

P&H L-1350



Wheel Loader — Generation 2



Operating capacities, weights and dimensions

	Standard lift		High lift	
Bucket capacity**	22.94 m ³	30 yd ³	21.41 m ³	28 yd ³
Operating payload	40823 kg	90000 lb	38102 kg	84000 lb
Static tipping loads				
Straight	102058 kg	225000 lb	95254 kg	210000 lb
Full 45° turn	81647 kg	180000 lb	76204 kg	168000 lb
Breakout force	961 kN	216135 lb	987 kN	221907 lb
Operating weight	183705 kg	405000 lb	185973 kg	410000 lb

** Standard rock bucket based on a material density of 1780 kg/m³ (3000 lb/yd³)

Working ranges

Engine	1193 kW	1600 hp
Payload		
Standard	40823 kg	90000 lb
High lift	38102 kg	84000 lb
Bucket capacity sized to material density		
Truck match	181 - 236 tonne	200 - 260 ton

Power module

Diesel power options		
MTU detroit diesel engine	Tier one and tier two	
Model	12V Series 4000 12 cylinders	
Type	4-cycle turbocharged	
Rated power	1193 kW (1600 hp) @ 1800 rpm	
Cummins diesel engine	Tier one and tier two	
Model	QSK 50 16 cylinders	
Type	4-cycle turbocharged	
Rated power	1193 kW (1600 hp) @ 1800 rpm	

The independent power module mounting system, consisting of the engine coupled to the SR generator, is cradled within the rear frame by a three-point isolation system.

Radiator/oil cooler module		
• Replaceable tube type, side-by-side split flow		
• Thermostatically controlled, variable speed hydraulic motor-driven, radiator-mounted fan		
• Auxiliary oil cooler available for high ambient conditions		

Exhaust system		
Dual, low restriction mufflers with vertical, mid-hood discharge		

Control System-LINCS II

LINCS II		
Microprocessor based modular design Vehicle Control Unit (VCU) with monitoring and diagnostics including integrated data logging and storage.		
LINCS II uses a dash mounted full color, touch screen display as the operator interface. Out-of-range conditions will cause an audible alarm along with a message screen that is color coded to indicate severity.		
In addition, the touch-screen display provides repair technicians with operational data and fault messages.		

LINCS II load weigh		
Displays real-time load per pass, per truck and total loads		
• Memory capable of retaining months of production information		
• Capable of interfacing with radio dispatch systems for real-time monitoring		

Steering and hoisting system

Steering			
Steering function is controlled by a single joystick. Constant engine rpm assures full hydraulic steering response.			
Articulation angle	40°		
Turning radius			
Standard lift	13.39 m	43 ft	11 in
High lift	13.56 m	44 ft	6 in

Hoist and bucket control	
Hoist and bucket control functions are incorporated into a single joystick control. The proportional electro-hydraulic controlled hoist and bucket system is independent of the steering system.	
Standard/high lift cycle times:	
Hoist	15 Seconds
Dump	3 Seconds
Float	5 Seconds

Propulsion system

Joy SR Hybrid Drive switched reluctance (SR) technology propulsion system	
• Digital microprocessor controlled traction drive	
• Joy SR Hybrid Drive advantages include:	
• No commutator, brushes or rotor windings on SR motors or generator	
• Hybrid regenerative energy storage for improved fuel economy	
• Parts commonality - power conversion modules identical for motor and generator	

Travel speed	
Forward and reverse 0-19.31 km/h (0-12 mph)	

Generator	
• G100 SR generator	

Traction motors	
• B40A SR motor	
• SR all wheel drive (independent SR motor for each wheel)	

Planetary gearing	
Model 51A2	
• In-line gear train mounted within the rim of the tire, transmitting power from the traction motor through the tire/rim assembly.	
• A four-stage planetary drive unit in each position	
• Total reduction 140.8:1	

Hydraulic system

HPD drive box			
• Pressurized, cooled, and filtered lubrication			
• Ratio 1:1			

Pumps (maximum flow rate at 1800 rpm)			
Main	Piston (3)	1404 L/min	371 gpm
Steering	Piston	342 L/min	89 gpm
Fan/blower drive	Tandem piston	171/171 L/min	45/45 gpm
Accessory	Piston	81 L/min	21 gpm

Cooling system			
Circulating pump	Vane	409 L/min	108 gpm
Aux. cooling (optional)	Piston	81 L/min	21 gpm

Valves			
Main	Three (3)	700 L/min	185 gpm
	Pump pressure	27980 kPa	4000 psi
Steering	One (1)	341 L/min	90 gpm
	Pump pressure	23443 kPa	3400 psi

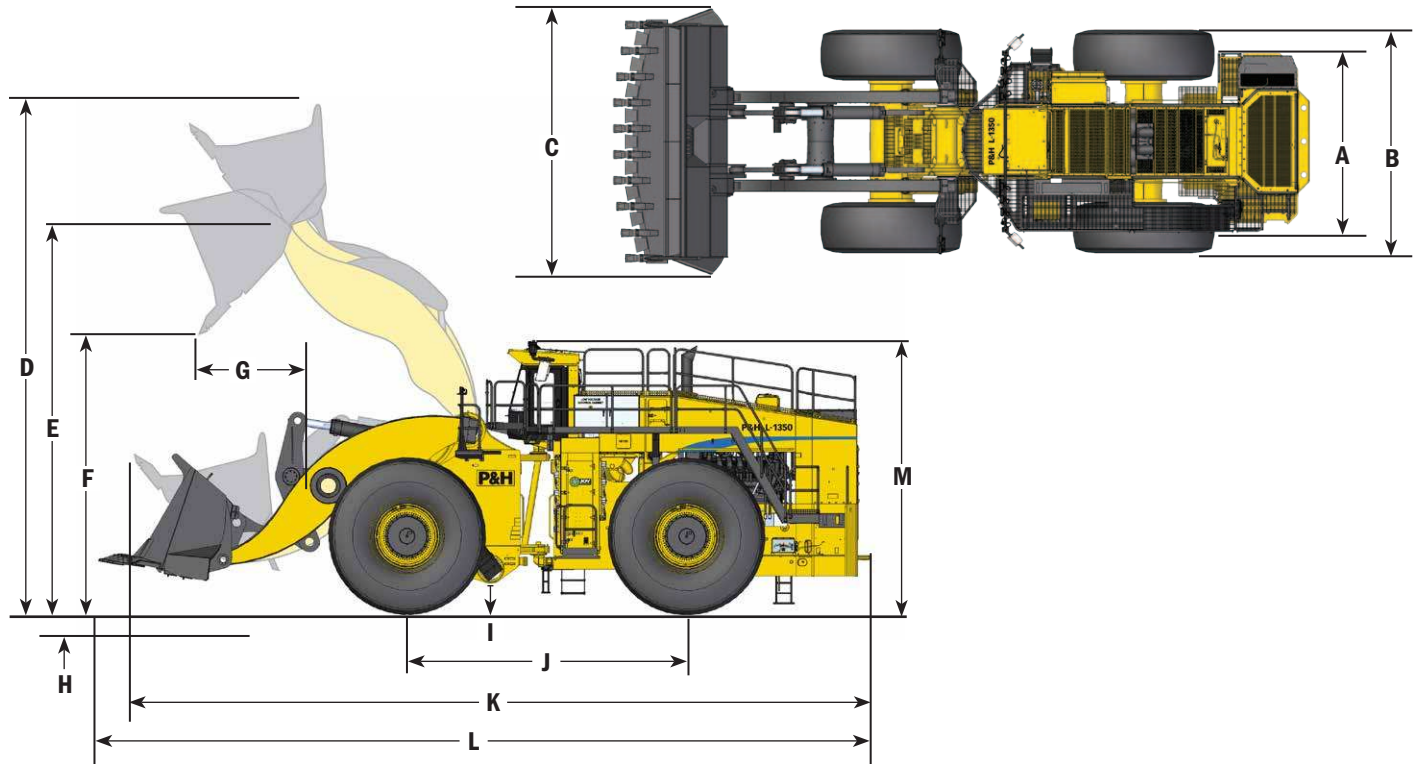
Cylinders			
Double-acting, single-stage (diameter and stroke), (standard and high lift)			
Hoist	343 mm x 1892 mm	13.5 in x 74.5 in	
Bucket	254 mm x 1054 mm	10 in x 41.5 in	
Steering	190 mm x 762 mm	7.5 in x 30 in	

Braking system

Primary brake system	
Electric dynamic braking system is controlled from the accelerator pedal and can bring the loader to a full stop without application of mechanical brakes.	

Secondary brake system	
Air modulated traction motor speed disc brakes	
• Single disc and caliper on each traction motor (4)	
• Emergency fail safe brakes are spring applied in the event of air pressure loss	

Parking brake system	
Spring applied, air release traction motor speed disc brakes	



Overall dimensions

		Standard lift			High lift		
A	Tread	4.45 m	14 ft	7 in	4.45 m	14 ft	7 in
B	Width outside tires	5.77 m	18 ft	11 in	5.77 m	18 ft	11 in
C1	Rock bucket without deflectors	6.40 m	21 ft	0 in	6.40 m	21 ft	0 in
C2	Rock bucket with deflectors	6.71 m	22 ft	0 in	6.71 m	22 ft	0 in
C3	Coal bucket	7.44 m	24 ft	5 in	7.44 m	24 ft	5 in
D	Height bucket fully raised	11.40 m	37 ft	5 in	11.73 m	38 ft	6 in
E	Hinge – pin height	8.71 m	28 ft	7 in	9.14 m	30 ft	0 in
F	Dump clearance	6.42 m	21 ft	1 in	7.06 m	23 ft	2 in
G	Reach at full lift	2.69 m	8 ft	10 in	2.79 m	9 ft	2 in
H	Digging depth	0.15 m	0 ft	6 in	0.25 m	0 ft	10 in
I	Ground clearance	0.62 m	2 ft	0 in	0.62 m	2 ft	0 in
J	Wheelbase	6.48 m	21 ft	3 in	6.48 m	21 ft	3 in
K	Overall length carry position	16.68 m	54 ft	9 in	17.27 m	56 ft	8 in
L	Overall length bucket down	17.06 m	56 ft	0 in	17.45 m	57 ft	3 in
M	Height over cab	6.05 m	19 ft	10 in	6.05 m	19 ft	10 in

* All dimensions are based on standard tires and standard rock bucket with GET unless otherwise noted.

Air filtration

Primary		
Self cleaning Klenz filtration system		
99.9% efficiency removing to 0.3 microns (nominal)		
• Extends maintenance intervals		
• Filtered air for engine, drive system cooling and pressurized cab		

Secondary		
Dual safety filters for engine		

Fluid capacities

Fuel	3501 L	925 gal
Hydraulic	1419 L	375 gal
SR converter cooling system	117 L	31 gal
Engine cooling system	382 L	101 gal
Crankcase (includes filters)		
Detroit	220 L	58 gal
Cummins	216 L	57 gal
Gearbox	27 L	7 gal
Planetaries (each)	136 L	36 gal

Structural

Frames are fabricated from high strength, low-alloy steel with excellent weld characteristics and extreme low temperature properties. The front axle is an integral, fixed part of the front frame. The rear axle center oscillates 11 degrees.

Unique forged ball and socket joints are utilized in multiple pivot locations (lift arms, rear axle, frame articulation, hoist cylinders). These joints are superior in absorbing and distributing multi-directional stresses. Features easily replaceable brass liners for long life and easy maintenance.

High strength castings are used in key areas of fabricated structures to reduce stress and improve structural life.

Tires/rims

Tires	50/80-57 L-4
Rims	36 x 57 with 6" flange

Standard features

Standard equipment

- Access ladder lights
- Air clean-out hose in cab
- Air conditioning / heater-defroster (filtered and pressurized)
- Air dryer system
- Air horn
- Air tank bleed system
- Adjustable automatic lift height cut off
- Automatic bucket leveling control
- Automatic electrical cabinet lights
- Automatic lubrication system
- Back-up alarm, audible
- Battery disconnect switch
- Brake lights
- Central air regulator box
- Data analysis and viewing software
- Data logging – downloadable production and maintenance logs
- Door interlock on electrical cabinet
- Drawbar with tow points
- Emergency stop buttons (cab and remote mounted)
- Engine compartment lights
- Fire extinguisher, manual, 9.07 kg (20 lb)
- FOPS – falling object protection system
- Idle timer
- Interior lights
- Isolation monitor
- Joystick hoist and bucket control
- Joystick steering control
- Jump start
- Ladder walkway (rear access w/retracting ladder)
- LED working lights (10 forward, 2 rear)
- LINC II alarms
- LINC II load weigh and monitoring
- Mirrors, rearview (parabolic)(2)
- Operator seat (11-way adjustable)
- Overspeed alarm
- Parking brake
- Retractable lap belt with shoulder harness
- Rock defectors (bucket)
- ROPS – rollover protection structure
- Selectable throttle switch
- Starter disconnect switch
- Sun visor
- Tinted safety glass throughout
- Turn signals
- Twelve (12) volt power supply in cab
- Twelve (12) volt power port (2)
- Walk around catwalk for cab
- Windshield washer reservoir (2.6 gal)
- Windshield wiper and washer (front and rear)

Optional features

- Auxiliary hydraulic oil cooler
- Auxiliary steering
- Beacon light kit
- Bucket GET options available
- Central service with fast fuel
- Cold weather package – including:
 - Battery heater
 - Engine heating system (oil and water)
 - Grease reservoir heater
 - Hydraulic tank heater
- Exhaust discharge guard
- Fast fuel
- Fire detection and suppression system (manual)
- Fire suppression system (manual)
- Fluid sampling kit
- Lift arms – high lift
- Tires/rims
 - Tires – 55/80R-57
 - Rims – 44 x 57 with 5" flange
- Training seat (with lap belt)
- Video camera (rear mount)
- Windshield protection kit

Buckets

Standard, ISO-rated capacity:
40823 kg / 90000 lb

High lift, ISO-rated capacity:
38102 kg / 84000 lb

Rock and coal bucket configurations available
Buckets sized to material density

Bucket hardware options

- Skid plates (replaceable)
- Lip wear protection
- Wear liner kits

For actual bucket configuration and sizing, consult your local representative.

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