SUPPLEMENTAL DIAGNOSTIC ANALYSIS

ECM RESET

(GLOW PLUG LAMP CYCLES ON/GLOW PLUGS RECYCLE/ ENGINE STUMBLE DIE/NO ACCELERATOR PEDAL AUTHORITY UNTIL RETURN TO IDLE POSITION)

A Electronic Control Module (ECM) reset occurs when the ECM momentarily "reboots" or is turned off and on while the engine is operating. If the condition occurs a single time, the engine will momentarily stumble and the ECM will go through a normal key on cycle, including turning the glow plug lamp and glow plugs on and will also attempt to validate the accelerator pedal position. If the pedal is not at the idle position when this fault occurs, pedal authority will not be allowed by the ECM until the APS is released and the engine will idle only.

PROBABLE CAUSES

- Momentary loss of power to the ECM or IDM: Defective power relays, shorted or open harness, intermittent connectors, poor grounds.
- Momentary short to ground of V ref: Shorted harness or connector, defective sensor (sensors that use Vref include – EBP exhaust back pressure, ICP injection control pressure, CMP camshaft position sensor, MAP manifold absolute pressure sensor, BARO barometric pressure sensor, APS accelerator pedal sensor.)
- Momentary short to ground of injector high side voltage: Under valve cover harness, valve cover gasket, engine harness, chassis harness are all possible sources of short to ground conditions.

PROCEDURES

- Complete tests #3, #4a and #4b on the Performance Diagnostic Form, this will determine if the ECM has detected any fault conditions that can cause a ECM reset. If the EST does not operate or is unavailable, perform Test 5 (STI Flash Codes).

NOTE: IF THE ECM IS UNABLE TO PERFORM A KOEO INJECTOR ELECTRICAL SELF TEST (BUZZ TEST) THIS WILL SOMETIMES INDICATE AN INJECTOR CIRCUIT HIGH SIDE SHORT TO GROUND CONDITION. DISCONNECT PAIRS OF INJECTORS BY REMOVING THE CONNECTOR AT THE VALVE COVER AND ATTEMPT TO PERFORM THE BUZZ TEST. IF THE BUZZ TEST CAN BE ACCOMPLISHED WITH AN INJECTOR PAIR DISCONNECTED, THE HIGH SIDE SHORT TO GROUND HAS MOST LIKELY BEEN ISOLATED TO THE UNDER VALVE COVER HARNESS CORRESPONDING TO THE DISCONNECTED INJECTORS.

- Check all power and ground connections for the ECM and IDM.
- Monitor V ref (pin #26) and V Power (pins #37 & #57) with the breakout box installed when the fault occurs.
- Inspect the CMP sensor harness connector and the harness (particularly around the idler pulley) for a V ref or signal short to ground condition.
- Remove and inspect the CMP camshaft position sensor for possible timing disk to CMP sensor contact
- If the ECM reset condition is repeatable, disconnect the following sensors one at a time and operate the engine to determine if the reset will reoccur. EBP exhaust back pressure, ICP injection control pressure, MAP manifold absolute pressure sensor, BARO barometric pressure sensor, APS accelerator pedal sensor, and EOP engine oil pressure sensor. Inspect each harness and connector upon removal.
- Remove the valve covers and inspect the under valve cover connectors **(Figure 4.19.)** for possible pinching under the valve cover gasket or rub through against the push tubes.

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ECM RESET (Continued)

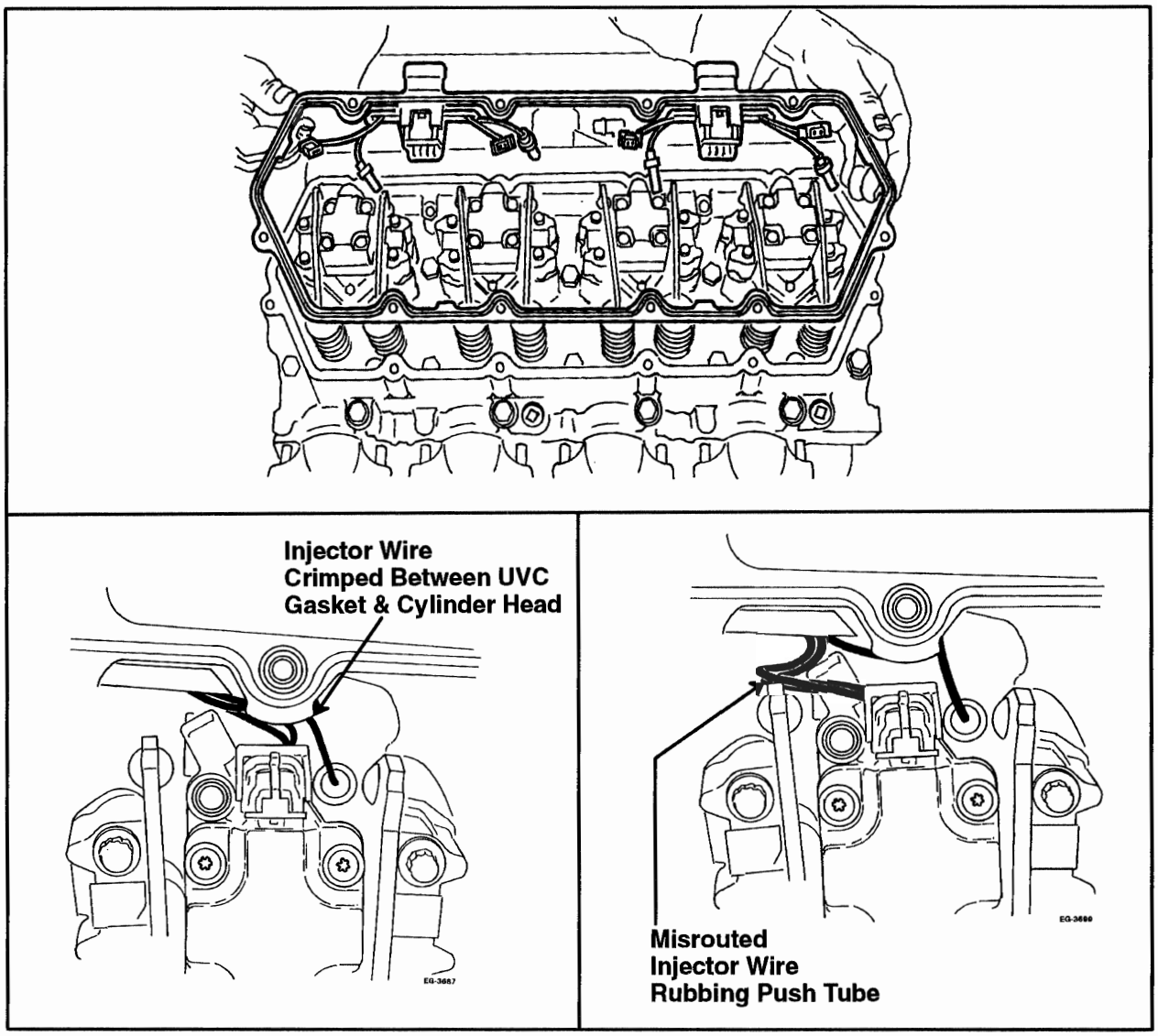

Figure 4.19. – Under Valve Cover Harness Inspection