TROUBLESHOOTING

- Inspect the following before diagnosing the system.
  – Faulty spark plug
  – Loose spark plug cap or spark plug wire connection
  – Water in the spark plug cap (Leaking the ignition coil secondary voltage)
- "Initial voltage" of the ignition primary coil is the battery voltage with the ignition switch turned ON. (The engine is not cranked by the starter motor.)

No spark at spark plug

UNUSUAL CONDITION		PROBABLE CAUSE (Check in numerical order)
Ignition coil primary voltage	No initial voltage with the ignition switch turned ON. (Other electrical components are normal)	1. An open circuit or loose connection in engine stop relay related circuit. 2. Loose or poor connection of the ignition coil primary wire terminal or an open circuit in primary coil. 3. Faulty ECM (in case when the initial voltage is normal when ECM 33P connector is disconnected).
	Initial voltage is normal, but it drops by 2 – 4 V while cranking the engine.	1. Incorrect peak voltage adaptor connections. (System is normal if measured voltage is over the specifications with reverse connections.) 2. Battery is undercharged. (Voltage drops largely when the engine is started.) 3. No voltage at the Black/White wire of the ECM 33P connector, or loose or poorly connected ECM 33P connector. 4. Loose or poor connection or an open circuit in Green wire of the ECM. 5. Loose or poor connection or an open circuit in Yellow/Blue wire between the ignition coil and ECM. 6. A short circuit in the ignition primary coil. 7. Faulty CKP sensor. (Measure peak voltage.) 8. Faulty ECM (in case when above No. 1 through 7 are normal).
	Initial voltage is normal but there is no peak voltage while cranking the engine.	1. Incorrect peak voltage adaptor connections. (System is normal if measured voltage is over the specifications with reverse connections.) 2. Faulty peak voltage adaptor. 3. Faulty ECM (in case when above No. 1 and 2 are normal).
	Initial voltage is normal but peak voltage is lower than the standard value.	1. The multimeter impedance is too low; below 10 MΩ/DCV. 2. Cranking speed is too slow. (Battery is undercharged.) 3. The sampling timing of the tester and measured pulse were not synchronized. (System is normal if measured voltage is over the standard voltage at least once.) 4. Faulty ECM (in case when above No. 1 through 3 are normal).
	Initial and peak voltages are normal but no spark jumps.	1. Faulty spark plug or leaking ignition coil secondary current. 2. Faulty ignition coil.
CKP sensor	Peak voltage is lower than the standard value.	1. The multimeter impedance is too low; below 10 MΩ/DCV. 2. Cranking speed is too slow. (Battery is undercharged.) 3. The sampling timing of the tester and measured pulse were not synchronized. (System is normal if measured voltage is over the standard voltage at least once.) 4. Faulty CKP sensor (in case when above No. 1 through 3 are normal).
	No peak voltage.	1. Faulty peak voltage adaptor. 2. Faulty CKP sensor.