



Updating a 1968 GTX

with a new 6.1 425 HP HEMI engine and manual 5 speed transmission in order to get today's performance, driveability, fuel efficiency and clean emissions. These late engine swaps will allow you to have the horse power, dependability & mileage of a new vehicle.



Mike Crowell had S&P install the first 5.7 HEMI into a 1970 Challenger convertible in 2003. Mike called and spoke with Mark at S&P to see if the first 6.1 Hemi could be installed into his and Paul Jacobs latest Mopar project car and have it ready for 2006 SEMA show.

Paul and Mike delivered the '68 to S&P with the engine compartment already detailed and ready to accept the New 6.1.



After painting the block, Mark Kincaid of S&P starts to put all the parts that S&P chromed and polished back onto the block.



A mid sump alum oil pan that S&P polished was used to clear the K-member of the '68. The 6.1 Hemi came with an aluminum oil pan and a sump at the front of the engine which will not clear the K-member.



After prefitting the engine into the engine compartment, we discovered that we would have to use a remote oil filter system since the oil filter would not clear the K-member.



The S&P motor mount adapter plates are attached to the block which allow the 5.7 or 6.1 HEMI fit into the early 318/340/360 Mopar motor mounts and stands.



The Tremec 5-speed came from Keisler Automotive Engineering located in Knoxville, TN. An adapter kit to mount the transmission to the 6.1 HEMI was included, which made our installation much easier.



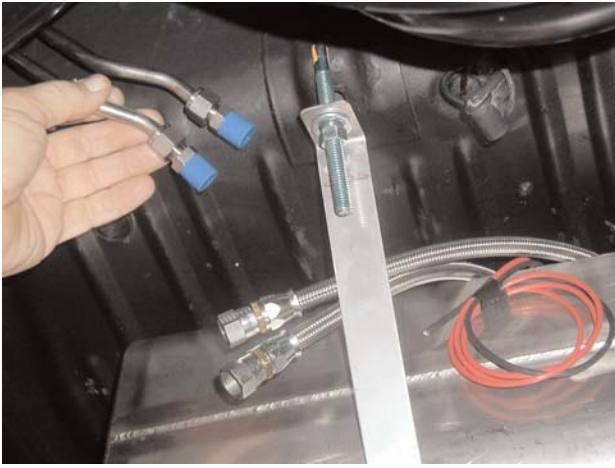
After installing the flywheel and pressure plate, Mark used a dial indicator to locate the bell housing on the block to insure proper alignment



With the 6.1 HEMI ready, we lowered it into the engine bay and bolted it up to the engine stands.



The Keisler kit also included this rear transmission crossmember and mount to allow the Tremec to bolt to the original rear crossmember mounts.



Two stainless lines were run from just behind the engine bay to just in front of the fuel tank. At the tank we connected the braided lines from the tank to the fittings on the fuel line. When making the connections to these fittings you must use oil on the threads and flairs to insure a proper seal.



Once the fuel lines are connected, the sending unit wires were hooked up and tested before Mark and Larry secured the tank using the stainless straps that came with the Rock Valley tank. The tank also had the proper high pressure fuel pump installed for the 6.1 HEMI.



The stainless lines were then connected to a S&P fuel filter/regulator kit which comes with stainless steel AN-6 adapter fittings. The 3/8 fitting is the inlet and the 5/16 fitting is the return to the tank. The single female disconnect goes to the fuel rail of the engine using S&P's Stainless hard line to braided hose kit. This filter/regulator is placed as close to the engine to help ensure that cool fuel is always provided to the fuel rails.

Mark installed the injectors, coils, fuel rail and routed the S&P wiring harness to the injectors and coils.



The manifold is back from the S&P chrome shop, Mark bolted it on using the original rubber O-ring intake gaskets. Be sure to use anti-seize compound on all bolts to prevent electrolysis of the two different types of metals.





Installing the S&P Wiring Harness. Each connection is labeled for ease of installation. The harness is shipped with a complete detailed instruction sheet and DVD, If you misplace your instructions they can be downloaded from the S&P website. www.hotrodlane.cc



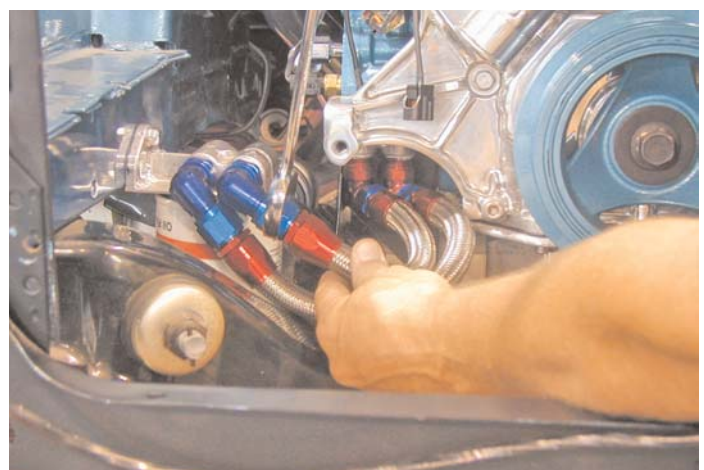
The transmission hump had to be cut out for the Tremec 5 speed. Note the wiring harness laying in the passenger floorboard. The computer will be mounted on the upper passenger side kick panel. The S&P harness is a four wire hook up, key, starter, fuel pump and ground.



To keep the engine compartment clean, the battery was put in the trunk. As with any injection system, ground is one of the most important items to ensure proper operation. You **MUST** ground the battery to the engine or transmission, engine to frame and engine to body. **ALL** of these connections must have a clean contact free from grease or paint. Star washers are good for body or frame areas that make contact with painted surfaces.



S&P's Stainless hard line to braided hose kit from fuel rail to frame is connected to the fuel rail with an compression fitting. NOTE: the 5.7 Truck HEMI fuel line connects on the driver side and the 300, 6.1 connect on the passenger side.



Mark mounted the remote oil filter to the inside rail and attached the braided AN-10 lines from the engine adapter.



The GTX was an alternator only car, so Mark designed a belt system to eliminate the power steering and AC compressor. S&P also has this kit for a alternator & AC or alternator & power steering applications.



We used a 2005 pedal assembly that incorporates the pedal positioning sensor to a bracket that Mark fabricated to mount to the firewall. The original throttle pedal can be use by using an 03-04 remote pedal positioning switch that uses a cable from the pedal to the sensor.



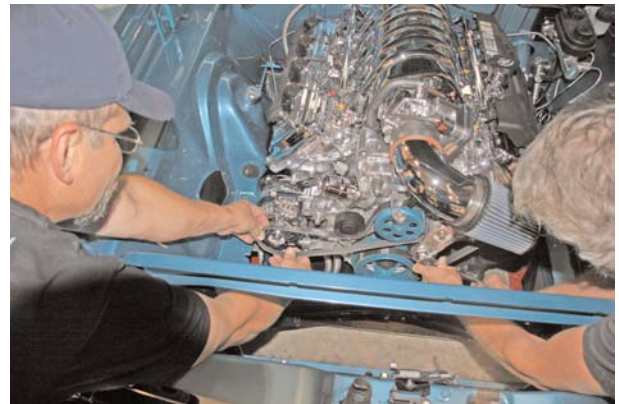
Mark installs the exhaust that was Chromex coated inside and out by S&P for better exhaust flow and less heat under the vehicle.



The Keisler kit also came with a hydraulic clutch reservoir that is mounted to the firewall next to the brake cylinder.



S&P provides this aluminum chrome plated 90 degree elbow with K&N filter to allow for clearance between the engine and radiator. Note that the elbow will accept the air temp sensor.

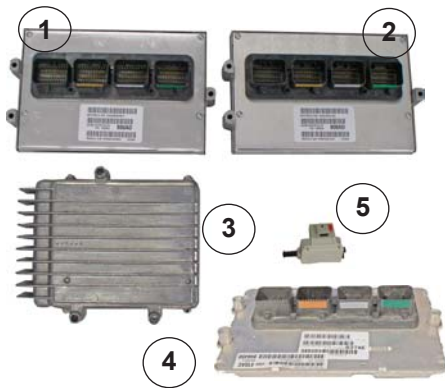


A Goodyear Gatorback belt # 4060745 is used with the alternator only kit with spring loaded tensioner.



Installing the polished aluminum radiator. Note that both the inlet and outlet are on the passenger side. This is because the 6.1 HEMI has both radiator hoses on the passenger side. Having the radiator made this way prevents from having to run the upper hose to the driver side. The 5.7 truck HEMI however has the upper hose on the driver side.

For the Mopar enthusiast, this is the best all around swap for today's early model muscle cars. It will provide you with horse power, driveability, durability, fuel mileage and emissions. Street & Performance can provide you with all the accessories and tech support to complete your project.



- 1 '03 5.7 Computer
- 2 '04-'05 5.7 Computer
- 3 '03 Auto transmission Computer
- 4 '06 Computer
- 5 Brake light/torque converter switch
- 6 '05 Throttle Pedal assembly
- 7 Remote throttle position sensor with Lokar braided throttle cable
- 8 S&P Aluminum 90 Degree Elbow



These plates let you convert late model HEMI to early style mounts

Motor Engine Plates to adapt HEMI to 318 / 360 engine stands

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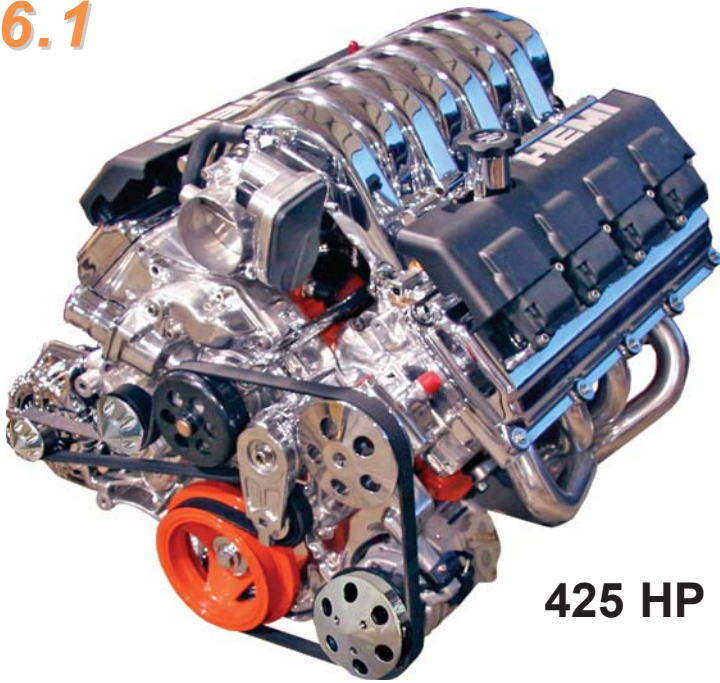
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6.1



425 HP

**NEW!
6.1 HEMI
Harness**

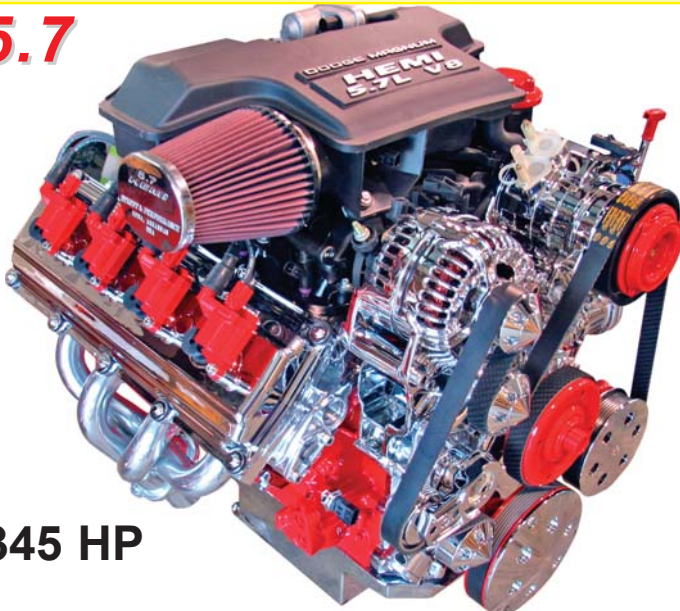


6.1 HEMI V-8

372.2 cu in., 425 horse power at 6000 RPM, Torque 420 ft lbs at 4800 RPM, Compression Ratio 10.3:1. This is the newest in the line of high performance engines to come. It comes with performance, dependability, drivability of today's high performance technology and emissions. With two spark plugs per cylinder and NO spark plug wires, the coils are used to fire the plugs directly. This is the next generation of hot rod technology. Street & Performance can provide you with all the products that you will need to complete your 5.7 or 6.1 HEMI project. Visit our web site for New HEMI INSTALLS and more Information.

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5.7

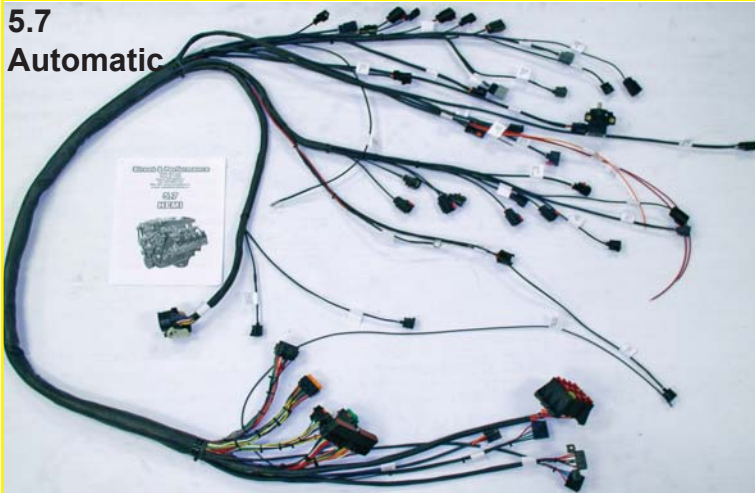


345 HP

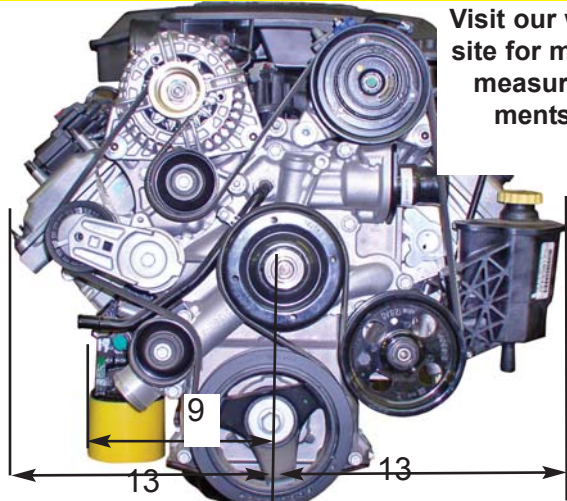
**5.7
Manual**



**5.7
Automatic**



Visit our web site for more measurements



When ordering a HEMI harness, we need to know the year of the engine, transmission and computer. If your going to use a pedal positioning sensor or a 2005 or later pedal with built in positioning sensor