

# **MSD** INSTALLATION INSTRUCTIONS

## **Multi-Channel MSD Ignition Tester PN 8996**

These instructions detail how to use the Multi-Channel tester with an MSD 6, 7, 8, 10, Digital 7 Series Ignition Control or Multi-function Controllers. If you need to test an MSD DIS Ignition, see pages 5 and 6.

**WARNING:** Do not connect directly to the coil or this unit will be damaged.

### **PARTS INCLUDED:**

1 - Digital Ignition Tester

1 - Spark Tester

### **PROGRAMMING**

The MSD Multi-Channel Ignition Tester has the ability to test several different combinations of ignition setups. By pushing the Red button on the face of the unit different programs can be selected. Figure 1 shows the different applications.

When you first connect power to the Tester, the LED will display the name and Part Number. You can bypass this information by pushing the Red button.

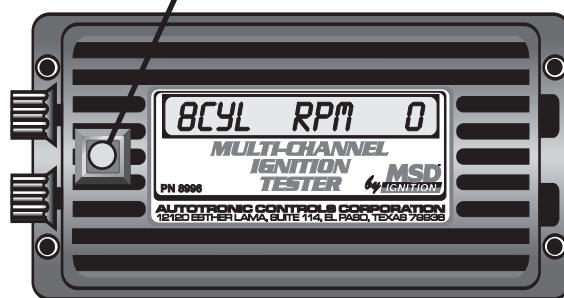
The Tester automatically defaults to the program for an 8-cylinder, single trigger ignition system. To select a different program just press the Red Select button until the program you need is displayed.

**Note:** If you have an MSD DIS Ignition Control, two test harnesses are offered to make testing each channel of the ignition easier. The DIS-4 Test Harness is PN 89964, the DIS-2 is PN 89962. These Harnesses will allow you to test the ignition and coils without having to splice into any wires. Figure 9 shows the harness.

#### **PROGRAMS**

8 Cylinder  
8 Cyl-DIS  
6 Cylinder  
6 Cyl-DIS  
6 Cyl-Odd  
4 Cylinder  
4 Cyl-DIS

#### **PROGRAM SELECTION**



**Figure 1 Ignition Tester Programs.**

### **WIRING**

The Digital Tester has several wires with boots and alligator clips on each one. The wires with White boots are all trigger wires. Note: All of the wires are only used when testing a DIS-4 Ignition Control.

<b>Red:</b>	Connect to 12 volts.
<b>Black:</b>	Connect to a good ground source.
<b>White:</b>	This is the trigger wire used to test the points/amplifier (white wire trigger) circuit of an MSD Ignition. When testing DIS Ignitions, this is the Channel 1 trigger.
<b>Green:</b>	Channel 2 for a DIS Ignition.
<b>Yellow:</b>	Channel 3 for a DIS Ignition.
<b>Violet:</b>	Channel 4 for a DIS Ignition.
<b>Green/Violet:</b>	This 2-Pin connector is for testing the magnetic input circuit for MSD Ignitions. It plugs directly into the MSD's magnetic pickup connector. Violet is mag + and Green is mag -.
<b>Lt. Blue/ Lt. Green:</b>	This is a 2-pin connector for testing the cam sync pickup circuit of an MSD Programmable Ignition or Multi-Function Controller. It plugs directly into the MSD Digital 7 Programmable Ignition's cam pickup connector. Lt. Blue is cam (+) and Lt. Green is cam (-). The CPC Ignition is supplied with a harness adapter.

## RPM ADJUSTMENT

The MSD Digital Tester has two rpm adjustments; Coarse and Fine:

**Coarse Adjustment:** When this knob is turned clockwise the rpm will increase in 100 rpm increments. This allows a large spread of rpm to be covered in a short period of time.

**Fine Adjustment:** When this knob is turned clockwise the rpm will increase in 1 rpm increments for precise adjustments.

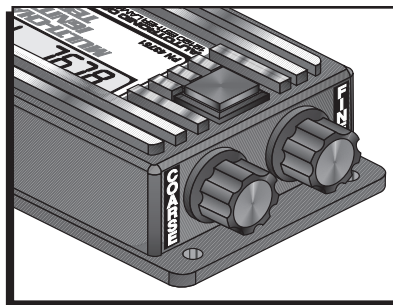


Figure 2 Adjusting the Tester's RPM.

## INSTALLATION & USE

1. Be sure the ignition is Off.
2. Remove the coil wire from the distributor cap and install the MSD Test Plug. Connect the Plug to a ground source. Make sure the ground source is paint and corrosion free.

**WARNING:** A spark is going to jump across the tester's gap. Make sure there are no fuel sources or wiring near the tester.

4. Attach the Tester's Red wire to a 12 volt source such as the positive battery terminal.
5. Connect the Black wire to ground.
6. Connect the trigger wire(s) to fit your application. This will be the wire(s) with the White alligator clips or the 2-pin connector for magnetic pickups. See the following wiring diagrams in pages 2 - 4 for your application. **Note:** The 2-pin Mag-pickup, Violet/Green connector will never be used with the other trigger wires.
7. Make sure both the coarse and the fine adjustments on the tester are turned to the full counter clockwise position (zero).
8. Turn the ignition switch On and press the red button of the Tester until your appropriate engine combination is selected.
9. Increase the Coarse adjustment until you reach the desired rpm. Note that the test plug will be firing. The fine adjustment can be used to get the exact rpm you desire.

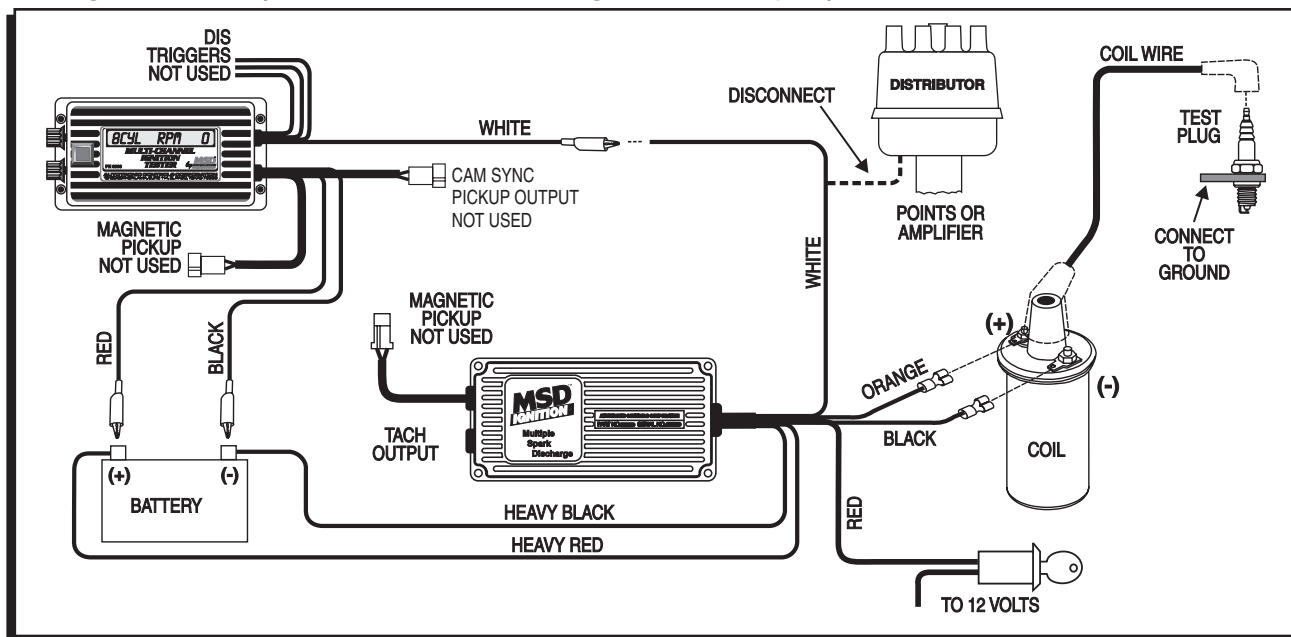


Figure 3 Testing an MSD Triggered with Points or an Amplifier.

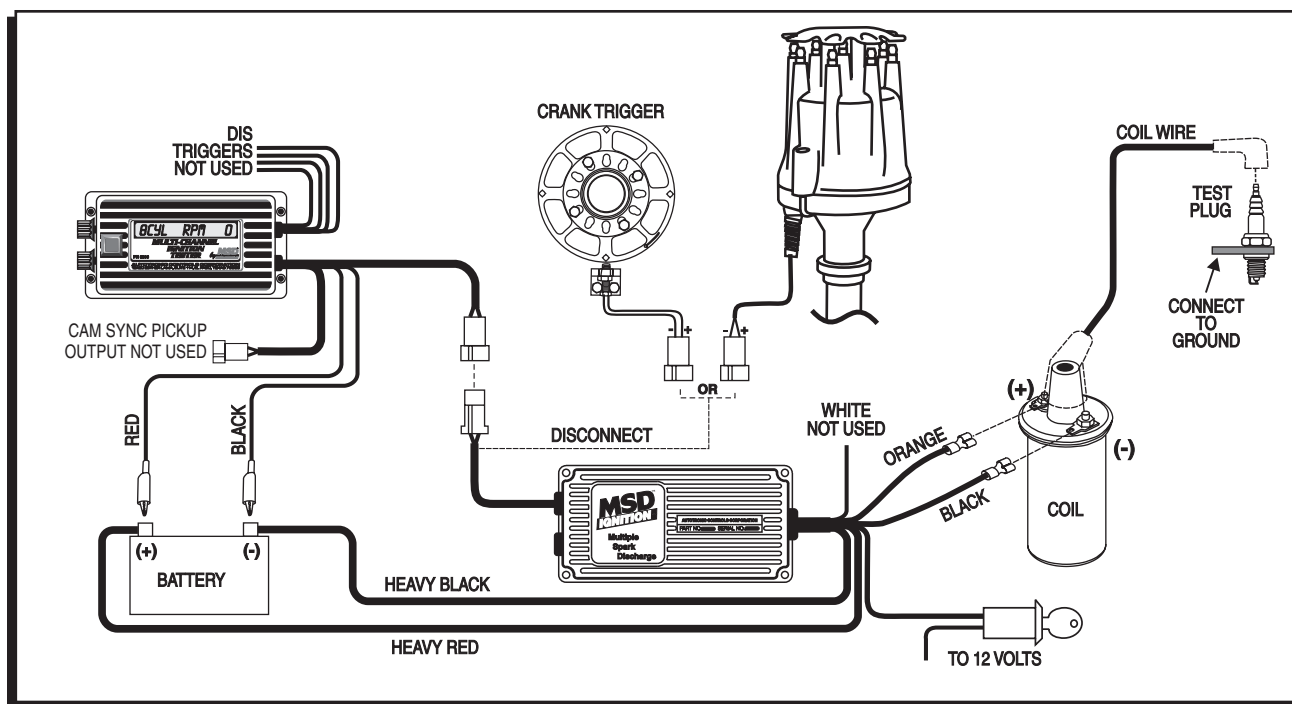


Figure 4 Testing an MSD 6 Series Through the Magnetic Pickup.

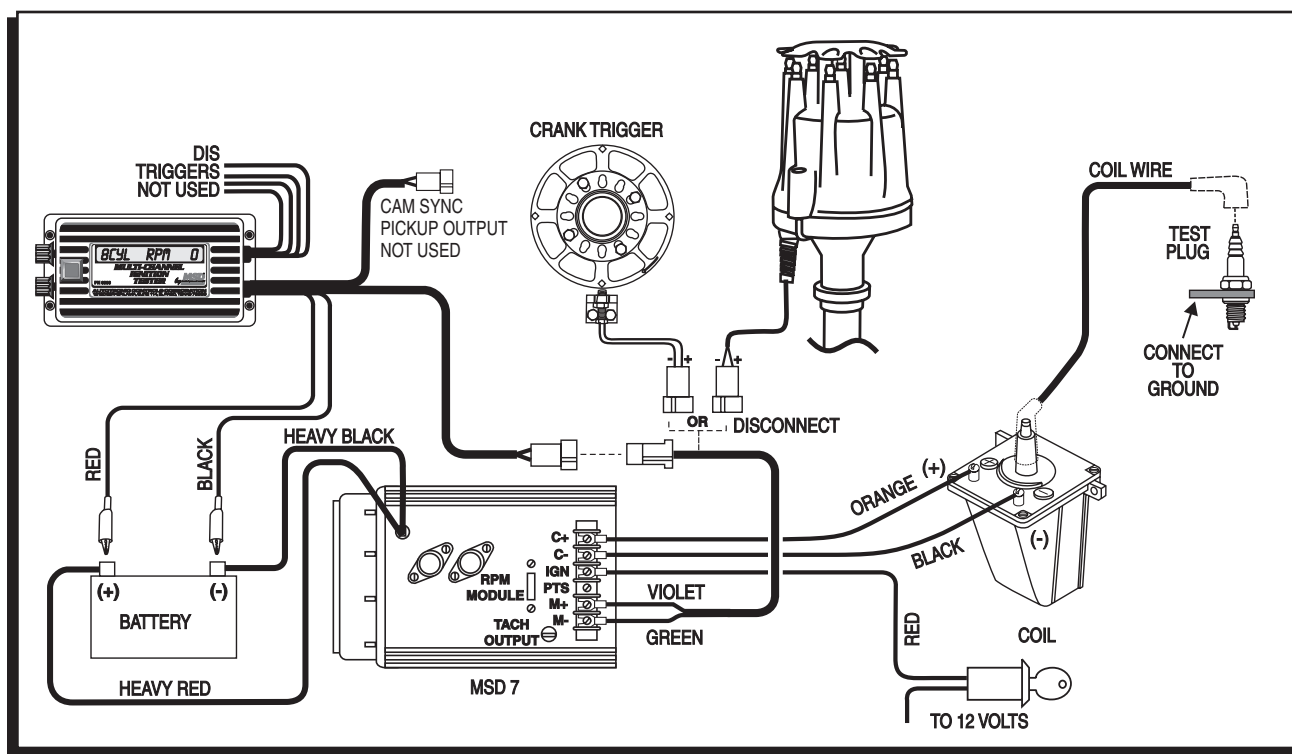


Figure 5 Testing an MSD 7 Series Through the Magnetic Pickup.

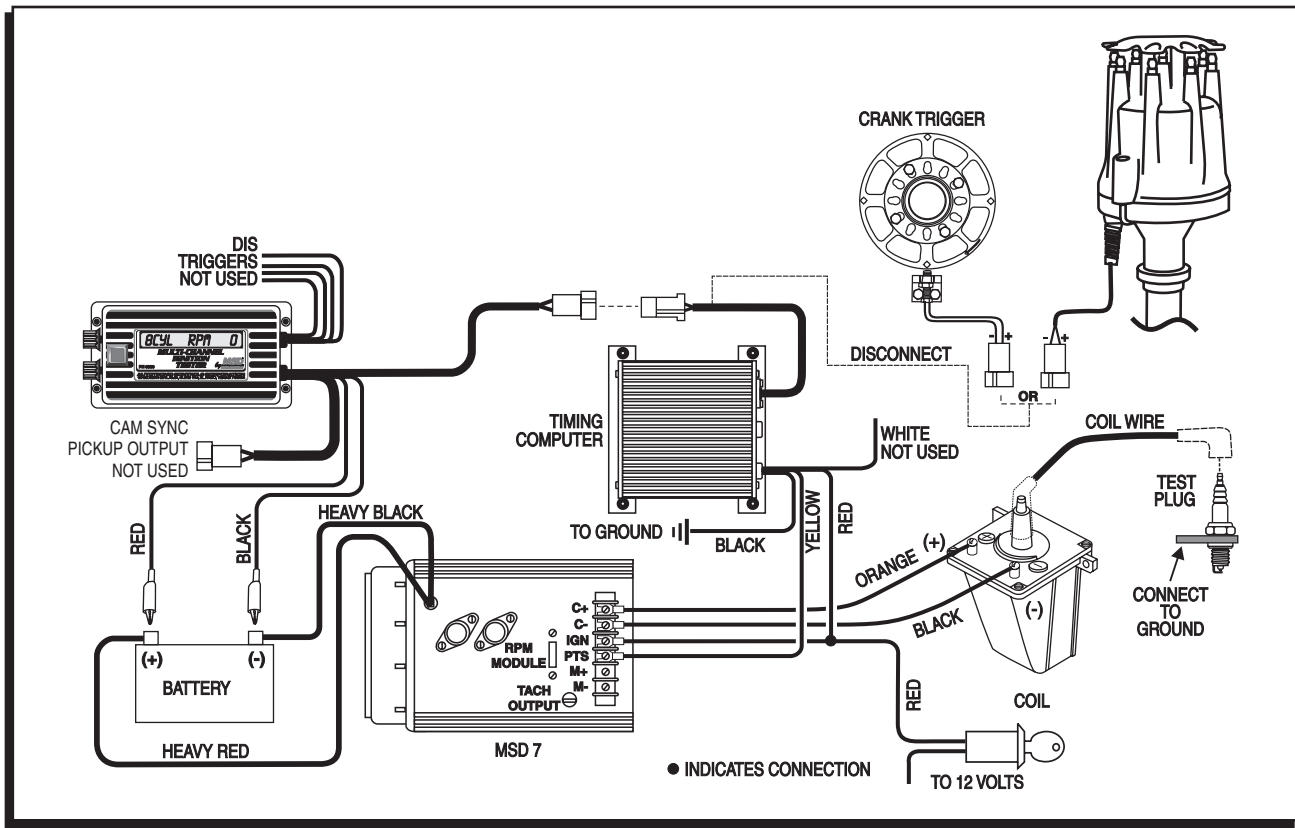


Figure 6 Testing an MSD with Timing Accessory.

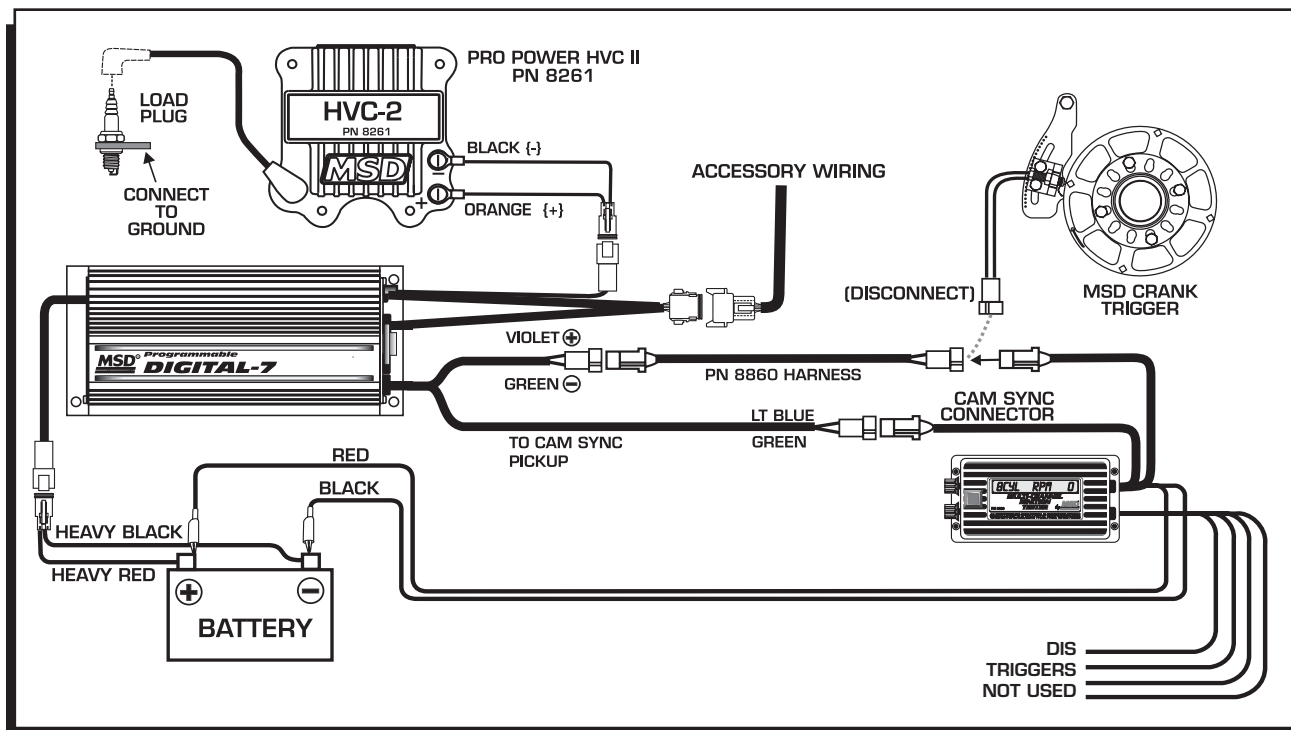


Figure 7 Testing an MSD Programmable 7 Series Initin.

# TESTING DIS IGNITIONS

**WARNING:** Do not connect directly to the coils or this unit will be damaged.

**CAUTION:** Do not connect more than one channel of the tester unless each spark plug wire is removed from the spark plug in the cylinders and placed close to ground. If left connected to the plugs, a spark will occur and could ignite any fuel in the cylinder resulting in a backfire through the intake.

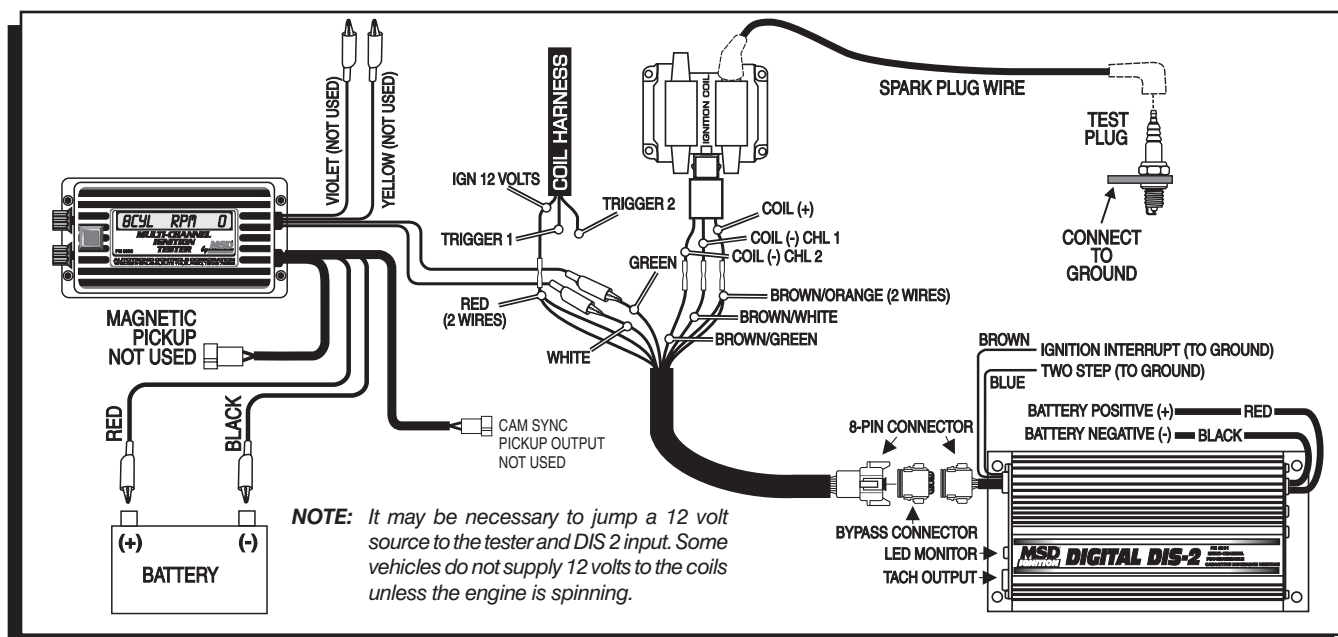


Figure 8 Testing an MSD DIS-2 Ignition Control without PN 89962 Harness.

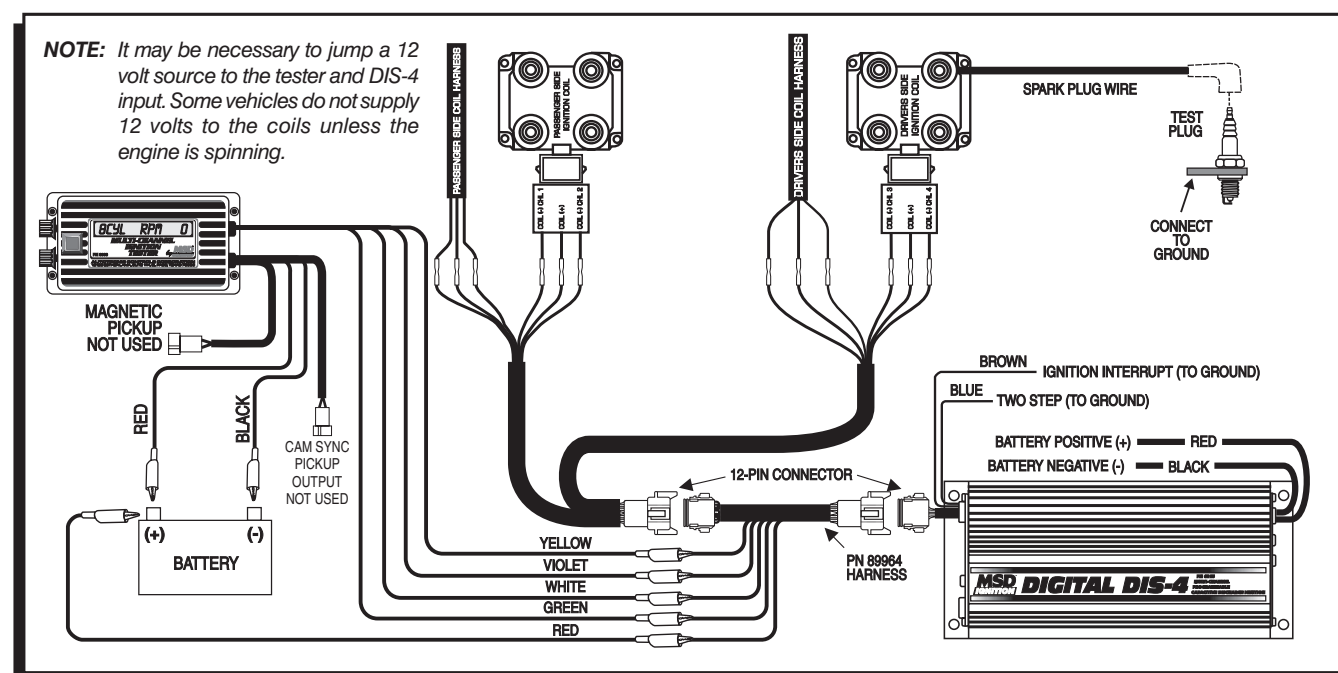


Figure 9 Testing an MSD DIS-4 Ignition Control using the PN 89964 Test Harness.

No spark after Tester is connected:

- Make sure the DIS Brown wire is NOT grounded.
- Check for 12 volts on the Tester's Red wire.
- Inspect the wiring of the tester. Make sure you have a good ground and 12 volt source.
- Check to make sure you have the correct testing program for your application.
- When testing a DIS system, if one coil doesn't spark, check the wiring and swap the trigger wire with a different one and test again. If the same coil still does not spark, the coil is at fault.

## TECH NOTES

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal black lines across its entire width, typical of notebook or legal stationery. The background is a solid off-white color, and there are no margins, text, or other markings present.

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## This image shows a full page of white paper with horizontal blue ruling lines. The lines are evenly spaced and run across the width of the page. There are approximately 20 lines visible. The left edge of the paper shows some slight shadowing, suggesting it's part of a bound notebook or folder.

When returning the unit for repair, leave all wires at the length in which you have them installed. Be sure to include a detailed account of any problems experienced, and what components and accessories are installed on the vehicle. The repaired unit will be returned as soon as possible using Ground shipping methods (ground shipping is covered by warranty). For more information, call MSD at (915) 855-7123. MSD technicians are available from 7:00 a.m. to 5:00 p.m. Monday - Friday (mountain time).

\*Intended normal use means that this item is being used as was originally intended and for the original application as sold by MSD. Any modifications to this item or if it is used on an application other than what MSD markets the product, the warranty will be void. It is the sole responsibility of the customer to determine that this item will work for the application they are intending. MSD will accept no liability for custom applications.