

DTC P0015:00 [SKYACTIV-G 2.0]

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DTC P0015:00	Exhaust CMP timing over-retarded
DETECTION CONDITION	<ul style="list-style-type: none"> The actual exhaust valve timing is over-retarded by specification from the target exhaust valve timing for specified period when the oil control valve (OCV) system control is within the maximum cam retard mode. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> ECT: above 60 °C {140 °F} <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a continuous monitor (CCM). The check engine light illuminates if the PCM detects the above malfunction condition in two consecutive drive cycles or in one drive cycle while the DTC for the same malfunction has been stored in the PCM. PENDING CODE is available if the PCM detects the above malfunction condition during first drive cycle. FREEZE FRAME DATA (Mode 2)/Snapshot data is available. The DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	<ul style="list-style-type: none"> Performs the exhaust variable valve timing control with a maximum cam retard request.
POSSIBLE CAUSE	<ul style="list-style-type: none"> OCV malfunction <ul style="list-style-type: none"> Spool valve in OCV is stuck in retard position Hydraulic variable valve timing mechanism malfunction <ul style="list-style-type: none"> Hydraulic variable valve timing mechanism not installed correctly Loose timing chain or improper exhaust valve timing due to timing chain slippage Stopper pin mechanism malfunction Hydraulic variable valve timing actuator is stuck in retard position PCM malfunction
SYSTEM WIRING DIAGRAM	—

Diagnostic Procedure

STEP	INSPECTION		ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED • Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.
2	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.
3	INSPECT OCV • Inspect the OCV. (See OIL CONTROL VALVE (OCV) INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Replace the OCV, then go to Step 7. (See OIL CONTROL VALVE (OCV) REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.
4	VERIFY VALVE TIMING MECHANISM INSTALLATION • Verify the valve timing mechanism installation for the following parts: — Timing chain — Exhaust camshaft sprocket lock bolt — Crankshaft pulley lock bolt • Is there any malfunction?	Yes	Reinstall the parts correctly, then go to Step 7. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.
5	INSPECT STOPPER PIN MECHANISM • Remove the timing chain. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) • Inspect the stopper pin mechanism. (See HYDRAULIC VARIABLE VALVE TIMING ACTUATOR INSPECTION [SKYACTIV-G 2.0].) • Is there any malfunction?	Yes	Replace the hydraulic variable valve timing actuator, then go to Step 7. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No	Go to the next step.

STEP	INSPECTION	ACTION
6	INSPECT ROTOR POSITION <ul style="list-style-type: none"> Remove the hydraulic variable valve timing actuator. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Is the rotor at the maximum valve timing advanced position? 	Yes Hydraulic variable valve timing mechanism is normal. Note <ul style="list-style-type: none"> This DTC is detected as an intermittent concern. The intermittent concern might be removed using the cleaning mode of the hydraulic variable valve timing control function. Go to the next step.
		No Replace the hydraulic variable valve timing actuator, then go to the next step. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
7	VERIFY DTC TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> Make sure to reconnect all disconnected connectors. Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) Perform the Drive Mode 03 (Variable Valve Timing, A/F Sensor Heater, HO2S Heater, A/F Sensor, HO2S and TWC Repair Verification Drive Mode). (See OBD DRIVE MODE [SKYACTIV-G 2.0].) Is the PENDING CODE for this DTC present? 	Yes Repeat the inspection from Step 1. <ul style="list-style-type: none"> If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Go to the next step.
		No Go to the next step.
8	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [SKYACTIV-G 2.0].) Are any DTCs present? 	Yes Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-G 2.0].)
		No DTC troubleshooting completed.