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Steps 1-6

Step	Action	Values	Yes	No
1	Did you perform the Diagnostic System Check – Vehicle?	—	Go to Step 2	Go to Diagnostic System Check - Vehicle in Vehicle DTC Information
2	**Important** **If an engine knock can be heard, repair the engine mechanical condition before proceeding with this diagnostic.** 1. Observe the Freeze Frame/Failure Records for this DTC. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the engine within the Conditions for Running the DTC. You may also operate the vehicle within the conditions that you observed from the Freeze Frame/Failure Records. Did the DTC fail this ignition?	—	Go to Step 3	Go to Diagnostic Aids
3	1. Turn OFF the ignition 2. Remove the intake manifold sight shield. 3. Disconnect the knock sensor (KS) inline harness connector. 4. Measure the resistance from the signal circuit of the affected KS to a good ground with a DMM. Is the resistance of the KS within the specified range?	93K–107K ohm	Go to Step 4	Go to Step 6
4	**Important** **Do not tap on any plastic engine components.** 1. Set the DMM to the 400 mV AC hertz scale. 2. Measure the AC voltage from the signal circuit of the affected KS to a good ground with a DMM. 3. Tap on the engine block near the affected KS while observing the DMM. Does the voltage change on the DMM while tapping on the engine block near the KS?	—	Go to Step 5	Go to Step 10
5	Test the affected KS signal circuit between the powertrain control module (PCM) and the KS inline harness connector for the following conditions: • An open or a high resistance • A short to voltage • A short to ground Did you find and correct the condition?	—	Go to Step 12	Go to Step 8
6	1. Remove the intake manifold. 2. Test the affected signal circuit between the KS inline harness connector and the affected KS connector for an open, high resistance, or short to ground. Did you find and correct the condition?	—	Go to Step 12	Go to Step 7

Steps 7-13

Step	Action	Values	Yes	No
7	Test for an intermittent and for a poor connection at the affected KS. Did you find and correct the condition?	—	Go to Step 12	Go to Step 10
8	Test for an intermittent and for a poor connection at the KS inline harness connector. Did you find and correct the condition?	—	Go to Step 12	Go to Step 9
9	Test for an intermittent and for a poor connection at the PCM. Did you find and correct the condition?	—	Go to Step 12	Go to Step 11
10	Replace the affected knock sensor. Did you complete the replacement?	—	Go to Step 12	—
11	Replace the PCM. Did you complete the replacement?	—	Go to Step 12	—
12	1. Clear the DTCs with a scan tool. 2. Turn OFF the ignition for 30 seconds. 3. Start the engine. 4. Operate the vehicle within the Conditions for Running the DTC as specified in the supporting text. You may also operate the vehicle within the Freeze Frame/Failure Records. Did the DTC fail this ignition?	—	Go to Step 2	Go to Step 13
13	Observe the Capture Info with a scan tool. Are there any DTCs that have not been diagnosed?	—	Go to Diagnostic Trouble Code (DTC) List - Vehicle in Vehicle DTC Information	System OK