

Move to Zero

The better pathway and natural choice to move to zero emissions.

B6.7N™

L9N™

ISX12N™

CNG

LNG

RNG

 **Westport**

2018 Ultra Low Emission Natural Gas Engines.

**The Lowest Emission truck
and bus engines available in
North America.**

Introducing Cummins Westport's 2018 natural gas engines: the B6.7N, L9N, and ISX12N. Designed to be the lowest emission engines available today, these 2018 natural gas engines set new standards for performance and reliability while offering near-zero emissions.

Certified to EPA and California ARB Optional Low NOx standards, these new engines continue the evolution of ultra low emission on-highway natural gas engines from Cummins Westport.

The change in engine names follows Cummins tradition by using B, L, and X series letters, followed by engine displacement. The letter "N" denotes engines that are fueled by natural gas.

What are Optional Low NOx Emissions?

The California Air Resources Board (ARB) has introduced Optional Low NOx emission standards - 90% lower than current Environmental Protection Agency (EPA) emission standards.

ARB concluded that Low NOx engines meeting a 0.02g NOx Near Zero standard fueled by a renewable natural gas blend of at least 55% is the most technically feasible way to meet the 2023/2031 NOx and 2030 (petroleum reduction and LCFS) goals.*

Ultra Low Greenhouse Gas Emissions

Natural gas is a low carbon, domestic fuel which lowers overall greenhouse gas (GHG) emissions. Renewable Natural Gas (RNG) is natural gas produced from landfills or organic waste.

Combining Cummins Westport ultra low emission engines with RNG as a fuel provides additional and significant GHG reductions.

Low Carbon Fuel

In 2015 the California ARB studied various Low Carbon Fuel Standard (LCFS) pathways and determined that RNG from all sources has lower Carbon Intensity Scores than electricity used for fuel cell and battery electric pathways. RNG produced from food/waste sources can reach subzero GHG carbon intensity levels.*

* <http://www.arb.ca.gov/planning/sip/2016sip/2016mobsr.htm>

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Lowest Cost Pathway to Zero Emissions

Cummins Westport engines are available from leading truck and bus OEMs. Ultra Low NOx engines fueled by natural gas offer a low-cost pathway to zero emissions. Using low carbon intensity fuel, such as RNG, provides for significant well-to-wheel GHG reductions similar to battery electric propulsion (see the Cummins Westport GHG emissions calculator online).

Operational Advantage

Natural gas trucks and buses offer route flexibility and don't require in-route refueling, unlike electric vehicles that may need to recharge during a route.

On highway natural gas trucks have over 500-mile range capability, and can use existing fueling infrastructure.

Next Generation Natural Gas Technology

The L9N, ISX12N, and the B6.7N natural gas engines are all EPA/ARB Optional Low NOx Certified engines – NOx emissions from the L9N and ISX12N are certified to near zero standards 90% below the current EPA limit of 0.2 g/bhp hr.

Cummins Westport natural gas engines feature spark-ignited stoichiometric combustion with cooled exhaust gas recirculation (EGR), and a simple maintenance-free, Three-Way Catalyst (TWC) for consistent emissions control. For 2018 products, Cummins Westport leverages the experience gained from over 70,000 engines in service to improve reliability and durability while adding new electronic engine, ignition, and On-Board Diagnostics (OBD) emission control features.

New Engine Control Module

All Cummins Westport 2018 engines - B6.7N, L9N, ISX12N - will feature a new Engine Control Module (ECM) model number CM2380. New features



Our innovation and continual improvements draw from our track record of having over 70,000 engines in service

include On-Board Diagnostic (OBD) capability, 500 kbaud data link, new wiring harnesses, and improved ECM durability and heat resistance. The new ECM is also Cummins Connected Calibrations™ capable (release TBA.)

On-Board Diagnostics

The OBD system continuously monitors the engine and after-treatment system. With ability to recognize the potential for an out-of-range event, the system can provide a real-time alert of the entire emissions control system. OBD systems also give the vehicle owner or repair technician electronic access to the status of the various vehicle subsystems for diagnostic purposes.

A Malfunction Indicator Lamp (MIL) is connected to the OBD system and is located on the vehicle's instrument panel. If the OBD system detects a malfunction related to the emissions control system, the MIL will illuminate and alert the operator. The engine will continue to operate normally until a diagnosis is made.

Closed Crankcase Ventilation (CCV) system

A CCV system reduces engine emissions by capturing crankcase emissions and rerouting these gases back to the engine. This offers the opportunity for more complete combustion, and lower emissions. Engine-related emissions of methane are reduced by up to 70%. The 2018 B6.7N, L9N, and ISX12N all feature CCV systems.

Product Improvements

The ISX12N includes all of the product improvements made on the previous 12-litre engine, and features a new one-piece fuel system designed with fewer parts for better performance. An engine-mounted, electric CCV system is also featured. The L9N leverages the improvements made in the base ISL G to a new level of emissions and performance.



B6.7N™

B6.7N Specifications

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|---------------------|---|
| NOx emission | 0.1 g / bhp-hr. (50% below EPA) |
| Maximum Horsepower | 240 HP 179 kW |
| Peak Torque | 560 LB-FT 759 Nm |
| Governed Speed | 2630 RPM |
| Type | 4-cycle, spark-ignited, in-line 6 cylinder, turbocharged, CAC |
| Engine Displacement | 409 CU IN 6.7 LITERS |
| Number of Cylinders | 6 |
| Operating Cycles | 4 |
| Net Weight (dry) | 1,150 lb 522 KG |
| Fuel Type | CNG / LNG / Biomethane |
| Aftertreatment | Three-Way Catalyst |
| Base Warranty | 2 Years, Unlimited Miles |



L9N™

L9N Specifications

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|---------------------|---|
| NOx emission | 0.02 g / bhp-hr. (90% below EPA) |
| Maximum Horsepower | 320 HP 239 kW |
| Peak Torque | 1,000 LB-FT 1,356 Nm |
| Governed Speed | 2200 RPM |
| Type | 4-cycle, spark-ignited, in-line 6 cylinder, turbocharged, CAC |
| Engine Displacement | 540 CU IN 8.9 LITERS |
| Number of Cylinders | 6 |
| Operating Cycles | 4 |
| Net Weight (dry) | 1,625 lb 737 KG |
| Fuel Type | CNG / LNG / Biomethane |
| Aftertreatment | Three-Way Catalyst |
| Base Warranty | 2 Years, 250,000 Miles (402,336 KM) Truck 2 Years, Unlimited Miles Transit/Shuttle |



ISX12N™

ISX12N Specifications

| | |
|---------------------|--|
| NOx emission | 0.02 g / bhp-hr. (90% below EPA) |
| Maximum Horsepower | 400 HP 298 kW |
| Peak Torque | 1,450 LB-FT 1,966 Nm |
| Governed Speed | 2100 RPM |
| Type | 4-cycle, spark-ignited, in-line 6 cylinder, turbocharged, CAC |
| Engine Displacement | 762.2 CU IN 11.9 LITERS |
| Number of Cylinders | 6 |
| Operating Cycles | 4 |
| Net Weight (dry) | 2,650 lb 1,202 KG |
| Fuel Type | CNG / LNG / Biomethane |
| Aftertreatment | Three-Way Catalyst |
| Base Warranty | 2 Years, 250,000 Miles (402,336 KM) |



Cummins Westport – The Natural Choice

Cummins Westport Inc. designs, engineers and markets 6- to 12-litre, spark-ignited low emission natural gas engines for commercial transportation applications such as trucks and buses. Our dedicated 100% natural gas engines are manufactured by Cummins, and are available as a factory-direct option from leading bus and truck manufacturers.

To learn more about Cummins Westport and natural gas as a transportation fuel visit www.cumminswestport.com

Warranty

Automotive base warranty for Cummins Westport natural gas engines is the same as for the Cummins diesel base platform. Base engine warranty covers 100% parts and labour on warrantable failures.* Extended Coverage plans to meet every customer's needs are also available. Contact your local Cummins Sales and Service representative.

Better Customer Care

Cummins Westport-powered vehicles are supported by Cummins service network, the largest and most capable in North America. Cummins-authorized technicians are fully trained on Cummins Westport natural gas engines, with ready access to Genuine Cummins Parts and warranty support.

For questions regarding your Cummins Westport engine, or for assistance in finding a repair facility in the United States or Canada, call Cummins Care at 1-800-CUMMINS™ (1-800-286-6467)

*Covers defects in Cummins materials or factory workmanship