DTC P0A0F:00 [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

id0102h4950400

DTC P0A0F:00	Engine failed to restart
DETECTION CONDITION	• Any of following conditions occurs: — When the engine should restart after it is stopped by the i-stop control, it does not start even though it is cranked for **3 s or more**. — When the engine should restart after it is stopped by the i-stop control, it does not cranked. **Diagnostic support note** • This is a continuous monitor (other). • The check engine light does not illuminate. • FREEZE FRAME DATA (Mode 2)/Snapshot data is not available. • DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	• Flashes the i-stop warning light (amber) and inhibits engine-stop by operating the i-stop function.
POSSIBLE CAUSE	• Related parts malfunction — Starter relay malfunction — Battery malfunction — Wiring harness malfunction between starter relay and PCM, or poor connector contact — Starter malfunction • Piston stop position malfunction during idling stop — CKP sensor signal malfunction — Throttle valve operation malfunction (drive-by-wire control malfunction) — Intake air system related malfunction (air suction, vacuum hose breakage) — Purge control malfunction — Engine starting system malfunction • Mechanical (engine) malfunction — Improper intake valve timing — Improper operation of electric variable valve timing control system • Electric variable valve timing driver malfunction • Electric variable valve timing motor malfunction • Electric variable valve timing actuator malfunction — Improper exhaust valve timing — Improper operation of hydraulic variable valve timing control system • PCM malfunction
SYSTEM WIRING DIAGRAM	Not applicable

Diagnostic Procedure

STEP	INSPECTION		ACTION
1	**VERIFY RELATED SERVICE INFORMATION AVAILABILITY** • Verify related Service Information availability. • Is any related Service Information available?	Yes	Perform repair or diagnosis according to the available Service Information. • If the vehicle is not repaired, go to the next step.
		No	Go to the next step.
2	**VERIFY RELATED PENDING CODE AND/OR DTC** • Switch the ignition off, then ON (engine off). • Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is the PENDING CODE/DTC P1260:00 also present?	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC P1260:00 [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	Go to the next step.
3	**INSPECT FOR A MALFUNCTION RELATED INABILITY TO START ENGINE** • Start the engine. • Does the engine start normally?	Yes	Perform the applicable symptom troubleshooting. (See NO.3 WILL NOT CRANK [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NO.4 HARD TO START/LONG CRANK/ERRATIC START/ERRATIC CRANK [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) (See NO.6 CRANKS NORMALLY BUT WILL NOT START [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
4	**DETERMINE IF MALFUNCTION IS CAUSED BY ROUGH IDLING OR A PISTON-STOP POSITION CONTROL MALFUNCTION** • Start the engine and warm it up completely. • Is the idle speed stabilized?	Yes	Go to the next step.
		No	Go to Step 8.
5	**INSPECT CKP SENSOR SIGNAL** • Verify the CKP sensor signal using the oscilloscope. (See PCM INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Go to the next step.
		No	Go to Step 7.
6	**INSPECT CKP SENSOR PULSE WHEEL** • Visually inspect the CKP sensor pulse wheel. • Is there any damage or scratching on the CKP sensor pulse wheel?	Yes	Replace the CKP sensor pulse wheel, then go to Step 15.
		No	Inspect the wiring harness between the following terminals: • CKP sensor terminal A—PCM terminal 1BN • CKP sensor terminal C—PCM terminal 1AD • CKP sensor terminal B—PCM terminal 1AH — If there is any malfunction: • Repair or replace the suspected wiring harness, then go to Step 15. — If there is no malfunction: • Replace the CKP sensor, then go to Step 15. (See CRANKSHAFT POSITION (CKP) SENSOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
7	**INSPECT DRIVE-BY-WIRE CONTROL SYSTEM OPERATION** • Perform the Drive-by-wire Control System Inspection. (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 15.
		No	Go to Step 15.
8	**INSPECT VACUUM HOSE CONNECTION** • Inspect the vacuum hose routine. (See INTAKE-AIR SYSTEM VACUUM HOSE ROUTING DIAGRAM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Are vacuum hoses routines properly?	Yes	Go to the next step.
		No	Reconnect the vacuum hose, then go to Step 15. (See INTAKE-AIR SYSTEM VACUUM HOSE ROUTING DIAGRAM [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
9	**INSPECT INTAKE-AIR SYSTEM FOR AIR SUCTION** • Inspect for leakage in intake-air system. • Is there any leakage?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 15.
		No	Go to the next step.
10	**INSPECT PURGE CONTROL SYSTEM OPERATION** • Perform the Purge Control System Inspection. (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to Step 15.
		No	Go to the next step.
11	**INSPECT ELECTRIC VARIABLE VALVE TIMING DRIVER** • Inspect the electric variable valve timing driver. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Replace the electric variable valve timing motor/driver, then go to Step 15. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	Go to the next step.
12	**INSPECT ELECTRIC VARIABLE VALVE TIMING MOTOR** • Inspect the electric variable valve timing motor. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Replace the electric variable valve timing motor/driver, then go to Step 15. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	Go to the next step.

STEP	INSPECTION		ACTION
13	**INSPECT ELECTRIC VARIABLE VALVE TIMING ACTUATOR** • Inspect the electric variable valve timing actuator. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Replace the electric variable valve timing actuator, then go to Step 15. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	Go to the next step.
14	**INSPECT HYDRAULIC VARIABLE VALVE TIMING CONTROL SYSTEM OPERATION** • Perform the Hydraulic Variable Valve Timing Control System Operation Inspection. (See ENGINE CONTROL SYSTEM OPERATION INSPECTION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is there any malfunction?	Yes	Repair or replace the malfunctioning part according to the inspection results, then go to the next step.
		No	Go to the next step.
15	**VERIFY DTC TROUBLESHOOTING COMPLETED** • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Start the engine and warm it up completely. • Stop the engine by operating the i-stop function. • Restart the engine. • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Is the same DTC present?	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) Go to the next step.
		No	Go to the next step.
16	**VERIFY AFTER REPAIR PROCEDURE** • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) • Are any DTCs present?	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0, SKYACTIV-G 2.5].)
		No	DTC troubleshooting completed.