

SmartBolts®

Know at a glance that critical joints are fastened securely.

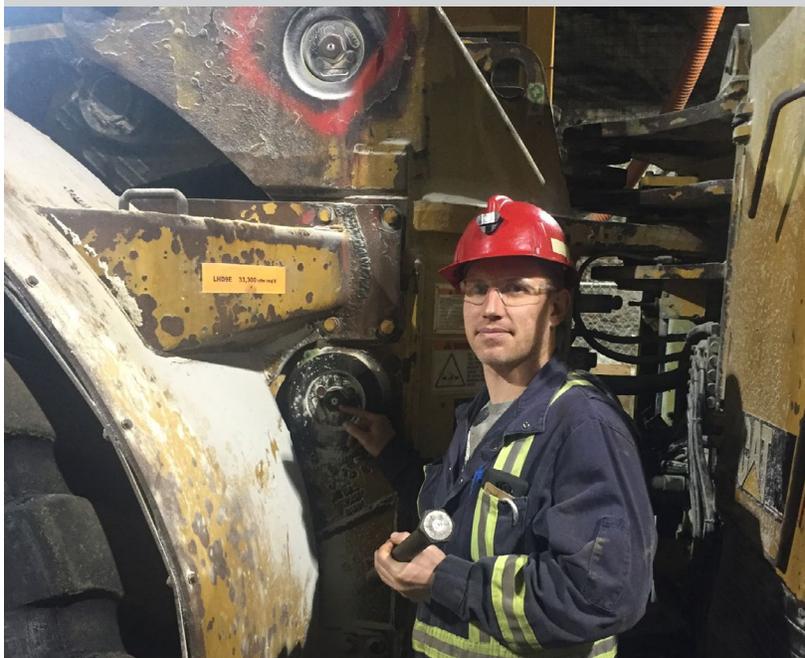
Incredibly advanced. Surprisingly simple.

SmartBolts directly correlate fastener tension with color. The DTI model ensures fastener tension is accurately and reliably represented because the color change is proportional to bolt stretch.

World's Largest Mining Operations use SmartBolts®

Loose bolts are often a direct cause of downtime at mining operations, so we created a bolt that uses color to identify whether or not it is properly tensioned. SmartBolts® signal bolting problems before they occur and will reduce your planned and unplanned downtime expenses.

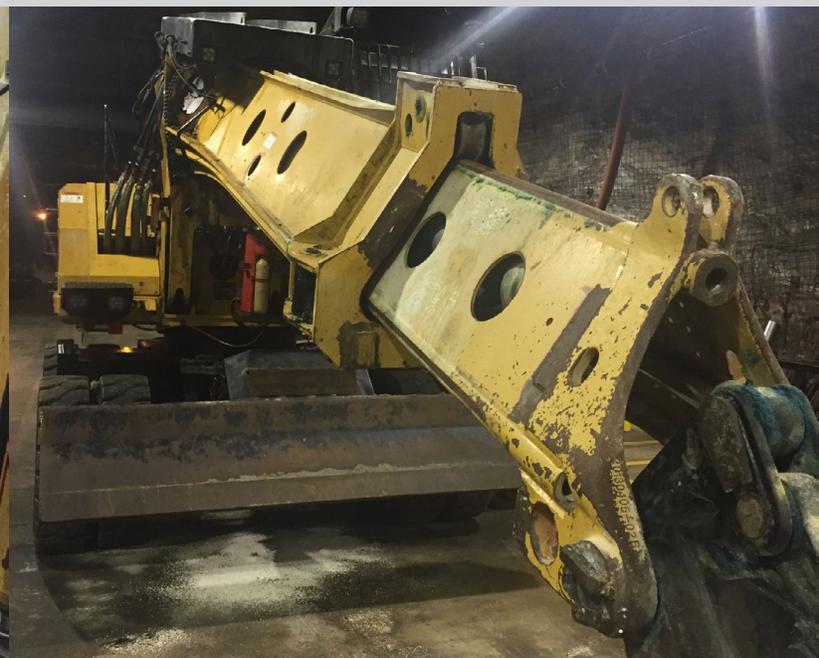
Company	Country	Location	Application	Bolt Diameter
Goldcorp	Mexico	Penasquito Mine	Apron Feeder Conveyor Sprockets (Cat® D12)	M30
Freeport McMoran	United States	Morenci Mine	Agglomeration Drum Trunnion Bearing	1-1/4"
Barrick Gold	Chile	Zaldivar Mine	Mobile Stacking Conveyors	1-1/2"
Mosaic	United States	South Fort Meade Mine	Centrifugal Slurry Pumps	1-1/2"
Suncor	Canada	Fort McMurray	Hydraulic Split Flanges (Cat® 797)	M20
P&C Mining	South Africa	Gauteng	Escape Chute Systems for Mining Trucks	M12



Improve Safety and Uptime

Mechanic at Ojibway Mine shows 1-1/4" diameter SmartBolts installed in the Cat® R2900 Undergroud Mining Loader.

Windsor Salt, Ltd. decided to upgrade the critical bolts on their heavy equipment so workers can spot loose bolts at a glance. The retrofiting has saved the company significant hours and downtime, as well as helped to keep workers safe.



Reduce Maintenance Costs

Prior to using SmartBolts, checking the torque of all 50 bolts under the massive Gradall XL 5320 was the "job nobody wanted to do." Three men were required to complete the arduous task every 250 hours - whether the bolts needed to be tightened or not!

Now with SmartBolts installed, mechanics use the visual indication system to identify any bolts that have loosened. They use an ordinary wrench to re-tighten those bolts until the indicator turns the proper color, and they can be certain that the bolts have the correct tension.