

2005 Corvette LS2 400 HP Engine

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The new Corvette has a 400 hp engine so notable named the LS2. The predecessor was the LS1 model at a mere 350 hp. This engine along with aerodynamics allows this Corvette to have the highest top speed of any Corvette, including the exotic ZR-1 model from the early 1990's. This new engine is all aluminum and with the Z51 package, allows the fastest acceleration of any model currently available.

The team considered using a 405 hp LS6 engine, but it had a lot of special components in it to get that horsepower. They were afraid that the cam might have been too aggressive for everyday street driving. When the team finished, they came up with a 400 hp engine at 6,000 RPM. The engine also boasts 25 lb-ft greater torque than the previous engine. Torque numbers are 400 lb-ft at 4,400 RPM. Now the engine is larger. The engine displacement increased from 346 cu in to 364 cu in. This was accomplished by a larger cylinder bore of 101.6mm. The stroke remained the same at 92mm. The LS2 also uses a higher lift cam and stronger valve springs. Another engine feature is the throttle body has been increased from 75mm to 90mm which allows more air into the engine. Couple all of this together with new flat top pistons at a higher compression of 10.9:1 and faster responding fuel and engine management computers results in one of the most advanced engines GM ever put in a car.

Other interesting features in the overall layout of the engine included moving the engine 1" forward. 1"? What could that do? Actually, it allowed for a better exhaust system, which in turn gave the car more power. There is more than enough power to exceed the traction of the rear tires. But cornering also had to be considered in the engine design. If the car is capable of 1.0+ G's in maximum cornering, this is the equivalent of turning the engine on its side at 45 degrees. The team made a different windage tray and oil pickup to control the lubrication system during spirited driving. Redesigning also allowed the team to eliminate the "gull-wing" oil pan of older models leaving room for more exhaust work to further tune the engine.

But how did all of these modifications effect the overall gas consumption? The new Corvette can get 23 mpg on the combined EPA city/highway test. That's better than the 320 hp Porsche 911 at 20 mpg. Forget the 400 hp Ferrari Modena at 12 mpg.

This new engine has been totally redesigned for the Corvette enthusiast and shows a tremendous effort GM has put forth for this new model. This is by far the best Corvette ever produced. Stuart Simpson

I collect pictures of the new C6 corvettes. Take a look at my website. <http://www.corvette-links.com>