



2255 AGATE CT. SIMI VALLEY CA. 93065  
Tel: (805) 581-0333 / Fax: (805) 584-1913



*"Keeping You Cool Under Pressure"*

## Installation Instruction for Turbo Water Injection System (Part No. 980)

### **TOOLS REQUIRED:**

- 1.) Standard complement of mechanics' hand tools
- 2.) 1/4" electric drill
- 3.) "Q" size drill bit (0.332" diameter)
- 4.) 3/16" and 1/8" NPT tap and handle
- 5.) Lock-Tite or any thread locking compound
- 6.) Silicone sealant

### **WARNING:**

When installing the water reservoir, it is vital that it be mounted in such a position and height that the water level is below the level of the nozzle, otherwise water can siphon into your engine when your vehicle is parked. This can cause **DAMAGE TO YOUR ENGINE** when it is started. See warning label on the reservoir.

The fill cap must always be tight with the washer / strainer in place so it can seal pressure or vacuum. If the cap does not seal, water injection will not operate properly. On installations where injection and equalizer line are on the vacuum side or downstream of the throttle, if the cap is not sealing, vacuum can draw water into the engine through the nozzle at idle and **ENGINE DAMAGE CAN RESULT**. If you lose the washer / strainer, they are available at hardware stores as garden hose, washing machine hose accessories.

### **INSTALLATION:**

- 1.) Water Injection Nozzle Location (Refer to Schematic Drawing A)

Select the drawing that is applicable to your vehicle or choose the one that suits you with regard to point of installation for the water injection nozzle. Once you have determined this, locate the component on your vehicle that is equivalent to the component in the sketch and proceed using the diagrams in Drawing B for reference.

- 2.) Nozzle Size Selection

Select the proper size nozzle from the chart below:

Engine (CID)	Liter	Nozzle I.D.	Size
73 to 152	1.2 to 2.5	1 groove	0.016"
153 to 230	2.6 to 3.8	2 groove	0.025"
231 to 454	3.9 to 7.6	3 groove	0.033"



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- 3.) Nozzle Mounting in Carburetor  
If the nozzle is to be mounted in the top of the carburetor, some suggested installation techniques are shown. Make sure the bracket is attached to the carburetor with a 10/32 AN bolt and nylon lock nut provided so that it will not come loose. Mount the 1/8" NPT X 5/32" hose barb fitting to the proper size nozzle, utilizing thread-locking compound and check that the nozzle does not clog. Drill a hole in the air cleaner or top for passage of the water hose.
- 4.) Installation of Nozzle into Turbocharger, Tubing, Ducting, or Casting  
Install the nozzle selected from the above chart into the threaded fitting, utilizing LockTite thread sealant. Make sure it does not clog the nozzle. Drill a hole into the casting or tube with a "Q" size drill, tapping 1/8" NPT and screwing the fitting into position. Always orient the discharge side of the nozzle so that it points downstream. When installing the fitting into thin wall tubing, do not run the 1/8" tap in too deep; install the fitting and seal with silicon sealant. During drilling and tapping, apply grease or silicone sealant to drill and tap to trap metal shavings and prevent them from entering the tube.
- 5.) Mounting of the Water Reservoir  
The water reservoir can be mounted in any one of three positions or orientations. (See Drawing B). Find a sport in the vehicle that will fit the configuration of the reservoir in one of these positions, double checking that, when installed, the level of the liquid will be lower than the position of the nozzle which has been previously mounted. Once this has been determined, install the fittings and / or plugs in the ports of the reservoir to provide the filler, vent hole, water outlet, etc. in the position required. Use thread sealant when installing, and be careful not to over tighten. Thoroughly wash out to remove any foreign particles. Mount the various components to the water reservoir as shown in Drawing B, utilizing the 10/32 bolts and locknuts. Three styles of mounting brackets are provided; flat plate, angle plate, and "Z" plate. Select the proper combination for these, which will mount the tank and drill the necessary holes with a 3/16" drill. Secure into position with the 1/4" X 1/2" hex head metal screws.
- 6.) Electrical Connections  
Make the electrical connections as shown on the drawings and connect the red wire into a wire that is hot, or has voltage only when the ignition switch is in the run position. A wire splice or other hardware is provided for this connection. Some vehicles have a wire or fuse that is labeled accessory and operate in this manner.
- 7.) Hose Routing  
Utilizing the 8' length of 5/32" hose provided, make the connections on the pump and the discharge nozzle. Make certain the hoses do not come in contact with the exhaust manifold or hot metal parts. If the vent connection on the top of the reservoir is connected into boost pressure, this can be accomplished by locating an existing hose which senses boost pressure and connected with the plastic tee provided, or utilizing one of the extra 1/8" NPT X 5/32" hose barb fittings, drill and tap and use this fitting for the connection.



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**IMPORTANT NOTICE:** If you have selected the option of putting water in downstream of the turbo or on the pressure side, or downstream of the throttle body or carburetor, it is vital that the reference or vent line from the reservoir be connected to a pressure source as shown, otherwise pressure in the tank will not be equalized and water will not flow under boost pressure.

8.) System Check

Double check the installation and make sure everything is tight and installed per the instructions. Fill the system with water and activate the pump by using the test procedure shown. Remove the hose and run the pump until water begins to flow. Now, reattach the hose.

9.) Pressure Switch Adjustment

This is a normally open switch and the switch has the adjusting screw in the top center of the housing. It is set to make contact at approximately 5 PSI (plus/minus 0.5 PSI). To adjust the setting, follow the following instructions very carefully.

- a.) Be certain that you have the correct size screw driver that will turn the small adjusting screw without damaging the head or the threads.
- b.) If you have no variable source of pressure and a boost gauge and no other method to check when the switch actually closes, you must carefully mark the location of the screw and then turn per the following.

**WARNING:** Do not turn the switch down (clockwise) more than 4 turns, as it will damage the internal mechanical components and do not turn the switch up (counter clockwise) more than 3 turns.

*To make the switch function at a higher pressure:*

1 turn clockwise	5.25 PSI
2 turns clockwise	6.25 PSI
3 turns clockwise	7.20 PSI
4 turns clockwise	8.00 PSI

*To make the switch function at a lower pressure:*

1 turn counter clockwise	3.50 PSI
2 turns counter clockwise	2.50 PSI
3 turns counter clockwise	2.00 PSI

**NOTE:** When the switch is adjusted, use silicone sealant over the adjusting screw to prevent moisture from damaging the switch.

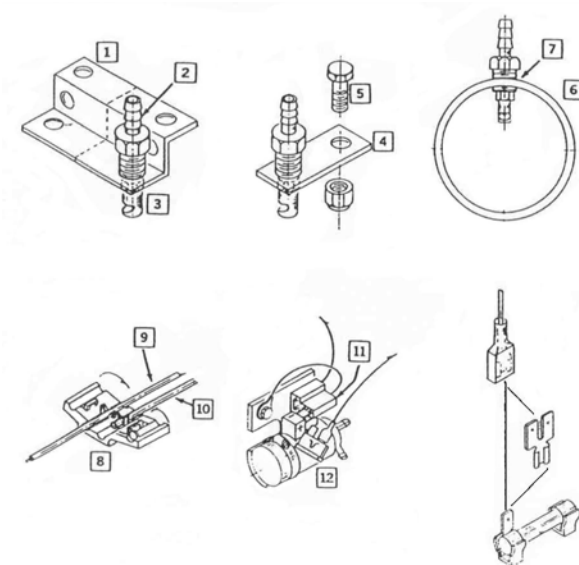
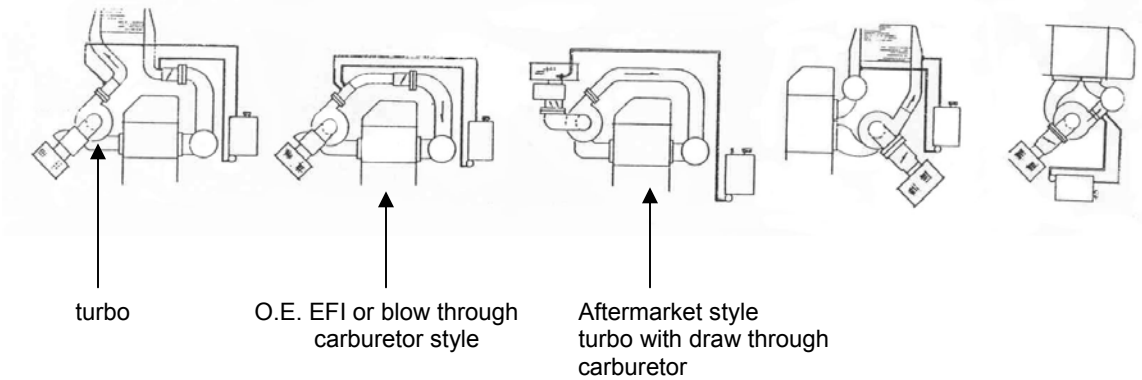


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**SELECT SYSTEM SIMILAR TO YOUR VEHICLE**



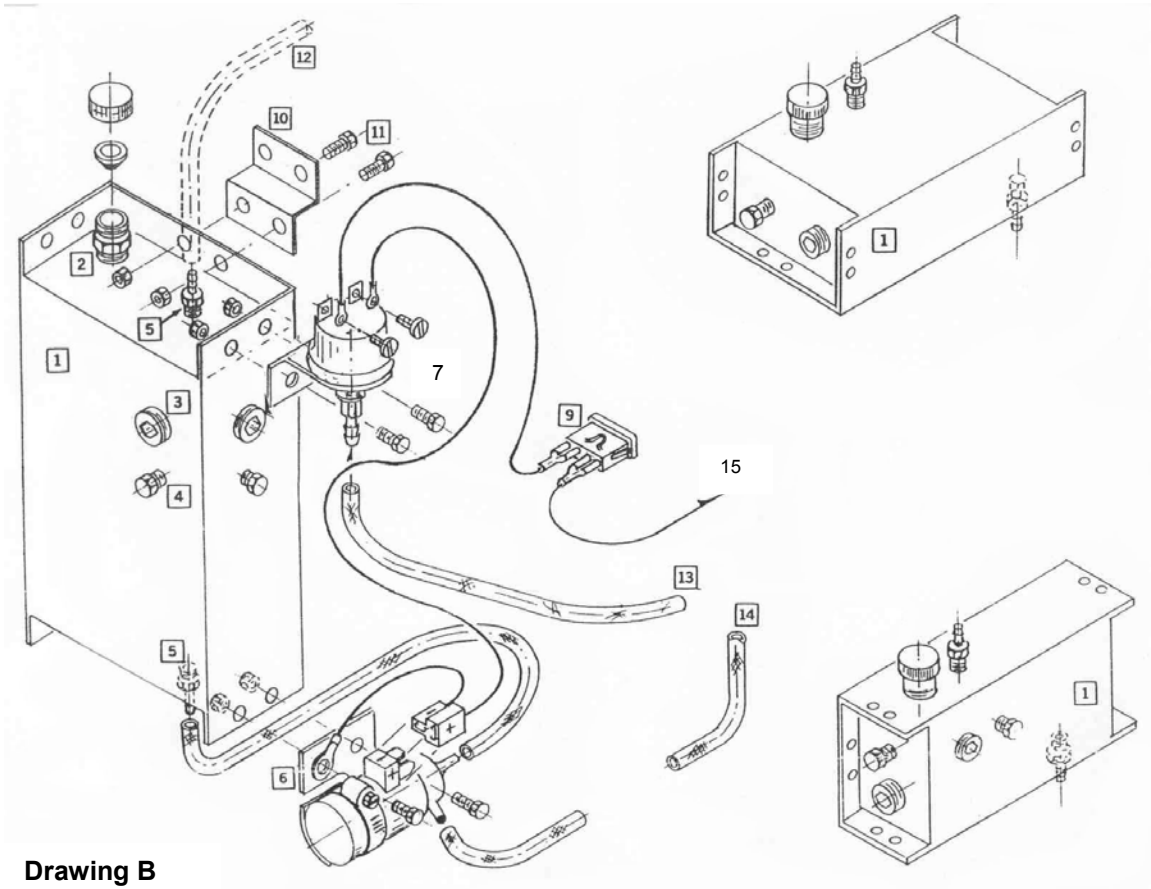
- 1.) "Z" bracket can be used for mounting nozzle in carburetor. Modify by cutting at dotted line or as required
- 2.) 1/8" NPT X 5/32 hose barb (inside drilled and tapped to accommodate nozzle)
- 3.) Use Lock-Tite compound and screw nozzle into barb with bracket in between.
- 4.) Nozzle mounting tab
- 5.) 10/32" X 5/8" bolt, lock nut
- 6.) Intercooler tube or turbo discharge casting
- 7.) Drill / tap 1/8" NPT. Screw in and seal w/ silicone sealant
- 8.) Wire splice
- 9.) Existing wire controlled by ignition switch
- 10.) Wire to pressure switch
- 11.) Remove connector and install as shown for test
- 12.) Turn ignition to run, touch exposed fuse tab to exposed tab on motor for motor test



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**Drawing B**

- 1.) Aluminum reservoir – mount in one of three positions
- 2.) Filler assembly with cap and strainer
- 3.) 3/8" NPT pipe plug
- 4.) 1/8" NPT pipe plug
- 5.) 1/8" NPT X 5/32" hose barb
- 6.) Motor plate – mount motor with clamp as shown
- 7.) Pressure switch
- 8.) Mounting plate – select one of three styles, as required
- 9.) 3 amp blade fuse
- 10.) "Z" bracket
- 11.) 10/32" X 5/8" bolts and lock nuts for mounting brackets, pressure switch, motor plate
- 12.) Pressure source
- 13.) Pressure source
- 14.) To injector nozzle
- 15.) +12V Source - Switched