

DTC P0012:00 [SKYACTIV-G 2.0]

id0102h1700200

DTC P0012:00	Intake CMP timing over-retarded
DETECTION CONDITION	<ul style="list-style-type: none"> The actual intake valve timing retard is the specification or more compared to the target intake valve timing for a continuous specified time with the following condition met. <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> Engine speed: below 5,000 rpm 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 during the 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"> Stops activation of the electric variable timing driver.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Electric variable valve timing driver malfunction <ul style="list-style-type: none"> Electric variable valve timing actuator is stuck in retarded position Electric variable valve timing motor malfunction Electric variable valve timing actuator malfunction Loose timing chain or improper intake valve timing due to timing chain slippage PCM malfunction
SYSTEM WIRING DIAGRAM	—

Diagnostic Procedure

STEP	INSPECTION	ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED <ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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	VERIFY RELATED PENDING CODE AND/OR DTC <ul style="list-style-type: none"> Switch the ignition to off, then to ON (engine off). Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-G 2.0].) Is the PENDING CODE/DTC P0010:00 or P1380:00 also present? 	Yes Go to the applicable PENDING CODE or DTC inspection. (See DTC P0010:00 [SKYACTIV-G 2.0].) (See DTC P1380:00 [SKYACTIV-G 2.0].)
		No Go to the next step.
4	INSPECT ELECTRIC VARIABLE VALVE TIMING DRIVER <ul style="list-style-type: none"> Inspect the electric variable valve timing driver. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER INSPECTION [SKYACTIV-G 2.0].) Is there any malfunction? 	Yes Replace the electric variable valve timing motor/driver, then go to Step 8. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No Go to the next step.
5	INSPECT ELECTRIC VARIABLE VALVE TIMING MOTOR <ul style="list-style-type: none"> Inspect the electric variable valve timing motor. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER INSPECTION [SKYACTIV-G 2.0].) Is there any malfunction? 	Yes Replace the electric variable valve timing motor/driver, then go to Step 8. (See ELECTRIC VARIABLE VALVE TIMING MOTOR/DRIVER REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No Go to the next step.

STEP	INSPECTION	ACTION
6	INSPECT ELECTRIC VARIABLE VALVE TIMING ACTUATOR <ul style="list-style-type: none"> Inspect the electric variable valve timing actuator. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR INSPECTION [SKYACTIV-G 2.0].) Is there any malfunction? 	Yes Replace the electric variable valve timing actuator, then go to Step 8. (See ELECTRIC VARIABLE VALVE TIMING ACTUATOR, HYDRAULIC VARIABLE VALVE TIMING ACTUATOR REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
		No Go to the next step.
7	VERIFY TIMING CHAIN INSTALLATION <ul style="list-style-type: none"> Stop the engine. Remove the timing chain cover. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.0].) Is the intake camshaft timing mark at the correct point? 	Yes Go to the next step.
		No Reinstall the timing chain, then go to the next step. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-G 2.0].)
8	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. • 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.
9	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.