

## ENGINE RUN UP TEST SET

By Ron Dill

You ever notice how time flies when you are having fun? Some time ago, I was ready to drive my ol' '61 and had charged the battery, filled the gas tank, topped off the radiator, and even mounted the license plate.

As I stood back to enjoy a view of my handy work, I thought, I ought to take a minute and replace the wiring harness before we start down the road – just to be certain that I'd eliminated any possible wire problems. So, I pulled out every speck of wiring and ordered a replacement harness from Lectric Limited. Since I had the wiring out and couldn't do anything else, I thought this would be a great time to replace the firewall insulation – so, a half hour later the insulation was out and I was on the phone with Corvette Central ordering the replacement.

Now, a year and a half later, I look back on this chapter in the restoration process and think, darn, I should have gone for that ride! The new insulation and wiring harness are both neatly tucked away on a shelf in my garage awaiting installation – just so you know – this is a part of my master plan – I'm letting the parts age for just that perfect occasion.

However, while awaiting installation, I'd kind of like to run the engine occasionally to move the old gas through the carburetor and to charge the battery. Without the wiring harness in place – that is a bit of a problem.

Thank goodness for Bill Sangrey of the Mid Atlantic NCRS Chapter (MAC). He had designed a test set to use with his frame off restoration project. He had mounted the rebuilt engine in the frame and wanted to run it up for break in before the body was reinstalled. While he was not expecting any engine trouble – you never know, and it would be much better to identify and repair the engine if the body was not in place. So, he sat down and built a test set to allow the engine to be run without the 'Vette wiring harness being in place.

Bill built his test set out of spare parts he had laying around the garage and I found that I, too, had all the necessary parts – well, I did have to buy a dropping resistor – but, that was only because I couldn't locate the one that I have in my spares. I thought, even after 15 years, I could put my hands right on the spare resistor – I was wrong!



### Parts Needed:

- Some sort of mounting panel or electronic component box where you can mount the parts.
- A ballast resistor, however, if you are not concerned about your points you can leave this part out.
- A temperature gauge.
- An oil pressure gauge.
- An on/off, single pole, single throw, switch to use as an ignition switch.
- A push button, single pole, momentary contact, switch for use as a starter button.
- A 12 volt indicator lamp to show when the ignition is turned on.
- A 20 amp fuse and fuse holder.
- An ammeter gauge – not necessary if you don't plan to run the generator to charge the battery.
- Miscellaneous hook up wire and an assortment of terminal lugs.

The completed test set looks something like this (the bolt head in the upper left corner of the picture is where we mounted the ballast resistor).



At the end of this article is a schematic that Bill had drawn of the test set, the test set is fairly straight forward and you should be able to build it following the drawing fairly easily.

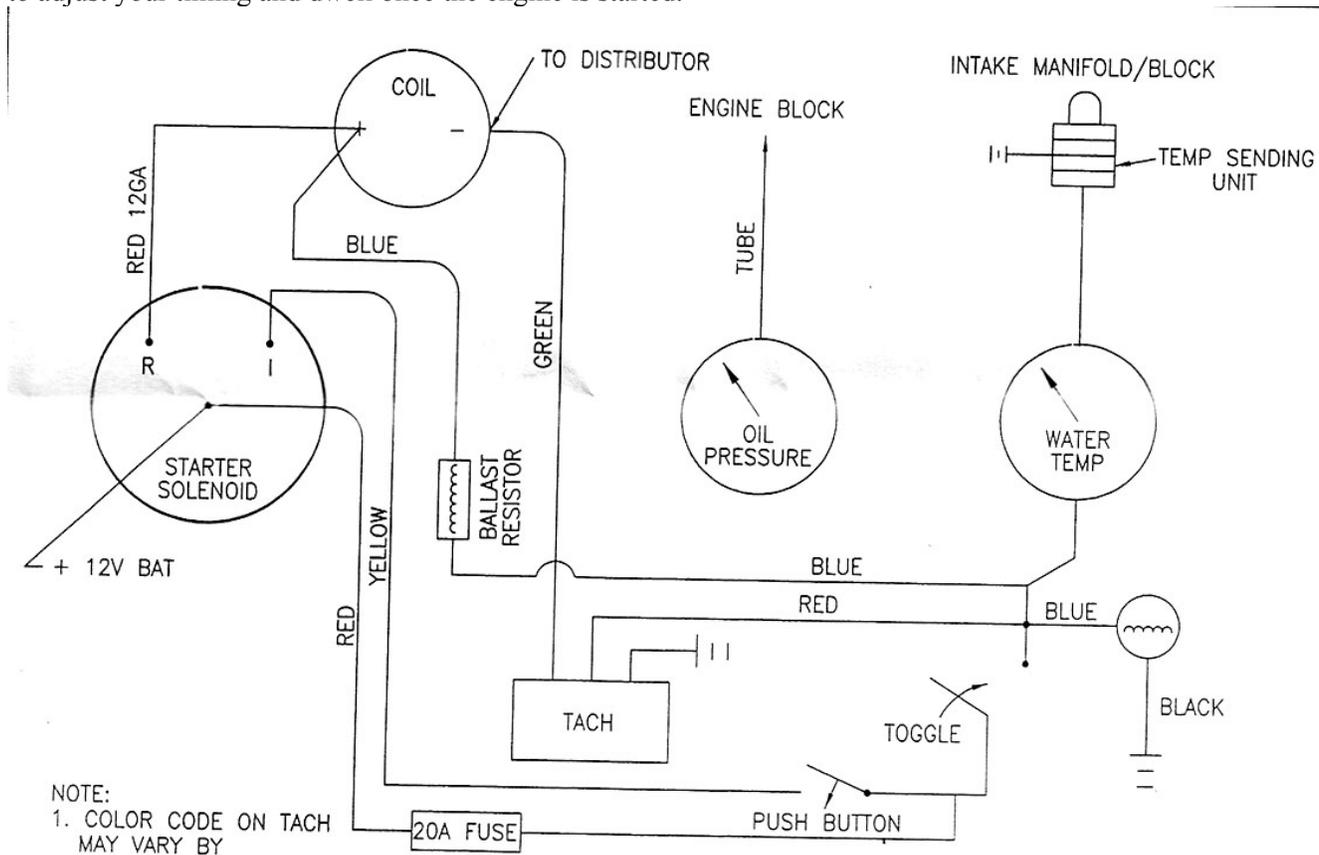
A couple of points:

- You will need to have at least one fan belt installed to make certain that the water pump is working.
- Without the fan shroud in place, there may not be enough air pulled through the radiator to cool the engine properly. You may need to spray the radiator with cool water from a water hose for proper cooling.
- It is not necessary to use anti-freeze for this process – regular water in the radiator is just fine. Don't forget

to drain it when you are finished.

- On some fuel injection systems there is a "fuel enrichment solenoid" that needs to be wired to 12 volts when starting. It has voltage applied only when the starter is operating, so hook the line to the relay to the "solenoid side" of the starter switch.
- It might not be a bad idea to have a box fan available to blow air onto the radiator.

That's all there is to it – just put the parts together, hook it up and start the engine. On a new engine, proper break-in means the engine will need to run at about 2,500 PRPM for 25 minutes or so. Be sure to have the necessary tools to adjust your timing and dwell once the engine is started.



NOTE:  
1. COLOR CODE ON TACH  
MAY VARY BY  
MANUFACTURER.

**WIRING DIAGRAM**