

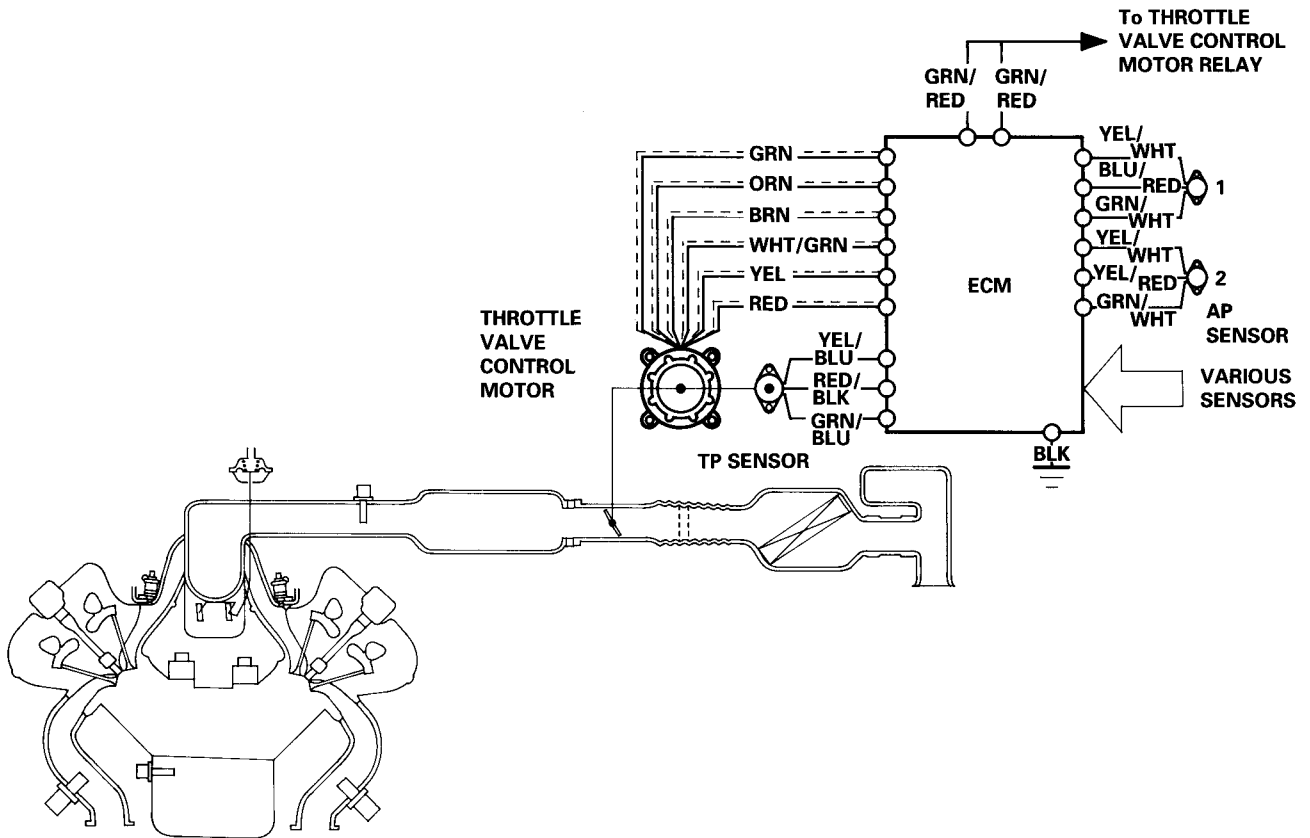


# Drive By Wire System

## System Description

The Drive By Wire System is an electronic throttle control system.

This system consists of the throttle valve control motor and Throttle Position (TP) sensor assembled in Throttle Body (TB), the accelerator position sensor, and the Engine Control Module (ECM).



Drive By Wire System Functions:

### Idle Control Function

When the engine is idling, the ECM controls the throttle valve control motor to maintain the proper idle speed according to engine loads.

### Acceleration Control Function

When the accelerator pedal is depressed, the ECM opens the throttle valve depending on the accelerator position sensor signals.

(cont'd)

# Drive By Wire System

## System Description (cont'd)

### **Cruise Control Function**

The ECM controls the throttle valve control motor to maintain the set speed when the cruise control system is operating. The throttle valve control motor takes the place of the cruise control actuator.

### **Traction Control System (TCS) Function**

If wheel spin occurs during acceleration or cornering, the TCS control unit requests the ECM to reduce the engine power by retarding the ignition timing and closing the throttle valve. If the wheels lock during deceleration, the TCS control unit signals the ECM to open the throttle valve.

### **Engine Protection Function**

When the engine speed exceeds 8,000 rpm (M/T) or 7,500 rpm (A/T), the ECM controls the throttle valve, regardless of the accelerator position, to protect the engine from over-revving.

### **Fail-safeFunction**

On this system, the ECM monitors the position of the accelerator pedal with a dual circuit type accelerator position sensor, and monitors the operation of the throttle valve control motor with a Throttle Position (TP) sensor.

When an abnormality occurs in the system, the ECM restricts the operation of the throttle valve control motor to allow the engine to continue to run.