Ignition System

General

The ignition system consists of a battery, switch, coil, distributor with centrifugal advance mechanism, spark plugs and wiring. The 6 Volt current supplied by the batterie is converted to high voltage ignition current by the coil. The ignition system is interference suppressed.

Function

The ignition coil is a transformer. The current in the primary winding of the ignition coil is interrupted by the contact breaker points in the distributor. The magnetic flux in the iron core thereby collapses suddenly causing a high voltage impulse in the secondary winding which causes the spark at the spark plugs.

The condenser connected in parallel with the contact breaker points suppresses the arc at the points when they open thereby preserving the contact points and promptly cutting the primary current.

Construction of the coil

The secondary winding consisting of many turns of thin wire is wound on the laminated iron core of the coil. The primary winding consisting of a few turns of heavy wire is wound around the secondary windings. The inner end of the secondary coil is connected to the iron core to the end of which the high voltage output socket is attached. The other end of the secondary winding is attached to the beginning of the primary winding at terminal 15 on the top of the coil. The end of the primary winding is connected to terminal one at the top of the coil and to ground by way of the breaker contacts.
The iron core is supported by a ceramic insulator at the bottom and by the coil cap at the top. The coil is enclosed in a soft iron shell which acts as a magnetic conductor. The plastic coil cap which contains the HT socket and terminals 1 and 15, are secured to the metal housing. The windings of the coil are impregnated with insulating compound which also fills the cavities and empty spaces. The compound insures good heat dissipation from the coil windings to the metal casing and thereby to the surrounding air.

Testing

To test the performance of the ignition coil, the length of the spark it produces is measured. This can be done on a test bench or on the engine.

After first testing the braker points and 6 volt connections, disconnect the center lead from the distributor cap and hold it approx. 7 mm ($^9/_{32}$ in.) from the crankcase. A strong spark should occur.

Maintenance

The ignition coil insulating cap must be kept clean and dry to prevent high voltage leaks.

When the engine is turned by the starter a good spark should jump from the wire to ground.