



# Technology That Transforms.

High-Performance Engines For Mining Equipment.



# Cummins Mining Power.

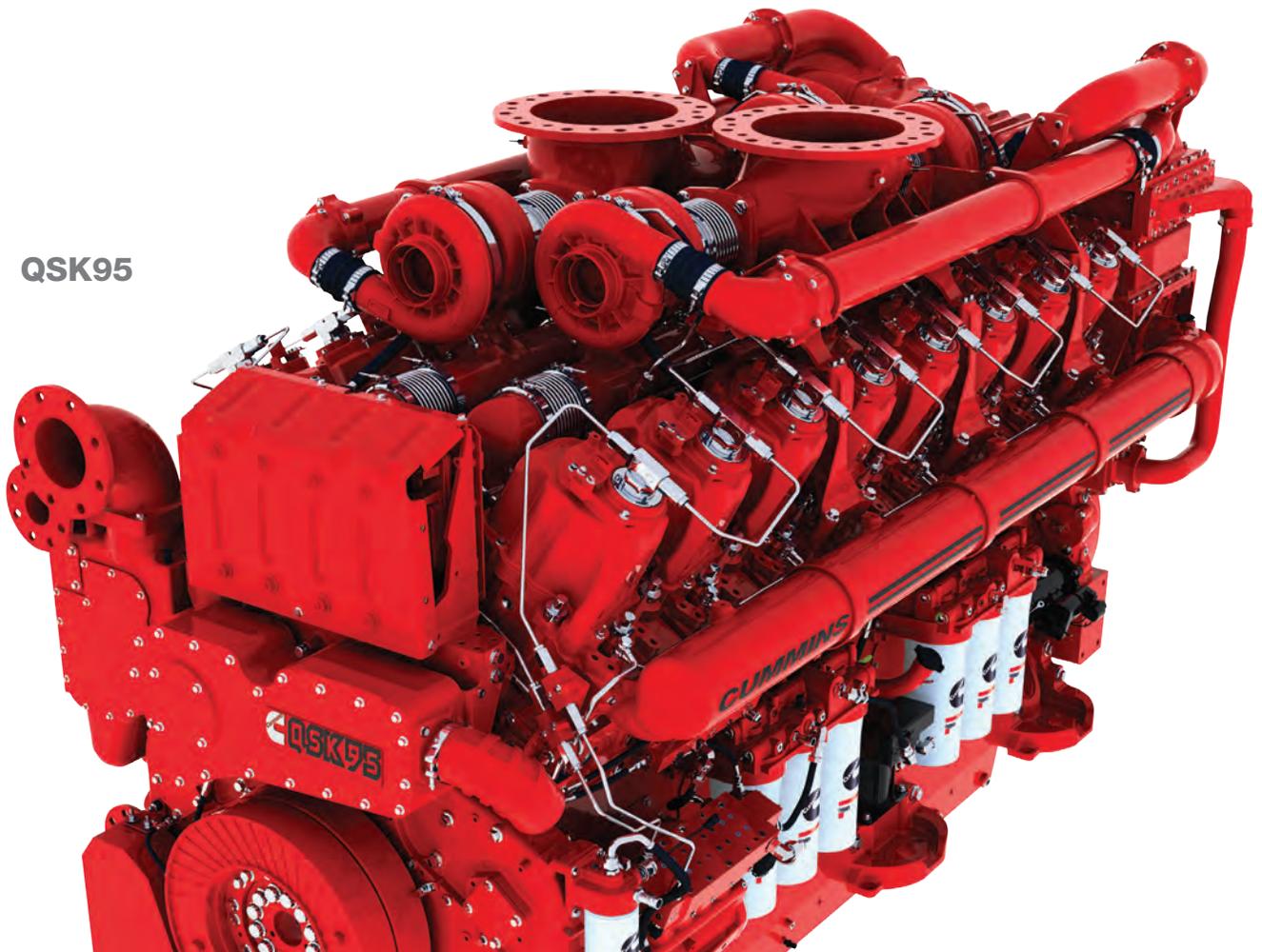
Whether you are mining coal or copper, silver or gold, you've got to have equipment that you can depend on – every minute of every day. That's why Cummins power is the choice for mines across the globe. Cummins engines are found in every kind of mining application, from blasthole drills and front-end 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 49 hp to 4200 hp (37-3132 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.



**QSF2.8**

**QSK95**



## The Right Choice For Innovation.

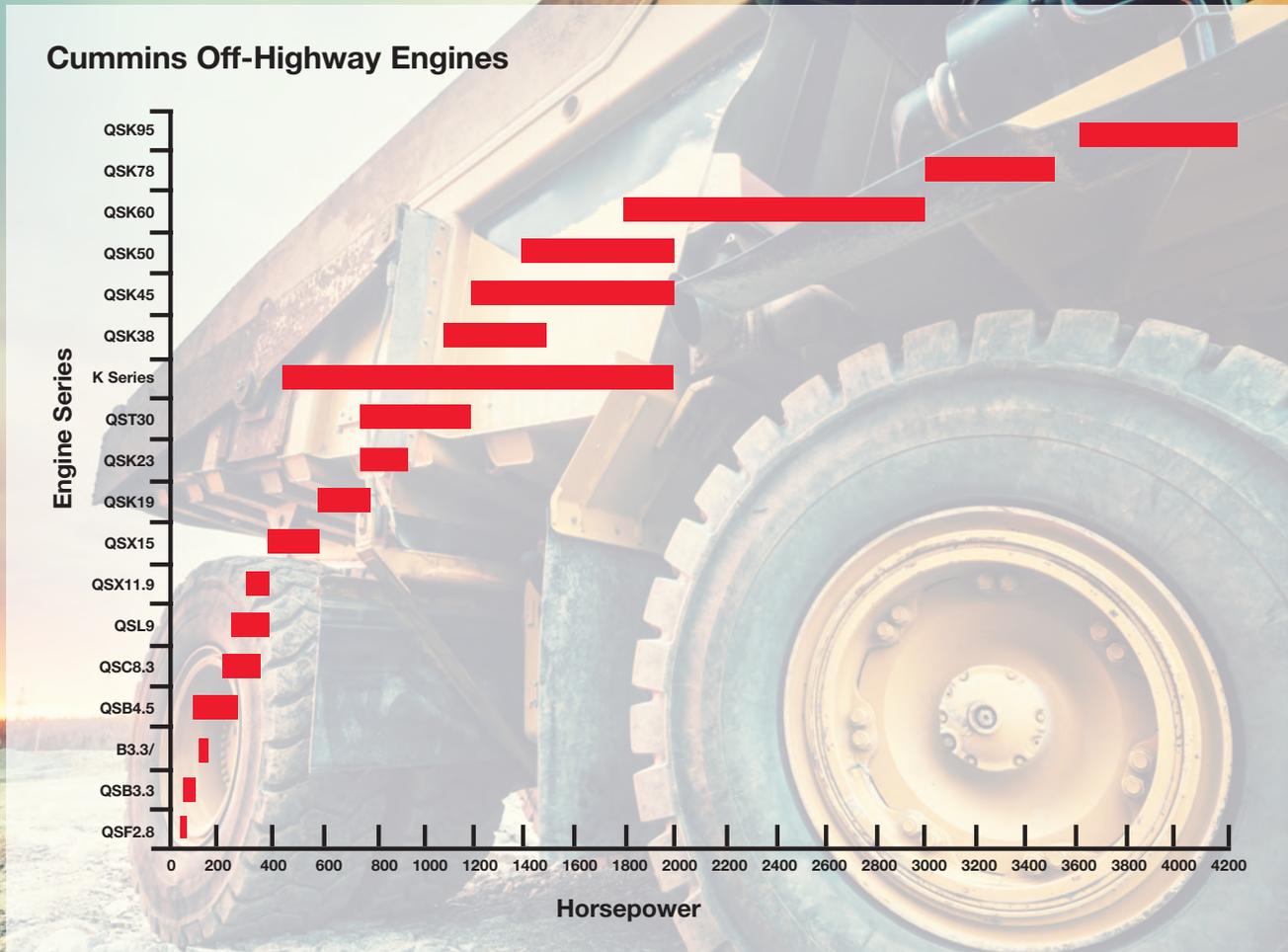
Exceptional durability is fundamental to the design of all Cummins engines. Advanced engineering features such as ferrous cast ductile iron pistons, microfinished camshafts, fully sealed wiring harnesses and Cummins Prelub® engine protection system ensure the outstanding levels of durability that you 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 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.



# Cummins Engine Availability.



## **The Right Choice For Mining Equipment.**

### **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 offerings from 85 hp to 2500 hp (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 Mining Support.

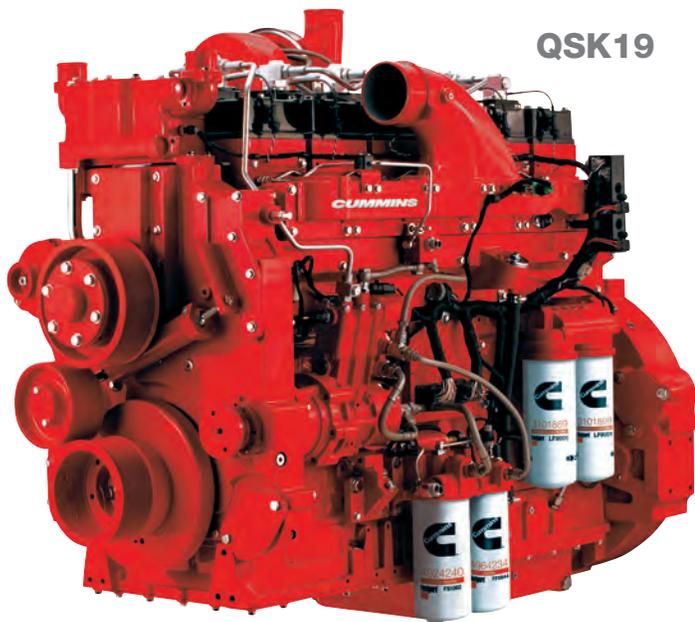
One of the greatest benefits of owning Cummins-powered equipment is our global service network, with over 600 locations in 190 countries and territories. Our distributors are committed to providing world-class support, and their teams of dedicated mining technicians are trained on and equipped with the 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 that you can rely on Cummins.



QSK60





QSK19

### 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.

### 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.



# Cummins Mining Engine Ratings.

MODEL	POWER		TORQUE	
	hp	kW	lb-ft	N•m
<b>QSF2.8</b>	49-72	37-54	140-221	190-300
<b>QSB3.3</b>	85-120	63-90	277-306	376-415
<b>QSB4.5</b>	121-173	90-129	347-520	470-705
<b>QSB6.7</b>	146-310	109-231	485-760	658-1030
<b>QSL9</b>	250-400	186-298	675-1200	915-1627
<b>QSX11.9</b>	290-500	216-373	1090-1600	1478-2169
<b>QSX15</b>	500-675	373-503	1650-2050	2237-2779
<b>QSK19</b>	506-800	377-598	1175-2032	1593-2775
<b>QSK23</b>	760-950	567-708	2401-2897	3255-3928
<b>QST30</b>	760-1200	567-895	2471-3750	3550-5084
<b>K Series</b>	450-2000	336-1491	1125-5800	1526-7864
<b>K 19</b>	450-700	336-522	1125-2014	1526-2731
<b>K38/K1500E</b>	925-1450	690-1081	3020-4127	4095-5595
<b>K50/K2000E</b>	1600-2000	1193-1491	4400-5800	5966-7864
<b>QSK38</b>	1086-1260	810-940	3591-3861	4869-5235
<b>QSK45</b>	1200-2000	895-1491	4424-5805	5999-7871
<b>QSK50</b>	1400-2000	1044-1491	4707-5805	6379-7871
<b>QSK60</b>	1782-2850	1329-2125	6169-8272	8364-11215
<b>QSK78</b>	3300-3500	2461-2610	10157	13771
<b>QSK95</b>	3600-4200	2685-3132	11671-12838	15824-17406



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