

FIG. 5 Dual Diaphragm Assembly

Distributor Assembly—TFI-IV

Universal Distributor

The TFI-IV, EEC-IV engine ignition system features a universal distributor design (Fig. 6) which is cam gear driven and uses no centrifugal or vacuum advance. The distributor is conventionally-mounted on the engine. In some applications, security-type hold-down bolts are used to secure the distributor. The distributor has a die-cast base which incorporates an integrally-mounted TFI-IV ignition module, a "Hall effect" vane switch stator assembly, and provision for fixed octane adjustment. **No distributor calibration is required and initial timing is not a normal adjustment.**

The distributor cap, adapter, and rotor are standard design for all applications including the 5.0L engine which was previously a dual level cap and rotor design.

Ignition Module

There are two ignition modules (Fig. 7) used with the IGNITION systems in light trucks. One of these modules is used with the Duraspark II ignition system; the standard Duraspark II module, basic part number -12A199-. The ignition module used with the TFI-IV ignition system has a basic part number -12A297-. The Duraspark II and TFI-IV ignition modules are not electrically interchangeable.

Both ignition modules perform the function of turning off current flow through the ignition coil in response to a control signal. In the Duraspark II ignition system this control signal comes from the distributor stator assembly. The control signal for the TFI-IV ignition module comes from the EEC microprocessor.

OPERATION

Duraspark II Ignition System

The Duraspark II ignition system consists of a primary and a secondary circuit (Fig. 8).

The primary circuit consists of the:

1. Battery
2. Ignition Switch
3. Ballast Resistor—Start Bypass (Wires)
4. Ignition Coil Primary Winding

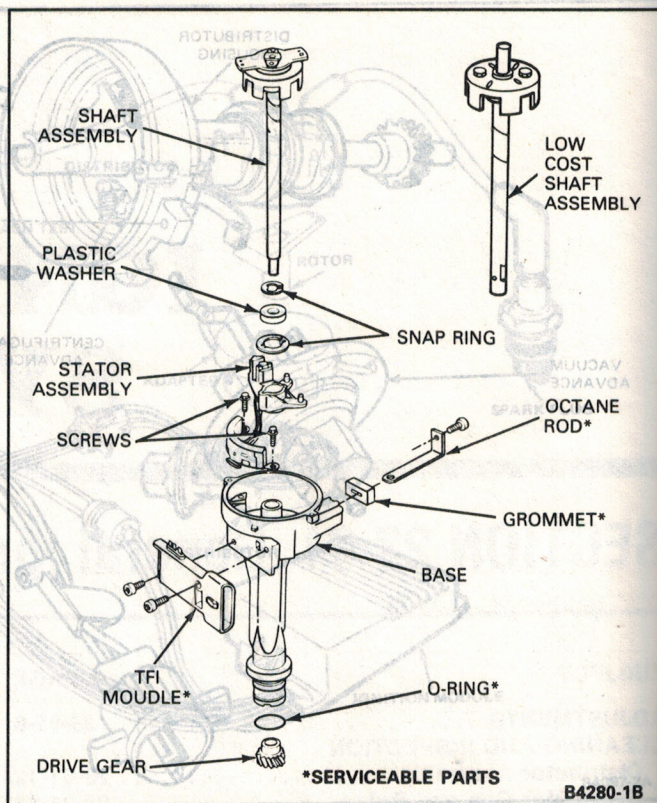


FIG. 6 Universal Distributor Exploded View

5. Ignition Module

6. Distributor Stator Assembly

The secondary circuit consists of the:

1. Battery
2. Ignition Coil Secondary Winding
3. Distributor Rotor
4. Distributor Cap
5. Ignition Wires
6. Ignition Switch
7. Ballast Resistor—Start Bypass (Wires)
8. Spark Plugs

With the ignition switch in the RUN position, primary circuit current flows from the battery, through the ignition switch, the ballast resistor, the ignition coil primary (BAT-TACH), the ignition module (GREEN wire), and back to the battery through the ignition system ground in the distributor (BLACK wire). This current flow causes a magnetic field to be built up in the ignition coil. When the poles on the armature and stator assembly align (Fig. 9), the ignition module turns the primary current off, collapsing the magnetic field in the ignition coil. The collapsing field induces a high voltage in the ignition coil secondary winding. The ignition coil wire conducts the high voltage to the distributor where the cap and multipoint rotor (Fig. 10) distribute it to the appropriate spark plug.

A timing circuit in the ignition module turns the primary current back on after a short period of time. High voltage is produced each time the magnetic field is built up and collapsed.

The RED ignition module wire provides operating voltage for the ignition module's electronic components in RUN mode. The WHITE wire provides voltage for the