

## NO.14 FAST IDLE/RUNS ON [SKYACTIV-D 2.2]

id0103g1898100

14	FAST IDLE/RUNS ON
DESCRIPTION	<ul style="list-style-type: none"> <li>Engine speed continues at fast idle after warm-up.</li> <li>Engine runs after ignition is switched off.</li> </ul>
POSSIBLE CAUSE	<ul style="list-style-type: none"> <li>PCM DTC is stored.</li> <li>Erratic signal to PCM               <ul style="list-style-type: none"> <li>Engine speed signal</li> </ul> </li> <li>Fuel injection system malfunction               <ul style="list-style-type: none"> <li>Fuel leakage from fuel system</li> <li>Common rail malfunction</li> <li>Supply pump malfunction</li> <li>Suction control valve malfunction</li> <li>Fuel injector malfunction</li> <li>Fuel pressure relief valve malfunction</li> <li>Fuel check valve or fuel feed valve malfunction</li> </ul> </li> <li>Mechanical (engine) malfunction               <ul style="list-style-type: none"> <li>Engine oil malfunction (oil working up or down)</li> </ul> </li> </ul>

### Diagnostic Procedure

STEP	INSPECTION	RESULTS	ACTION
1	<b>VERIFY PCM DTC</b> <ul style="list-style-type: none"> <li>Retrieve PCM DTCs using the M-MDS. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].)</li> <li>Are any DTCs present?</li> </ul>	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.
2	<b>VERIFY CURRENT INPUT SIGNAL STATUS</b> <p><b>Caution</b></p> <ul style="list-style-type: none"> <li>While performing this step, always operate the vehicle in a safe and lawful manner.</li> <li>When the M-MDS is used to observe monitor system status while driving, be sure to have another technician with you, or record the data in the M-MDS using the PID/DATA MONITOR AND RECORD capturing function and inspect later.</li> </ul> <ul style="list-style-type: none"> <li>Access the following PIDs using the M-MDS: (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].)               <ul style="list-style-type: none"> <li>RPM</li> <li>ARPMDES</li> </ul> </li> <li>Is the difference between the RPM monitor value and the ARPMDES monitor value within the specified value? (See ENGINE TUNE-UP [SKYACTIV-D 2.2].)</li> </ul>	Yes	Inspect the related sensor and circuit. <ul style="list-style-type: none"> <li>If there is any malfunction:               <ul style="list-style-type: none"> <li>Repair or replace the malfunctioning part according to the inspection results, then go to Step 6.</li> </ul> </li> <li>If there is no malfunction:               <ul style="list-style-type: none"> <li>Go to the next step.</li> </ul> </li> </ul>
		No	Go to the next step.
3	<b>INSPECT FOR FUEL LEAKAGE FROM FUEL SYSTEM</b> <ul style="list-style-type: none"> <li>Visually inspect the following:               <ul style="list-style-type: none"> <li>Fuel leakage from the fuel tank, fuel pump, hose, pipe, fuel injector, supply pump, common rail</li> <li>Cracking and damage in fuel hose and pipe</li> <li>Clamp installation condition for each hose and pipe</li> <li>Fuel pipe securing condition due to deterioration such as rubber of clamp</li> </ul> </li> <li>Are all items normal?</li> </ul>	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results, then go to Step 6.

STEP	INSPECTION	RESULTS	ACTION
4	<b>INSPECT FUEL INJECTION RELATED PARTS</b> • Inspect the following parts: — Common rail (See COMMON RAIL INSPECTION [SKYACTIV-D 2.2].) — Supply pump (See SUPPLY PUMP INSPECTION [SKYACTIV-D 2.2].) — Suction control valve (See SUCTION CONTROL VALVE INSPECTION [SKYACTIV-D 2.2].) — Fuel injector (See FUEL INJECTOR INSPECTION [SKYACTIV-D 2.2].) — Fuel pressure relief valve (See FUEL PRESSURE RELIEF VALVE INSPECTION [SKYACTIV-D 2.2].) • Are all items normal?	Yes	Go to the next step.
		No	Repair or replace the malfunctioning part according to the inspection results, then go to Step 6.
5	<b>INSPECT FOR MALFUNCTION DUE TO INTERNAL ENGINE WEAR, DAMAGE</b> • Inspect for the following engine internal parts: — Cylinder — Piston ring — Intake valve — Exhaust valve — Such as cylinder head gasket • Are all items normal?	Yes	Replace the lower case, then go to the next step. (Fuel may not inject normally because there is a malfunction in the fuel check valve and fuel feed valve.) (See LOWER CASE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Repair or replace the malfunctioning part according to the inspection results, then go to the next step.
6	Verify the test results. • If normal, return to the diagnostic index to service any additional symptoms. (See SYMPTOM DIAGNOSTIC INDEX [SKYACTIV-D 2.2].) • If a malfunction remains, inspect the related Service Information and perform the repair or diagnosis. — If the vehicle is repaired, troubleshooting is completed. — If the vehicle is not repaired or additional diagnostic information is not available, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)		