



STOP!

BEFORE BEGINNING INSTALLATION, READ THESE IMPORTANT NOTES...

- You must purchase a separate Edelbrock Fuel Pump Kit for this installation; single fuel tank vehicles use Edelbrock #3581, dual-tank vehicles use #3580.**
- Check the Kit Contents and Suggested Tools lists on page 2 to be sure that you have all items necessary to finish installation.**
- Make sure this kit is for your vehicle.**
- The kits are designed to work with stock engines with stock compression ratios. The #3564 and #3565 are designed to work with the GM #12371054 502 c.i.d. crate engine.**
- You must change your computer chip for this kit to function on your vehicle and be emissions legal. Complete the Chip Information Card and return to Edelbrock. We will send the computer chip within the continental U.S., free of charge via UPS second day air. Orders outside of the continental U.S. will be shipped via the best method at the same costs as continental UPS second day air. If requested, customers may pay for expedited shipping by providing a current Visa or Master Card.**
- Your vehicle's wiring harness and electronics must be in good shape or you may not get maximum performance and/or may experience problems. The TBI will work with less adequate connections, but the Performer Multi-Point EFI System is much more sensitive than a stock TBI.**
- Read all instructions before beginning installation.**
- Note that fuel tank or bed of pick-up must be removed.**
- 1987-1991 vehicles with cruise control MUST use Edelbrock throttle/cruise/kickdown cable bracket #8031. Order from your Edelbrock dealer before beginning installation.**

**PERFORMER MULTI-POINT EFI
KIT CONTENTS**

Qty. Description

- 1 Manifold assembly (see detail below)
- 1 Installation instructions
- 1 EPROM adapter circuit board (#3562 only)
- 1 Fuel injector wiring harness
- 1 Fuel filter adapter fitting (filter to #6 AN male) with O-ring
- 1 Return line adapter fitting
- 2 #6 AN straight pushlock fittings
- 1 3/8" i.d. pushlock heat resistant fuel line, 10 foot length
- 1 #6 AN 45 degree elbow pushlock fitting
- 1 #6 AN 90 degree elbow pushlock fitting
- 1 Fuel line clamp (floor mounted)
- 4 11" tie wrap
- 1 Throttle cable bracket
- 1 Throttle body block-off plate
- 1 Throttle body gasket
- 1 EGR gasket
- 1 3/8" NPT pipe plug
- 1 3/8" I.D. Flatwasher

Qty. Description

- 1 3/8" NPT male to 3/8" NPT female 90 Degree elbow
- 1 3/8" NPT to 1/2" hose brass fitting
- 1 2 foot length 15/32 i.d vacuum line (power brakes)
- 1 6" length 3/8" fuel line (breather line extension)
- 1 1/2" NPT to 3/4" hose barb
- 1 36" length 3/4" i.d. heater hose
- 1 3" length 5/16" i.d. high pressure fuel line (pump to sending unit)
- 1 2 foot length 5/32" i.d. vacuum line (regulator & EGR)
- 1 5-1/8" i.d. air cleaner base gasket
- 1 12" length 1/4" i.d. vacuum line (MAP)
- 1 1/2" hose clamps
- 2 3/4" hose clamp
- 1 3/8" hose clamp (fuel injection clamp)
- 1 5/16" hose clamp (fuel injection clamp)
- 1 1/4" x 1/4" out x 5/32" bottom out vacuum "T" fitting
- 1 10-16 x 3/4" TEX screw (self tapping)
- 1 Air Cleaner Lid decal

MANIFOLD ASSEMBLY CONTENTS

Qty. Description

- 1 Intake manifold
- 1 Driver's side (left side) fuel rail
- 1 Passenger's side (right side) fuel rail
- 4 1/4"-20 x 1.25" Hex head cap screw rail hold down bolts
- 1 Fuel pressure regulator
- 8 Magnetti Marelli® pico injectors
- 1 Fuel crossover line (including adapter and schrader valve)
- 1 Fuel inlet fitting (3/8" male pipe to #6 AN male, steel)

Qty. Description

- 1 Fuel regulator nut and Viton O-ring
- 1 Viton O-ring; fuel regular nut (1/2" o.d. 5/16" i.d.)
- 4 1/4" i.d. AN thin flat washers
- 1 1/4"-20 x 1/2" hex head cap screw
- 1 1/4" i.d. split lock washer
- 1 Schrader valve cap
- 4 1/4" internal star lock washers

SUGGESTED TOOLS AND MATERIALS FOR INSTALLATION

- 3/8" ratchet socket set with extensions
- Combination set of open-end wrenches (SAE and metric)
- Jackstands, screwdrivers, pliers, crescent wrench, hacksaw, hammer, brass punch and assorted hand tools
- Torx screwdrivers
- Tin snips
- White grease
- Teflon thread sealant or equivalent
- Intake gasket set (Edelbrock #7205, GM #10181398, or equivalent)
- Thermostat housing gasket (GM #10105135, Fel-Pro #2201, or equivalent)
- Gasket sealant (Gasegacinch, etc.)
- RTV Silicone sealant; O₂ sensor-safe
- Wire stripper & crimper
- Heat gun or lighter



IMPORTANT INSTRUCTIONS

For ordering your FREE Edelbrock computer chip. *You must use an Edelbrock chip with the Performer Multi-Point EFI conversion*

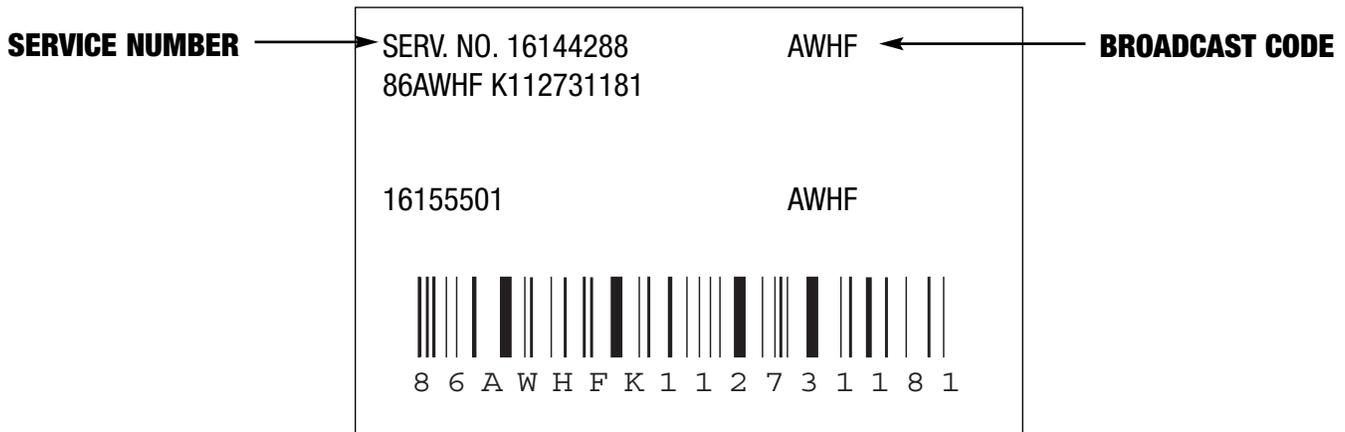
You must change the computer chip in your stock computer (ECU) for proper functioning and maximum performance with the Edelbrock Performer Multi-Point EFI for 7.4L or 8.2L Chevy/GMC engines.

To receive your ECU chip, please complete the attached postage-paid card and send to Edelbrock. After receiving your card, **Edelbrock will send the computer chip within the continental U.S., free of charge via UPS second day air. Orders outside of the continental U.S. will be shipped via the best method at the same costs as continental UPS second day air. If requested, customers may pay for expedited shipping by providing a current Visa or Master Card.**

When filling out your information card, please print clearly.

The information below will help you to locate your ECM Service Number and Broadcast Code:

Typical ECM Label



1. The ECM is accessible in pick-ups by removing the glove box liner. This requires removing four (4) small hex head screws and pulling out the liner. The ECM sits vertically in a plastic cradle on the far right side of the dash with the connectors facing to the rear.
2. The Broadcast Code is stamped on a white paper label, located on the top of the ECM. Typical codes for the 5.7L run from AKSM to BDXX, increasing alphabetically with later release dates.

There is a plastic decal on the bottom of the glove compartment with a list of the RPO codes for that vehicle. This is a listing of the "RPO" codes and what they stand for:

CODE	VEHICLE EMISSIONS	CODE	ENGINE	CODE	TRANSMISSION	CODE	REAR AXLE
NA1	Under 8600 GVW	L03	5.0L TBI V8	MD8	4L60 Auto	GU2	2.73:1
NA4	Over 8600 GVW	L05	5.7L TBI V8	M30	4L68E Auto	GU3/GW9	2.93:1
NA5	Federal	L19	7.4L TBI V8	MT1	4L80E Auto	GU4	3.08:1
NB2	California			MG5	Manual w/ Deep Low	GU6	3.42:1
NB8	New York/California			MY2	Manual 5-Speed	GT4	3.73:1
NM8	Special Fuel Compatible			M20	Manual 4-Speed	GT5	4.10:1
						HC4	4.56:1



INSTALLATION INSTRUCTIONS
for Performer Multi-Point EFI System
for 7.4L TBI-Equipped Chevrolet/GMC Vehicles
Catalog #3562 and #3564 for 1987-1990 Model Years
Catalog #3563 and #3565 for 1991-1995 Model Years

- **APPLICATION INFORMATION:** Performer Multi-Point EFI Systems are designed for 1987-1990 (#3562 and #3564) and 1991-1995 (#3563 and #3565) 7.4L Chevy/GMCs originally equipped with Throttle Body Injection. These complete systems utilize the stock computer and throttle body unit for a simple and effective conversion to multi-point fuel injection. Fuel is injected directly into each port in the head for ideal fuel distribution and efficiency.

- **TECHNICAL SUMMARY:** In 1987, Chevrolet introduced their Throttle Body Injection (TBI) systems. Produced from 1987 to 1995 on all pick-up trucks and Suburbans, this TBI system was essentially an intermediate step between a carburetor and true port (multi-point) fuel injection. In these TBI systems, two injectors are positioned above the throttle blades of a two-barrel throttle body and fuel is injected into the manifold, much like a carbureted system. This arrangement suffers from distribution problems because the fuel spray from the injectors does not stay in suspension with the incoming air, resulting in uneven distribution. Our Performer Multi-Point Systems include an intake manifold designed to deliver an equal air charge to each cylinder. Each injector delivers exactly the same amount of fuel to each cylinder for an extremely even air/fuel ratio from cylinder-to-cylinder. This permits us to tune the system for ideal fuel and spark delivery for more horsepower, torque and improved mileage.

Performer Multi-Point Systems include all parts needed to make the conversion. The stock TBI unit is retained as an air valve and the factory computer (re-programmed) is also retained to control the injectors in a batch-fire mode. In the Edelbrock systems, all of the factory sensors are retained and fully functional. The compact size was achieved by using extruded aluminum fuel rails with new Magnetti Marelli[®] pico injectors. These are half the size of conventional style injectors.

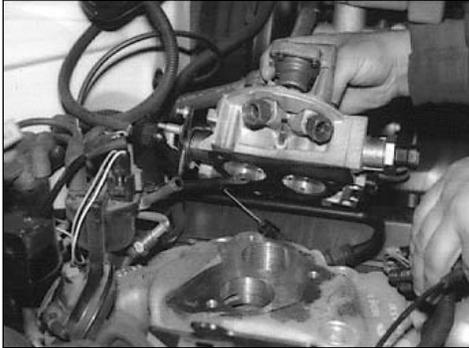
- **SPECIAL NOTICE:** This Edelbrock part has received an Executive Order number (E.O. #) from the California Air Resources Board (C.A.R.B.) making it legal for street use on pollution-controlled motor vehicles in all 50 states. To assist you with emissions inspection, we have included a silver fan shroud decal to verify that this part is a legal replacement part on the vehicle for which it is cataloged. The adhesive-backed decal should be affixed to your fan shroud next to the existing emission and engine specification decal. Do not cover your original equipment specification decal with the Edelbrock fan shroud decal. E.O.# decal is shipped with the computer chip .

If you have any questions, please call our...

EFI Technical Hotline at: (800) 416-8628, Option 3
8:00 am - 5:00 pm, Monday-Friday (Pacific Standard Time)

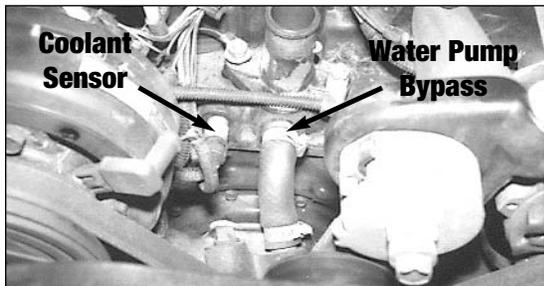
INSTALLATION PROCEDURE

1. Disconnect negative battery cable.
2. Drain coolant.
3. Remove air cleaner assembly.
4. **Label all lines, wires, and connections with masking tape before disassembly to aid in re-assembly.** Disconnect all throttle cables and accessories, disconnect all vacuum lines to throttle body. Disconnect both fuel lines at rear of throttle body. Be careful of line pressure. Remove 3 throttle body mounting bolts and remove throttle body.



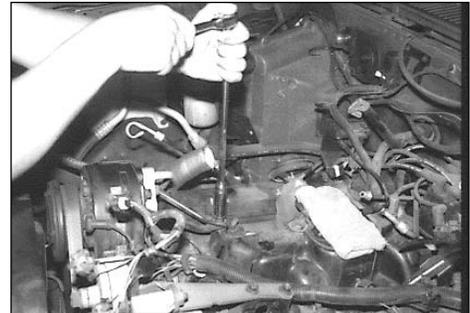
5. Remove top radiator hose, remove thermostat housing and thermostat. **NOTE:** Ground wires may be located on thermostat mounting bolt. It is important to note the location of all ground wires so they can be put back exactly as they were.

It is a good idea to replace your old thermostat at this time. For proper ECM operation it must be the correct temperature, usually 195°F (check manufacturer's specifications). Remove the water pump bypass hose located under the thermostat on front of the manifold. Looking at the front of the engine, directly to the left of the water pump bypass is the coolant temperature-sending unit. Disconnect the electric connection, remove the sending unit and set aside. It is better to remove sensor at this time to avoid damage upon manifold removal. The sensor will be re-used in the new manifold.

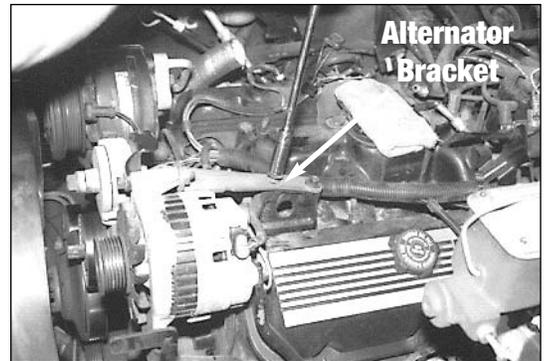


6. Disconnect vacuum fitting for power brake booster from intake manifold.
7. Remove heater hose connection from the manifold (most will be located at the right rear of the manifold).

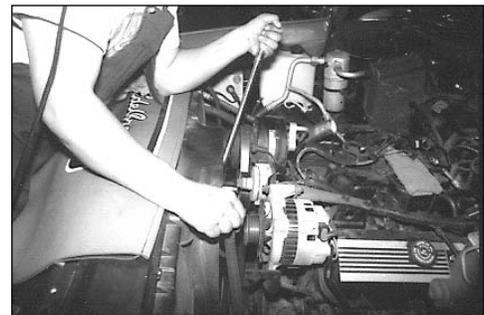
8. The electronic vacuum regulator valve is mounted on the third bolt from the front, on the right side of the manifold. When you remove the bracket, there will be two support brackets running from different locations on the backside of the A/C compressor, both meeting the manifold at one spot. Remove bolts and brackets. (Brackets will be re-used).



9. Alternator has a support bracket running from the two left front intake manifold bolts to the rear of the fan belt tension assembly and the upper alternator bolt (this will be re-used during assembly). Release the belt tension using a ratchet and socket, then remove the fan belt.

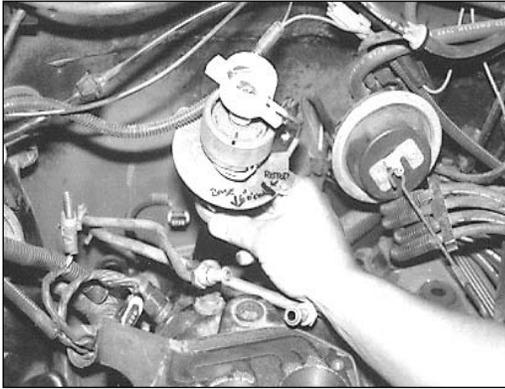


Remove top alternator mounting bolt and the bolt holding the belt tension assembly. Remove two bolts that hold bracket to left front support base, which is mounted to the two left front manifold bolts. Remove bracket assembly. **NOTE:** On later vehicles, this procedure may not be required.



10. DISTRIBUTOR REMOVAL

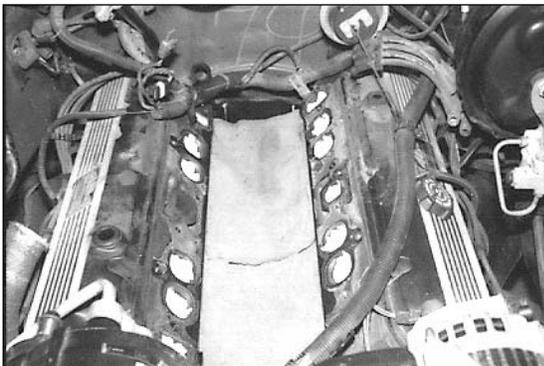
Remove plug wires from top of distributor cap. Make **note** of location of each wire. Remove distributor cap. Before removal of distributor, note the location of the distributor body and the ignition rotor by marking distributor body with a felt tip marker. Loosen distributor clamp and remove distributor. Be careful not to turn engine over after distributor has been removed.



With the distributor removed, remove the ignition coil and throttle bracket. **NOTE:** On early applications, you will not re-use your throttle bracket. You will use the Edelbrock throttle bracket supplied in kit. Remove remaining manifold bolts and brackets, noting the location of studded bolts so you can replace them in the same location. The MAP sensor bracket assembly is mounted on the right rear manifold bolts. It will mount in the same location on new manifold. If you remove any ground wires, note their location as well.

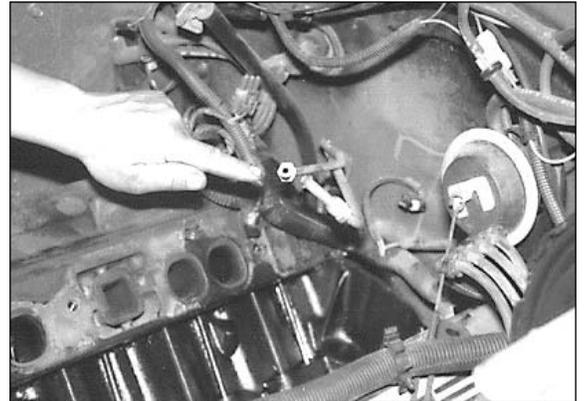
11. MANIFOLD REMOVAL

Using a flat blade screwdriver or a small pry bar, wedge tool under front end seal of the intake manifold and pry to break seal. Remove intake manifold, being careful not to spill too much coolant into engine. If any coolant is spilled, use paper towels to absorb quickly. Clean out any debris that may have fallen in engine valley upon removal of manifold. Place rags over valley and place rags or paper towels into all exposed ports on cylinder heads to keep out debris.



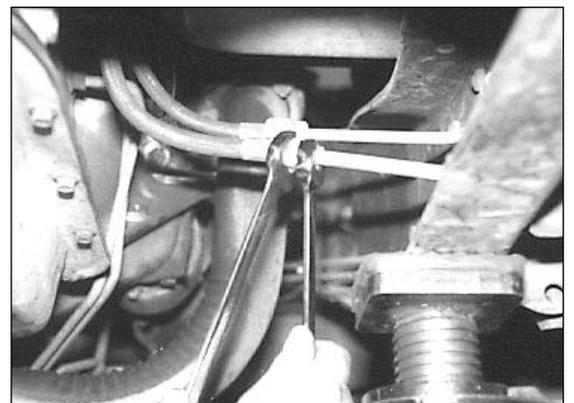
12. FUEL LINE REMOVAL

Remove two existing fuel lines hanging over the rear, near center of the engine block. On most late models (1992-1995), the fuel lines are routed down the left side of the truck, coming down the bellhousing and running over to the frame where they connect to the fuel filter. The return line will have a coupler-type fitting where it connects. Remove these lines; they will not be used with the new kit. Be careful of any remaining fuel in lines. Then, there will be a mounting clamp holding lines to the upper left transmission mounting bolt. Remove fuel line support bracket, along with line.



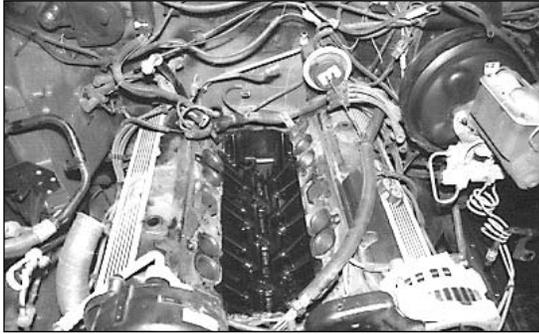
NOTE FOR 1987-1991 MODELS:

The fuel lines may run down the right side of the bellhousing. Both of the connection fittings will be between the transmission and the frame. Disconnect both lines, being careful of remaining fuel in lines. The mounting clamp holding both lines is usually bolted to the rear of the cylinder head. Remove mounting bolt or nut and the fuel lines. These lines will not be used in new system. Remove the two fuel lines from the junction point back to the fuel filter for the inlet line, and to the return junction block, located just above fuel filter. These two lines will not be used in the new system.



13. INTAKE PREPARATIONS

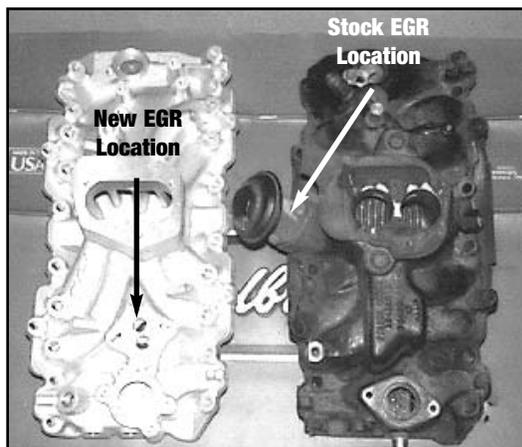
With fuel lines out of the way, scrape remaining intake gaskets off of cylinder heads and scrape both end seals clean. With surfaces clean, install intake gaskets to cylinder heads. Use GM gaskets #10181398. Apply gasket sealant to gaskets on surface facing heads only. Glue gaskets in place.



While gaskets set-up, place the new manifold next to the old manifold. You will need to swap certain parts like the distributor hold down clamp and bolt, EGR valve and on some models, a vacuum fitting located at the right rear of throttle body pad. When re-installing the EGR valve on the new manifold, notice that it is relocated up near the thermostat area. The EGR mounting pad is drilled for the different EGR valves used from year to year. We provide a gasket that will accommodate all EGR valves. Determine which EGR bolt holes are to be used and install your old studs and EGR valve onto manifold.

For models equipped with a power brake vacuum booster, you will need to install the 1/2" NPT-to-1/2" barbed 90-degree fitting. This will be used later in the installation for your vacuum supply relocation. This fitting goes on the rear of the throttle body pad.

NOTE: If any of the holes in the manifold are not used, plug them with the pipe plugs supplied and always use Teflon sealant or equivalent when installing fittings and plugs (does not apply to unused EGR pad holes).

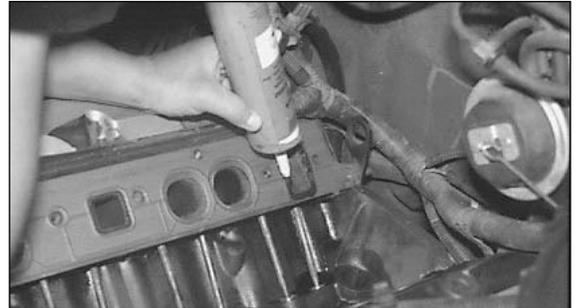


NOTE: On early models (1987-1990), the cruise control vacuum diaphragm bracket is mounted directly on the intake manifold. For these models, it is necessary to relocate this assembly. Using GM part #14056623, mount this bracket to the left rear cylinder head. Install your diaphragm assembly to this bracket.

NOTE: It is easier to install this bracket before manifold is installed on engine.

14. MANIFOLD INSTALLATION

Before installing the manifold, make sure all ports and the valley of the engine are clean. Apply a 1/8" bead of O2 sensor safe silicone around the four water ports on the engine. Apply a 1/4" bead of silicone on the two end seal areas of the engine block.



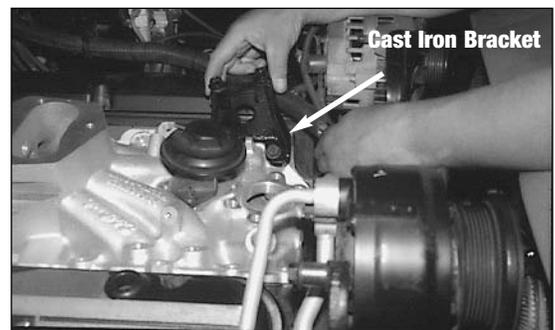
Install the intake manifold onto the engine, be careful to set it down as straight as possible. Do not set down and slide into place. Install your stock intake manifold bolts in the same



locations that they were removed from. The bolts with studs need to be in certain holes for the brackets.

If your vehicle has the cast iron base for the bracket which came off the rear of the alternator and idler pulley, you will need to install it at this time.

Note: Some grinding on the bracket ears and on the rear of the bracket, where it makes the bend, may be required. It is important to make sure the bracket sets onto the manifold squarely to avoid damage to the bracket and manifold.



Tighten the manifold bolts following the tightening sequence shown below. **Torque to 25 ft. lbs.** Install the distributor in the engine. Using your marks as a reference, snug down distributor clamp.

NOTE: Final timing will be adjusted after engine start-up. Install cap and re-install plug wires in the correct location using your marks as a reference. Install ignition coil.

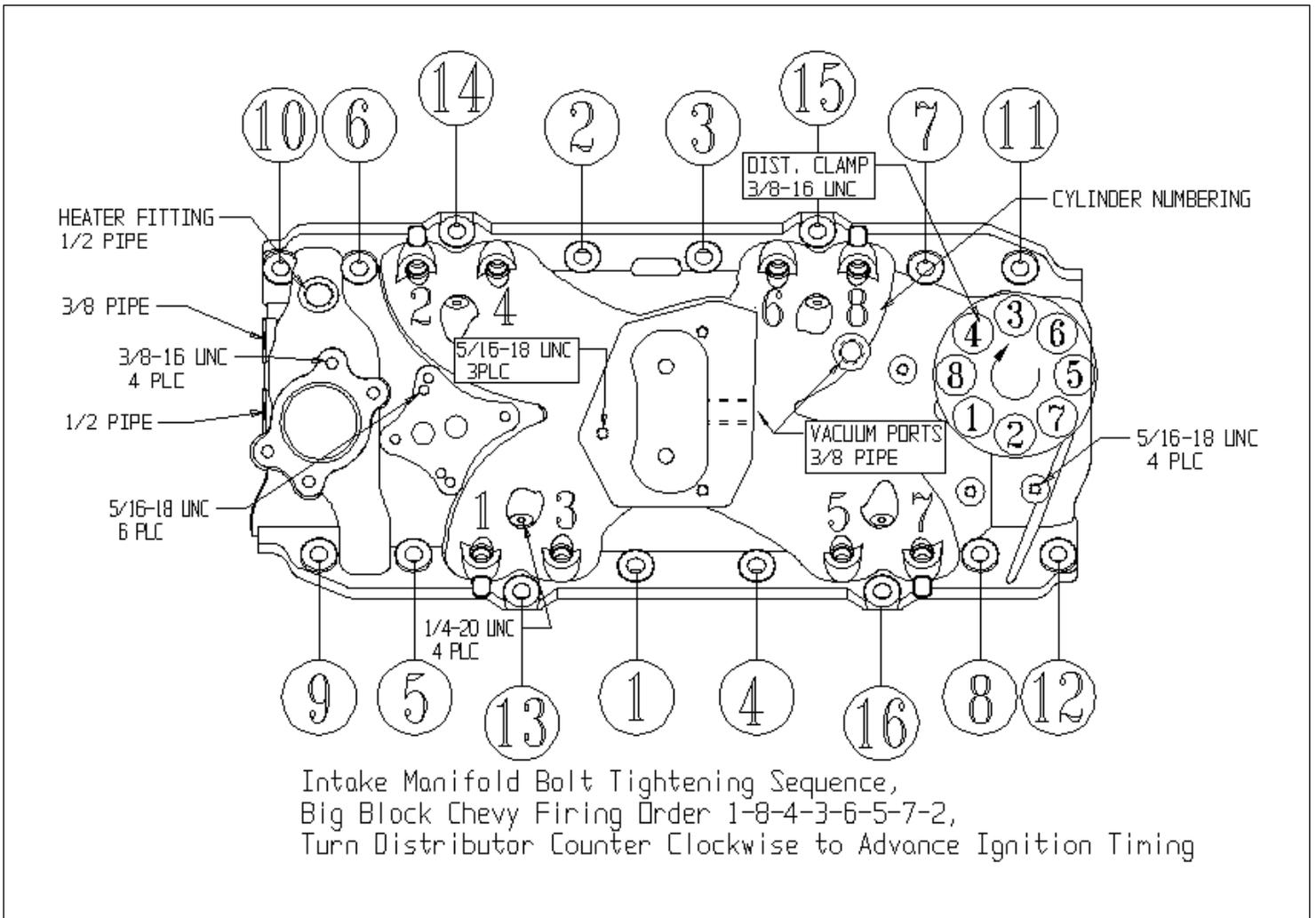
NOTE: We provide four bases for the two different coil styles. On early models (1987-1990), you will use the two coil bosses towards the rear of the manifold. For the later model style coils, you will use the two bosses towards the front of the manifold. Install coil wires and electrical connections on coil and distributor. Re-install your MAP sensor bracket, which mounts on right rear second and third studded manifold bolts. Install the EGR vacuum regulator valve on the third bolt from the front on the right side.

If your vehicle has the bracket for the alternator and idler belt tension pulley, you need to install it at this time. Re-install tensioner and bracket assembly. Re-install serpentine belt. Make sure tensioner bolt and bracket bolts are tight!

15. THERMOSTAT AND HOSES

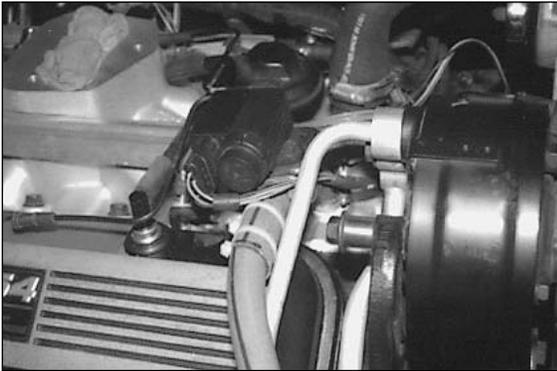
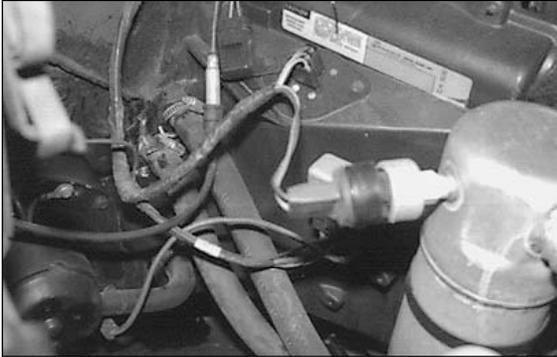
If your vehicle came with the 44mm O-ring style thermostat, you will need to purchase a standard size thermostat and gasket. You will re-use your original housing. Thermostat operation and engine coolant temperature are very important for proper ECM operation. Check service information for suggested temperature (usually 195 degrees). Install thermostat and housing. Re-install ground wire to one of the thermostat housing mounting bolts (if originally equipped).

Install radiator hose and water pump bypass hose. Re-install the coolant temperature sending unit (located to the right of the water pump bypass hose). Check coolant sensor wire connection and make sure all hose clamps are tight.



16. HEATER HOSE SUPPLY LINE

For all years, the heater core supply will come from the right front water port on intake manifold. You will need to install the 1/2" NPT-to-3/4" hose fitting into manifold using Teflon sealant on threads. Remove your existing heater supply hose at its junction point, usually at the heater core. Using the 3/4" heater hose and two clamps supplied, route the hose from the intake manifold to the heater core supply entrance. Some cutting of the hose may be required. Secure hose on both ends with hose clamps.



17. INJECTORS AND RAILS

NOTE: Fuel injectors and fuel rails are assembled on manifold and ready to run unless you had to remove them for manifold installation. If they were removed, use the following procedure for re-installation. If not, skip this procedure and move on to the next step.

Using non-silicone based spray lubricant or white grease, lubricate injector O-rings (top and bottom) before sliding them into fuel rails. Push injectors into rails, making sure that the electrical connectors on injector bodies face up. Now push fuel rails and injectors into manifold. **Use caution not to damage O-rings upon installation.** Place fuel rail with pressure regulator on passenger's side with regulator toward rear of engine. Place other rail on driver's side of manifold. Push down with enough force to seat lubricated O-rings in manifold, making sure not to cut O-rings. Once injectors are seated and before replacing the 1/4-20 x 1.25 bolts, make sure the injectors rotate in their bores easily. Once installed, secure rails with 1/4" bolts and flat washers supplied in kit. Torque to 8 ft./lbs.



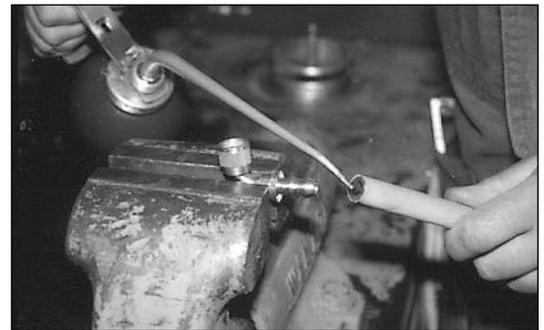
18. FUEL LINE CONNECTION

From the kit contents, locate the length of 3/8" high pressure fuel hose, one 45° #6 Pushlock fitting, one 90° Pushlock fitting, and two straight #6 Pushlock fittings.

PUSHLOCK FITTING-TO-HOSE INSTALLATION

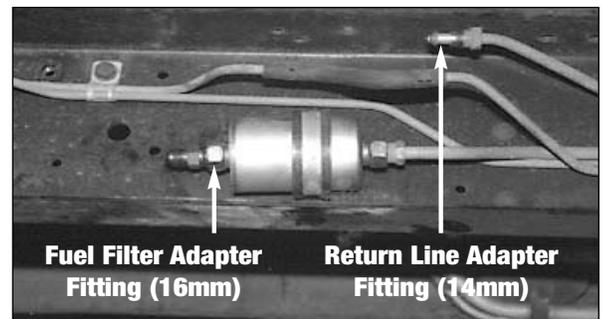
Use this procedure for installing each one of the Pushlock Fittings onto hose ends:

Clamp Pushlock fitting in vise, being careful not to crush fitting. Lubricate inside of hose end and Pushlock fitting barb with a small amount of lubricant (oil, spray lube, or white grease). Push the hose over the barb until it stops against the fitting collar. No clamping is necessary.



Before making the fuel lines, you must install the fuel filter adapter fitting and the return line adapter fitting. The fuel filter adapter fitting is a male #6-to-16mm threaded male with an O-ring on the end of the fitting. Install into fuel filter and tighten securely. The return adapter fitting is the female 14mm-to-#6 fitting. This will attach to the return fuel line. **NOTE:** Be careful not to damage the O-rings on the fittings or the existing fuel lines.

Install both fittings as shown in photo.



19. FUEL RETURN LINE INSTALLATION

Install the 90° #6 pushlock fitting into the 10-foot length of hose using the pushlock fitting installation procedures described previously. Tape off the open end of fuel line to prevent debris from entering. Route the open end (taped) of hose down the bellhousing towards the fuel filter and return line area.

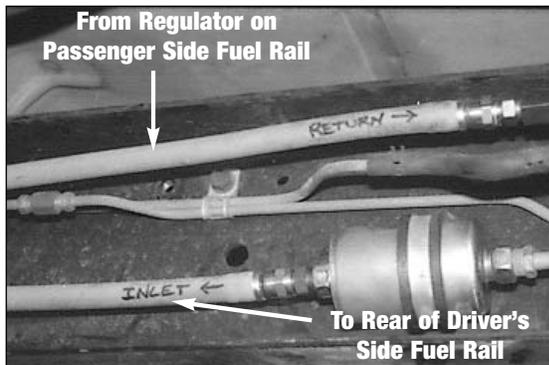
NOTE: This may be left or right side, depending on year and model.

Connect the #6 90° fitting to the fuel pressure regulator fitting on fuel injection assembly (passenger's side fuel rail). Be sure that the hose is routed safely with no sharp bends down the bellhousing to the frame where the connection will be made. Determine the length needed, adding in a little extra to allow mounting fuel line clamp to the floor of vehicle. Mark the line, remove from vehicle and cut to length.

NOTE: Carefully flush out all debris after cutting lines! Install #6 straight pushlock into hose. Tape end of return line again, then re-install on vehicle. Tighten both fittings securely.

20. FUEL INLET LINE INSTALLATION

Install the 45° #6 pushlock fitting into the remaining length of hose and tape other end to prevent debris from entering. Route open end (taped) of hose down bellhousing and thread 45° fitting onto rear of fuel rail. From under vehicle, determine length needed to reach the fuel filter adapter fitting. Be sure to add a little extra to allow mounting a fuel line clamp to the floor of vehicle. Remove line from vehicle and cut to length. Install #6 straight pushlock into hose. Tape end of return line again, then re-install on vehicle. Tighten both fittings securely.

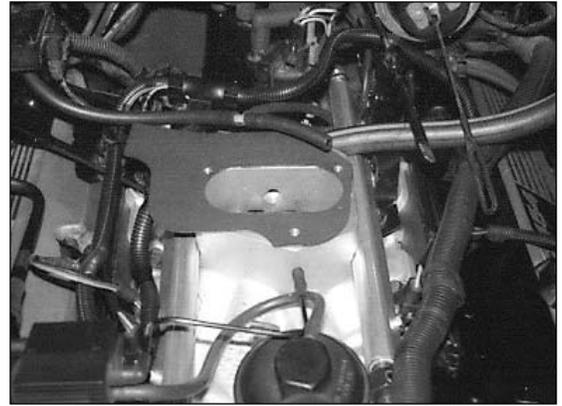


With the lines routed so they are not kinked, use the fuel line clamp kit supplied to mount to the floor. **IMPORTANT NOTE:** Using two zip ties, fasten the fuel lines to wire harness running down transmission (and possibly one up top) to ensure that they are not touching firewall or any other sharp areas.



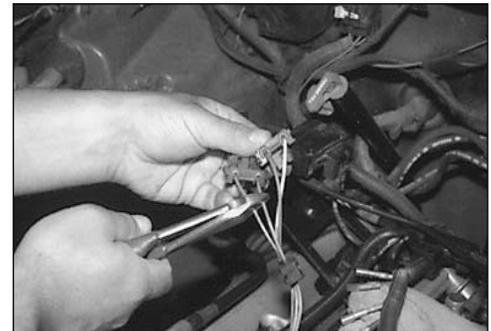
21. THROTTLE BRACKET

On all vehicles with a vacuum actuated cruise control (1987-1991), you will need to install the throttle bracket supplied. Install this bracket on the studded intake manifold bolts on the left side of the manifold (third and fourth bolts from the rear). Later vehicles use the stock bracket. Install bracket and connect throttle cable to your new or existing bracket.

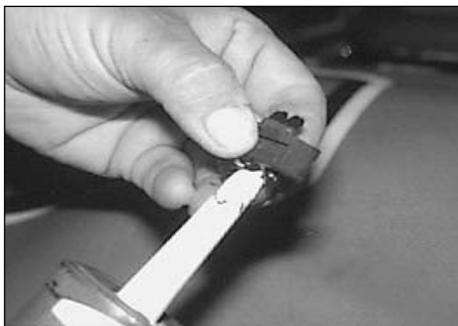


22. INJECTOR HARNESS

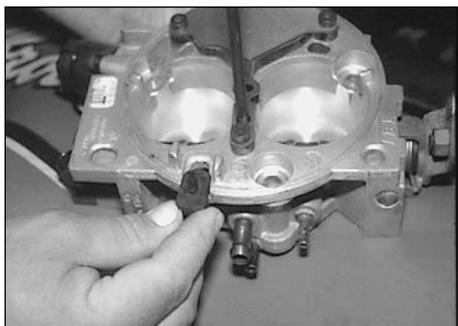
Lay out the injector harness (supplied in kit) on the engine, looping it around the backside of the throttle body pad. The "tee" with pink line connectors coming out of the bottom should end up by the right rear of the throttle body pad, just in front of the fuel regulator. Push 8 connectors onto injectors until they snap on easily. The old TBI injector harness has two plugs which go to your old injector assembly. Just below the old plugs is a black grommet. Lay the old injector harness over the new harness and determine the length of the old wire harness needed to splice into the new harness. **NOTE:** Usually the cut will be above the black grommet of the old wire loom.



Pull rubber grommet off of wires. Force silicone (oxygen sensor-safe) through these four holes, filling them with silicone.

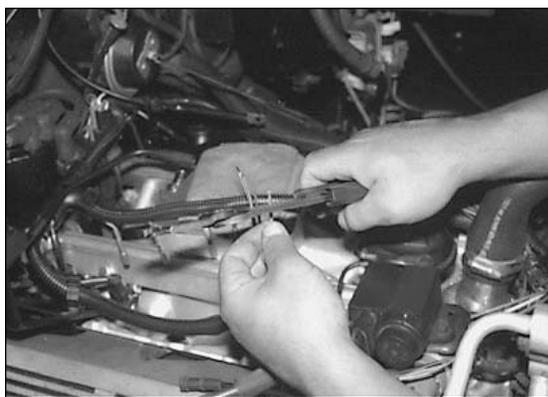


Install the grommet on air valve in groove to prevent dirt from entering the system.

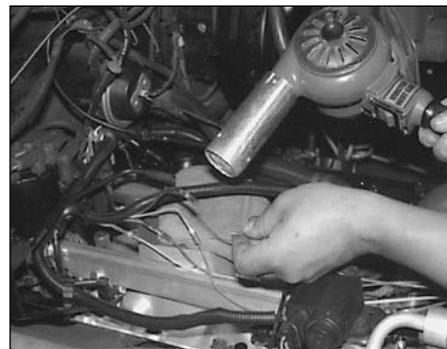


23. ELECTRICAL CONNECTION

Separate four wires cut previously out of the factory loom. These will be used to mate with the corresponding butt connectors; green to green, blue to blue, and the two pink wires go to either connector (on some vehicles pink to pink and pink to white). Use stripping tool to strip end of the wires back 1/4". After sticking stripped end into connector, crimp connector onto wire using a crimping tool. Tug on wire slightly after crimping to make sure you have a good connection.

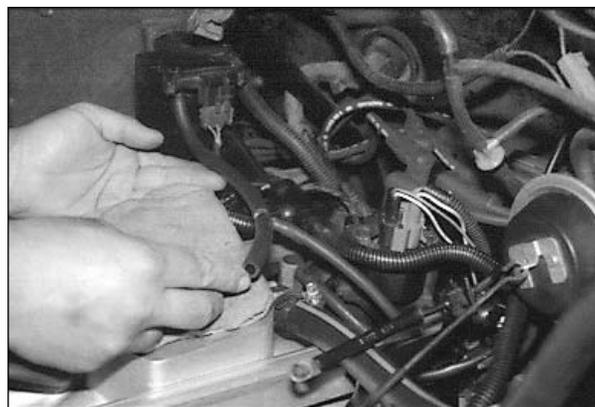


After crimping all four connectors, take heat gun or cigarette lighter (be careful not to burn wires) to heat the ends of the connectors. They will shrink down around the wires and ensure a tight connection. After cooling, slide all wires into black sleeve coming off of the wire loom.



24. VACUUM HOSE

Remove the factory molded vacuum line which ran from the MAP sensor to the rear of the throttle body. Locate the 1/4" x 12" vacuum hose, the 1/4" x 1/4" x 5/32" vacuum tee and the 24" of 5/32" vacuum hose from kit. Put one end of the 5/32" hose on the vacuum nipple of the fuel regulator and loop it around the coil area (be careful not to kink the hose). The other end should end up in the area around the rear of the throttle body. Install the 1/4" vacuum hose from the MAP sensor to the rear of the throttle body. This is easier with the throttle body off (estimate length if throttle body is not yet installed). Insert plastic vacuum tee into the section of 1/4" vacuum hose where the 5/32" vacuum hose from the fuel regulator will easily intersect. Cut the hose and insert the tee and connect all three hoses. For vehicles with vacuum actuated EGR valve, you will need to remove the hard preformed vacuum hose from the EGR vacuum regulating valve. Install the remaining 5/32" vacuum hose from the EGR valve to the regulating valve (cut hose as needed).



25. POWER BRAKE BOOSTER CONNECTION

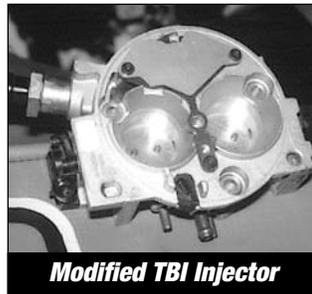
Vehicles equipped with vacuum booster need to use the vacuum port found at the right rear corner of the throttle body pad (if not used, plug with pipe plug supplied). From kit contents, locate the 2 ft. x 15/16" vacuum hose, two clamps, 90° brass fitting, and 3/8" NPT to 1/2" hose fitting. Install 90° fitting in vacuum port using teflon sealant, then install 3/8" to 1/2" hose fitting into 90° fitting, aiming the hose end of fitting towards vacuum brake booster. Remove original 90° plastic fitting from booster supply line and install in end of vacuum brake hose supplied. Clamp fitting to hose. Route hose to vacuum supply port (90° fitting just

installed in manifold). Route hose and cut as necessary to prevent interference with linkage. Tighten both clamps and secure with tie wrap as shown.

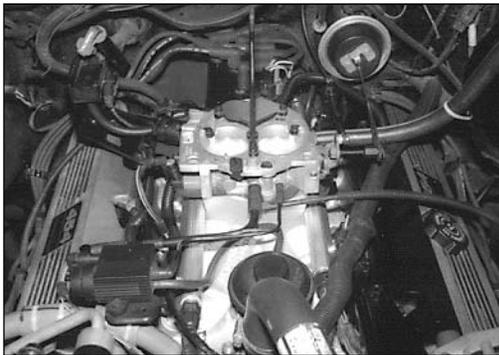


26. THROTTLE BODY CONVERSION

Remove the fuel inlet and return fittings at rear of the original throttle body assembly. Next remove three torx screws retaining the fuel injector/regulator assembly to the main body. Remove this assembly while leaving the factory gasket in place. Using the factory torx screws, install the injector block off plate supplied in kit. The throttle body is now ready to be installed using the new base gasket supplied in kit. Once installed, make sure all vacuum and electrical connections are secure. Make throttle connections.



Install the converted throttle body assembly and the new throttle body base gasket (supplied) onto the manifold. Install and tighten three mounting bolts. Make all electrical connections. Connect the throttle cable and cruise cable assembly. Make vacuum connections at the rear of the throttle body as well as all of the connections in front. Double check all ground connections and electrical connections.



27. ACCESS FUEL TANK

For the TBI multipoint conversion, it is necessary to install a high-pressure fuel pump (#3581 for single tank vehicles, sold separately). **IMPORTANT NOTE:** On trucks with dual tank set-ups, it will be necessary to install Edelbrock Dual Fuel Tank Conversion Kit #3580, available from your Edelbrock dealer, or call Edelbrock directly for sales or dealer assistance: **800-416-8628, Option 3**. Dual tank vehicles do not require removal of the tanks or pick-up bed, as the new fuel pump kit #3580 mounts on the vehicle frame. See installation instructions supplied in kit.

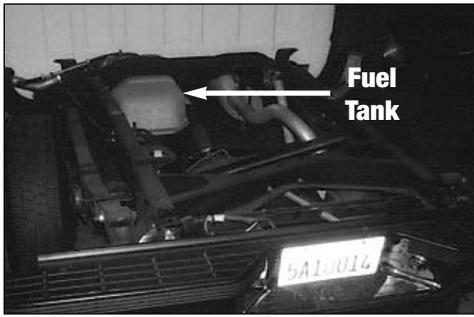


**Dual Tanks Require Kit #3580
(Bed does not need to be removed for
dual tank pump installation)**

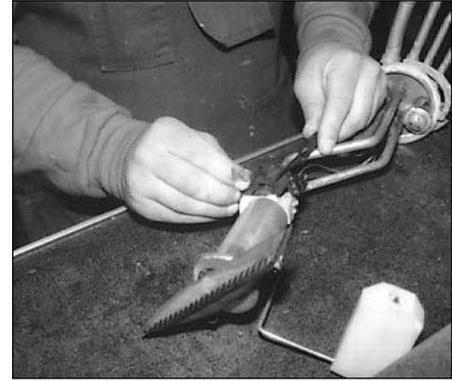
To install pump #3581 on single tank vehicles, you must gain access to the top of your fuel tank. If you have a Suburban, you will need to drain the fuel tank and drop from the rear of the vehicle. If you have a truck, we recommend removing the bed to reach the fuel tank. On truck beds, you will usually find eight mounting bolts, two ground wires, a couple of weather pack electrical connectors (near license plate area), and you will need to disconnect your fuel fill neck from the bed.



With all bed bolts and wires disconnected, four people can lift off the bed. This takes about 20-30 minutes, which is much faster than draining and removing tank. With bed removed, you will see top of fuel tank. Take a brush or compressed air and clean the top of fuel sending unit area so no debris enters in fuel when removing this assembly. Disconnect two fuel lines, two hoses, and an electrical connection with a ground wire. There is a center fuel pump sending unit assembly lock ring holding assembly into tank.

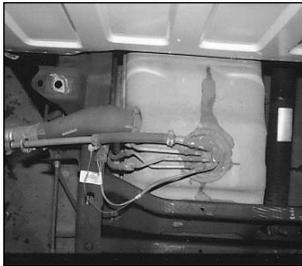


Note: There is a kit supplied with the 3501 and 3502 that provides you with new fuel line and clamps. Install the 3" length of fuel hose onto the 3/8" steel tubing where the old fuel pump junction hose was previously. Use the 3/8" hose clamp to secure hose to steel tubing.



Disconnect two fuel lines, two hoses, and an electrical connection with a ground wire. There is a center fuel pump sending unit assembly lock ring holding assembly into tank. Using a hammer and brass punch, gently strike open edge of lock ring in a counter clockwise direction. Keep hitting until lock ring rotates enough to release. Again blow or brush top area clean and carefully remove the entire assembly. **Be careful on removal! Take your time!**

Note: You may want to replace the fuel sock at this time with a new factory replacement. Use a small flat blade screwdriver to gently pry around strainer and it will pop off. Carefully slide the factory fuel pump out of the assembly. Install the new fuel pump supplied in the kit into this assembly.

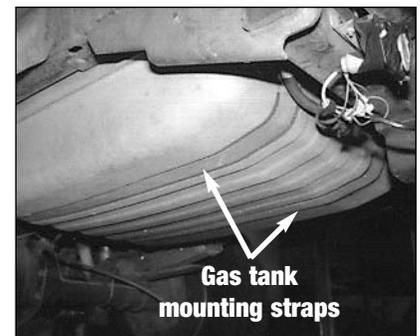
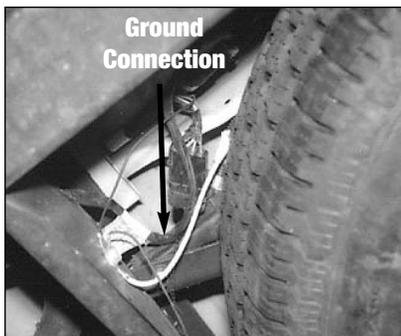


28. FUEL PUMP ASSEMBLY

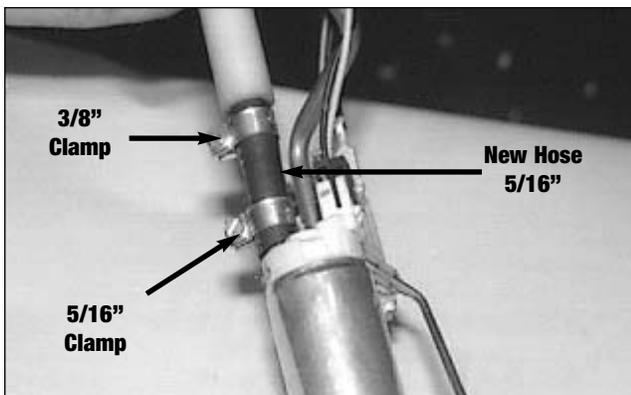
With fuel pump assembly on bench, loosen and slide up the lower plastic clamp on top of fuel pump. Now disconnect electrical connection. On the bottom of the fuel pump, there is a fuel strainer sock; remove the bottom strainer sock after marking it so you can re-assemble in the original orientation.

ALTERNATE PROCEDURE: LOWERING FUEL TANK

Suburbans (or trucks that you cannot remove the bed), require removal of the fuel tank(s). The fuel tank must be lowered from beneath the vehicle. First drain the fuel, then disconnect the ground wire and the weather pack electrical connector. Then disconnect gas fill hose and vent hose. Let the tank drop enough to gain access to the fuel lines, then disconnect fuel lines and remove tank from vehicle. Most tanks have two mounting straps which must be removed.



Note: The fuel line will be a very tight fit over the 3/8" tubing. It may be necessary to lube the tubing with some spray lubricant to ease hose installation. Slip the 5/16" clamp over the rubber hose, then insert fuel pump barb into hose and secure with 5/16" clamp. Be sure there is adequate clearance between the metal clamp and the electrical connections on the pump. Some shortening of the rubber hose may be necessary for proper alignment of the pump with the pump hanger.



NOTE: DO NOT RE-USE THE ORIGINAL IN-TANK FUEL HOSE OR CLAMPS.

Use the new rubber base gasket for fuel pump. If the big O-ring in fuel tank is OK (not torn), you may reuse it. If necessary, replace with original equipment O-ring from a GM dealer. Make sure to grease large O-ring with white grease or equivalent. Making sure clamp is tight and electrical connector is connected, install strainer sock into same position (it will just push on with your thumb).



Install complete assembly back in the fuel tank. Make sure you do not bend anything while reinstalling. Lock assembly back in place by rotating lock ring clockwise until it hits its stops. Now tighten fuel connections and hose clamps. Make electronic connection and ground connection. Re-install fuel tank (Suburbans, etc.). **Do not re-install bed on pick-up trucks at this time. Before installing bed, see Fuel Pressure Test Section on page 15.**



29. HOT RESTART FUEL MODULE

You must remove the Hot Restart Fuel Module before starting your 1987-1989, over 8600 lbs. GVW HD vehicle. The Hot Restart module is located on the Break Pedal Bracket between the firewall, and the back of the gauge cluster. Its dimensions are approximately 1-3/8" x 2-1/8" x 3-1/4". There are three wires in the harness for the Hot Restart Fuel Module; a pink wire with a black stripe, a black wire with a white stripe, and a tan wire with a white stripe.

CAUTION: IF THE HOT RESTART FUEL MODULE IS NOT REMOVED, IT WILL OVERLOAD AND BURN ON START UP, CAUSING SMOKE AND POSSIBLE FIRE HAZARD!

30. NEW COMPUTER CHIP INSTALLATION

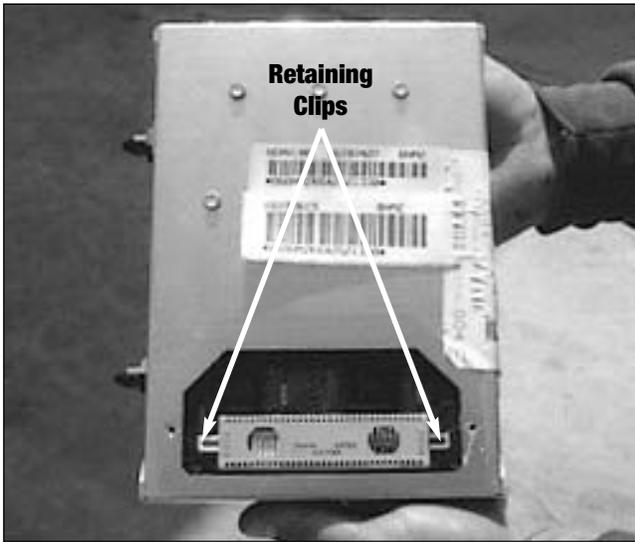
IMPORTANT NOTE: COMPUTER CHIP MUST BE ORDERED BEFORE BEGINNING INSTALLATION.

Open glove box and remove four screws mounting the inner tray. Remove glove box tray.

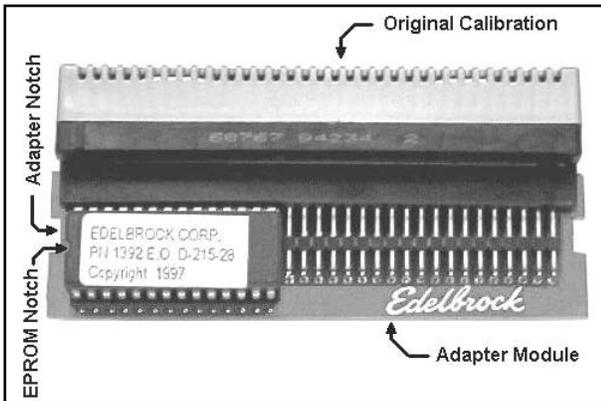
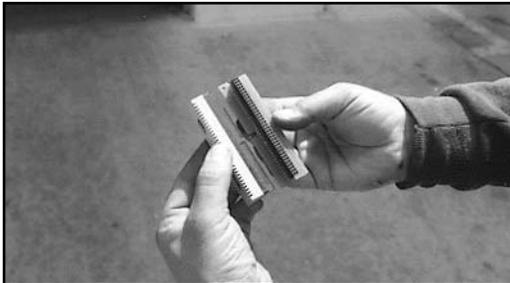


On the ECM, you will find the service number and the broadcast code. Both are needed in order to make a new calibration chip for your particular vehicle. This should be done well before installation to allow enough time for the new chip to arrive. Use the chip order card enclosed with these instructions.

After removing two screws and cover from ECM, remove old chip by pressing down on the two outside retaining clips.



This installation uses a piggyback chip adapter. Push your new computer chip into the adapter, then install these two parts into ECM. There is an alignment lug so that they only fit one way. Be careful not to bend any pins. Put plate back on and re-install ECM in the vehicle. **NOTE:** Early models do not require the adapter; the chip simply replaces the stock chip.



31. INITIAL START UP

Re-connect battery negative cable. Double check connections and fill radiator with a 50/50 mix (or manufacturer's recommendation) of anti-freeze and water. Turn key to the "On" position. You will hear the fuel pump run for a few seconds and stop as it fills the fuel system with fuel. There will be air trapped in system. At this time, inspect all fuel connections for leaks. If there are no leaks and everything looks good, crank it over. It might not start right away. If not, stop and cycle key so fuel pump runs (this will allow air trapped in system to evacuate). Try to start again. Once running, check for fuel leaks again, then water leaks.

32. SET IGNITION TIMING

If there are no leaks, set ignition timing following manufacturer's procedures and specifications. You must disconnect the ignition interrupter wire before you set the timing. This is a single tan wire with a black stripe and a black plastic connector. On late style vehicles, it is usually found under the dash on the passenger's side, between the blower motor and the duct work (next to the courtesy light). On earlier vehicles, it is usually found on the passenger's side firewall, behind a plastic cover which is secured with two screws. If you are not certain of the location of this wire, consult factory service manual. Re-connect wire after timing is set. If you have a truck, re-install bed after checking for leaks around sending unit assembly.

NOTE: You may notice a slight surge in the idle in "Park" or "Neutral". This is normal and will smooth out when the transmission is shifted into any drive gear.

BASIC TROUBLESHOOTING

1. **Engine Combinations**

- a. If you assemble a combination of parts other than stock or the Edelbrock MPFI package called out in our catalog, your vehicle may not perform properly.
- b. Stroker motors are not supported.
- c. All engine assemblies must maintain stock compression ratios.
- d. A 190- to 195-degree thermostat should be used for optimum mileage, performance and emissions. Thermostats temperatures below 185 degrees should be avoided.

2. **Engine Assemblies**

- a. Heavy duty L19-454, 1987-1990 P/N 88890529
- b. Heavy duty L19-454, 1991-1995 P/N 88890530
- c. GM P/N 12371054 Retrofit 8.2L (502) Long Block (3564, 3565 MPFI)

3. **Fuel Pressure**

Fuel pressure must be checked with a fuel pressure gauge only. Do not use a tire pressure gauge.

Test:

- a. Turn key to "On" position, but **do not start the engine.**
- b. Fuel pressure should read 42-45 psi depending on your altitude . The higher the altitude the lower the pressure.
- c. The system's fuel pressure should not drop more than 10 psi in 5 minutes, and should maintain residual pressure even after sitting for 24 hours. If pressure drops more than 10 psi, check fuel pump hose and clamps in fuel tank. If the original hose and clamp were used, replace them with the supplied hose and clamps per the instruction. If fuel pressure still drops off too quickly, contact Edelbrock.
- d. With engine running, check fuel pressure. The idle fuel pressure should be between 34-38 psi depending on idle vacuum.

4. **Engine Runs On Only One Bank**

- a. Check injector wiring for correct connections, green to green, blue to blue or red to red (some cases white to red).
- b. Check that your original MemCal (blue capped chip) is installed on the supplied green piggyback adapter and chip alignment in the green piggyback adapter. **See "New Computer Chip Installation" section and diagram on page 15.**



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