

Cat's 994H Handles Heavy-duty Loading and Blending



Cat's largest wheel loader—the 994H—applies 1,463 net hp (1,092 kW) of power and an operating weight of 431,000 lb (195,500 kg) to the task of loading large mining trucks up to the rated capacity of Cat's 240-ton 793D.

Lift configurations for the 994H include standard, high lift, extended high lift and super high lift, providing dump clearances at maximum lift that range from 19.2 ft (5.6 m) to 23.3 ft (7.1 m). Bucket choices include heavy-duty rock, high-abrasion rock and coal—available in narrow and wide widths to suit the application—and ranging in capacity from 19.5 to 47 yd³ (15 to 36 m³).

The 994H is equipped with solid-steel lift arms that work through a Z-bar linkage that features a greased pin design and an automatic lubrication system. The 994H rear frame is a full-box-section fabrication designed to resist torsional shock and twisting forces, and the machine's cast axle-pivot mounting areas disperse stress loads for added overall durability, according to Cat.

The loader's Cat 3516B HD engine works through a planetary powershift transmission specifically designed for mining applications. An integral Impeller Clutch Torque Converter and Rimpull Control System allow the operator to adjust power at the wheels to specific loading conditions by modulating rimpull from 100% to 25%, reducing potential for tire slippage without diminishing hydraulic capacity.

The 994H's Positive Flow Control (PFC) implement hydraulic system uses four electronically controlled, variable-displacement pumps, delivering up to 386 gpm (1,460 l/min) at a main relief pressure of 4,750 psi (32,800 kPa). The PFC system also integrates concurrent valve control, providing proportional command of loading functions with electro-hydraulic loader controls, electronically controlled cylinder stops and automatic kickouts set from the cab.

The Steering and Transmission Integrated Control System combines control of travel direction, steering and gear selection in a single controller, and the spacious, pressurized cab features automatic climate control and a quiet, 71 dB(A) sound rating. The 994H also features a powered access ladder and reduced stair angles for easy access and egress from the operator station. For enhanced operator awareness of the area around the loader, the Cat Detect Vision rear vision camera system is standard, and Cat Detect Object Detection is available. Object Detection includes radars that detect objects around the machine and notify the operator of these potential hazards.

Integral with the 994H Vital Information Management System (VIMS), which allows real-time assessment of machine performance, is a Payload Control System that enables on-the-go weighing, payload record-keeping and analysis of parameters such as utilization, cycle time and fuel usage.

www.cat.com

New DTH Hammer Designed for Deep Holes

Rockmore International's 5-in.-range ROK 500DH DTH hammer, the newest entry in its Deep Hole series, is intended to drill 5.5 to 6-in. (140 to 152-mm) diameter holes and designed to increase drilling effectiveness and efficiency in deep hole applications that may exceed 1,000 ft (300 m) in depth and include high volumes of water. The hammer has been designed to handle such challenges by incorporating new air-flow and component design advancements, primarily in the air ports of the wear sleeve and piston. The ROK 500DH is rated for use with large compressors (24.1 bar / 350 psi at 25.2 m³/min / 890 scfm); however, it can accept greater air volumes and pressures from larger air compressor packages. The upper and lower hammer air chambers of the 500DH have been modified to achieve optimum drilling efficiency. The advanced piston design also offers maximum blow energy with each stroke to the bit, allowing for superior hammer and bit penetration rates in all drilling conditions.

A new bit shank was developed in conjunction with the hammer's new bit-retention system, eliminating the need for bit retaining rings present in conventional hammer designs. The bit is retained in the driver sub by lobes located on the bit shoulder. If the bit breaks from the shank body during drilling operations, the bit head can be retracted from the hole, retained by the lobes on the bit and driver sub, thus eliminating downtime. Because foot-valve breakages on DTH bit shanks during drilling operations are catastrophic in deep hole drilling—the hammer will cease to function immediately after such a failure—the traditional foot valve, or blow



tube component, also has been eliminated in the DH500 shank concept.

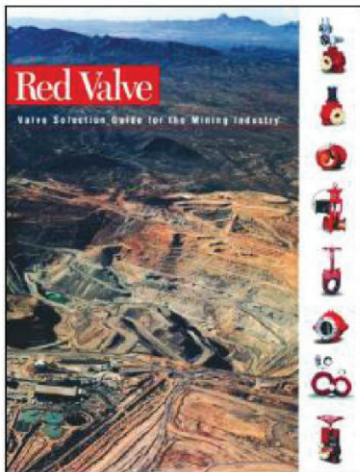
An innovative design reduces the number of hammer components, thus reducing the amount of component wear points, making hammer service simpler and less expensive. Lead threads on the top sub and driver sub ensure easy coupling and uncoupling of the hammer.

www.rockmore-intl.com

Mining Valve Selection Guide

Red Valve designed its first pinch valve for the mining industry in 1953, and in the following decades, has built on that heritage by producing various types of valves to handle many of the tough applications in the mining industry. The company's recently released, full-color Valve Selection Guide for the Mining Industry highlights Red Valve's extensive product offering, including control pinch valves, slurry knife gate valves and Tideflex air diffusers. The brochure includes application photos of installations ranging from South American copper mines to Midwestern U.S. taconite mines.

www.redvalve.com



Miner Cap Lamp Works with Tracking Tags

NLT recently introduced its second-generation all-in-one mining cap lamp, the Genesis. The lamp's design includes the ability to integrate tracking tags while keeping the battery and light source in a single enclosure. Mine operators can choose from a number of standard RFID or Wi-Fi tags, powered by the cap lamp's high-capacity battery. Using the same contemporary design as NLT's Polaris lamp (shown here), the Genesis provides a light pattern that's consistent with all NLT lamps, providing a focused spot. The Genesis is currently being field-tested and will be available in

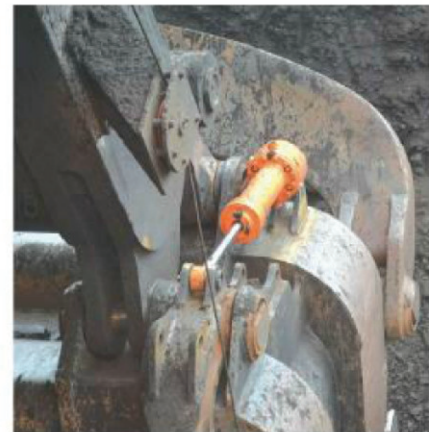


October 2012, and an intrinsically safe version approved for use in coal mines is also in the product pipeline.

www.nltinc.com

Snubber Reduces Stress on Shovel Dipper Parts

L&H Industrial, located in Wyoming, USA, has designed a hydraulic snubber that the company claims improves mining shovel dipper performance by enabling smooth opening and closing of the dipper door. This system, according to the vendor, has been proven to reduce maintenance costs for the dipper, dipper door and even for haul trucks. Tests have shown cracking to be drastically reduced in the dipper and dipper door because the door is hydraulically closed rather than slammed by weight



and gravity. Less damage to haul trucks is incurred because the door does not slam against the side of the bed when opening. Due to the smooth closing action, the dipper latch bar and dutchman insert also benefit by providing longer service life.

www.lnh.com

Software Builds Geological Shapes from Drillhole Data

MineSight Implicit Modeling (MSIM), soon to enter the market, will "revolutionize" the generation of geological surfaces and solids in a general mine planning system, according to software developer Mintec, which

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