

The E-Mail Mechanic

Ignition System Upgrades

One of the more frequent problems discussed on the Healey Email list involves the installation of after market items intended to enhance the performance of our cars. Frequently these exchanges involve the installation of solid state ignition systems. The following exchange on the Healey List involved this writer and was started with this question:

List -

After much resistance, I broke down and bought a Pertronix system for my positive ground BJ8. I installed the system last evening but was confused about where to attach the wire that is to go to the "ignition switch wire". (One wire goes to the negative side of the coil which is properly in place.) There is a connection point on top of the starter solenoid that I tried but nothing. I tried the positive side of the coil, nothing. One unique situation I came across when installing the new Flame Thrower coil - the bracket attaching it to the generator was too large so as a temporary fix, I used some rubber to wrap the coil so that it would fit snug. Is there a grounding connectivity between the coil body and the generator bracket? HELP!

My response was as follows and pertains to a Positive Grounded Car:

I just finished installing a Pertronix positive ground and Flame Thrower coil yesterday. Works like a charm. Car had been on jack stands for over two years and started on first crank (after I cleaned the gunk out of the carbs.

There is no grounding between the coil body and the generator bracket as the coil body is plastic.

Following this exchange, I emailed the questioner with my experience relative to the installation of these items as follows:

First and absolutely necessary, be sure that if you have a positive ground car, purchase a positive ground Igniter. There is a difference.

I installed my unit with the batteries completely out of the car as I was doing other work at the time. If yours are in, disconnect them (it) or turn the battery switch off.

After you remove the points, condenser and grommet, save them as they can easily be reinstalled and the wiring changes undone. This provides you with a backup in the event that the Igniter should fail. The tool set normally found in

your emergency packet should suffice for this job – screwdriver, pliers and wire cutters.

The installation of the unit is rather straight forward and the instructions supplied with the unit are good until you get to the wiring instructions which are confusing when read the first time and can be a head scratcher.

Photo number One follows showing the wiring to the coil before any changes are made. The solid white bundle are the wires referred to in the Pertronix instructions as the “ignition switch wire” and are connected to the Coil Negative Terminal.

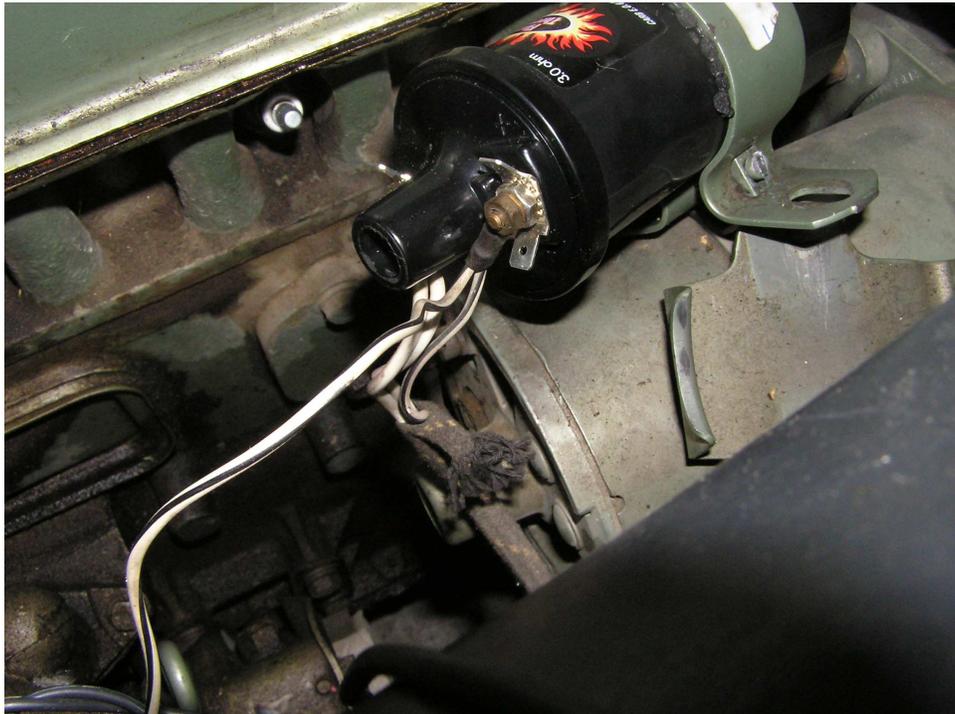


Photo number Two. The white with black stripe wires are shown before the installation and are connected to the positive coil terminal and to the grommet on the distributor which leads to the points.



Photo number Three. Remove the solid white wire bundle that is on the Negative Coil Terminal (refer to Photo number One) and attach the Black/white stripe wire from the Pertronix Ignitor to the negative coil Terminal. I used a ring clip sized for 18 gauge wire to make this connection. Note that the wire is looped and cable tied. I did not cut it to a shorter length during the installation process as I wanted to make sure that everything worked first.

Note that under the hand, the solid white wire bundle is hanging loose at this point.



Photo number Four.

1. Attach the white wire bundle that was removed from the negative coil terminal to the solid black Igniter wire.
 - a. I kept this bundle (composed of three wires connected with an O ring terminal intact.
 - b. I attached a spade clip to the Igniter black wire and forced the O ring into it for a connection and then covered it with electricians tape.
 - c. I did not cut the black Pertronix wire to length at this point .
2. The white with black stripe wire formerly from the Coil to the points as in Photo Two was removed from the Coil Positive Terminal, disconnected from the grommet and wrapped with electricians tape. It is NOT connected anywhere on the car but I did secure it with a cable tie in the event that I need to revert back to a points/condenser setup.



Photo number Five

Take a length of 18 gauge insulated wire and place clips on both ends. One end attaches to the Positive terminal of the Coil and the other attaches to the frame to form a ground. On the below photograph, you can see the red terminal end attached to the frame and follow the wire back to the positive coil terminal. I used a ring terminal at the frame end and secured it with a screw thus insuring that there was no paint that would act as an insulator. I used a spade clip on the terminal side so that I can remove it quickly if needed.



After assuring that gas was flowing through the carburetors, the engine started immediately and all that had to be done was a minor adjustment in the timing. Not really necessary but I advanced the timing to 15 degrees BTDC It purrs like a kitten. An immediate result of this change has been that I am burning absolutely clean now instead of the black smoke coming out before I made this change. And, I am idling at 200 RPM's below what I used to see. I am using Bosch platinum tip plugs and it has also been suggested that I may want to go to the Splitfire plugs to get even more of a spark since, as it was explained to me, with this setup, there is a hotter spark and Splitfire plugs give more surface area giving an even better spark. The next step is to rework all of the wiring to have proper lengths and to make it permanent.

Vital Statistics

These messages and others can be found in the Healey Mail List Archives.

If you are interested in joining the Healey Mail List or viewing the archives, all that is necessary is to go to the following web site <http://autox.team.net/mailman/listinfo/healeys> and follow the instructions. You will not be disappointed.