

DYNA S IGNITION SYSTEM TESTING

INSPECTION

Check that the rotor is not rubbing the modules or the wiring. Turn the rotor to the advanced position and release. It should snap back crisply. Check when motor is cold and again when hot. Make a timing mark on the case and Dyna S plate. Remove the Dyna S and check that the advancer is not rubbing the plate.

Inspect the cable for burned or pinched sections. Firmly pull on all splices and crimp terminals. Check that coil connections are tight and clean. Install split lock washers on screws.

Remove spark plug wires and inspect for corroded terminals and cracked insulation. Connect an ohmmeter to each end and gently pull and twist the wire to check for breaks. Check the spark plugs. Replace if excessively fouled - do not clean.

VOLTAGE TEST

First check the primary resistance of the ignition coils. They should be at least 3 ohms (remember to subtract the resistance of the meter leads). Replace coils that read an open or shorted primary before proceeding.

Rotate the motor so that the magnet in the rotor is pointing away from the modules. Turn on the ignition and measure the voltage between ground and coil (+). A reading of about 1 volt less than battery voltage is normal due to resistance in the wiring.

If the voltage is much lower, check for voltage drops across any switches, splices, connectors, circuit breakers, etc., that feed power to the coils. Do not leave the ignition on for more than about 5 min. when doing this test - the coils may overheat and become damaged.

Measure the voltage between each coil (-) terminal and ground. This should measure in the range of 0.8 to 1.4 volts when the magnet is pointed away from the modules.

Rotate the motor until the magnet points at the sensor (the sensor is located behind the raised rib on the face of the module). The voltage should go up to approx. battery voltage. This indicates the module is switching on and off and is probably OK.

If the voltage stays low, check that the gap between the rotor and sensor is in the range of 0.025" to 0.040". Gaps larger than 0.040" may cause the module not to switch. The voltage will also stay low if the output is shorted.

If the voltage stays high all the time, check that the mounting plate has a solid ground and that there is power going to the modules. If this is OK, the module may be bad.

OHMMETER TEST

Disconnect the Dyna S wires from the coils. Connect the negative ohmmeter lead to the mounting plate and the positive lead to one of the coil (-) wires. This should read open (infinite ohms) on all ranges. Any other reading indicates a damaged output. If the meter has a diode test, the leads can be reversed and a diode drop of 0.5 to 0.6 volts will be read.

Note: Many low cost ohmmeters reverse the polarity of the leads inside the meter. This will cause a false bad reading due to the resistance of the reverse diode described above.

Do not attempt to ohm between any other points, or with power applied to the module. Due to component tolerances, differences in meters, etc., these readings will vary greatly and are not a reliable measurement.

OHMMETER TEST

Disconnect the Dyna S wires from the coils. Connect the negative ohmmeter lead to the mounting plate and the positive lead to one of the coil (-) wires. This should read open (infinite ohms) on all ranges. Any other reading indicates a damaged output. If the meter has a diode test, the leads can be reversed and a diode drop of 0.5 to 0.6 volts will be read.

Note: Many low cost ohmmeters reverse the polarity of the leads inside the meter. This will cause a false bad reading due to the resistance of the reverse diode described above.

Do not attempt to ohm between any other points, or with power applied to the module. Due to component tolerances, differences in meters, etc., these readings will vary greatly and are not a reliable measurement.

COIL TEST

Remove all wires from the coils. Measure the primary resistance between the screw terminals. Measure the secondary resistance between the high voltage outputs. For single output coils, measure the resistance between the high voltage output and either one of the screw terminals.

Accurate measurement of the primary resistance requires a good quality ohmmeter with a low ohms range. Readings will vary slightly from those listed below depending on the quality of the meter and the resistance of the meter leads. Damaged coils will typically have much different readings - open or shorted on the primary or secondary.

	<u>PRIMARY RESISTANCE</u>	<u>SECONDARY RESISTANCE</u>
DC1-1	2.9 - 3.2 ohms	13.5K - 14.5K
DC3-1	2.9 - 3.2 ohms	13.5K - 14.5K
DC6-1	3.2 - 3.7 ohms	11.0K - 12.0K
DC7-1	4.8 - 5.2 ohms	17.0K - 18.0K
DC8-1	4.8 - 5.2 ohms	17.0K - 18.0K
DC10-1	4.8 - 5.2 ohms	13.5K - 14.5K

REPAIR

The Dyna S ignition is not user serviceable and must be returned to the factory for repair. Do not cut off the cable, remove the modules, or attempt to service as this may substantially increase the repair cost and/or void the warranty.