## SUBARU IGNITION CONTROL SYSTEM

**All Models**

### DESCRIPTION

The ignition control system is designed to reduce emissions by controlling ignition timing. The system consists of a vacuum advance unit on the distributor, thermal vacuum valve (also operates EGR system), vacuum lines and orifice/check valve (1600 engines only).

### OPERATION

The distributor is equipped with both vacuum and centrifugal advance. Centrifugal advance is constantly operative, but vacuum advance is controlled by engine temperature and throttle position to provide timing that minimizes exhaust emissions.

**1600 Engines** – When intake manifold temperature is between 59-95° F (15-35° C), the thermal vacuum valve opens the distributor lines to atmosphere. No advance is applied. When the engine is operating above or below these temperatures, vacuum is applied through the check valve and obtained at a below-throttle vacuum port (with engine idling) or applied through orifice and obtained at an above-throttle vacuum port (engine above idle).

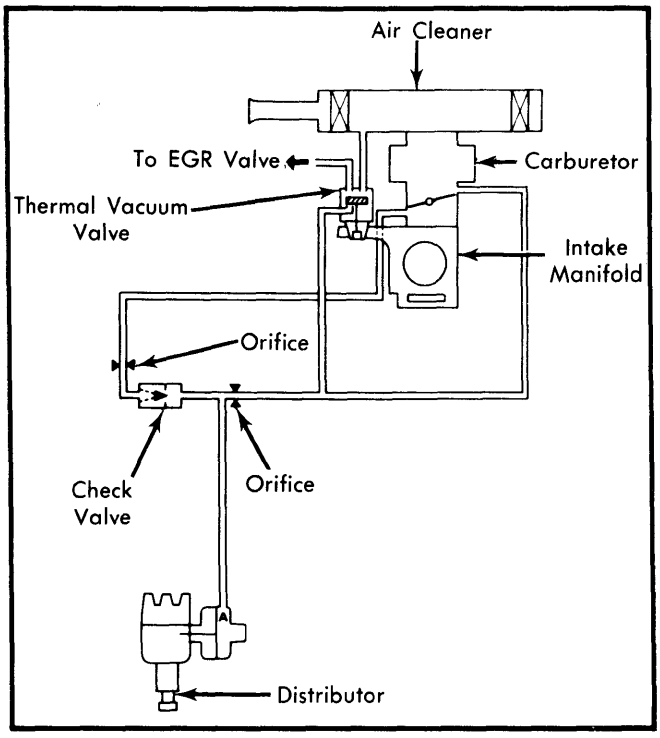


***Fig. 1 Subaru Ignition Control System (1600 Engines)***

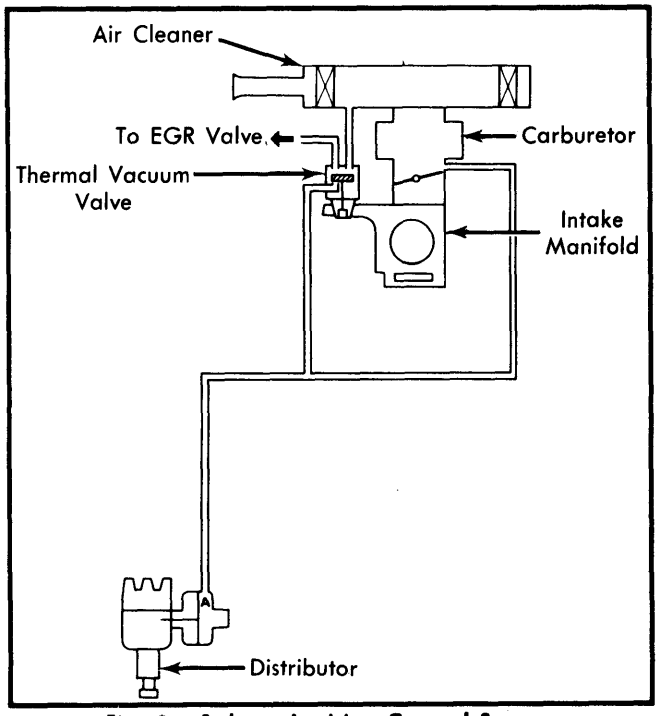


***Fig. 2 Subaru Ignition Control System (1800 Engines)***

**1800 Engines** – When intake manifold temperature is between 59-95° F (15-35° C), the thermal vacuum valve vents the distributor vacuum line to atmosphere so no vacuum advance is applied. When the engine is below or above these temperatures, vacuum is obtained from a throttle port above the throttle valve and applied to the vacuum advance unit.

### TESTING

#### THERMAL VACUUM VALVE

**1)** Remove valve from manifold and attach hoses to 2 lower ports. Cap upper port on valve. Submerge valve in container of water.

CAUTION – *Do not let water enter valve.*

**2)** With water temperature below 50° F (10° C), valve should be completely closed and air should not pass through hoses. With water above 68° F (20° C), valve should be completely open. If valve does not operate properly, replace it.

#### CHECK VALVE

Remove valve from vacuum hoses. Air should flow when blowing into valve from distributor side to carburetor side, but not in the opposite direction. Replace valve if it is not operating properly.