



6.6L V-8, L8T

LOW-SPEED TORQUE PRODUCER

The L8T is meant for grunt work thanks to an impressive 464 lb.-ft. of peak torque that arrives 200 rpms sooner and is 22 percent more than GM's previous 6.0L V-8 HD gasoline engines. Direct injection technology provides precise fuel control and enables a higher compression ratio that broadens the torque curve and contributes to a power output of 401 hp. This broad torque band provides a stronger feeling of on-demand power at all speeds.



6.6L L8T GM Powered Solutions Engine

STATE-OF-THE-ART TECHNOLOGIES

Cast-Iron Cylinder Block

- Cast-iron block specifically designed for L8T heavy duty use.
- Six-bolt, cross-bolted main-bearing caps limit crank flex and stiffen the engine's structure.
- Deep-skirt design, where the block sides extend below the centerline of the crankshaft, helps maximize the block's strength and minimize vibration.
- Incorporates channels for jet-spray piston cooling to help optimize durability.

Aluminum Heads

- Utilizes GM's proven Gen V aluminum head design combined with direct-injection combustion system to maximize airflow at higher rpms for a broad horsepower band, along with strong, low-rpm torque.
- Large, straight and rectangular intake ports feature a slight twist to enhance mixture motion particularly at lower rpms.
- Exhaust valves made of Inconel alloy help dissipate heat to aid in valvetrain reliability.
- The heads' valve seats feature unique inserts designed to withstand high heat and extreme conditions under load.

Direct Injection Technology

- Injects fuel only where it is needed, directly into the combustion chamber, promoting precise fuel control, combustion and efficiency.
- Fosters a more complete burn of the fuel in the air-fuel mixture.
- Operates at a lower temperature than conventional port injection.
- Improved fuel atomization at cold temperatures enhances ability to start at cold temperatures.

Refinement Features

- The L8T operates with an increased 10.8:1 compression ratio for improved efficiency and broader torque band, all while still utilizing regular 87 octane gasoline.
- The high-pressure fuel pump incorporates "soft stop" control for the pump's internal solenoid to minimize the characteristic "ticking" sound of direct injection systems.
- Large-diameter (8.7mm) push-rods maximize stiffness to support high-speed valvetrain performance under heavy loads.
- Air induction specific humidity sensor for optimal combustion efficiency regardless of surrounding ambient humidity. A technology first for GM HD engines

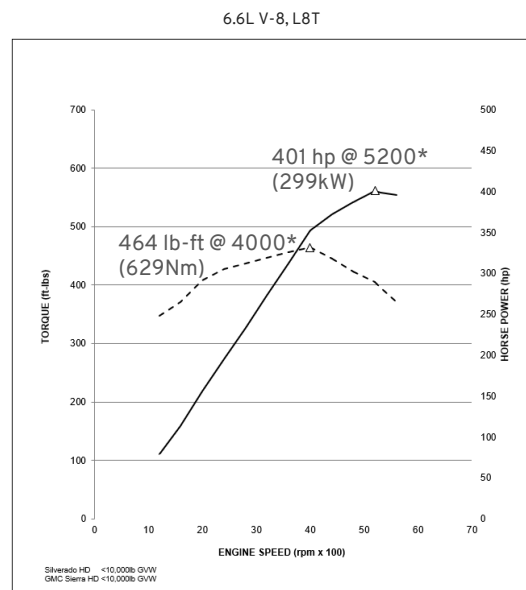
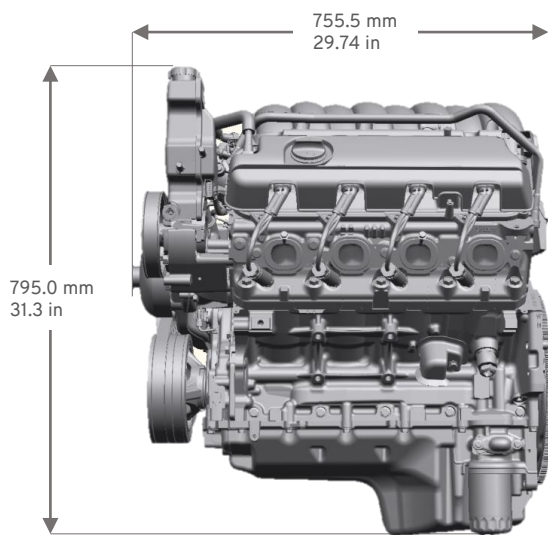
ADDITIONAL FEATURES

- Available dual alternators
- Variable Valve Timing (VVT)
- Electronic throttle control
- Dual-Pressure control and variable displacement oil pump
- Oil-jet piston cooling
- Air induction humidity sensor
- PCV-Integrated rocker covers
- Dexos2 5W30 engine oil
- Iridium-tipped, extended life spark plugs
- GM developed E93 engine controller
- 58X crank timing

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SPECIFICATIONS

Type:	6.6L
Displacement:	6564 CC (400CI)
Engine orientation:	Longitudinal
Compression ratio:	10.8:1
Valve configuration:	Overhead valves
Vales per cylinder:	Two
Assembly site:	Tonawanda, NY
Valve lifters:	Hydraulic roller
Firing order:	1 - 8 - 7 - 2 - 6 - 5 - 4 - 3
Bore x stroke:	103.25 x 98.0 mm
Fuel system	Direct injection
Fuel type:	Regular unleaded ()87 Octane)
Horsepower:	401 hp (299kW) @5200 rpm *
Torque:	464 lb-ft (629Nm) @4000 rpm* *GM tested per SAE J1349 Actual power levels may vary depending on OEM calibration and application
Maximum engine speed:	5600 RPM
Emissions control:	Catalytic converters, three-way catalyst, positive crankcase ventilation
Block:	Cast iron
Cylinder head:	Cast aluminum
Intake manifold:	Composite
Exhaust manifold:	Stainless steel
Main bearing caps material:	Cast nodular iron
Crankshaft:	Forged steel
Camshaft:	Billet steel
Connecting rod:	Forged powder metal



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