



Diagnostic Trouble Code Diagnosis Charts

P0326	Knock sensor circuit range/performance
<p>Threshold Value ~ Out of mV range of pre-determined engine RPM map.</p> <p>Enable Conditions ~</p> <ul style="list-style-type: none"> ⇨ Engine speed >2200 RPM ⇨ Coolant temperature >104°F ⇨ Load value >3.0 ms <p>Time Requirements ~ Continuous</p> <p>MIL Illumination ~ 2 driving cycles</p>	<p>Related Items</p> <ul style="list-style-type: none"> ⇨ Open or short to GND between Knock Sensor and ECM terminal #70. ⇨ Source of high resistance between Knock Sensor and ECM terminal #70. ⇨ Faulty Knock Sensor.

STEP	INSPECTION	Y/N	ACTION
1	<p>IMPORTANT! Record all freeze frame data before disconnecting any connectors or clearing code(s). With ignition off, disconnect C211 from ECM. Connect adapter cable # K99U-2106-G17 to BOB and connect vehicle C211 to adapter cable. Leave adapter cable DISCONNECTED from ECM for all tests. Check continuity between BOB pins 70 and 71 (infinite resistance). Is resistance infinite?</p>	YES	Go to step 2.
		NO	Go to step 3.
2	<p>Individually check continuity to GND between BOB pins 70 and 71 (infinite resistance). Is resistance to GND infinite on both circuits?</p>	YES	Go to step 4.
		NO	Check for short to ground between knock sensor and ECM. Repair as necessary.
3	<p>Disconnect C196 from knock sensor. Check resistance between BOB pins 70 and 71 (infinite resistance). Is resistance infinite?</p>	YES	Replace knock sensor and perform check in step 4 before proceeding to step 7.
		NO	Check harness for damage or other cause of short between knock sensor wiring. Repair as necessary.
4	<p>Disconnect C196 from knock sensor. Check resistance between BOB pin 70 and C196-1 (less than 1 ohm). Is resistance less than 1 ohm?</p>	YES	Go to step 5.
		NO	Locate source of high resistance and repair as necessary.
5	<p>Remove knock sensor from vehicle and secure (across mounting boss) in a shop vise. Set up KIA Data Pro scan tool for use as an oscilloscope (make sure internal battery is fully charged). Attach negative probe to knock sensor pin #2 and positive probe to sensor pin #1. Set time (F1) to .5 seconds and voltage (F2) to 0.2v. Rap on vise with a ball peen hammer while monitoring oscilloscope screen (there should be a spike of less than 1 volt with each hammer strike). Does knock sensor send a voltage spike with hammer strikes?</p>	YES	Go to step 6.
		NO	Replace knock sensor and perform verifications in step 7.
6	<p>Remove foot plate on passenger side of vehicle. Carefully unwrap tape from junction connector C294 (taped to engine harness just in front of part number tag). Carefully inspect junction bar in connector for any signs of corrosion or loose connections. Back-probe pins 5 & 6 and check their continuity to GND (less than</p>	YES	Thoroughly check for loose, bent or corroded terminals. Repair as necessary.
		NO	Locate source of high resistance and repair as necessary.

	1 ohm). Is continuity to GND on both circuits less than 1 ohm?		NOTE S194 is located on G103 pigtail (follow wire from C294-3 to splice).
7	Clear codes and return vehicle to original condition. Verify an repairs by driving vehicle with KIA Data Pro connected to OBD-II connector and monitoring for pending codes (refer to section 3 of the KIA Data Pro Generic OBD-II Program Card reference manual).		