

PL72

Pipelayer



Engine

Engine Model	Cat® C9.3 ACERT™	
Emissions	U.S. EPA Tier 4 Final/ EU Stage IV or U.S. EPA Tier 3/ EU Stage IIIA equivalent	
Engine Power (Maximum)		
SAE J1995	192 kW	257 hp
ISO 14396	190 kW	255 hp
ISO 14396 (DIN)	192 kW	258 hp
Net Power (Rated)		
ISO 9249/SAE J1349	158 kW	212 hp
ISO 9249/SAE J1349 (DIN)	160 kW	215 hp

Engine (continued)

Net Power (Maximum)		
ISO 9249/SAE J1349	183 kW	246 hp
ISO 9249/SAE J1349 (DIN)	186 kW	249 hp
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 ACERT 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

The new PL72 offers a quieter, 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.

Contents

Pipelayer.....4

Operator Station.....6

Enclosed and Pressurized Cab7

Implement and Steering Controls8

Undercarriage9

Structure.....9

Engine and Power Train.....10

Emissions Technology.....11

Sustainability12

Integrated Technologies.....12

Serviceability and Customer Support.....13

Renowned Cat Dealer Support.....14

Safety14

Specifications.....15

Standard Equipment.....18

Mandatory Attachments
and Optional Equipment.....19





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 updated electro-hydraulic control for more precise implement control. Boom and hook winches 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

New counterweight profile adds weight where you need it most to provide you the needed lift capacity for your application. 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 has been added to limit the retraction of the extendible counterweight to the correct, retracted position.

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. The new PL72 features two booms, 6.1 m (20 ft) and 7.3 m (24 ft).

Blocks and Hook

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

Pinned Pipelayer Frame Structure

Heavy duty pipelayer 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. A seat belt indicator light helps remind you to work more safely.

- A new 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. The new ladder system also 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.
- New HVAC system provides heat from ducting and dash vents to the operator for Open Cab (OROPS).



Enclosed and Pressurized Cab

Designed with pipeline productivity in mind

The new, optional enclosed cab is designed by Caterpillar specifically for demanding pipeline applications. The cab height meets shipping requirements and may be shipped by truck without removing the cab and Rollover Protective Structure (ROPS). The cab is fully sealed, filtered, and pressurized for harsh environments.

Glass area is maximized and visibility improved for better sight lines around the machine and to the trench. A large skylight window with sliding shade has been incorporated to provide 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.



Undercarriage

Engineered for performance

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.

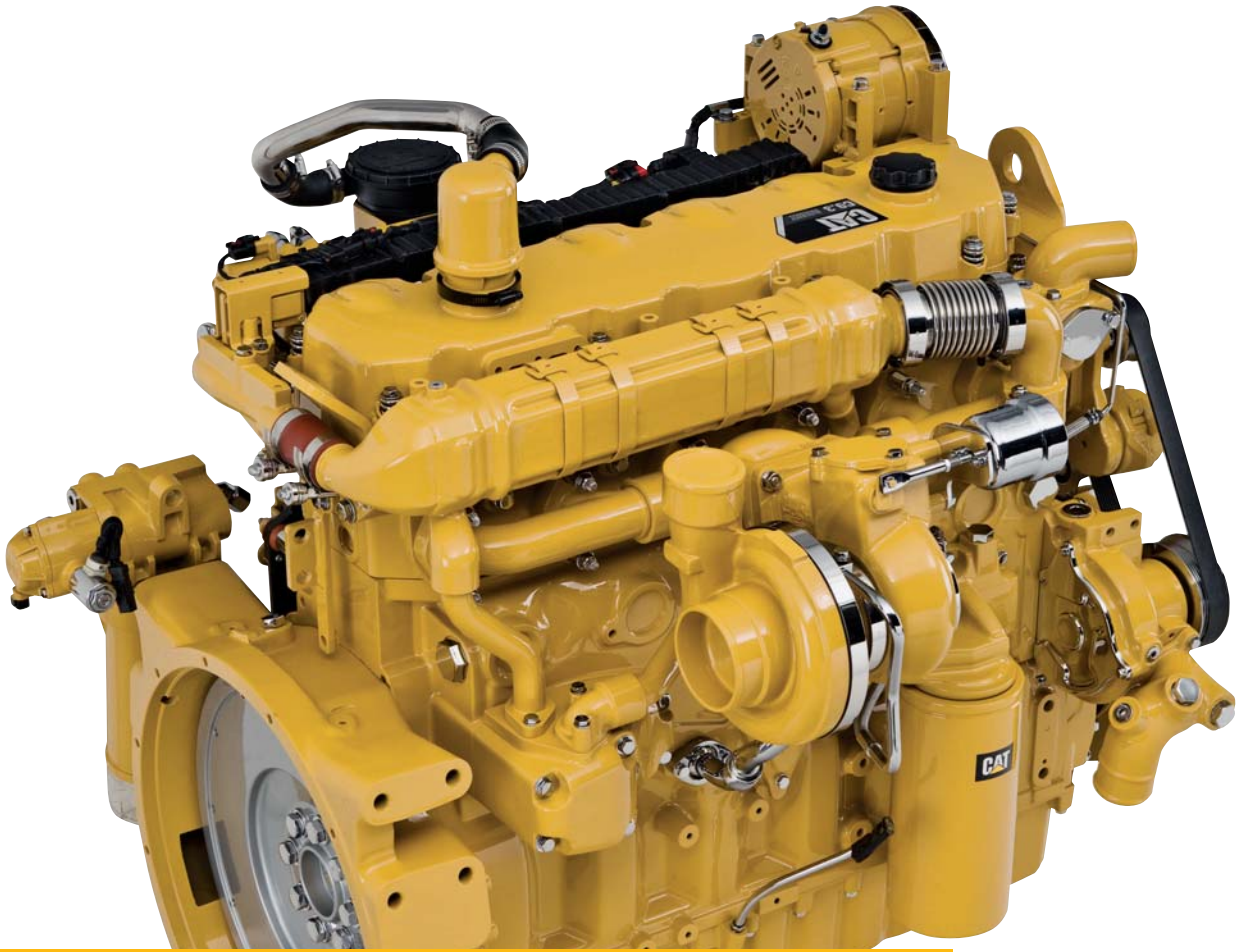
Pipelayer track is designed for high-impact and high load applications. The Positive Pin Retention Sealed and Lubricated Track is an exclusive Caterpillar design that locks the link to the pin for enhanced service life. Track shoes help optimize the machine for performance in demanding underfoot conditions.



Structure

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 Ebar 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.



Engine and Power Train

Powerful efficiency

A Cat C9.3 ACERT engine provides the power and reliability you need to get the job done. Improved fuel efficiency and efficient use of Diesel Exhaust Fluid (DEF) gives you excellent overall fluid efficiency.

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.

Emissions Technology

Proven, integrated solutions

Emissions reduction technology on the PL72 is designed to be transparent, with no action required from the operator. Regeneration runs automatically in the background while you work.



Aftertreatment Technologies

Caterpillar designed Tier 4 Interim/Stage IIIB products with Tier 4 Final/Stage IV standards in mind for regions with Tier 4 Final/EU Stage IV emission standards requirements. To meet the additional 80% reduction in NO_x emissions required by U.S. EPA Tier 4 Final/EU Stage IV 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.



Integrated Technologies

Solutions to make work easier
and more efficient

Cat Product Link™

Remote monitoring with Product Link improves overall fleet management effectiveness. Product Link is deeply integrated into machine systems. Events and diagnostic codes, as well as hours, fuel, idle time and other detailed information are transmitted to a secure web based application, VisionLink®. VisionLink includes powerful tools to convey information to users and dealers, including mapping, working and idle time, fuel level and more.

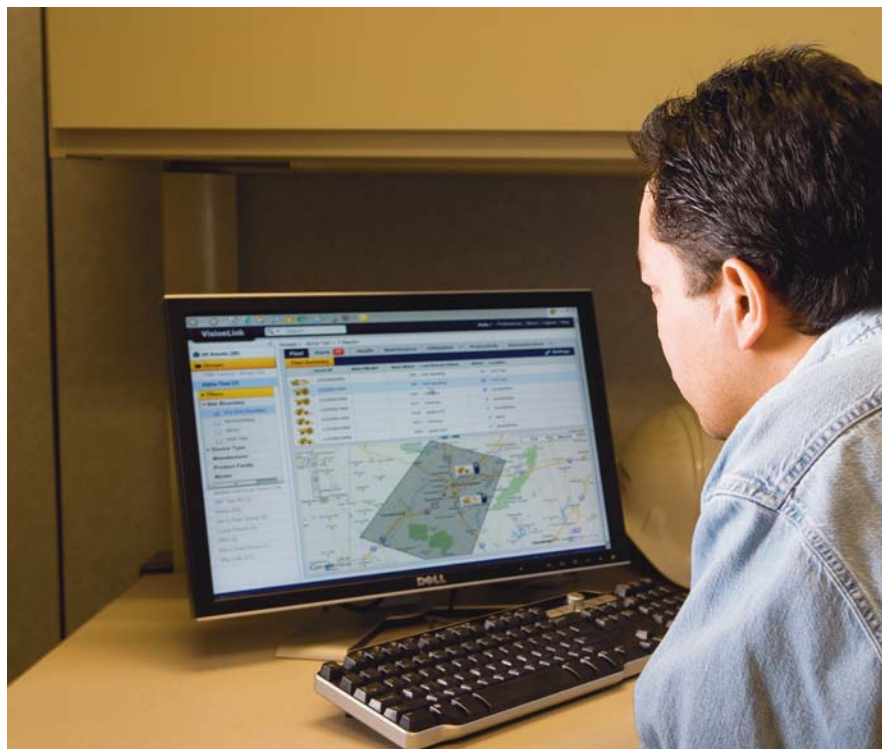
Load Monitor Ready

The PL72 is Load Monitor Indicator (LMI) ready from the factory and can accept regional LMI systems. New hydraulic circuitry, integrated mounting hardware and ready-mount power supply makes system installation simple. The LMI ready hydraulic system enables installation without opening the hydraulic system thus preventing contamination.

Sustainability

Generations ahead in every way

- The PL72 meets Tier 4 Final/Stage IV or Tier 3/Stage IIIA equivalent emission standards.
- Efficient use of Diesel Exhaust Fluid (DEF) improves overall fluid and fuel efficiency, for Tier 4 Final/Stage IV models only.
- Longer service intervals help reduce parts and fluid consumption.
- Major components are built to be rebuilt, eliminating waste and saving money by giving your machine a second – and even third – life.



Serviceability and Customer Support

When uptime matters



Like all Cat machines, the PL72 is designed to allow you to get routine service done quickly and efficiently so you can get to work. The PL72 offers full left-side engine serviceability, including fill tube, dipstick, air cleaner, fuel filters, oil filter and coolant level check. Easy open engine enclosure doors allow you to maintain three points of contact for added safety. High speed oil change is standard and makes servicing even faster. Hydraulic and Power train filters and fuel tank drain are located at the rear of the machine and are serviceable from ground level.

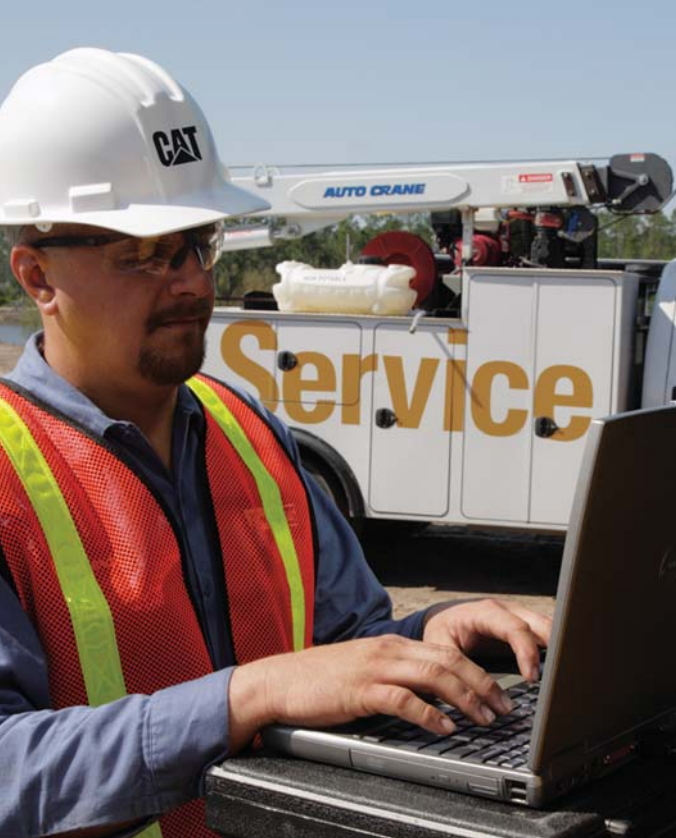
Pressure taps are placed within the hydraulic system to allow for quick monitoring.

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.

The radiator, Air to Air Aftercooler (ATAAC) and hydraulic oil cooler are packaged into a single plane, making cleanout easier. Durable aluminum bar plate construction gives you superior heat transfer and corrosion resistance. Six fins per inch core allow debris to pass through and help reduce plugging. In cooler conditions, the Zero Speed Hydraulic fan will remain off until component temperatures require cooling, at which time the fan will begin to operate. Each pipelayer is equipped with reversing fan configuration as well.

Ecology Drains provide a convenient method for draining fluids that saves time and helps prevent spills. They are included on the radiator (coolant) hydraulic tank, engine, transmission, and mainframe case.





Renowned Cat Dealer Support

When uptime counts

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.

Safety

Designed with protection in mind

- Convenient steps, handles and guardrail provide safe access/egress.
- New 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.
- An optional rear vision camera is also available to further enhance visibility around the machine.



PL72 Pipelayer Specifications

Engine

Engine Model	Cat C9.3 ACERT	
Emissions	Tier 4 Final/Stage IV 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)	192 kW	258 hp
Net Power (Rated)		
ISO 9249/SAE J1349	158 kW	211 hp
ISO 9249/SAE J1349 (DIN)	214 hp	
Net Power (Maximum)		
ISO 9249/SAE J1349	182 kW	245 hp
ISO 9249/SAE J1349 (DIN)	248 hp	
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.
- No deratings required up to 2286 m (7,500 ft) automatic derating occurs.
- All non road U.S. EPA Tier 4, European Union (EU) Stage IIIB and IV Step 4 diesel engines are required to use only Ultra Low Sulfur Diesel (ULSD) fuels containing 15 ppm for EPA, 10 ppm for EU 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 EP specifications 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 Standardizations (ISO) standard 22241.

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	
Oscillation at Front Idler	163 mm	6.4 in

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

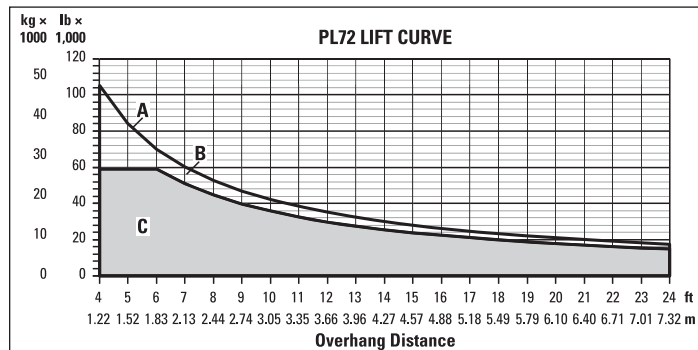
Weights

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

PL72 Pipelayer Specifications

Operating Specifications

Lift Capacity 40 823 kg 90,000 lb



A – Lift capacity at tipping point*

B – Rated load capacity*

C – Working range*

*Per ISO 8813:1992

Pipelayer Equipment

Pullmaster 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, 6.1 m (20 ft) extended	50.3 m	165.0 ft
Boom and Cables, 7.3 m (24 ft)	54.9 m	180.1 ft
Boom and Cables, 7.3 m (24 ft) extended	54.9 m	180.1 ft
Hook Speed – Lo (4 Part Line)	15.9 m/min	60.85 ft/min
Hook Speed – Hi (4 Part Line)	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)	40.2 m	131.9 ft
Boom and Cables, 6.1 m (20 ft) extended	50.3 m	165.0 ft
Boom and Cables, 7.3 m (24 ft)	45.1 m	148.0 ft
Boom and Cables, 7.3 m (24 ft) extended	54.9 m	180.1 ft

Components

Upper Boom Block		
Lower Boom Block	25.0 kg	55 lb
Load Block		
Hook Block	153.4 kg	338 lb
6.1 m (20 ft) Boom	898.1 kg	1,980 lb
7.3 m (24 ft) Boom	1181.0 kg	2,604 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)	11.3 L	3 gal
Winch Case (Hook)	11.3 L	3 gal

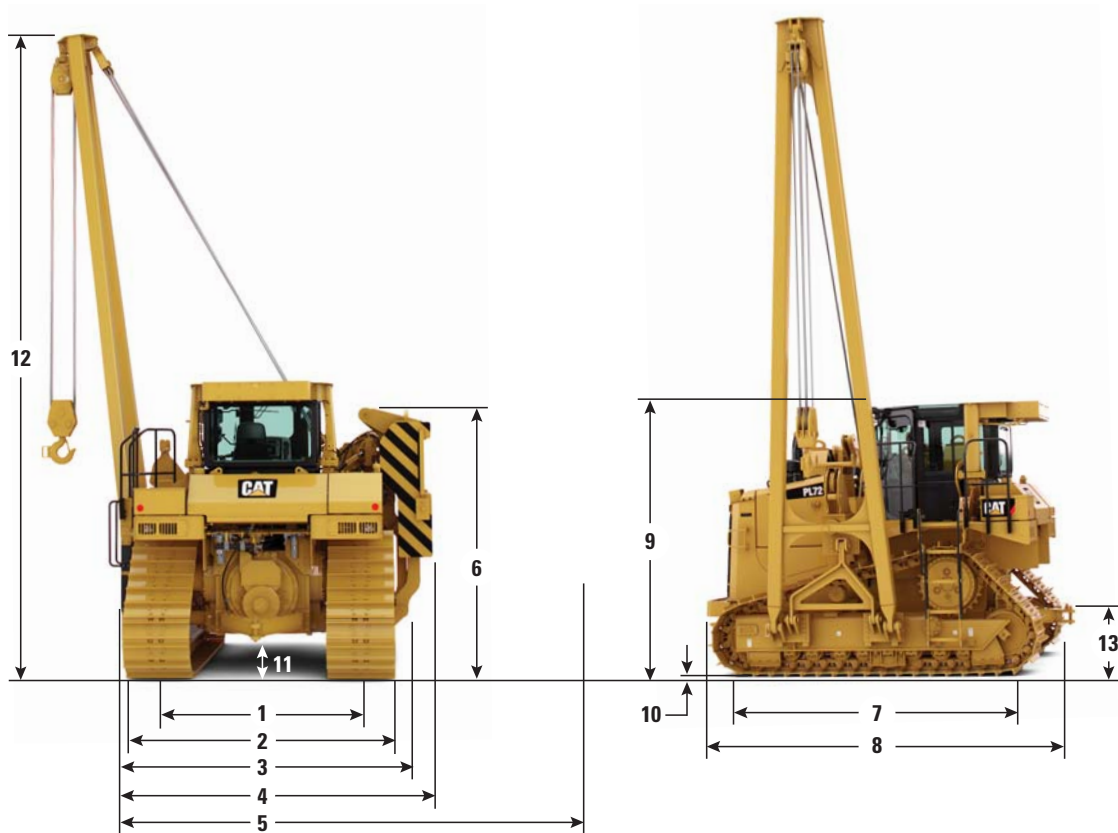
Standards

Brakes	Brakes meet the standard ISO 10265:2008
ROPS	ROPS (Rollover Protection Structure) meets the standard ISO 3471:2008

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

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 ACERT diesel engine
 - Electronic Unit Injection (EUI)
 - Aftertreatment
 - Meets Tier 4 Final/ Stage IV 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 6.1 m (20 ft) extended
 - Boom and cables 7.3 m (24 ft)
 - Boom and cables 7.3 m (24 ft) extended

OPTIONAL EQUIPMENT

- WAVs
- CE Certification
- ROPS

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

AEHQ7513 (07-2015)

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