

96-98 Rev 1  
Mustang 2v 4.6L

## INSTALLATION INSTRUCTIONS 4.6l 2V Mustang GT

1. Disconnect negative ground cable from battery.
2. Remove shock tower brace.
3. Remove spark plug wires, and mounting plate/separators from vehicle.  
CAUTION: Do not pull on the ignition wires, use the rubber boot.
4. Remove air cleaner outlet tube from vehicle.
5. Remove PCV hose from vehicle.
6. Remove idle air hose and silencer from vehicle.
7. Remove crankcase vent hose from vehicle.
8. Remove vacuum hoses from vehicle.
9. Drain engine cooling system from petcock valve on bottom of radiator.
10. Relieve fuel system pressure and disconnect spring lock couplings.  
CAUTION: NO SMOKING!
11. Remove accessory drive belt.
12. Disconnect Alternator wires (2 plugs and 1 power cable).
13. Remove Alternator.
14. Disconnect throttle cable (and cruise control cable if equipped) and mounting bracket from intake manifold.
15. Disconnect water heater hose from intake manifold.
16. Loosen EGR tube retaining nut at EGR Valve.
17. Disconnect vehicle wiring harness connectors from Fuel Injectors, EGR solenoid valve, Purge Canister, EGR Pressure Transducer, Temperature Sensors, Throttle Position Sensor, 42 Pin Connector, Idle Air Valve, etc., and position out of the way.
18. Remove Fuel Rails and Injectors.
19. Remove Intake Manifold bolts (11) , including the ones retaining the water outlet.
20. Remove water outlet and upper radiator hose.
21. Remove thermostat and O-Ring from the Intake manifold.
22. Remove Intake Manifold.
23. Remove Intake Manifold Gaskets.
24. Vacuum any dirt or debris from the Intake Manifold flanges and cover with duct tape or equivalent.
25. Loosen the two bolts (on rear of cylinder head) retaining the heater water tube/hose assembly, located in the valley, and remove. The formed rubber hose of this assembly will be reused. Remove this hose and attach it to the water pump inlet located in engine valley. Position it so that the hose exits the valley near cyl#1, or right front of engine. A 5/8" coupler (supplied) should now be attached to the hose. Use factory hose clamps at both ends.
26. Remove Driver side coil pack mount from front cover. Do not remove the coil from the mount!
27. Remove lower stud used for driver side coil pack mount. This will need to be replaced with a new stud without the integrated nut. (supplied in kit) Part#AED393.
28. Remove front cover bolts which will need to be replaced for the mounting of the Idler Pulley Mount. To determine which bolts need to be removed, If not obvious to you, hold the mount up to the front cover and position the hole over the stud you just replaced.
29. Position Idler Pulley Mount and retain with bolts provided. (Torque to 25 ft-lb.)
30. Attach Pulley to Mount and retain with provided bolt. (Torque to 25 ft-lb.)
31. Install Drive Belt (provided) and attach Alternator Mount to engine block. This may seem like two steps in one, but they **must** be done simultaneously. Use the bolts from the alternator and **tighten by hand**. (to be torqued later). Please note the **revised belt routing** before attempting this step. (See figure 1)
32. Transfer the EGR Valve from the old manifold to the Throttle Body Adapter. It's new mounting location is on the top of the Throttle Body Adapter (TBA). Use the same bolts as were used on the old setup. (Torque to 25 ft-lb.) Be sure to replace the gasket to assure proper functioning of the OBDII emission controls. Note: The EGR bolt extends into the port, but flow testing indicates no flow restriction! (DO NOT SHORTEN THE BOLT)
33. Transfer the throttle body to the TBA using the factory bolts. (Torque 15 ft-lb.) The Cable linkage goes on top, and throttle position sensor on bottom. Be sure to replace gasket provided.
34. Transfer the Idle Air Valve to the TBA using the factory bolts. (Torque 15 ft-lb.) The electrical connector points up and towards the blower. Be sure to replace gasket provided.
35. Since the EGR Valve has been Re-located, the EGR Tube must be "Modified". This can be done with common hand tools. Please refer to the EGR Tube Modification sheet (Figure 2).
36. The Idle Air Valve , Throttle Body, and Alternator wiring must be lengthened to accommodate the revised locations. Wires of the proper length and color are provided for each along with crimp connectors. It is highly recommended that soldering and shrink-wrapping be used, in favor of the crimp connectors. Be sure to obey the color coding (check it at least twice).
37. Modify fuel rails and fasten to intake manifold as specified in Figure 3.
38. The Throttle Cable Mount also needs to be modified. Please refer to Figure 4. Attach the Mount to the Intake Manifold using bolts provided.
39. Attach the EGR tube, and coupler (supplied) to the EGR Valve.
40. Set the Supercharger Assembly into the engine. Locate the front blower housing (machined diameter) on the Alternator Bracket and rear blower support tool on intake manifold flanges. Sliding the assembly forward will position it in its appropriate position.

41. Install the Blower Housing Clamp and tighten bolts finger tight.
42. At this time the Drive Belt can be placed over the Supercharger Pulley.
43. Install the Alternator on the Mount using bolts supplied, and torque to 25 ft-lb.
44. Release Drive Belt tensioner and place the Drive Belt over the Alternator Pulley.
45. Attach the EGR tube and supplied coupler. Torque to 15 ft-lb.
46. Remove blower support tool from the rear of the Supercharger.
47. Add sealant provided to the blower flange (Loctite 510). Remove protective duct tape from the Intake Manifold flanges, and position the Intake Manifold Gaskets. Be sure to align Intake Manifold Gasket tabs to holes in Cylinder heads. Set the Intake Manifold in approximately the correct position on the engine. After the throttle and cruise control cable is fastened to the modified mount, the manifold can be guided into the proper mounting position. It is important to make sure the vacuum hoses for the EGR solenoid, are routed between runner #7 & #8, and the PCV hose is routed in front of runner #1. Also the fuel return line with spring lock coupling needs to be routed under the TBA and away from the EGR pipe to exit between runners #3 & #4. Please refer to the Hose Connection Schematic. (figure #5)
47. Install and tighten bolts (4) that hold the supercharger to the Intake Manifold.
48. Install and tighten bolts (12) that hold the Intake Manifold to the engine. Note that the 2 bolts by the thermostat housing are a different length. (Torque to 25 ft-lb.)
49. Tighten Blower Housing Clamp and torque bolts to 10 ft-lb.
- 50.. The alternator bracket bolts can be tightened now. (Torque to 25 ft-lb.)
51. Install thermostat, O-Ring, water outlet, and spacers. (Torque to 25 ft-lb.) Don't forget spacers!
52. Replace the upper radiator hose. The stock hose must be cut and the supplied elbow (AED397) fitted. Use the factory spring clamps at their original position, and the supplied hose clamps at the elbow.
53. Connect heater water hose from rear of intake manifold to heater core and replace clamps.
54. Connect heater water hose from 5/8" coupler (from step #24) to heater core and clamp.
55. Install Throttle Body Adapter hanger. This hanger attaches to one of the Throttle Body bolts and a stud in the plenum.
56. Attach throttle and cruise control cables to throttle body.
57. Mount EGR vacuum solenoid valve to the modified stock and attach to the plenum with bolts provided.
58. Re-Install wiring harness but do not connect 42 Pin connector, as this needs to be routed over the export brace. Intake Air Temperature will need to be connected later since it has not been re-installed yet.
59. Install air cleaner adapter tube (supplied) and re-Install factory air cleaner tube. Re-connect the wire to the air temperature sensor.
60. The fuel rail needs to be tightened now. Torque to 15ft-lb.
61. Re-Connect fuel line spring lock couplings and safety clips.
62. Lubricate the O-Rings and install Intercooler into Intake Manifold and clamp. Be sure to remove any protective covering (duct tape, or rag) before installing.
63. Install Plenum Cover into Intake Manifold using Loctite 510 as the sealant. Be sure to remove any protective covering (duct tape, or rag) from ports before installing. Torque bolts (supplied) to 15 ft-lb. Do not install the bolt nearest the fuel regulator yet, (located on fuel rail near cyl #8) as this will be used to support the supplementary fuel regulator.
64. The strut tower brace can now be reinstalled.
65. Install Supplemental Fuel Regulator onto factory regulator (located on fuel rail near cyl #8). Retain the regulator with the supplied V-Band clamp and supplied bracket. Attach Supplemental Fuel Regulator vacuum lines to their proper locations. (See figure #5)
66. Re-Install crankcase breather hose from the driver side valve cover to the air cleaner tube.
67. Plug in the PCV hose (3/8") to the passenger side valve cover PCV valve.
68. Re-Install Idle Air Valve supply hose and muffler. Since the IAC Valve has been relocated you will need to use the longer 3/4" hose supplied in the kit.
69. Re-fill engine cooling system. Close the petcock first!
70. With the Heat Exchanger for the Intercooler bolted to its mounting brackets, position the assembly under the valence toward the passenger side of the opening and the connections on the driver side. Mark hole positions using a magic marker. Remove assembly and drill holes using #7 drill bit for the self tapping screws (supplied). Remove the mounting brackets from the Heat Exchanger. Now you can attach the mounting brackets to the cross-member using access through the hole in the bracket. The Heat Exchanger can now be bolted to the brackets.
69. The Intercooler water pump can now be mounted. Follow the same procedure as above. This should be located near the outlet of the Heat Exchanger, but not too close as to prevent hose routing problems.
70. At this time you can run the wire for the water pump. This is a continuous duty pump which requires a switched power supply. It is recommended that you tap into the circuit of the IMRC which is not used on the GT (only on the Cobra), or other accessory. Make sure you have a fusible link in the system!
71. Mount the intercooler tank to the firewall cover (fiber reinforced plastic) on the driver side (just above the brake cylinder). Use the self tapping screws supplied.
72. Connect the Intercooler water hoses as described in Figure 5.
73. With the water pump on, (key in accessory position) fill the Intercooler water tank with coolant (50/50 Water Glycol mixture). It may be necessary to burp the system by loosening the lower most hose clamp on the Heat Exchanger to let some air out. When the system is properly bled, you should be able to see the coolant circulating when the key in "ON". Top off the Intercooler water tank with coolant, and install the Radiator Cap.

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