

# R2 Fuel Vaporizer

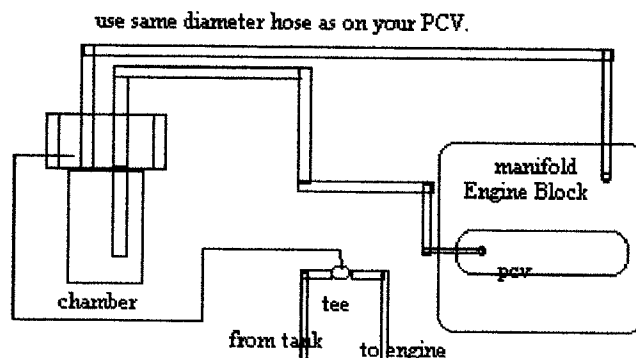
The R2 Fuel Vaporizer will increase gas mileage by sending vapor into your intake manifold, keep your valves cleaner by removing evaporated oils and residues from entering into your manifold from the engine and increase horsepower by allowing a clean burning vapor into the ignition chamber rather than mainly liquid, as you all know it is the vapor which burns not the liquid.

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The device is fairly simple and does not need complicated instructions or assembly instructions. Theory of operation: You will need to install a tee connector in line with your fuel line to supply gas to your R2 Vaporizer, this gas is feed into the vacuum chamber where it is routed into a long vaporizing hose. The gas vaporizes in this hose from the heat generated by your engine. One line of the R2 goes to the PCV valve for a vacuum source and the other line goes to the manifold (where the PCV originally went to). The high pressure in your PCV assembly creates a ventury effect which helps with gas flow from your tee to the R2. The R2 also has a gas inlet control valve which limits the amount of gas going into the vaporizing hose. The bottom half of the R2 has a sludge chamber or collection bowl which catches and stops sludge from entering into your manifold, this must be cleaned out every 30,000 depending on the age of your vehicle.

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Block diagram of the R2 hookup:



### Materials Specs:

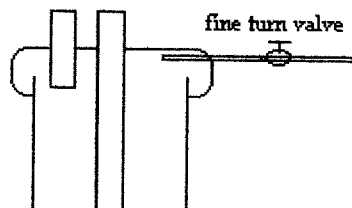
1. use large galvanized steel pipe fittings in construction of the chamber assembly.
2. use a tee connector that allows regular flow of your gas, do not restrict the flow.
3. use a tee connector that has a valve shutoff for emergencies.
4. use fuel injector hose for all hose, use the same diameter as was on your pcv originally.
5. use 1/8" copper tube for your tee to R2 line, or your gas input from the tee.
6. secure all hoses in place using a tie, screw wrap.

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### We recommend parts:

1. for the chamber use 2-3 inch diameter pipe which is 4-5 inches in length and threaded at both ends.
2. use the appropriate end caps to use for seals.
3. buy a 3/8" or slightly larger copper tubing (id), drill a hole in the center of the top end cap of the chamber assembly just large enough to allow the copper tubing to slide through, now solder it in place so 3-4 inches is sticking out the bottom portion and only a inch or two is on the top to connect the hose to.
4. using the same 3/8" or larger copper tubing drill another hole in the cap and only insert enough tubing to enter into the cap chamber, solder it in place and leave about 1-2 inches on top for hose connections.
5. now drill a hole large enough to slide the 1/8" diameter copper tube into the side of the end cap just high enough on the cap so it is not chopped off when you thread it onto the chamber pipe.

solder all copper tubing securely



once done secure both end caps using teflon tape.

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### **Install and mounting:**

install the device in stages:

1. install the gas tee first, buy one and make sure it will work.
  2. mount the R2 assembly in a cool spot in your engine compartment under 100 degrees.
  3. install all hoses. The long hose going from the R2 to the manifold should be 6-8 feet long to allow for good evaporation of the gas. Coil it on top of the engine area to heat it up.
  4. bleed fuel through the 1/8" tube before activating the system by opening both valves.
  5. make sure the fine turn valve is closed and the gas tee connector valve is open.
  6. connect a slip on clear hose onto the output of the R2 to see the gas as it enters the long hose. This is only for calibrating the unit.
  7. turn the engine on, watch for leaks in the unit, if there are any turn the engine off and seal them well.
  8. turn the engine on, watch for gas in the clear hose, there should be none yet. Slowly turn the fine turn valve open until you just start to see gas droplets in the clear hose. That is it. Keep adjusting it over time for your vehicles best performance.
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### **Hints for better performance:**

1. use high octane gasoline fuel.
  2. change your oil every 2-3k miles.
  3. use a synthetic oil or blend.
  4. change your oxygen sensor and pcv before installing an R2 vaporizer unit.
  5. check your air filter and run fuel line conditioners and cleaners through your fuel system.
  6. change your spark plugs.
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If your vehicle has a rough idel with the R2 on it, you may need to turn your engine idel up slightly to adjust for the added gas vapor.