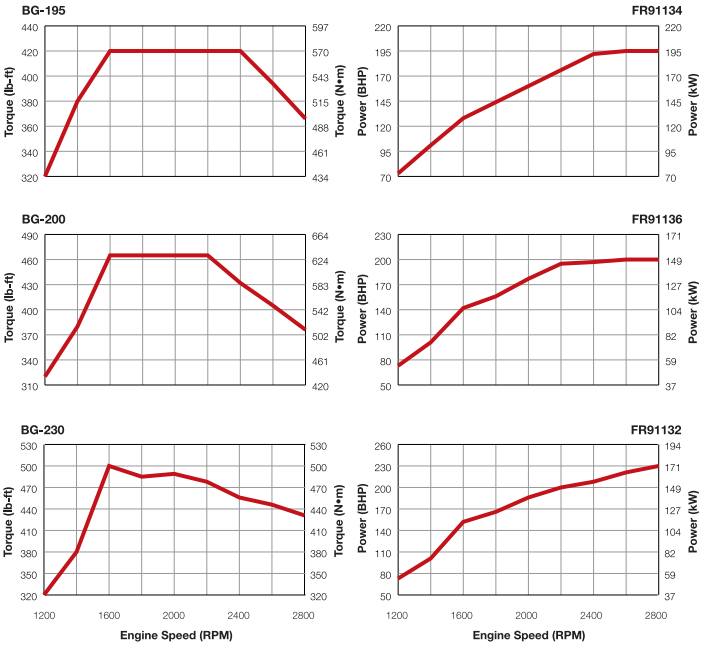
EVERY ALTERNATIVE
B GAS PLUS EEV

Cummins Westport

Natural Gas Engines For Truck And Bus



Specifications

Maximum Horsepower	172 kW 149 kW 145 kW	(230 bhp) (200 bhp) (195 bhp)
Peak Torque	678 N•m 631 N•m 570 N•m	(500 lb-ft) (465 lb-ft) (420 lb-ft)
Governed Speed	2800 rpm	
Type	4-cycle, spark-ignited, inline 6-cylinder	
Engine Displacement	5.9 L	(359 cu in)
Bore & Stroke	102 x 120 mm	(4.02 x 4.72 in)
Compression Ratio	10.5 : 1	
Oil System Capacity	15 L	(4.0 US gal)
Coolant Capacity	9.9 L	(10.5 US qt)
Net Weight with Std. Accessories, Dry	462 kg	(1,018 lb)
Torque Available at Clutch Engagement	386 N•m	(285 lb-ft)
Altitude Capability	2,600 m	(8,500 ft)

Performance

Curves shown represent gross engine performance capabilities obtained and corrected in accordance with Cummins Standards. Standard Conditions are: 99.14 kPa (29.36 in. Hg) barometric pressure [152.4m (500 ft.) altitude, 25C (77F) inlet air temperature]. The engine may be operated in transient mode up to 2,600m (8,500 ft.) altitude and 38C (100F). However, when ambient and/or installed conditions vary from the Standard Conditions, performance characteristics can be expected to vary according to the guidelines in Cummins Standard. At the time of engine shipment, performance will be within ± 5% at Rated Power & Rated Torque.

Cummins does not recommend continuous application of this engine at altitudes greater than 2,600m (8,500 ft.). Higher altitude operation may result in performance degradation, although no engine damage or decrease in durability should be expected.

Emissions

B Gas Plus (with catalyst) is certified to:

- EEV
- Euro III, Euro V
- U.S. EPA 2004
- CARB Optional Low NOx (1.8 g/bhp-hr)

EXPLORE EVERY ALTERNATIVE.

B GAS PLUS

Design Features

Air/Fuel Regulation: Cummins Closed-Loop Electronic Control System based on Cummins CM556 ECM. Sensors for various engine parameters, exhaust back pressure, intake manifold temperature, fuel inlet pressure, knock detection, air-fuel ratio, and fuel mass flow. Electronically controlled turbocharger wastegate.

Air Intake System: Charge air cooling is utilized to reduce 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.

Catalyst: Required for all models. Engine is certified to US EPA 2004 standard, California Air Resources Board Optional Low NOx (1.8 g/bhp-hr) Certification, Euro III, and Euro V.

Complete Rebuildability: The cylinder block has multiple rebore capability. Service cylinder sleeves and valve guides are also available if needed.

Control System: Full Drive-by-wire. Cummins CM556 Electronic Control Module provides full monitoring of engine sensors and control of fuel system and ignition system. Full interface capability to Cummins InSite™ and QuickCheck diagnostic service tools. CM556 provides OEM's and end users with the ability to tailor performance of the engine to fit the vehicle mission. Electronic features include:

- Operating capability on wider range of fuel quality — down to Methane Number 65
- Road Speed Governing
- Accelerator Interlock
- SAE J1587/J1939 Datalinks
- Comprehensive Engine Diagnostics through InSite™ or QuickCheck
- PTO Control
- Cruise Control
- Engine Protection System

Crankshaft: Induction-hardened, forged steel crankshaft provides maximum strength and multiple regrind capability for long-term cost savings. Crankshaft supported by seven main bearings for optimum durability.

Cylinder Block: Full skirted block increases rigidity and strength. The design provides superior durability, ring and bearing wear.

Parts Simplicity: Enables most engine service and repair operations with common tools.

Pistons: For extended piston and ring life, a Ni-Resist insert is cast into the aluminum piston and carries the top piston ring.

Turbocharger: Holset turbocharger with water-cooled bearing housing and electronically controlled wastegate provides improved response and performance without sacrificing durability.

Warranty (Europe)

Base Engine Warranty, Bus and Coach – 2 years, unlimited kilometres or miles, fan–flywheel.

Base Engine Warranty, Automotive – 2 years, unlimited kilometres, miles, or hours, fan–flywheel.

Application and Gearing Considerations

The B Gas Plus engine is an excellent choice for 20,000-30,000 lb. GCW/GVW short haul applications such as pickup and delivery vehicles, shuttle buses and on/off highway applications such as refuse trucks and dump trucks. The engine's broad power band provides excellent performance when matched to various manual and automatic transmissions.

The B Gas Plus will deliver optimum performance when operating in the 2400-2600 RPM speed range. Typical B Gas Plus overall gearing should be higher numerically than the equivalent diesel engine application. This makes good use of the higher governed engine speed and provides excellent startability and gradeability.

For truck applications up to 14,500 kg GCW/GVW: Select a gearing combination (transmission ratio, tire revs/mile, drive axle ratio) that will result in approximately 2600-2800 rpm at 65 mph.

For urban transit, shuttle, or school bus: Select a gearing combination (transmission ratio, tire revs/mile, drive axle ratio) that will result in approximately 2800 rpm at the specified maximum vehicle speed.

The formula for determining engine speed (rpm) at the 65 mph check point for a selected gearing combination is:

$$\text{rpm} = \frac{(65\ \text{mph})\ (\text{trans ratio})\ (\text{axle ratio})\ (\text{tire revs/mile})}{60}$$

It is important to utilize actual gear ratio and tire rev/mile information in selecting gearing combinations. A qualified truck/bus sales person or a Cummins distributor can provide information on available transmission top gear and drive axle ratios in addition to the actual tire revs/mile for a specific tire to be used on the drive axle.

Note: Lower numeric (faster) axle ratios are sometimes considered to obtain higher maximum vehicle speeds and lower engine rpm at the vehicle's normal cruise speed. When considering these combinations, one should be aware that:

(a) The increase in maximum vehicle speed will be minimal

(b) The fuel economy benefit associated with lower cruise rpms is difficult to measure

(c) Most importantly, vehicle grade climbing capability will be adversely affected resulting in increased gear shifts.

To understand the relative differences among various gearing combinations, one should consult an authorized Cummins representative and request a Vehicle Mission Simulation™ (VMS).

Customer Support

Service Network - Cummins Westport engines are backed by nearly 4,500 Cummins authorized parts or service outlets worldwide with strategic locations in every country.

Customer Assistance Center – (44) 1327 886-464
Cummins specialists provide technical assistance, service locator and product literature 24 hours/day, 365 days/year.

North America: 1-800-343-7357

Australia: 1800 351-004

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