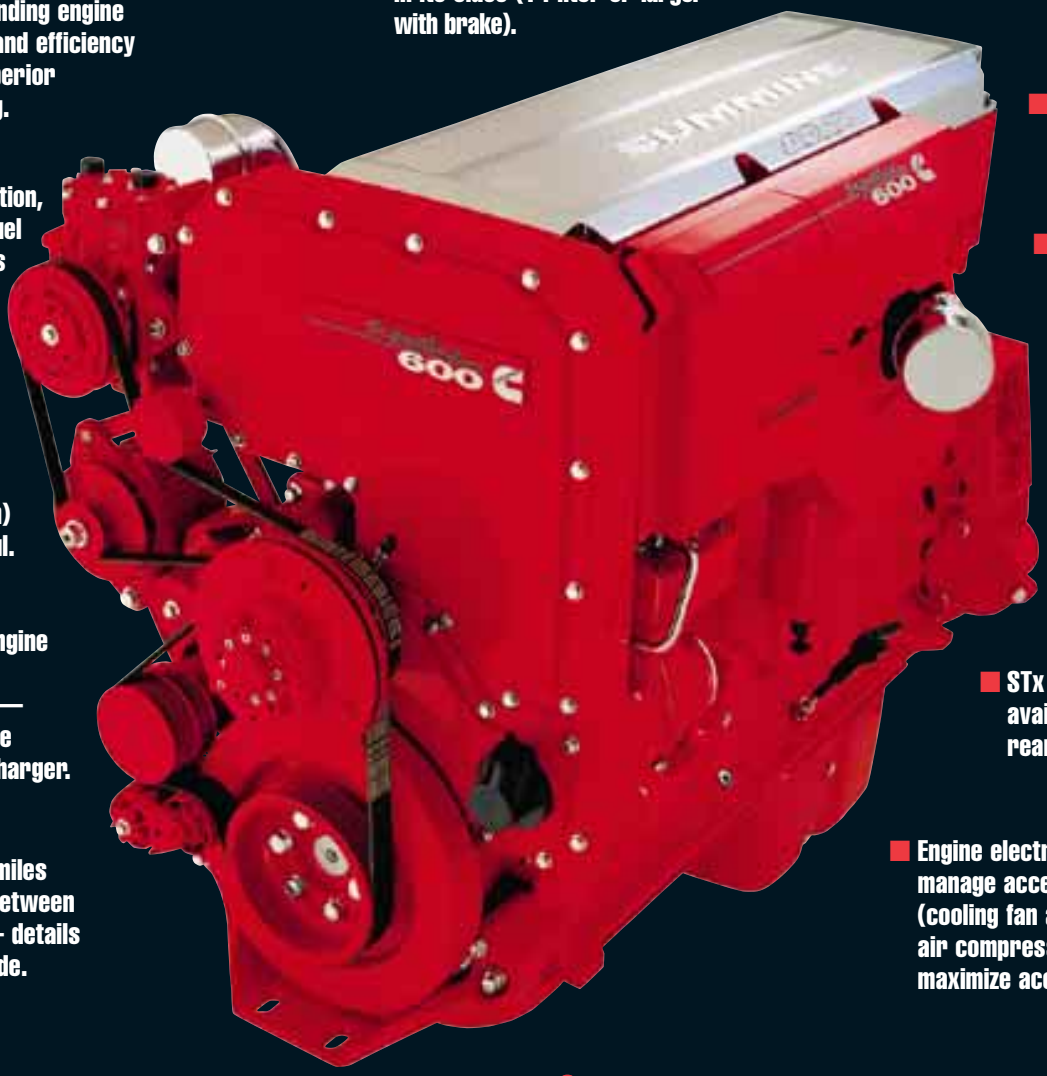
Signature 600

RUN HARD. DREAM BIG.

- No-compromise design — dual overhead cams deliver outstanding engine performance and efficiency along with superior engine braking.
- Approximately 300 pounds lighter than any other engine in its class (14 liter or larger with brake).
- Chrome valve cover standard.
- Exceptional fuel economy.
- Premium filtration, standard — fuel and lube filters designed for 50,000-mile service.
- The first ever 1200-hp electronic truck engine — 600 hp to go, 600 hp to slow with standard Intebrake™ system.
- Over 1 million miles (1,610,000 km) life-to-overhaul.
- Outstanding engine response and performance — unique variable output turbocharger.
- STx technology available to lower rear axle cost.
- Up to 50,000 miles (80,500 km) between oil changes — details on opposite side.
- Engine electronics manage accessories (cooling fan and optional air compressor) to maximize accessory life.



- Designed for reliability — 30% fewer parts, no external hoses or lines, premium edge-molded gaskets, with a simplified and proven fuel system.

SPECIFICATIONS

Advertised Horsepower	600 bhp	(448 kW)
Peak Torque	2050 lb-ft	(2779 N·m)
Governed Speed	2000 rpm	
Clutch Engagement Torque	1000 lb-ft	(1356 N·m)
Number of Cylinders	6	
Number of Camshafts	2	
Oil System Capacity	14 U.S. gal	(53 liter)
Net Weight with Accessories, Including Intebrake System, (Dry)	2,650 lb	(1,202 kg)

The Inside Story On Signature.

Innovations on the Signature 600 include:

Dual Overhead Camshafts.
Superior engine performance with exceptional engine braking. One cam is dedicated to driving the high-pressure fuel injectors. Its extra-wide lobes are designed to provide new levels of injection pressure at reduced stress levels. A second cam is used to optimize valve timing and to provide a dedicated lobe to drive the engine brake. Dual overhead cams mean no compromises – in engine performance, durability or compression braking.

Cummins Intebrake System.
Standard on Signature. The Intebrake system manages the brake, engine systems and accessory functions in order to produce 600 load-slowing brake horsepower. By varying the engine conditions and operating accessories such as the cooling fan and air compressor, the Intebrake system can generate new levels of braking performance.

Fully Integrated Electronic Controls.
ECM coordinates all subsystems, including transmission and ABS. Also manages engine accessories such as engine brake, Smart Air Compressor, cooling fan and more.

Smart Air Compressor.
Optional feature electronically controlled through the ECM. Turns off automatically when extra power is demanded; turns on automatically to increase engine-braking horsepower when the Intebrake is operating. Includes prognostics to optimize maintenance and eliminate on-road problems.

Twin Cylinder Air Compressor.
Optional feature for use in vehicles that require more compressed air.

Water-In-Fuel Sensor.
Designed into the Fleetguard® FS1007 fuel filter, the water-in-fuel sensor alerts drivers when contaminated fuel is present, helping to prevent performance problems.

Greater Reliability With 30% Fewer Parts.
Signature's integrated design eliminates hoses and fittings and utilizes premium edge-molded metal gaskets. These design features eliminate potential leaks and vibration-related problems.

Reduced Maintenance.
Advanced Fleetguard ES System™ with StrataPore™ filters. Up to 50,000 miles (80,500 km) between service intervals in light-duty applications, 40,000 miles (64,400 km) in normal use and 20,000 miles (32,200 km) in severe service. Optional CENTINEL™ Advanced Engine Oil Management System extends oil change intervals to 525,000 miles (844,900 km).

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

Signature 600 Gearing Recommendations.

The Signature 600 features a power curve that delivers outstanding performance and operating flexibility. The engine has been designed to produce maximum power between 1600-2000 rpm and builds up to 2050 lb-ft of torque in the 1000-1400 rpm range. Signature's power curve design allows the driver to maximize vehicle performance when operating the engine above 1400 rpm. In contrast, the driver can elect to drive for maximum fuel economy by operating the engine in the 1100-1500 rpm range. This flexibility will result in maximum acceleration and grade-climbing performance when operating at higher engine speeds and provide maximum operating efficiency and minimum gear shifts when operating between 1100-1500 rpm.

These gearing recommendations are ideal for Signature engines hauling up to 80,000 pounds GCW. To take advantage of the performance and fuel economy benefits of Signature, gear the vehicle so that at 65 mph the engine speed falls between 1450-1550 rpm.

The charts below list some of the acceptable transmission and axle ratio combinations that yield engine speeds in the 1450 to 1550 rpm range at 65 mph. Consult your truck dealer or Cummins distributor for specific gearing recommendations for your application.

Cruise rpm with 500 Rev/Mile Tires

Top Gear Ratio		.73	.73
Rear Axle Ratio		3.7	3.9
mph	62	1395	1471
	65	1463	1542
	68	1531	1613
	70	1576	1660

Cruise rpm with 516 Rev/Mile Tires

Top Gear Ratio		.73	.73
Rear Axle Ratio		3.55	3.7
mph	62	1382	1440
	65	1449	1510
	68	1516	1580
	70	1560	1626

We recognize that lower numeric (faster) axle ratios are sometimes used to obtain higher maximum vehicle speeds and lower engine rpm at cruise. When selecting 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) and most important, vehicle grade-climbing capability will be adversely affected resulting in increased gear shifts. To understand the relative differences between various gearing combinations, one should consult an authorized Cummins representative and request a vehicle performance simulation (VE/VMS).

The chart below should be used as a guideline for heavy-hauler applications (476 rev/mile tires). Consult your truck dealer or Cummins distributor for specific gearing recommendations for your application.

Heavy-Hauler Gearing (with 476 Rev/Mile Tires)

Top Gear Ratio:	100,000 lb	120,000 lb	140,000 lb
.73	4.1	4.3	4.6

Cummins Engine Company, Inc.
Box 3005
Columbus, IN 47202-3005
U.S.A.

Phone: 1-800-DIESELS (1-800-343-7357)
Fax: 1-800-232-6393
E-mail: powermaster@cummins.com
Internet: www.cummins.com
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