



Street & Performance

MOPAR 5.7/6.1/6.4 HEMI Wiring Harness

INSTRUCTIONS & SUPPLEMENTAL INFORMATION

04/25/11



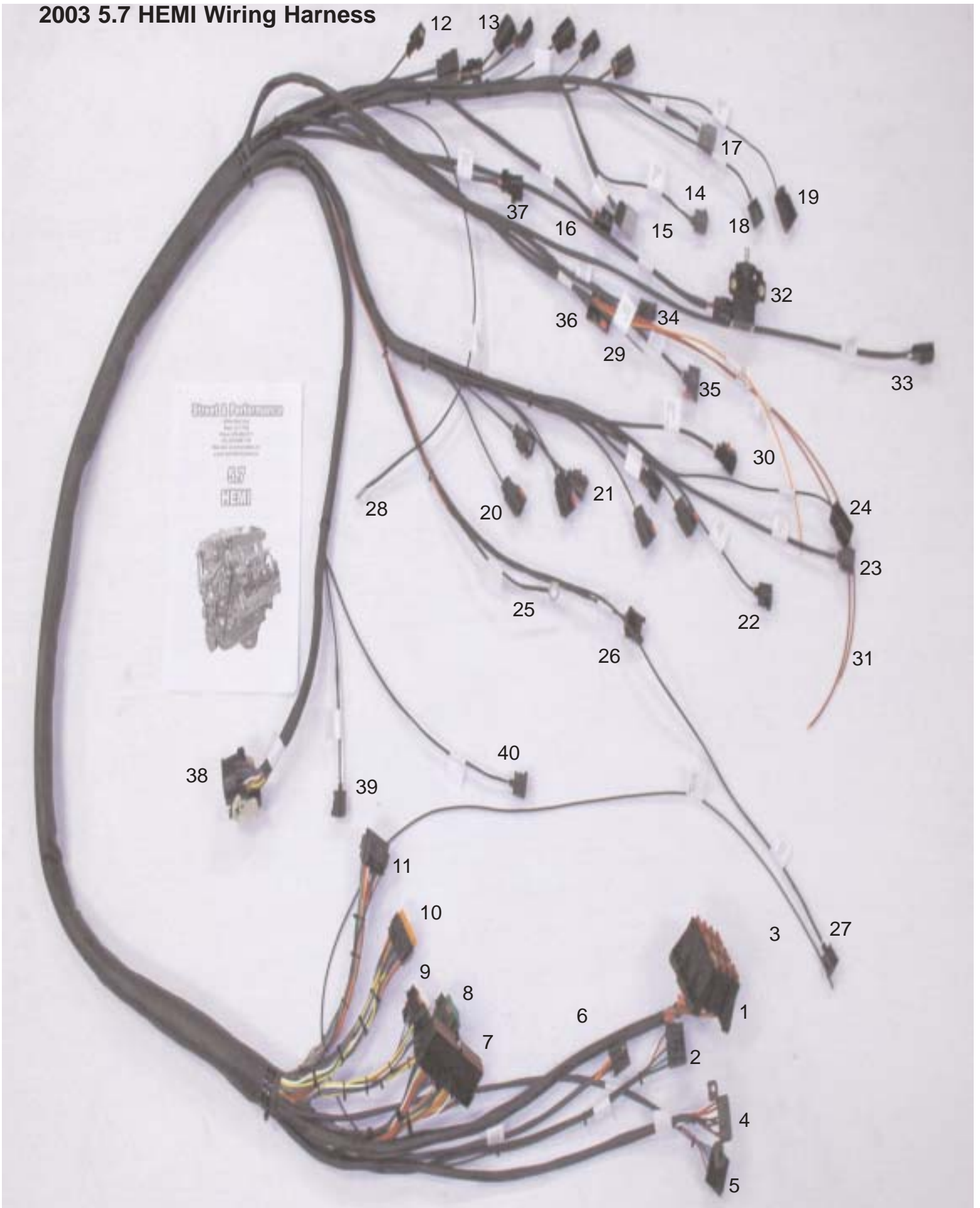
Street & Performance

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2003 5.7 HEMI Wiring Harness



2003 5.7 Harness connection description.

1. Fuse Block
2. Fuel Pump Relay (red, brown, green and brown hot feed fuel pump wires)
3. Hot Feed to Fuel Pump (single brown wire running from the fuel pump relay plug)
4. ALDL Connection (3 red, 2 black, purple, green and white wires)
5. A/C Compressor Relay (2 lite blue, red and green wires)
6. Trans Control Relay (2 red, black and orange wires)
7. Computer Plug
8. Green Computer Plug (Note color coding on computer)
9. White Computer Plug (Note color coding on computer)
10. Orange Computer Plug (Note color coding on computer)
11. Black Computer Plug (Note color coding on computer)
12. Passenger side Injector (X4)
13. Passenger side Coil Plugs (X4)
14. Air Temp Sensor (black/red, black/blue wires)
15. MAP Sensor (purple, black, green wires)
16. Throttle Control Module (3 orange, brown, blue, and white wires)
17. Cam Sensor (black, purple, and brown wires)
18. Generator (black and green wires)
19. Oil Pressure Sensor (one gray wire)
20. Drivers Side Coil Plugs (X4)
21. Drivers Side Injector (X4)
22. Engine Temp (brown and black)
23. A/C Pressure Transducer (black, blue, and orange wires)
24. A/C Compressor Clutch (black and blue wires)
25. Battery Starter Terminal (red wire attached to a fusible link)
26. Driver Side Knock Sensor (yellow and brown wires)
27. Power Steering (black and yellow)
28. Engine Ground (black wire)
29. Back Up Lamp Feed (single purple wire)
30. Overdrive Off Switch (single orange wire)
31. Ignition Switch Hot with key on and in start (2 single red wires)
32. Accelerator Pedal Position (blue, purple, orange, brown, white and red wires)
33. Oxygen Sensor Downstream (black, green, white, and purple wires)
34. Trans Line Pressure (purple, black, and gray wires)
35. Passenger Side Knock Sensor (blue and brown wires)
36. Oxygen Sensor Up Stream (red, black, brown and orange wires)
37. Crank (gray, black, and orange)
38. Transmission Solenoid
39. Input Speed Sensor (blue and red wires)
40. Output Speed Sensor (blue and green wires)

Black Orange White Green



Firing Order
1-8-4-3-6-5-7-2

2004 & up 5.7/6.1/6.4 HEMI Wiring Harness



S&P PROVIDES AN EXTRA BLUE WIRE FOR AFTERMARKET OIL PRESSURE GAUGE AND AN EXTRA GREEN WIRE FOR AFTERMARKET COOLANT TEMP .

2004 & up 5.7/6.1/6.4 Harness connection description.

1. Ignition Switch (red)
2. Fuse Block
3. Green Computer Plug (Note color coding on computer)
4. Orange Computer Plug (Note color coding on computer)
5. Black Computer Plug (Note color coding on computer)
6. White Computer Plug (Note color coding on computer)
7. Starter Relay (P/N 2642-8)
8. Transmission Control Relay (P/N 2642-8)
9. Auto Shut Down Relay (P/N 2642-8)
10. Fuel Pump Relay (P/N 2642-8)
11. Hot Feed to Fuel Pump (single brown wire running from the fuel pump relay plug)
12. Ignition RUN (red)
13. Ignition START (yellow)
14. Brake Lamp Switch Output (lt. blue)
- 14A. A/C Relay #87 ((lt. blue)
- 14B. Speedometer Signal (green)
15. ALDL Connector
16. Engine Ground (black)
17. Starter Solenoid (orange)
18. Driver Side Knock Sensor (twisted pair, yellow/black)
19. Driver Side Coil (4)
20. Driver Side Injectors (4)
21. Engine Temp Sensor
22. A/C Pressure Transducer (org/blu/lt.blu)
23. A/C Compressor (blue/lt. blue)
24. Brake Light Switch
25. Transmission Solenoid
26. Speed Sensor Input (red/lt. blue with yellow tracer)
27. Speed Sensor Output (green/lt. blue with yellow tracer)
28. Accelerator Pedal Position (6 wires)
29. Transmission Line Pressure
30. Oxygen Sensor Down Stream
31. Oxygen Sensor Up Stream
32. Crank Sensor
33. Passenger Side Knock Sensor
34. Throttle Position Sensor
35. Map Sensor
36. Air Temp Sensor
37. Generator
38. Oil Pressure Sensor
39. Cam Sensor
40. Passenger Side Coils (4)
41. Passenger Side Injectors (4)

Black Orange White Green



Firing Order
1-8-4-3-6-5-7-2

Code	What it means
30	Sensor heater relay problem
36	Sensor heater relay problem
106	MAP sensor voltage out of range detected at startup
107	MAP sensor voltage too low
108	MAP sensor voltage too high
112	Intake air temperature sensor voltage low
113	Intake air (charge) temperature sensor voltage high
116	Coolant temperature sensor reading doesn't make sense
117	Engine coolant temperature sensor voltage low
118	Engine coolant temperature sensor voltage high
121	Throttle position sensor and MAP sensor disagree with each other
122	Throttle position sensor voltage low
123	Throttle position sensor voltage high
125	Taking too long to reach proper operating temperature and switch to energy-efficient mode
130	Sensor heater relay problem
131	Oxygen sensor seems to be shorted out or broken
147	Oxygen sensor heater element not working properly (this device helps to reduce emissions more quickly)
151	Oxygen sensor voltage problem - short circuit to ground?
152	Oxygen sensor voltage problem - short circuit to active 12V?
153	Oxygen sensor response too slow
154	Oxygen sensor does not show either a rich or lean condition - may need replacement
155	Oxygen sensor heater element not working properly (this device helps to reduce emissions more quickly)
157	Oxygen sensor voltage problem - short circuit to ground?
158	Oxygen sensor voltage problem - short circuit to active 12V?
159	Oxygen sensor response too slow
160	Oxygen sensor does not show either a rich or lean condition - may need replacement
161	Oxygen sensor heater element not working properly (this device helps to reduce emissions more quickly)
171	The oxygen sensor is saying that the system air/fuel mix is far too lean (too much fuel is being added as a correction).
172	The oxygen sensor is saying that the system air/fuel mix is far too rich (too much air is being added as a correction).
174	The oxygen sensor is saying that the system air/fuel mix is far too lean (too much fuel is being added as a correction).
175	The oxygen sensor is saying that the system air/fuel mix is far too rich (too much air is being added as a correction).
176	Flex fuel sensor can't be seen
178	Flex fuel sensor problem
179	Flex fuel sensor problem
182	Compressed natural gas temperature sensor problem
183	Compressed natural gas temperature sensor problem
201	Injector #1 control circuit problem (open or shorted)
202	Injector #2 control circuit problem (open or shorted)

- 203 Injector #3 control circuit problem (open or shorted)
- 204 Injector #4 control circuit problem (open or shorted)
- 205 Injector #5 control circuit problem (open or shorted)
- 206 Injector #6 control circuit problem (open or shorted)
- 207 Injector #7 control circuit problem (open or shorted)
- 208 Injector #8 control circuit problem (open or shorted)
- 209 Injector #9 control circuit problem (open or shorted)
- 210 Injector #10 control circuit problem (open or shorted)
- 300 Misfire detected in multiple cylinders.
- 301 Misfire detected in cylinder #1.
- 302 Misfire detected in cylinder #2.
- 303 Misfire detected in cylinder #3.
- 304 Misfire detected in cylinder #4.
- 305 Misfire detected in cylinder #5.
- 306 Misfire detected in cylinder #6.
- 307 Misfire detected in cylinder #7
- 308 Misfire detected in cylinder #8.
- 309 Misfire detected in cylinder #9.
- 310 Misfire detected in cylinder #10.
- 320 Crankshaft position sensor reference signal cannot be found while the engine is cranking.
- 325 Knock sensor (#1) signal is wrong.
- 330 Knock sensor (#2) signal is wrong.
- 340 No camshaft signal being received by the computer
- 350 A coil is drawing too much current.
- 351 Coil #1 is not reaching peak current at the right time
- 352 Coil #2 is not reaching peak current at the right time
- 353 Coil #3 is not reaching peak current at the right time
- 354 Coil #4 is not reaching peak current at the right time
- 355 Coil #5 is not reaching peak current at the right time
- 356 Coil #6 is not reaching peak current at the right time
- 357 Coil #7 is not reaching peak current at the right time
- 358 Coil #8 is not reaching peak current at the right time
- 401 A required change in air/fuel mixture was not detected during diagnostic test.
- 403 An problem was detected in the EGR solenoid control circuit.
- 404 The EGR sensor's reported position makes no sense
- 405 EGR position sensor voltage wrong.
- 406 EGR position sensor voltage wrong.
- 412 The secondary air solenoid control circuit seems bad (this is used for the aspirator).
- 420 The catalyst seems inefficient (#1).
- 432 The catalyst seems inefficient (#2).
- 441 Evaporative purge flow system not working properly
- 442 A leak has been detected in the evaporative system!
- 443 Evaporative purge flow system solenoid not working properly
- 455 A large leak has been detected in the evaporative system!
- 456 A small leak has been detected in the evaporative system!
- 460 The fuel level sender is not reporting any change over a long distance. Something seems wrong.

- 461 The fuel level sender is not reporting any change over a long time. Something seems wrong.
- 462 Fuel level sender voltage wrong.
- 463 Fuel level sender voltage wrong.
- 500 Haven't heard from the speed sensor lately.
- 505 The idle speed air control motor doesn't seem to be working correctly.
- 522 Oil pressure sensor problems
- 523 Oil pressure sensor problems
- 551 The power steering switch may not be working. (Neons: high pressure is showing up at high speed)
- 600 Oh-oh! The coprocessors aren't talking to each other within the computer!
- 601 Internal computer error!
- 604 Internal computer error! (RAM check)
- 605 Internal computer error! (ROM)
- 615 Starter relay circuit problem
- 622 Generator field control problem
- 645 A/C clutch relay circuit problem.
- 700 The automatic transmission computer or Aisin computer has a problem - ask it what's going on. I don't know.
- 703 Brake switch circuit information seems wrong.
- 711 Based on the transmission temperature and its operations, it looks like the transmission temperature sensor's gone bad.
- 712 Transmission fluid temperature sensor voltage wrong.
- 713 Transmission fluid temperature sensor voltage wrong.
- 720 The Output Shaft Speed Sensor doesn't match the reported vehicle speed.
- 740 The engine's running faster than it should for these speeds, so I think the torque convertor clutch lock-up system is bad
- 743 Torque converter clutch (part throttle unlock) solenoid circuit problem - shift solenoid C electrical fault
- 748 Governor Pressure Solenoid circuit problem (Transmission relay circuit problem in Jeep RE transmissions)
- 751 Overdrive override switch has been pressed for over five minutes. Just thought you should know.
- 753 Overdrive solenoid control circuit problem (transmission relay circuit in Jeep RE transmissions.)
- 756 Shift solenoid B (2-3) fault
- 783 The overdrive solenoid can't go from 3rd gear to the overdrive gear.
- 801 Transmission reverse gear lockout solenoid circuit problem!
- 833 Problem with the clutch-released switch circuit?
- 1192 Inlet air temperature sensor voltage is wrong
- 1193 Inlet air temperature sensor voltage is wrong
- 1194 Oxygen sensor heater performance is faulty
- 1195 Oxygen sensor is slow
- 1196 The oxygen sensor switched too slowly (bank 2).
- 1197 The oxygen sensor switched too slowly (bank 1).
- 1198 Radiator coolant temperature sensor voltage is wrong.
- 1199 Radiator coolant temperature sensor voltage is wrong.
- 1281 The engine is staying cold too long - check your thermostat.
- 1282 The fuel pump relay circuit seems to be having a problem.

- 1288** The intake manifold short runner tuning valve circuit seems to be having a problem.
- 1289** There's a problem in the manifold tuning valve solenoid control circuit.
- 1290** Compressed natural gas system pressure is too high
- 1291** The heated air intake sensor does not seem to be working.
- 1292** Natural gas pressure sensor issue
- 1293** Natural gas pressure sensor issue
- 1294** Can't get to target engine speed, check for vacuum leaks and idle speed motor issues.
- 1295** The throttle position sensor doesn't seem to be getting enough electricity.
- 1296** The MAP sensor doesn't seem to be getting enough electricity.
- 1297** The MAP sensor doesn't change its reading when the engine is running!
- 1298** During wide-open throttle, the engine runs lean.
- 1299** MAP Sensor and Throttle Position Sensor signals don't match, check for a vacuum leak.
- 1388** Auto shutdown relay circuit problems?
- 1389** No Z1 or Z2 voltage seen by the computer when the auto shutdown relay is used.
- 1390** Cam and crank signals don't match - did the timing belt skip a tooth?
- 1391** Sometimes, I can't see the crank or cam sensor signal.
- 1398** I can see the Crank Sensor's signal when I prepare for Misfire Diagnostics. Try replacing it.
- 1399** Problem in the Wait to Start Lamp circuit - (diesels only?)
- 1403** EGR position sensor not getting (enough) voltage.
- 1476** Too little secondary air injection during aspirator test.
- 1477** Too much secondary air injection during aspirator test.
- 1478** Battery temperature sensor voltage wrong.
- 1479** Transmission fan relay circuit problems?
- 1480** PCV solenoid circuit problems?
- 1481** Transmission RPM pulse generator signal for misfire detection seems wrong.
- 1482** Catalyst temperature sensor circuit shorted low.
- 1483** Catalyst temperature sensor circuit shorted high.
- 1484** The catalyst seems to be overheating!
- 1485** Air injection solenoid circuit problems.
- 1486** Pinched or blocked hose in the evaporative hose system.
- 1487** Control circuit of the #2 high-speed radiator fan control relay is having problems.
- 1488** Auxiliary 5-volt sensor feed is too low.
- 1489** High speed radiator fan control circuit problem.
- 1490** Low speed radiator fan control circuit problem.
- 1491** Radiator fan control circuit problem (may be solid state relays as well as other circuits).
- 1492** Ambient or battery temperature sensor voltage wrong
- 1493** Ambient or battery temperature sensor voltage wrong
- 1494** Leak Detection Pump (LDP) pressure switch problem - electrical or the pump itself.
- 1495** Leak Detection Pump (LDP) pressure switch problem - the solenoid circuit.
- 1496** Sensor feed is below an acceptable limit. (under 4v for 4 seconds - should be 5v).
- 1498** High speed radiator fan control circuit problem. (#3 control relay)

- 1594 Voltage too high in charging system.
- 1595 Speed control vacuum or vent solenoid control circuits shorted or lost.
- 1596 Speed control switch always high
- 1597 Speed control switch always low
- 1598 A/C pressure sensor voltage high
- 1599 A/C pressure sensor voltage low
- 1681 No messages received from the cluster control module (dashboard computer).
- 1682 Charging system doesn't seem to be working well. Check alternator, etc.
- 1683 Speed control servo power control circuit problem.
- 1684 The battery has been disconnected within the last 50 starts.
- 1685 Invalid key received from the Smart Key Immobilizer Module.
- 1686 No messages received from the Smart Key Immobilizer Module.
- 1687 No messages received from the Mechanical Instrument Cluster module.
- 1693 The companion engine control module has shown a fault.
- 1694 No messages received from the powertrain control module-Aisin transmission.
- 1695 No messages received from the body control module.
- 1696 Unsuccessful attempt to write to an EEPROM location!
- 1697 Unsuccessful attempt to update Service Reminder Indicator (SRI or EMR) mileage!
- 1698 No messages received from the electronic transmission control module or the Aisin transmission controller.
- 1719 Transmission 2-3 gear lockout solenoid control circuit problem.
- 1740 Either the tcc solenoid or overdrive solenoid systems doesn't seem to be making much sense.
- 1756 Transmission control pressure not equal to target. (Mid pressure problem)
- 1757 Transmission control pressure not equal to target. (Zero pressure problem)
- 1762 The Governor Pressure Sensor input was too high or too low for 3 consecutive park/neutral calibrations.
- 1763 The Governor Pressure Sensor input is too high
- 1764 The Governor Pressure Sensor input is too low.
- 1765 Open or short in the Transmission Relay control circuit.
- 1899 The Park/Neutral switch seems to be stuck!

PARTS FOR HEMI INSTALL

- 2003 FRONT O2 SENSOR P/N
- 2004 FRONT O2 SENSOR P/N 56028994AA
- 2004 REAR O2 SENSOR P/N 56028996AA
- 2005 FRONT O2 SENSOR P/N 56028994AB
- 2005 REAR O2 SENSOR P/N 56029049AA
- AMBIENT AIR SENSOR P/N 1-56042395
- 2005 BRAKE SWITCH TRUCK P/N 5083344AA
- 2005 BRAKE SWITCH BRACKET P/N 56020144AG
- 2005/2006 GAS PEDAL P/N 472600AB
- 2006 JEEP CHEROKEE GAS PEDAL P/N 52109683AC
- DAKOTA DIGITAL SG1-8 FOR TACHOMETER
- MSD P/N 8918 FOR TAC
- DAKOTA DIGITAL SG1-5 FOR SPEEDOMETER CALIBRATION
- 3-WIRE VEHICLE SPEED SENSOR FOR MOPAR (727,833,904,914)
- P/N 5013660AA will need to put proper gear on unit for your gear ratio and tire size.



The drive by wire throttle activator box can be mounted almost anywhere under the dash or in the engine compartment. **Use for Cruise Control.**



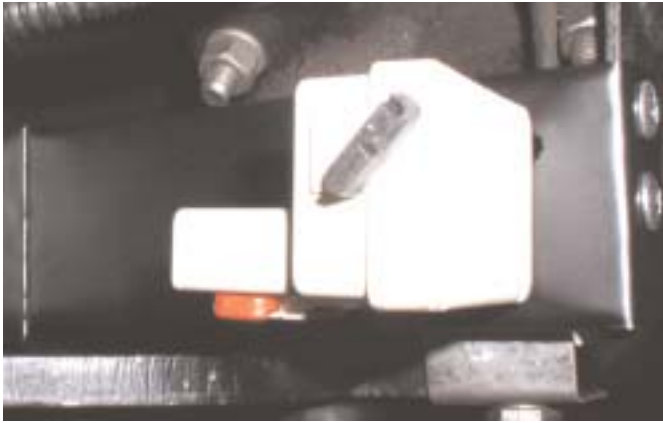
S&P provides a Lokar throttle cable to run from your pedal to the throttle activator box.



2005 design pedal with activator assembly. can be mounted to the firewall in some applications . This type pedal does not require a throttle cable because the wiring harness plugs into the pedal assembly.



S&P provides both automatic and manual starters. Also have starters for 727 etc.



The brake light and torque converter lock up switch (part# 1242F1) (Moper # 5083344aa) is mounted in front of the brake pedal so that when the pedal is pressed the torque converter will come out of lock up and will disengage the cruise control. This switch can only be set once so you will have to buy a new one. You can't use a salvaged switch. This switch is not used with manual transmissions. Mounting Bracket Mopar p/n 56020144AG.



LoKar provided the aluminum braided firewall mount transmission fill tube and engine oil dip stick.



Oxygen Sensor Part # 56041702AA. S&P headers have a bun in the collector for this O2 sensor. If you are not using S&P headers, you need to locate the O2 sensor as far forward in the exhaust as possible.



Street & Performance
motor mount plates to adapt to early 318/360 mounts.



S&P Chromex coated 5.7 HEMI Street Rod Headers complete with O2 bun.



MUST know stock gear box or rack
Type III Mid Length Headers

ALL S&P HEADERS COME WITH STAINLESS STEEL FLANGES, COLLECTORS, GASKETS AND BOLTS.



S&P OFFERS 5.7 AND 6.1 SUPERCHARGED HEMI ENGINES for Info Give us a Call.

Fittings available for converting to Stainless Steel Transmission Lines for the 545RFE transmission.



Go To www.hotrodlane.cc For More Online Tech and Hemi Engine Installs



S&P S.S fuel filter kit which has the regulator built into the filter. This filter also has a single line to the engine and a return line to the tank. Kit come with AN6 adapters and quick disconnect for AN6 adapter. These parts can also be purchased separately. **S&P also provides a Areo-Quip single-braided fuel line kit from the engine to the frame.**



5.7 HEMI Computers
2003 Five speed automatic transmission computer.
Part # 56029053AD

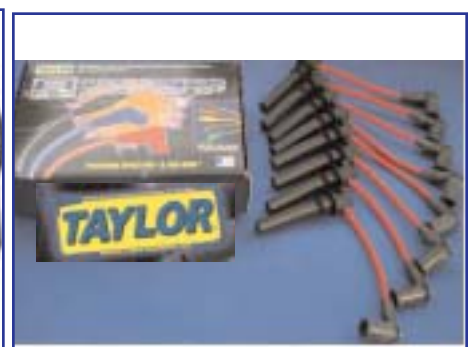
Engine Computer.
Part # 56028800AD



We can provided you with a mid sump aluminum oil pan. When you change the pan to a mid sump, you must also have the oil pick-up tube modified.



S&P K&N air filter kit



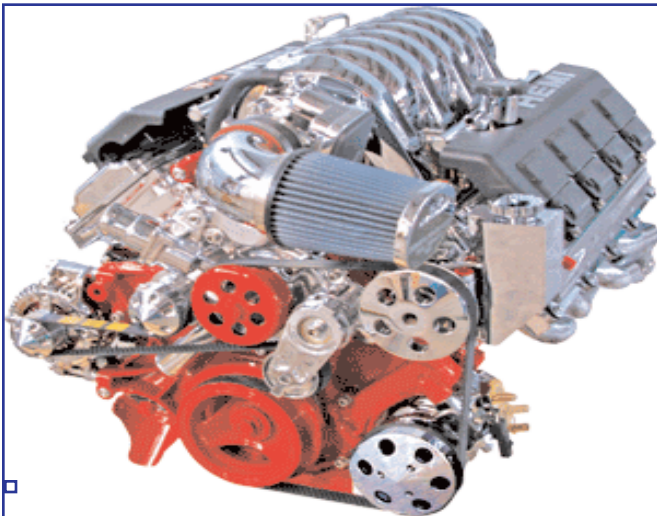
Taylor 8mm High Performance Spark Plug Wires.



Street & Performance HEMI installation and projects DVD.



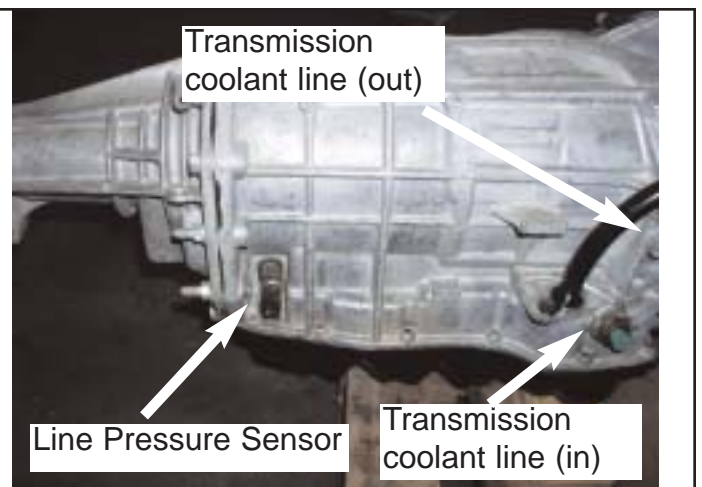
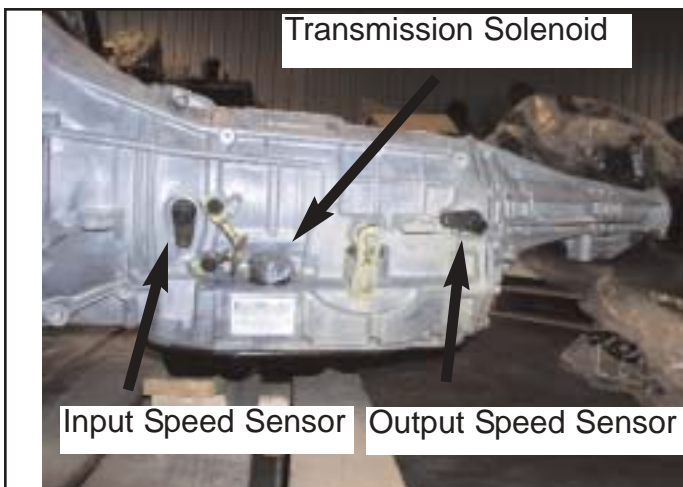
Street & Performance supplies the motor plates to bolt a Hemi to existing small block Chevy frame mounts. S&P also offers the perch mount biscuit kits shown to allow the mounting of the 5.7 Hemi. (Driver Side Right Photo, Passenger Side Left Photo)

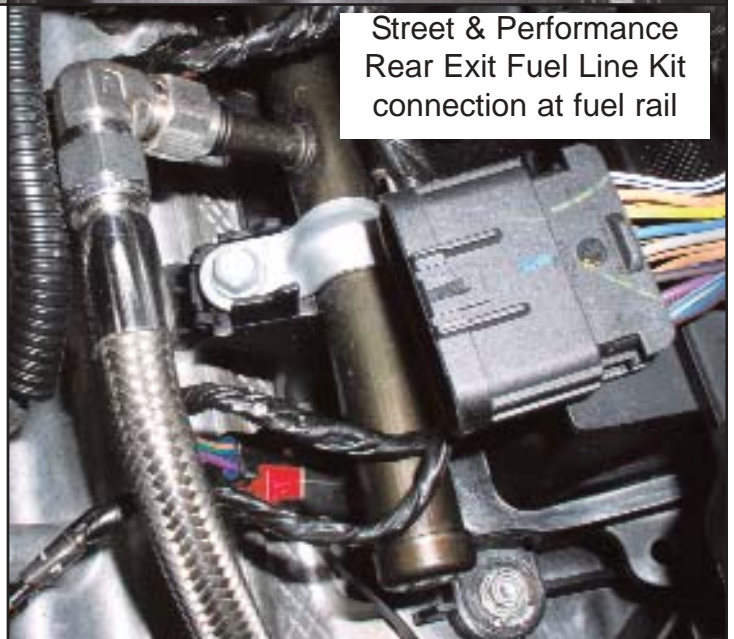
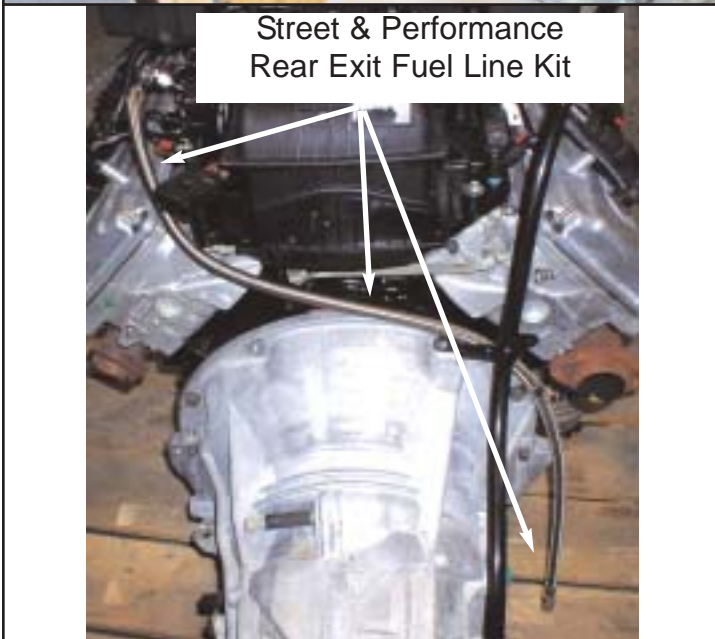
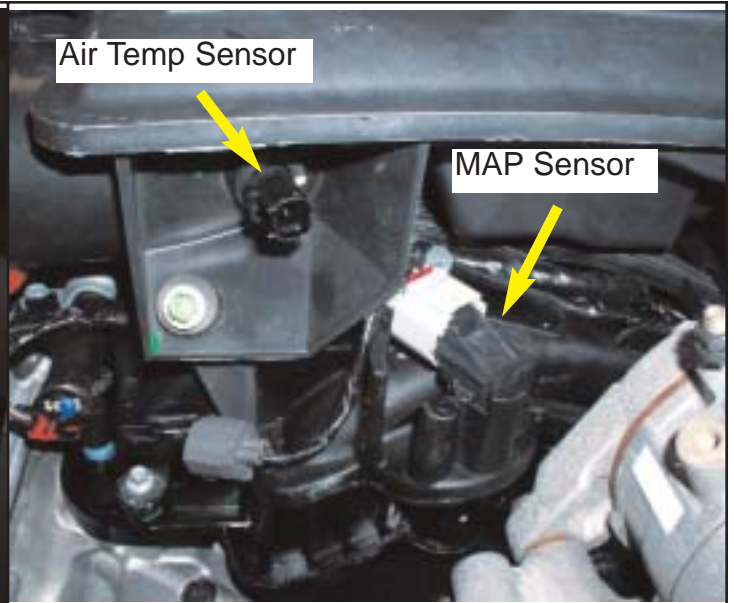
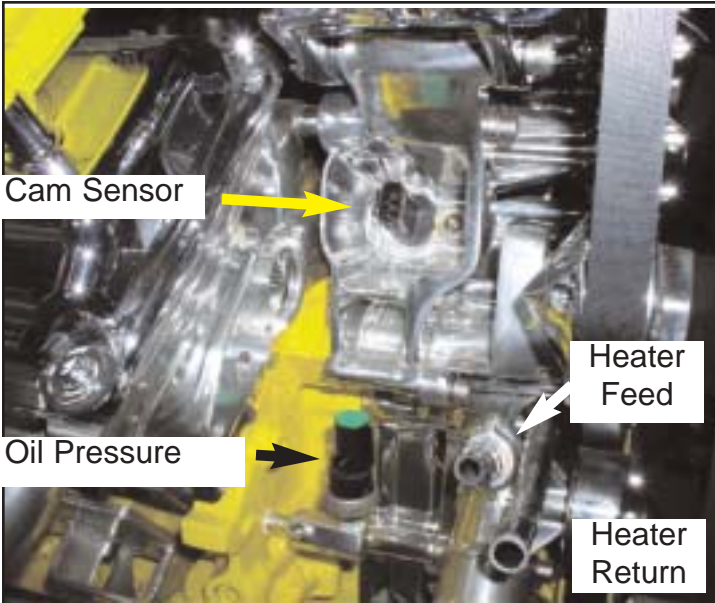


S&P carries a type II power steering pump to replace the original 5.7 Hemi pump when using GM/Ford gear box or rack and pinion. (5.7 Hemi pump supplies too much pressure for the GM/Ford assemblies.)

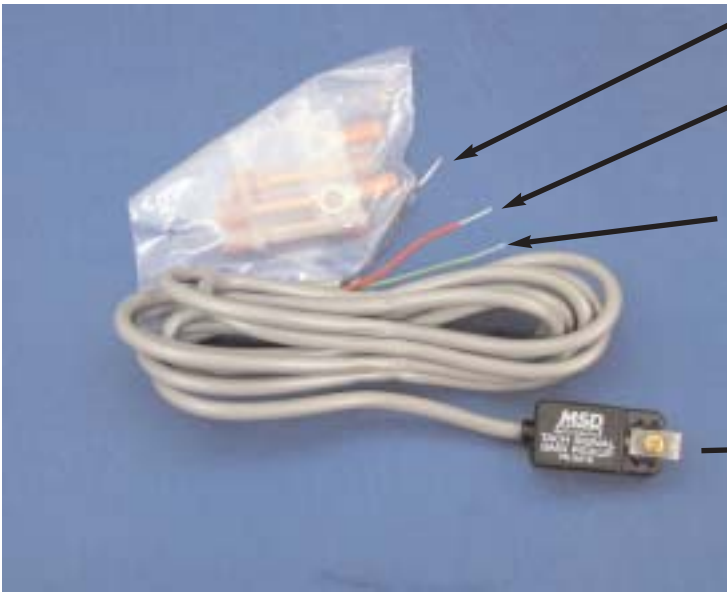
S&P offers a complete line of polished and chrome bracket kits and accessories for your 5.7 HEMI engine. Polished or Chrome valve covers are available out right or on exchange basis.

See our online catalog at www.hotrodlane.cc starting on page 96





New Style HEMI Tach Installation using MSD GMR Pickup (part# 8918) and Dakota Digital SGI-8 Tach Signal Interface Parts can be purchased through S&P and S&P Dealers



Black Wire goes to ground.

Red Wire connects to an 12 volt crank and run connection

Green Wire (signal out) connects to the input on the Dakota Digital SGI-8 Interface.



Clip the MSD pickup around the pink and yellow wires coming from the rear driver side coil which is the hot wire to the coil.

Connect 12 volt (red) crank and run to the power connection on the tach interface.

Connect an ground wire (Black) to the ground connection on the tach interface.

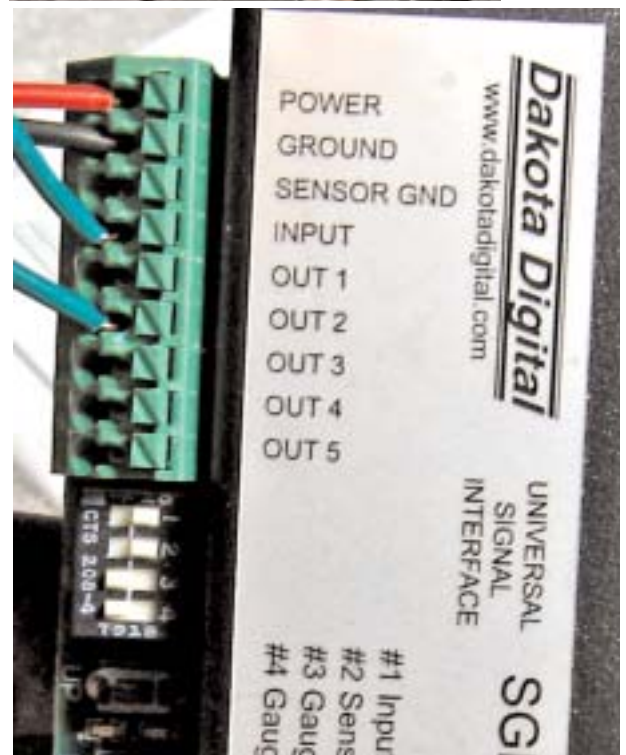
Connect the green from the MSD pickup (signal wire) to the signal connection on the tach interface.

Connect the signal wire FROM the tachometer TO the out2 connection of the tach interface.

The Dip switches located next to the green connection bar, **MUST** be set.

1&2 switches must be set to the on Position.

3&4 switches must be set to the off Position.



Installing an Engine Temp Sending Unit for Gauge on Hemi Truck Engine.

Use the Engine Temp sending unit that came with your gauge. Lift the intake off the block and locate the water jacket on the passenger side behind the water pump. Drill and tap to the size of your sender (see sizes below). Use the correct size drill bit to make the hole, then tap with the correct pipe thread tap for your sender. Use white Teflon liquid pipe sealer on threads of the sender to prevent leaks. **DO NOT USE TEFLON TAPE, SENDING UNIT WILL NOT GROUND.**

Dip your drill and tap in wheel bearing grease and the chips will stick to the grease.

TAP	DRILL
1/8-27NPT	11/32
1/4-18NPT	7/16
3/8-18NPT	37/64
1/2-14NPT	23/32



Installing an Engine Temp Sending Unit for Gauge on Hemi Car Engine.

Remove plug from water pump next to the thermostat housing. Use white Teflon liquid pipe sealer on threads of the sender to prevent leaks. **DO NOT USE TEFLON TAPE, SENDING UNIT WILL NOT GROUND.** Screw in 1/4-18NPT sender. Must drill and tap if using 3/8-18NPT. Must use a bushing if using 1/8-27NPT.



