

# PL87

## Pipelayer

**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 PL87 answers customer needs for increased lift capacity, enhanced slope capability, ease of operation, performance and transportability.**

### **Performance**

Improved hydraulics offer greater response and more precise control. New heavy duty winch works with updated hydraulic system for greater machine productivity.

### **Slope Capability**

Lengthened track-roller-frame and repositioned rear idler puts more track on the ground, enhancing slope capability.

### **Lift Capacity**

New counterweight profile adds more weight providing increased lift capacity. The PL87 has a rated lift capacity of 97 069 kg (214,000 lb).



### **Operator Interface**

New control handle puts boom and hook functions in the operator's right hand. Enclosed cab option aids operator comfort and offers outstanding visibility. New dual brake pedals enhance machine control, especially on slopes and for turning within a tight pipeline right-of-way.

### **Safety**

Additional large surface mirrors enhance visibility for the operator, and a modified block set design reduces the profile for greater visibility to the pipe. New, easy-to-service ladder design offers enhanced access/egress to the operator station.

### **Transportability**

New lower winch profile reduces shipping envelope and aids transportability. New bolt-on block horn has been added to the front of the machine for more convenient transport/storage of the block set.

# PL87 Pipelayer Specifications

## Engine

Engine Model	Cat® C15 ACERT™	
Emissions	U.S. EPA Tier 3, EU Stage IIIA	
Gross Power	294 kW	394 hp
Gross Power (Metric)		400 hp
Gross Power – ISO 14396	281 kW	377 hp
Gross Power – ISO 14396 (Metric)		382 hp
Flywheel Power	273 kW	366 hp
Flywheel Power (Metric)		371 hp
Net Power – ISO 9249	273 kW	366 hp
Net Power – ISO 9249 (Metric)		371 hp
Net Power – SAE J1349	270 kW	362 hp
Net Power – SAE J1349 (Metric)		367 hp
Net Power – EU 80/1269	273 kW	366 hp
Net Power – EU 80/1269 (Metric)		371 hp
Bore	137 mm	5.4 in
Stroke	172 mm	6.75 in
Displacement	15.2 L	928 in <sup>3</sup>

- Engine ratings at 1,850 rpm.
- Net power advertised is the power available at the flywheel when the engine is equipped with fan, air cleaner, muffler and alternator. Automatic derating occurs beyond that altitude.

## Undercarriage

Shoe Type	Super Extreme Service	
Width of Standard Shoes	864 mm	34 in
Number of Shoes (each side)	48	
Grouser Height	93 mm	3.6 in
Track Gauge	2.54 m	8 ft 4 in
Length of Track on Ground	3.587 m	11 ft 9 in
Ground Contact Area	3715 mm	10 ft 5 in
Number of Rollers (each side)	9	9
Number of Carrier Rollers	1 per side	

- Positive pin retention track.

## Hydraulic System

Implement Pump Output – Max (closed loop)	277 L/min	73.2 gal/min
Relief Valve Setting	41 600 kPa	6,033.6 psi
Counterweight (gear)	101 L/min	26.7 gal/min
Variable Charge Pump Output – Max (open loop)	219 L/min	57.9 gal/min

## Service Capacities

Fuel Tank	569 L	150.3 gal
Crankcase and Filter	38 L	10 gal
Final Drive (each side)	13 L	3.4 gal
Cooling System	76 L	20 gal
Hydraulic Tank	170 L	44.9 gal
Power Train	190 L	50 gal

## Operating Specifications

Lifting Capacity	97 069 kg	214,000 lb
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## Weights

Operating Weight	54 485 kg	120,119 lb
Shipping Weight	42 865 kg	94,501 lb

- Operating weight includes all shipping weights plus full fuel tank and operator.
- Shipping weight includes: lubricants, coolant, 10% fuel, hydraulic controls and fluids, backup alarm, seat belt, 710 mm (28 in) grouser shoes, drawbar and counterweight.

# PL87 Pipelayer Specifications

## Transmission

1 Forward	3 km/h	1.9 mph
2 Forward	5.4 km/h	3.3 mph
3 Forward	9.4 km/h	5.8 mph
1 Reverse	4 km/h	2.5 mph
2 Reverse	7 km/h	4.4 mph
3 Reverse	12.3 km/h	7.7 mph
1F – Drawbar Pull	618.5 N	139 lbf
2F – Drawbar Pull	338.2 N	76 lbf
3F – Drawbar Pull	186.9 N	42 lbf

## Standards

Brakes	Brakes meet the standard SAE JISO 10265 MAR99
ROPS	Optional ROPS (Rollover Protection Structure) meets the standards SAE J397 OCT95, SAE J1040 MAY94, ISO 3164 1995 and ISO 3471-1

## Pipelaying Equipment

### Planetary Hydraulic Winches

Hook			
Drum Diameter	254 mm	10 in	
Flange Diameter	508 mm	20 in	
Drum Length	355.6 mm	14 in	
Wire Rope Diameter	19 mm	0.75 in	
Boom and Cables, 7.3 m (24 ft)	114.3 m	375 ft	
Boom and Cables, 7.3 m (24 ft) Extended			
Boom and Cables, 8.53 m (28 ft)	124.2 m	407.6 ft	
Boom and Cables, 8.53 m (28 ft) Extended	124.2 m	407.6 ft	
Hook Speed (Raise) with 8 Part Line	15.5 m/min	50.8 ft/min	

### Boom

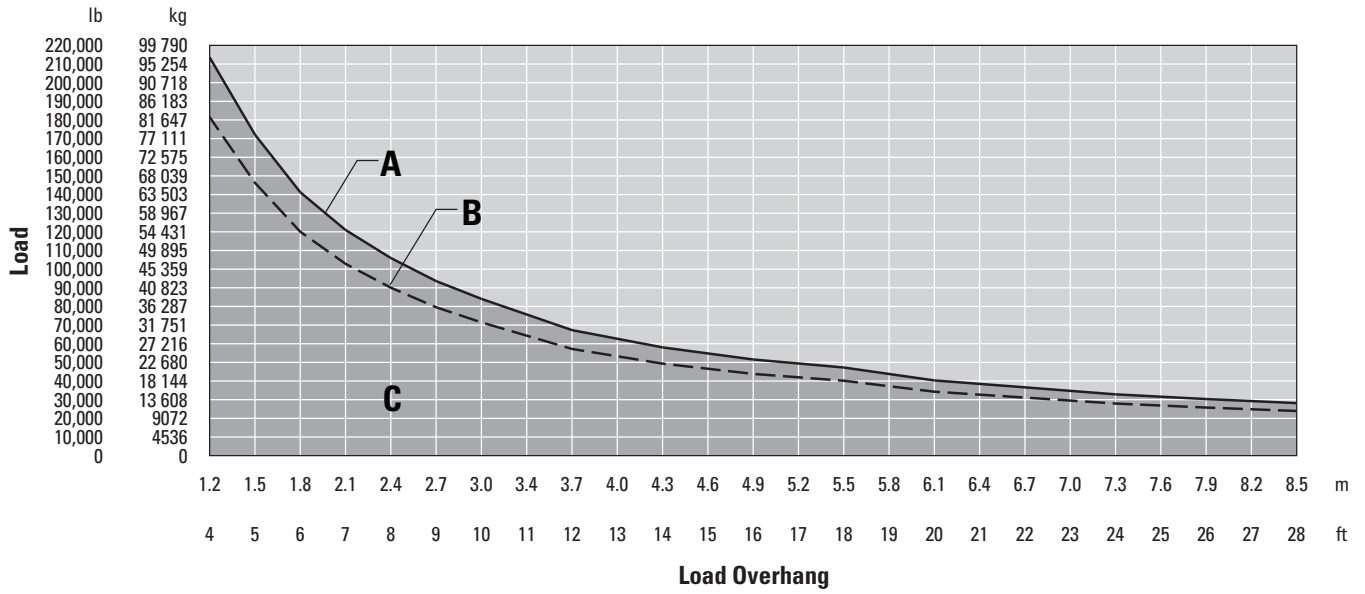
Drum Diameter	254 mm	10 in	
Flange Diameter	508 mm	20 in	
Drum Length	355.6 mm	14 in	
Wire Rope Diameter	19 mm	0.75 in	
Boom and Cables, 7.3 m (24 ft)	55 m	180.4 ft	
Boom and Cables, 7.3 m (24 ft) Extended	74 m	242.8 ft	
Boom and Cables, 8.53 m (28 ft)	62.5 m	205 ft	
Boom and Cables, 8.53 m (28 ft) Extended	86.2 m	282.8 ft	

### Removable Counterweight 13 Segments

2 @	285 kg	628 lb	
6 @	710 kg	1,562 lb	
5 @	785 kg	1,725 lb	
Total Weight Extendible	13 903 kg	30,587 lb	

- Hydraulic Power – 540 L/min at 18 259 kPa/183 bar (143 gal/min at 2,650 psi) and 2,100 rpm pump speed independent of torque converter

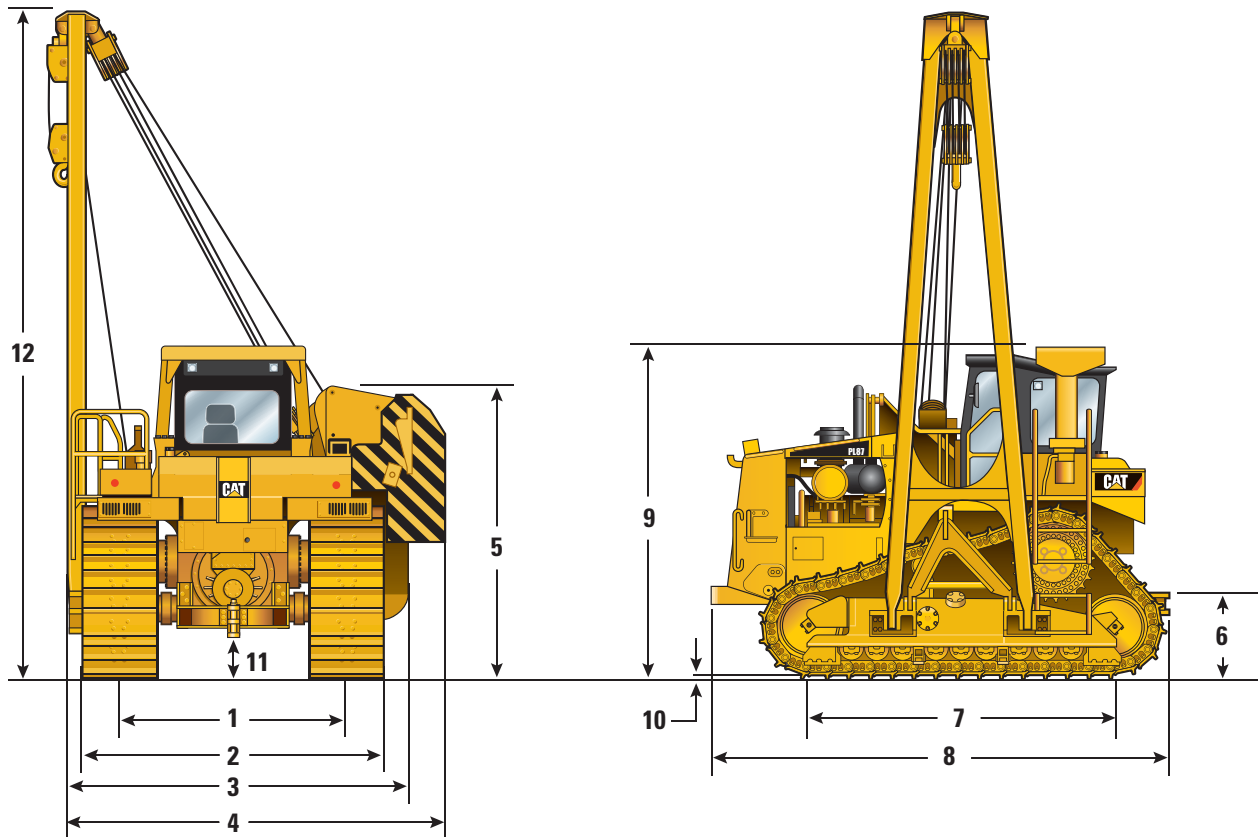
# PL87 Pipelayer Specifications



- A – Lift capacity at tipping point – ISO 8813 – 97 069 kg (214,000 lb)
- B – Rated load capacity – ANSI/ASME B30.14
- C – Working range – ANSI/ASME B30.14

# PL87 Pipelayer Specifications

## Dimensions



<b>1</b> Track gauge	2.54 m	8 ft 4 in
<b>2</b> Width of tractor (standard shoes)	3.86 m	12 ft 8 in
<b>3</b> Width of tractor counterweight/boom removed	4.04 m	13 ft 3 in
<b>4</b> Width of tractor (counterweight retracted)	4.34 m	14 ft 3 in
<b>5</b> Machine height (tip of counterweight)	3.44 m	11 ft 3.25 in
<b>6</b> Drawbar height	0.60 m	1 ft 10 in
<b>7</b> Length of track on ground	3.72 m	12 ft 2 in
<b>8</b> Operating length	5.49 m	17 ft 11 in
<b>9</b> Height of machine		
Height with ROPS and boom removed	3.18 m	11 ft 6 in
Height to the top of the ROPS canopy/cab	3.84 m	12 ft 7 in
<b>10</b> Grouser height	0.09 m	3.6 in
<b>11</b> Ground clearance (per SAE J1234)	0.46 m	18 in
<b>12</b> Boom height [at SAE 1.22 m (4 ft) overhang] 8.53 m (28 ft) boom	9.25 m	30 ft 5 in

# PL87 Pipelayer Standard Equipment

## Standard Equipment

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

### ELECTRICAL

- Alarm, backup
- Batteries, 4, maintenance free
- Converter, 12V, 10 amp with 1 outlet
- Diagnostic connector
- Horn, forward warning
- Lighting system, halogen, (2 front, 2 rear)
- Starting receptacle

### OPERATOR ENVIRONMENT

- Armrest, adjustable
- Deactivation switch, hydraulic controls
- Horn
- Hour meter, electronic
- Governor switch, electronic
- Key start, single
- Monitoring system, electronic warning system with temperature gauges for coolant, power train oil and hydraulic oil
- Pedal, decelerator
- Pedals, dual brake
- Seat, Vinyl suspension
- Seat belt, retractable
- Service indicator, air cleaner
- Steering control, electronic, finger tip control
- Storage compartment

### PIPELAYING EQUIPMENT

- Block and hook with latch, heavy duty
- Counterweights, extendable segmented
- Drawworks, hydraulic actuated and controlled

### POWER TRAIN

- Advanced Modular Cooling System (AMOCS)
- Aftercooler, air-to-air (ATAAC)
- C15 ACERT diesel engine with EUI (Electronic Unit Injection)
- Coolant, extended life with protection to  $-37^{\circ}\text{C}$  ( $-34^{\circ}\text{F}$ )
- Electric starting, 24 volt
- Fan, suction, hydraulically driven blower
- Filter, air with electronic service indicator
- Final drives, four planet, double reduction planetary
- Fuel priming pump, electric
- Muffler
- Parking brake, electronic
- Precleaner, stratta-tube dust ejector
- Prescreener
- Starting aid, ether
- Torque divider
- Transmission, electronically-controlled powershift, 3F-3R speeds
- Transmission, control module, electronic
- Turbocharger, wastegate
- Water separator

### UNDERCARRIAGE

- Carrier roller
- Frame, 9-roller tubular track roller frame
- Hydraulic track adjusters
- Master links, two piece
- Non-suspended undercarriage
- Rollers and idlers, lifetime lubricated
- Sprocket rim segments, replaceable
- Track adjusters, hydraulic
- Track guiding guards
- 864 mm (34 in) super extreme service grouser with sealed and lubricated track (48 section) clipped grousers

### 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
- Guard, hinged bottom
- Guard, hinged radiator
- Hood, solid
- Hydraulic system, pilot operated for hook, boom, and counterweight control
- Oil cooler, hydraulic
- Parts book, CD ROM
- Product link ready
- S·O·S<sup>SM</sup> sampling ports
- Steering, electronic clutch brake
- Vandalism protection for fluid compartments

# PL87 Pipelayer Mandatory Attachments and Optional Equipment

## Mandatory Attachments and Optional Equipment

Mandatory attachments may vary. Consult your Cat dealer for details on available arrangements.

### MANDATORY ATTACHMENTS

#### FACTORY ARRANGEMENTS

- Cab with Air Conditioning and 150 Amp Alternator
- Cab with 95 Amp Alternator
- Heater, Engine Coolant, 110V or 240V
- Roll-Over Protection (ROPS)
- Rollers, Arctic
- Rollers, Standard

#### PIPELAYING EQUIPMENT

- Boom and Cables, 7.3 m (24 ft)
- Boom and Cables, 7.3 m (24 ft) Extended
- Boom and Cables, 8.53 m (28 ft)
- Boom and Cables, 8.53 m (28 ft) Extended

#### ENGINE ENCLOSURES

- Enclosure, Engine, Solid
- Enclosure, Engine, Perforated

#### HOOD

- Hood, Solid
- Hood, Perforated

#### FUEL SYSTEMS

- Tank, Fuel, Std
- Tank, Fuel, Fast Fill

### OPTIONAL EQUIPMENT

#### POWER TRAIN

- Drains, ecology, power train

#### PRODUCT LINK

- Product Link PL321, none
- Product Link PL321, Satellite
- Product Link PL321, Cellular

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Materials and specifications are subject to change without notice.

Featured machines in photos may include additional equipment.

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