1974-79 EXHAUST EMISSION SYSTEMS
Toyota Transistorized Ignition Systems

1975-77 Models

DESCRIPTION

SEMI-TRANSISTORIZED IGNITION SYSTEM

In the semi-transistorized ignition system, the distributor breaker points switch an igniter unit off and on. *See Fig. 1.* Igniter unit, in turn, controls ignition coil primary current. This system provides higher secondary voltage in low speed range to improve starting and low speed performance. system also helps extend breaker point life.

TRANSISTORIZED IGNITION SYSTEM

Used in 1977 California Celica GT only, the fully transistorized ignition system does not use distributor breaker points. A timing magnet, pick-up coil, igniter, and rotor make up the system.

OPERATION

SEMI-TRANSISTORIZED IGNITION SYSTEM

The distributor breaker points switch an igniter unit off and on. The igniter then switches primary current, to coil, off and on. Since the igniter can be operated with a very small amount of current flow, arcing at the breaker points is eliminated. Other than the igniter unit, the system operates in a conventional manner.

TRANSISTORIZED IGNITION SYSTEM

As timing magnet turns, the air gap between rotor and pick-up coil changes. This varies magnetic flux through pick-up coil and the resulting voltage also varies. Voltage is high when flux variation is high. Ignition system current flows when rotor is in position shown. *See Fig. 3.*

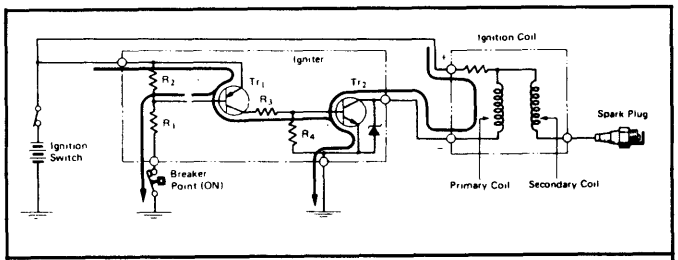

Fig. 1: 1975-76 Semi-Transistorized Ignition System

TESTING

SEMI-TRANSISTORIZED IGNITION SYSTEM

1975-76 Models - **1)** Remove distributor cap and pull out coil high tension lead. With breaker point closed, turn ignition on. Place coil high tension lead about 3/16" (4 mm) away from a known good ground. **2)** Open and close points using a wooden (insulated) stick. A spark should occur at end of coil high tension lead. If not, check for voltage at igniter terminal No. 1 and check that terminal No. 3 is grounded. **3)** If voltage/ground circuit at terminals is okay, turn ignition off. Disconnect terminal No. 1 and 4 from igniter. Install a .22 microfarad condenser on coil negative terminal. **4)** Disconnect ignition coil negative lead. With ignition on, manually ground and open coil negative terminal. If no secondary voltage is produced, ignition coil is defective. If secondary voltage is produced, igniter or breaker points are defective.

1977 Models - See applicable transistorized ignition system diagnostic chart and perform test as outlined. *See Figs. 2 and 3.*

1974-79 EXHAUST EMISSION SYSTEMS
Toyota Transistorized Ignition Systems (Cont.)

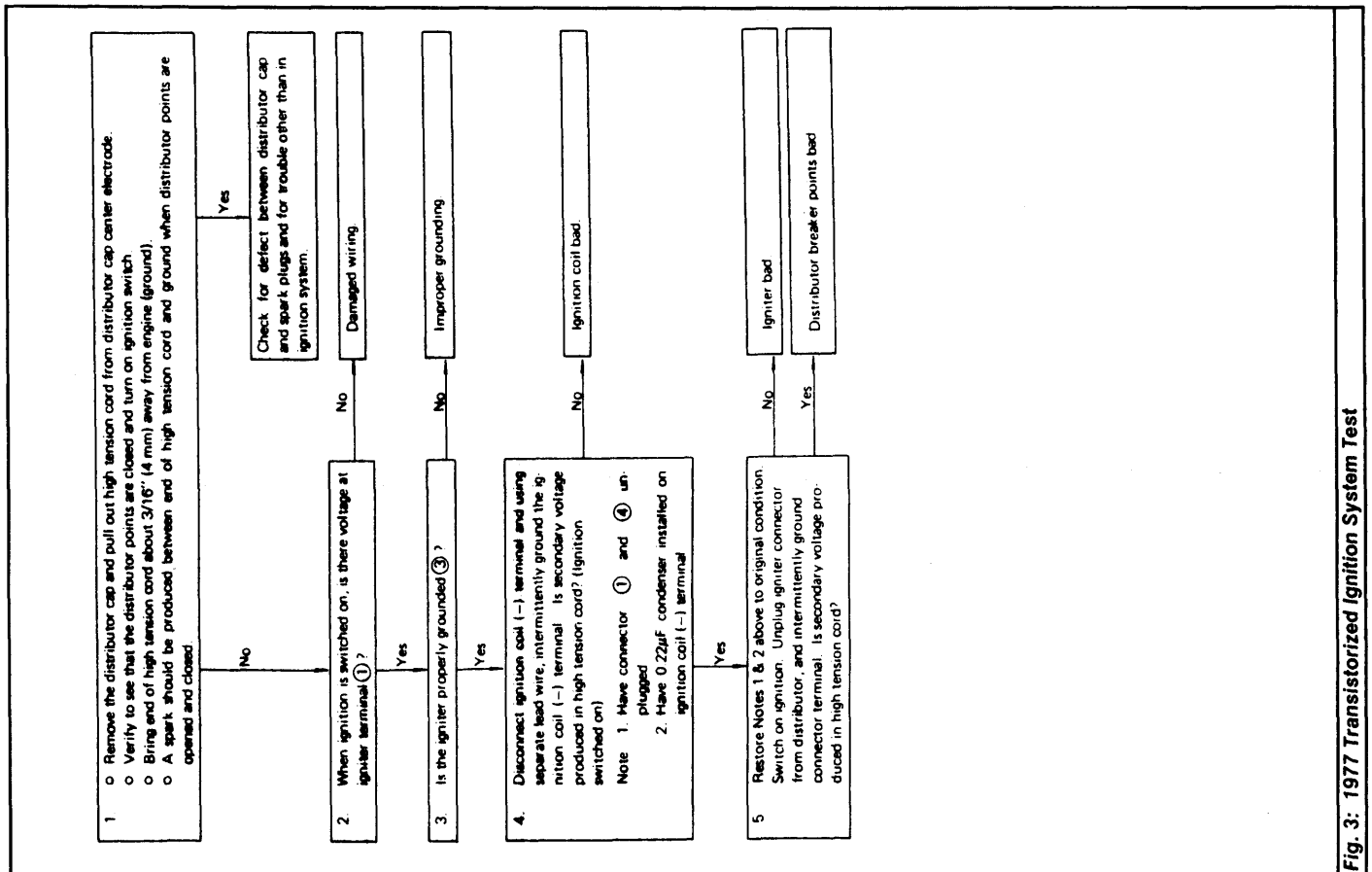

Fig. 3: 1977 Transistorized Ignition System Test

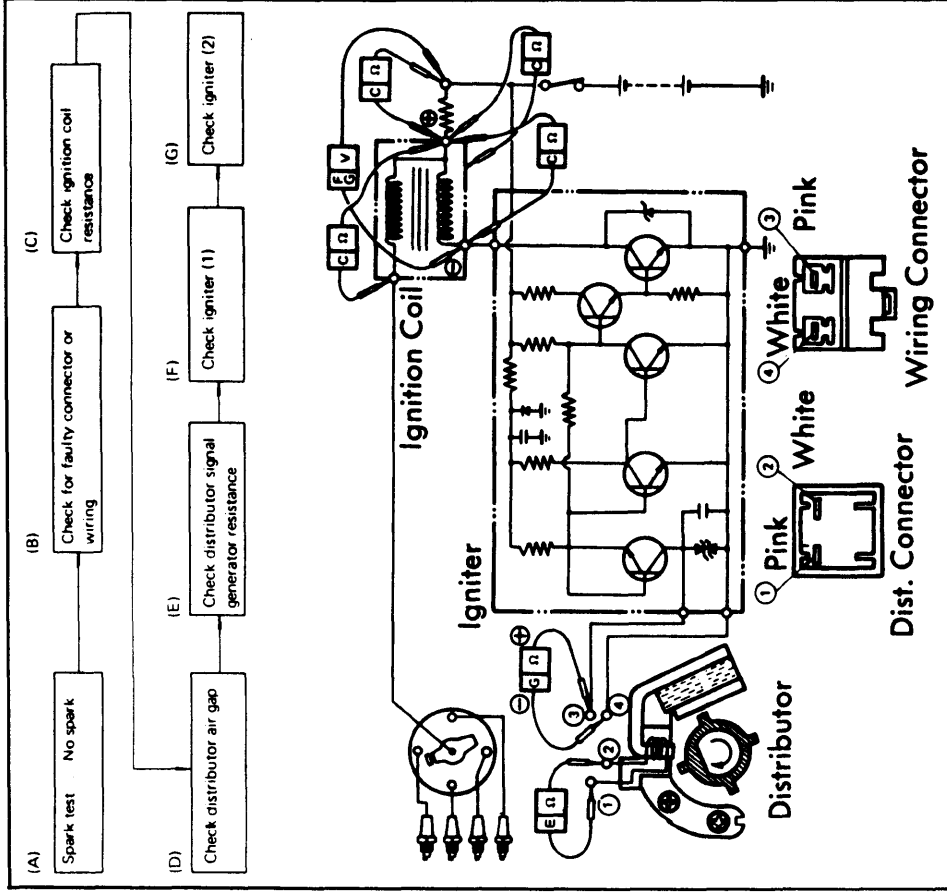

Fig. 2: 1977 Semi-Transistorized Ignition System Test