

DTC P2105:00 [SKYACTIV-D 2.2]

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DTC P2105:00	Intake air shutter valve actuator control system malfunction (forced engine shutdown)
DETECTION CONDITION	<ul style="list-style-type: none"> After switching the ignition off, the PCM detects that the engine speed has not decreased for a specified time. Diagnostic support note <ul style="list-style-type: none"> 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	Not applicable
POSSIBLE CAUSE	<ul style="list-style-type: none"> Engine oil deterioration Fuel injector malfunction Internal engine part malfunction (burning or seizure, abnormal combustion) PCM malfunction
SYSTEM WIRING DIAGRAM	Not applicable

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 off, then ON (engine off). Perform the Pending Trouble Code Access Procedure and DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) Are any other PENDING CODEs and/or DTCs present? 	Yes	Go to the applicable PENDING CODE or DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	Go to the next step.
4	INSPECT ENGINE OIL LEVEL <ul style="list-style-type: none"> Inspect the engine oil level. Is the engine oil amount above X line on the dipstick? 	Yes	Go to the next step.
		No	Go to Step 12.
5	DETERMINE IF MALFUNCTION CAUSE IS BASE ENGINE OR OTHER <ul style="list-style-type: none"> Remove the charge air cooler. (See CHARGE AIR COOLER REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) When tilting the charge air cooler, does engine oil drain from the charge air cooler? Note <ul style="list-style-type: none"> If the engine oil level has decreased only a small amount, go to Step "No" and replace the engine oil. 	Yes	Go to the next step.
		No	Replace the engine oil. (See ENGINE OIL REPLACEMENT [SKYACTIV-D 2.2].) Perform the "ENGINE OIL DATA RESET", then go to Step 12. (See ENGINE OIL DATA RESET [SKYACTIV-D 2.2].)
6	DETERMINE IF MALFUNCTION CAUSE IS ENGINE PART BURNING OR SEIZURE OR ABNORMAL COMBUSTION <ul style="list-style-type: none"> Remove the glow plug. (See GLOW PLUG REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Is the heat-generating area of the glow plug burnt out? 	Yes	Go to the next step.
		No	Replace the engine oil. (See ENGINE OIL REPLACEMENT [SKYACTIV-D 2.2].) Perform the "ENGINE OIL DATA RESET", then go to Step 12. (See ENGINE OIL DATA RESET [SKYACTIV-D 2.2].)

STEP	INSPECTION	ACTION	
7	VISUALLY INSPECT FOR FUEL INJECTOR AND CYLINDER HEAD <ul style="list-style-type: none"> Remove the fuel injector and cylinder head. (See FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) (See CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-D 2.2].) Visually inspect for the following. <ul style="list-style-type: none"> There is nozzle deformation, damage to the opening of a fuel injector. There are dents caused by piston impact, or adhesion of melt from glow plug, fuel injector, or piston on the cylinder head. Is there any malfunction? 	Yes	Go to the next step.
		No	Go to Step 10.
8	VISUALLY INSPECT INSIDE OF CYLINDER <ul style="list-style-type: none"> Is there any vertical scratching (such as one that a fingernail can detect by scratching), or a dent on the cylinder liner caused by valve impact? 	Yes	Replace or overhaul the engine as a partial engine unit. (See ENGINE REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Refer to the Mazda Workshop Manual.
		No	Go to the next step.
9	INSPECT CRANKSHAFT BEARING FOR DAMAGE <ul style="list-style-type: none"> Remove the belts for the engine accessories. (See DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Install a wrench to the crankshaft pulley lock bolt and turn it clockwise. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Does the crankshaft rotate smoothly? 	Yes	If damage to the fuel injector is detected in Step 7: <ul style="list-style-type: none"> Replace the fuel injector. (See FUEL INJECTOR REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) If denting or adhesion of melted matter on the cylinder head is detected in Step 7: <ul style="list-style-type: none"> Replace or overhaul the cylinder head. (See CYLINDER HEAD GASKET REPLACEMENT [SKYACTIV-D 2.2].) Add genuine engine oil, then go to Step 12. (See ENGINE OIL REPLACEMENT [SKYACTIV-D 2.2].)
		No	Overhaul the engine, then go to Step 12.
10	VISUALLY INSPECT INSIDE OF CYLINDER <ul style="list-style-type: none"> Is there any vertical scratching (such as one that a fingernail can detect by scratching), or a dent on the cylinder liner caused by valve impact? 	Yes	Overhaul the engine, then go to Step 12.
		No	Go to the next step.
11	INSPECT CRANKSHAFT BEARING FOR DAMAGE <ul style="list-style-type: none"> Remove the belts for the engine accessories. (See DRIVE BELT REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Install a wrench to the crankshaft pulley lock bolt and turn it clockwise. (See TIMING CHAIN REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Does the crankshaft rotate smoothly? 	Yes	Engine internal parts are normal. <ul style="list-style-type: none"> Add genuine engine oil, then go to the next step. (See ENGINE OIL REPLACEMENT [SKYACTIV-D 2.2].)
		No	Overhaul the engine, then go to the next step.

STEP	INSPECTION	ACTION	
12	VERIFY DTC TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Perform the “FUEL INJECTOR INJECTION AMOUNT CORRECTION”. (See FUEL INJECTOR INJECTION AMOUNT CORRECTION [SKYACTIV-D 2.2].) • Start the engine and warm it up completely. Caution <ul style="list-style-type: none"> • While performing this step, always operate the vehicle in a safe and lawful manner. • 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. • Drive the vehicle under the FREEZE FRAME DATA (Mode 2)/snapshot data condition. • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Is the same 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-D 2.2].) Go to the next step.
		No	Go to the next step.
13	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the “AFTER REPAIR PROCEDURE”. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.