

## General Motors' 15-Year Legacy of Performance Dominance Continues

While the driver provides the soul of the car, the engine is its heart. The performance car market has been dominated by a series of V8 engines made by General Motors over the last 15 years. Beginning with the LT1, which debuted in the 1992 Chevrolet Corvette, followed by the LS1 in 1997 and now the LS3, GM has been on a streak of successful performance V8 engines that is unmatched by any other car manufacturer. The 5.7 liter LT1 engine is closely related to the original Small Block Chevy V8 (dating back to 1955), but has several key improvements. The LT1 was the power plant for the 1992-1996 Corvette and the Chevrolet Camaro and also the 1993-1997 Pontiac Firebird. The LT1 also made its way into the Impala SS and even Caprice police package cars.

The LT1 in conjunction with the Corvette produces an impressive 300 HP, which was an amazing number in the early 90s. Several technological improvements made this possible, such as a new set of high-flow aluminium cylinder heads and a short runner intake manifold. A highlight of the LT1 engine is that it employs reverse flow cooling, sending coolant to the cylinder heads first, which enables the LT1 to run more ignition advance and a high-for-its-time 10.4:1 compression ratio for greater horsepower.

However, LT1 engines did not remain in service for a long period. The entire LT family of engines (LT1, the High-Output LT4 and the L99 "baby LT1") had to make way for the next generation LS1. The 5.7 liter LS1 engine debuted in the 1997 Corvette and went on to be listed on Ward's 10 Best Engines the same year. The LS1 represents a clean-sheet approach—it has nothing in common with the original Small Block V8 or LT1. The LS1 made its way into thousands of Corvettes, Camaros, Trans Ams, and also the 2004 Pontiac GTO. The LS1 was also the basis for the Vortec line of GM truck engines.

The 350 horsepower LS1 featured all-aluminium construction, with a composite plastic intake manifold, single bore throttle body, and high-flow cylinder heads that set the standard for aftermarket performance in the late 1990s. The LS1 inspired a new generation of performance enthusiasts. Using the power of the internet to share ideas and technical knowledge, this new generation has helped create a second golden-age of the muscle car. The LS1 drove a whole new era of aftermarket modification, and the superb design of the motor meant it was simpler and cheaper to get more horsepower from the engine.

The successor to the LS1 was the LS2, a relatively short lived engine that used a slightly larger displacement and upgraded heads to produce 400 horsepower. The 6.0 Liter LS2 was used in the Corvette from 2005-2007, the 2005 and 2006 GTO, and the Trailblazer SS. The LS3 engine is the latest engine and is set to power the Corvette in 2008. Although based on the LS1, it produces an amazing 430 horse power. The LS3 is an updated version of the LS2 engine with a larger bore of 4.06 inches resulting in a displacement of 6.2 liters (0.2 liters higher than the LS2 engine). The LS3 uses a set of cylinder heads based on those found on the 7.0 liter, 505-hp Corvette LS7. There is speculation that the LS3 will find its way into the 2009 Camaro as well.

The success of the LT1, LS1 and LS2 engine series has forced other auto makers to come up with competing engine packages. Chrysler introduced an all new Hemi V8 in 2003 which borrows extensively from the LS1 design. Ford has resorted to superchargers on its line of "modular" V8s to compete with the power output of the LS series GM engines.

GM (General Motors) may not have been synonymous with power and style, but the truth is that GM has always been a silent performer. Unlike other car manufacturers GM has not tried to hog the limelight by throwing fancy parties and grand launches. GM has however invested heavily in R&D; it is the result of years of painstaking Research and development that engines like the LS1 have managed to blow away their competition. GM has made a place for itself in the history books because of the innovations that it brings out each year when it comes to automobiles. It is not surprising that GM is a company that has started setting standards instead of following them. Every new innovation that GM makes is quick to become a de facto standard in the market.

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