

# Service Information

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|---|------------------|---|----------------|
| Category<br><b>G</b>  | <b>Technical</b> | Ref. No.<br>E001/07                                     | Page<br>1 of 2 |
| Coverage<br><input type="checkbox"/> Distributor only <input checked="" type="checkbox"/> Please inform your dealers  |                  | Date Issued<br>January 11, 2007                         |                |
| Please convey this information to your<br><input type="checkbox"/> Director <input checked="" type="checkbox"/> General Manager<br><input checked="" type="checkbox"/> Warranty Dept. <input checked="" type="checkbox"/> Parts Dept. <input checked="" type="checkbox"/> Training Dept. <input checked="" type="checkbox"/> Field Rep. |                  | Date Revised<br>March 20, 2007                          |                |
| Applicable Model<br><br>RX-8 (FE/SE)  |                  | Applicable Countries or Specifications<br><br>Worldwide |                |

**UPDATED**

## Subject: Enhancement of Ignition Coil Inspection

**Update Note: Inspection procedure has been updated.**

### Description

Warranty replacement of the ignition coil in the market has rapidly been increasing. Our analysis on the hotline data and check of the returned parts shows that in most cases, the ignition coils were working properly and replaced for a reason that there was a “white mark” on the IG coil and, also replaced without identifying a cause of the malfunction.

To prevent a non-defective ignition coil from being replaced at the dealer, ensure to implement the following IGNITION COIL INSPECTION first, and replace the ignition coil if any problem is found.

### Inspection procedure

1. Do not judge the IG coil as good or bad one by the “white mark”, “spot”, “blister”, etc. on the IG coil. See the picture for your reference.

#### **White mark:**

**This is a trace that “corona discharge phenomenon” has occurred between IG coil and the IG coil bracket.**

**This phenomenon is not effect on the vehicle performance or IG coil performance.**

White Mark



Note: An electrical discharge characterized by a corona and occurring when one of two electrodes in a gas has a shape causing the electric field at its surface to be significantly greater than that between the electrodes.

2. Using a timing light, inspect the ignition of the spark plug and determine if it is good or no good. Check the flashing from the timing light at idle/racing on completely warmed up condition. It should flash stably. If unstable flashing is found, swap the high tension code and spark plug with known good one and re-evaluate. Bad high tension code or bad spark plug might cause unstable spark.

Note: NO spark on trailing side for first 2 second on cranking is NORMAL, it is not coil failure but calibration strategy.

**Note: Please perform spark test according to the Workshop Manual, Section 01-03 “Symptom Troubleshooting”. (Please see the next page.)**

EC/UK/ADR Spec. Workshop Manual, Section Symptom Troubleshooting [Engine Control System] Page 01-03-77

**Spark Test**

1. Release the fuel line pressure. (See 01-14-3 BEFORE REPAIR PROCEDURE.)
2. Remove the fuel pump relay.
3. Verify that each high-tension lead and the connector is connected properly.
4. 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.<br>Remove the spark plugs.<br>Reconnect the spark plugs to the high-tension lead.<br>Ground the spark plugs to the engine.<br>Is a strong blue spark visible at each spark plug while cranking?  | Yes     | Ignition system is normal.   |
|      |   | No      | <b>Some spark plugs do not spark:</b><br>Go to the next step.<br><b>All spark plugs do not spark:</b><br>Go to Step 5. |
| 2    | Inspect the spark plugs for damage, wear, carbon deposits and proper plug gap.<br>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.<br>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:<br>• Front trailing ignition coil terminal A—PCM terminal 2AD<br>• Front leading ignition coil terminal A—PCM terminal 2AA<br>• Rear trailing ignition coil terminal A—PCM terminal 2AC<br>• Rear leading ignition coil terminal A—PCM terminal 2Z<br>Are the wiring harnesses normal? | Yes     | Inspect and replace the ignition coil.<br>(See 01-18-2 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.<br>Is the voltage reading <b>B+</b> ?   | Yes     | Go to the next step.   |
|      |   | No      | Inspect the power supply circuit of ignition coil.   |
| 6    | Does PCM connector or 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?<br>• Eccentric shaft position sensor and pulse wheel<br>• PCM terminal 2Z/2AA/2AC/2AD voltage<br><b>Specification</b><br><b>Approx. 1.5 V</b>   | 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.   |

5. Install the fuel pump relay.

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