

MAGNETIC BREAKERLESS IGNITION MODULE

PART NO. 609

APPLICATION: YLM and YTM Series Distributors; 50 Series Mechanical Advance Distributors; 57 Series Vacuum Advance Distributors; 82 Series Mechanical Advance Billet Competition Distributors; COMP 9000® 87 Series Vacuum Advance Distributors; COMP 9000® 89 Series Mechanical Advance Distributors; Magnetic Breakerless Ignition Conversions.

INSTALLATION PROCEDURE

Step 1

Remove the distributor cap and rotor (NOTE: On Series Nos. 82, 87 and 89 Distributors, also remove the adapter shield). Unplug the old module (female connector) from the distributor wire harness. Cut the female connector off the end of the wires from the old module assembly and push the wires through the grommet. See Figure 1.

Step 2

YLM and YTM Series, and 50 Series Distributors

Loosen (do not remove) the two nuts on the side of the distributor housing.

Series 57 and 87 Distributors

Remove the small E-clip that holds the vacuum advance linkage on the drive pin on the steel plate. Lift the vacuum advance linkage off the drive pin.

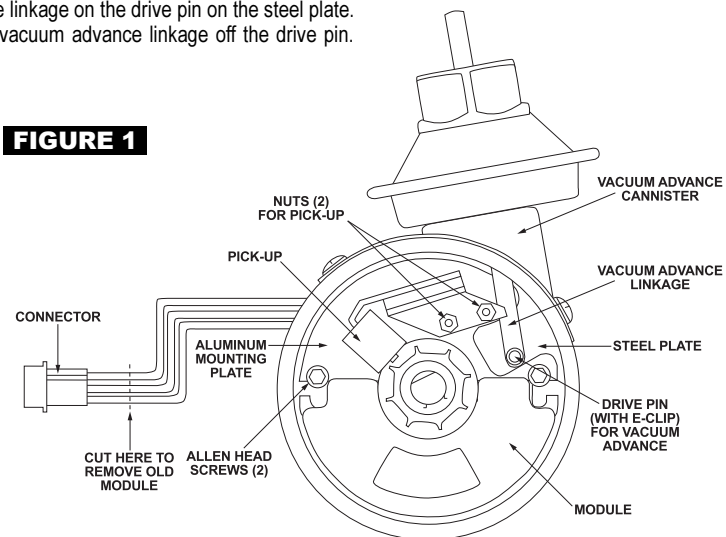
Remove the Allen head screw or screws (there may be one or two) that hold the old module assembly to the steel plate. The old module assembly should be loose. If the old module assembly is not loose, remove the two magnetic pickup nuts on the old module assembly. See Figure 1.

Series 82 and 89 Distributors

Remove the two Allen head screws that hold the old module assembly to the steel plate. The old module assembly should be loose. If the old module assembly is not loose, remove the two magnetic pickup nuts on the old module assembly. See Figure 1.

Step 3

Lift the old module assembly up and out of the distributor housing.



Step 4

Loosen the two magnetic pickup nuts on the new module assembly. See Figure 2.

NOTE (57, 82, 87 and 89 Series Distributors): If you had to remove the two magnetic pickup nuts that hold the pickup to the old module assembly (Step 2), remove the two magnetic pickup nuts on the new module assembly and press the two studs out of the new module assembly. Discard these nuts and studs.

Step 5

Install the new module assembly in the reverse order from the way the old module assembly was removed (Steps 2 and 3).

Step 6

Set the magnetic pickup gap between 0.007-0.010" when tooth on the reluctor is pointing directly at the center of the metal pole on the magnetic pickup. A 0.0074" polyester gauge is provide to help in setting the magnetic pickup gap. Tighten the two nuts that hold the magnetic pickup to the new module assembly. See Figure 2.

Step 7

Slide the three wires from the module assembly through the grommet, to outside the distributor housing. Put the three wires in the female connector: GREEN WIRE in hole #1; BROWN WIRE in hole #2; RED WIRE in hole #3; Plug the female connector into the distributor wire harness. See Figure 3.

FIGURE 2

TO SET MAGNETIC PICKUP GAP:

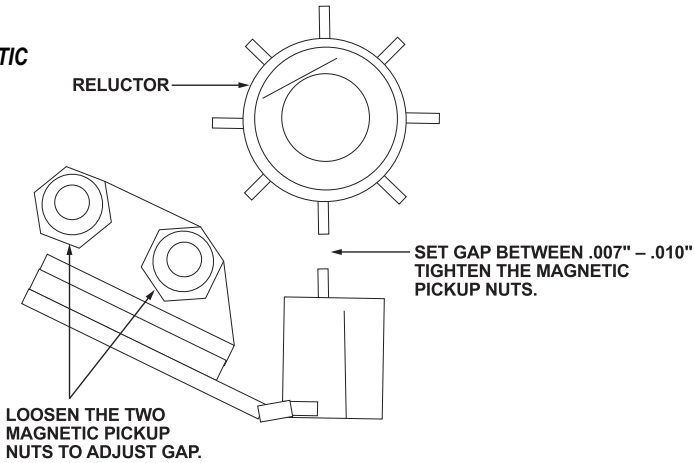
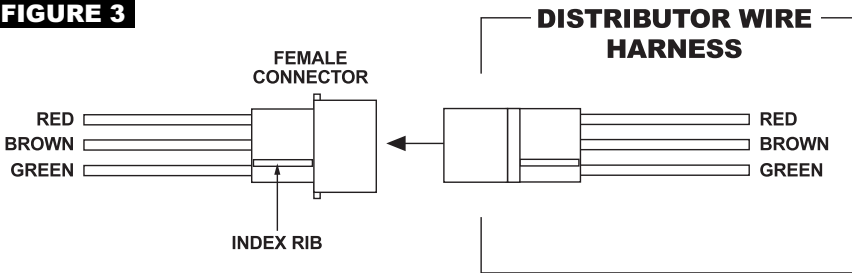


FIGURE 3



REVIEW WIRING PROCEDURE

IMPORTANT: Make sure that your vehicle is equipped with an ignition ballast resistor (or loom resistance wire) in the wire between the ignition switch and the coil (+) terminal. One easy way to find the ignition ballast resistor is to check the service manual for your vehicle. You can test your ignition system voltage while the engine is at idle at the coil (+) terminal. If the measured voltage is within 1-volt of battery voltage, an ignition ballast resistor must be installed in the wire from the ignition switch.

Example: Vehicles with a Ford TFI or Delco HEI require adding an ignition ballast resistor in the wire from the ignition switch. If you find your vehicle is not equipped with an ignition ballast resistor, install a Mallory Ignition Ballast Resistor Part No. 700 in series in the wire from the ignition switch. Failure to use an ignition ballast resistor will result in the eventual destruction of the module.

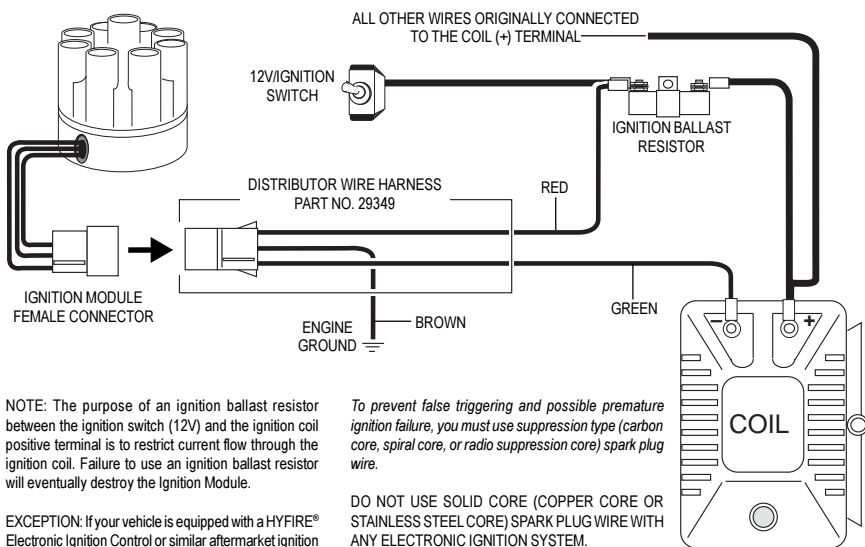
Exception: If your vehicle is equipped with a HYFIRE® Electronic Ignition Control or similar aftermarket ignition control, use ignition ballast resistors and wiring procedures as stated in the instructions for the particular ignition control.

DISTRIBUTOR WIRE HARNESS

- RED Power/voltage for the module
Connect to ignition switch
- GREEN Ignition trigger
Connect to coil (-) terminal
- BROWN Ground for the module
Connect to engine block ground

NOTE: If your vehicle is equipped with a HYFIRE® Electronic Ignition Control or similar aftermarket ignition control, use ignition ballast resistors along with wiring procedures included with your ignition control.

FIGURE 4 WIRING WITH BALLAST RESISTOR



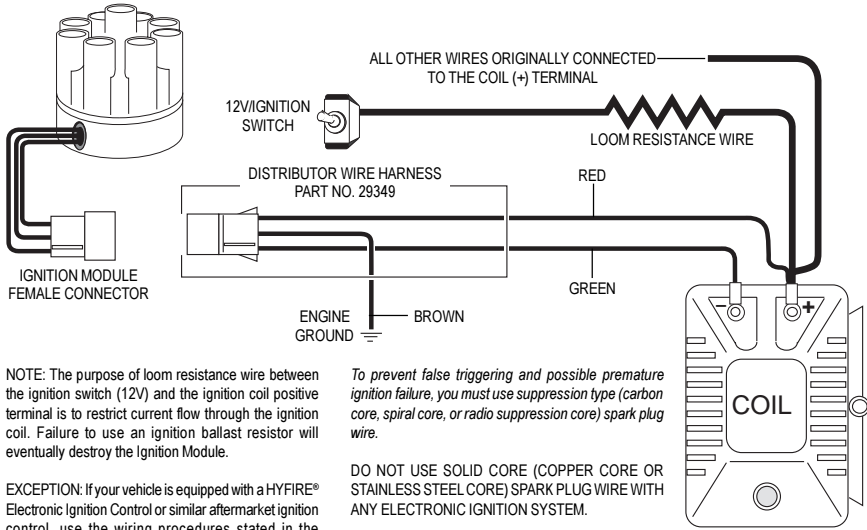
NOTE: The purpose of an ignition ballast resistor between the ignition switch (12V) and the ignition coil positive terminal is to restrict current flow through the ignition coil. Failure to use an ignition ballast resistor will eventually destroy the Ignition Module.

EXCEPTION: If your vehicle is equipped with a HYFIRE® Electronic Ignition Control or similar aftermarket ignition control, use the wiring procedures stated in the instructions included with the ignition control

To prevent false triggering and possible premature ignition failure, you must use suppression type (carbon core, spiral core, or radio suppression core) spark plug wire.

DO NOT USE SOLID CORE (COPPER CORE OR STAINLESS STEEL CORE) SPARK PLUG WIRE WITH ANY ELECTRONIC IGNITION SYSTEM.

FIGURE 5 WIRING WITH LOOM RESISTANCE WIRE





TROUBLE SHOOTING GUIDE MAGNETIC TRIGGERED DISTRIBUTORS

This Trouble Shooting Guide is designed for use with magnetic trigger equipped distributors that are also equipped with a module, such as Mallory 42, 50, 57, 75, 80 and 87 Series distributors along with ACCEL 52, 60 and 71 Series.

ALWAYS BEGIN BY CHECKING ALL OF THE BASICS:

- Check all applicable wiring, both power and ground for broken or loose wiring.
- Check the general condition of the distributor cap, rotor and coil. Visually check for carbon tracking, cracks, or signs of arcing on the distributor cap, rotor and coil. Include a check of the terminals for the spark plug and coil wires.
- Check the spark plug wires by using an Ohm meter to measure the resistance per foot based on the wire manufacturer's specifications. At the same time, look for burned or discolored areas on the wires or boots which could indicate they have been arcing to ground.
- Check the condition of the charging system and the battery. Low voltage during cranking can cause the module to fail to trigger.
- To check the module and pickup assembly, you will need a screwdriver and a low voltage, 5-50 volt bulb type AC/DC tester which are available from most home improvement or auto parts store for a couple of dollars.

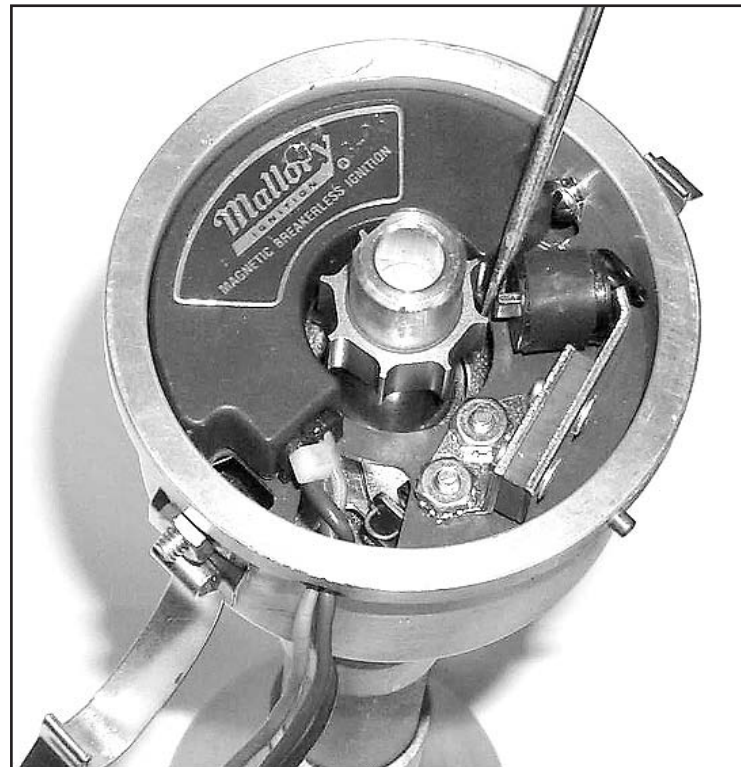
TO CHECK:

1. Begin the test by removing the distributor cap and rotor to allow easy access to the magnetic pickup. Carefully move it out of the way to allow plenty of working room for the next phase of the test.
2. Check the air gap between the reluctor and the magnetic pickup. Adjust if necessary to the manufacturer's specification for your exact model of distributor. Too wide of an air gap will cause a lack of trigger signal, especially at cranking.
3. Connect the red (positive "+") lead from your low voltage tester to the coil negative terminal. Connect the black (negative "-") lead to a good, clean engine ground.
4. Once the air gap has been verified, turn the ignition switch to the "On" position. Do not try to start the engine. On Mallory 42, 50, 57, and 87 Series Distributors, the light should be off at this time. On Mallory 75 and 80 Series and ACCEL 52, 60 and 71 Series, the light should be on.



5. Keeping your hands away from the coil leads, tap the blade of your screwdriver to the metal strip of the magnetic pickup assembly where you measured the air gap. Each time you tap the blade to the metal strip, the light on your tester should flicker. If the light flickers off or on, your magnetic pickup and module are functioning correctly.

6. On distributors with the pickup separate from the module assembly, you can check the pickup using your Ohm meter. Connect the leads from your Ohm meter to the 2 leads of the pickup. If you show a resistance of 50 to 200 Ohms, the pickup is functioning correctly. If the Ohm meter shows an open circuit, the pickup should be replaced. Once replaced, perform the module and pickup assembly test procedure again as shown above.



If you need further assistance after following this trouble-shooting procedure, contact Technical Service at 216-688-8300, extension 500 or at www.malloryracing.com for distributor related questions.



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