

# R1600H LHD FEATURES AND BENEFITS WALKAROUND



COMPONENTS	#	FEATURES	BENEFITS
Engine	1	<b>Cat Technology</b>	The Cat® C11 ACERT™ ATAAC engine provides unequalled lugging force while digging, tramping and traversing steep grades.
		<b>Engine Options – Tier 3 and Vent Reduction (VR)</b>	Both engines are MSHA compliant and certified to Canmet. The VR Engine provides improved fuel economy, reduced particulate matter and ventilation requirements, improved machine performance and altitude capabilities.
		<b>Diesel Particulate Filter</b>	Developed for the VR Engine, this flow through filter is suitable for mine sites using 15ppm Sulphur content fuel, and further reduces particulate matter by ~ 51%.
Steering System	2	<b>Steering Response</b>	The steering hydraulic system is designed for excellent steering response. Dual double-acting cushioned cylinders provide smoother turns.
		<b>Steering Neutralizer Valves</b>	Cushions the machine when fully articulating. No hard stop of frame to frame contact.
		<b>Secondary Steering (opt.)</b>	Optional ground-driven secondary steering pump provides oil if the steering pump fails or the engine stops while the machine is moving.
Transmission	3	<b>Cat 4 Speed Planetary Power Shift Transmission</b>	Hydraulic modulation cushions the shift and reduces stress on components. Pump drive and output transfer use high contact gear ratios to reduce sound levels, and perimeter mounted, large diameter clutch packs control inertia for smooth shifting and increased component life.
		<b>Torque Converter Lockup Clutch</b>	Combines maximum rim pull with the efficiency and performance of direct drive when lockup clutch is engaged. Delivers more power to the wheels for superior power train efficiency.
	4	<b>Electronic Auto Shift Transmission</b>	The operator can choose between manual or auto shift modes. This enables refined control for gear lock out and material control while hauling on inclines.
Differentials, Final Drives, Brakes	5	<b>Transmission Neutralizer</b>	The operator can engage the service brakes and neutralize the transmission, maintaining high engine rpm for full hydraulic flow, enhancing digging and loading functions.
		<b>Oscillating rear axle (± 10°)</b>	Ensures four-wheel ground contact for maximum traction and stability at all times.
		<b>Heavy Duty Final drives</b>	Work as a system with the planetary power shift transmission to deliver maximum power to the ground. Built to withstand the forces of high torque and impact loads.
		<b>Service Brakes</b>	Four wheel hydraulically actuated independent circuits, fully enclosed, oil-immersed disc brakes provide improved performance and reliability.
		<b>Parking Brake</b>	Spring Applied Fluid Released (SAFR™). Applies automatically in the event of hydraulic or transmission oil pressure loss.
Tires	6	<b>Brake axle cooling (std)</b>	Separate axle housing oil coolers keeps brakes and axle components cool for increased component life.
		<b>18xR25 VSMS L5S Radial</b>	Smooth extra-deep tread and extra wear compound radial tyre, provides cut resistant protection and greater heat dissipation. Designed for operating over severe rocky surfaces with a maximum cycle distance up to 1200m

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Hydraulic System	7	Fast cycle times	High hydraulic flow rates provide fast hydraulic cylinder response and powerful lift forces. Large-bore lift and tilt cylinder delivers exceptional strength, performance and durability.
		Ride Control (opt)	Improves operator comfort, machine control, cycle times and ride quality.
	8	Pilot Controls	Low effort pilot operated joystick implement control with simultaneous lift and tilt functions and integrated steering, transmission, and implement functions for smoother, faster cycles with less operator fatigue.
Operator Station	9	Operator Comfort	Ergonomically designed for total machine control in a comfortable, productive, and safe environment. All controls, levers, switches, and gauges are positioned to maximize productivity and minimize operator fatigue. Resiliently mounted to the frame to isolate the operator from vibration for a more comfortable ride.
	10	Color Monitor Product Display (CMPD)	The CMPD & Cluster gauge modules are placed in front of the operator, which makes it a more comfortable environment to view during operation of the machine.
		Electronic Auto-shift Switch	Dash mounted switch allows the operator to choose automatic or manual shifting. In auto mode, the transmission shifts at factory preset shift points so that each shift occurs at optimum torque and ground speed for maximum machine performance.
	11	Dual Pedal Braking	Dual brake pedals function as a brake and a transmission neutralizer, allowing the operator to maintain high engine rpm for full hydraulic flow and fast cycle times.
	12	Suspension Seat	Provides optimal driving position and enhances operator comfort.
Structures	13	Frames	Backbone of the R1600H's durability: The design and manufacturing quality of Cat LHD frames have been proven by our customers, many of whom reuse frames during machine rebuilds to get 2nd and 3rd lives out of their LHD's.
	14	Hitch	Spread hitch design widens the distance between upper and lower hitch plates to distribute forces and increase bearing life. Thicker hitch plates reduce deflection and the wide opening provides easy service access. Upper and lower hitch pins pivot on roller bearings to distribute horizontal and vertical loads over a greater surface area.
	15	Sealed Colleted Pins	Fitted to all bucket and lift arm hinge points for longer pin and bushing life. Reduces maintenance costs and extends service intervals. Sealed joints retain lubrication and prevent contaminant entry.
	16	Z-bar Loader Linkage	Proven Z-bar loader linkage geometry generates powerful breakout force and an increased rack back angle for better bucket loading and material retention. Heavy duty steel lift arms with cast steel cross tube ensures extreme loads encountered during loading and tramming are efficiently dissipated for long service life.
Loader Bucket Systems	17	Buckets	Cat LHD buckets deliver unmatched productivity and structural reliability to help lower your cost-per-ton. Available in a range of sizes to suit most material types and densities. Options include dump or ejector buckets.
	18	Wear packages	Weld-on wear plates in high wear areas are standard. Optional wear packages include sacrificial wear strips and Cat heel shrouds to protect the edges from damage and reduce the need for costly bucket rebuilds.
	19	GET	Using the optional modular weld-on or Cat Bolt-on GET Cutting Edges provides protection to help extend the life of the bucket.
Safety	20	Safety PINS	Once installed, the on-board articulation and lift arm safety pins allow maintenance personnel to safely service the R1600H LHD.
	21	Machine Access	Hand rails and steps provide 3-point contact for access to the machine and cabin.
	22	Operator Present System	Detects the absence of operator input and applies the park brake, neutralizes the steering, implements and transmission and shuts down the engine. ROPS / FOPS certified.
	23	Ground Level Shutdown	The engine shutdown switch and the fire system activation valve are accessed from ground level.
Serviceability	23	Ground Level Access	Ground level access to all tanks, filters, lubrication points and compartment drains simplifies servicing and reduces time spent on regular maintenance procedures.
		Scheduled Oil Sampling	Sample point adaptors are fitted standard to the machine.
	24	Diagnostics	CMPD multi-screen display along with Caterpillar Electronic Technician Service Tool enables quick electronic diagnosis of machine performance and key diagnostic data for effective maintenance and repairs.
Technology	24	VIMS Gen 3	VIMS Gen3 provides vital machine health information. It combines Health Information Monitoring and VIMS capability in one ECM while also providing Wireless, GPS and 3G network connectivity capabilities.
		Command for underground	Tele-remote, Co-Pilot and Auto-Pilot systems are available on the R1600H LHD. Contact your local Caterpillar Technology Representative for further information