



Mining fit for the future

Harness the power of Cummins



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built for the future **04**

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Rooted in history, built for the future

The locations and the extremes you mine are varied. And the challenges that presents are just as diverse. That's why we're dedicated to powering your operation efficiently and responsibly. Our world-class experts are on hand to support the entire mining industry around the clock. And whatever the challenge, we have an innovative solution for any operation, that drives up sustainability and drives down costs.

We've been building our legacy in the mining industry since 1926, through years of reliable solutions and insightful partnerships. And now, we're continuing to enhance businesses whilst being mindful of our planet – for a prosperous and sustainable future.

From our unmatched mining engine range to our extensive aftermarket services and support, we transform your mining operation to be more efficient, more sustainable and more profitable than ever.

With Cummins, your mining potential is unlimited.





Inspired by experience

Cummins is immersed in the mining industry and innovates from experience. We value strategic partnerships to build the best products and services possible – from working with OEMs to optimize first-fit installs, to partnering with end-users to minimize cost of production.

Exceptional, even at extremes

Cummins engines are built to reliably perform wherever they're needed – from the high altitudes of the Andes Mountains to the high temperatures of the Australian outback.

Ready and waiting

You operate 24/7, and so should your equipment. Our products and services are designed to maximize uptime.

At your engine's side

Whether you're purchasing a new engine or maximizing machine life through a rebuild, we offer support in ways no other supplier can. With our global network, customized service agreements and more, lifecycle costs are optimized like never before.

Driving decarbonization

Operating sustainably and profitably should come hand-in-hand. Cummins serves the mining industry with solutions that perform reliably, economically and sustainably – from cleaner fuels and on-site energy management to new technology.



Operating across

6

Continents

With activity within

190+

Countries



600+

Distributor
locations

3700+

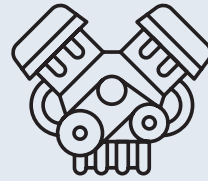
Certified HHP
Technicians

17

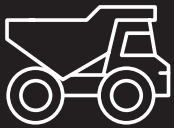
High horsepower
master rebuild centers

Cummins at a glance

100+
Year legacy



Engines offering
3.8L-95L



45,000+ mining engines worldwide



2000+

Digitally connected
engines, delivering
valuable data & insights



Power ranges from 74 to 4400hp

Pushing efficiency from pit to port

Cummins offers solutions for the entire mining ecosystem. Our solutions serve you from production all the way through to distribution, enhance your operational efficiency and aid decarbonization.





Mining



On-highway



Rail



Marine

Driving to decarbonize

We want to drive change across the entire mining ecosystem, by striving for reliable, sustainable solutions that stand up to even the harshest conditions, while reducing greenhouse gas emissions and particulate matter across operations.

Already, we offer a range of services and solutions that can help you hit near-term sustainability goals – including using low-carbon engine fuels and microgrid management. We're also continuing to work on scaling the clean fuels economy and hybridization of equipment to push our current solutions further.

And even as new technologies are introduced, we're committed to providing our reliable, efficient products with unmatched global support, now and into the future.



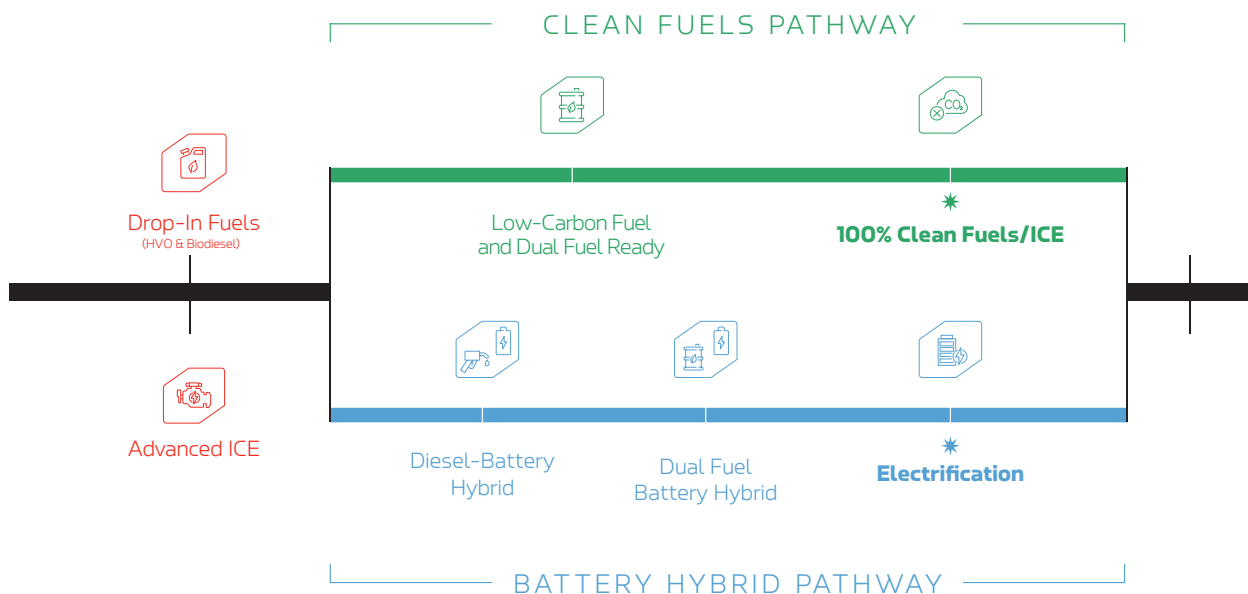
Destination Zero™

Destination Zero is our commitment to sustainability and helping our customers navigate the energy transition while growing our business.

Let's power the path forward

Cummins bridge technologies close the gap between what's practical and what's possible.

Cummins will continue to offer progressive steps toward both **product hybridization** and **enhanced alternative fuel technologies**. Through these technologies, we can give miners viable options for increased sustainability without impacting the performance and reliability needed to succeed in the mining industry.



Optimizing the ecosystem

Cummins is dedicated to forward-thinking innovation – it pushes us to improve the mining industry's efficiency and carbon footprint.





Unfailing power supplies

Mission-critical downtime from power loss is a 24/7 risk – especially in remote locations.

With Cummins Power Generation, every potential risk is covered, with stand-by, prime and continuous power solutions that fit your unique needs. Today, our technology is designed to run on multiple fuel types – and built for failsafe reliability in the most extreme environments. Wherever you mine, we have the power to keep you productive.

Master your microgrid

As energy demands increase, innovation is paramount. Cummins PowerCommand Microgrid Control® (MGC) is designed to optimize energy production from all areas of a microgrid system – even its renewable energy sources. Meticulously designed and built, our MGC offers the highest levels of design and performance control. Offering you unmatched reliability with reduced complexities.

Cummins state-of-the-art microgrid testing lab, the Power Integration Center (PIC) is on hand to assess all elements of the microgrid system. The PIC is one of the largest and most configurable microgrid testing facilities in the world. Regardless of your power system needs (hypothetical or planned), this facility is built to test those possibilities in a zero-risk environment.

Designed by Cummins Power Systems team of leading engineers and microgrid advisors, the PIC is a collaborative space for engineers, customers,

technicians, sales members and microgrid enthusiasts to come together and to design optimal microgrid solutions for any operation.

Unleash hydrogen's potential in mining

Accelera by Cummins water electrolysis systems unlocks the versatility of green hydrogen produced onsite from renewable electricity.

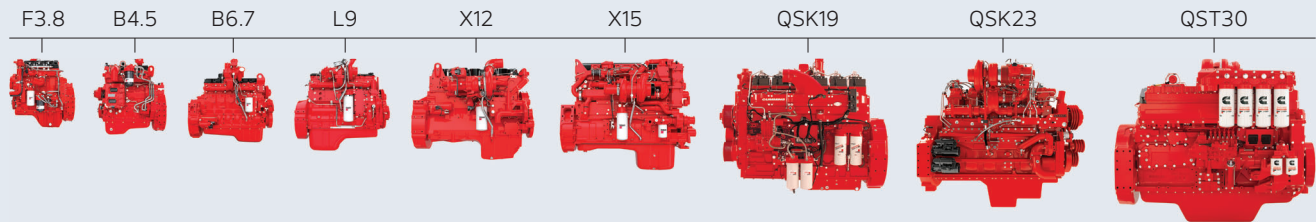
Integrate hydrogen technology into mining operations for efficient energy utilization:

- Energy Storage: Store intermittent renewable power as hydrogen, providing reliable backup when solar or wind generation is low.
- Power Generation: Fuel hydrogen and fuel-cell engines for transportation and zero-emission electricity.
- Chemical Processes: Supply hydrogen as a feedstock for hydrogenation, ammonia production, and other chemical reactions vital to mining.

With onsite hydrogen from Proton Exchange Membrane (PEM) electrolyzers, mines gain energy resilience while decarbonizing power, transportation, and industrial operations.

Accelera's electrolyzer ensure a steady supply of green hydrogen scaled to your renewable energy capacity. Transition to hydrogen – the energy vector enabling optimal utilization of variable renewable power for sustainable, self-sufficient mining.

Legendary engines



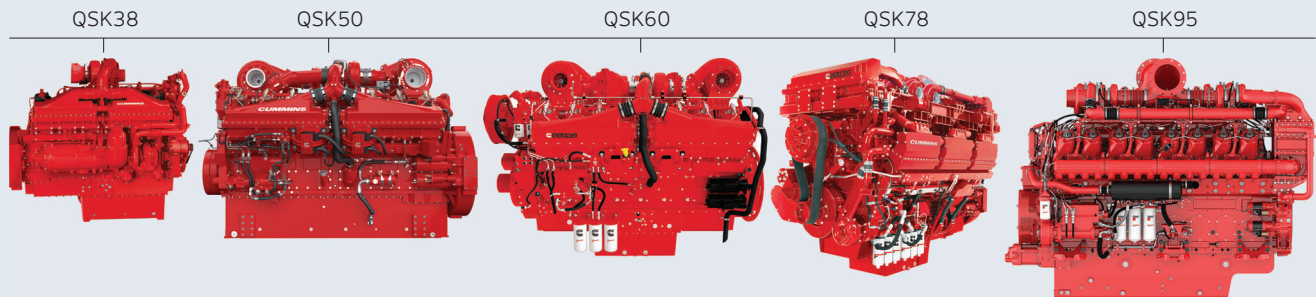
Cummins' enduring reputation is unmatched for high quality, reliable engines – built for any and every operation required. Every model is tested and proven in mines worldwide, and our intense focus on innovation allows us to continuously provide the very best in engine excellence.

Decarbonizing without compromising

Our sustainable solutions don't compromise on infrastructure or efficiency. And it all starts with using cleaner fuels in our engines.

Each model can be fueled with unblended renewable diesel (HVO) – meeting the EN15940 standard. They're also compatible with varying blends of biodiesel. We're actively working to increase these compatible blends, whilst testing other low-carbon fuels and diesel-battery hybrids. We know that engines are the core of any mining operation, but they're also the core of the overall decarbonization mission.





Cummins engines range from 3.8L to 95L and 74 to 4400 hp, for both underground and surface mining applications. They power:



Haul trucks



Excavators



Loaders



Drills

And much more

Want to prolong the life of your engine?

We can recommend the best supporting services and products for your needs.

Above the surface

When it comes to surface mining, Cummins architects design high-horsepower engines with the heaviest-duty needs in mind. Base engines are built to consider critical factors such as reliability, productivity, durability, cost of operation for the entire lifecycles, and sustainability. Designs incorporate cutting-edge technology to enhance performance throughout your operations.

High pressure common rail fuel system (HPCR)	This advanced in-cylinder combustion technology creates a more controlled combustion process that's smooth, quiet and provides best-in-class fuel economy.
Advanced selective catalytic reduction (SCR) technology	Allows the engine to meet Tier 4 global emissions regulations without increasing stress, heat rejection, significant changes to the engine footprint, or available ratings.
NanoNet® advanced media technology*	Filters out even the smallest impurities that impede optimal performance, extending maintenance intervals and keeping your engine running longer.
NanoForce® air filters*	Can more than double your filter life, extend maintenance intervals, keep your engine running longer and improve COP (cost of production).
Eliminator™ self-cleaning filtration system	Combines full-flow and bypass filters with an oil pressure-powered centrifuge. This extends oil drain intervals and reduces consumable waste, while also improving COP.

*Exclusive technology from Atmus Filtration Technologies



Always in dedicated hands

Our team of experts work with end-users to analyze TCO for all new engine purchases. Whole life schedules are calculated based on equipment usage, which helps determine the right service intervals for various components – ultimately extending your engine's life, managing the total cost, reducing waste and optimizing its performance. We're your partners in success from start to finish.



High-horsepower surface mining engines

QSK19	The QSK19 is known for navigating steep ramps 2 miles underground and for powering the largest underground truck in the world.	Displacement: 19 Liters Power: 506 – 800 hp Torque: 1775 – 2250 lb-ft Certification: Tier 4 Final/Stage V
QSK23	The QSK23 combines rugged productivity, high-power density and advanced engine management technology to deliver the lowest operating cost per ton of any mining engine in its class.	Displacement: 23 Liters Power: 760 – 950 hp Torque: 2558 – 3045 lb-ft Certification: Tier 4 Final/Stage V
QST30	The QST30 is a purpose-designed engine for extreme environments with a distinguished track record of durability – from haul trucks to excavators.	Displacement: 30 Liters Power: 950 – 1500 hp Torque: 3414 – 4877 lb-ft Certification: Tier 4 Final/ Stage V
QSK38	The QSK38 has a strong reputation for powering some of the world's most demanding applications. Its technological improvements enable consistent power at every rpm.	Displacement: 38 Liters Power: 1086 – 1350 hp Torque: 3590 – 4320 lb-ft Certification: Tier 4 Final/Stage V
QSK50	The QSK50 is used in the most severe environmental conditions, with some EU stage V emissions-certified machines operating with the engine in the Arctic Circle.	Displacement: 50 Liters Power: 1500 – 2000 hp Torque: 5044 – 5805 lb-ft Certification: Tier 4 Final/Stage V
QSK60	The QSK60 powers some of the largest hydraulic excavators in the world, while also powering thousands of 200-300+ ton haul trucks globally.	Displacement: 60 Liters Power: 1875 – 2850 hp Torque: 6169 – 8726 lb-ft Certification: Tier 4 Final/Stage V
QSK78	The Tier 4F-certified QSK78 endures harsh ambient environments from -40C to +40C powering 300+ ton haul trucks at some of the highest altitude mines in the world.	Displacement: 78 Liters Power: 3500 hp Torque: 10157 lb-ft Certification: Tier 4 Final/Stage V
QSK95	The QSK95 is responsible for powering applications in the Andes mountains 4,300 meters above sea level –whilst maintaining industry-leading speed to a 400T truck class.	Displacement: 95 Liters Power: 3800 – 4400 hp Torque: 11244 – 13020 lb-ft Certification: N/A

Below the surface

Just like our surface engines, our underground mining engines are built for reliability, durability and dependability. They support all types of underground mining equipment. We provide you with the power you need with the ventilation rate required, for unmatched performance in the mine.

Performance series underground mining engines

F3.8	Displacement: 3.8 Liters Power: 74-173 hp Torque: 295-457 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: Single Module™ DPF/SCR EGR-free Wastegate turbo	L9	Displacement: 9 Liters Power: 275-430 hp Torque: 1085-1361 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: Single Module™ DPF/SCR EGR-free Wastegate turbo
B4.5	Displacement: 4.5 Liters Power: 121-200 hp Torque: 369-575 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: Single Module™ DPF/SCR EGR-free Wastegate turbo	X12	Displacement: 12 Liters Power: 350-500 hp Torque: 1250-1700 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: DPF/SCR EGR-free Wastegate turbo
B6.7	Displacement: 6.7 Liters Power: 155-326 hp Torque: 550-1014 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: Single Module™ DPF/SCR EGR-free Variable Geometry turbo	X15	Displacement: 15 Liters Power: 525-565 hp Torque: 1650-2050 lb-ft Certification: Tier 4 Final / Stage V Product Technologies: DPF/SCR Cooled EGR Variable geometry turbo

High-horsepower underground mining engines

QSK19	The QSK19 is known for navigating steep ramps 2 miles underground and for powering the largest underground truck in the world. Displacement: 19 Liters Power: 506 – 800 hp Torque: 1775 – 2250 lb-ft Certification: Tier 4 Final/Stage V
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Cleaner, safer, stronger

The cleaner equipment runs, the safer the working environment and the lower your ventilation needs and expenses are. Cummins underground engines are designed with this in mind to produce fewer emissions, and have garnered multiple MHSA and CANMET approved ratings.

Cummins Performance Series engines conform to EU Stage V, which introduces a particulate matter count for sub 750hp engines, eliminating 99.9% of particulates emitted. This reduces ventilation needs for underground mines. With underground Cummins Performance Series engines, you can do more with less.

*If an approved rating is required, please contact your Cummins distributor for an updated list of approved ratings.



Maximizing your uptime

For miners, power is essential. It keeps 24/7 operations underway. Cummins works to maximize the availability of reliable, advanced technology whenever and wherever it's needed.

Worldwide coverage

No matter how remote you are, we have the power to keep you productive. Our world-class support is on hand around the clock, working directly with you to understand and deliver tailored services and solutions.

A proven partner

High-horsepower engines are huge investments – and you expect a long life and reliable performance from them.

Cummins Master Rebuild Centers and your local distributor will help you get the maximum productivity and lifetime value out of your engine.

The power to rebuild

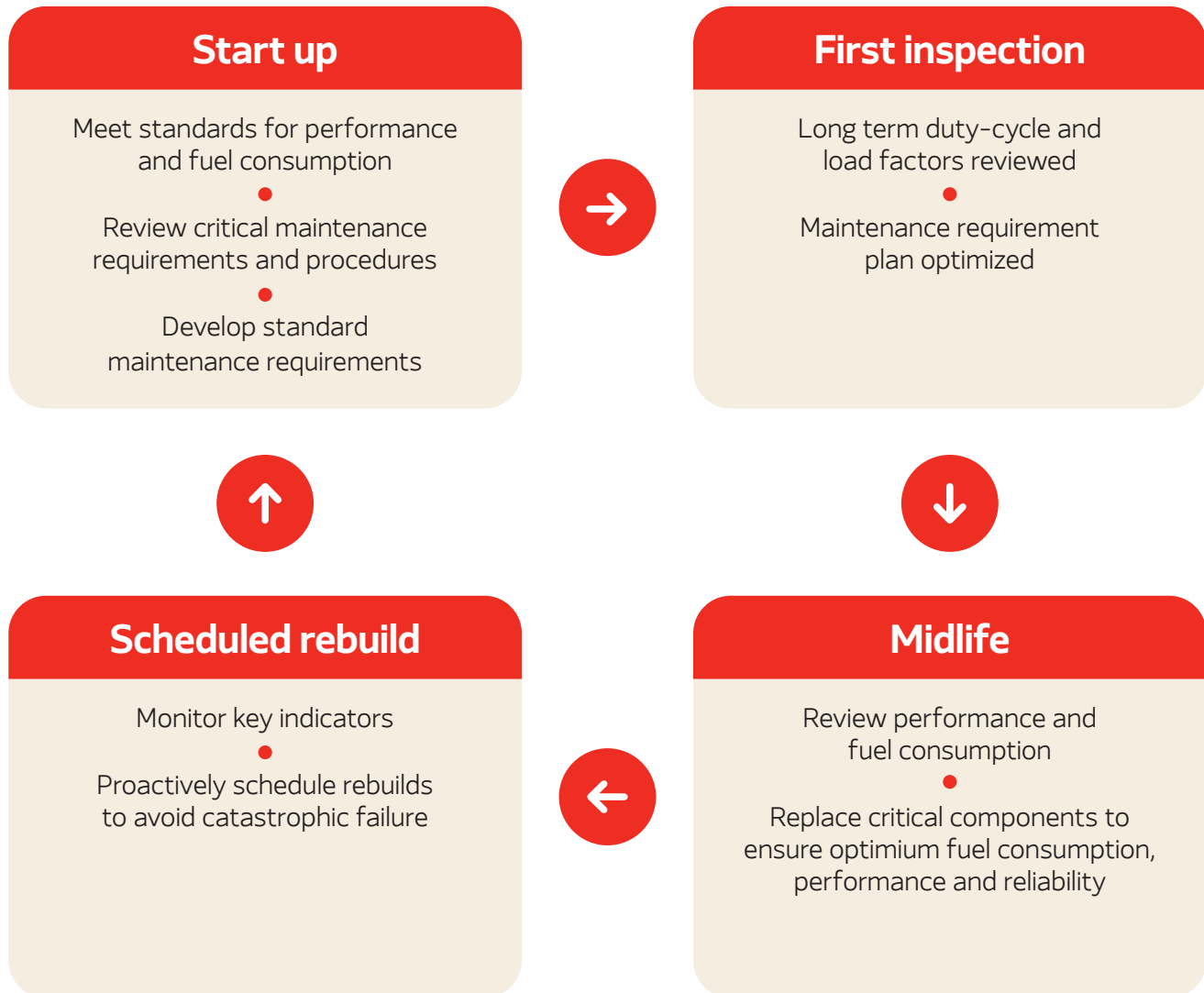
As part of the rebuild process, our engine specialists will clean components, take care of the teardown, assess the engine block and crankshaft, and reassemble the engine with the latest technology before final testing – all in a controlled environment.

We always use genuine Cummins parts – guaranteeing the same performance and standards compared to new engines. And, for full peace of mind, you'll have a full one-year/unlimited-hours warranty.



High-horsepower engine lifecycle

High-horsepower engines are huge investments – and you expect a long lifecycle and reliable performance from them. As your partner through the full life of your equipment, Cummins will help you get your lifetime value out of your engine.



Access the Cummins MCRS upgrade program

We're completely invested in our customers' success; so, we've developed upgrade kits for those with HPI engines in the field. With this, you can access the latest technology through the MCRS fuel system during their next rebuild. The benefits include:

Reduced engine noise, vibration and smoke for a better environment for your equipment operators | Optimized fuel economy | Improved operability for idling and torque | And more

Future proof your operation

Make your equipment smarter, more sustainable and more efficient PowerCare™, our completely customizable service program for all the support your operations need. PrevenTech®, our ground-breaking and data-driven digital technology for monitoring and control like never before.

PrevenTech®

By integrating monitoring, support and services across the Cummins ecosystem, it can identify potential failures before they happen, turning previously unpredictable downtime into increased production time. This is control like you've never had before.



How does PrevenTech® work?

PrevenTech® Mining applies connectivity, big data, advanced analytics and IoT, together with live expert support and customized recommendations. This all helps to keep assets running longer with fewer disruptions and minimal downtime.

Built from our robust expertise and technology, you can:

Increase asset availability	Our expertly designed algorithms can foresee faults earlier – reducing costs and increasing uptime.
Real-time filtration and fluid remote monitoring	This is our ground-breaking solution in filter and fluid monitoring. It gives you advanced warnings, while assessing fluid flows and filter condition in real-time.
24/7 monitoring and analysis from our global network	Our team of experts at Cummins Care monitor engines 24/7 around the world. Our Comprehensive Fault Analysis is built from global knowledge from thousands of connected engines.
Increase safety	Thanks to remote monitoring, PrevenTech® reduces points of contact with machinery, keeping miners safe.

PowerCare™

Get all the technical support and digital support Cummins offers, blended into one customized service agreement. PowerCare™ agreements focus on what matters to you and your operation, to support you in the best way possible.

You can customize your service with:



Cost Per Hour
(CpH contracts)



Inspections and
health checks



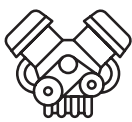
Filter
services



Unscheduled
maintenance
coverage



Extended
warranties



Rebuilds



PrevenTech®
engine monitoring

With a PowerCare™ agreement, you can protect reliability, prevent unscheduled downtime and optimize efficiency to accelerate productivity and profitability.

Ask our consultants about PrevenTech® and PowerCare™ to harness ground-breaking control like never before.



This is the power of Cummins

Trust the global leaders for total mining support. Our unique mining solutions stop at nothing to power you – from the engine running your machinery to the 24/7 monitoring and support from our unmatched global network.

Want to access our unstoppable solutions, support and insight? Let's talk.

www.cummins.com



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