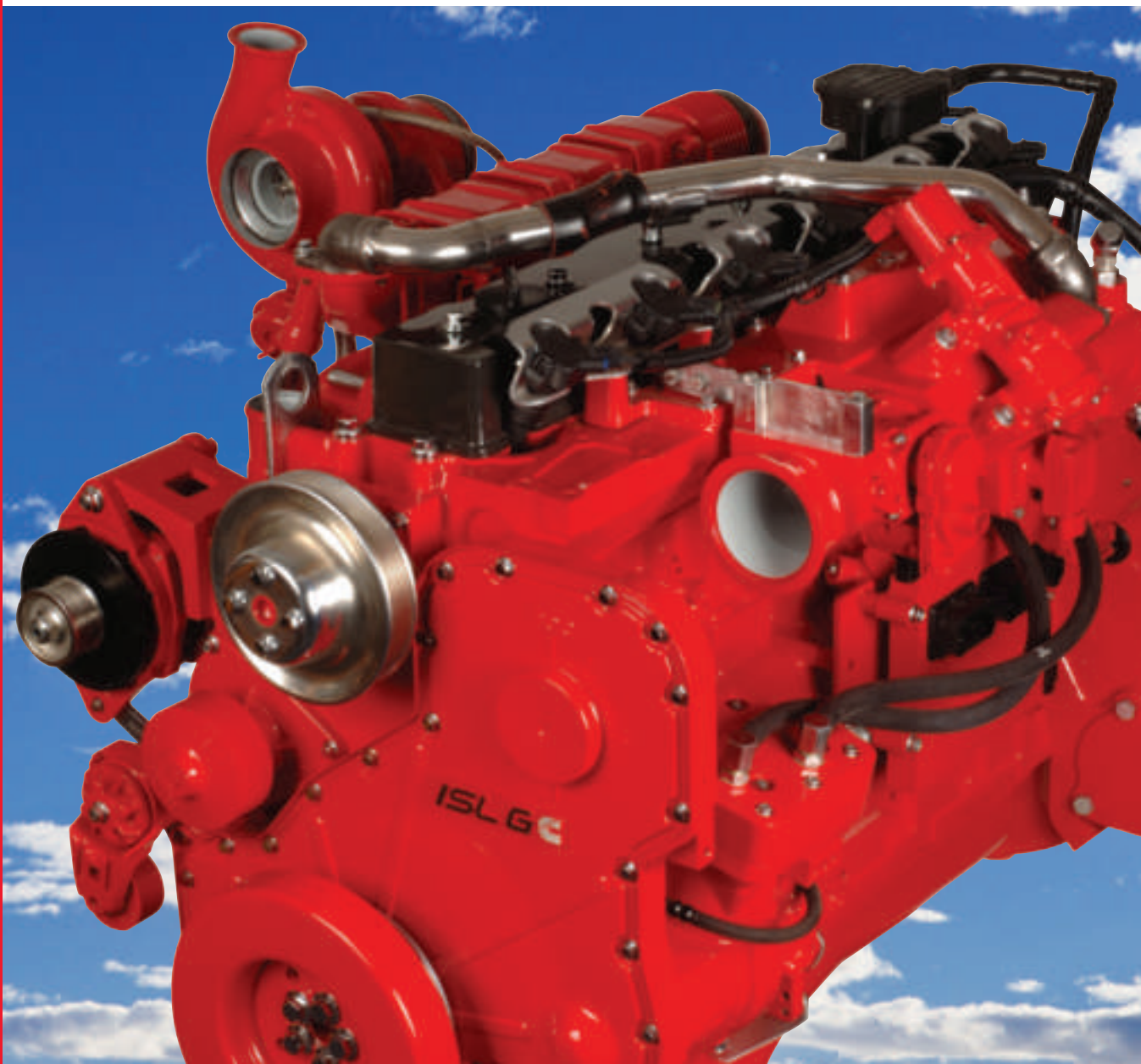




# Every™ Alternative. ISL G.

Natural Gas Engines For Truck And Bus.



# Natural Gas Engines For Truck And Bus.

## Lower Emissions, Improved Performance, Lower Costs.

The ISL G is the newest evolution of alternative fuel engine technology, combining all the advantages of clean-burning natural gas with “no compromise” power and torque for shuttle and school bus, urban transit, vocational and medium and heavy-duty truck and tractor applications.

It combines high displacement and superior horsepower with proven wastegate turbocharger technology for impressive low-end torque and transient response, with an increase in fuel efficiency. The ISL G has met 2010 U.S. EPA and CARB emissions standards since 2007.

The ISL G engine block is shared with the rugged Cummins ISL diesel – a full-skirted block for increased rigidity and strength. The design provides superior piston ring and bearing life, improved coolant flow and targeted piston cooling for greater reliability and superior durability. Life-to-rebuild and rebuildability are the same as diesel.

## Advanced Combustion Technology.

The 8.9-liter ISL G uses stoichiometric cooled Exhaust Gas Recirculation (SEGR) combustion, leveraging Cummins proven EGR technology to create a high-performance natural gas engine.

The cooled EGR system takes a measured quantity of exhaust gas and passes it through a cooler to reduce temperatures before mixing it with fuel and the incoming air charge to the cylinder.



Cooled EGR, in combination with stoichiometric combustion (the theoretical or ideal combustion process in which fuel and oxygen are completely consumed, with no unburned fuel or oxygen in the exhaust), provides significant benefits.

The use of cooled EGR (in place of large amounts of excess air used in lean burn technology) lowers combustion temperatures and knock tendency. SEGR combustion also improves power density and fuel economy vs. lean burn and traditional stoichiometric engines. Compared to previous Cummins Westport (CWI) lean burn natural gas engines, ISL G torque at idle is improved over 30% and fuel economy is improved by up to 5%.

## Maintenance-Free Aftertreatment.

Another benefit of the ISL G's advanced combustion technology is SEGR combustion creates an oxygen-free exhaust, which in turn allows for the use of Three-Way Catalyst (TWC) aftertreatment. TWCs are effective, simple passive devices packaged as part of the muffler that provide consistent performance and are maintenance-free. The ISL G does not require active aftertreatment such as a diesel particulate filter (DPF) or selective catalytic reduction (SCR).

## ISL G Ratings

ENGINE MODEL	ADVERTISED HP (KW) @ RPM	PEAK TORQUE LB-FT (N•M) @ RPM	GOVERNED SPEED
ISL G 320	320 (239) @ 2000	1000 (1356) @ 1300	2200 RPM
ISL G 300	300 (224) @ 2100	860 (1166) @ 1300	2200 RPM
ISL G 280	280 (209) @ 2000	900 (1220) @ 1300	2200 RPM
ISL G 260	260 (194) @ 2200	660 (895) @ 1300	2200 RPM
ISL G 250	250 (186) @ 2200	730 (990) @ 1300	2200 RPM

## ISL G Specifications

Maximum Horsepower	320 HP	239 KW
Peak Torque	1000 LB-FT	1356 N•M
Governed Speed	2200 RPM	
Clutch Engagement Torque	550 LB-FT	746 N•M
Type	4-CYCLE, SPARK-IGNITED INLINE 6-CYLINDER, TURBOCHARGED, CAC	
Engine Displacement	540 CU IN	8.9 LITERS
Bore and Stroke	4.49 X 5.69 IN	114 X 144.5 MM
Operating Cycles	4	
Oil System Capacity	7.3 U.S. GALLONS	27.6 LITERS
Coolant Capacity	13.1 U.S. QT	12.4 LITERS
System Voltage	12 V	
Net Weight (Dry)	1625 LB	737 KG
Fuel Type	CNG/LNG/BIOMETHANE	METHANE NUMBER 75 OR GREATER
Aftertreatment	THREE WAY CATALYST (TWC)	



### Fuel Capability.

The ISL G is capable of operating on compressed or liquid natural gas (CNG, LNG). The ISL G can also operate on up to 100% biomethane – renewable natural gas made from biogas or landfill gas that has been upgraded to pipeline and vehicle fuel quality. Biomethane fuel is carbon dioxide (CO<sub>2</sub>) neutral and using it as fuel reduces vehicle greenhouse gas emissions by up to 90%.



### Features And Benefits.

■ Factory Built, Dedicated Natural Gas Engine – Built on the same assembly line as Cummins diesels, the ISL G shares many components and parts with Cummins L Series diesels, inheriting their renowned simplicity.

- Air/Fuel Regulation – Cummins closed-loop electronic control system based on Cummins Interact™ System. Sensors for engine parameters, including intake manifold pressure and temperature, fuel inlet pressure, knock detection, air/fuel ratio, and fuel mass flow. Electronically controlled wastegate turbocharger.
- Air Intake System – Charge air cooling reduces emissions by lowering intake manifold air temperatures.
- Accessory Belt Drive System – Self-tensioning serpentine polyvee belt accessory drive system for water pump, engine-mounted fan hub and most alternators. Gear-driven air compressor with provision for gear-driven hydraulic pump.
- Three-Way Catalyst – Required for all models. The ISL G meets U.S. EPA 2010 and California Air Resources Board standards at 0.20 g/bhp-hr of Oxides of Nitrogen (NOx) and 0.01 g/bhp-hr of Particulate Matter (PM). Meets EPA useful-life requirement and is maintenance-free.
- High-Energy Ignition System – Provides better performance and longer service intervals, improved spark plug and coil durability, plus self-diagnostics.
- High-Efficiency Lube Cooler – Lowers oil temperatures for longer engine life.
- Crankshaft – Eight counterweight, fully balanced, high-tensile-strength steel forging with induction-hardened fillets and journals for outstanding durability.
- Oil Filter – The combination full-flow and bypass oil filter improves filtration while minimizing oil filter replacement and disposal costs.
- Control System – Full drive-by-wire. New Electronic Control Module (ECM) provides full monitoring and control of engine sensors, fuel system and ignition system. Full interface capability to Cummins INSITE™ and diagnostic service tools. ECM provides Original Equipment Manufacturers (OEMs) and end users with the ability to tailor performance of the engine to fit the vehicle mission.

Electronic features include:

- Road speed governing
- Accelerator interlock
- SAE J1587/J1939 data links
- PTO control
- Cruise control
- Engine protection system

■ **Parts Simplicity** – Enables most engine service and repair operations with common tools.

■ **Wastegated Turbocharger** – With electronic control for precise air handling. Water-cooled bearing housing for durability.



### **On/Off-Highway Applications And Gearing Recommendations.**

The ISL G engine is an excellent choice for medium/heavy-duty truck and tractor applications, shuttle and school buses, urban transit buses, articulated buses, and on/off-highway applications such as larger refuse and dump trucks. The high torque and broad power band of the ISL G provide excellent performance when matched to various automatic transmissions. In vocational and pickup-and-delivery applications using automatic transmissions, it is best to select the proper rear axle ratio for the vehicle's tire size and desired top road speed.



### **Warranty. Every Coverage.**

Cummins Westport engines feature the same factory base warranty coverage as Cummins diesel engines.

For transit bus and shuttle engines, a standard

2-year/unlimited-mileage/kilometers warranty with full parts and labor coverage on warrantable failures\* applies. Major components are covered for 3 years/300,000 miles (482,804 km), whichever comes first.

For truck customers, full engine coverage is provided for 2 years/250,000 miles (402,336 km), whichever comes first.

### **Extended Coverage Plans.**

For additional peace of mind, Cummins Westport offers a variety of extended coverage plans to meet every customer's need.

For full extended coverage plan details, contact your local Cummins distributor or Cummins Westport representative.



### **Customer Support Every Place You Need It.**

Local service and warranty support as

well as parts availability for all Cummins Westport products are available at any authorized Cummins facility. Cummins global network includes 550 independent and company-owned distributors with more than 5,500 parts or service locations in 160 countries.

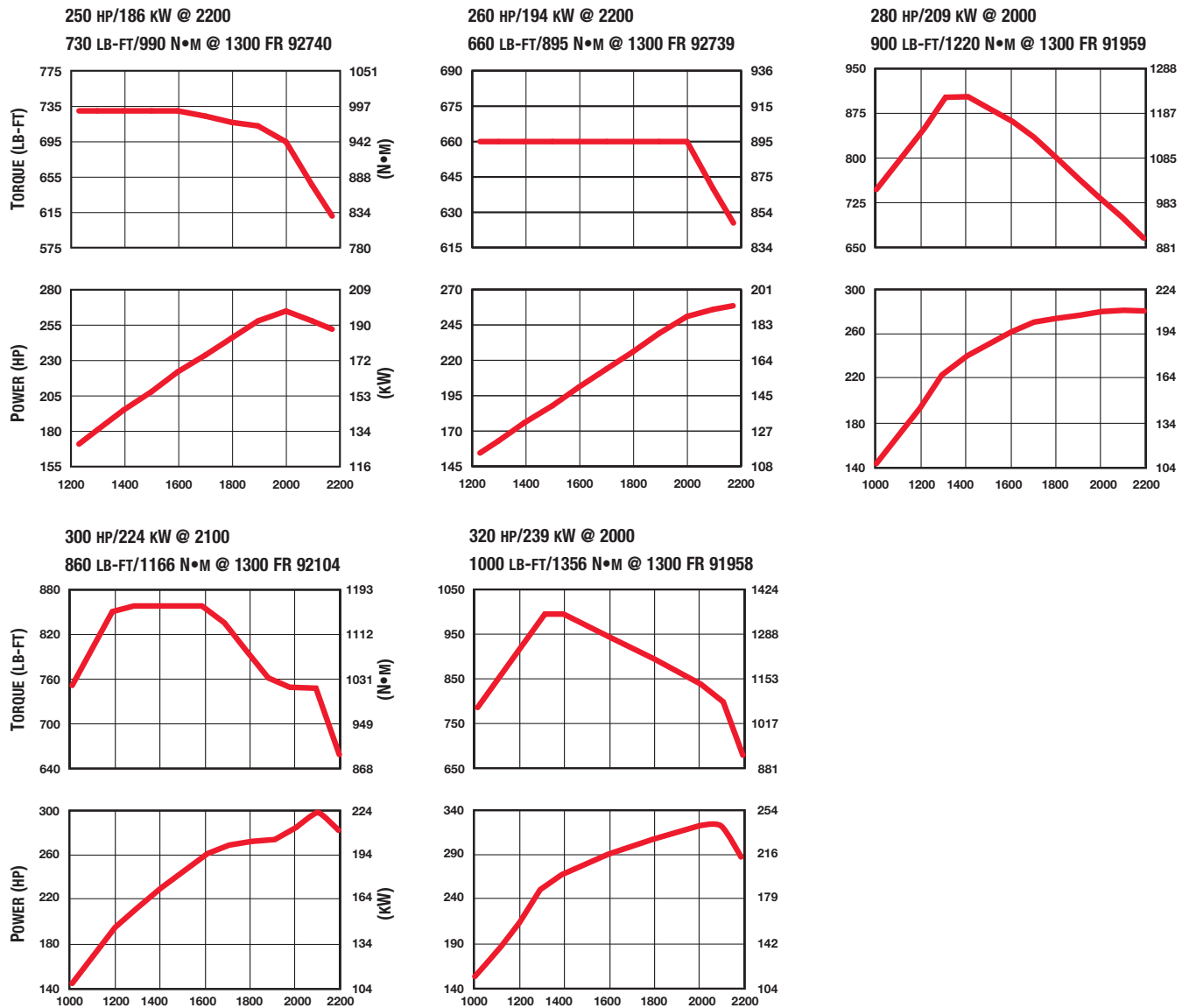
Contact our Customer Assistance Center at 1-800-343-7357.

Cummins specialists provide technical assistance, service locator and product literature 24 hours/day, 365 days/year.

\*Warrantable failures are those due to defects in materials or workmanship.



# ISL G Torque And Power Curves.



## ISL G Maintenance Intervals

	Miles/Kilometers	Hours	Months
Oil and Filter	7,500 MI 12,000 KM	500	6
Fuel Filter	15,000 MI 24,000 KM	1,000	12
Coolant Filter	7,500 MI 12,000 KM	500	6
Spark Plugs	22,500 MI 36,000 KM	1,500	18
Change Coolant	30,000 MI 48,000 KM	2,000	24
Valve Adjustment	30,000 MI 48,000 KM	2,000	24

Cummins Westport is a pioneer in product improvement. Thus specifications may change without notice. Illustrations may include optional equipment.

**EXPLORE EVERY ALTERNATIVE.**

For more information, please contact:



**Cummins Westport Inc.**  
101-1750 West 75th Avenue  
Vancouver, B.C.  
Canada V6P 6G2

Phone: 604-718-8100  
Fax: 604-718-2001  
E-Mail: [info@cumminswestport.com](mailto:info@cumminswestport.com)  
Internet: [cumminswestport.com](http://cumminswestport.com)  
[cummins.com](http://cummins.com)

Bulletin 4103996 Printed in U.S.A. Rev. 5/09  
©2009 Cummins Westport Inc.