ON-BOARD DIAGNOSTIC SYSTEM TEST MODE [SKYACTIV-G 2.0, SKYACTIV-G 2.5]

id0102h4142500

Caution

- **Vehicle specifications differ depending on the vehicle identification number (VIN).**
  - **— Type A VIN:**
    JM0 KE**** 100001—**
    JM6 KE**** 100001—**
    JM7 KE**** 100001—**
    JM8 KE**** 100001—**
    JMZ KE**** 100001—**
    KE10 100001—**
  - **— Type B VIN:**
    JM0 KE**** 200001—**
    JM6 KE**** 200001—**
    JM8 KE**** 200001—**
    JMZ KE**** 200001—**
    KE10 200001—**

Diagnostic Test Mode

- To match the OBD regulations, the following diagnostic test modes are supported.

Diagnostic test mode	Item
Mode 01	Sending diagnostic data (PID data monitor/On-board system readiness test)
Mode 02	Sending freeze frame data
Mode 03	Sending emission-related malfunction code (Diagnostic trouble code: DTC)
Mode 04	Clearing/resetting emission-related malfunction information
Mode 07	Sending continuous monitoring system test results (Pending code)
Mode 08	On-board device control (Simulation test, active command mode)
Mode 09	Request vehicle information

Sending Diagnostic Data (Mode 01)

PID data monitor

- The PID data monitor items are shown below.

PID data monitor table

—: Not applicable

Full names	Unit
Monitor status since DTCs cleared	No unit
Fuel system loop status	Refer to list below.
LOAD	%
ECT	°C, °F
Short term fuel trim	%
Long term fuel trim	%
MAP	kPa
Engine speed	rpm
Vehicle speed	km/h, mph
Spark advance	°
IAT	°C, °F
MAF	g/s
Absolute TP	%
A/F sensor and HO2S location	No unit
Input voltage from HO2S	V
OBD requirement according to vehicle design	No unit
Time since engine start	s
Distance travelled while check engine light is activated	km, miles
Fuel pressure	kPa
Purge solenoid valve control signal	%
Number of warm-up since DTCs cleared	No unit
Distance travelled since DTCs cleared	km, miles
Barometric pressure	kPa
A/F sensor output current	mA
Estimated catalyst converter temperature	°C, °F

Full names	Unit
Monitor status this driving cycle	—
PCM voltage	V
Absolute load value	%
Theoretical air/fuel ratio coefficient to calculate target air/fuel ratio	No unit
Relative TP	%
TP from TP sensor No.2	%
APP from APP sensor No.1	%
APP from APP sensor No.2	%
Throttle valve actuator control signal	%
Short term fuel trim (HO2S)	%
Long term fuel trim (HO2S)	%

Meaning of fuel system loop status

- The following information is displayed on the tester
  - — Feedback stops: ECT is lower than the determined feedback zone
  - — Feedback operating: A/F sensor, HO2S being used for feedback is normal
  - — Feedback stops: Open loop due to driving condition
  - — Feedback stops: Open loop due to detected system fault
  - — Feedback operating: Malfunction occurred in HO2S system

Sending Freeze Frame Data (Mode 02)

Freeze frame data

- The freeze frame data consists of data for vehicle and engine control system operation conditions when malfunctions in the engine control system are detected and stored in the PCM.
- Freeze frame data is stored at the instant the check engine light illuminates, and only a part of the DTC data is stored.
- For the freeze frame data, if there are several malfunctions in the engine control system, the data for the malfunction which occurred initially is stored. Thereafter, if a misfire or fuel injection control malfunction occurs, data from the misfire or fuel injection control malfunction is written over the initially stored data. However, if the initially stored freeze frame data is a misfire or fuel injection control malfunction, it is not overwritten.

Snapshot data

- The snapshot data stores the currently detected DTC data.
- The recording timing for the freeze frame data/snapshot data differs depending on the number of DTC drive cycles.
  - — For a DTC with a drive cycle number 1, only the malfunction determination data is recorded.
  - — For a DTC with a drive cycle number 2, both the malfunction determination and undetermined data is recorded.

Freeze frame data table

—: Not applicable

Freeze frame data item	Unit	Description	Corresponding PID data monitor item
FUELSYS1	OL/CL/OL-Drive/OL-Fault/ CL-Fault	Fuel system status	FUELSYS
LOAD	%	Calculated engine load	—
ECT	°C, °F	Engine coolant temperature	ECT
SFT1	%	Short term fuel trim	SHRTFT1
LFT1	%	Long term fuel trim	LONGFT1
MAP	KPa {MPa}, mBar {Bar}, psi, in H20	Manifold absolute pressure	MAP
RPM	RPM	Engine speed	RPM
VS	KPH, MPH	Vehicle speed	VSS
SPARKADV	°	Ignition timing	SPARKADV
IAT	°C, °F	Intake air temperature	IAT
MAF	g/sec	Mass airflow	MAF
TP	%	Throttle valve position No.1	TP1
RUNTM	hh:mm:ss	Time from engine start	—
EVAPPCT	%	Purge solenoid valve controlled value	EVAPCP
FLI	%	Fuel level in fuel tank	FLI
WARMUPS	—	Number of warm-up cycle after DTC cleared	—
CLRDIST	km, ft {mi}	Mileage after DTC cleared	—

Freeze frame data item	Unit	Description	Corresponding PID data monitor item
BARO	KPa {MPa}, mBar {Bar}, psi, in H20	Barometric pressure	BARO
CATTEMP11	°C, °F	Estimated catalytic converter temperature	CATT11_DSD
VPWR	V	Module supply voltage	VPWR
ALV	%	Engine load	LOAD
EQ_RAT	—	Target equivalence ratio (lambda)	EQ_RAT11_DSD
TP_REL	%	Relative throttle position	TP_REL
TP_B	%	Throttle valve position No.2	TP2
APP_D	%	Accelerator pedal position No.1	APP1
APP_E	%	Accelerator pedal position No.2	APP2
TAC_PCT	%	Target throttle valve position	ETC_DSD
FUEL_TYP	—	Type of fuel currently being utilized by the vehicle	—
STSO2FT1	%	Short term fuel trim (HO2S)	—
LGSO2FT1	%	Long term fuel trim (HO2S)	—
FRP	KPa {MPa}, mBar {Bar}, psi, in H20	Fuel pressure	FUEL_PRES
		Fuel pressure (absolute)	
IAT11_SUP	—	Intake air temperature No.1 support	—
IAT12_SUP	—	Intake air temperature No.2 support	—
IAT11	°C, °F	Intake air temperature No.1	IAT
IAT12	°C, °F	Intake air temperature No.2	IAT2

Snapshot data table

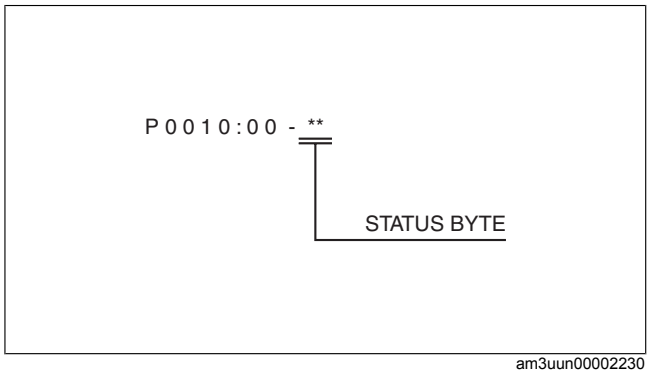
—: Not applicable

Snapshot data item	Unit	Definition	Data read/use method	Corresponding PID data monitor item
ALTT_V	V	Generator output voltage	—	ALTT V
APP1	V	Accelerator pedal position No.1	—	APP1
	%			
APP2	V	Accelerator pedal position No.2	—	APP2
	%			
TP1	V	Throttle valve position No.1	—	TP1
	%			
TP2	V	Throttle valve position No.2	—	TP2
	%			
ALT_CUR_DSD	A	Generator current desired	—	—
BATT_RES	ohm	Battery inferred internal resistance	—	—
TOTAL_TIME	hh:mm:ss	Total time	The elapsed time when the PCM detected a DTC can be calculated by performing the following procedure. 1. Verify the instrument cluster PID item TOTAL_TIME. 2. Verify the snapshot data item TOTAL_TIME. 3. Subtract 2 from 1.	—
TOTAL_DIST	km, ft {mi}	Total distance	The distance traveled when the PCM detected a DTC can be calculated by performing the following procedure. 1. Verify the odometer value in the instrument cluster. 2. Verify the snapshot data item TOTAL_DIST. 3. Subtract 2 from 1.	—
FUELSYS	OL/CL/OL-Drive/OL-Fault/CL-Fault	Fuel system status	—	FUELSYS
LOAD_C	%	Calculated engine load	—	—
ECT	°C, °F	Engine coolant temperature	—	ECT

Snapshot data item	Unit	Definition	Data read/use method	Corresponding PID data monitor item
SHRTFT1	%	Short term fuel trim	—	SHRTFT1
LONGFT1	%	Long term fuel trim	—	LONGFT1
MAP	KPa {MPa}, mBar {Bar}, psi, in H20	Manifold absolute pressure	—	MAP
RPM	RPM	Engine speed	—	RPM
VSS	KPH, MPH	Vehicle speed	—	VSS
SPARKADV	°	Ignition timing	—	SPARKADV
IAT	°C, °F	Intake air temperature No.1	—	IAT
MAF	g/sec	Mass airflow	—	MAF
O2S12	V	HO2S	—	O2S12
EG_RUN_TIME	—	Time from engine start	—	—
FUEL_PRES	KPa {MPa}, mBar {Bar}, psi, in H20	Fuel pressure	—	FUEL_PRES
SEGRP_DSD	%	Target EGR valve position	—	—
EVAPCP	%	Purge solenoid valve controlled value	—	EVAPCP
FLI	%	Fuel level in fuel tank	—	FLI
CLR_CNT	—	Number of warm-up cycle after DTC cleared	—	—
CLR_DIST	km, ft {mi}	Mileage after DTC cleared	—	—
FTP	KPa {MPa}, mBar {Bar}, psi, in H20	Fuel tank pressure	—	FTP
BARO	KPa {MPa}, mBar {Bar}, psi, in H20	Barometric pressure	—	BARO
CATT11_DSD	°C, °F	Estimated catalytic converter temperature	—	CATT11_DSD
VPWR	V	Module supply voltage	—	VPWR
LOAD	%	Engine load	—	LOAD
EQ_RAT11_DSD	—	Target equivalence ratio (lambda)	—	EQ_RAT11_DSD
TP_REL	%	Relative throttle position	—	TP REL
AAT	°C, °F	Ambient air temperature	—	AAT
ETC_DSD	%	Target throttle valve position	—	ETC_DSD
SHRTFT12	%	Short term fuel trim (HO2S)	—	—
LONGFT12	%	Long term fuel trim (HO2S)	—	—
FRP	KPa {MPa}, mBar {Bar}, psi, in H20	Fuel pressure (absolute)	—	FUEL_PRES
ECT2_SUP	—	Engine coolant temperature No.2 support	—	—
ECT2	°C, °F	Engine coolant temperature No.2	—	ECT2_V
IAT12	°C, °F	Intake air temperature No.2	—	IAT2

Status Byte for DTC

- The status byte is the two-digit code (two digits after hyphen (-)) after the DTC.
- The status byte is a code which indicates the pending code, current/past malfunction status, or warning illumination status.
- The status byte can be read by performing a CMDTC self test using the Mazda Modular Diagnostic System (M-MDS).
- For details on the status byte, refer to the explanation on the M-MDS when reading the DTC.



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Sending Emission-related Malfunction Code (DTC) (Mode 03)

- The DTCs are shown below.

×: Applicable
—: Not applicable

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type* 1	Memory function
P0010:00	ON	OFF	OFF	OFF	OFF	Electric variable valve timing control circuit range/performance problem	×	1	CCM	C, R	×
P0011:00	ON	OFF	OFF	OFF	OFF	Electric variable valve timing control system: over-advanced	—	1	CCM	C	×
P0012:00	ON	OFF	OFF	OFF	OFF	Electric variable valve timing control system: over-retarded	—	1	CCM	C	×
P0014:00	ON	OFF	OFF	OFF	OFF	Hydraulic variable valve timing control system: over-advanced	—	2	CCM	C	×
P0015:00	ON	OFF	OFF	OFF	OFF	Hydraulic variable valve timing control system: over-retarded	—	2	CCM	C	×
P0031:00	ON	OFF	OFF	OFF	OFF	A/F sensor heater control circuit low input	×	2	A/F sensor heater, HO2S heater	C, R	×
P0032:00	ON	OFF	OFF	OFF	OFF	A/F sensor heater control circuit high input	×	2	A/F sensor heater, HO2S heater	C, R	×
P0037:00	ON	OFF	OFF	OFF	OFF	HO2S heater control circuit low input	×	2	A/F sensor heater, HO2S heater	C, R	×
P0038:00	ON	OFF	OFF	OFF	OFF	HO2S heater control circuit high input	×	2	A/F sensor heater, HO2S heater	C, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type* 1	Memory function
P0069:00	ON	OFF	OFF	OFF	OFF	Manifold absolute pressure/atmospheric pressure correlation problem	—	2	CCM	C	×
P0072:00* 7	OFF	OFF	OFF	OFF	OFF	Ambient temperature sensor circuit low input	—	1	Other	C, O, R	×
P0073:00* 7	OFF	OFF	OFF	OFF	OFF	Ambient temperature sensor circuit high input	—	1	Other	C, O, R	×
P0089:00	ON	OFF	OFF	OFF	OFF	Spill valve control solenoid valve control circuit range/ performance problem	×	1	CCM	C, R	×
P0091:00	ON	OFF	OFF	OFF	OFF	Fuel pressure regulator control circuit low input	×	1	CCM	C, O, R	×
P0092:00	ON	OFF	OFF	OFF	OFF	Fuel pressure regulator control circuit high input	×	1	CCM	C, O, R	×
P0096:00* 12	ON	OFF	OFF	OFF	OFF	IAT sensor No.2 circuit range/performance problem	—	2	CCM	C	×
P0097:00	ON	OFF	OFF	OFF	OFF	IAT sensor No.2 circuit low input	—	1	CCM	C, O, R	×
P0098:00	ON	OFF	OFF	OFF	OFF	IAT sensor No.2 circuit high input	—	1	CCM	C, O, R	×
P0101:00	ON	OFF	OFF	OFF	OFF	MAF sensor circuit range/performance problem	—	2	CCM	C	×
P0102:00	ON	OFF	OFF	OFF	OFF	MAF sensor circuit low input	×	1	CCM	C, O, R	×
P0103:00	ON	OFF	OFF	OFF	OFF	MAF sensor circuit high input	×	1	CCM	C, O, R	×
P0107:00	ON	OFF	OFF	OFF	OFF	MAP sensor circuit low input	×	1	CCM	C, O, R	×
P0108:00	ON	OFF	OFF	OFF	OFF	MAP sensor circuit high input	×	1	CCM	C, O, R	×
P0112:00	ON	OFF	OFF	OFF	OFF	IAT sensor No.1 circuit low input	×	1	CCM	C, O, R	×
P0113:00	ON	OFF	OFF	OFF	OFF	IAT sensor No.1 circuit high input	×	1	CCM	C, O, R	×
P0116:00	ON	OFF	OFF	OFF	OFF	ECT sensor circuit range/performance problem	—	1	Engine cooling system	C	×
P0117:00	ON	OFF	OFF	OFF	OFF	ECT sensor circuit low input	×	1	Engine cooling system	C, O, R	×
P0118:00	ON	OFF	OFF	OFF	OFF	ECT sensor circuit high input	×	1	Engine cooling system	C, O, R	×
P0122:00	ON	OFF	OFF	OFF	OFF	TP sensor No.1 circuit low input	×	1	CCM	C, O, R	×
P0123:00	ON	OFF	OFF	OFF	OFF	TP sensor No.1 circuit high input	×	1	CCM	C, O, R	×
P0130:00	ON	OFF	OFF	OFF	OFF	Voltage problem between PCM terminal 1AB and PCM terminal 1AG	×	2	A/F sensor, HO2S	C, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type*1	Memory function
P0131:00	ON	OFF	OFF	OFF	OFF	A/F sensor circuit low input	×	2	A/F sensor, HO2S	C, R	×
P0132:00	ON	OFF	OFF	OFF	OFF	A/F sensor circuit high input	×	2	A/F sensor, HO2S	C, R	×
P0133:00* 12	ON	OFF	OFF	OFF	OFF	A/F sensor circuit slow response	—	2	A/F sensor, HO2S	C	×
P0134:00	ON	OFF	OFF	OFF	OFF	A/F sensor circuit no activity detected	×	2	A/F sensor, HO2S	C	×
P0137:00* 12	ON	OFF	OFF	OFF	OFF	HO2S circuit low input	—	2	A/F sensor, HO2S	C	×
P0138:00	ON	OFF	OFF	OFF	OFF	HO2S circuit high input	—	2	A/F sensor, HO2S	C, O, R	×
P013A: 00*12	ON	OFF	OFF	OFF	OFF	HO2S: Slow response (during transition from rich to lean)	—	2	A/F sensor, HO2S	C	×
P013B: 00*12	ON	OFF	OFF	OFF	OFF	HO2S circuit slow response	—	2	A/F sensor, HO2S	C	×
P0140:00	ON	OFF	OFF	OFF	OFF	HO2S circuit no activity detected	—	2	A/F sensor, HO2S	C	×
P0171:00	ON	OFF	OFF	OFF	OFF	Fuel trim system too lean	—	2	Fuel system	C	×
P0172:00	ON	OFF	OFF	OFF	OFF	Fuel trim system too rich	—	2	Fuel system	C	×
P0191:00	ON	OFF	OFF	OFF	OFF	Fuel pressure sensor circuit range/ performance problem	×	1	CCM	C	×
P0192:00	ON	OFF	OFF	OFF	OFF	Fuel pressure sensor circuit low input	×	1	CCM	C, O, R	×
P0193:00	ON	OFF	OFF	OFF	OFF	Fuel pressure sensor circuit high input	×	1	CCM	C, O, R	×
P0201:00	ON	OFF	OFF	OFF	OFF	Fuel injector circuit/ open cylinder No.1	—	1	CCM	C, O, R	×
P0202:00	ON	OFF	OFF	OFF	OFF	Fuel injector circuit/ open cylinder No.2	—	1	CCM	C, O, R	×
P0203:00	ON	OFF	OFF	OFF	OFF	Fuel injector circuit/ open cylinder No.3	—	1	CCM	C, O, R	×
P0204:00	ON	OFF	OFF	OFF	OFF	Fuel injector circuit/ open cylinder No.4	—	1	CCM	C, O, R	×
P0222:00	ON	OFF	OFF	OFF	OFF	TP sensor No.2 circuit low input	×	1	CCM	C, O, R	×
P0223:00	ON	OFF	OFF	OFF	OFF	TP sensor No.2 circuit high input	×	1	CCM	C, O, R	×
P025B:00	OFF	OFF	OFF	OFF	OFF	Fuel pump control module circuit range/ performance problem	×	1	CCM	C, O, R	×
P025C:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel pump control module result of on-board diagnostic test low input	—	1	CCM	C, O, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type*1	Memory function
P025D:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel pump control module result of on-board diagnostic test high input	—	1	CCM	C, O, R	×
P0300:00	Flash/ ON	OFF	OFF	OFF	OFF	Random misfire detected	×	2	Misfire	C	×
P0301:00	Flash/ ON	OFF	OFF	OFF	OFF	Cylinder No.1 misfire detected	×	2	Misfire	C	×
P0302:00	Flash/ ON	OFF	OFF	OFF	OFF	Cylinder No.2 misfire detected	×	2	Misfire	C	×
P0303:00	Flash/ ON	OFF	OFF	OFF	OFF	Cylinder No.3 misfire detected	×	2	Misfire	C	×
P0304:00	Flash/ ON	OFF	OFF	OFF	OFF	Cylinder No.4 misfire detected	×	2	Misfire	C	×
P0327:00	ON	OFF	OFF	OFF	OFF	KS circuit low input	×	1	CCM	C, O, R	×
P0328:00	ON	OFF	OFF	OFF	OFF	KS circuit high input	×	1	CCM	C, O, R	×
P0335:00	ON	OFF	OFF	OFF	OFF	CKP sensor circuit problem	×	1	CCM	C, R	×
P0340:00	ON	OFF	OFF	OFF	OFF	Intake CMP sensor circuit problem	×	1	CCM	C, R	×
P0365:00	ON	OFF	OFF	OFF	OFF	Exhaust CMP sensor circuit problem	×	1	CCM	C, R	×
P0421:00*12	ON	OFF	OFF	OFF	OFF	Catalytic converter system	—	2	Catalyst	C	×
P0443:00	ON	OFF	OFF	OFF	OFF	Purge solenoid valve circuit problem	—	2	CCM	C, R	×
P0461:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel gauge sender unit circuit range/ performance problem	—	2	CCM	C	×
P0462:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel gauge sender unit circuit low input	—	2	CCM	C, O, R	×
P0463:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel gauge sender unit circuit high input	—	2	CCM	C, O, R	×
P0480:00	OFF	OFF	OFF	OFF	OFF	Cooling fan relay No.1 control circuit malfunction	—	1	Other	C, O, R	×
P0482:00	OFF	OFF	OFF	OFF	OFF	Cooling fan relay No.2 and No.3 control circuit malfunction	—	1	Other	C, O, R	×
P0500:00	ON	OFF	OFF	OFF	OFF	VSS circuit problem	×	2	CCM	C	×
P0506:00	ON	OFF	OFF	OFF	OFF	IAC system RPM lower than expected	—	2	CCM	C	×
P0507:00	ON	OFF	OFF	OFF	OFF	IAC system RPM higher than expected	—	2	CCM	C	×
P0520:00	OFF	OFF	OFF	OFF	OFF	Oil pressure switch circuit problem	—	1	Other	C, O	×
P0524:00	OFF	ON	OFF	OFF	ON*9	Engine oil pressure too low	—	1	Other	C	×
P0532:00*7	OFF	OFF	OFF	OFF	OFF	Refrigerant pressure sensor circuit low input	—	1	Other	C, O, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type*1	Memory function
P0533:00*7	OFF	OFF	OFF	OFF	OFF	Refrigerant pressure sensor circuit high input	—	1	Other	C, O, R	×
P0555:00*6	OFF	OFF	Flash	OFF	OFF	Power brake unit vacuum sensor circuit problem	×	1	Other	C, R	×
P0571:00	ON	ON	OFF	OFF	OFF	Brake switch circuit problem	—	1	Other	C	×
P057F:00*6	OFF	ON	Flash	OFF	OFF	Power system: Battery deterioration	×	2	Other	C	×
P058A:00*6	OFF	ON	Flash	ON*10	OFF	Current sensor: Function malfunction	×	2	Other	C	×
P0600:00	ON	OFF	OFF	OFF	OFF	Serial communication link	—	1	CCM	C, O, R	×
P0601:00	ON	OFF	OFF	OFF	OFF	PCM memory check sum error	×	1	CCM	C, O, R	×
P0602:00	ON	OFF	OFF	OFF	OFF	PCM programming error	—	1	CCM	C, O, R	×
P0604:00	ON	OFF	OFF	OFF	OFF	PCM RAM error	×	1	CCM	C, O, R	×
P0606:00	ON	OFF	OFF	OFF	OFF	PCM processor error	×	1	CCM	C, O, R	×
P0607:00	ON	OFF	OFF	OFF	OFF	Control module performance problem	—	1	CCM	C, O, R	×
P0610:00	ON	OFF	OFF	OFF	OFF	PCM vehicle configuration error	—	1	CCM	C, O, R	×
P0615:00*6	OFF	OFF	Flash	OFF	OFF	Starter/starter relay operation amount	×	1	Other	C, O, R	×
P061B:00	ON	OFF	OFF	OFF	OFF	Internal control module torque calculation performance problem	×	1	CCM	C, O, R	×
P061D:00	ON	OFF	OFF	OFF	OFF	Internal control module engine air mass performance problem	×	1	CCM	C, O, R	×
P061F:00	OFF	OFF	OFF	OFF	OFF	Internal control module throttle valve actuator controller performance problem	—	1	Other	C, O, R	×
P0628:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel pump control module circuit low input	—	1	CCM	C, O, R	×
P0629:00	ON*14 / OFF*13	OFF	OFF	OFF	OFF	Fuel pump control module circuit high input	×	1	CCM	C, O, R	×
P0638:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator control range/ performance problem	×	1	CCM	C, O, R	×
P064D:00	ON	OFF	OFF	OFF	OFF	Internal control module A/F sensor processor performance problem	—	1	A/F sensor, HO2S	C, R	×
P0685:00	ON	OFF	OFF	OFF	OFF	Main relay control circuit open	—	2	CCM	C	×
P06B8:00	ON	OFF	OFF	OFF	OFF	Internal control module non-volatile RAM error	—	1	Other	C, O, R	×
P06DA:00	OFF	ON	OFF	OFF	OFF	Engine oil solenoid valve circuit problem	×	1	Other	C, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type* 1	Memory function
P0703:00	ON	ON	OFF	OFF	OFF	Brake switch input circuit problem	—	2	CCM	C	×
P0704:00* 3	ON	OFF	OFF	OFF	OFF	CPP switch input circuit problem	—	2	CCM	C	×
P07BE: 00*8	OFF	OFF	Flash	OFF	OFF	Transmission indeterminate failure (failed to neutral)	×	1	Other	C, O, R	×
P0850:00* 3	ON	OFF	OFF	OFF	OFF	Neutral switch No.1 input circuit problem	—	2	CCM	C	×
P0A0F: 00*6	OFF	OFF	Flash	OFF	OFF	Engine failed to restart	×	1	Other	C	×
P0A8D: 00*6	OFF	ON	Flash	OFF	OFF	Power supply system circuit low input	×	1	Other	C	×
P0A8F: 00*12	OFF	ON	Flash	OFF	OFF	Power system: Low input	×	2	Other	C	×
P0A94:00 *6	OFF	OFF	Flash	OFF	OFF	DC-DC converter: control circuit signal error	×	1	Other	C	×
P111A:00	OFF	OFF	OFF	OFF	OFF	Engine coolant temperature is high	×	1	Other	C	×
P117A:00	OFF	OFF	OFF	OFF	OFF	Engine oil temperature is high	×	1	Other	C	×
P1260:00	OFF	OFF	OFF	OFF	OFF	Immobilizer system problem	—	—	Other	C, O	—
P1380:00	OFF	OFF	OFF	OFF	OFF	Electric variable valve timing control circuit problem	×	1	CCM	C, R	×
P151B: 00*2	OFF	OFF	OFF	OFF	OFF	IAC system problem	—	—	Other	R	×
P176E: 00*8	OFF	OFF	Flash	OFF	OFF	Clutch stroke sensor/ Starter interlock switch correlation problem	×	1	Other	C, O, R	×
P2090:00	ON	OFF	OFF	OFF	OFF	OCV circuit low input	×	1	CCM	C, R	×
P2091:00	ON	OFF	OFF	OFF	OFF	OCV circuit high input	×	1	CCM	C, R	×
P2096:00	ON	OFF	OFF	OFF	OFF	HO2S fuel injection control system: Air fuel too lean	—	2	Fuel system	C	×
P2097:00	ON	OFF	OFF	OFF	OFF	HO2S fuel injection control system: Air fuel too rich	—	2	Fuel system	C	×
P2101:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator control motor circuit range/performance problem	×	1	CCM	C, O	×
P2107:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator control module processor error	×	1	CCM	C, O, R	×
P2109:00	ON	OFF	OFF	OFF	OFF	TP sensor minimum stop range/ performance problem	×	1	CCM	C, O, R	×
P2110:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator control system-forced limited RPM	×	1	CCM	C, R	×
P2112:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator motor current range/ performance problem	×	1	CCM	C, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type* 1	Memory function
P2119:00	ON	OFF	OFF	OFF	OFF	Throttle valve actuator control throttle body range/performance problem	×	1	CCM	C, R	×
P2122:00	ON	OFF	OFF	OFF	OFF	APP sensor No.1 circuit low input	×	1	CCM	C, O, R	×
P2123:00	ON	OFF	OFF	OFF	OFF	APP sensor No.1 circuit high input	×	1	CCM	C, O, R	×
P2127:00	ON	OFF	OFF	OFF	OFF	APP sensor No.2 circuit low input	×	1	CCM	C, O, R	×
P2128:00	ON	OFF	OFF	OFF	OFF	APP sensor No.2 circuit high input	×	1	CCM	C, O, R	×
P2135:00	ON	OFF	OFF	OFF	OFF	TP sensor No.1/No.2 voltage correlation problem	×	1	CCM	C, O, R	×
P2138:00	ON	OFF	OFF	OFF	OFF	APP sensor No.1/No.2 voltage correlation problem	×	1	CCM	C, O, R	×
P2199:00	ON	OFF	OFF	OFF	OFF	IAT sensor No.2 circuit range/performance problem	—	2	CCM	C	×
P2228:00	ON	OFF	OFF	OFF	OFF	BARO sensor circuit low input	×	1	CCM	C, O, R	×
P2229:00	ON	OFF	OFF	OFF	OFF	BARO sensor circuit high input	×	1	CCM	C, O, R	×
P2237:00	ON	OFF	OFF	OFF	OFF	Open circuit between A/F sensor terminal B and PCM terminal 1AG	×	2	A/F sensor, HO2S	C, R	×
P2243:00	ON	OFF	OFF	OFF	OFF	A/F sensor reference voltage circuit open	—	2	A/F sensor, HO2S	C, R	×
P2251:00	ON	OFF	OFF	OFF	OFF	Open circuit between A/F sensor terminal D and PCM terminal 1AB	×	2	A/F sensor, HO2S	C, R	×
P2299:00	OFF	OFF	OFF	OFF	OFF	Accelerator pedal: spring back malfunction	×	1	Other	C, R	×
P2302:00	OFF	OFF	OFF	OFF	OFF	Ion sensor No.1 circuit problem	—	1	Other	C, R	×
P2305:00	OFF	OFF	OFF	OFF	OFF	Ion sensor No.2 circuit problem	—	1	Other	C, R	×
P2308:00	OFF	OFF	OFF	OFF	OFF	Ion sensor No.3 circuit problem	—	1	Other	C, R	×
P2311:00	OFF	OFF	OFF	OFF	OFF	Ion sensor No.4 circuit problem	—	1	Other	C, R	×
P2502:00	OFF	OFF	Flash	ON*10	OFF	Generator system: Malfunction in voltage generated by generator	×	1	Other	C	×
P2503:00	OFF	OFF	Flash	ON*10	OFF	Generator system: Voltage generated by generator is low	×	1	Other	C	×
P2504:00	OFF	OFF	Flash	ON*10	OFF	Generator system: Voltage generated by generator is high	×	1	Other	C	×
P2507:00	ON	OFF	OFF	OFF	OFF	PCM battery voltage low input	—	1	CCM	C, O, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type* 1	Memory function
P2610:00	ON	OFF	OFF	OFF	OFF	**Type A VIN** • Instrument cluster internal engine off timer performance problem **Type B VIN** • Malfunction in instrument cluster	×	2	CCM	C, R	×
U0073:00	OFF	OFF	OFF	OFF	OFF	CAN system communication error (HS CAN)	—	1	Other	C, O, R	×
U0074:00 *4	OFF	OFF	OFF	OFF	OFF	CAN system communication error (local CAN between PCM and TCM)	—	1	Other	C, O, R	×
U0101:00 *4	ON	OFF	Flash	OFF	OFF	CAN communication: communication error to TCM	×	1	Other	C, O, R	×
U0121:00	ON	OFF	Flash	OFF	OFF	CAN communication: communication error to DSC HU/CM	×	1	Other	C, O, R	×
U0131:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to EPS control module	×	1	Other	C, O, R	×
U0140:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to front body control module (FBCM)	×	1	Other	C, O, R	×
U0151:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to SAS control module	×	1	Other	C, O, R	×
U0155:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to instrument cluster	×	1	Other	C, O, R	×
U0214:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to start stop unit	×	1	Other	C, O, R	×
U0235:00	OFF	OFF	Flash	OFF	OFF	CAN communication: communication error to laser sensor	×	1	Other	C, O, R	×
U0298:00 *6	OFF	OFF	Flash	OFF	OFF	CAN/LIN communication system: DC-DC converter information communication error with front body control module (FBCM)	×	1	Other	C, O, R	×
U0302:00 *4	ON	OFF	OFF	OFF	OFF	TCM processor error	—	1	Other	C, O, R	×
U0315:00	OFF	OFF	OFF	OFF	OFF	DSC HU/CM error	—	1	Other	C, O, R	×
U0320:00	OFF	OFF	OFF	OFF	OFF	EPS control module error	—	1	Other	C, O, R	×
U0323:00	OFF	OFF	OFF	OFF	OFF	Instrument cluster error	—	1	Other	C, O, R	×
U0336:00	OFF	OFF	OFF	OFF	OFF	SAS control module error	—	1	Other	C, O, R	×
U0338:00	OFF	OFF	OFF	OFF	OFF	Start stop unit error	—	1	Other	C, O, R	×

DTC No.	Check engine light	Master warning light	i-stop warning light (amber)	Charging system warning light	Engine oil warning light	Condition	Fail-safe function	Drive cycle	Monitor item	Self test type*1	Memory function
U0433:00	OFF	OFF	OFF	OFF	OFF	Abnormal message from rear body control module (RBCM)	×	1	Other	C, O, R	×
U1007:00 *6	OFF	ON	Flash	ON*10	OFF	CAN/LIN communication system: current sensor information communication error with front body control module (FBCM)	×	1	Other	C, O, R	×
U2300:00	OFF	ON*11	OFF	OFF	OFF	Global central configuration error	×	1	Other	C, R	×
U3000:41	OFF	OFF	OFF	OFF	OFF	PCM processor error	—	—	Other	C, O	—

*1 : C: CMDTC self test, O: KOEO self test, R: KOER self test
*2 : KOER self test only
*3 : MTX
*4 : ATX
*5 : Perform the self test after i-stop operates
*6 : With i-stop system
*7 : With air conditioner
*8 : With i-stop system (MTX)
*9 : Message "Engine Oil Pressure Inspection Required" is frequently indicated in TFT LCD. (With TFT LCD)
*10 : Message "Charging System Inspection Required" is frequently indicated in TFT LCD. (With TFT LCD)
*11 : Message "Vehicle System Inspection Required" is frequently indicated in TFT LCD. (With TFT LCD)
*12 : If equipped
*13 : Type A VIN
*14 : Type B VIN

Sending Continuous Monitoring System Test Results (pending code) (Mode 07)
- These appear when a problem is detected in a monitored system.

1-drive cycle type
- If any problems are detected in the first drive cycle, pending codes will be stored in the PCM memory, as well as DTCs.
- After pending codes are stored, if the PCM determines that the system is normal in any future drive cycle, the PCM deletes the pending codes.

2-drive cycle type
- The code for a failed system is stored in the PCM memory in the first drive cycle. If the PCM determines that the system returned to normal or the problem was mistakenly detected, it deletes the pending codes. If the problem is found in the second drive cycle, the PCM determines that the system is malfunctioning, and stores the pending codes and also DTCs.
- After pending codes are stored, if the PCM determines that the system is normal in any future drive cycle, the PCM deletes the pending codes.