



# REWRITING THE BOOK ON HIGH-PERFORMANCE DIESEL ENGINES.



**C**ummins is the undisputed global leader in high-performance diesel engines for the transportation market. For nearly two decades, the Cummins X Series platform has continually set new standards for power, productivity, low cost of operation and total value – first with the ISX15, then the ISX12 and now with a new generation of heavy-duty engines that shatters records for an entire industry – the X15 Performance Series, X15 Efficiency Series and X12 engines.

In 1952, the No. 28 Cummins Diesel Special featured the first turbocharger used at the Indianapolis 500,<sup>®</sup> winning the pole position with a qualifying speed of 136 mph.



## THE BEST OF ALL WORLDS.

A legacy of proven performance goes into every Cummins X Series engine. This proven platform has been delivering maximum uptime and productivity, setting new standards of performance in the toughest, most challenging operations around the world. Cummins current ISX engines are the backbone of the demanding North American Class 8 trucking market. For the global market, X Series Euro VI engines share many heavy-duty components with the proven U.S. Environmental Protection Agency (EPA) versions in North America. They include a proprietary XPI fuel system, full-authority single Electronic Control Module (ECM) and ADEPT™ advanced electronic features.

Three unique engine options have been designed and manufactured to meet specific customer requirements while exceeding expectations: Cummins X15 Performance Series, X15 Efficiency Series and the X12 engine.



# THE WORLD RECORD BOOK.



## IT ALL STARTS WITH DEPENDABILITY.

With this new platform, we are reconfirming our commitment to provide customers with the most dependable, highest-performing product anywhere in the world. Cummins X Series engines have already run over 14.5 million km (9 million miles) in the largest field test in the history of the company. X Series engines leverage Cummins long-standing leadership in the 12- and 15-liter engine category while incorporating improvements in reliability, fluid economy, maintenance intervals and total cost of ownership.

All Euro VI X15 and X12 engines are designed with maximum flexibility to meet the toughest demands in the world – from Latin America and China to Russia and Australia as well as Europe and India. They will be certified to Euro VI standards and the equivalent standards in other regions while retaining the flexibility to work in other parts of the globe where Euro IV or V standards apply. The underlying architecture is both simple and reliable, for adaptation in the most remote regions.



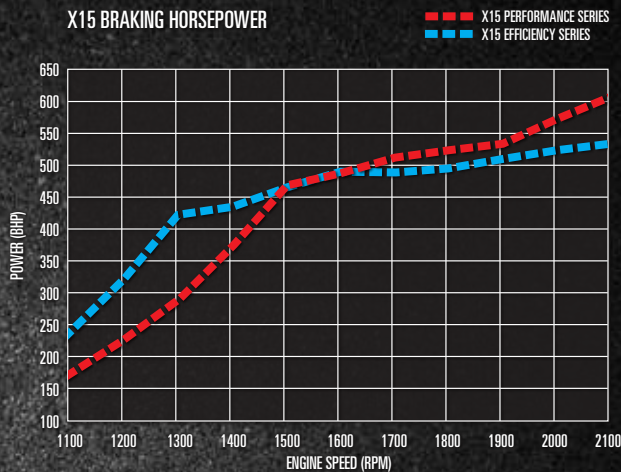
# 600 BRAKING HORSEPOWER FROM AN ENGINE. BELIEVE IT.

Cummins X15 engines are optimized to deliver the power to get you past traffic and over the next hill. But what's really impressive is what happens when you crest the hill and take your foot off the accelerator. That's when the best engine brake in the industry kicks in, and you just ease on down the road.

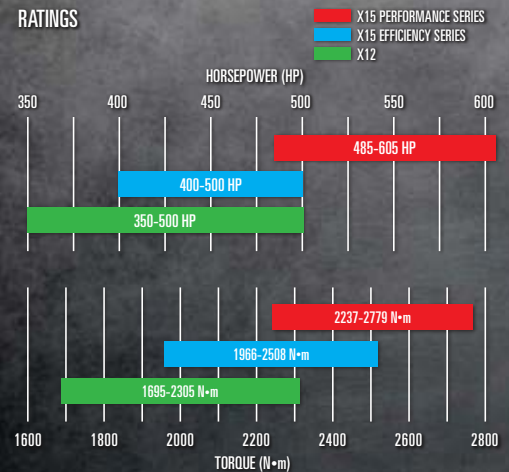
The X15 Efficiency Series delivers over 400 braking horsepower (bhp) at just 1300 rpm, with up to 600 bhp at 2100 rpm for the X15 Performance Series. Powerful engine braking lets drivers go light on the brake pedal, saving wear and tear on service brakes while maintaining a higher degree of control.



### X15 BRAKING HORSEPOWER



### RATINGS



# X15

PERFORMANCE  
SERIES

485-605 HP/2237-2779 N·m  
(362-451 KW/1650-2050 LB-FT)

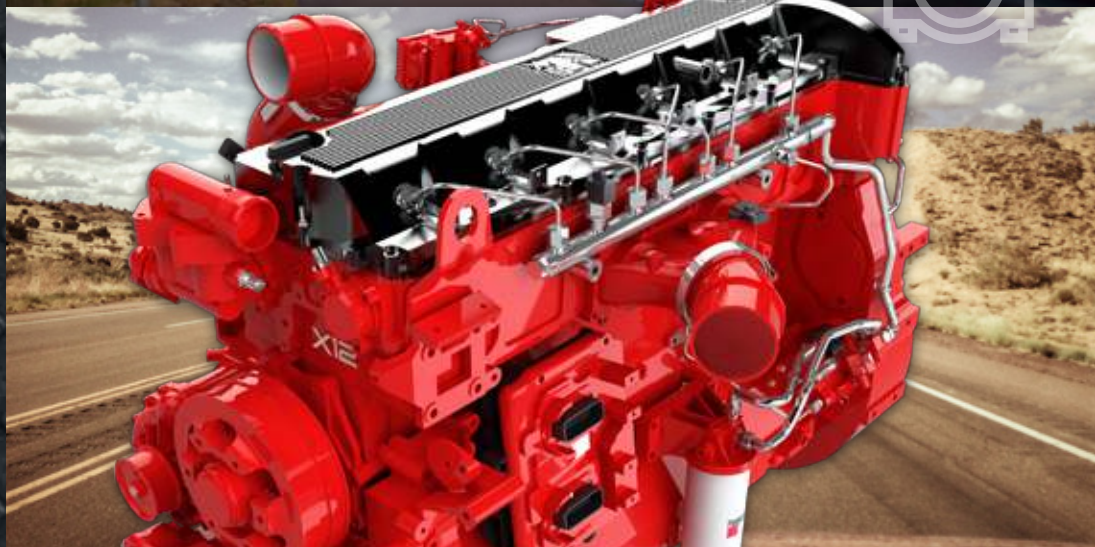
# X15

EFFICIENCY  
SERIES

400-500 HP/1966-2508 N·m  
(298-373 KW/1450-1850 LB-FT)

# X12

350-500 HP/1695-2305 N·m  
(260-373 KW/1250-1700 LB-FT)



After competing at the Indianapolis 500® in 1950, the Cummins Diesel Special No. 61, known as the Green Hornet, achieved fame at Bonneville Salt Flats, Utah, by setting a record diesel speed of 165 mph. The Kurtis Kraft® chassis was powered by a 340-hp racing version of the 6-cylinder, 6.6-liter JBS-600, featuring supercharging and innovative Cummins PT® pressure-time fuel injection.



## X SERIES FEATURES.

### **Turbocharger From Cummins Turbo Technologies**

The fully integrated design provides rapid boost, for better acceleration, and improved engine braking, for enhanced stopping ability.

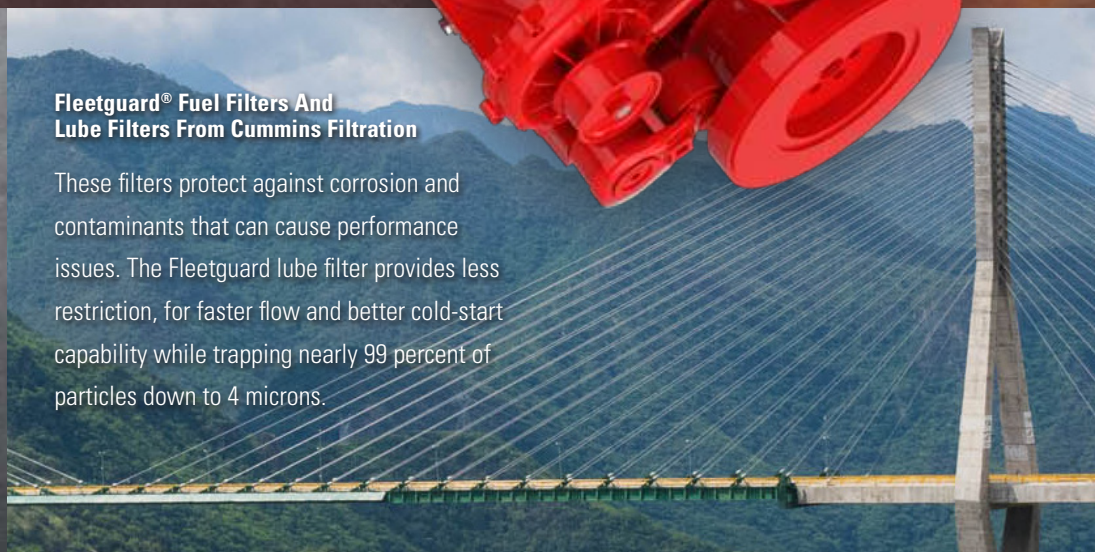
### **Single Module™ Aftertreatment Systems From Cummins Emission Solutions**

A flow-through design offers better heat management, for improved efficiency. Increased ash capacity means fewer cleanings. And it's up to 40 percent lighter and 60 percent smaller than two-part systems. A second-generation urea doser eliminates the need for engine coolant lines, and prevents crystallization and clogging of AdBlue®/Diesel Exhaust Fluid (DEF) within the unit (X15 Series engines).



### **Fleetguard® Fuel Filters And Lube Filters From Cummins Filtration**

These filters protect against corrosion and contaminants that can cause performance issues. The Fleetguard lube filter provides less restriction, for faster flow and better cold-start capability while trapping nearly 99 percent of particles down to 4 microns.





### High-Capacity Electronic Control Module (ECM)

The robust ECM manages the engine and aftertreatment system simultaneously, for optimum performance and fuel efficiency, and is factory-ready for over-the-air programming when connected to a capable telematics system.



### High-Performance Compact Box Aftertreatment System

The compact size allows positioning close to the engine, for better thermal management, improved performance and lower total cost of operation (X12 engine).

### Cummins Engine Brake

The most powerful engine brake in the industry it adds control on downhill grades, reducing service brake wear, downtime and replacement costs.

### XPI Fuel System From Cummins Fuel Systems

The XPI system delivers superior performance, regardless of engine rpm. Multiple injection events per cycle improve fuel efficiency and enable smoother, quieter operation. Steel plungers and diamondlike coated roller tappets make this the toughest XPI fuel system to date.

### Power Cylinder Improvements

Combustion's hot. That's bad for your oil. X12 and X15 engines have an enhanced piston design that reduces transfer of heat to the oil, for longer life.

### Connected Diagnostics™

This software-only application works through the telematics system of your preference to wirelessly connect the engine to Cummins for rapid fault diagnosis. Information and expert Cummins guidance maximize uptime.

### Connected Calibrations™

This system enables over-the-air management of the engine system when connected to capable telematics system, for remote updating of engine calibration software, tracking and modifying engine parameters on the go and more.



## X15 PERFORMANCE SERIES.

At Cummins, we're never satisfied with the status quo. So virtually every critical component of the X15 has been scrutinized, modified, upgraded and improved from its predecessor, including the power cylinder, camshaft, turbo and fuel system, as well as the new Single Module™ aftertreatment system. All that makes the X15 Euro VI a completely reinvented platform that delivers the best performance and dependability in the industry. Those enhancements improve air handling, for faster throttle response and even stronger braking power at lower rpm. In addition to delivering a rewarding driver experience, the X15 delivers superior fuel economy over competitive engines, so drivers can blow past other trucks – as well as diesel stops.

The X15 Performance Series includes ratings from 485 hp to 605 hp (362-451 kW) with 2237 to 2779 N•m (1650-2050 lb-ft) of torque.



## X15 EFFICIENCY SERIES.

Cummins X15 Efficiency Series is designed to get the most out of every drop of diesel fuel, from the optimized cam profile to a new piston structure. Superior fuel economy is delivered through innovation in dynamic electronic controls, enhanced engine breathing and an optimized combustion process. Taking advantage of the big-bore architecture, Cummins manages the combustion cycle to achieve the highest compression ratio in the industry, with improved thermal efficiency.

Cummins leverages that technology through the application of our proprietary turbocharger and XPI fuel system. They provide superior efficiency and crisp response to driver command. In essence, the X15 Efficiency Series breathes like a medium-bore engine, but delivers big-bore performance.

Cummins continues its legacy of innovation by becoming the first to introduce this combustion technology to the commercial truck market. Ratings in the X15 Efficiency Series range from 400 hp to 500 hp (298-373 kW) with 1966 to 2508 N•m (1450-1850 lb-ft) of torque.





## X12. THE PRODUCTIVITY LEADER.

Cummins X12 redefines the entire medium-bore 10- to 13-liter engine category, setting new standards for productivity in tractor and vocational truck applications. Smaller in size and lighter than other medium-bore engines, the X12 still delivers powerful performance from 350 hp to 500 hp (260 to 373 kW) with 1695 to 2305 N•m (1250-1700 lb-ft) of torque.

Below 930 kg (2,050 lb), it has the highest power-to-weight ratio of any heavy-duty engine from 10 liters to 16 liters in size. The combination of power and efficiency is striking. All that proven performance will move from meeting Euro V emissions levels to Euro VI within the same compact envelope, using simple architecture.

A low-friction design increases fuel economy while extended maintenance intervals and real-world experience ensure maximum uptime. Plus, with the ultra-compact, lightweight X12, you'll be able to carry more payload, so you can get more done with fewer trips.

Our new high-performance Compact Box aftertreatment system allows the aftertreatment to be positioned closer to the engine, for more efficient heat management. That means fewer regenerations, lower maintenance, improved performance and a reduced total cost of ownership while meeting Euro VI and equivalent regulations worldwide.

The space-efficient design of the X12, together with easy service access points for scheduled maintenance, further increases uptime. A new Cummins engine brake improves stopping power and lengthens service brake life.



## LESS TIME IN THE SHOP, AND MORE ON THE ROAD.

Cummins X15 now has some of the longest service intervals in the industry. The X15 will help you keep more of your hard-earned money. The Diesel Particulate Filter (DPF) in our aftertreatment system is so efficient that it's nearly maintenance-free.

Our fuel filters last 2.5 times longer. And we eliminated the hydrocarbon doser and the maintenance on the crankcase ventilation filter, so you don't even need to think about those anymore.

## OVER-THE-AIR CAPABILITY.

In a first for the market, Cummins will enable you to manage your engine system remotely when it is connected to a capable telematics system. Want the latest engine calibration software update without taking time out of your schedule? The new Connected Calibrations family of applications will enable updates without a visit to the service bay. Or maybe tune your engine for higher performance, and return to a lower rating later. Or track engine parameters of your entire fleet from your office. The growing family of Connected Tuning™ applications provides that capability. The power of Cummins information and services enabled by data will empower you to keep your trucks rolling, and customers happy.

The minute a fault code is generated, Connected Diagnostics uses your on-board telematics system to connect with Cummins. Instantly, a snapshot of performance data is analyzed and compared to our worldwide history for diagnosis. A probable cause is determined, and a recommended action is sent to fleet management.





## REALIZING THE FULL POTENTIAL OF EVERY VEHICLE.

One of the reasons Cummins-powered vehicles work so well is experience and expertise working with original equipment manufacturers.

Our application engineers are currently working with over 100 truck and bus manufacturers around the world, both in our Technical Centers and Pilot Centers, to ensure the best possible driving experience with the utmost reliability, from the first vehicle coming off the production line to the last.

## TRUST MAKES ALL THE DIFFERENCE.

The most reassuring part of owning any Cummins-powered vehicle is knowing that we've always got your back. Cummins engine experts and our extensive training programs ensure service and support excellence you can depend on, no matter the situation.

We are committed to the success of your business, which means complete dedication to working with you on everything from upfront vehicle and engine spec'ing to maximizing vehicle uptime. You aren't just buying a Cummins engine; you're buying Cummins expertise and commitment, anywhere your business takes you.

No matter where your next contract is going to take you, one thing's certain: An authorized Cummins facility will be close by. With thousands of locations worldwide, we have the most comprehensive and most capable service network out there.





**SERIES  
EURO VI**



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