

# SALEEN SPEEDLAB SUPERCHARGER

INSTALLATION MANUAL: 2002-2003 Mustang 4.6L 2V

P/N 064-101

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[www.saleen.com](http://www.saleen.com)



THE INSTALLATION OF A SUPERCHARGER IS TECHNICALLY COMPLEX. 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 SUPERCHARGER FUEL WARNING

The Saleen Supercharger strictly requires premium unleaded fuel ONLY, and such fuel MUST have an octane rating of at least 91. In some areas of the U.S.A., "premium" fuel may be marketed under another name such as "high test", "super", "ultimate" or some other designation. The name is not important but the minimum 91 octane rating is critical.

The use of lower than required 91 octane fuel will result in a loss of performance and can cause damage to your engine. Under certain driving conditions such as (particularly, but not limited to) high RPM operation in extremely hot weather, severe engine damage up to and including catastrophic failure may occur due to detonation caused by fuel with an insufficient octane rating. Saleen cannot and will not be responsible for the octane rating of unleaded gasoline available in any particular area. Use of any fuel lower than 91 octane will void the warranty on the Saleen Supercharger, and the repairs of any and all engine damage will not be the responsibility of Saleen, Inc.

Engine damage caused by the use of improper fuel is easily detected.

If you have any questions about this, please contact the Saleen Aftermarket Parts Division (800) 888-8945 Monday through Friday 8am to 5pm Pacific Standard Time.



## Saleen Speedlab Supercharger Installation Guide for 2002-2003 Mustang 4.6 2V



### IMPORTANT!

It is imperative that you 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 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 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!!!

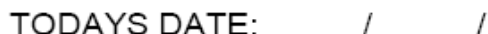
Once your Saleen supercharger is installed, including the reprogrammed processor, there is one final but very important step to perform. YOUR CAR MUST NOW BE OPERATED ONLY WITH PREMIUM UNLEADED FUEL WITH A MINIMUM OCTANE RATING OF 91. FAILURE TO DO SO WILL RESULT IN DETONATION AND THEN MAJOR DAMAGE TO 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.

Prior to beginning the supercharger installation, if your car has underdrive pulleys, they must be removed and stock pulleys reinstalled. Lately, due to the variance in stock Ford engine mounts and hood fitment, in rare instances the front pulley on the Saleen Supercharger may make contact with the stock Ford hood. Please check this tolerance carefully and make the necessary adjustments to the stock hood following the installation.



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## 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#:
	(IF ONE WAS GIVEN)

[illegible]

**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:**

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

**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

## Saleen Supercharger Installation Required Tools

### Wrenches

- 1
- 1 1/16
- 7 mm
- 8 mm
- 10 mm
- 13 mm
- 16 mm
- 19 mm
- 22 mm
- 27 mm
- 3/8 Torque Wrench
- 4 mm Allen Wrench
- Adjustable Wrench

### Socket Set

- 3/8 Drive Ratchet Wrench
- Drive Ratchet Wrench
- 3 Extension
- 6 Extension
- 5.5 mm Socket
- 7 mm Socket
- 8 mm Socket
- 8 mm deep Socket
- 10 mm Socket
- 10 mm deep Socket
- 11 mm deep Socket
- 12 mm Socket
- 13 mm Socket
- 17 mm Socket

### Screw Drivers

- Flat Head
- Phillips Head

### Other Tools

- Channel Locks
- Cutters
- Drill
- Drill Bit Set 9/64 , 3/8 , 11/32
- Duct Tape
- Ford 5/8 Quick Connect Tool
- Panel Puller
- Pliers
- Rattail File
- Soldering Iron
- Solder
- Tie Wraps
- Red LocTite

## REMOVING THE PROCESSOR

1. Disconnect the negative battery terminal using an 8mm wrench.

2. Open the passengers 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 passengers side kick panel and lift the panel out.



FIGURE 1

3. 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.

4. 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.

5. Fill out the questionnaire on page 1.

6. 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.

7. Deposit at any FedEx office or drop box.

8. Saleen will reprogram your computer and return it to you by FedEx within 2 business days of receipt.

## 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 passengers 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).

5. Remove air inlet tube between mass air and throttle body by loosening the clamps at either end with an 8mm socket and pulling out the other hoses going into it.



FIGURE 2

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) (available at local auto



FIGURE 3

parts store).

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 socket 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 saved.

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.

*(Continued on page 4)*



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).

19. Remove the vacuum lines running to the EGR solenoid (figure 4).

20. Disconnect the vacuum line from the EGR valve (figure 5).



FIGURE 4

21. Pull off the ground wire from the fuel rail hold down bolt at the drivers side rear of the fuel rail next to the EGR solenoid.



FIGURE 5

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 assembly (figure 6).

24. Disconnect the throttle position sensor by pressing the tab on the connector (figure 6).



FIGURE 6

25. Remove the hard plastic tubing from PCV valve on the passengers side 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. Leave the PCV valve in place and rotate the elbow so it points toward the firewall.

26. Pull off the air inlet tube from the idle air control valve and save the parts (figure 7).



FIGURE 7

27. Remove the hard plastic fresh air vent line from the driver side valve cover. Do not remove the rubber elbow from valve cover. This will be reused later.

28. Disconnect the vacuum lines from the rear of the silver throttle body assembly.



FIGURE 8

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).



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.



FIGURE 10

33. Disconnect the engine wiring harness from the manifold by pulling out the two "Christmas tree" fasteners at the ear of the manifold (figure 10).

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 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.

(Continued on page 5)

41. 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.

42. 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.

43. Remove the throttle body from the manifold using a 8mm wrench on the 4 retaining bolts. Save the gasket and the throttle body.

44. Remove the bolt at the passengers side front of the manifold with a 13mm socket and extension.

45. Remove the 8 remaining manifold bolts with a 12mm socket and 6" extension.

46. 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.

47. 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 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

48. Remove the four Ford fuel rail hold down bolts (they also have a stud sticking out of them) using an 8mm deep well socket (figure 12). Save these for later use.



FIGURE 12

49. Put the previously saved thermostat and "o" ring into the hole on the drivers side front of the Saleen manifold. The spring on the thermostat goes down and the "o" ring goes on top of the thermostat.

50. 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.

51. Install the EGR solenoid onto drivers side rear fuel rail bolt (figure 14).

52. Attach a 5 section of wire to the boost sending unit, on the drivers side of the manifold plate (figure 14) and tie it up out of the way.

53. 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 drivers 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).

54. 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 drivers side head (figure 15). You'll need a 13mm wrench. figure 15).



FIGURE 13



FIGURE 14

55. 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 the 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 drivers 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.



FIGURE 15

(Continued on page 6)

56. 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).



FIGURE 16

57. Remove the throttle cable from the firewall with an 8mm socket and a 6" extension.



FIGURE 17



FIGURE 18

58. 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.

59. If you have cruise control, unhook the clip holding the cruise control cable to the firewall using a flat blade screwdriver. After removing the drivers side front tire, remove the drivers side inner fender liner. You'll need to remove the two Philips head



FIGURE 19

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 20



FIGURE 21

## INSTALLATION OF THE SALEEN MANIFOLD

60. If necessary, expand the hole size of the two circular holes on the Ford fuel rail to 11/32". These are located on the passenger front and driver rear sides. Do not drill the slotted hole.

61. Insert the original fuel rail hold down bolts with red Loctite in the three easily accessible holes (not the one underneath the inlet tube). Tighten to 90 in-lbs.



FIGURE 22

62. Measure hole diameter of the Adel clamp. If necessary, expand hole size to 5/16". Slide the Adel clamp around the rubber fuel rail hose, insert supplied 6mm bolt, and tighten bolt into hole under inlet tube. (figure 22). Tighten to 145 in-lbs.



FIGURE 23

63. Using 1/4" Tee hose fitting, connect the 12 inch and 7 inch hoses opposite from each other and 5 inch hose perpendicular (figure 23).



FIGURE 24

64. Connect the 5 inch hose to the supercharger bypass valve. Route the 12 inch hose under the fuel rail between the injectors and connect to the intercooler mounting plate (figure 24). Connect the 7 inch hose to the fuel rail pressure sensor.

65. 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

*(Continued on page 7)*

EGR flange on the driver side. Make sure not to slide the manifold on the gaskets..

66. Line up the bolt holes 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.

67. 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 drivers side midway up the rail.

68. 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.

69. Using a 10mm deep well socket and a 3" extension, remove the two bolts holding the EGR valve to the drivers side of the silver throttle body assembly. One of the bolts is also a stud, so you may need a box end wrench to remove it. Install the EGR valve onto the Saleen manifold. It goes on the inlet tube behind the supercharger. Use the two stock M8 bolts, and torque them to 15-22 ft. lbs.

70. 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.

71. Run the drivers side intercooler hose under the wiring harness at the rear of the engine.

72. 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.

73. Add silicon lubricant to the injector O-rings and plug in the injectors. Slide Ford fuel rail around manifold and snap onto injectors.

74. Plug the ground wire onto the stud on the fuel rail hold down bolt at the back of the drivers side of the manifold.

75. Plug in the connectors to the fuel pressure sensor (mounted on the drivers side fuel rail) and the EGR solenoid (mounted on the drivers side of the supercharger).

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 passengers 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 passengers side of the manifold.

78. Remove the idle air 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 ft/lbs.

79. Plug in the black 2 position connector into the IAC valve on the passengers side above the number 1 coil.

80. Install the throttle body with the Ford logo up using the supplied gas- and

stock  
Use



FIGURE 25



FIGURE 25a

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.



FIGURE 26



FIGURE 27

81. Connect the heater core hose (the short hose that comes out of the firewall), (figure 25), to the hose barb standing up at the back of the passenger side of the manifold. Make sure that the passenger side intercooler hose runs behind the heater hose. Slide the clamp down the hose and over the barbs and tighten with 8mm socket.



FIGURE 28

82. Remove foam insulation from AC line near throttle linkage (figure 25a). Route fuel line under AC line. Twist damper 180 degrees (figure 33).



FIGURE 29



FIGURE 30



FIGURE 31



FIGURE 32

83. Push the fuel

(Continued on page 8)



line onto the fuel rail until you hear a loud click.

84. Reinstall the safety retainer (figure 26).

85. Cut 3" off of the large vacuum line that comes up from the passengers side wheel well. Push the hose onto the right (large) hose barb at the back of the inlet tube. You may need to cut the wire tie that holds the wiring harness at the back of the manifold and pull the "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.

86. Remove the tape from the vacuum harness (figure 27) and pull out the hose (figure 28). Pull off the big 3/8 size connector (figure 29), and remove the 35 degrees connector from the harness and install on the open end (figure 30). At the other end, remove the red hose from the connector (figure 31) and rotate it 180 degrees (figure 32) 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 33



FIGURE 34



FIGURE 35



FIGURE 36

87. Install the 2 into 1 connector to one of the 1/4" ports on the vacuum tree (figure 34). 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 drivers side of the supercharger. It will only go on one way (figure 14).

88. You will have to modify supplied cruise control cable by replacing the throttle body connection with that from the stock cruise control cable. To do this remove plastic connector casing by prying a small screw driver between casing and cable on both the new and stock cables. Install the stock (black) cable end onto the new supplied cable. (Figure 35)



FIGURE 37a



FIGURE 37b



FIGURE 37c

89. Route the cable along the firewall and across the top of the inlet tube to the bracket. Place the cable into the bracket by sliding cable through square opening until locked in place.

90. Run the throttle cable through the hole in the bracket and install the supplied M5 bolt and nut by tightening with a 3mm allen 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 36). Center the cable in the slot in the cam. Modify the throttle cable return spring by cutting 1/2" off and bending the spring to fit in the

hole on the throttle body.

91. Snap the cruise control cable onto the ball on the cam by pushing it downwards.

92. 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.

93. Remove the splice in the purge line near the back of the passenger side valve cover. The purge line is the long 3/8" hose that connects to the rear of the intake and to the purge valve, located in the passenger side fender well. Insert the supplied 3/8" Tee fitting in the place of the splice. Push on a 6" length of the supplied 3/8" hose, and insert the supplied 5/8"-3/8" hose reducer at the other end. See Figure 37a & 37b. Insert the large end of the reducer into the stock PCV elbow as shown in Figure 37c.

94. Place screen on new air box cover (figure 38). Silicone between adapter plate and mass air sensor (figure 39) and bolt mass air to new air box cover, with adapter and



FIGURE 38



FIGURE 39



FIGURE 40



FIGURE 41

(Continued on page 9)



FIGURE 42



FIGURE 44

screen ordered as shown in figure 41. Connect hump hose to mass air and tighten clamp with clamp facing towards fender.

95. Connect reducer hose to intake tube and tighten clamp with clamp facing towards fender.

96. Put clamp on hump hose loosely and slide intake tube into place onto mass air.

97. Slide reducer onto throttle body and install clamp onto throttle with clamp facing toward driver side away from throttle cable (figure 42).

98. Cut the gray and gray/red ACT wires from mass air harness four



FIGURE 43



FIGURE 45



FIGURE 46



FIGURE 47

inches from the connector. (figure 43). Solder the supplied gray and gray/red wires to both ends to extend the connector. After soldering, wrap the lines with electricians tape and plug the connector into the ACT sensor at the lower front of the manifold (figure 44).

99. Cut the thick, black/red wire that goes to the main post on the alternator (figure 45). 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 the solder cups on the extension. Cover the solder cups with electricians tape (figure 46).

100. Install the alternator "S" brace Removing the drivers side lower alternator bolt and putting the bolt through the brace and back into the hole. The threaded hole goes up with the ledge facing forward (figure 46). Note the position of the other alternator bolt. You may need to file the slot in the lower drivers side ear to get the bolt to fit through (figure 48).

101. 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



FIGURE 48



FIGURE 49



FIGURE 50



FIGURE 51

the supercharger (figure 49). 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 50). Now assemble the pulley, bolt, spacer and washer (figure 51) 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.

102. Remove the three power steering pump reservoir bolts with a 10mm socket. The power steering pump reservoir mounts on the front of the passengers 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.



FIGURE 52



FIGURE 53



FIGURE 54



FIGURE 55

(Continued on page 10)

Behind the wiring loom bracket there are two bolts must be removed with a 13mm deep well socket. Now you can remove the bracket from the car (figure 52). Now cut the bracket (figure 53) with a hacksaw and reinstall the bracket, wiring harness and reservoir. Torque all of the bolts and nuts to 25 lb-ft.

103. 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 tensioned.



FIGURE 56

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

105. Remove the short straight section of tubing from the IAC hose assembly. Install the supplied 5" length of tubing in its place. Install the hose assembly between the air inlet tube and the IAC valve (figure 54).



FIGURE 57

106. Install the supplied 5/8" hose coupling into the rubber elbow on the driver side valve cover (Figure 55). Run a length of the supplied 5/8" hose in front of the thermostat housing and behind alternator. Pull 5/8" hose in front of the thermostat housing behind alternator. Pull 5/8" hose through the space between the alternator and manifold and connect to intake tube as shown.

107. Remove the black plastic upper radiator cover by removing the 4 plastic Philips 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 56). 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 57). 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

108. Hook the passengers side intercooler hose to the upper fitting on the expansion tank and tighten with a 22 mm wrench.

109. 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 deep well socket. Make sure the bracket faces forward.

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

111. Drill two holes with a 3/16" drill bit where the expansion tank support rod hits the lower radiator support (figure 58) and install the 26mm body bolts with a 10mm socket and 6" extension. Torque these to 10 lb-ft.



FIGURE 58



FIGURE 59



FIGURE 60

112. Remove the passengers 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.

113. At this time, make sure that the two Philips heads screws holding the bracket to the intercooler water pump are tight. Drill a 5/16" hole in the inner fender (figures 59 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 61). Now remove the bracket and drill 5/16" holes where the marks are.



FIGURE 61

114. Use a 1/8" drill bit 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 62

(Continued on page 11)

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

116. Mount the water pump to the bracket with 4 quarter inch 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. (figure 60).



FIGURE 63

117. Remove the lower bolt for the hood latch bracket and install the heat exchanger support bracket (figure 61). Tighten the bolt to 15 lb-ft with an 8mm socket and 6" extension.



FIGURE 64



FIGURE 65

118. Put the heat exchanger in place under the lower radiator support with the fans on the passengers side to the rear and loosely install the



FIGURE 66



FIGURE 67



FIGURE 68



FIGURE 69

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 a 9/64" bit. 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 selftapping screws and a long Philips 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 70

119. Trim the wind deflector at each end of the heat exchanger to clear the hose fittings (figure 60 and 61). Use a hack saw on the plastic and a serrated knife on the rubber.

120. 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.

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

122. Run the drivers 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.

123. Tie-wrap the fan controller to the wiring harness (figure 70).

124. 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 70) and squeeze the block together enough to close the clasp. The aluminum piece must pierce the insulation of both wires to make a connection.

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

126. 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.

127. Reinstall the reprogrammed computer into the passengers side kick panel.

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

129. 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

*(Continued on page 12)*



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.

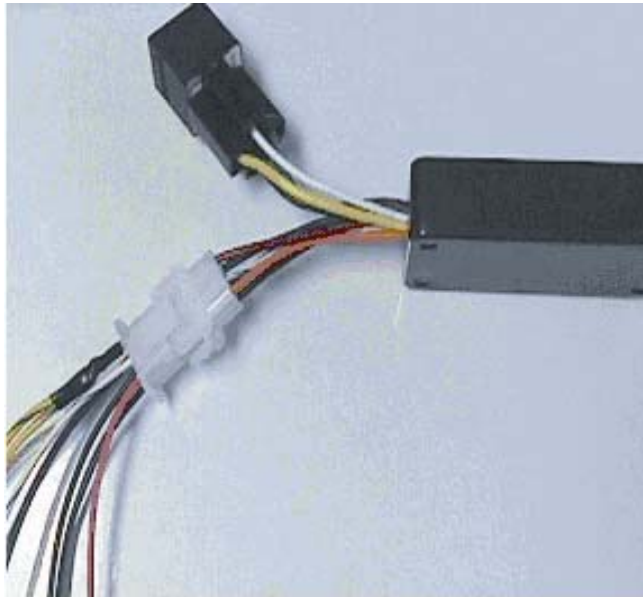
130. Check for fuel leaks and if all looks well, start the engine and check for vacuum leaks. If the car runs but the idle cycles high to low, there is a vacuum leak and you'll need to find it before you're through. All superchargers and manifold assemblies are pressure checked at Saleen before they 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).

131. Saleen recommends the use of the Saleen composite hood P/N 034-019 with all Series IV supercharger kits for optimum hood clearance. If you opt for retaining the stock Ford hood, the following modifications and cautions should be followed.

- a. Remove a 3" x 5" section of the hood liner directly above the SC pulley.
- b. Adjust hood stops up to the maximum acceptable setting to obtain maximum clearance.
- c. Always use caution when shutting the hood. Slamming the hood will cause the hood to deflect, and contact the pulley when closing. This could result in cracking of the hood.
- d. Due to variances in Fords production tolerances, Saleen does not guarantee that the stock hood will provide adequate clearance for the series IV supercharger. You will need to measure the hood clearance at the SC pulley before starting the engine.

## 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.



2002 - 2003

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

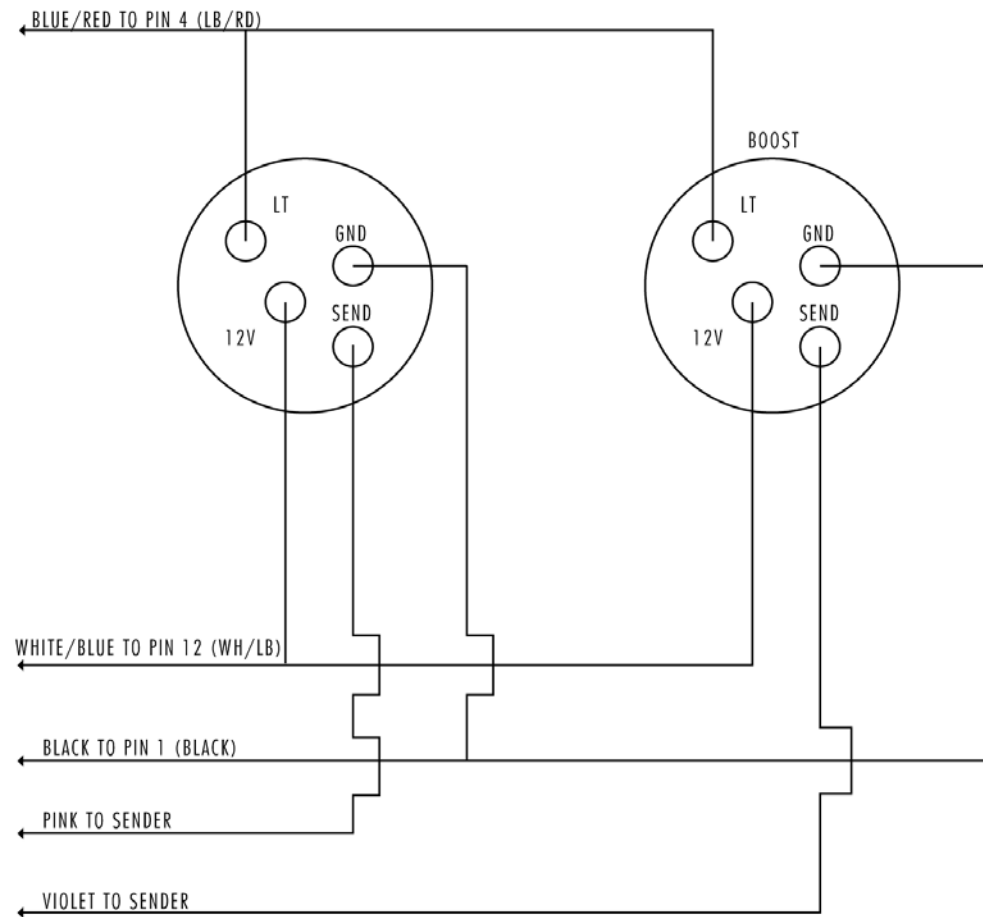
Long Black wire from controller to Negative lead (Black) of Fans

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



## 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.

## SALEEN SERIES 4 SUPERCHARGER BILL OF MATERIALS

(1) Alternator Extension  
(1) Radiator Hose (99-01 cars only)  
(1) Supercharger belt  
(1) Radiator Recovery Bracket  
(1) High Flow Water Pump  
(1) Pump Mounting Bracket  
Heater Hose  
(1) Modified Thermostat Housing  
(1) Belt Label  
(1) Modified EGR Tube  
(1) Water Tube

### HEAT EXCHANGER

(1) Fan Switch  
(2) Cooling Fans  
(1) Heat Exchanger  
(8) #8x3/4" pan phil tek screw  
(4) Spade Terminal  
(1) Inline Fuse Holder  
(1) 20 Amp Blade Fuse

### EXP. TANK

(1) Water Temp Sending Unit  
(1) Radiator Cap  
(1) Front Tank Bracket  
(1) Rear Tank Bracket  
(2) Ex. Tank Fittings  
(1) Expansion Tank, Plastic

### BAG ONE

(9) Manifold Hex Head Flange Bolts

### BAG TWO

(12") 1/2" Conduit  
(4") Alternator Wire Extension  
(6") 3/8" Heat Shrink  
(1) Alternator Idler Boss  
(1) Alternator S Bracket  
(1) Alternator Idler Pulley  
(1) M10 Washer  
(1) Bolt, M10 x 1.5 x 90mm

### BAG THREE

(2) Water Pump Fittings

### BAG FOUR

(4) 5/16" Bolts  
(4) 5/16" Nuts  
(1) M8 x 1.25 x 20 Bolt  
(1) Heat Exchanger Support Bracket  
(2) Hex Head Bolt M6 x 1 x 30mm  
(4) Nylock nuts, 1/4" x 20  
(4) Washer, 1"  
(4) Bolts, 1/4" x 20  
(4) Washer, 1/4" x 20  
(5) Self Tapping Screws  
(1) Center Lock Nut, M8 x 1.25  
(1) Nut, M6 Free Spinning Washer

### BAG FIVE

(1) PFE Bracket  
(2) Washer, M10  
(1) Front Cover Bolt  
(2) Bolt, M5  
(2) Washer, M5  
(2) Nuts, M5

### BAG SIX

(1) Vacuum Tee  
(1) Throttle Cable Nut  
(1) Throttle Cable Washer  
(1) Throttle Cable Bolt  
(36") 5/8" Heater Hose  
(6") 3/8" Vacuum Line  
(1) Cruise Control Cable  
(1) Throttle Cable

### BAG SEVEN

(6) Blue Butt Connectors  
(1) Blue Small Wire Eyelet  
(5) Blue Scotch Lock Connector

### BAG EIGHT

(18") Grey Wire  
(18") Grey and Black Wire  
(4") Yellow and White Wire  
(4") Brown and White Wire  
(4") Grey and Red Wire  
(4") Green and Red Wire  
(36") Small Conduit  
(1) Heat Shrink

### BAG NINE

(1) Gasket, Throttle Body  
(1) Gasket, EGR  
(1) Gasket, IAC

### BAG TEN

(2) #24 Hose Clamp  
(1) EGR Solenoid Bracket  
(4) Bolt, M6 x 1 x 12  
(4) Washer, M6