

engine at operating temperature, perform **KOER SELF-TEST** . If DTC P1131 or P01151 are present, go to next step. If specified DTCs are not present, go to step 7) under CIRCUIT TEST HM.

Step 53) **Check Cylinder Compression** Using compression gauge, check cylinder compression. If cylinder compression is not okay, repair engine as necessary. Clear PCM memory and repeat **QUICK TEST** . If compression is okay, go to next step (DTCs P1130, P1150, P1131 and P1151) or step 59) (DTCs P1132 and P1152). If misfire DTCs are displayed with fuel control DTCs, go to step 20).

Step 54) **Check HO2S Integrity** DTCs P0130, P0150, P0131, and P0151 indicate HO2S switches slow or doesn't switch, is always lean or fuel is at adaptive limit. Possible causes are as follows:

- Moisture inside HO2S causing short to ground.
- HO2S coated with contaminants.
- HO2S circuit open or shorted to ground.

Turn ignition off. Inspect HO2S and circuit for damage or contamination. Repair or replace HO2S or wiring as necessary. Start engine and operate at 2000 RPM for 2 minutes. Turn ignition off. Connect scan tool to DLC and perform **KOER SELF-TEST** . If DTCs P1131 or P1151 are present, go to next step. If specified DTCs are not present, faults cannot be duplicated or identified at this time. Testing is complete.

Step 55) **Check HO2S Ability To Generate Correct Voltage** Turn ignition off. Disconnect suspect HO2S wiring harness connector. Using DVOM, measure voltage between HO2S SIG terminal and SIG RTN terminal of HO2S wiring harness connector. Start engine and operate at 2000 RPM for 2 minutes. Perform **KOER SELF-TEST** while monitoring voltage. If voltage is 0.5 volt or more at the end of test, go to next step. If voltage is less than 0.5 volt, replace HO2S sensor and repeat **QUICK TEST** .

Step 56) **Check Continuity Of HO2S Ground Circuits** Turn ignition off. Install breakout box, leaving PCM disconnected. Disconnect suspect HO2S wiring harness connector. Inspect connector for damage and repair as necessary. Measure resistance between HO2S test pin at breakout box and HO2S terminal at sensor wiring harness connector. Also, measure resistance between test pin No. 91 and SIG RTN terminal at HO2S sensor vehicle wiring harness connector. If each resistance is less than 5 ohms, go to next step. If any resistance 5 ohms or more, repair open circuit, repeat **QUICK TEST** .

Step 57) **Check HO2S Circuit For Short To Ground** Turn ignition off. Leave breakout box installed and PCM disconnected. Disconnect HO2S. Measure resistance between HO2S SIG circuit test pin and test pins No. 24, 51 76, 77 and 103 at breakout box. If all readings are 10,000 ohms or more, go to next step. If any reading is less than 10,000 ohms, repair short circuit and repeat **QUICK TEST** .

Step 58) **Check HO2S For Short To Ground** Ensure ignition is off and PCM is disconnected. Connect HO2S to wiring harness connector. Measure resistance between HO2S SIG RTN test pin and test pin 91 at breakout box. If resistance measurement is less than 10,000 ohms, replace HO2S and repeat **QUICK TEST** . If resistance is 10,000 ohms or more, perform following procedure as applicable:

- For DTCs P1130 and P1150, go to next step.
- For Continuous Memory DTCs P1131 and P1151, go to step 64).
- For KOER codes P1131 and P1151, replace PCM.

Step 59) **Perform KOER SELF-TEST** Start engine, and warm it to normal operating temperature. With scan tester connected, perform **KOER SELF-TEST** . If DTCs P1132 and P1152 are present, go to next step. If codes are not present, fault is intermittent. Go to CIRCUIT TEST Z.

Step 60) **Check For HO2S Short To Power** DTCs P1130, P1150 and/or P1132, P1152 indicate HO2S is always rich. Possible causes are as follows: