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## **New Cat® R1700 Underground Loader Sets Productive Pace**

Caterpillar recently launched the Cat® R1700 Underground Mining Loader, a completely new design that has proven its high productivity and efficiency in extended field trials and in production studies.

The R1700 carries a size-class-leading payload of 15 tonnes (16.5 tons), 20 percent more than its predecessor carries, yet it maintains the dimensions of the R1700G. A recent head-to-head study and multiple field trials show that the machine leverages its payload advantage to deliver much faster truck loading and more productive load-and-carry operations while using significantly less fuel per hour.

The R1700 gains cycle time advantages through fast bucket loading due to high breakout forces and a new traction control system that limits tire slip when the bucket enters the pile. The result is fast loading, good bucket fill factors and reduced tire wear. Excellent machine balance and a new electrohydraulic braking system aid load-and-carry cycles.

Fuel efficiency gets a boost in the new R1700 from on-demand adjustment of the cooling fan and the hydraulic system, as well as the efficiency of the Cat C13 engine. The 6-cylinder engine is turbocharged and air-to-air aftercooled, and it produces 269 kW (361 hp) in standard configuration and 257 kW (345 hp) in EU Stage V compliant form.

The engine is available in three different emissions configurations—Cat Ventilation Reduction, U.S. EPA Tier 3/EU Stage IIIA, and EU Stage V—to allow tailoring the R1700 to the ventilation needs of the mine. Aftertreatment for the Stage V engine configuration is chassis mounted for convenience and includes a Diesel Emission Fluid (DEF) tank sized to match the 12-hour capacity of the fuel tank.

To boost productivity even further, the R1700 is designed to make best use of technology. Optional Autodig helps new operators be productive the first day and reduces fatigue for experienced operators. MineStar™ Command for underground offers a selection of control technologies—line-of-sight remote control, teleremote control from a distant operator station, semi-autonomous operation, and fully autonomous operation.

### **New systems aid operators and technicians**

The R1700 also brings new levels of operator comfort and control to underground operations.

Operators will appreciate the responsiveness of the machine. During the load or dump cycle, the harder the operator pushes the controls, the faster the machine responds. The steering system is pilot controlled to provide more precise feel for the operator during maneuvers in tight places.

Ride control is now fully integrated into the hydraulic system and engages automatically as the machine goes above 5 km/h (3 mph). Electronically snubbing the lift cylinders protects them and provides greater operator comfort.

The R1700 has auto retarding that is hydraulically actuated. The system comes on automatically when the operator's foot is lifted from the throttle. Cycle times improve as operators gain confidence and become more comfortable on downhill grades at faster speeds.

For easier maintenance, the R1700 features several components that have modular designs so they can be removed and replaced easily. In addition to modular components, all filters and key service points have been grouped into a centralized section on the cold side of the engine. The radiator guard swings open for ground-level access to the radiator and oil coolers. The batteries are easily accessed just under the centralized service location.

For the entire underground loader line, Caterpillar now offers Bolt On Half Arrow ground engaging tools (GET) for bucket edges. The system is designed for high abrasion applications

where weld-on GET experience high wear rates. With a proven and reliable retention system, the bolt-on GET offer more wear material than standard weld-on GET, and the bolt-on design enables fast and easy removal and replacement. Despite additional wear material, the low-profile front edge eases pile penetration and promotes fast bucket loading.

For more information about Cat underground equipment, contact the regional Cat dealer or go to: [www.cat.com/underground](http://www.cat.com/underground)

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