

Hook

Drum Diameter	216 mm	8.5 in
Flange Diameter	394 mm	15.5 in
Drum Length	254.0 mm	10 in
Wire Rope Diameter	19 mm	0.75 in
Boom and Cables, 6.1 m (20 ft)	50.3 m	165.0 ft
Boom and Cables, 7.3 m (24 ft)	54.9 m	180.1 ft
Hook Speed	44 m/min	144.4 ft/min

Boom

Drum Diameter	216 mm	8.5 in
Flange Diameter	394 mm	15.5 in
Drum Length	254.0 mm	10 in
Wire Rope Diameter	19 mm	0.75 in
Boom and Cables, 6.1 m (20 ft)	50.3 m	165.0 ft
Boom and Cables, 7.3 m (24 ft)	54.9 m	180.1 ft

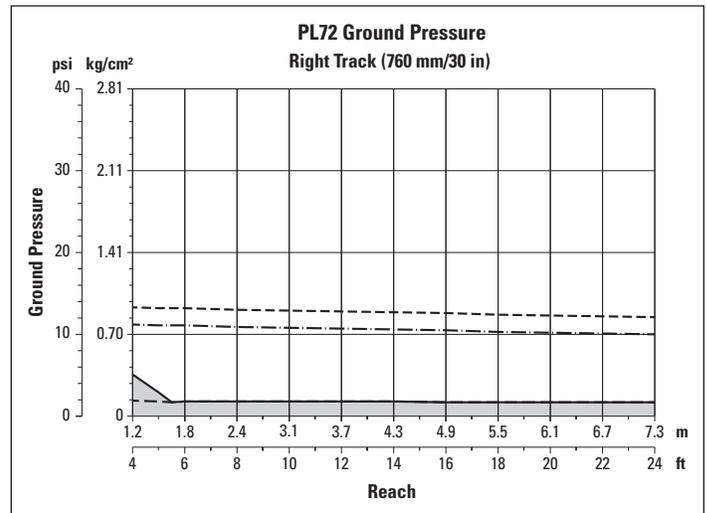
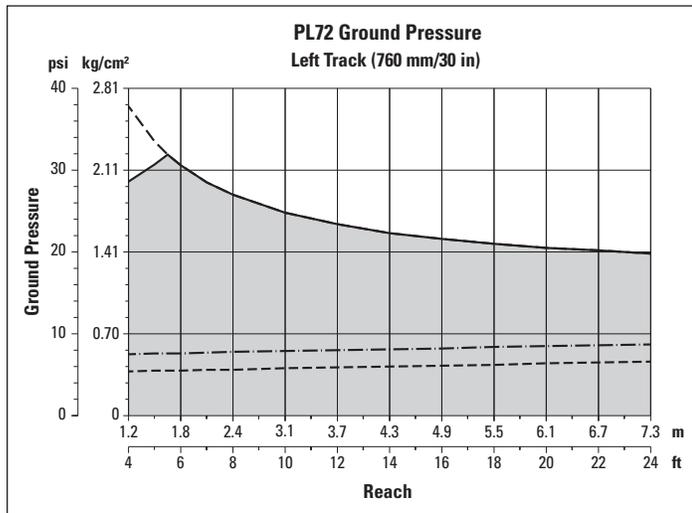
Standards

Brakes

Brakes meet the standard ISO 10265:2008

ROPS

ROPS (Rollover Protection Structure) meets the standard ISO 3471:2008



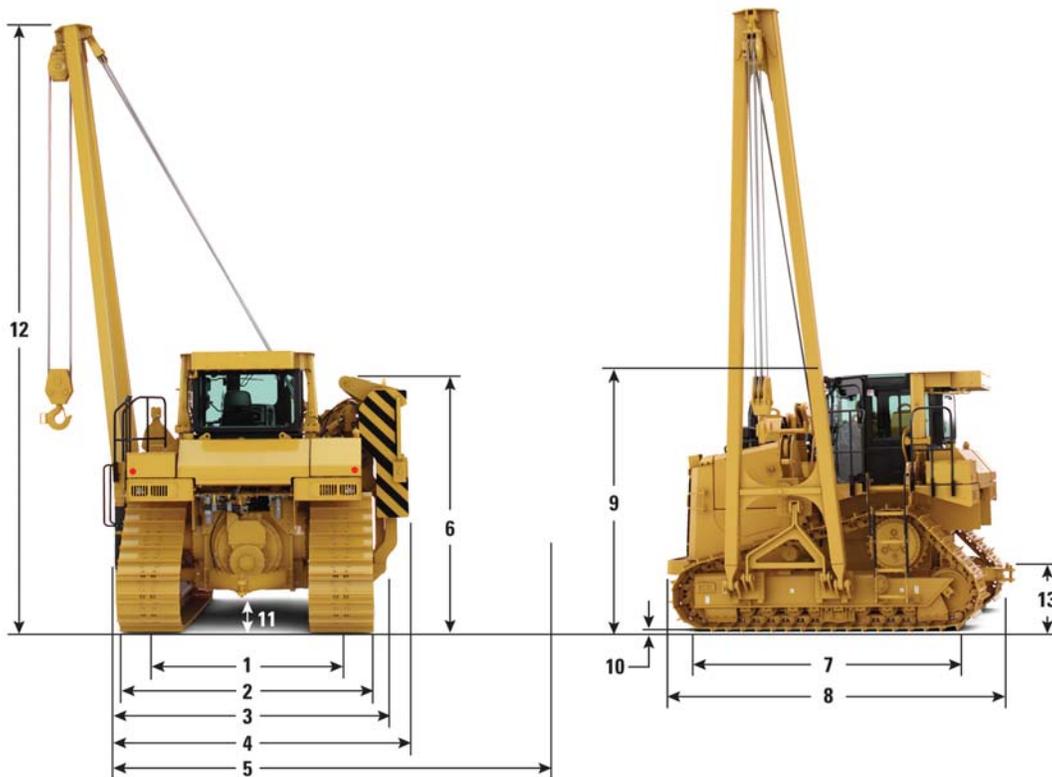
----- Rated Load Capacity
 _____ Working Range

..... Unloaded – Counterweight Retracted
 Unloaded – Counterweight Extended

PL72 Pipelayer Specifications

Dimensions

All dimensions are approximate.



	PL72	
1 Track Gauge	2.29 m	7 ft 6 in
2 Width of Tractor (standard shoes)	3.05 m	10 ft 0 in
3 Width of Tractor (counterweight/boom removed)	3.62 m	11 ft 11 in
4 Width of Tractor (counterweight retracted)	3.67 m	12 ft 1 in
5 Width of Tractor (counterweight extended)	5.38 m	17 ft 8 in
6 Machine Height (top of counterweight)	2.60 m	8 ft 6 in
7 Length of Track on Ground	3.71 m	12 ft 2 in
8 Operating Length	4.78 m	15 ft 8 in
9 Height of Machine (cab and ROPS)	3.43 m	11 ft 3 in
10 Grouser Height	0.065 m	2.6 in
11 Ground Clearance (per SAE J1234)	0.43 m	1 ft 5 in
12 Boom Height (at SAE 1.22 m (4 ft) overhang) 6.1 m (20 ft) boom	6.78 m	22 ft 3 in
Boom Height (at SAE 1.22 m (4 ft) overhang) 7.3 m (24 ft) boom	8.01 m	26 ft 4 in
13 Drawbar Height	0.64 m	2 ft 1 in

PL72 Standard Equipment

Standard Equipment

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

ELECTRICAL

- Alarm, backup
- Batteries, four maintenance free heavy duty
- Converter, 12V, 10 amp with one outlet
- Horn, forward warning
- Lights, two front, two rear
- Starting receptacle
- Machine disconnect switch
- Machine diagnostic connector
- Boom and counterweight limit switch

OPERATOR ENVIRONMENT

- Armrest, adjustable
- Deactivation switch, hydraulic controls
- Advisor operator interface
 - Electronic monitoring system
 - Diagnostic service information
 - Operator preferences
- ROPS
- Decelerator pedal
- Dual brake pedal
- Seat belt, retractable
- Heater and ventilation
- Differential steering control, with touch shift
- Storage compartment

PIPELAYING EQUIPMENT

- Block and hook with latch
- Counterweights, extendible segmented
- Winches, hydraulic actuated and electronically controlled

POWER TRAIN

- C9.3 diesel engine
 - Electronic Unit Injection (EUI)
 - Aftertreatment
 - Meets Tier 4 Final/ Stage V or Tier 3/ Stage IIIA equivalent emission standards, depending on region of sale.
- Aftercooler, air-to-air (ATAAC)
- High performance single plane cooling system
- Coolant, extended life with protection to -37°C (-34°F)
- 24V electric start
- Zero speed hydraulic fan, reversing and hydraulically driven, electronically controlled
- Filter, air with electronic service indicator
- Final drives
 - Four planet, double reduction Planetary
- Fuel priming pump, electric
- Parking brake, electronic
- Precleaner, strata-tube dust ejector
- Prescreener
- Starting aid, ether
- Torque divider
- Transmission, electronically controlled
 - Powershift, 3F/3R speed
- Turbocharger, wastegate
- Water separator

UNDERCARRIAGE

- Carrier roller
- Track roller frames
- Hydraulic track adjusters
- Master links, two piece
- Non-suspended undercarriage
- Rollers and idlers, lifetime lubricated
- Sprocket rim segments, replaceable
- Track guiding guards
- Medium service grouser 760 mm (30 in)
 - Sealed and lubricated track (48 section)

OTHER STANDARD EQUIPMENT

- Bumper, front with towing device
- Drawbar, heavy duty
- Ecology drains
 - Engine oil
 - Coolant
 - Hydraulic oil
 - Torque converter
 - Fuel tank
 - Power train case and transmission
- Enclosures, perforated engine
- Hood, perforated
- Bottom guards, hinged
- Guard, hinged radiator
- Hydraulics, independent steering and work tool pumps
- Hydraulic system, electronically activated for hook, boom and counterweight control
- Oil cooler, hydraulic
- Product Link ready
- S·O·S sampling ports
- Steering, electronically controlled power differential
- Vandalism protection for fluid compartments

PL72 Mandatory Attachments and Optional Equipment

Mandatory Attachments and Optional Equipment

Mandatory Attachments and Optional Equipment may vary. Consult your Cat dealer for details.

MANDATORY ATTACHMENTS

- Factory Arrangements
 - Merchandising arrangement
 - Cab with air conditioning and heat and 150 amp alternator
 - OROPS with heat and 150 amp alternator
 - Regional arrangement
 - NACD
 - EU
- Seat
 - Cloth air
 - Deluxe
 - Vinyl
 - Heated

- Rollers
 - Arctic
 - Standard
- Product Link
- Pipelaying equipment
 - Boom and cables 6.1 m (20 ft)
 - Boom and cables 7.3 m (24 ft)

OPTIONAL EQUIPMENT

- WAVs
- CE Certification

For more complete information on Cat products, dealer services, and industry solutions, visit us on the web at www.cat.com

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Materials and specifications are subject to change without notice. Featured machines in photos may include additional equipment. See your Cat dealer for available options.

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