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Ignition System Failure

If engine trouble indicates poor ignition performance, the following easy checks may be made to determine the cause. It should be understood that this is not a substitute for a thorough inspection which should be carried out at an auto electric shop.

Starter operates but engine will not start

1. Check HT lead for good contact at the coil terminal. Pull ignition coil HT lead from the distributor cap and hold the wire end about 7 mm ($^{9}/_{32}$ in.) from a clean ground point on the engine. If a good spark occurs when the engine is being cranked, primary and secondary circuits are good to this point; proceed with test 5. If there is no spark:

2. Connect a 6-volt test lamp between the distributor primary terminal 1 and ground. If the light goes on and off as the engine is being cranked, the primary circuit is probably good. Disconnect the test light.

3. If the test light remains on as the engine is cranked, the contact points are not closing. Check point opening and ground connections in the distributor. Clean contacts.

4. If the test light remains off while the engine is cranked, the primary circuit is open or the points are not opening correctly. Check for loose connections, broken leads, grounded distributor terminal, and condition of points (severe pitting). Also check the ignition switch and primary winding of the coil. These tests are best performed with a test lamp or voltmeter. A new coil may be installed.

5. Remove distributor cap and check for moisture, severe corrosion, and internal arc paths (burned tracer lines). Check spark plug sockets for moisture and that the contact pins penetrate to the center of the leads.

   Remove and inspect spark plugs; reset gap if necessary 0.5 to 0.6 mm (.020 to .024 in.).

6. If the cause has not been found, check the ignition timing. If this is found to be correct, the fault probably does not lie in the ignition system but in the fuel or carburetor system.

Engine runs poorly

1. Misfiring, loss of power, or hard starting are not necessarely caused by faulty ignition but may be due to various causes. A complete check should be made by a qualified repair shop.

   Spark plugs must be in good condition and relatively new. The coil and condenser can be checked by using replacement units. All leads should be checked for good clean connections. Spark plug wires should be checked in the dark to determine high voltage leaks while the engine is running. In cases of high speed misfiring, check the breaker arm spring tension. Check the distributor on a testing unit if possible.

2. Backfiring and carburetor spitting can be caused by improper timing or a loose or bent distributor shaft. A wobbling shaft will cause continuously changing spark timing. Spark plugs of the wrong heat range may also be the cause along with excessive carbon formation or poor fuel. A faulty breaker point condenser should not be overlooked.