OLD-SCHOOL FUEL

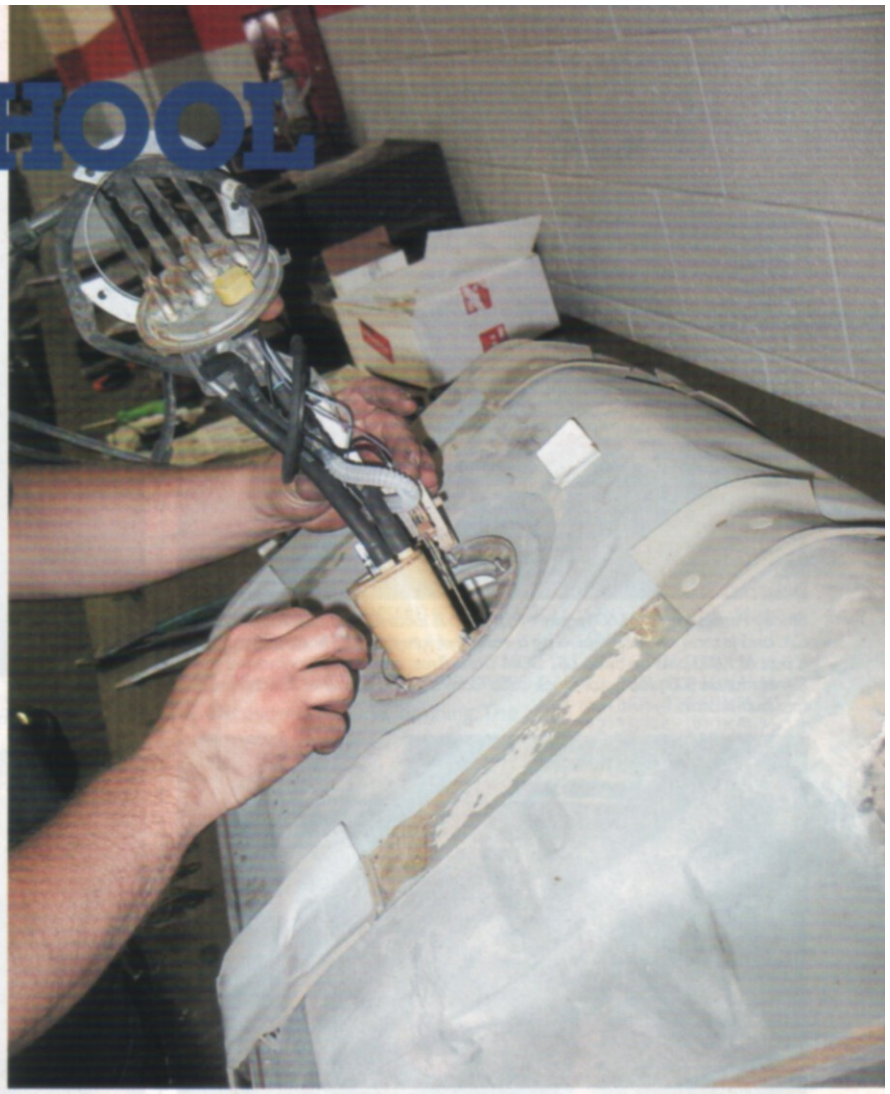
REPLACING OUR LT1'S WEAK FUEL SYSTEM NETS 16 HORSES AT THE WHEELS

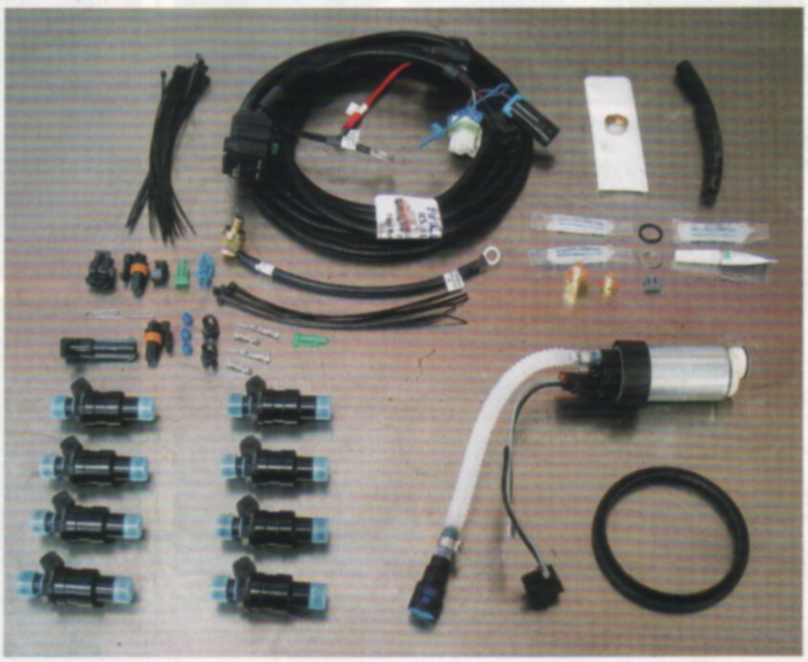
BY SCOTT PARKER
PHOTOGRAPHY BY THE AUTHOR

The initial installment of our Old-School Z28 (Jul./Aug. '05 *GMHTP*) discussed bolt-on upgrades that helped a high-mile LT1 Camaro pick up 48 ponies and 31 lb-ft of torque at the wheels. While that new power was great, it turns out that due to a weak original fuel pump, the air/fuel mixture was severely leaning out at wide-open throttle. The 15:1 air/fuel reading, combined with the fuel pressure dropping from 41 to 20 psi at the top end, meant something had to be done fast.

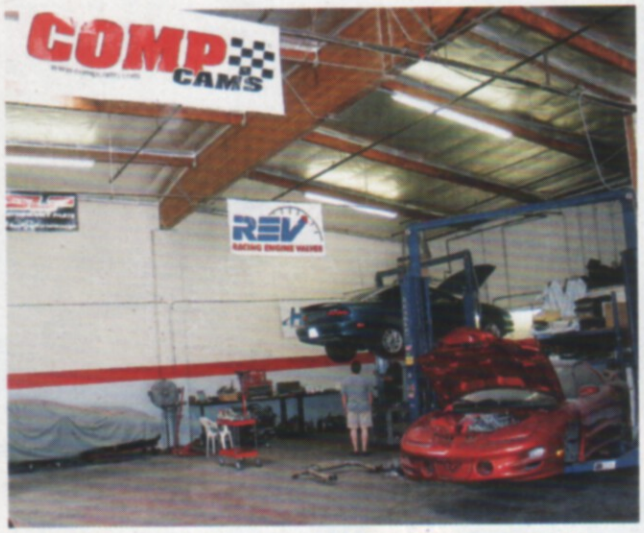
Before burning a rather sizable hole in all of the pistons, we got on the horn to Racetronix, a company that specializes in designing, manufacturing, and distributing high-performance fuel and electrical components. Racetronix was happy to contribute its High-Performance Fuel Pump System and a fresh set of injectors for good measure. A set of Delphi 24 lb/hr injectors (PN 621022) and a Racetronix 255 LPH LT1 F-body specific fuel pump are the major players, however, Racetronix provides no shortage of wiring upgrades to truly make this a complete kit. For this install we also opted for the plug-and-play wiring harness, which is an additional $90 onto the economical $160 base price of the fuel pump assembly. The wiring harness is designed to take the load off the overburdened factory system and provide power directly from the alternator. The harness and fuel pump can accommodate 450-500 hp on its own and 550-600 hp with the addition of an inline fuel pump booster. While this mostly stock LT1 won't be approaching these limits, its good to have added insurance over reusing old factory wiring.

Racetronix has put considerable thought into assembling a complete and high-quality kit. The factory in-tank wiring, for example, often contains burnt or corroded connectors, so thicker mil-spec Teflon/silver replacements are included in the kit and are used throughout. A special factory-type flex tube with a quick-connect fitting is used to transmit the 21st Century pump-gas cocktail or race gas from the pump outlet to the metal feed line. The flex tube is engineered not to break down, swell, or kink like rubber hose. Another unique feature to the Racetronix kit is a custom adapter affixed to a Walbro fuel pump, which enables the use of the factory fuel bucket to prevent starvation under hard acceleration or cornering. Besides keeping air out of the fuel line,



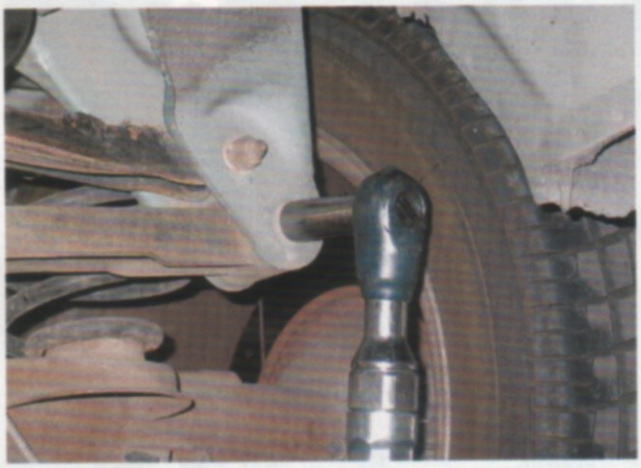


The Racetronix kit came with virtually everything you need to install it, including a paper clip to unclip the old wiring harness, a handful of zip-ties, dielectric grease, a special gas-safe adhesive to reseal the fuel bucket, a 30-micron filter sock, a tank gasket, a spare fuse, stainless mounting hardware, and detailed instructions. The upgraded harness boasts a 40-amp relay, a Delphi waterproof fuse holder, a relay sock, factory-type connectors and locks. Though the stock injectors probably would have been sufficient, again we didn't want to take any chances, so these stock-sized Delphi 24 pounders were acquired from Racetronix as well.

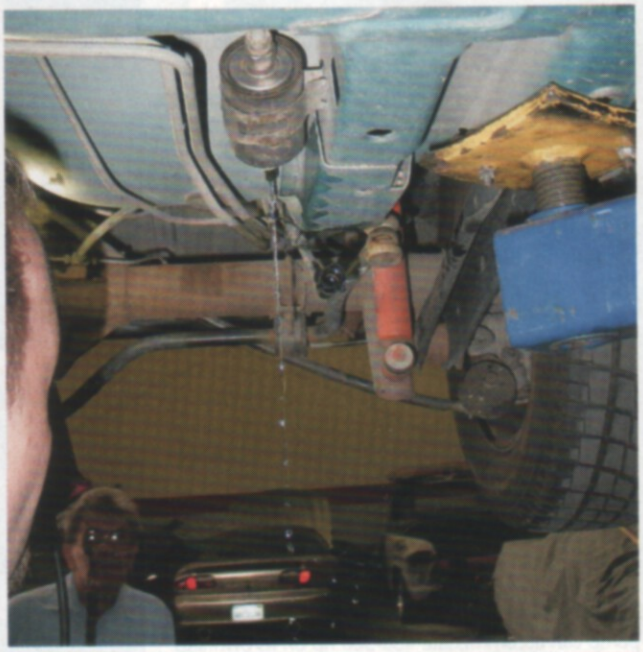


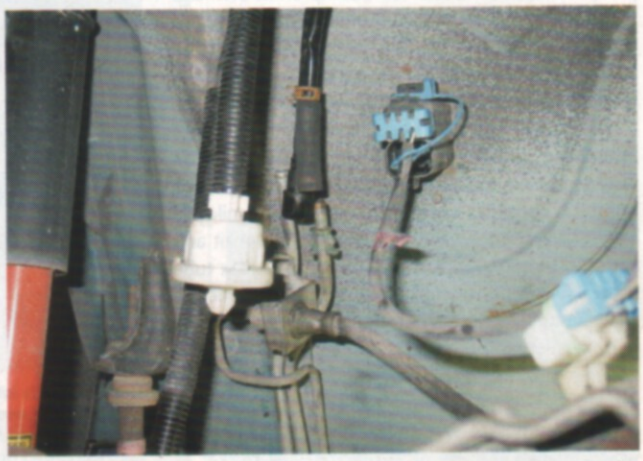
Strictly Performance's 4,500-square-foot shop is located in sunny Van Nuys, CA, and is most often occupied by a variety of late-model F-bodies, including a pair of 1,000-plus hp turbo LS1 SOM Trans Ams, an insane Procharged Silverado, an 800-plus-horse stock-cube Camaro, and plenty of heads/cam and bolt-on cars.

With the suspension and exhaust out of the way, the heat shield for the gas tank is unscrewed and the tank is ready to come out.



Robert kicks things off by first disconnecting the negative battery terminal then removing the gas cap assembly, the Borla cat-back exhaust, and finally, the 2 1/18mm nut and bolt on the Panhard bar and strut brace.



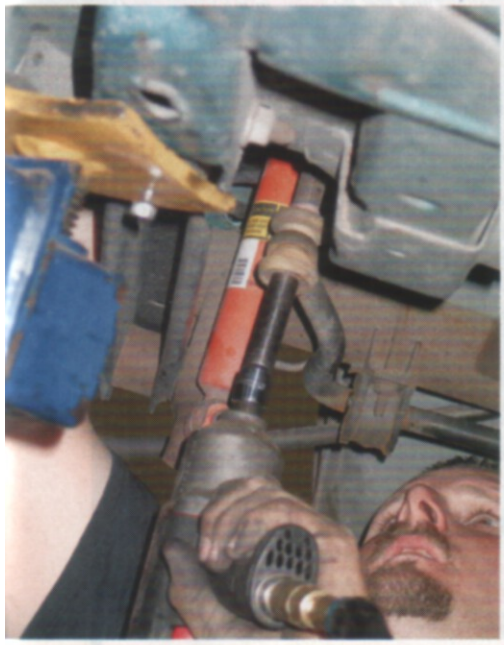


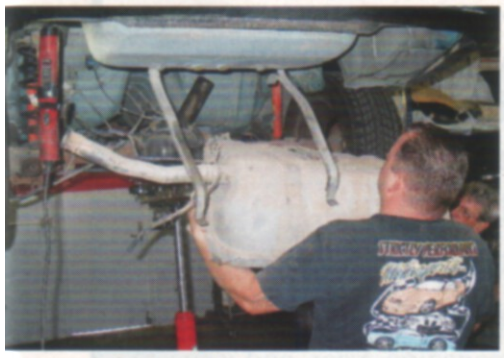
But first, the fuel line must be unplugged at the filter, the return line must also be disconnected, the plug for the gas tank removed, and finally, the evap tube for the tank with a set of pliers.

which could grenade the motor, the reuse of the bucket also helps keep the pump immersed in fuel, reducing crank-to-run time and preventing water vapor from seizing the pump.

Since the car was located on the left coast, we contacted the LT1/LS1 gurus at Strictly Performance to do the work. After a few conversations with

SP owner Robert Barth, your author was on a plane headed for the City of Angels. A short drive up the famously gridlocked 405 Highway into the valley, Strictly Performance's 4,500-square-foot shop is located right next to the Van Nuys Airport. However, the turboprops that can be seen flying in out of the small airport are nothing compared to the Corvettes, Firebirds, and Camaros that come out of Strictly Performance. Robert has made a name for himself by putting together badass head and cam packages and custom-fabricated turbo setups and tuning; however, suspensions, rollcages, and fuel systems are also among his many talents. That being the case, he was happy to show an old GM brother love by baselining our '94 Z28, quickly installing the Racetronix fuel system, and then handling the post-install dyno testing—thanks Robert. Follow along to see how he did it.





Normally the 15mm bolts would come off the tank supports now, and out it would come. Unfortunately, '94 is one of the only years the F-body came with a steel, non-flexible filler neck. Robert gave it the old college try, but the only way to get the tank out is by unbolting the shocks and the 3mm bolts on the sway bar. With the axle supported the car was raised up and this gave us enough room to squeeze the tank out. Racetronix recommends taking this opportunity to flush out the tank several times with water to remove rust and sediment that could seize your brand-new pump. Changing the fuel filter is also recommended.