

P&H[®] Century 150

Rough Terrain Crane

50 Ton (45.3 tonnes) Capacity

170 Feet (51.8 m) Max. Boom and Extension

- ☆ **Transportable** in one piece on a trailer.
- ☆ **110 foot hydraulic telescopic boom**, 4-plate type, welded inside and out.
- ☆ **Lattice extensions** - 35 foot and 35-60 foot telescopic. Swingaround type - mounts on side of main boom for travel. Extensions can be offset 17° or 30° from main boom for up-and-over reaches.
- ☆ **Duty cycle** - no deration of capacities for bucket work on main boom or 35 foot extension.
- ☆ **Operators' cab** - cushion mounted, environmentally designed. Joy stick controls for crane functions with telescoping and tilt steering wheel.
- ☆ **4 steering modes** - front wheel, rear wheel, crab or 4-wheel - all selected by electric switches - controlled by the steering wheel.
- ☆ **Fully sequential power shift** transmission with torque converter. Gear selection electrically controlled and operated. . . located on the steering column.
- ☆ **P&H model 1580 winches** - planetary gearing, two equal speeds, power raising and lowering. Infinitely variable speed control. High line speeds and line pull.
- ☆ **Extra rugged** hydraulic, electrical and mechanical systems for long, hard duty.
- ☆ **"Easy Ride" Stabilizer** takes the bounce out of travelling for safer and easier movement around the jobsite.



Specifications

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ITEM NO. This P&H crane meets the requirements of ANSI B30.5 (1987). Boom structure (boom, lattice extension and jib) has been tested per SAE J1063, machine stability tested per SAE J765. LOAD RATINGS shown apply only to machine as manufactured and marketed by P&H.

1 BASIC MACHINE

Attachment



Boom: 34 ft. (10.4 m) retracted to 110 ft. (33.5 m) extended length, four section boom consisting of a boom base, two hydraulically extended and retracted sections and a fourth pinned section which can be hydraulically extended and retracted. Boom point has five 17.362" (441mm) dia. main metallic sheaves with roller bearings and two idler sheaves with bronze bearings. Boom elevation from -2° to 78°.

Each section of this rectangular boom consists of four plates welded both inside and out for superior strength. Large, non-metallic slider pads are adjustable.

For performance characteristics, see Chart no. 1, Crane Range Diagram, and Charts nos. 2 & 3, Lifting Capacities on Main Boom.

See Optional Equipment for lattice extensions, auxiliary sheave, and hook blocks.

Counterweight: 9,000 lbs (4,080 kg) standard, non-removable type. 1080 lbs. (490 kg) auxiliary counterweight to be used on units without an auxiliary winch.

Upperstructure



Operator's Cab: Fully enclosed, all-weather steel cab with full vision safety glass and hinged top window with tinted glass. Cab is cushion-mounted for vibration isolation.

Operator's Cab Standard Equipment: Contains all loading and crane function controls. Front control console includes: engine water temperature gauge, engine oil pressure gauge, hydraulic oil temperature gauge, air pressure gauges, fuel gauge, volt meter, transmission temperature gauge, speedometer, hour meter, winch high speed indicators; main winch drum turn indicator, dash light, electrical horn, windshield wiper and washer, tachometer, machine level, brake warning indicator, check gauges indicator, rear steer centering light and built in operational aids. Deluxe operator's seat with torsion suspension and fabric covering, and seat belt. Also, a fire extinguisher and defroster fan.



Controls: Joy-stick controls are an integral part of the seat arm rests. Left hand side operates swing and auxiliary winch. Right hand side operates main winch and boom hoist. Front floor mounted foot pedals for propel brake, swing brake, boom telescope and engine throttle. Front console instrument panel contains ignition switch, hand throttle control, swing lock control, and electrical outrigger control panel.

Electrical system: 24 volt negative ground. Wiring harnesses have protective covering and are independently clamped to the framework, and have environmentally sealed Deutsch connectors. Rocker switches in operator's cab are environmentally sealed.

Throttle Control: Variable air control for foot operation, and positive position cable control for hand use.

Operational Aids: Mechanical boom angle indicator.

Krueger (ATB) anti-two block warning device with audio-visual warning. For main boom only.

Krueger load moment system (Mark 3e/2). Includes load moment device w/audio-visual warning, radius, angle, length w/angle preset. Includes Control Lever Lockouts (Solenoid valve shut-off devices).

Winches



Main Winch: P&H model 1580 with two speed, bent axial piston motor, mounted to rear of revolving frame. Planetary gearing and equal speed, power raising and lowering. Infinitely variable speed control. Spring applied, hydraulically released load holding multi-disc brake is automatic. Complete with 550' (167m) of .75" (19mm) wire rope, and mechanical drum turn indicator.

Drum: 15" (381mm) pitch diameter
18.5" (479mm) wide
23.5" (597mm) flange diameter

Wire Rope: .75" (19mm) dia. 6 x 37 extra improved plow steel with 7x7 IWRC. Strength limit: 16,800 lbs. (7,619 kg). (3.5 safety factor.)

Drum Capacity: 554 ft. (168m) x .75" (19mm) dia., 5 layers.

Line Pull (max.): 18,282 lbs. (8,291 kg) 1st layer, low speed.
13,223 lbs. (5,997 kg) 5th layer.

Available Line Pull (for starting loads in mid-air) (max.): 11,000 lbs. (4991 kg) 5th layer

Line Speed (max.): (At 2750 engine rpm and with .75" wire rope) 642 ft./min. (196 m/min.) 5th layer, high speed.

See Chart No. 11, Hoist Reeving, for rope capacities and parts of line required.

Auxiliary Winch: See Optional Equipment. Plumbing and controls for future installation of aux. winch is standard.

SHEAVE AND DRUM TO WIRE ROPE RATIOS

| (Pitch Diameters) | Sheave to Wire Rope | Drum to Wire Rope |
|-------------------|---------------------|-------------------|
| Main Boom Sheaves | | |
| .75" Wire Rope | 24.15:1 | - |
| .625" Wire Rope | 28.78:1 | - |
| Main Winch | | |
| .75" Wire Rope | - | 20.0:1 |
| .625" Wire Rope | - | 23.8:1 |



Boom Hoist: Two 8.00" (203mm) I.D. cylinders, double-acting. Hydraulically powered raising and lowering with holding valve. Elevation -2° to 78°.

Boom Telescope: Two 6.3" (160mm) I.D. cylinders, double-acting. Hydraulically powered raising and lowering with holding valve. Supplied by a single hose loop.

Hydraulic System

Filters: Two 10-micron nominal return line filters mounted externally at the hydraulic reservoir. All return oil is filtered. Indicators external.

Pump Drive: Gear driven integral with transmission off rear of torque converter housing, with manual pump disconnect for highway travel. 0.948 pump speed to 1.0 engine speed drive ratio.

Pumps: One tandem gear pump operating at full load rpm, with the first section providing 48.9 gpm (185 l/m) to the boom hoist and telescope circuits, and the second section providing 40.2 gpm (152 l/m) to the main and auxiliary winch circuit.

One tandem gear pump operating at full load rpm, with the first section providing 21.5 gpm (81.4 l/m) to the outrigger, steer and winch boost circuits, and the second section providing 28.8 gpm (109 l/m) to the swing circuit.

Oil Reservoir: 162 gallons (615 liters) mounted at front, right side of engine frame.

Oil Cooler: Oil to air, tube and fin type with internal turbulator.

Control Valves: One single-spool valve for swing circuit.

One two spool valve with one spool for boom hoist and one spool for telescope circuits.

One two-spool valve with one spool for main winch and one spool for optional auxiliary winch.

Swing System



Swing Unit: Hydraulic motor driving through gear reducer to pinion gear. 360° continuous rotation to 2.0 rpm full load.

Swing Gear: Single shear ball swing bearing with integral spur gear.

Swing Brake: Spring applied, hydraulically released, internal disc brake, integral with swing reducer. Hand brake control switch mounted on front console in cab. A manual foot pedal applies brake for static holding.

House Lock: 360° gear segment type manually engaged with lever in cab.

Carrier



Type: P&H 4 x 4 x 4, 10' 9-1/2" (3.29 m) wide.

Weight: Including ball bearing swing circle, hydraulic outriggers, and standard tires: 41,000 lbs. (18,600 kg).

Frame: Rectangular frame members of 100,000 psi (7000 kg/cm²) and 80,000 psi (5600 kg/cm²) yield strength alloy steel, reinforced with box constructed cross members of 80,000 psi (5600 kg/cm²) yield strength alloy steel.



Outriggers: Hydraulic out and down type. Eight double-acting hydraulic cylinders for independent horizontal and vertical motion of each beam operated from the operator's cab. Each vertical cylinder is equipped with a holding valve.

Outrigger beams: 100,000 psi yield strength alloy steel box extending to a maximum spread of 23' 7" (7.2 m) from centerline of float to centerline of float with the machine fully raised on the outriggers. Retracted width of the outriggers without floats is 10' 6" (3.2 m).

Outrigger Floats: Individually removable floats with storage on carrier. Float size 24" (610mm) dia. with effective nominal surface area of 452 sq. in. (2920 cm²) per float.

Lower Standard Equipment: Fenders with side storage compartments, sliding engine hood, tool box, tow lugs front and rear, hydraulic pump disconnect, automatic moisture ejector for air system, rear axle disconnect, oil to water transmission cooler and oil to air hydraulic oil cooler, audio back-up warning device, highway lights, rear view

mirrors, air drier, oscillating axle lockout override and fire extinguisher.

Axes: Planetary drive and steer, both axles. 22.38:1 total reduction.

Brakes, Service: Air over hydraulic brakes on all four wheels. Caliper disc type: one caliper for each front wheel; one caliper for each rear wheel. Front and rear on separate circuits.

Brakes, Parking: Spring-loaded air chamber on 14" dia. caliper disc brake on output yoke of transmission. Spring applied, air released.

Suspension: Rigid mounted front axle. Rear axle is pivot mounted with automatic hydraulic lockout cylinders. Maximum oscillation: 10.4" (265 mm).

Steering: Hydrostatic type pressure compensated system fully controlled by a steering wheel with two hydraulic power assist cylinders on each axle.

Steering Modes: Operator's choice of front steer only, independent rear steer only, crab steer and four wheel steer. Activation of different steering modes is by electrical switch on the console. All steering modes controlled by steering wheel only.

Tires: 26.5 x 25 - 26 PR tubeless rock tread (E-3)

For crane ratings on tires see chart no. 6.



Power Plant:

Make: Cummins 6CT 8.3
Max. HP: 215 HP (160 kw) @ 2500 rpm
Max Torque: 558 ft. lb. (77 kg - m) @ 1500 rpm
Cylinders: Six: 4.49" (114 mm) bore x 5.31" (135mm) stroke.
Displacement: 505 cu. in. ((8.27 liter)
Cycle: Four
Alternator: Delco 24 volt, 65 amp.
Electrical: 24 volt system with negative ground
Aspiration: Turbocharged
Air compressor: Bendix TU-FLO501 12 CFM @ 1250 rpm (340 liters per min.)

Radiator: Water to air, tube and fin type core with bottom tank transmission oil cooler. Thermostatically temperature controlled.

Air Cleaner: Donaldson PHG two stage primary dry air cleaner with restriction indicator.

Fuel Tank: One steel tank, 80 gallons (300 liters) mounted on right side of carrier between the tires.

Transmission: Fully sequential power shift transmission with torque convertor, 6 speeds forward, 3 reverse. Gear selection electrically controlled and operated. Front axle disconnect: 2 wheel drive, 4 wheel drive, electrically controlled and operated.



Performance: Theoretical, based on 79,800 lbs. (36,200 kg) GVW; 26.5x25E3 tires; 9000 lbs. (4080 kg) counterweight; 34' to 110' telescoping boom. Speed and gradeability will vary due to engine performance, vehicle weight and optional tires. Gradeability based on SAE J688.

Max. Speed: 24.7 mph (39.8 km/h)
Max. Grade @ 1 mph: 54% (90% at stall).

END BASIC MACHINE

- ITEM NO. **Options and Accessories**
- 125 **Lattice Extension:** 35 ft. (10.7 m). Swingaway lattice structure with a detachable point section for easy conversion to telescopic type extension with a single metallic sheave. It can be put into operating condition by pivoting from its stored position on right side of boom base section. Self storing pins connect extension to boom head. In the operating position the extension is offset 2° from the main boom. Includes anti-two block material.
- 135 **Telescopic Lattice Extension:** 35 ft. to 60 ft. (10.7m to 18.3m) Swingaway lattice structure boom extension with a welded four plate telescope section with a single metallic sheave. It can be put into operating condition by pivoting from its stored position on the right side of the boom base section and pinned to the boom head. Telescopic section is then extended on rollers and pinned. The telescopic section can be replaced with a stub head section when extra length is not required. In the operating position the extension is offset 2° from the main boom. Includes anti-two-block material.
- For performance characteristics see Chart no 1: Crane Range Diagram, and Chart nos. 3,4 and 5: Load Ratings for Lattice Extension.*
- 140 **Offset Mechanism:** Pivoting links which allow items 125 and 135 to offset 17° or 30° from the main boom.
- 160 **Auxiliary Boom Point Sheave:** Boom point mounted with single metallic sheave, includes anti-two block material.
- 205 **Auxiliary Winch:** P&H model 1580, same as main winch, mounted to rear of revolving frame on the counterweight. Includes mechanical drum turn indicator.
- 220 **Wire Rope for auxiliary winch:** .75 x 460', 6 x 36.
- 225 **Wire Rope for Auxiliary Winch:** .75" x 460', 8 x 19 spin resistant
- 235 **Hook Block:** 50 ton, 5 sheaves
- 240 **Hook Block:** 45 ton, 4 sheaves
- 245 **Hook Block:** 20 ton, 1 sheave
- 255 **Weighted Jib Hook:** 8.5 ton, with swivel
- 260 **Cable Spooling Device:** Main or auxiliary winch drum
- 270 **Four (4) Pilot operated lever controls** (In lieu of joystick controls).
- 410 **Window Wiper:** Roof
- 415 **Heater:** Diesel
- 420 **Heater:** Propane w/out tank.
- 435 **Vandalism Kit:** Lexan Glass
- 440 **Tinted Glass**
- 455 **Rotating Beacon:** Amber, on roof of cab
- 460 **Floodlights:** three (3)

- ITEM NO.
- 510 **Tires:** 29.5 x 29 - 28 ply rating tires.
For crane load ratings on these tires see chart no. 7.
- 550 **Spare Wheel & Tire:** 26.5 x 25-26 ply tire
- 560 **Spare Wheel & Tire:** 21:00 x 25-24 ply tire
- 570 **Spare Wheel & Tire:** 29.5 x 29 - 28 ply tire
- 625 **Pintle Hook:** front or rear
- 635 **Cold Weather Starting Aid**
- 645 **Tire Inflation Kit**

END OPTIONAL EQUIPMENT

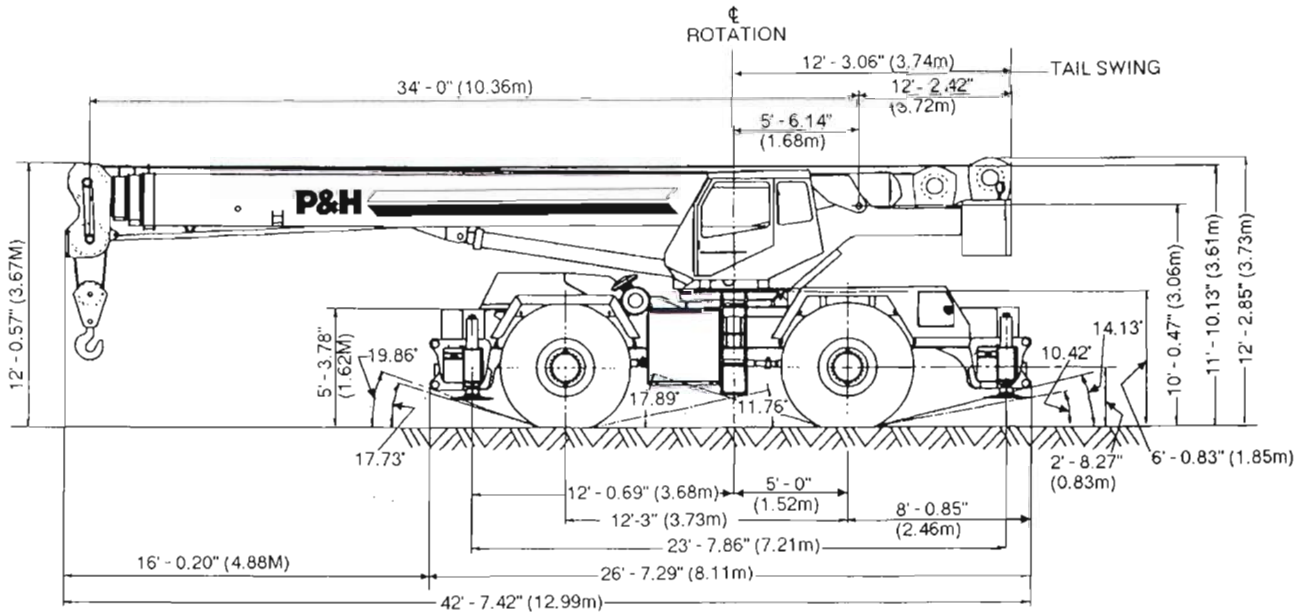
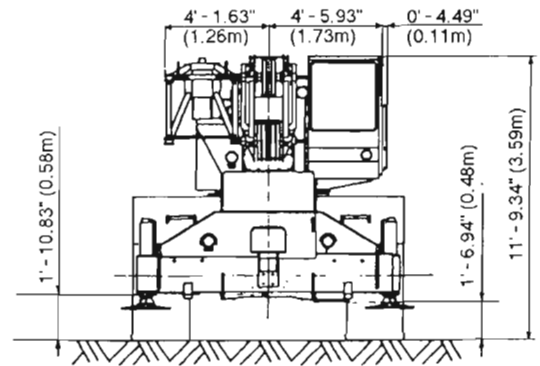
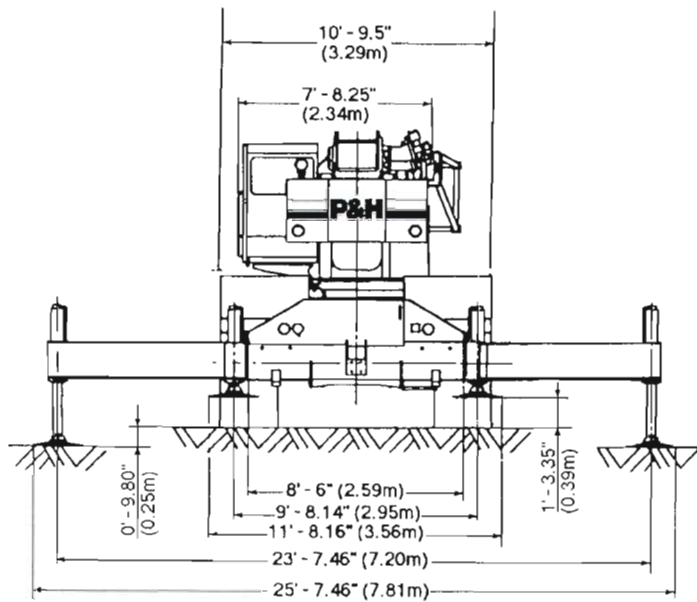
NOTE:
Operation of this equipment in excess of rated loads and disregard of instructions is an unsafe practice and will result in denial of warranty claims.

Weight Distribution

| ITEM | Pounds | | | Kilograms | | |
|--|---------------|---------------|---------------|---------------|---------------|---------------|
| | Gross | Front | Rear | Gross | Front | Rear |
| Basic Carrier | 27,355 | 14,065 | 13,290 | 12,406 | 6,379 | 6,027 |
| Basic Upper | 5,795 | 1,422 | 4,373 | 2,628 | 645 | 1,983 |
| Standard Equipment | | | | | | |
| 110 ft. 4 Sect Boom inst. | 17,089 | 21,653 | -4,564 | 7,750 | 9,820 | -2,070 |
| Boom Hoist Cyl. w/Easy Ride inst. | 2,496 | 2,245 | 251 | 1,132 | 1,018 | 114 |
| 9000 lb. Counterweight inst. | 9,010 | -4,317 | 13,327 | 4,086 | -1,958 | 6,044 |
| Main Winch (P&H 1580) inst. | 1,094 | -340 | 1,434 | 496 | -154 | 650 |
| Auxiliary Winch Plumbing | 108 | -13 | 121 | 49 | -6 | 55 |
| Drum Turn Indicator - Main Winch | 18 | -4 | 22 | 8 | -2 | 10 |
| Main Winch Wire Rope .75" x 515 ' | 536 | -163 | 699 | 243 | -74 | 317 |
| Slab Counterweight or Aux. Winch | 1,094 | -540 | 1,634 | 496 | -245 | 741 |
| Cummins 6CT 8.3 Eng. w/ P-Shift Tr. | 3,570 | 3,021 | 549 | 1,619 | 1,370 | 249 |
| 26.5x25 E-3 Tires (Qty - 4) | 5,504 | 2,752 | 2,752 | 2,496 | 1,248 | 1,248 |
| Rear Axle inst. (std.) | 4,653 | 0 | 4,653 | 2,110 | 0 | 2,110 |
| 360° Position House Lock | 35 | 13 | 22 | 16 | 6 | 10 |
| Weight - Basic Machine | 78,357 | 39,794 | 38,563 | 35,535 | 18,047 | 17,488 |
| Adjustments for Options: | | | | | | |
| Attachment Options: | | | | | | |
| Auxiliary Sheave inst. | 152 | 428 | -276 | 69 | 194 | -125 |
| 35 to 60 ft. Lattice Extension inst. | 2,900 | 3,642 | -743 | 1,315 | 1,652 | -337 |
| 50 ton Hook Block (hooked on frt. frame) | 946 | 1,590 | -644 | 429 | 721 | -292 |
| 20 ton 1 Sheave Hook Block | 580 | 1,555 | -975 | 263 | 705 | -442 |
| 8.5 ton Ball Hook on Aux. Sheave | 265 | 761 | -496 | 120 | 345 | -225 |
| Offset Boom Extension Mat'l inst. | 201 | 531 | -330 | 91 | 241 | -150 |
| 35 ft. Lattice Extension inst. | 1,735 | 2,294 | -549 | 787 | 1,036 | -249 |
| Tire Options: | | | | | | |
| 29.5 x 25 E-3 Tires | 1,308 | 787 | 521 | 595 | 358 | 237 |
| Winch Options: | | | | | | |
| Aux. Winch Wire Rope .75" x 460' | 487 | -245 | 732 | 221 | -111 | 332 |
| Drum Turn Indicator-Aux. Winch | 15 | -9 | 24 | 7 | -4 | 11 |
| Spooling Roller - Main Winch | 53 | -20 | 73 | 24 | -9 | 33 |
| Spooling Roller - Aux. Winch | 53 | -31 | 84 | 24 | -14 | 38 |
| Cab Options: | | | | | | |
| Heater - Diesel | 53 | 4 | 49 | 24 | 2 | 22 |
| Heater LP | 55 | 4 | 51 | 25 | 2 | 23 |
| LP Tank Full | 49 | 3 | 46 | 22 | 1 | 21 |
| Floodlights | 22 | 24 | -2 | 10 | 11 | -1 |
| Roof Window Wiper | 4 | 2 | 2 | 2 | 1 | 1 |
| Rotary Roof Beacon | 7 | 2 | 5 | 3 | 1 | 2 |
| Miscellaneous Options: | | | | | | |
| Pintle Hook Front | 11 | 15 | -4 | 5 | 7 | -2 |
| Pintle Hook Rear | 11 | -7 | 18 | 5 | -3 | 8 |
| 50 ton Hook Block @ Boom Point | 0 | 946 | -946 | 0 | 429 | -429 |
| Air Dryer | 29 | 22 | 7 | 13 | 10 | 3 |

General Dimensions

Dimensions are with standard tire size 26.5 x 25.



| | |
|--|----------------------|
| Turning Circle (Centerline of tires - 4 wheel steer) | 38' 10.14" (11.84 m) |
| Carrier Clearance Circle (4 wheel steer) | 42' 5.84" (12.95 m) |
| Turning Circle (Centerline of tires - front steer) | 68' 6.44" (20.89 m) |
| Machine Clearance Circle (Over boom - 4 wheel steer) | 65' 3.86" (19.91 m) |
| Carrier Clearance Circle (front steer) | 74' 8.06" (22.76 m) |
| Machine Clearance Circle (Over boom - front steer) | 89' 3.65" (27.22 m) |