

Automatic Ignition Advance

The ignition is advanced automatically by a centrifugal mechanism located in the distributor housing under the breaker point plate. Its basic parts include a carrier frame, flyweights, and return springs.

The flyweights are mounted on pivots attached to the drive plate and cause the driven plate to advance by their outward movement. With increasing speed of the drive plate, the flyweights move outward against the force of the return springs and advance

the driven plate to which the distributor cam and rotor are attached. The breaker points are thereby opened earlier and effect the required ignition advance. The correct automatic advance is 30° of crankshaft rotation not including the 5° basic advance. As the engine speed decreases the flyweights are pulled back to their original position by the return springs whereby the basic timing point is obtained.

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Testing Automatic Advance Mechanism

A simple test to determine whether the advance mechanism is functioning can be made by removing the distributor cap and turning the rotor clockwise until it stops. When the rotor is released it should return to its original position freely by itself. If it does not return, the springs are faulty or the bearing surfaces are gummed. An unexplained "pinging" noise in the engine can be caused by a defective advance mechanism. The exact operation of the advance mechanism can be tested with an ignition test set.

To test the movement of the advance mechanism while the engine is running, a timing light and degree markings on the pulley are necessary. The degree

markings are best made by making a sheet metal pattern as described in Fig. 46. Carefully mark degree markings on the rim of the pulley and connect the timing light. If available, a degree wheel with a 23 mm (.905 in.) dia. center bore may be used by mounting it between the spring washer and bolt head of the V-belt pulley. Mount the degree wheel so that the 0° marking is in line with the OT slot on the pulley.

Incorrect timing or faulty advance mechanism operation can easily be detected and corrected by testing at various engine speeds. The correct timing adjustment can be adjusted very accurately in this manner.