

AMERICA'S IGNITION SPECIALISTS

# Mallory

IGNITION

FOR OVER SIXTY YEARS

## MALLORY UNILITE® BREAKERLESS ELECTRONIC CONVERSION INSTRUCTIONS FOR DELCO® 8 CYLINDER DISTRIBUTORS (PART NO. 501)

### IMPORTANT

Before starting the installation of your Unilite®, make sure that your vehicle is equipped with an ignition ballast resistor or loom resistance wire. The easiest way to find out is to check a service manual for your vehicle, but in general, all point type systems require a ballast. Certain types of non-USA built vehicles use an ignition coil with a built-in ballast. If an aftermarket coil is used with these vehicles, you must supply an additional ballast resistor, such as Mallory P/N 25750-38. For electronic systems, a simple way to check is to measure the coil plus (+) terminal with the engine idling. If the measured voltage is within 1 volt of the battery voltage, then a ballast resistor, as recommended above, must be supplied and installed between the coil plus (+) terminal and the existing wire to this terminal. Failure to install the ballast in either of these cases will result in the eventual destruction of the Unilite® Module.

NOTE: If distributor is easily accessible, it is possible to install the Unilite® Conversion without removing the distributor from the engine. In most cases, the distributor is in a very inaccessible location, requiring removal of distributor from engine for installation of the Unilite® Conversion.

1. Remove and set aside distributor cap to allow clear access to distributor. Do not remove plug wires from cap.
2. Before disconnecting distributor, with engine in number one cylinder firing position (rotor pointing to number one cap terminal), align TDC or O mark with indicator on damper pulley. Note and mark radial position of distributor and rotor in engine.
3. Disconnect vacuum line, coil primary wire at coil and remove distributor from engine.
4. Remove points, condenser, primary lead wire and rotor from breaker plate and distributor housing. Leave breaker plate lead wire intact. If necessary (see Note below), remove breaker plate from distributor housing, using care not to damage retainer ring.

NOTE: To allow clearance to terminal wire access hole, some models require removal of breaker plate from distributor housing.

5. Install UNILITE® mounting plate on Delco® circuit breaker plate in the same place as original point, using screws supplied. In some installations, the circuit breaker plate ground wire will interfere. The ground wire is tacked onto the circuit breaker plate. Pry ground wire off circuit breaker plate and remove. Install new ground wire supplied. Install between condenser mounting screw and vacuum diaphragm mounting screw.
6. Install UNILITE® electronic ignition module onto mounting plate, using screws supplied. Push wires through hole in bottom of distributor bowl. Slide supplied rubber grommet over wire and fit into hole. Also supplied is a plastic wire support. Install in a neat location on circuit breaker plate to circuit module wires. On some Delco® distributors it is not necessary to use the plastic wire support. With rubber grommet installed, mount connector pins into plastic terminal pin housing supplied. Be sure wires are shoved into connector as shown in drawing. Shove in until a definite "click" is heard.
7. The two piece shutter wheel is installed as follows:
  - a. Locate one part of the shutter wheel under rotor drive plate opposite electronic module. Rotate this part of shutter between optic posts on module.
  - b. Locate other half of shutter wheel under rotor drive plate, lining it up with the first half. Notice each one half side of shutter fits against rotor drive plate.
  - c. Assemble bolts supplied through shutter assembly and

rotor drive plate sufficiently so hex portion of bolt recesses into shutter assembly.

- d. Some late model Delco® distributors are equipped with a light-colored rotor made of a more flexible plastic material. When installing the Unilite® Kit with this rotor, it is necessary to shorten the rotor locator located on the bottom side of the rotor. Either file or cut this locator so that it is 1/8 inch long. Mount rotor over bolts. Install nuts supplied onto bolts and tighten rotor and shutter assembly to rotor drive plate.
8. Install distributor into engine in same radial position as removed (rotor pointing to number one cap terminal). Be sure drive gear is properly engaged and distributor is seated all the way into engine block before tightening hold-down clamp. DO NOT FORCE!

NOTE: Rough timing for starting may be established by centering nearest shutter wheel opening with optic detector on module.

9. There are three wires to be connected from the UNILITE® distributor. Connect as follows:

Red Wire: Connect to + (positive) terminal of original coil. (This terminal may be marked BAT.)

NOTE: With Mallory Voltmaster® & Promaster® coils connect Red Wire to terminal of coil resistor NOT connected to Mallory coil. (Refer to diagram, back page.)

Green Wire: Connect to - (negative) terminal of original coil. (This terminal may be marked DIST.)

Brown Wire: Connect to a good ground on engine. Clean any grease or paint away from engine block and stud. If brown wire is connected to coil hold-down bolt, be sure there is not paint or grease on bolt or engine block.

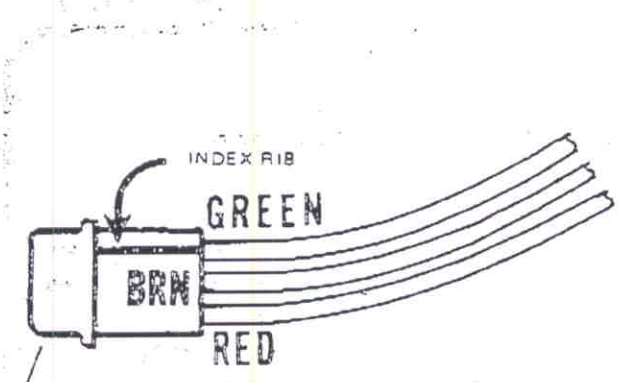
10. With distributor cap on distributor, the engine is now ready to start. Start engine - observe oil pressure - no oil pressure indicates improper seating of distributor with oil pump drive. To seat distributor properly, hold distributor housing, forcing it down and crank engine.
11. Use a timing light. Adjust initial timing at idle. Set timing as recommended by the engine manufacturer.

### SERVICE PARTS

Part No. 338 — Two-piece shutter assembly  
Part No. 805 — Unilite® Module assembly

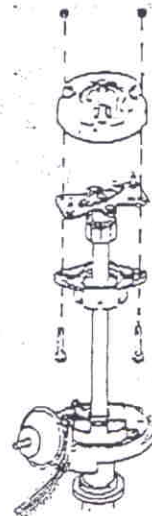
## KEEP THESE INSTRUCTIONS FOR FUTURE REFERENCE

\*DELCO® is a registered trademark of Delco Products



terminal pin housing wires must be installed into pin housing as shown to mate with other portion of wiring harness

plastic wire support



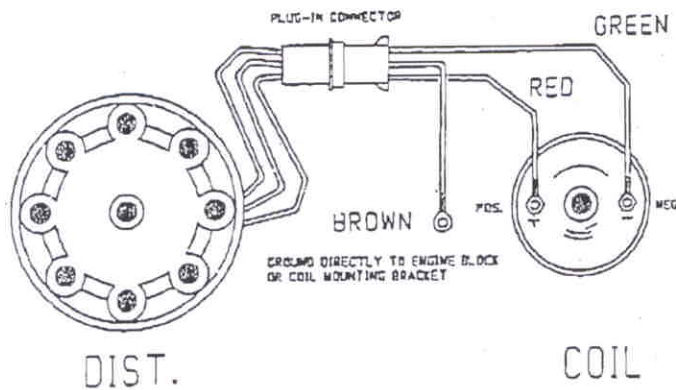
8 - 32 HEX NUTS (2)

SHUTTER WHEEL (optic interrupter)

8 - 32 HEX HD MACH. SCREWS

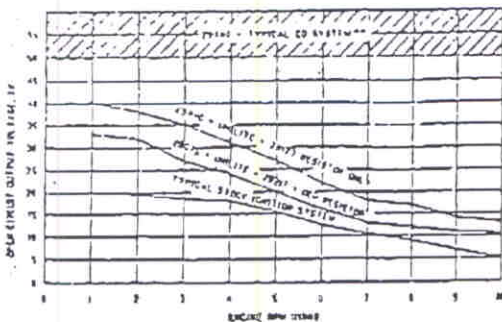
UNILITE<sup>®</sup> OPTO/ELECTRONIC MODULE

WIRING DIAGRAM FOR UNILITE<sup>®</sup> CONVERSION KIT



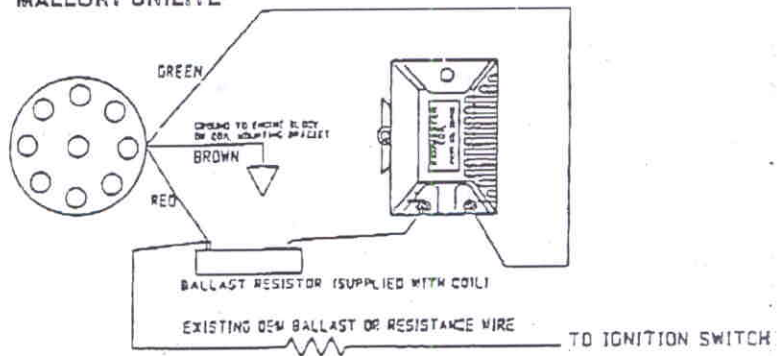
UNILITE<sup>®</sup> ELECTRONIC DISTRIBUTOR WIRING DIAGRAM  
THIS IS FOR MALLORY COIL 29217 AND OEM STYLE COILS ONLY

The performance of the UNILITE<sup>®</sup> Ignition can be greatly increased by the installation of a No. 29440 Mallory electronic coil. See graph below. Install coil as per UNILITE<sup>®</sup> Electronic Ignition Instructions.



\*\* Spark Test is performed based on 14.7:1 Air/Fuel Ratio, 1100 RPM, 100% throttle. Ignition is provided by complete coil - 29440 MALLORY COIL. Spark is 29440 MALLORY COIL. Spark is 29440 MALLORY COIL. Spark is 29440 MALLORY COIL.

MALLORY UNILITE<sup>®</sup>



PROMASTER<sup>®</sup> WIRING DIAGRAM