

Subject: IGNITION COIL INSPECTION	Bulletin No: 01-016/07
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APPLICABLE MODEL(S)/VINS

2004-2007 RX-8

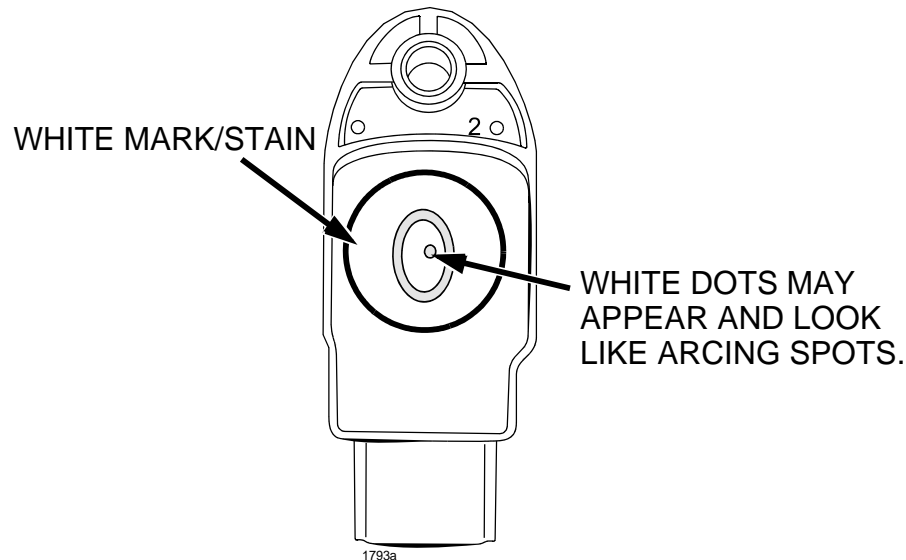
DESCRIPTION

The following procedure is a supplement to the Workshop Manual procedure for ignition coil diagnostic testing.

INSPECTION PROCEDURE

NOTE:

- Before inspecting ignition coils, make sure the spark plug wires and spark plugs are in good condition. Defective spark plug wires and/or spark plugs may cause misdiagnosis and unnecessary replacement of ignition coils. Refer to B - SPARK TEST.
- DO NOT diagnose ignition coil condition based on "white spots" or "heat marks" which may be found on the bottom of the ignition coil body.



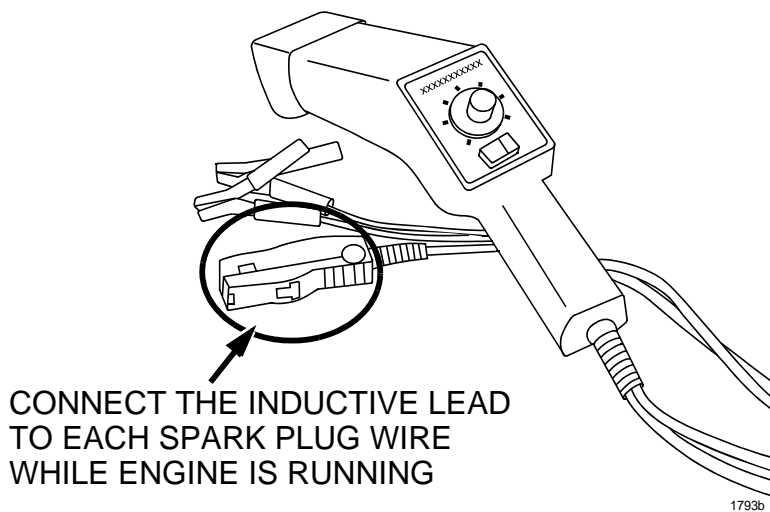
**THESE ITEMS DO NOT INDICATE A BAD COIL.
TESTING OF THE COIL MUST BE PERFORMED.**

1. Warm engine to normal operating temperature.
2. Verify customer concern.

A - INSPECTION USING AN INDUCTIVE TIMING LIGHT

NOTE:

- Trailing ignition DOES NOT operate during engine cranking condition after Recall 4206F PCM calibration has been installed. Do not check coils during engine cranking condition.
1. Attach timing light to vehicle as per timing light manufactures instructions. (Positive & negative power leads to vehicle battery etc...)
 2. With engine idling, carefully attach inductive lead of timing light to each spark plug wire.



3. Verify timing light flashes when the inductive lead of timing light is attached to each spark plug wire.
4. Replace any ignition coil if the timing light does not flash with engine idling and / or unstable flash while revving engine.

B - SPARK TEST

1. Release fuel line pressure. Refer to Workshop Manual section 01-14 - FUEL LINE SAFETY PROCEDURE under BEFORE REPAIR PROCEDURE.

NOTE:

- Leave fuel pump relay removed from vehicle for the duration of the spark test procedure.
2. Verify that each high-tension lead (spark plug wire) and connector is connected properly.
 3. Inspect the ignition system using the following procedure.

WARNING:

- **High voltage in the ignition system can cause strong electrical shock which can result in serious injury. Avoid direct contact to the vehicle body during the following spark test.**

STEP	INSPECTION	RESULTS	ACTION
1	Disconnect the high-tension lead from the spark plugs. Remove the spark plugs. Reconnect the spark plugs to the high-tension lead. Ground the spark plugs to the engine. Is a strong blue spark visible at each spark plug while cranking?	YES	Ignition system is normal.
		NO	Some spark plugs do not spark: Go to the next step. All spark plugs do not spark: Go to Step 5.
2	Inspect the spark plugs for damage, wear, carbon deposits and proper plug gap. Are the spark plugs normal?	YES	Go to the next step.
		NO	Replace the spark plugs, then go to Step 1.
3	Inspect the high-tension leads for insulation damage, looseness, shorting or other damage. Are the high-tension leads normal?	YES	Go to the next step.
		NO	Replace the high-tension leads, then go to Step 1.
4	Inspect the following wiring harnesses for an open or short circuit: <ul style="list-style-type: none"> • Front trailing ignition coil terminal A - PCM terminal 2AD • Front leading ignition coil terminal A - PCM terminal 2AA • Rear trailing ignition coil terminal A - PCM terminal 2AC • Rear leading ignition coil terminal A - PCM terminal 2Z Are the wiring harnesses normal?	YES	Inspect and replace the ignition coil. See C - IGNITION COIL INSPECTION.
		NO	Repair or replace the malfunctioning parts, then go to Step 1.
5	Measure the voltage at terminal C in ignition coil. Is the voltage reading B+?	YES	Go to the next step.
		NO	Inspect the power supply circuit of ignition coil.
6	Does the PCM connector or the ignition coil connector have poor connection?	YES	Repair or replace the connector, then go to Step 1.
		NO	Go to the next step.
7	Are the following items normal? <ul style="list-style-type: none"> • Eccentric shaft position sensor and drive belt pulley • PCM terminal 2Z/2AA/2AC/2AD voltage • Specification: Approx. 1.5 V 	YES	Inspect for an open or short circuit in the wiring harness and the connector of the eccentric shaft position sensor.
		NO	Repair or replace the malfunctioning parts, then go to Step 1.

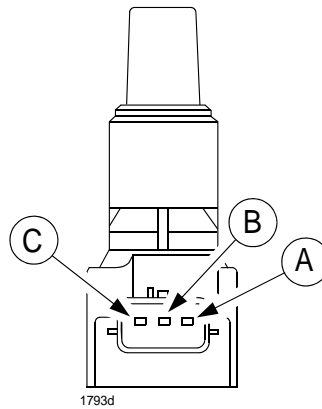
4. Install the fuel pump relay.

C - IGNITION COIL INSPECTION

Ignition Coil With Built-in Power Switch Inspection

1. Disconnect the ignition coil connector.
2. Measure the resistance between each terminal on the ignition coil connector.
3. If the measurement corresponds to the table, replace the ignition coil.

ITEM	TESTER CONNECTION POSITION		CONDITION
	Positive	Negative	
Terminal	A	B	Infinity or 0 ohm is not normal
	B	C	
	C	A	0 to several kilohm (continuity) is not normal



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