



# Installation and Troubleshooting

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## CDI P/N: 511-9710 TRIGGER TESTER

WARNING! Always connect the long black wire to engine or battery ground first and disconnect it last.

1. Disconnect the sensor/trigger wires from all CD modules, except on the OMC OIS (Section 9) or when performing the Mercury/Mariner EFI pulse test (Section 8).
2. Connect the long black wire from the tester to engine ground.
3. Connect the long red wire to the battery side of the starter solenoid or the + (POS) battery terminal.
4. Make sure the red power LED indicator in the tester lights up.
5. Disconnect all kill wires.

### SECTION 1

#### Testing Mercury Trigger P/Ns: 393-3736 and 332-4797

Connect the wires as indicated below:

Tester	393-3736 Trigger	332-4797 Trigger
Brown	Brown	White/Black Stripe
White	White	Black
Black/White	Black	Blue

Rotate the distributor shaft by turning the engine over with the starter. Make sure that the ground wire from the engine to the distributor is in good shape. The green LED should flash for each cylinder. If the LED fails to flash, check the voltage on the red wire while the engine is turning over. If the voltage is at least 10V, swap the black and white connections from the tester to the trigger and retest as described above.

Notice: The tester requires at LEAST 10V to test the trigger. If the voltage drops too low, connect another battery ground to ground and feed the tester directly from the second battery.

### SECTION 2

#### Testing Chrysler Preamp and Hall Effect Triggers

Connect the wires as indicated below:

Tester	Preamp	Hall Effect Sensor
Purple	Purple	+12v input
White/Black	White/Black Stripe	Trigger wire
Black	Black	System ground

Turn the distributor shaft by turning the engine over with the starter. Make sure that the ground wire from the engine to the distributor is in good shape. The yellow LED should flash for each cylinder. If the yellow LED lights up and fails to flash, the preamp or Hall Effect sensor is bad. If the LED fails to light up at all, check the voltage on the red wire going to the tester while the engine is turning over. The system requires at least 9½ volts at cranking.

### SECTION 3

#### Testing Mercury/Mariner Alternator Driven Ignition 6 Cylinder Triggers

#### NO FIRE ON ONE OR MORE CYLINDERS AT CRANKING:

1. Connect the black wire (in the sleeve with the purple and white/black striped wires from the tester) to all three wires in the yellow sleeve set from the trigger.
2. Connect the white/black striped wire from the tester to the brown wire in the trigger's black sleeved wire set.
  1. Crank the engine over. The yellow LED should light up for every revolution of the engine.
  2. Repeat steps 2 and 3 for the white and purple wires in the triggers black sleeved set.
3. If the LED fails to light up, short the tester's black and white/black striped wires (in the same sleeve with the purple wire) together. The yellow LED should light up.
4. Reconnect the black wire from the tester to all three trigger wires in the black sleeve.
5. Connect the white/black tester wire to the brown wire in the triggers yellow sleeve set.
6. Crank the engine over. The yellow LED should light up for every revolution of the engine.



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7. Repeat steps 7 and 8 for the white and purple trigger wires in the yellow sleeve. If the LED fails to light up, the trigger is likely bad. To check the tester's operation, short the tester's black and white/black striped wires (in the same sleeve with the purple wire) together. The yellow LED should light up.

## SECTION 4

### Testing Mercury/Mariner/Force Alternator Driven Ignition 3 and 5 Cylinder Triggers

#### **NO FIRE ON ONE OR MORE CYLINDERS AT CRANKING**

##### **Mercury Type Triggers**

1. Connect the black wire (in the sleeve with the purple and white/black striped wires from the tester) to the white/black striped wire coming from the trigger. (Note: Some 3 cylinder triggers have a solid black wire instead of a striped wire).
2. Connect the white/black striped wire from the tester to the brown wire from the trigger.
3. Crank the engine over. The yellow LED should light up for every revolution of the engine.
4. Repeat steps 2 and 3 for the white and purple wires (also the yellow and black on the 5 cylinder) from the trigger. If the LED fails to light up, the trigger is likely bad. To check the tester's operation, short the tester's black and white/black striped wires (in the same sleeve with the purple wire) together. The yellow LED should light up.

## SECTION 5

### Testing Mercury/Mariner/Force Alternator Driven Ignition 4 Cylinder Triggers

#### **NO FIRE ON TWO OR MORE CYLINDERS AT CRANKING**

##### **Mercury Type Triggers**

1. Connect the black wire (in the sleeve containing the purple and white/black striped wires from the tester) to the white/black striped wire coming from the trigger. (Note: Some triggers have a solid black wire instead of a striped wire).
2. Connect the white/black stripe wire from the tester to the brown wire from the trigger. Crank the engine over. The yellow LED should light up for every revolution of the engine.
3. Swap the tester's black and white/black wire connections and repeat step 2.
4. Connect the black wire (in the sleeve containing the purple and white/black striped wires from the tester) to the purple wire coming from the trigger.
5. Connect the white/black stripe wire from the tester to the white wire from the trigger. Crank the engine over. The yellow LED should light up for every revolution of the engine.
6. Swap the tester's black and white/black wire connections and repeat step 5. If the LED fails to light up, the trigger is likely bad. To check the tester's operation, short the tester's black and white/black striped wires (in the sleeve containing the purple wire) together. The yellow LED should light up.

## SECTION 6

### Testing Mercury/Mariner/Force Alternator Driven Ignition 2 Cylinder Triggers (Mercury type ignition)

1. Connect the black wire (in the sleeve with the purple and white/black striped wires from the tester) to the white wire coming from the trigger. (Some triggers have a brown/white wire instead of a white wire).
2. Connect the white/black stripe wire from the tester to the brown wire from the trigger. (Some triggers have a brown/white wire instead of a white wire).
3. Crank the engine over. The yellow LED should light up for every revolution of the engine.

## SECTION 7

### Testing Chrysler/Force Alternator Driven Ignition Triggers

#### **NO FIRE ON ONE OR MORE CYLINDERS AT CRANKING**

##### **Prestolite Type Triggers**

1. Connect the black and white/black wires (in the sleeve with the purple wire from the tester) to each set of trigger wires. The yellow LED will be dimly lit. Each cylinder requires two wires from the trigger to the CD module.
2. Crank the engine over. The yellow LED should pulse for every revolution of the engine.
3. Repeat steps 1 and 2 for all cylinders. If the LED fails to light up, short the tester's black and white/black striped wires (in the same sleeve with the purple wire) together. The yellow LED should light up.



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## SECTION 8

### Testing OMC Quick Start Looper Timer Bases ('88-'96)

1. Remove the jumpers from the end of the white/black and black wires (in the same sleeve) in order to expose the male pins. If you need a female pin, simply connect the clip to the male pin, leaving the female pin exposed.
2. Connect the white/black striped wire (in the sleeve with the purple and black wires from the tester) to the white wire coming from the timer base.
3. Connect the black wire (in the sleeve with the purple and white/black striped wires from the tester) to the purple wire from the timer base. (Same connector).
4. Crank the engine over. The yellow LED should light up for every revolution of the engine.
5. Repeat step 3 for the purple, green and blue wires in BOTH connectors from the timer base.
6. Connect the white/black striped wire (in the sleeve with the purple and black wires from the tester) to the black/white striped wire coming from the timer base.
7. Repeat steps 3, 4 and 5.

## SECTION 9

### Testing EFI's for Injector Pulse

**WARNING:** Disconnect all spark plug wires from the spark plugs and reconnect them to a spark checker. (This is to prevent the engine from starting and running).

1. Leave all wires connected on the engine.
2. Remove the jumper from the end of the testers' black/white wire (in the same sleeve with the brown and white wires).
3. Insert the male pin from the tester into the adapter for one of the 511-9770 piercing probes. Insert this adapter end into the probe. Connect the probe to the brown, blue/white or green/yellow wire near the injector body connector.
4. Crank the engine over and watch for the green LED to flash. If the LED fails to flash at all, verify that there is voltage present on the red wire going to the injector. If the red wire has voltage, reconnect the piercing probe to another injector to verify that the LED is working properly. If the tester works properly when connected to another injector, but does not flash when connected to a particular injector, either the injector is faulty or the EFI is not working on that cylinder. Reconnect the probe to all other injectors. If the LED flashes on all injectors except one pair (1 and 2, 3 and 4, or 5 and 6), the EFI is probably bad. Replace the injector with one that is working properly as a final check.

## SECTION 10

### Testing OMC OIS Sensor/Triggers

**WARNING:** Disconnect all spark plug wires from the spark plugs and reconnect them to a spark checker. (This is to prevent engine from starting and running).

1. Leave all wires connected on the engine.
2. Remove the jumper from the end of the tester's black/white wire (in the same sleeve with the brown and white wires).
3. Insert the male pin from the tester into the adapter for one of the 511-9770 piercing probes. Insert this adapter end into the probe.
4. Connect the probe to the white/green wire in the sensor harness. Crank the engine over and watch for the green LED to flash. If it does, go to step 5. If the LED fails to flash, go to step 6.
5. Reconnect the probe to the white/blue sensor wire. Crank the engine over and watch for the green LED to flash. If the LED flashes, the sensor should be good. If the LED fails to flash, go to step 6.
6. If the LED fails to flash, connect a DC voltmeter to the black/orange sensor wire and engine ground. At cranking speed, you should have at least 6 volts. Repeat the test for the orange/red sensor wire. If on either test you fail to get a good reading with a good DC meter, more than likely the power pack is bad. If you get a good reading, but the LED fails to flash on one or both of the tests, the sensor is likely bad.