

SALEEN SPEEDLAB[®] SUPERCHARGER

INSTALLATION MANUAL: 1999-2001 Mustang 4.6L 2V



SALEEN

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***IF YOU ARE NOT EXPERIENCED IN THE
AREA OF AUTOMOTIVE MECHANICS, WE
STRONGLY URGE THAT YOU REFER THIS
INSTALLATION TO A CERTIFIED INSTALLER
OR TECHNICIAN***

Saleen Speedlab Supercharger

Installation Guide for

2001 Mustang 4.6 2V

IMPORTANT!

You must read this booklet **completely** before you start to install your Saleen supercharger kit. Since placing our supercharger kits on the market, our Customer Service representatives have received numerous inquiries regarding installation difficulties and operating problems that could have been *easily avoided* by carefully following the instructions in this booklet. Even the most experienced mechanics will not be aware of some of the specialized installation requirements of the Saleen supercharger. All of us at Saleen want you to be fully satisfied with your supercharger and to achieve the performance increase that a **properly installed** unit will provide.

It will take at least 10 hours to install this kit. Look carefully at the list of required tools. You will need all of the tools listed in order to properly complete your installation. Save all of the nuts, bolts and other parts that you remove – some of them will be needed during reassembly as noted in the instructions.

Your Mustang's Powertrain Control Module (PCM) is referred to in these instructions as the "processor". You will need to send your processor to Saleen as part of the installation process. A shipping package is included in your kit. Saleen's Engineering Department will reprogram your processor with our exclusive PowerFlash Performance Calibration, a program specifically tailored to your engine as modified by the Saleen supercharger. Send us the processor as soon as you can and we will return it to you within 72 hours of its receipt by next day air. Plan on your car being out of service for at least 3 days. **Your car, with the supercharger installed, will not run properly without the PowerFlash Performance Calibration. Serious engine damage could result if you attempt to start the car without the reprogrammed processor!**

Once your Saleen supercharger is installed, including the reprogrammed processor, there is one final but very important step to perform. **Your car must now be operated only with Premium Unleaded fuel with a minimum octane rating of 92. Failure to do so will result in detonation and then major damage to your engine.** Saleen will in no way be responsible for any problems or related damage caused by an incorrect installation or failure to use the proper fuel. We recommend that you switch to premium unleaded for two complete fill-ups **prior** to your installation. Or, completely drain your tank of inferior gas and refill it with premium unleaded **before** you start your car with the supercharger installed.

Removing the Processor

1. Open the passenger's side door and lift up the door sill plate (figure 1), it just pulls straight up. Remove the "Christmas tree" fastener at the front of the passenger's side kick panel and lift the panel out.
2. Unbolt the connector bracket in front of the processor. There are two bolts that hold the bracket in, one is through the hole in the carpet near the front of the foot well. You'll need a 7mm socket and 6" extension to remove them.
3. After moving the bracket outward, remove the bolt holding the large connector to the processor using a 10mm socket. Next remove the bolt in the lower rear corner of the white plastic processor hold down bracket. You will need a 5.5mm socket and 6" extension to reach it. It may be easier to remove the connector bolt after removing the processor hold down bracket. Now rotate the processor clockwise and out to remove it from the car.
4. Fill out the questionnaire.
5. Place the processor and the questionnaire in the supplied prepaid FedEx box. This includes insurance for your processor. Saleen cannot reprogram your computer without the questionnaire being filled out and returned with the processor.
6. Deposit at any FedEx office or drop box.
7. Saleen will reprogram your computer and return it to you by FedEx within 2 business days of receipt.



Figure 1



TODAYS DATE: / /

PROCESSOR QUESTIONNAIRE

1999 - 2004 MUSTANG S281

SHIP TO ADDRESS FOR PCM (PLEASE NO P.O. BOXES)

CONTACT NAME:	DEALER NAME:
SHIPPING ADDRESS:	PHONE NUMBER:
CITY: STATE: ZIP:	EMAIL:
CUSTOMERS NAME:	TECH SUPPORT SALEEN REPORT#:

VIN: [REDACTED]

Please answer all of the following questions so that we can be fully informed of all your car's properties and properly reprogram your car's processor – all of this information is very important!

VEHICLE YEAR:	VEHICLE MODEL:	VEHICLE BUMPER#:	VEHICLE MILEAGE:
TRANSMISSION> AUTO <input type="checkbox"/> MANUAL <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>		ENGINE SIZE:	DIFFERENTIAL GEAR RATIO: <small>(please look at vehicle)</small>
TIRE MANUFACTURER:		REAR TIRE SIZE:	

NOTE: checking a horsepower level other than the one for which you bought a kit will result in an improperly programmed PCM and unsatisfactory results. (CHECK ONE)

HORSE POWER LEVEL:	NORMALLY ASPIRATED	SUPER CHARGED	OTHER EXPLAIN

OTHER MODIFICATION / AFTERMARKET PARTS INSTALLED - NON SALEEN

e.g. HEADERS, INTAKES, AIR OR FUEL MANAGEMENT, EXHAUST, OTHER CAL. 'TUNERS'

PLEASE LIST
ALL ITEMS:

REASON FOR PROGRAMMING --- DO NOT LEAVE BLANK

**PLEASE
EXPLAIN:**

IF THIS IS A "NEW" REPLACEMENT PCM PLEASE PROVIDE ORIGINAL SALEEN CALIBRATION INFO
LOCATED ON LABEL OF OLD PCM LOCATED IN VEHICLE.

CALIBRATION
INFO:

SHIP PCM TO >		SHIP (N) (G) SL (Y) (N)		TAG	
SALEEN - PCM PROGRAMMING		SALEEN USE ONLY			
1225 E. MAPLE RD		REC _____		OLD _____	
TROY, MI 48083		SENT _____		NEW _____	
"SEND PCM"					
"OVERNIGHT"					

CONTACT NUMBERS: DIRECT: 1.800.888.8945 ext 36241 FAX: 1.248.743.6479

9/22/2008

PLEASE INCLUDE THIS WITH THE PCM YOU ARE SHIPPING

1999 - 2004 MUSTANG PCM Questionnaire Troy.xls

Removing the Manifold

1. Disconnect the negative battery terminal using an 8mm wrench.
2. Drain the coolant from the radiator by opening the valve on the passenger's side bottom of the radiator using a 19mm wrench. Warning: **Radiator fluid tastes very sweet to children and pets AND IT IS DEADLY.** Please dispose of carefully or filter and reuse.
3. Disconnect the mass air sensor connector by pressing on the tab and pulling (figure 2).
4. Disconnect the air charge temperature sensor connector by pressing on the tab and pulling (figure 2).
5. Remove air inlet tube between mass air and throttle body by loosening the clamps at either end with an 8mm wrench and pulling out the other hoses going into it. Save this part.
6. Remove spring retainer (safety clip) from fuel feed line.
7. Disconnect the fuel feed line using a 5/8" Ford quick connect tool (figure 3).
8. Remove the throttle return spring from the throttle body and save it.
9. Disconnect cruise control cable from throttle body using a small flat blade screwdriver.
10. Open throttle body all of the way to loosen the throttle cable enough to slip it off the cam and out of its holder.
11. Remove throttle linkage bracket using a 10mm wrench and tuck the cables out of the way behind the master cylinder. Save the bracket.
12. Disconnect the coolant temperature sensor connector by pressing on the tab and pulling. The sensor is located on top of the manifold next to the alternator.
13. Disconnect the 8 fuel injectors by pressing in the tabs on either side of the connector.
14. Remove the 8 bolts holding the coils with a 7mm socket and a 6" extension.
15. The coils can be lifted out and hung to the side.
16. Disconnect the fuel rail pressure sensor connector by pressing the tab on the connector. The sensor is located on the fuel rail between cylinders 6 and 7.
17. Disconnect the vacuum lines that run to the fuel pressure sensor.
18. Disconnect the EGR solenoid connector by pressing on the tab (figure 4).



Figure 2



Figure 3



Figure 4



Figure 5

19. Remove the vacuum lines running to the EGR solenoid (figure 4).
20. Disconnect the vacuum lines from the EGR valve (figure 5).

21. Pull off the ground wire from the fuel rail hold down bolt at the driver's side rear of the fuel rail next to the EGR solenoid.
22. Disconnect the idle speed control valve connector by pressing the tab on the connector (figure 6).
23. Remove the vacuum lines from the throttle body (figure 6).
24. Disconnect the throttle position sensor by pressing the tab on the connector (figure 6).
25. Remove the PCV valve and tubing from the passenger's side valve cover and the silver throttle body assembly. You may need to use a flat bladed screwdriver to work the hose off at the throttle body assembly. Save this part.
26. Pull off the air inlet tube from the idle speed control valve and save the parts (figure 7).

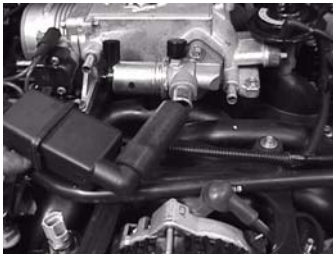


Figure 7

27. Remove fresh air tube from valve cover (figure 8).
28. Disconnect the vacuum lines from the rear of the silver throttle body assembly.
29. Remove the PFE and EGR solenoid bracket using a 10mm socket and a 6" extension (figure 9).
30. Disconnect the PFE connector by pressing the tab on the connector (figure 9).

31. Disconnect the vacuum lines from the PFE valve. Please note that the valve is marked "HI" and "REF". The "REF" port is connected to the upper port on the EGR tube and the "HI" port is connected to the lower port on the EGR tube.
32. Loosen the EGR tube at the manifold using a 27mm or adjustable wrench.
33. Disconnect the engine wiring harness from the manifold by pulling out the two "Christmas tree" fasteners at the rear of the manifold (figure 10).

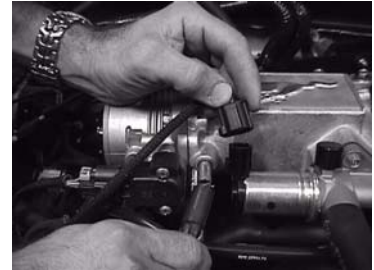


Figure 6



Figure 8



Figure 9

34. Disconnect the alternator main power wire from the top of the alternator using a 10mm socket and extension.
35. Remove the alternator hold down bracket by removing the 4 bolts using an 8mm wrench.
36. Loosen the serpentine belt by moving the tensioner with a 1/2" drive socket wrench with a 1/2" to 3/8" adapter on it and remove the belt.
37. Loosen the two bolts on the lower front of the alternator with a 10mm socket. You do not have to remove the bolts,

the alternator is slotted and will lift out once the bolts are loose.

38. Disconnect the connector on the back of the alternator by pressing the tab and pulling.
39. Remove EGR tube from exhaust pipe using a 25mm and a 27mm



Figure 10

wrench. You will have to reach in through the gap between the engine frame ("K" member) and the vehicle frame.

40. Remove the heater hose from the rear of the manifold using pliers to open up the hose clamp. Slide the hose clamp up the hose and release it to save it for later use.
41. Unbolt the noise suppresser from the thermostat housing bolt by removing the nut with a 10mm socket and move it out of the way.
42. Unbolt the noise suppresser from the passenger's side front of the manifold by removing the nut with a 10mm socket and move it out of the way.
43. Remove the hose from the thermostat housing using pliers to open up the hose clamp. Slide the clamp up the hose and leave it there for later use. You may need to slide a flat blade screwdriver in between the hose and the housing to loosen it for easier removal.
44. Remove the thermostat housing by removing the two bolts with a 13mm socket and extension. Be careful, there is an "o" ring gasket inside the housing that you will need. Save the gasket and the thermostat. You will not need the housing.
45. Remove the throttle body from the manifold using a 8mm wrench on the 4 retaining bolts. Save the gasket and the throttle body.
46. Remove the bolt at the passenger's side front of the manifold with a 13mm socket and extension.
47. Remove the 8 remaining manifold bolts with a 10mm socket and 6" extension.
48. Remove the manifold. Use duct tape to cover the intake holes in the head to keep out dirt and foreign objects during the next steps.
49. Remove the water pipe from the valley of the engine by first removing the water hose at the rear using pliers to open up the clamp. Slide the clamp up the hose to save for later use. Now unbolt the tube from the rear of the block using a 13mm box open wrench. Pull the tube from the front of the block (figure 11). You will not need the tube, but save the bolt.



Figure 11

Preparing for the New Manifold Installation

50. Remove one of the Ford fuel rail hold down bolts (it also has a stud sticking out of it) using an 8mm deep well socket and screw it into the rearmost hole on the driver's side of the Saleen manifold (figure 12).
51. Remove the fuel pressure sensor from the Ford fuel rail with a 7mm socket and 3" extension. It is located on the fuel rail midway up the driver's side. Inspect the "o" rings on the sensor. We have found several of them to be damaged at the factory. You can get replacement "o" rings from an industrial hardware store. The part number is AS-568A-011 (.301 x .070). Make sure to get Nitrile or Buna-N materials as they are fuel resistant. Fuel resistance can be checked by submersing in a cup of fuel for several hours. The material should not swell too much and should retain flexibility. Install the sensor onto the Saleen fuel rail and tighten the bolts to 15 lb-ft.



Figure 12

52. Put the previously saved thermostat and “o” ring into the hole on the driver’s side front of the Saleen manifold. The spring on the thermostat goes down and the “o” ring goes on top of the thermostat.
53. Remove the EGR solenoid from the previously removed bracket (figure 13). You’ll need an 8mm, 3” extension and a 7mm wrench. Save the bolts and the nut.
54. Install the EGR solenoid onto driver’s side rear fuel rail bolt (figure 14).

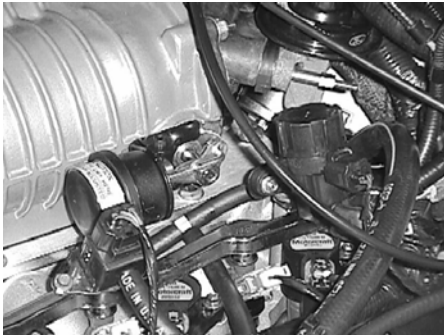


Figure 14

55. If you ordered the optional boost gage kit, install the sensor at this time. You’ll need to remove the plug from the rear manifold plate and install the supplied 45o fitting using an adjustable wrench. Use thread sealant on the fitting and tighten until snug. Leave the fitting pointing up. Screw the sending unit into the fitting. Attach a 5’ section of wire to the sending unit and tie it up out of the way.



Figure 15

56. Remove the PFE sensor from the previously removed bracket (it also held the EGR solenoid) using an 8mm deep well socket. Save the nut. Install the supplied PFE mounting bracket with the supplied 10mm bolt and a 16mm wrench. The bolt goes in the topmost hole on the back of the driver’s side head just above the manifold mounting surface and below the valve cover. Install the PFE sensor onto the bracket using the saved M5 nuts and an 8mm deep well socket. The connector on the PFE sensor will face forward (figure 15).
57. Slide the supplied water tube onto the nipple at the front of the engine valley being careful not to damaged the “O” rings. Rotate the tube into place and reinstall the previously saved stock bolt. The bolt goes into the lower bolt hole on the back of the driver’s side head (figure 15). You’ll need a 13mm wrench.
58. Remove the hoses and heat shield sleeve from the stock EGR tube and put it on the new EGR tube. Note: you’ll have to pull quite hard while twisting to remove the hoses. Don’t use a screwdriver under to hose to pry it loose, they tear very easily. If you must cut them off, save as much length as possible. Cut 4” off of the heat shield sleeve and slide it over the curved end of the tube. Install the hoses onto the new tube putting the longer of the two hoses onto the angled port (figure 16). Slide the tube between the firewall and the rear of the driver’s side head with the curved end up. Attach the tube to the exhaust pipe loosely so there is enough freedom to allow the manifold to slip in underneath it.
59. Hook up the hoses from the EGR tube to the PFE sensor. The top hose runs through the hole in the PFE bracket and connects to the “REF” port on the PFE sensor. The lower hoses connects to the “HI” port (figure 15).
60. Remove the throttle cable from the firewall with an 8mm socket and a 6” extension.

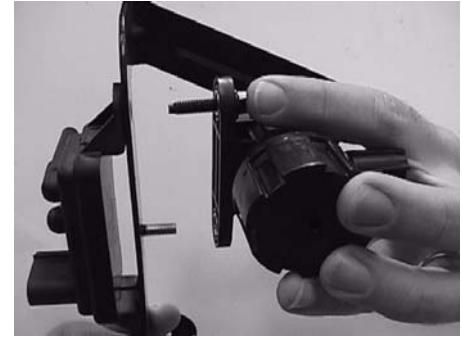


Figure 13



Figure 16

61. Using a flat blade screwdriver, remove the throttle cable from the throttle pedal (figure 17 and 18). Slide the new cable into place and reinstall the bolts. The fitting is keyed so it will only go in one way. Reattach the cable to the throttle pedal.



Figure 17



Figure 18

62. If you have cruise control, unhook the clip holding the cruise control cable to the firewall using a flat blade screwdriver. After removing the driver's side front tire, remove the driver's side inner fender liner. You'll need to remove the two Philips head screws from the outer front and rear of the wheel well and pull the 6 "Christmas tree" fasteners. 4 of the trees point down,

one up front and three in the rear, and 2 point outwards one in front of the shock and one behind. Pull the liner down and out. The cruise control unit mounts in the rear of the fender well. Press the tab on the black plastic cable head (figure 19) to allow the head to rotate and turn it counter clockwise to unlock it (figure 20). Push the cable down to release it from the motor and pull it out (figure 21). Install the new cable by wrapping it counter clockwise around the motor cam and put the head unit back onto the motor and rotate it clockwise to lock the tab into place. Make sure the cable does not have too much slack or it will interfere with the installation of the head unit. Removal of the cruise control unit may facilitate this step. To remove the unit you'll need an 8mm socket. Reinstall the inner liner and the tire assembly.



Figure 19



Figure 20



Figure 21

Installation of the Saleen Manifold

63. It is strongly recommended that you replace the intake manifold gaskets regardless of vehicle mileage!!! The gasket is designed to conform to the shape of the stock manifold and once depressed will not seal well with the Saleen Manifold. Remove the tape from the manifold mating surfaces and put the intake gaskets back into place. Lift the Saleen manifold into place with the help of a friend by lifting at the supercharger's nose and inlet tube on the passenger side and from the EGR flange on the driver side. Make sure not to slide the manifold across the gaskets, they can be cut easily!!! You may have to lift the wiring harness at the rear of the engine to provide the clearance you need to fit.
64. Line up the boltholes in the manifold and insert the 9 supplied M8 flange head bolts. Install the Saleen thermostat housing and insert the saved stock bolts. Snug all of the bolts and then starting from the center, work your way outwards in a clockwise direction tightening all bolts to 18-20 lb-ft using a

10mm socket for the thermostat housing, 12mm socket for the supplied M8 bolts, a 6" extension and a u-joint.

65. Plug the loose vacuum hose that runs from the "T" under the fuel rail into the port on the fuel rail pressure sensor located on the driver's side midway up the rail.
66. Plug in the electrical connection to the PFE valve. It is the gray 4-position connector on the wiring harness that runs across the back of the engine.

**NOTE: IF YOUR KIT CAME WITH A PLASTIC INLET TUBE, FOLLOW STEP 67. (PLASTIC.)
IF YOUR KIT CAME WITH A METAL INLET TUBE, FOLLOW STEP 67. (METAL.)**

67. (Plastic) Using a 10mm deep well socket and a 3" extension, remove the two bolts holding the EGR valve to the driver's side of the silver throttle body assembly. One of the bolts is also a stud, so you may need a box open wrench to remove it. Install the EGR valve onto the Saleen manifold, along with the supplied red EGR spacer and metal tubular sleeve. It goes on the inlet tube behind the supercharger. Install the components in the following order: The 1st EGR gasket goes between the plastic inlet tube EGR flange, and the red phenolic EGR spacer. Next insert the tubular metal sleeve inside of the spacer counter boar such that the tube penetrates the plastic inlet tube. Now put the second gasket over the spacer, and last bolt the EGR valve over the entire sandwich of components using the supplied M8 bolts. Torque the bolts to 15 ft-lbs. You'll want to use a small amount of Loctite on each of the two bolts.
67. (Metal) Using a 10mm deep well socket and a 3" extension, remove the two bolts holding the EGR valve to the driver's side of the silver throttle body assembly. One of the bolts is also a stud, so you may need a box open wrench to remove it. Install the EGR valve onto the Saleen manifold. It goes on the inlet tube behind the supercharger. Use the two supplied M8 bolts, and torque them to 15 – 22 ft-lbs.
68. Screw the EGR tube into the EGR valve using a 27mm wrench. You may have to loosen the EGR valve to start the threads onto the tube. Once the threads are started, retighten the EGR valve before tightening the tube. Make sure the tube is tight, but do not over torque it.
69. Run the driver's side intercooler hose under the wiring harness at the rear of the engine.
70. Put the coils back into their holes and reinstall the stock bolts. Tighten to 10 lb-ft using a 7mm socket, 6" extension, a universal joint and a 7mm box-open wrench.
71. Plug in the injectors.
72. Plug the ground wire onto the stud on the fuel rail hold down bolt at the back of the passenger's side of the manifold.
73. Slide the tab of the driver's side noise suppresser over the stud on the thermostat housing bolt. Using the stock nut and a 10mm deep well socket, tighten the nut snugly onto the stud.
74. Plug in the connectors to the fuel pressure sensor (it is mounted on the driver's side fuel rail) and the EGR solenoid (it is mounted on the driver's side of the supercharger).
75. Slide the tab of the passenger's side noise suppresser over the extension on one of the valve cover hold down bolts. It does not need to be secured.
76. Remove the engine coolant temperature sensor from the Ford manifold using a 19mm wrench. It is the gold and gray sensor standing straight up on the passenger's side front of the manifold. Install the sensor on the Saleen manifold in approximately the same position. Use thread sealant on the threads and tighten until snug.
77. Plug the gray connector onto the ECT sensor standing up on the front of the passenger's side of the manifold.

78. Remove the idle speed control valve from the front of the silver throttle body assembly on the Ford manifold with an 8mm socket and 6" extension. Install the valve onto the Saleen manifold using the new gasket supplied and tighten to 15 lb-ft.
79. Plug in the black 2 position connector into the IAC valve on the passenger's side above the number 1 coil.
80. Install the throttle body with the Ford logo up using the supplied gasket and the saved stock bolts. Use an 8mm socket and a 6" extension to tighten the bolts to 10 lb-ft. Plug the 4 position black connector into the throttle position sensor on the front side of the throttle body.
81. Connect the heater core hose (the short hose that comes out of the firewall) to the hose barb standing up at the back of the passenger's side of the manifold. Make sure that the passenger's side intercooler hose runs behind the heater hose. Slide the clamp down the hose and over the barbs with a pair of pliers (figure 22).
82. Push the fuel line onto the fuel rail until you hear a loud click. Reinstall the safety retainer (figure 23).
83. Cut 3" off of the large vacuum line that comes up from the passenger's side wheel well. Push the hose onto the center (large) hose barb on the vacuum tree at the back of the inlet tube. You may need to cut the wire tire that holds the wiring harness at the back of the manifold and pull the



Figure 22



Figure 23

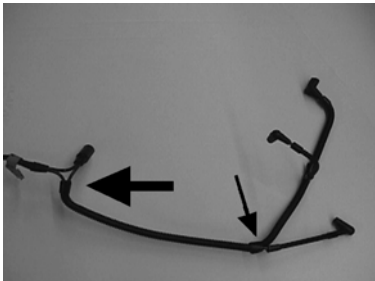


Figure 24

"Christmas tree" fasteners out of the firewall in order to install the hose. Push the "Christmas tree" fasteners back into the firewall after installing the hose.

84. Remove the tape from the vacuum harness (figure 24) and pull out the hose (figure 25). Pull off the big 3/8 size connector (figure 26), and remove the 135° connector from the harness and install on the open end (figure 27). At the other end, remove the red hose from the connector (figure 28) and rotate it 180° (figure 29) and push the red hose back into the connector. To ease in the insertion of the hoses, lube the hoses before inserting them into the connectors.



Figure 25



Figure 26



Figure 27



Figure 28



Figure 29

85. Install the 135° connector to one of the 1/4" ports on the vacuum tree (figure 30). Route the vacuum line under the fuel line. Plug the single hose end into the EGR valve (the black dish like device facing straight up) and hook the double connector to the EGR solenoid mounted on the driver's side of the

supercharger. It will only go on one way (figure 31).

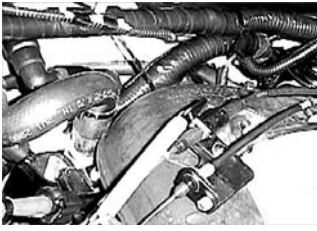


Figure 30

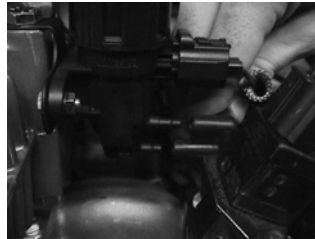


Figure 31

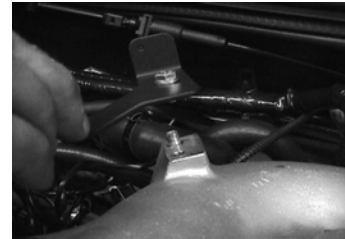


Figure 32

86. If you have cruise control, route the cable along the firewall and across the top of the inlet tube to the bracket. Put the cable into the bracket with the nipple through the bottom hole in the bracket into the inlet tube. Put the supplied M6 bolt into the other hole but do not tighten at this time (figure 32).

87. If you don't have cruise control, install the supplied dowel pin into the large, unthreaded hole and tap into place. Put the supplied M6 bolt into the other hole but don't tighten it at this time (figure 33).



Figure 33

88. Run the throttle cable through the hole in the bracket and install the supplied M5 bolt and nut and tighten with an 8mm socket, 6" extension and an 8mm wrench. Run the cable around the cam and insert the ball end into the hole in the cam (figure 34). Center the cable in the slot in the cam and tighten the throttle cable bracket bolt with a 10mm socket and 3" extension. Modify the throttle cable return spring by cutting 4 coils off and bending the spring to fit in the hole on the throttle body.

89. Snap the cruise control cable onto the ball on the cam by pushing it downwards. The length of the cable can be adjusted by removing the clip and sliding the cable in or out until the white mark is exposed by about 1/4" (figure 35).



Figure 34



Figure 35

90. Now that the throttle and cruise control cables are connected make sure that you get full throttle by having someone fully depress the throttle pedal and checking to see if the throttle plate has opened fully. Minor adjustments can be made by loosening and moving the bracket on the inlet tube.

91. Remove the rubber and hard plastic tubes from the PCV valve (figure 36). Cut an 8" piece of the supplied 3/8" hose and push it on the PCV valve. Remove the splice in the purge line or cut the purge line in an easily accessible spot near the back of the passenger side valve cover. The purge line is the large rubber vacuum line that runs from the center of the tree on the back of the manifold and disappears into the passenger side wheel well. Insert the supplied 3/8" "T" fitting into the purge line and connect it to the PCV valve (figure 37). Insert the PCV valve into the passenger's side valve cover.

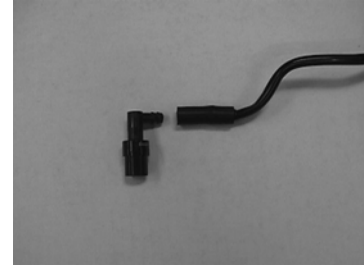


Figure 36



Figure 37

92. You need to modify the large rubber air inlet hose to make it fit between the mass air sensor and the throttle body. Cut the hose as shown in figures 38 and 39 where indicated by the screwdriver. You'll need to grind the hose ribs off so you install the clamp at the throttle body end. Install the hose and tighten the clamps. The passenger's side intercooler hose, if equipped, runs under the air inlet tube. The tube can be difficult to install. We've found the best way to install it is the put it on the mass air first and then to put it on the bottom of the throttle body and rotate the tube counterclockwise up into place.



Figure 38



Figure 39

93. Cut the ACT wiring harness about 4" from the connector (figure 40). Solder the supplied gray and gray/red wires to both ends to extend the connector. After soldering, wrap the lines with electrician's tape and plug the connector into the ACT sensor at the lower front of the manifold (figure 41).



Figure 40

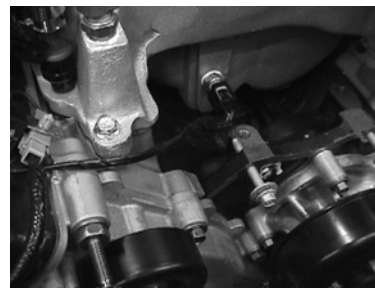


Figure 41

94. Cut the thick, black/red wire that goes to the main post on the alternator (figure 42). Solder the supplied extension in between the connector and the harness. You'll have to trim back the rubber insulator on the wires before you insert them into the solder cups on the extension. Cover the solder cups with electrician's tape (figure 43).



Figure 42

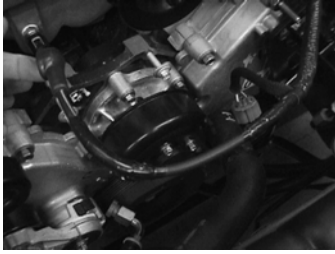


Figure 43

96. Bolt on the extended alternator power lead to the red post on the alternator using a 10mm wrench. The wire must angle forward to clear the supercharger (figure 46). Connect the 3 position connector onto the alternator.

Slide the alternator onto the bolt in the block and align the other ear with the hole in the “S” bracket (figure 47). Now assemble the pulley, bolt, spacer and washer (figure 48) and slide the bolt through the alternator to the “S” bracket. Make sure the washer goes between the bolt head and the pulley and that it is the small washer that isn’t much larger than the metal center of the bearing. Tighten the bolts with a 10mm and a 17mm socket to 25 lb-ft. Now torque the lower “S” bracket bolt to 25 lb-ft with a 10mm socket and a 3” extension.

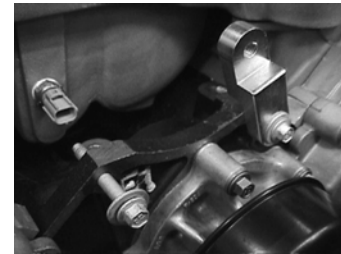


Figure 44



Figure 45



Figure 46



Figure 47

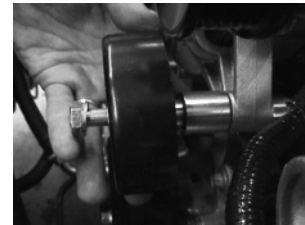


Figure 48

97. Remove the three power steering pump reservoir bolts with a 10mm socket. The power steering pump reservoir mounts on the front of the passenger’s side of the engine. Slide the reservoir out of the way. Remove the bolt at the top of the bracket with a 13mm socket and 3” extension. Remove the two nuts holding the wiring loom onto the bracket with a 13mm socket and 3” extension. Behind the wiring loom bracket there are two bolts must be removed with a 13mm deepwell socket. Now you can remove the bracket from the car (figure 49). Now cut the bracket (figure 50) with a hacksaw and reinstall the bracket, wiring harness and reservoir. Torque all of the bolts and nuts to 25 lb-ft.

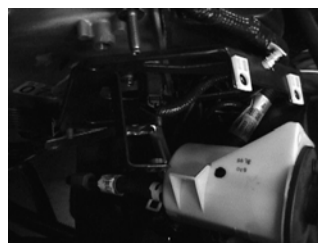


Figure 49



Figure 50

98. Install the drive belt following the belt routing indicated on the supplied drive belt label. You'll need a 1/2" ratchet wrench and a 1/2" to 3/8" adapter to move the tensioner.

99. Slide the upper radiator hose onto the thermostat housing and put the clamp into place with a large pair of pliers.

100. Swap the two hoses on the air bypass assembly (figure 51). Install the hose assembly between the air inlet tube and the IAC valve as shown in figure 52.



Figure 52

101. Cut off the engine vent hose as shown in figure 53, then insert the cut end of the short piece into the 90° rubber elbow coming out of the top of the driver's side valve cover (figure 54). Put an 8" piece of the supplied 5/8" hose in between the two ends of the plastic hose and insert the other end into the air inlet tube.



Figure 51



Figure 53



Figure 54

102. Remove the black plastic upper radiator cover by removing the 4 plastic Philip's head screws and lifting the fasteners out. You may need to pry up under the head in order to get the screw to back out. If you purchased the optional twin gage pod, install the water temperature sending unit into the short fitting on the bottom of the intercooler expansion tank using thread sealant and a 19mm wrench. Put the hose fittings into the other two holes in the tank using a 22mm wrench (figure 55). Make sure that the "O" rings are in place between the tank and the nut on the fitting. Bolt the expansion tank to the upper radiator support using the two 6mm bolts saved from the stock throttle body cable bracket (figure 56). Tighten to 15 lb-ft with a 10mm socket. You'll need to gently bend the AC hose out of the way to install the expansion tank. Be very careful with the tube to keep from breaking it.



Figure 55

103. Hook the passenger's side intercooler hose to the upper

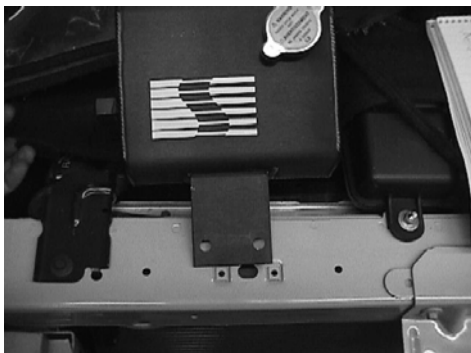


Figure 56

fitting on the expansion tank and tighten with a 22 mm wrench.

104. Hang the support rod from the hole in the rear of the expansion tank. Use the supplied nut with the attached washer and tighten to 15 lb-ft with an 11mm deepwell socket. Make sure the bracket faces forward.

105.Steps 107 to 126 are for intercooled cars only.

106.Raise the vehicle in front and support it safely.

107.Drill two holes with a 3/16" drill bit where the expansion tank support rod hits the lower radiator support (figure 57) and install the 2 6mm body bolts with a 10mm socket and 6" extension. Torque these to 10 lb-ft.



Figure 57

108.Remove the passenger's side front wheel and inner fender liner. You'll need to remove the two Philips head screws from the outer front and rear of the wheel well and pull the 6 "Christmas tree" fasteners. 4 of the trees point down, one up front and three in the rear, and 2 point outwards one in front of the shock and one behind. Pull the liner down and out. We removed the front fascia to make the installation easier to photograph, but you don't need to do that.

109.Drill out the four mounting holes on the water pump with a 5/16" drill bit. At this time, make sure that the two Philip's heads screws holding the bracket to the pump are tight. Drill a 5/16" hole in the inner fender (figures 58 and 60). Install the bracket using an M8 bolt, nut and washer and a 13mm socket and 3" extension and a 13mm wrench. Put the washer and nut on the bracket side of the joint. Mark the bumper in two places (figure 59). Now remove the bracket and drill 5/16" holes where the marks are. Use one of the supplied 1/8" drill bits to make a pilot hole and slowly increase the size until you get to 5/16". You will want to use new or very good drill bits, the bumper is very hard!! You might

also want to use some oil, motor oil will do, to cool the drill bit as you go. Mount the bracket with three 8mm bolts, nuts and washers. The rearward one mounts as before with the washer and nut against the bracket, but the front ones have the bolt going through the washer and bracket with the nuts inside the bumper. Tighten to 15 lb-ft with a 13mm socket, 3" extension and a 13mm wrench.



Figure 58



Figure 59

110.Install the two fittings on the water pump using a 1 1/8" wrench and tighten very snugly. Use thread sealant on the threads.

111.Mount the water pump to the bracket with 4 8mm bolts, large washers and nylock nuts. Put the bolts through the pump and put the washers and nuts on top of the bracket. Tighten to 15 lb-ft with a 13mm socket, 6" extension and a 13mm wrench (figure 60).

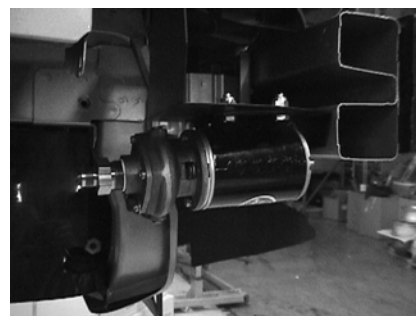


Figure 60

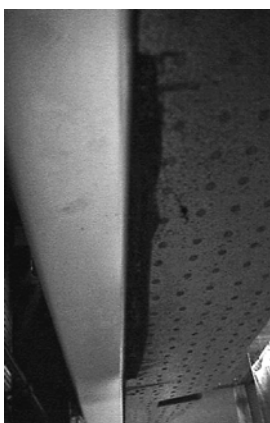


Figure 61

112.Trim the foam in front of the bumper with a knife until you have a 1/2" space in front of the bumper that is flush with the bumper surface (figure 61). The area should be centered on the bumper and the length of the

heat exchanger. A serrated knife makes this job easier.

113. Remove the lower bolt for the hood latch bracket and install the heat exchanger support bracket (figure 62). Tighten the bolt to 15 lb-ft with an 8mm socket and 6" extension.

114. Put the heat exchanger in place under the lower radiator support with the fans on the passenger's side to the rear and loosely install the bolt for the lower heat exchanger support bracket with a 13mm socket, 3" extension and a 13mm wrench. This will hold the heat exchanger while you mark to 3 holes in the flange on the lower radiator support. Remove the heat exchanger. Drill out the three holes using the 9/64" drill provided. Once the drill has punched through, move the handle of the drill around in an approximately 6" circle to ream out the hole a little larger. Put the heat exchanger back into place with the support bracket bolt loosely installed. Using the self tapping screws and a long Philip's head screwdriver, screw the heat exchanger to the bumper. Make sure the screws seat tight. If they don't, use a new screw and open the hole up a bit more with the drill. Tighten the lower bolt to 15 lb-ft.



Figure 62

115. Trim the wind deflector at each end of the heat exchanger to clear the hose fittings (figure 63 and 64). Use a hack saw on the plastic and a serrated knife on the rubber.



Figure 63

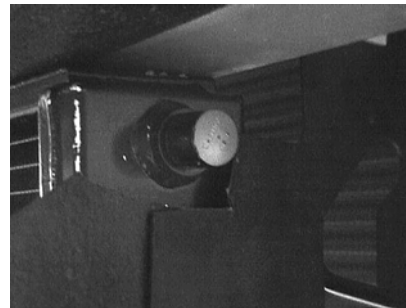


Figure 64

116. Install the short pre-made water hose from the outlet on the pump to the inlet on the heat exchanger. Tighten snugly with a 22mm wrench. Following the routing (figure 65) keeps the hose away from the frame.

117. Install the long hose from the inlet of the pump to the outlet of the expansion tank. Follow the routing (figures 66 and 67).



Figure 65

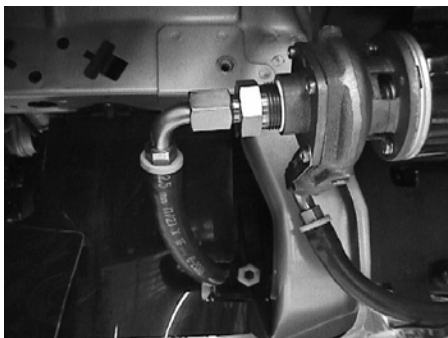


Figure 66



Figure 67

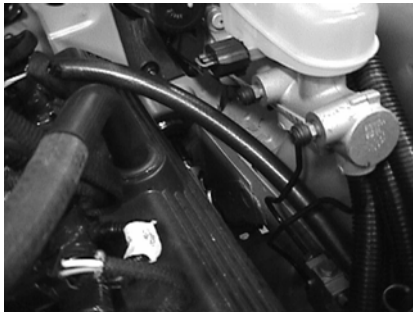


Figure 68

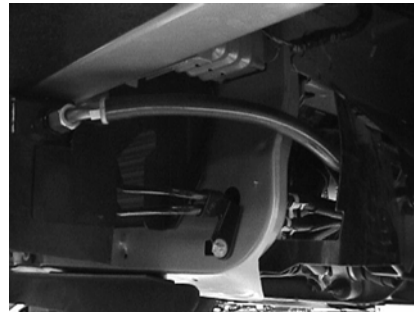


Figure 69

118. Run the driver's side hose down behind the brake lines (figure 68), alongside the frame rail to the outlet of the heat exchanger (figure 69). Tighten snugly with a 22mm wrench.

119. Gather up the wires coming from the fans and tie-wrap them to the lower radiator support (figure 70).

120. Using a 5mm socket and 3" extension, remove the connector from the CCRM located inside the passenger's side front wheel well (figure 71). Slice away 3"-4" of tape on the wiring harness to expose the wires.



Figure 71

121. Tie-wrap the fan controller to the wiring harness (figure 72).

122. Following the wiring diagram at the end of this manual, use the splice junctions to attach the wires from the fan controller to the CCRM wiring harness. First put the wire in the CCRM wiring harness through the connector, then insert the wire from the fan controller (figure 73) and squeeze the block together

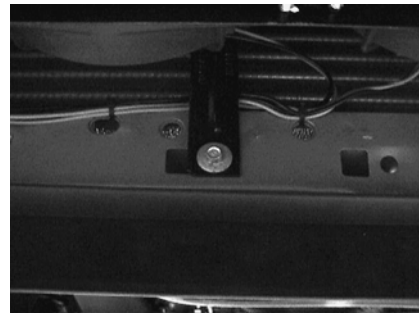


Figure 70

enough to close the clasp. The aluminum piece must pierce the insulation of both wires to make a connection

123. Reinstall the fender liner and wheel and lower the car back onto the ground.

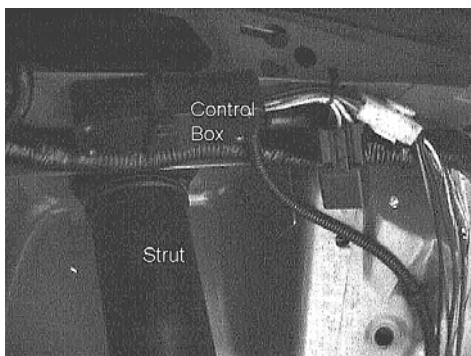


Figure 72

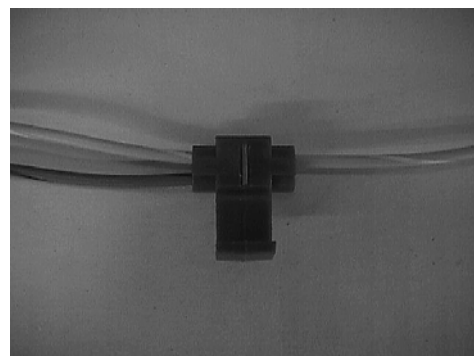


Figure 73

124. Refill the coolant in the radiator with a 50% mix of water and coolant. You'll need to top it off again after the car has warmed up, or you can unscrew the ECT sensor to bleed out the air and reinstall it once the coolant rises to the top.

125. Reinstall the reprogrammed computer into the passenger's side kick panel.

126. Hook up the battery ground terminal. Tighten the bolt with an 8mm wrench.

127. Fill the intercooler expansion tank with the same mix as you put in the radiator and turn the key on to start the pump. It will take 10 seconds for the pump and fans to start. You'll need to prime the water pump which can be difficult. Try letting the pump run while you tap the hose that runs from the bottom of the expansion tank to the pump, or loosen the hose fitting at the pump on the same line to let the trapped air out. If those don't work, try blowing hard into the cap of the expansion tank to force the water into the pump.
128. Check for fuel leaks and if all looks well, start the engine and check for vacuum leaks. If the car runs but the idle cycles high to low, there is a vacuum leak and you'll need to find it before you're through. All superchargers and manifold assemblies are pressure checked at Saleen before they are shipped, so a leak is probably in one of the hoses you ran during the install. Spraying carburetor cleaner at various junction points should help find the leak (the idle will drop if the cleaner gets into the engine through a vacuum leak).
129. Install the EO# Plaque on the back of the supercharger (figure 74).

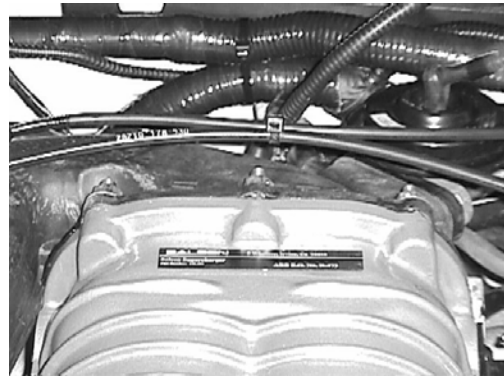


Figure 74

Technical Support

If you have any questions, please call our technical support representatives at (949) 597-4900.

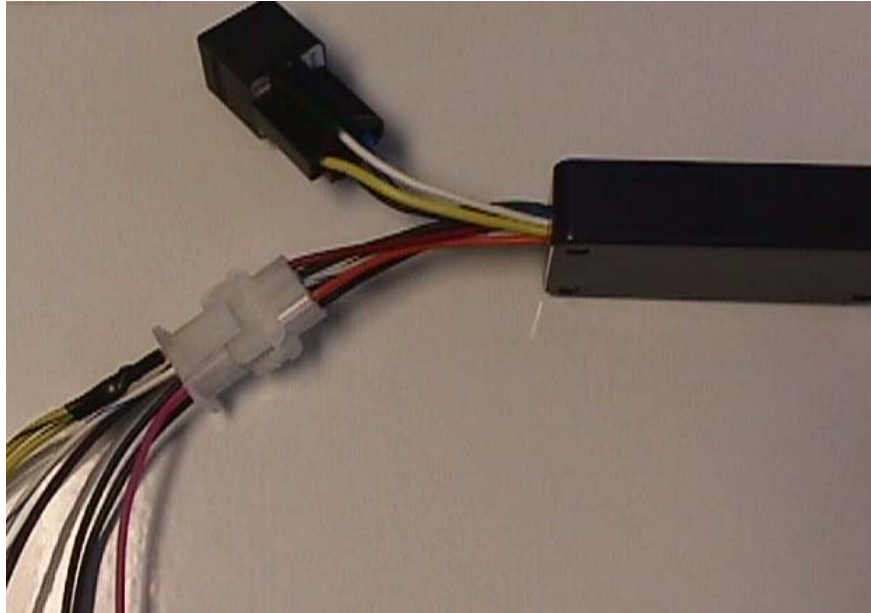
Warranty

All Saleen supercharger kits are warranted to be free from defects in manufacture and workmanship for a period of 12 months or 12,000 miles from the date of sale.

The warranty is limited to repair or replacement at Saleen, Inc, exclusive option, of goods or merchandise involved. Warranty will not be honored for damage or malfunction due to improper installation, misuse, unauthorized repair or alterations, or externally induced physical damage. No warranty is made for any other claims for special, indirect or consequential damage (including, but not limited to, component removal or installation equipment down time, prospective profits or other economic loss) because of any defect deemed warrantable by Saleen, Inc. Any claim made under this limited warranty must be presented to Saleen, Inc. With valid proof of date of purchase by the end-user.

Water Pump and Fan Relay Controller

The water pump and fan controller is wired into your Constant Control Relay Module (CCRM) which is located in the passenger side wheel well. Remove your Passenger side tire and wheel well cover and follow the wiring instructions for your model year. It is recommended that you splice and solder your wiring connections.



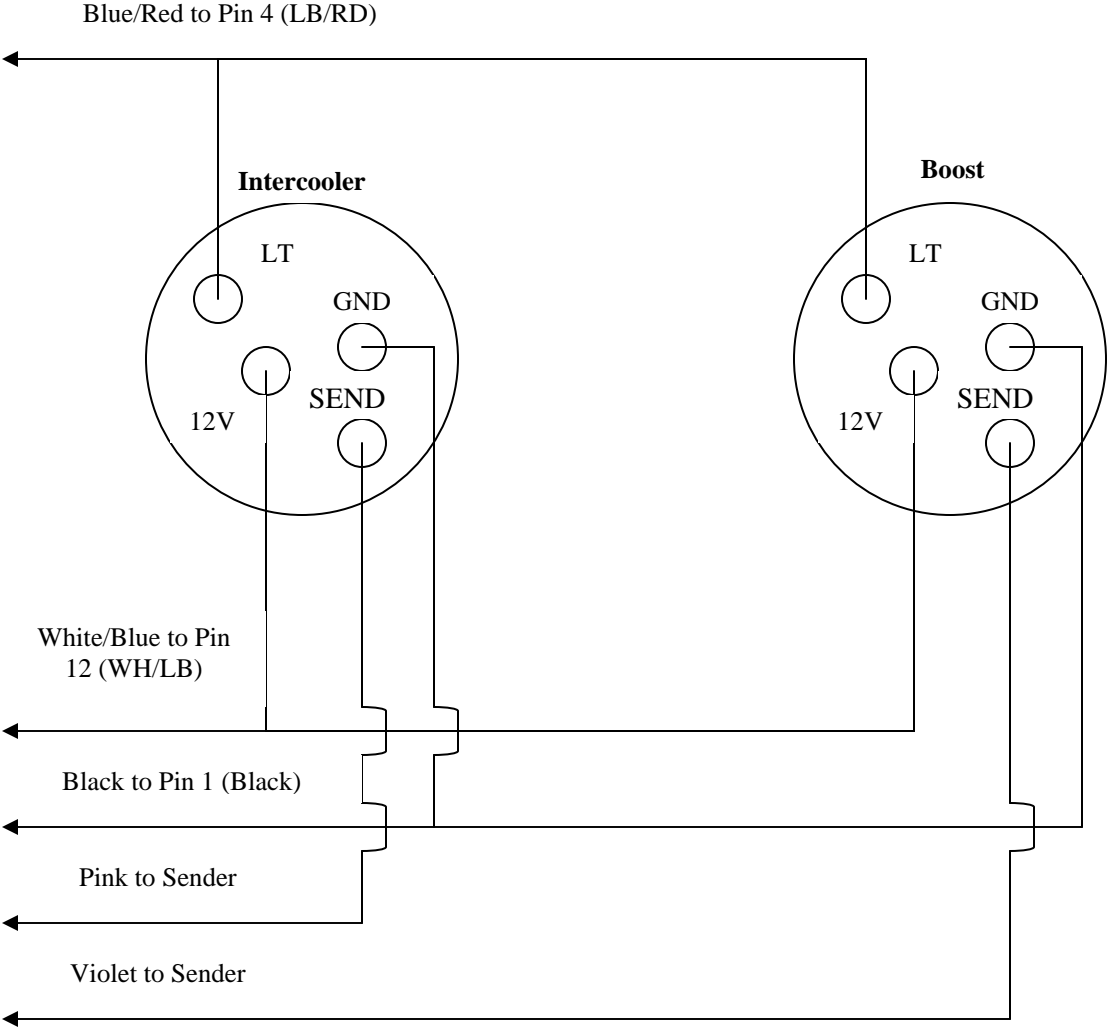
1999 - 2001

- Yellow/Black from controller to Yellow/Black (YE/BK) at CCRM
- Yellow/Black from controller to Yellow/Black (YE/BK) at CCRM
- Green/Yellow from controller to Dark Green/Yellow (DG/YE) at CCRM
- Short Black wire from controller to Ground
- Long Black wire from controller to Negative lead (Black) of Fans
- Pink from controller to Positive lead (Pink or Orange) of Fans
- Brown from controller to Positive lead (Orange) of Pump
- Negative lead (Black) from Pump to Ground

1996 - 1998

- Yellow/Black from controller to Black/Orange (BK/O) at CCRM
- Yellow/Black from controller to Black/Orange (BK/O) at CCRM
- Green/Yellow from controller to Dark Green/Yellow (DG/YE) at CCRM
- Short Black wire from controller to Ground
- Long Black wire from controller to Negative lead (Black) of Fans
- Pink from controller to Positive lead (Pink or Orange) of Fans
- Brown from controller to Positive lead (Orange) of Pump
- Negative lead (Black) from Pump to Ground

Supercharger Gauge Pod Option



I. Bag 1

9 Intake manifold bolts (step 64)

II. Bag 2

12in. Conduit (step 96)
4in. Wire extension (step 96)
6in Heat shrink (step 96)
1 Idler pulley (step 96)
1 Idler pulley spacer (step 96)
1 Alternator mount bracket (step 95)
1 Idler pulley bolt (step 96)
1 3/4in washer (step 96)

III. Bag 3

2 Fittings for water pump (step 109)
2 Fittings for over flow tank (step 102)

IV. Bag 4

4 5/16x18 nuts and bolts (step 111)
4 1 in washers (step 111)
4 3/4in washers (step 111)
3 3/8 bolts and nuts (step 109)
5 Self tapping screw (step 114)
1 3/8 bolt and nut (step 114)
2 M6 self tapping bolts (step 107)
1 M6 nut (step 107)
1 Bracket (step 114)

V. Bag 5

2 M5 bolts and nuts (step 54)
2 1/2in washers (step 57)
1 PFE bracket and bolt (step 60)
1 13mm bolt

VI. Bag 6

1 Throttle cable (step 61)
1 Cruise control cable (step 64)
1 Throttle bracket (step 86)
6in 3/8 fuel hose (step 91)
3/8 Vacuum tee (step 91)
12in 5/8 hose (step 101)

VII. Bag 7

5 Blue scotch lock connectors (step 121&122)
6 Blue butt connectors (step 122)
1 Small eyelet (step 122)

VIII. Bag 8

- 1 Grey wire 18in long (step 93)
- 1 Grey and black wire 18in long (step 93)
- 1 Yellow and white wire
- 1 Brown and white wire
- 1 Grey and red wire
- 1 Green and red wire
- 3 ft Small conduit

IX. Bag 9 (Plastic Inlet only)

- 1 Throttle body gasket (step 80)
- 1 Idle control gasket (step 78)
- 2 EGR valve gaskets (step 67)
- 1 EGR spacer
- 1 EGR sleeve

IX. Bag 9 (Metal Inlet only)

- 1 Throttle body gasket (step 80)
- 1 Idle control gasket (step 78)
- 1 EGR valve gaskets (step 67)