



Every™ Ton.

High-Performance Engines For Mining Equipment.



Cummins Mining Power.

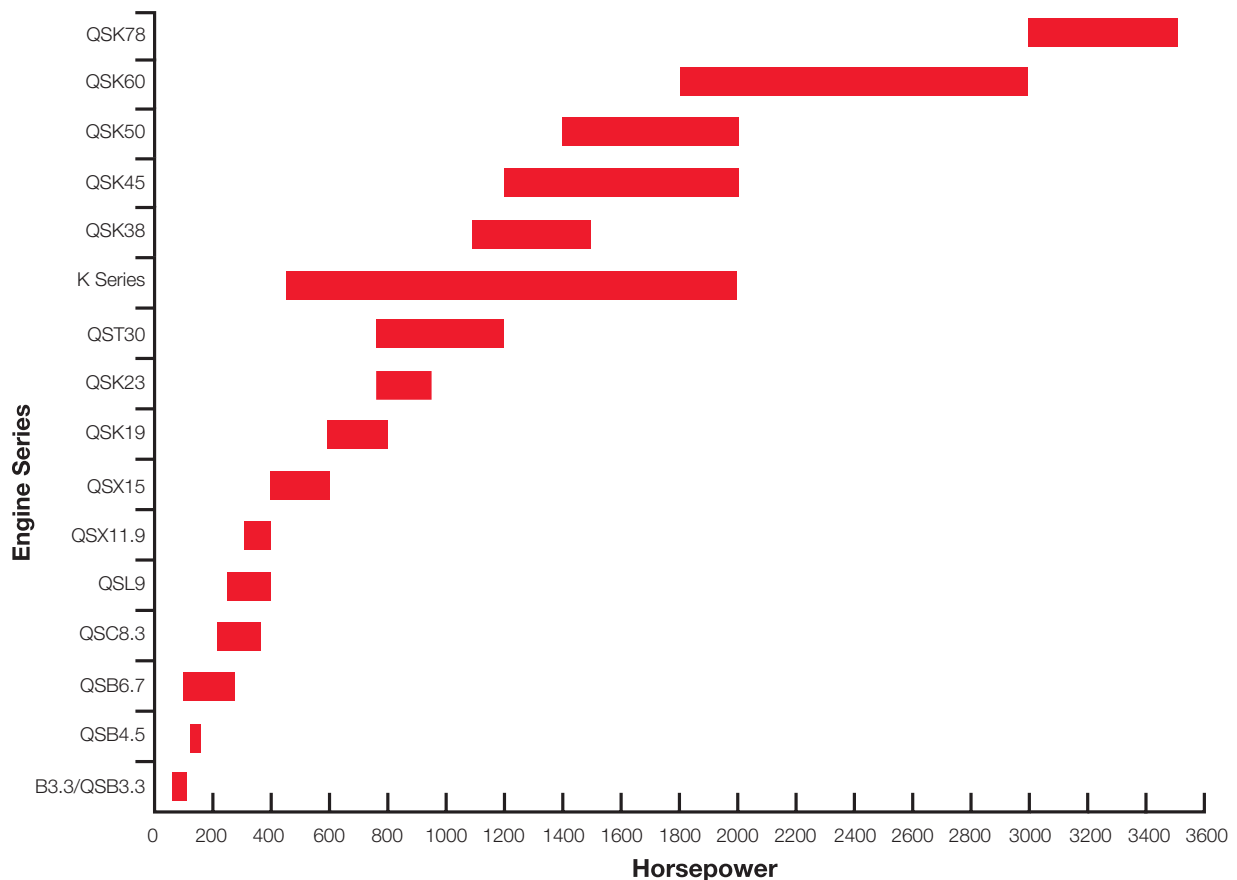
The Right Choice For Mining Equipment.

Whether you are mining coal or copper, silver or gold, you've got to have equipment that you can depend on – every minute of every day. That's why Cummins power is the choice for mines across the globe. Cummins engines are found in every kind of mining application, from blasthole drills and front-end loaders to 360-ton haul trucks and 1,000-ton excavators.

Cummins delivers the toughest and most dependable diesel power in the world. Our mining engine platforms deliver engine power ranging from 85 hp (63 kW) to 3500 hp (2610 kW). We leverage our broad offering of both mechanically and electronically controlled engines to meet the most rigorous emissions regulations and the highest availability standards worldwide. We meet the needs of all mining customers, no matter how broad the scope of their mining business.



Cummins – Off-Highway Engines



The Right Choice For Mining Support.

One of the greatest benefits of owning Cummins-powered equipment is our global service network, with over 600 locations in 190 countries and territories. Our distributors are committed to providing world-class support, and their teams of dedicated mining technicians are trained on and equipped with the latest diagnostic tools. Cummins has made great technology advancements that maximize equipment availability while delivering the lowest possible operating costs.

Cummins support network has decades of experience in delivering superior support and value to our customers. Our Four Pillars model for mining customer support means you can rely on Cummins. Every ton.



The Right Choice For Clean Power.

Our mission is to promote the use of advanced technology to reduce harmful emissions while maintaining or enhancing the productivity of your mining engines. Cummins has long been a pioneer in emissions research and development in order to meet future emissions standards while also meeting the needs of the customer. We take advantage of all our in-house expertise and our integrated technologies to design solutions tailor-fit for the rugged mining market. By continually investing in research and design, Cummins provides its customers with the most advanced, cleanest-operating and most cost-effective diesel engines available. Cummins delivers the cleanest power. Every time.

The Right Choice For Mining Success.

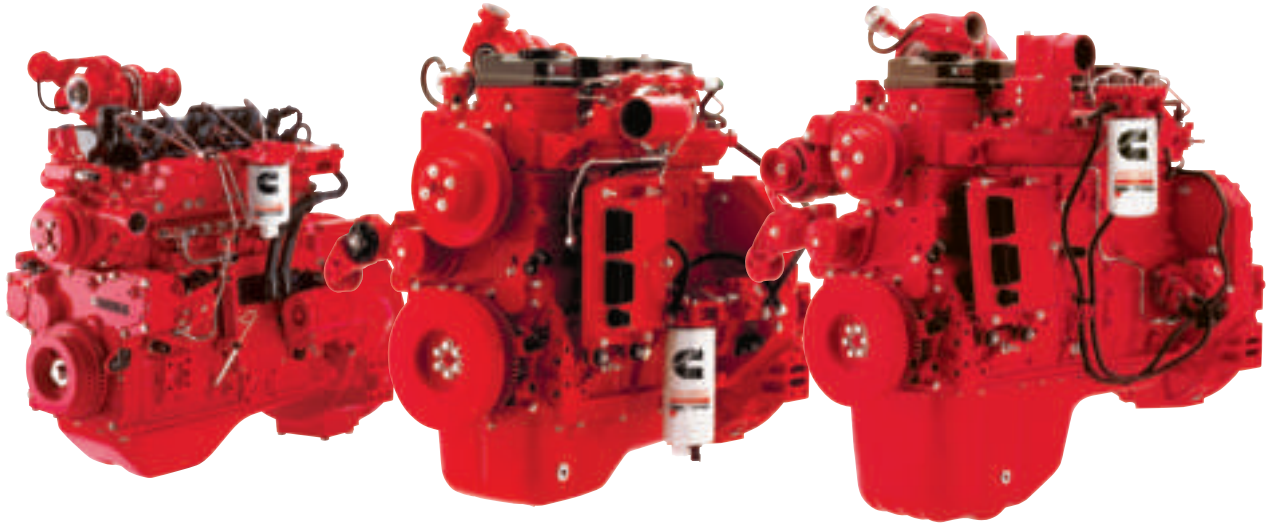
Whether just breaking ground at a new mine site or managing the peak of production, mining companies need equipment powered by engines that ensure mine site productivity and equipment availability. Cummins has developed Four Pillars – a mining customer support model that leverages decades of service excellence to deliver peace of mind to mine operators.

Choosing Cummins power not only gives you the best engine for the job but also guarantees the right support model to ensure engine uptime. Cummins and Cummins distributors' Four Pillars of support rely on:

- Establishing a strong relationship between top-level management at both the mine site and Cummins
- Utilizing a dedicated mining business leader to align Cummins capabilities with mine needs
- Building in-house technical capabilities that deliver customized, mine-specific solutions
- Delivering superior service no matter the hour, the weather or the location

From the delivery of the smallest replacement part to the extensive analysis of your critical excavator fleet, you can trust Cummins to deliver the support you need. Every mine.

Cummins Power.



QSB3.3

Power		Torque	
hp	kW	lb-ft	N•m
85-120	63-90	277-306	376-415

The QSB3.3 has established itself as one of Cummins most reliable engines. Its high power rating makes it one of the most powerful engines in its class.

QSB6.7

Power		Torque	
hp	kW	lb-ft	N•m
146-300	109-224	485-760	658-1030

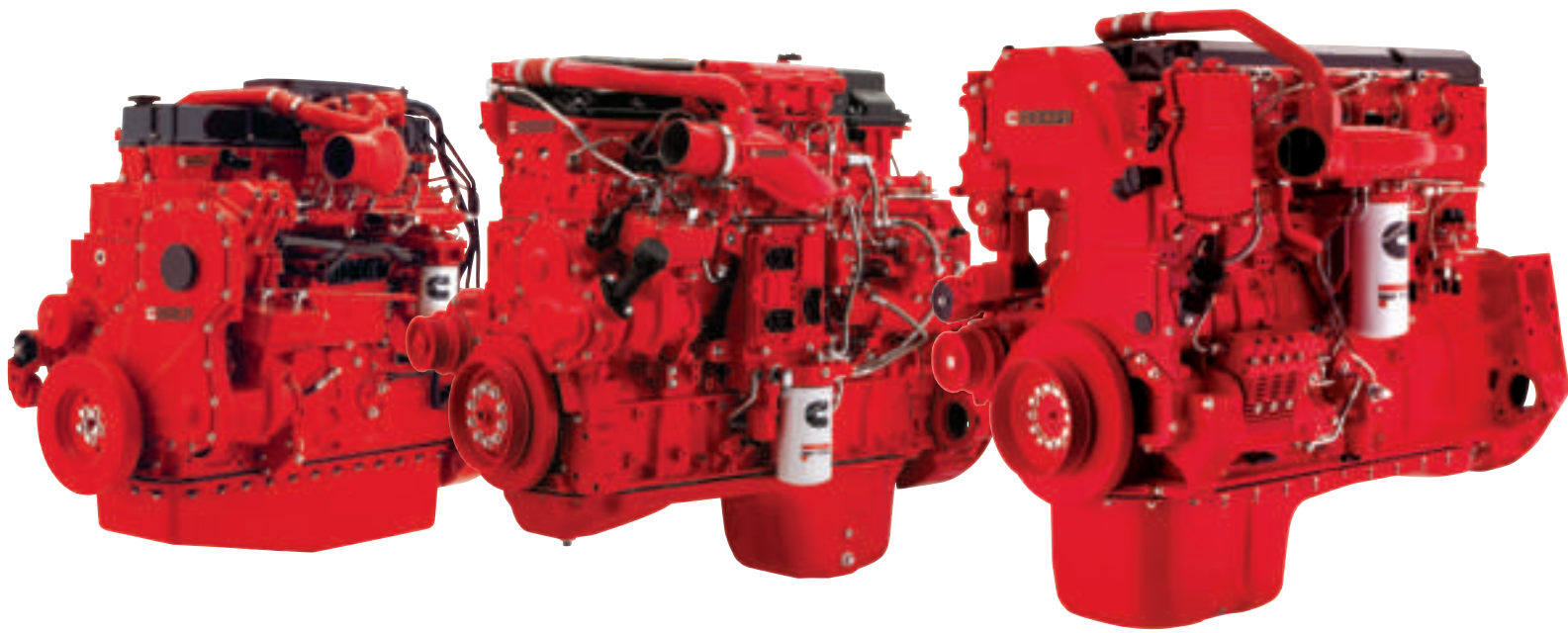
Sometimes you just need the extra power and durability of a six-cylinder diesel. The QSB6.7 has a proven design, and it has been delivering exceptional performance and reliability for years.

QSB4.5

Power		Torque	
hp	kW	lb-ft	N•m
110-163	82-122	360-466	488-632

With power output ranging from 110 hp to 163 hp (82-122 kW), the four-cylinder QSB4.5 delivers performance comparable to some six-cylinder engines without excess bulk and weight.





QSL9

Power		Torque	
hp	kW	lb-ft	N•m
230-380	172-283	675-1200	915-1627

Built on a heritage of reliability and durability, the QSL9 incorporates a heavy-duty fuel system and an innovative air-handling system designed to provide cleaner combustion and improved performance.

QSX11.9

Power		Torque	
hp	kW	lb-ft	N•m
290-500	216-373	1090-1600	1478-2169

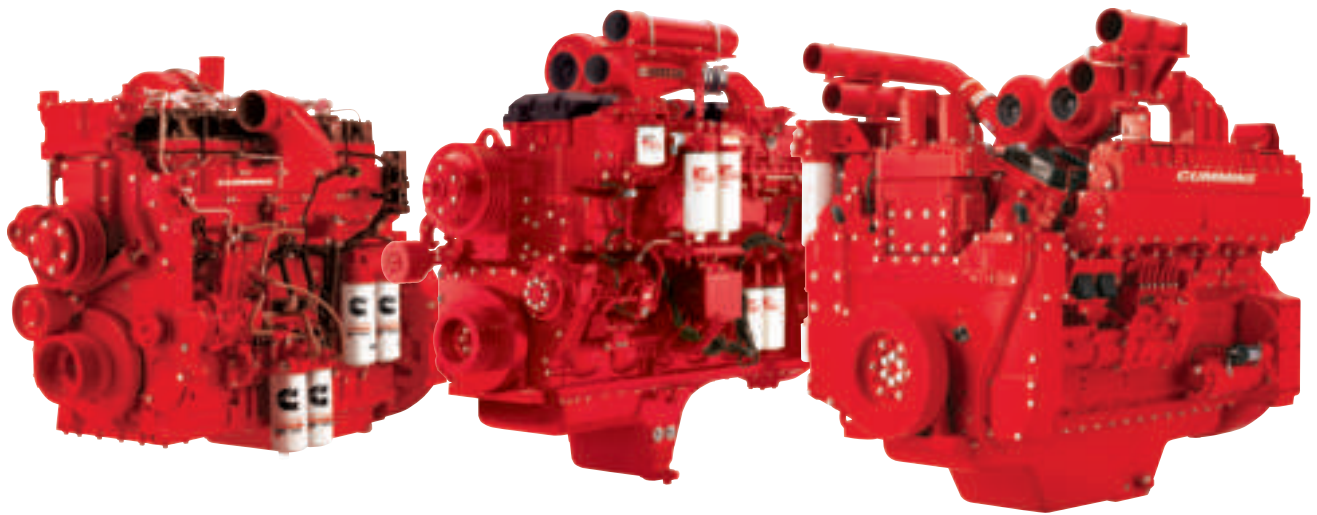
The compact QSX11.9 has one of the highest power-to-weight ratios in its class. With its impressive torque rise (up to 50%), this engine is able to take advantage of its high peak torque.

QSX15

Power		Torque	
hp	kW	lb-ft	N•m
400-600	298-447	1500-2050	2034-2779

The QSX15 uses proven heavy-duty technology and design to enhance engine reliability and provide superior performance in rugged surface and underground mining applications.





QSK19

Power		Torque	
hp	kW	lb-ft	N•m
450-800	336-597	1350-2300	1830-3118

The QSK19 delivers the lowest life cycle cost with the longest life-to-overhaul of any engine in its class. The durability of this engine is well proven, with it operating thousands of pieces of mining equipment around the world.

QSK23

Power		Torque	
hp	kW	lb-ft	N•m
760-950	567-708	2424-2919	3287-3958

Available in an easy-to-integrate package, the QSK23 sets the benchmark for engine life. High-pressure fuel injection and sophisticated air-handling systems give the QSK23 excellent responsiveness with low fuel consumption.

QST30

Power		Torque	
hp	kW	lb-ft	N•m
760-1200	567-895	2471-3751	3550-5086

The QST30 is built to withstand the worst working conditions on earth. Sophisticated electronic controls and flexible calibrations allow this engine to be fully customized to fit the equipment, work environments and job demands.





K Series

Power		Torque	
hp	kW	lb-ft	N•m
450-2000	336-1491	1125-5800	1526-7864

Over the past 40 years, Cummins K Series engines have achieved legendary status for reliability and durability in the toughest mining applications. Today there are Cummins K Series engines in every type of mining equipment, from electric-drive and mechanical haul trucks and loaders to excavators and shovels. The K Series includes the K19, K38, K50, K1500E and K2000E – engines known for minimizing operating and maintenance costs and maximizing mining productivity.

K19

Power		Torque	
hp	kW	lb-ft	N•m
450-700	336-522	1125-2014	1526-2731

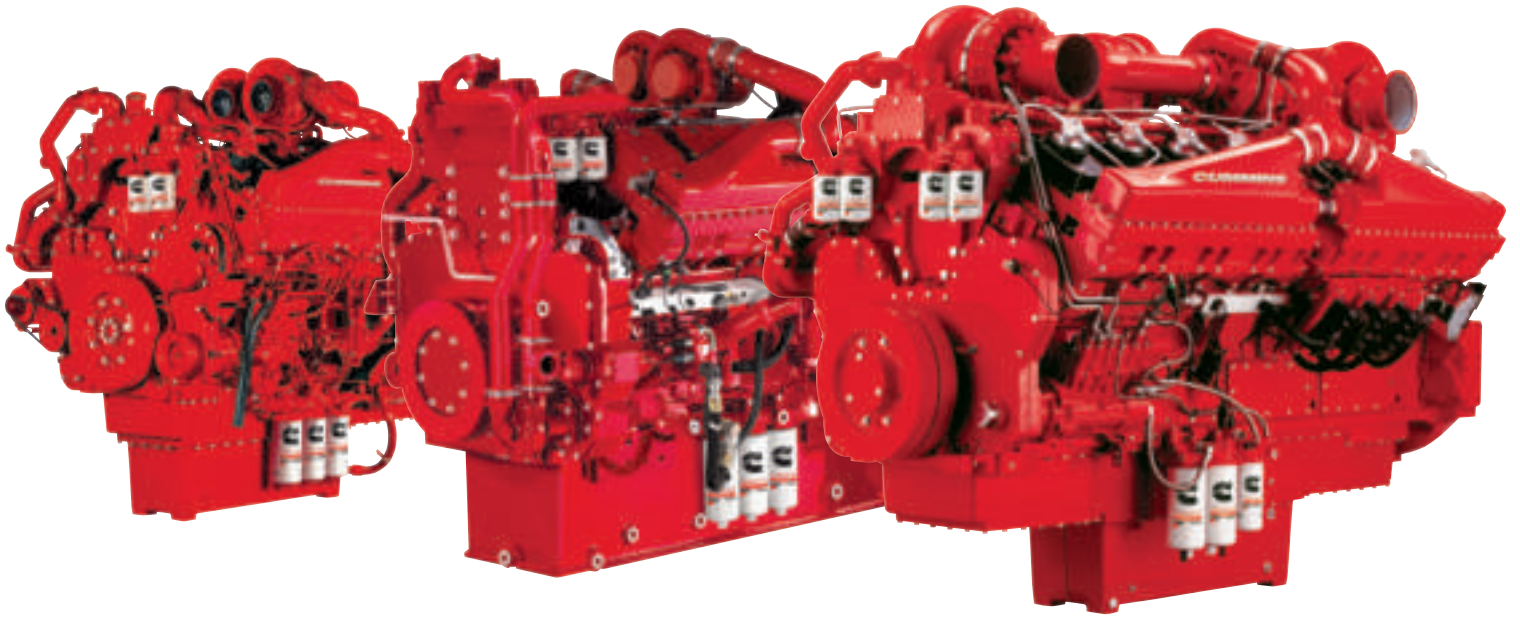
K38/K1500E

Power		Torque	
hp	kW	lb-ft	N•m
925-1450	690-1081	3020-4127	4095-5595

K50/K2000E

Power		Torque	
hp	kW	lb-ft	N•m
1600-2000	1193-1491	4400-5800	5966-7864





QSK38

Power		Torque	
hp	kW	lb-ft	N•m
1086-1260	810-940	3591-4054	4869-5496

Developed from the robust K1500E, the QSK38 uses a Modular Common Rail System (MCRS) to deliver broad application flexibility and precise engine control. This engine is designed to survive the toughest mining applications, such as the 160-ton excavators and large wheel loaders.

QSK45

Power		Torque	
hp	kW	lb-ft	N•m
1200-2000	895-1491	4424-5805	5999-7871

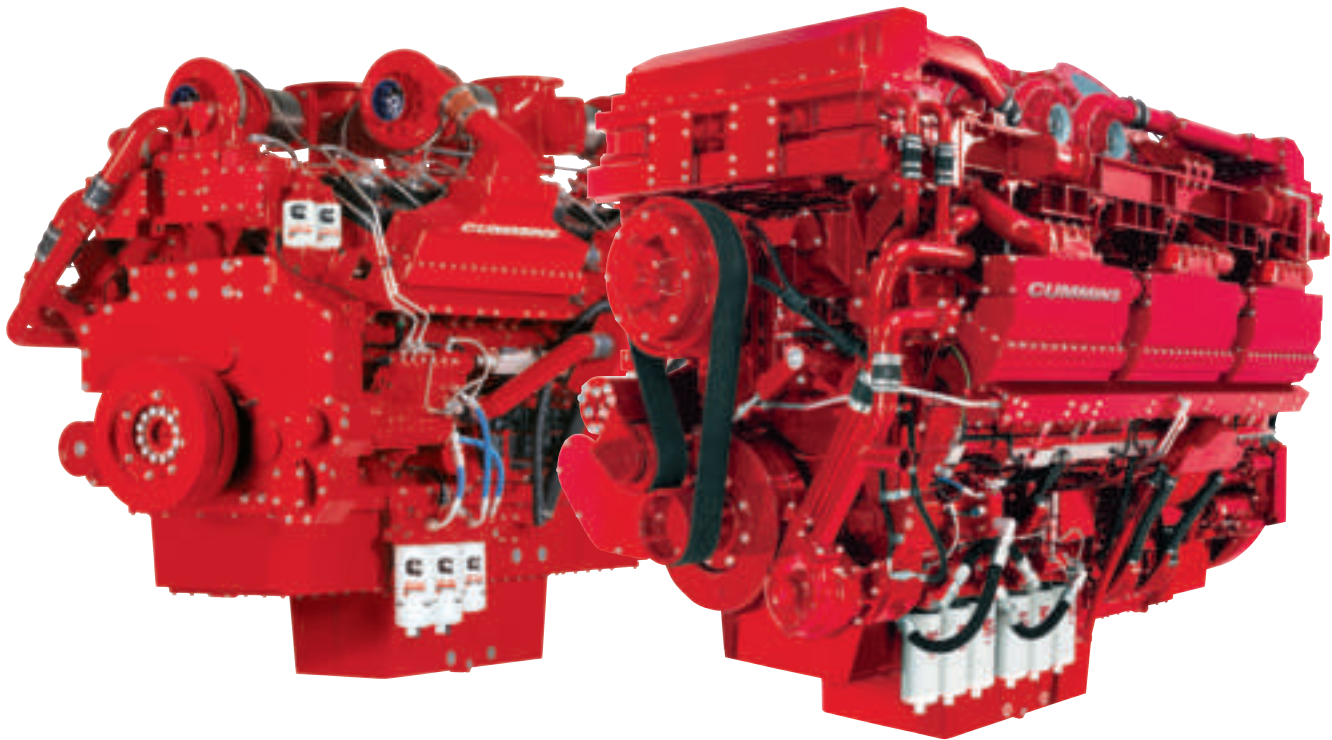
The QSK45 combines sophisticated electronic controls and CENSE™ engine monitoring with the durability of the K Series. Choosing the QSK45 for your equipment ensures that you have the power and uptime required in the most demanding mines.

QSK50

Power		Torque	
hp	kW	lb-ft	N•m
1400-2000	1044-1491	4705-5805	6379-7871

For high-power mining applications, the QSK50 delivers exceptional performance at every rpm. Designed after the legendary robustness of the K2000E, the QSK50 offers improved power density and lower engine vibration, making it an engine of choice for repower and new equipment.





QSK60

Power		Torque	
hp	kW	lb-ft	N•m
1782-2850	1329-2125	6169-8272	8364-11215

The QSK60 is the engine of choice in ultra-class mining equipment wherein continuous uptime in the most severe environments is demanded. The QSK60 leverages its robust engine design, sophisticated controls and extended maintenance features to keep fuel economy up and operating costs down in every type of heavy-duty mining application.

QSK78

Power		Torque	
hp	kW	lb-ft	N•m
3300-3500	2461-2610	10157	13771

Equipped with standard features such as CENTINEL™, ELIMINATOR™ and Prelub, the QSK78 delivers the lowest cost per ton in its class. The engine's innovative air-handling system allows it to work at any altitude without any changes in performance. The QSK78 has been designed to meet the requirements of the most demanding mines while delivering Cummins renowned levels of durability and reliability.



Cummins Engine Availability.



Haul Truck.

A miner's focus and attention are on creating a balance between maximizing productivity and minimizing costs. Truck weight, power density, durability and fuel efficiency are critical components that are constantly monitored. Cummins engines are consistently found in truck fleets in which performance and productivity are maximized. With best-in-class uptime and reliability, Cummins engines power haul trucks operating in the harshest mining environments and the deepest pits in the world.



Excavator.

Every pass of a bucket full of coal, iron ore or copper ore requires an excavator that can endure the high duty cycle that loading has on the equipment and its engine. Cummins proven performance in engine durability for high-load-factor applications makes it the power of choice for hydraulic mining excavators. Whether in single or dual installations, Cummins economical QSK19 through the robust QSK60 are ideal engines for powering loading applications. Every hour of the day, a mine can depend on the reliability of its Cummins engine to power its excavators and ensure the highest productivity.



Wheel Loader.

The perfect combination of the mobility found in a haul truck and the loading capacity found in an excavator, wheel loaders are a staple at any mine. These pieces of equipment demand large and reliable engines to endure the harsh duty cycles required. From rocks to ore, coal to copper, these large earth movers need reliable power delivered by engines with excellent total-cost-of-ownership advantages. Cummins mining engines provide superior fuel economy, offer industry-leading mean time-to-overhaul and are supported by a global distributor network ready to support any mine, no matter how remote.

Drills.

The dirty work required before employing trucks and excavators at a mine is accomplished by drilling rigs. These units benefit from the mobile power supplied by diesel engines. The high power output from their engines drives the critical compressor and pump components needed to move the unit and drill the holes. Finding a reliable engine that has been proven in difficult mining environments is essential. Cummins has a long history and a lineup of engines proven to be ready to meet the needs of any drilling unit. With cost-per-hour advantages over other options, Cummins engines meet and exceed the drills' durability requirements.



Underground.

Equipment running in deep underground mines requires clean and dependable power. Cummins is a main supplier to underground-equipment manufacturers. Our engines can be found in everything from dusters and rock breakers to personnel transports, roof bolters, trucks and loaders. Cummins underground engines are certified by the Mine Safety and Health Administration and the Canada Centre for Mineral and Energy Technology. These engines meet the most stringent emissions regulations and are constructed to deliver best-in-class reliability and performance.



Power Units.

Cummins Power Products offers a total solution for your power unit needs. With horsepower offerings from 85 to 2500 (63-1864 kW), Cummins can customize its power units with a broad offering of options to meet your specific needs. We offer turnkey solutions in both open and enclosed platforms from a standard line of base engine models or a customized unit specifically engineered for a unique piece of equipment in virtually any application. Through our state-of-the-art production processes and a battery of product tests, each power unit provides unparalleled quality and dependability.



Cummins Mining Support.

The Right Choice For Innovation.

Exceptional durability is fundamental to the design of all Cummins engines. Advanced engineering features such as ferrous cast ductile iron pistons, microfinished camshafts, fully sealed wiring harnesses and Cummins Prelub engine protection system ensure the outstanding levels of durability that you expect from Cummins. But this commitment to durability goes beyond extending first engine life, as every Cummins mining engine has been designed with a capability for multiple rebuilds with “as new” performance guaranteed. This is a major benefit in prolonging equipment life without making costly changes to the installation.

Cummins leadership in combustion research and fuel, air-handling, aftertreatment and controls systems allows Cummins to achieve the goal of maximizing customer value by providing the most appropriate emissions-control technology integrated into each equipment type and market. Cummins component technology companies, subsidiaries and alliances and its relationships with universities and national laboratories uniquely position Cummins to design, manufacture and implement the best solutions for the mining industry.



The Right Choice For Warranty Coverage.



Cummins engines for mining equipment are covered by the best warranty in the business, including full coverage for two years or 2,000 hours of operation, whichever occurs first. Coverage begins on the sale date of the engine by Cummins. If the 2,000-hour limit is exceeded during the first year, coverage continues until the end of the first year. The base warranty also includes 3-year/10,000-hour standard protection on major components, including the cylinder block, camshaft, crankshaft and connecting rods. This warranty covers every Cummins engine in mining operations.

Coverage includes all parts and labor needed to repair the damage to an engine resulting from a warrantable failure, along with lubricating oil, antifreeze, filter elements and other maintenance items not reusable due to the warrantable failure. The warranty also includes travel and associated costs for technicians when it is necessary to perform a repair on-site.

For extra peace of mind, Cummins offers extended warranties that continue beyond the base warranty period. Please contact your equipment manufacturer or local Cummins distributor for complete details about Cummins warranties.

The Right Choice For Filtration.

The demands for mining applications present enormous challenges for air and liquid filtration, exhaust components, coolant products and other services worldwide. With the many brands and types of products on the market, it is more important than ever to select a brand that provides the highest standard of performance and protection.

Cummins Filtration, through its industry-leading Fleetguard® brand products, provides a broad range of solutions for air, lube and fuel filtration, as well as chemical and coolant products and service that enhance mining equipment performance and protect these valuable equipment investments. Every time.



Cummins Service Options.

The Right Choice For Extended Service Intervals.

Cummins has the ability to provide factory-fitted options that significantly increase your equipment reliability and availability while reducing engine servicing costs.

Cummins Prelub System.

Cummins Prelub system helps eliminate wear from cold and hot starts, giving longer engine life. It automatically protects the engine by requiring full oil pressure to all major components prior to cranking. Fitted as standard on all Cummins mining engines above 30L, Prelub can extend engine life by up to 25%.

ELIMINATOR™

ELIMINATOR is an engine-mounted oil purification system that eliminates the need for conventional oil filters, saving service time and disposal problems. The system operates under its own hydraulic power with a self-cleaning full-flow filter and a centrifugal separator that is capable of removing oil particles down to two microns or less. It extends oil change intervals to 1,000 hours and eliminates the need to dispose of old filters.

CENTINEL™

CENTINEL is an advanced engine oil management system that increases oil change intervals up to 4,000 hours while ensuring better engine lubrication in the process. Using advanced electronic control technology, the system constantly monitors oil quality in relation to duty cycle and load factor demands. CENTINEL removes small amounts of used oil as required and replaces it with new oil from an auxiliary oil tank to maintain lubrication quality at a consistent level. The removed oil becomes a useful energy source as it is blended into the fuel and burned during combustion. This is a major factor in reducing servicing costs.



The Right Choice For Engine Electronics.

Cummins is a pioneer in the use of electronic control systems and information technology to enable engine users to run their businesses more effectively. Cummins Quantum System engine electronics utilize an Electronic Control Module (ECM) that incorporates an industry-standard SAE J1939 datalink and an industrial-strength harness that, together, enable high-speed communication and reliable operation in the most severe mining environments. With over 60 programmable features, the Quantum System can customize engine performance to specific operator requirements.

INSITE™

Mining equipment productivity can be significantly improved by using Cummins Windows*-based INSITE software tools for “smart” diagnostics. Service downtime can be reduced, faults can be rapidly identified and fuel efficiency can be analyzed. Cummins INSITE software minimizes downtime and operational costs by providing rapid diagnostics to instantly pinpoint faults and service needs. It features step-by-step repair directions with precise diagrams.



CENSE™

Choosing Cummins CENSE provides you with the ability to monitor engine performance and increase productivity and uptime at your mine. CENSE measures a variety of key engine metrics and provides cylinder-specific diagnostics, performance trends and automated engine protection.

AEM™ – Advanced Engine Monitoring.

Built on the CENSE platform, AEM is offered on all Cummins MCRS engines. The engine’s electronic module is fully isolated from detrimental thermal or vibration loadings. The engine performance metrics are easy to download. Trending analysis of the AEM datalogs helps provide insight into the engine duty cycle, fuel consumption, load factors, fault snapshots and stop-starts. Access to this information helps you stretch maintenance intervals to the limit while ensuring your engine’s long-term durability and dependability.

PowerMatch.

Quantum System electronics allow Cummins to customize the performance of your underground-mining engine to a specific piece of equipment or application. We examine everything from load factors to ambient temperatures to different operating modes. Once we have that profile, we customize the torque curves and power ratings to get your engine and equipment working together for optimum performance.

*Windows is a registered trademark of Microsoft Corporation.



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