






EG1-300

5S-FE ENGINE - DIAGNOSTIC TROUBLE CODE CHART

DIAGNOSTIC TROUBLE CODE CHART

HINT: Parameters listed in the chart may not be exactly same as your reading due to type of the instruments or other factors.

DTC No.	Number of MIL Blinks	Circuit	Diagnostic Trouble Code Detecting Condition
	 8E3931	Normal	No code is recorded.
12	 8E3931	G, NE Signal Circuit (No. 1) (Exc. California spec.)	No NE signal to ECM within 2 sec. or more after cranking. No G signal to ECM for 3 sec. or more with engine speed between 600 rpm and 4,000 rpm.
		G, N E Signal Circuit (No. 1) (Only for California spec.,)	No N E or G 1 and G2 signal to ECM for 2 sec. or more after cranking. Open in G (-) circuit
13	 8E3931	G, NE Signal Circuit (No. 2)	No NE signal to ECM for 0.3 sec. or more at 1,500 rpm or more.
			No G signal to ECM while NE signal is input 4 times to ECM when engine speed is between 500 rpm and 4,000 rpm.
			* No N E signal to ECM for 0.1 sec. or more at 1,000 rpm or more.
			* NE signal does not pulse 12 times to ECM during the interval between G1 and G2 pulses.
14	 8E3931	Ignition Signal Circuit	No IGF signal to ECM for 4 consecutive IGT signals.
			* No IGF signal to ECM for 8 consecutive IGT signals.
16**	 8E3931	A/T Control Signal	Fault in communications between the engine CPU and A/T CPU in the ECM

* , *4 : See page [EG1-306](#)

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If a malfunction code is displayed during the diagnostic trouble code check in test mode, check the circuit for that code listed in the table below (Proceed to the page given for that circuit).

Trouble Area	Malfunction Indicator Lamp*1		Memory*	See page
	Normal Mode	Test Mode		
_____			_____	
<ul style="list-style-type: none"> • Open or short in NE, G circuit • Distributor • Open or short in STA circuit 9 ECM 	ON	N.A.	○	EG1-336
				EG1-339
<ul style="list-style-type: none"> • Open or short in NE circuit • Distributor • ECM 	ON	N.A.	○	EG-343
	N.A.	ON		
	ON	N.A.		
	N.A.	ON		
<ul style="list-style-type: none"> • Open or short in IGF or IGT circuit from igniter to ECM • Igniter • ECM 	ON	N.A.	○	EG1-344
<ul style="list-style-type: none"> • ECM 	ON	N.A.	×	EG1-351

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DTC No.	Number of MIL Blinks	Circuit	Diagnostic Trouble Code Detecting Condition
21		Main Oxygen Sensor Signal	Main oxygen sensor signal voltage is reduced to between 0.35 V and 0.70 V for 60 sec. under conditions (a) ~ (d). (2 trip detection logic) *5 (a) Engine coolant temp.: 80 C (176 F) or more. (b) Engine speed: 1,500 rpm or more. (c) Load driving (Ex. A/T in overdrive (5th for M/T), A/C ON, Flat road, 50 mph (80 km/h)). (d) Main oxygen sensor signal voltage: Alternating above and below 0.45 V.
22		Engine Coolant Temp. Sensor Signal	Open or short in engine coolant temp. sensor circuit for 0.5 sec. or more.
24		Intake Air Temp. Sensor Signal	Open or short in intake air temp. sensor circuit for 0.5 sec. or more.
25		Air-Fuel Ratio Lean Malfunction	(1) Main oxygen sensor voltage is 0.45 V or less (lean) for 90 sec. under conditions (a) and (b). (2 trip detection logic)*5 (a) Engine coolant temp.: 60 C (140 F) or more. (b) Engine speed: 1,500 rpm or more. (2) Engine speed varies by more than 15 rpm over the preceding crankshaft position period during a period of 50 sec. or more under conditions (a) and (b). (2 trip detection logic)*5 (a) Engine speed: Idling (b) Engine coolant temp.: 60 C (140 F) or more.

*5: See page [EG1-307](#)






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Trouble Area	Malfunction Indicator Lamp*1		Memory'	See page
	Normal Mode	Test Mode		
<ul style="list-style-type: none"> • Main oxygen sensor circuit • Main oxygen sensor 	ON	ON	○	EG1-352
<ul style="list-style-type: none"> • Open or short in engine coolant temp. sensor circuit • Engine coolant temp. sensor • ECM 	ON	ON	○	EG1-356
<ul style="list-style-type: none"> • Open or short in intake air temp. sensor circuit • Intake air temp. sensor • ECM 	ON	ON	○	EG1-360
<ul style="list-style-type: none"> • Open or short in main oxygen sensor circuit • Main oxygen sensor • ignition system • ECM 	ON	ON	○	EG1-363
<ul style="list-style-type: none"> • Open or short in injector circuit • Fuel line pressure (injector leak, blockage) • Mechanical system malfunction (skipping teeth of timing belt) • Ignition system • Compression pressure (foreign object caught in valve) • Air leakage • ECM 				

1, : See page [EG1-306](#)

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5S-FE ENGINE - DIAGNOSTIC TROUBLE CODE CHART

DTC No.	Number of MIL Blinks	Circuit	Diagnostic Trouble Code Detecting Condition
26	 BE3932	Air-Fuel Ratio Rich Malfunction	Engine speed varies by more than 15 rpm over the preceding crankshaft position period during a period of 50 sec. or more under conditions (a) and (b), (2 trip detection logic)*5 (a) Engine speed: Idling (b) Engine coolant temp.: 60 C (140 F) or more.
27	 BE3932	Sub Oxygen Sensor Signal	Main oxygen sensor signal is 0.45 V or more and sub oxygen sensor signal is 0.45 V or less under conditions (a) and (b), (2 trip detection logic)*5 (a) Engine coolant temp.: 80 C (176 F) or more. (b) Accel. pedal: Fully depressed for 2 sec. or more.
31	 BE3933	Manifold Absolute Pressure Sensor Signal	Open or short in manifold absolute pressure sensor circuit for 0.5 sec. or more.
41	 BE3934	Throttle Position Sensor Signal	Open or short in throttle position sensor circuit for 0.5 sec. or more.
42	 BE3934	No-1 Vehicle Speed Sensor Signal (for A/T)	All conditions below are detected continuously for 8 sec. or more. (a) No.1 vehicle speed sensor signal: 0 mph (km/h) (b) Engine speed: 3,100 rpm or more. (c) Park/Neutral position switch: OFF
		No.1 Vehicle Speed Sensor Signal (for M/T)	All conditions below are detected continuously for 8 sec. or more. (a) No.1 vehicle speed sensor signal: 0 mph (km/h) (b) Engine speed: Between 3,100 rpm and 5,000 rpm. (e) Engine coolant temp.: 80 C (176 F) or more. (d) Load driving.

*5: See page EG1-307





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Trouble Area	Malfunction Indicator Lamp*1		Memory*	See page
	Normal Mode	Test Mode		
<ul style="list-style-type: none"> • Open or short in injector circuit • Fuel line pressure (injector leak, blockage) • Mechanical system malfunction (skipping teeth of timing belt) • Ignition system • Compression pressure (foreign object caught in valve) • Air leakage • ECM 	ON	ON	○	EG1-363
<ul style="list-style-type: none"> • Open or short in sub oxygen sensor circuit • Sub oxygen sensor • ECM 	ON	ON	○	EG1-369
<ul style="list-style-type: none"> • Open or short in manifold absolute pressure sensor circuit. • Manifold absolute pressure sensor • ECM 	ON	ON	○	EG1-372
<ul style="list-style-type: none"> • Open or short in throttle position sensor circuit • Throttle position sensor • ECM 	ON	ON	○	EG1-376
<ul style="list-style-type: none"> • Open or short in No.1 vehicle speed sensor circuit • No.1 vehicle speed sensor • Combination meter • ECM 	OFF	OFF	○	EG1-380

1, : See page [EG1-306](#)

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DTC No.	Number of MIL Blinks	Circuit	Diagnostic trouble Code Detecting Condition
43	 BE3924	Starter Signal	No starter signal to ECM.
52	 BE3935	Knock Sensor Signal	Open or short in knock sensor circuit with engine speed between 1,200 rpm and 6,000 rpm.
71	 BE3937	EG R System Malfunction	EGR gas temp. is 70 C (158 F) or below for 50 sec. under conditions (a) and (b). (2 trip detection logic)*5 (a) Engine coolant temp.: 80 C (176 F) or more. (b) EGR operation possible (Ex. A/T in 3rd speed (5th for M/T), 55 – 60 mph (88 – 96 km/h), Flat road).
51	 BE3938	Switch Condition Signal	(1) 3 sec. or more after engine starts with closed throttle position switch OFF (IDL). (2) *4 Park/Neutral switch OFF (PNP). (Shift position in "R", "D", "2", or "L" positions). (3) A/C switch ON.

*1; "ON" displayed in the diagnosis mode column indicates that the Malfunction Indicator Lamp is lighted up when a malfunction is detected. "OFF" indicates that the "CHECK" does not light up during malfunction diagnosis, even if a malfunction is detected. "N.A." indicates that the item is not included in malfunction diagnosis.

*2; "O" in the memory column indicates that a diagnostic trouble code is recorded in the ECM memory when a malfunction occurs. "X" indicates that a diagnostic trouble code is not recorded in the ECM memory even if a malfunction occurs. Accordingly, output of diagnostic results in normal or test mode is performed with the IG switch ON.

*3; Only for California specification vehicles.

*4; Only vehicles with A/T.

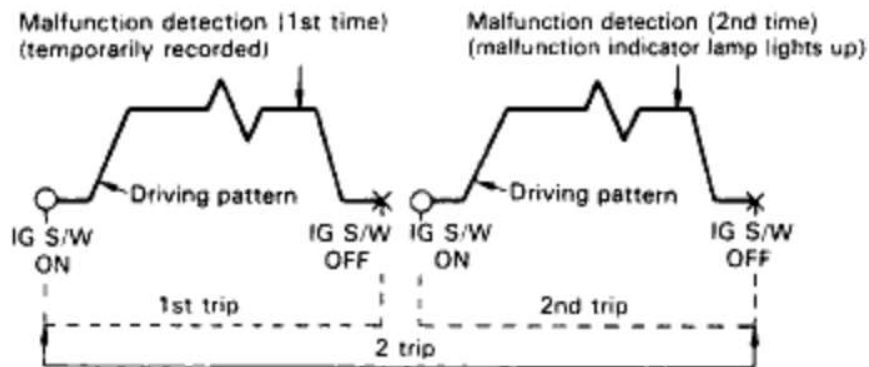
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Trouble Area	Malfunction Indicator Lamp*1		Memory*	See page
	Normal Mode	Test Mode		
<ul style="list-style-type: none"> • Open or short in starter signal circuit • Open or short in ignition switch or starter relay circuit ECM 	N.A.	OFF	X	EG1-383
<ul style="list-style-type: none"> • Open or short in knock sensor circuit • Knock sensor (looseness). • ECM 	ON	N.A.	○	EG1-385
<ul style="list-style-type: none"> • open in EGR gas temp. sensor circuit • Short in VSV circuit for EGR • EGR hose disconnected, valve stuck • Clogged EGR gas passage • ECM 	ON	ON	○	EG1-390
<ul style="list-style-type: none"> • Throttle position sensor IDL circuit • Accelerator pedal and cable • Park/Neutral Position switch circuit • A/C switch circuit • ECM 	N.A.	OFF	X	EG1-396

*5: This indicates items for which "2 trip detection logic" is used. With this logic, when a logic malfunction is first detected, the malfunction is temporarily stored in the ECM memory. If the same case is detected again during the second drive test, this second detection causes the Malfunction Indicator Lamp to light up.

The 2 trip repeats the same mode a 2nd time. (However, the IG switch must be turned OFF between the 1st trip and 2nd trip),

In the Test Mode, the Malfunction Indicator Lamp lights up the 1st trip a malfunction is detected.



EM9413