1974-79 EXHAUST EMISSION SYSTEMS
Toyota Dual Diaphragm Distributor

1975-77 Models

DESCRIPTION

The dual diaphragm distributor is used on Federal 2T-C engines only. This distributor provides a second vacuum advance diaphragm for more advanced ignition timing during certain periods of cold engine operation. On 1975 models, system consists of dual diaphragm distributor, ignition control relay, and temperature switch. On 1976-77 models, system consists of dual diaphragm distributor, 2 thermostatic vacuum switching valves, and a vacuum check valve.

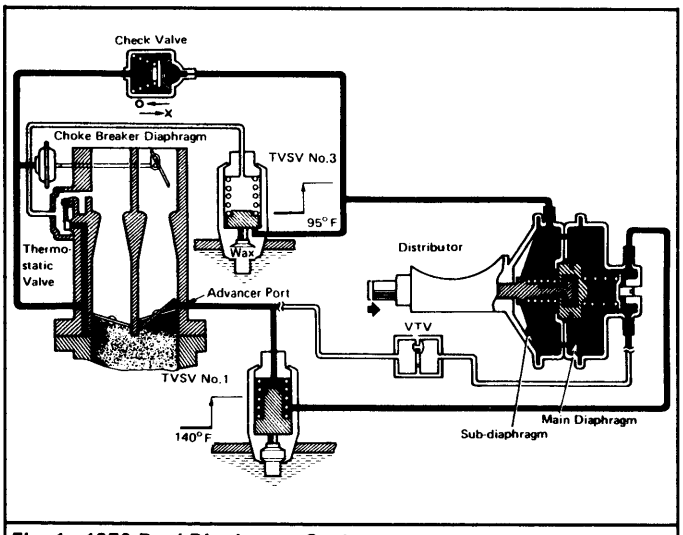

Fig. 1: 1976 Dual Diaphragm System

OPERATION

With coolant temperature below 68°F (20°C), the Bimetallic Vacuum Switching Valve (BVSV) is closed (manifold vacuum less than 6.5 in. Hg). Manifold vacuum acts on sub-diaphragm through check valve. Advancer port vacuum acts on main diaphragm through Thermostatic Vacuum Transmitting Valve (TVTV).

When equal vacuum is available on both diaphragms, main diaphragm is controlled by return spring. In this case, vacuum advance will be controlled by actions on sub-diaphragm. With engine cold and advancer port vacuum above 6.5 in. Hg, main diaphragm will control vacuum advance. Normal advance will occur at idle, cold starting, or hard acceleration.

When coolant temperature rises above 68°F (20°C), the BVSV is opened and atmospheric pressure can act on distributor sub-diaphragm. Distributor will now be controlled by Spark Control System.

NOTE: Operational description is for 1976-77 models only. Operational description for 1975 models not available at time of publication.

TESTING

DUAL DIAPHRAGM DISTRIBUTOR

See applicable dual diaphragm system diagnostic chart and perform test as outlined. *See Figs. 2 and 3.*

NOTE: Test procedures for 1975 models not available at time of publication.

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Toyota Dual Diaphragm Distributor (Cont.)