



L9N Euro 6

for Bus & Trucks



Smart Efficiency



The L9N is the natural choice in alternative-fuel engine technology. With industry leading performance, it combines all the advantages of clean burning, low cost natural gas with no compromise in power and torque. It moves to Euro 6 emissions with minimal changes from Euro 5, making it ideal for alternative fuel bus and truck applications.

L9N

The L9N engine block is shared with the Cummins L9 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. The engine's life to rebuild and rebuildability are similar to those of diesel engines.

Advanced Combustion Technology

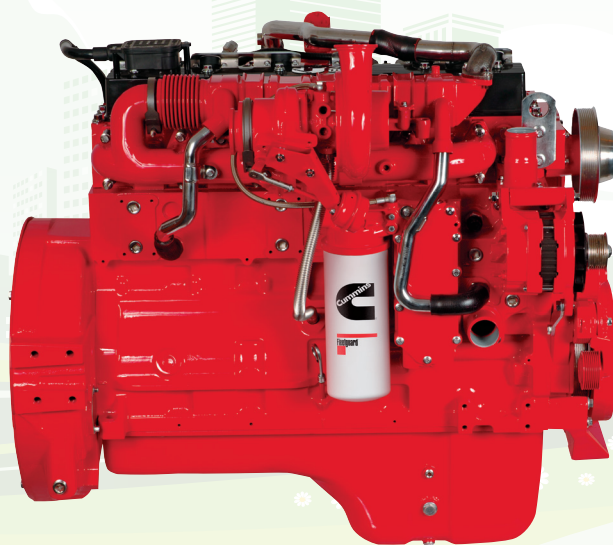
The 8.9 litre L9N uses advanced stoichiometric combustion with cooled Exhaust Gas Recirculation (EGR) to meet ultra-low emissions requirements. The cooled-EGR system takes a measured quantity of exhaust gas and passes it through a cooler to reduce temperatures before mixing it with fuel and the incoming air charge to the cylinder. This lowers combustion temperatures and knock tendency, reducing engine out emissions and noise. With a pedigree of over 1 million engines to date, Cummins cooled EGR technology is proven in a wide range of installations.

Stoichiometric combustion is the ideal combustion process where all fuel and oxygen is completely consumed. This means that no unburned fuel or oxygen exits through the exhaust. Combined with cooled EGR it improves power density and fuel economy to create a high performance natural gas engine. It also enables the use of simpler, lower cost exhaust aftertreatment systems. Since its introduction for EPA 2010 and Euro 5 emissions, thousands of truck

and bus customers have noticed the impressive low-end torque, transient response and quiet operation of the 8.9 litre gas engine. Compared with previous Cummins lean-burn natural gas engines, L9N torque at idle is improved over 30 percent, and fuel economy is improved by up to 5 percent. For Euro 6, all of the benefits designed for Euro 5 are carried over, with minimal engine changes required.

Specifications

| | |
|-----------------------|----------|
| POWER (HP) | 250-320 |
| POWER (KW) | 184-235 |
| PEAK TORQUE (NM) | 990-1356 |
| GOVERNED SPEED (RPM) | 2200 |
| NO. OF CYLINDER | 6 |
| DISPLACEMENT (LITRES) | 8.9 |
| DRY WEIGHT (KG) | 737 |



Features and Benefits

- **Factory-Built, Dedicated Natural Gas Engine** – manufactured by Cummins on the same assembly line as Cummins diesels, the L9N shares many components and parts with Cummins L Series diesel, inheriting their renowned simplicity.
- **Heavy-Duty Design** – rugged features include replaceable wet liners, roller followers, by-pass oil filtration and targeted piston cooling for longer service in the toughest work environments.

Redefining Efficiency



■ **Fuel Capability** – the L9N is capable of operating on compressed or liquefied natural gas (CNG, LNG). The L9N can also operate on up to 100 percent biomethane, Renewable Natural Gas (RNG) made from biogas or landfill gas that has been upgraded to pipeline and vehicle fuel quality.

■ **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.

■ **High Power and Torque** – available up to 320 hp with 1356 Nm of torque for alternative fuel truck and bus applications.

■ **Closed crankcase ventilation (CCV)** – new remote mounted system required to re-cycle blow-by gases now counted in the engine emissions.

■ **Cummins Wastegated Turbocharger** – developed by Cummins Turbo Technologies with electronic control

for precise air handling. Has a water-cooled bearing housing for durability.

■ **Air Intake System** – charge air cooling reduces emissions by lowering intake manifold air temperatures.

■ **Maintenance-Free Aftertreatment** – uses a Three-Way Catalyst (3WC) aftertreatment. 3WCs are effective, simple, passive devices, packaged as part of the muffler, that provide consistent emissions control performance and are maintenance-free. The L9N does not require active aftertreatment such as a Diesel Particulate Filter (DPF) or Selective Catalytic Reduction (SCR).

■ **High-Energy Ignition System** – spark ignited system providing better performance and longer service intervals with improved spark-plug and coil durability.

■ **High-Efficiency Lube Cooler** – lowers oil temperatures for longer engine life.

■ **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.

■ **Crankshaft** – eight counterweight, fully balanced, high tensile- strength steel forging with induction hardened fillets and journals, for outstanding durability.

■ **Control System** – full drive-by-wire. Electronic Control Module (ECM) provides full monitoring and control of the engine sensors, fuel system and ignition system.

■ **Full interface capability** to Cummins INSITE and diagnostic service tools.

■ **Oil Filter** – the combination full-flow and bypass oil filter improves filtration while minimising oil filter replacement and disposal costs.

Smart Efficiency

SmartEfficiency at Cummins means providing future-proof solutions that take Cummins and our customers beyond Euro 6. We are developing a range of sustainable technologies for improved fuel efficiency, reduced CO₂ emissions and the lowest total cost of operation. Using our experience we tailor these

technologies to each installation for the optimum driveline efficiency across a range of operations and duty cycles.

Redefining Efficiency

Cummins is redefining performance, uptime, fuel efficiency and durability to increase value for every customer. Powering almost 800,000 vehicles each year.



Support

Cummins technology and engineering expertise enables us to partner with our customers to manage the complexity of Euro 6 with them. Strong integration support capability means that we can work closely with the vehicle manufacturers to maximise the potential of their products powered by our engines. Our ability to tailor the engine to the installation is a positive advantage for them.



All Cummins engines are backed by the widest support network in the industry, with over 7,200 service outlets worldwide. Your local Cummins customer assistance centre is available to provide technical support when you need it. Visit **cumminsengines.com** for more details.

Cummins has always been a pioneer in product development. Thus specifications may change without notice. Illustrations may include optional equipment.



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