

01-02B ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

CRUISE CONTROL SYSTEM WIRING

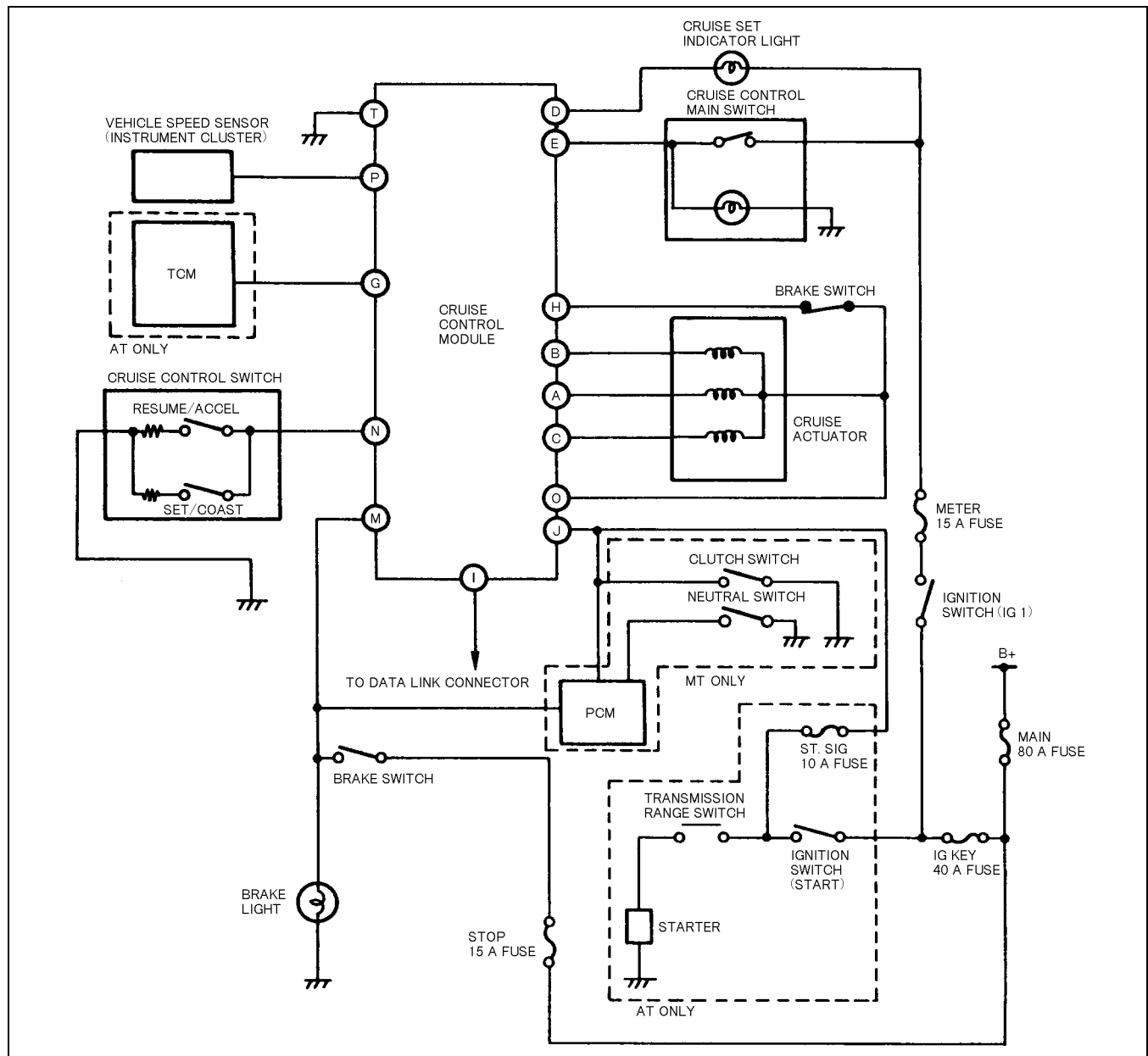
DIAGRAM	01-02B-1
OUTLINE	01-02B-2
INSPECTION ORDER	01-02B-2
INSPECTION OF DTCS FOR	
OPERATION MODE	01-02B-2
Using the Cruise Set Indicator Light ..	01-02B-2
Using The SST (WDS or equivalent) ..	01-02B-3
Operation Code List	01-02B-3
DTC 21	01-02B-4
DTC 22	01-02B-4
DTC 31	01-02B-4
DTC 35	01-02B-5

DTC 37	01-02B-6
INSPECTION OF DTCS FOR CONDITION	
DETECTION MODE	01-02B-7
Using the Cruise Set Indicator Light ..	01-02B-7
Using The SST (WDS or equivalent) ..	01-02B-7
Condition Code List	01-02B-8
DTC 01	01-02B-8
DTC 05	01-02B-9
DTC 07	01-02B-10
DTC 11	01-02B-10
DTC 12	01-02B-10
DTC 15	01-02B-11

01-02B

CRUISE CONTROL SYSTEM WIRING DIAGRAM

A5U010266350W01



Z5U101WA1

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

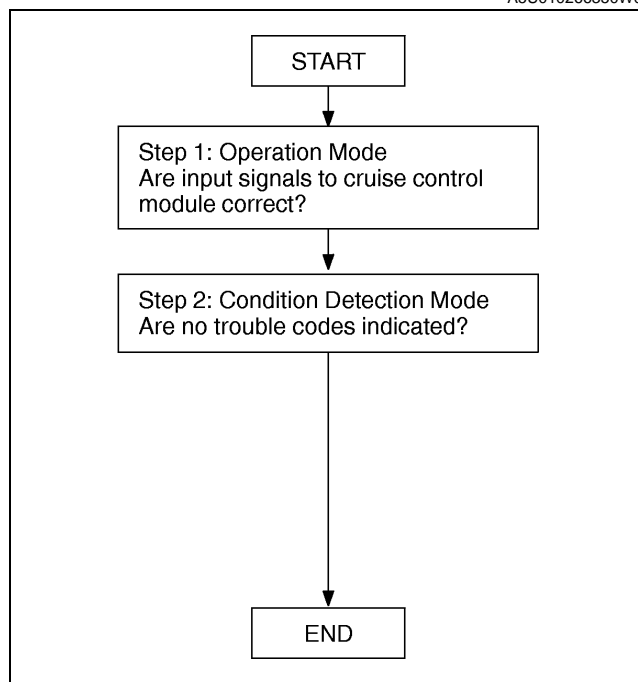
OUTLINE

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- There are two on-board diagnostic functions: Operation Mode, which inspects for and indicates correct operation of the input signals to the control module, and Condition Detection Mode, which indicates troubles in the system
- The two functions can be done using either of the following methods:
 - Verifying the flashing pattern of the cruise set indicator light in the instrument cluster.
 - Verifying the output of the data link connector using the **SST** (WDS or equivalent).

INSPECTION ORDER

A5U010266350W03



X5U101WV0

INSPECTION OF DTCS FOR OPERATION MODE

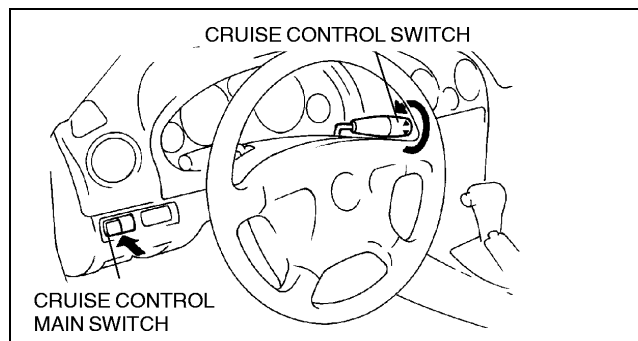
A5U010266350W04

Note

- If an Operation Mode is not indicated, the following may be the cause of the malfunction.
 1. Cruise control switch (RESUME/ACCEL switch)
 2. Cruise control main switch
 3. Cruise control module
 4. Open or short circuit in wiring harness

Using the Cruise Set Indicator Light

1. Turn the ignition switch to ON position.
2. Verify that the cruise control main switch is off.
3. Turn and hold the RESUME/ACCEL switch on then turn on the cruise control main switch to activate system inspection. (The cruise set indicator light will illuminate for **3 seconds**.)
4. Operate each switch as described in the operation code list and note the operation code list pattern.
 - If the cruise set indicator light does not flash, inspect the corresponding system area.
5. The operation mode is canceled by turning the ignition switch to LOCK position or turning off the cruise control main switch.



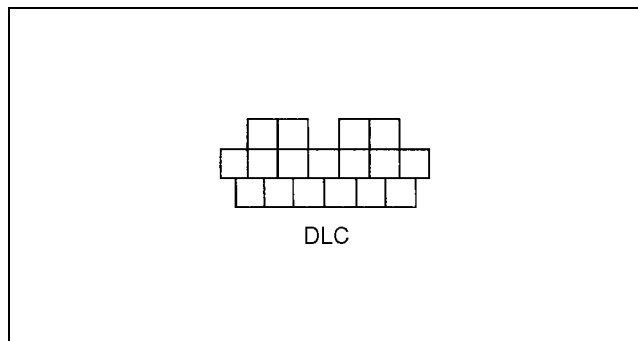
X5U101WV1

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

Using The SST (WDS or equivalent)

DTCs retrieving procedure

1. Hook-up the **SST** to the vehicle. Make sure that ignition key is at LOCK and all accessories are OFF.
2. Turn the ignition key to ON (engine OFF).
3. Retrieve any DTCs by WDS or equivalent.



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01-02B

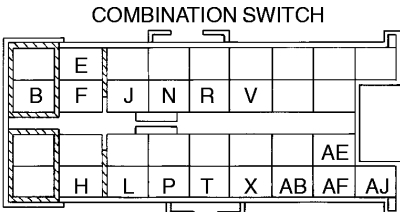
Operation Code List

Operation		DTC	Output pattern	Diagnosed circuit		Page
Turn SET/COAST switch on		21		Cruise control switch (SET/COAST switch)		(See 01-02B-4 DTC 21)
Turn RESUME/ACCEL switch on		22		Cruise control switch (RESUME/ACCEL switch)		(See 01-02B-4 DTC 22)
Depress brake pedal		31		Brake switch		(See 01-02B-4 DTC 31)
AT	Shift selector lever to P or N range	35		AT	Transmission range switch	(See 01-02B-5 DTC 35)
MT	Depress clutch pedal			MT	Clutch switch	(See 01-02B-5 DTC 35)
Drive vehicle above 40 km/h {25 mph}		37		Vehicle speed sensor		(See 01-02B-6 DTC 37)

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

DTC 21

A5U010266350W05

DTC 21	Cruise control switch (SET/COAST switch)
DETECTION CONDITION	<ul style="list-style-type: none"> Resistance detected between terminal N and ground is other than 240 ohms.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction Cruise control switch (wiper lever) malfunction
 <p>COMBINATION SWITCH</p> <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p>	

Diagnostic procedure

STEP	INSPECTION	ACTION
—	<ul style="list-style-type: none"> Remove lower panel. Turn ignition switch to ON position. Turn cruise control main switch on. Turn SET/COAST switch on. Is voltage at terminal AE of combination switch connector approximately 1.5 V? 	Yes Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No Replace wiper lever. (See 09-18-7 COMBINATION SWITCH DISASSEMBLY/ASSEMBLY)

DTC 22

A5U010266350W06

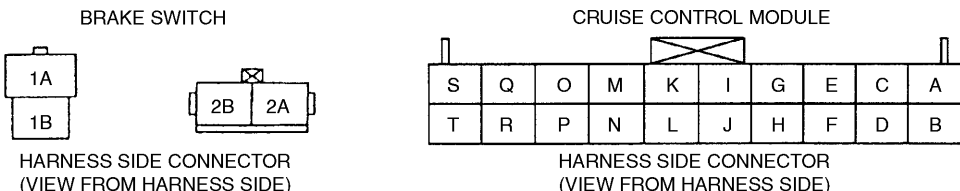
DTC 22	Cruise control switch (RESUME/ACCEL switch)
DETECTION CONDITION	<ul style="list-style-type: none"> Resistance detected between terminal N and ground is other than 910 ohms.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
—	—	Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)

DTC 31

A5U010266350W07

DTC 31	Brake switch
DETECTION CONDITION	<ul style="list-style-type: none"> Voltage detected at terminal M is not approximately 12 V or voltage detected at terminal O is not approximately 0 V.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Burnt STOP 15 A fuse Cruise control module malfunction Brake switch malfunction Malfunction in wiring harness between STOP 15 A fuse and brake switch Malfunction in wiring harness between cruise control module and brake switch
 <p>BRAKE SWITCH</p> <p>CRUISE CONTROL MODULE</p> <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p>	

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Does brake light illuminate when brake pedal is depressed? 	Yes
		No
2	<ul style="list-style-type: none"> Is STOP 15 A fuse okay? 	Yes
		No
3	<ul style="list-style-type: none"> Depress brake pedal. Is voltage at terminal 1B of brake switch connector approximately 12 V? 	Yes
		No
4	<ul style="list-style-type: none"> Is voltage at terminal 1A of brake switch connector approximately 12 V? 	Yes
		No
5	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Depress brake pedal. Is voltage at terminal M of cruise control module connector approximately 12 V? 	Yes
		No
6	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Depress brake pedal. Is voltage at terminal M of cruise control module connector approximately 12 V? 	Yes
		No
7	<ul style="list-style-type: none"> Turn ignition switch to ON position. Turn cruise control main switch on. Depress brake pedal. Is voltage at terminal O of cruise control module connector approximately 0 V? 	Yes
		No

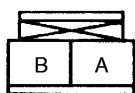
01-02B

DTC 35

A5U010266350W08

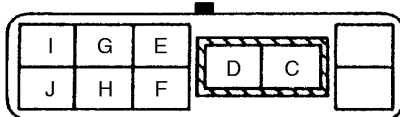
DTC 35	Clutch switch (AT: transmission range switch)
DETECTION CONDITION	<ul style="list-style-type: none"> Voltage detected at terminal J is not approximately 0 V.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction Clutch switch (AT: transmission range switch) malfunction Malfunction in wiring harness between clutch switch (AT: transmission range switch) and ground Malfunction in wiring harness between cruise control module and clutch switch (AT: transmission range switch)

CLUTCH SWITCH



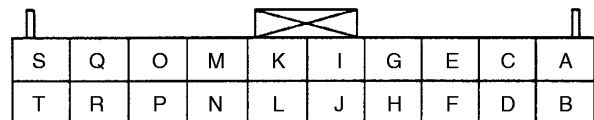
HARNESS SIDE CONNECTOR
(VIEW FROM HARNESS SIDE)

TRANSMISSION RANGE SWITCH



HARNESS SIDE CONNECTOR
(VIEW FROM HARNESS SIDE)

CRUISE CONTROL MODULE



HARNESS SIDE CONNECTOR
(VIEW FROM HARNESS SIDE)

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Does vehicle have MT? 	Yes
		No

01-02B-5

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

STEP	INSPECTION	ACTION
2	<ul style="list-style-type: none"> Inspect clutch switch. (See 01-40-33 CLUTCH SWITCH INSPECTION) Is clutch switch okay? 	Yes Go to next step.
		No Replace clutch switch. (See 05-10-6 CLUTCH PEDAL REMOVAL/INSTALLATION)
3	<ul style="list-style-type: none"> Disconnect clutch switch connector. Is there continuity between terminal B of clutch switch connector and ground? 	Yes Go to next step.
		No Repair wiring harness. (Clutch switch—GND)
4	<ul style="list-style-type: none"> Turn ignition switch to ON position. Turn cruise control main switch on. Keep clutch pedal released. Is voltage at terminal A of clutch switch connector approximately 12 V? 	Yes Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No Go to next step.
5	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Is voltage at terminal J of cruise control module connector approximately 12 V? 	Yes Repair wiring harness. (Cruise control module—Clutch switch)
		No Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
6	<ul style="list-style-type: none"> Inspect transmission range switch. (See 05-13-14 TRANSMISSION RANGE (TR) SWITCH INSPECTION) Is transmission range switch okay? 	Yes Go to next step.
		No Replace transmission range switch. (See 05-13-15 TRANSMISSION RANGE (TR) SWITCH REMOVAL/INSTALLATION)
7	<ul style="list-style-type: none"> Disconnect transmission range switch connector. Is there continuity between terminal C of transmission range switch connector and ground? 	Yes Go to next step.
		No Repair wiring harness. (Transmission range switch—GND)
8	<ul style="list-style-type: none"> Turn ignition switch to ON position. Turn cruise control main switch on. Shift selector lever to D or R range. Is voltage at terminal D of transmission range switch connector approximately 12 V? 	Yes Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No Go to next step.
9	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Is voltage at terminal J of cruise control module connector approximately 12 V? 	Yes Repair wiring harness. (Cruise control module—Transmission range switch)
		No Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)

DTC 37

A5U010266350W09

DTC 37	Vehicle speed sensor
DETECTION CONDITION	<ul style="list-style-type: none"> Voltage detected at terminal P does not alternate between 0V and 5V.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction Instrument cluster malfunction Malfunction in wiring harness between cruise control module and instrument cluster
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>INSTRUMENT CLUSTER</p> <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> <div style="text-align: center;"> <p>CRUISE CONTROL MODULE</p> <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> </div>	

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Disconnect instrument cluster connector. Remove lower panel. Disconnect cruise control module connector. Is there continuity between terminal P of cruise control module and terminal 2L of instrument cluster? 	Yes
		Go to next step.
2	<ul style="list-style-type: none"> Turn ignition switch to ON position. Turn cruise control main switch on. Rotate rear tires. Does voltage at terminal 2L of instrument cluster connector alternate between 0V and 5V? 	Yes
		Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No
		Replace instrument cluster. (See 09-22-3 INSTRUMENT CLUSTER REMOVAL/INSTALLATION)

01-02B

INSPECTION OF DTCS FOR CONDITION DETECTION MODE

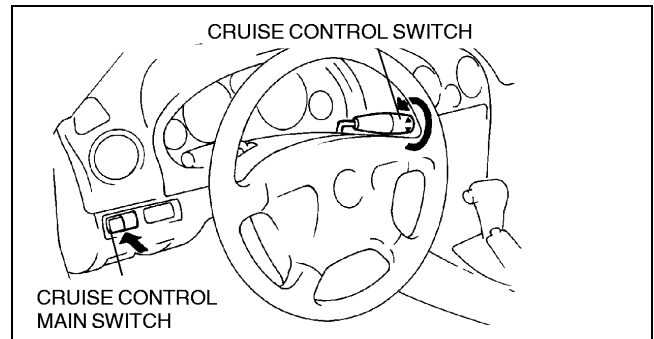
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Using the Cruise Set Indicator Light

Note

- If the RESUME/ACCEL switch on the cruise control switch is malfunctioning, the cruise set indicator light will not give a correct indication when you inspect the system. Use the **SST** (WDS or equivalent) to determine the cause of the malfunction.

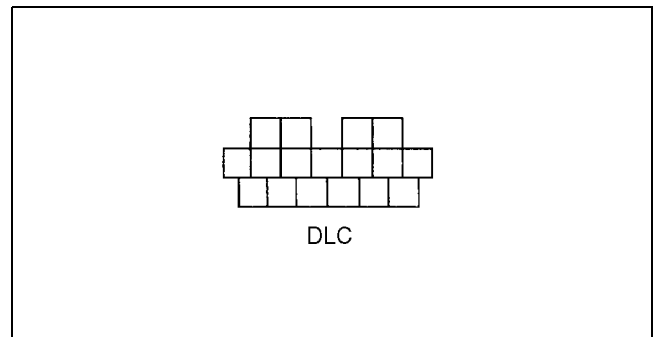
- Drive the vehicle at over **16 km/h {10 mile/h}**.
- Operate each of the cruise control switches.
- Stop the vehicle and let it idle.
- Turn on the cruise control main switch.
- Turn and hold the RESUME/ACCEL switch on for **at least 3 seconds**. The cruise set indicator light will illuminate for **3 seconds**, and then go off for **at least 2 seconds**. Thus, the condition detection mode begins.
 - If a diagnostic trouble code is indicated, inspect the corresponding system area.
- The condition detection mode is canceled by turning the ignition switch to LOCK position or turning off the cruise control main switch.



X5U101WV1

Using The SST (WDS or equivalent) DTCs retrieving procedure




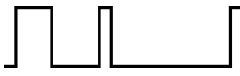


- Hook-up the **SST** to the vehicle. Make sure that ignition key is at LOCK and all accessories are OFF.
- Turn the ignition key to ON (engine OFF).
- Retrieve any DTCs by WDS or equivalent.



Z3U0102W401

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

Condition Code List


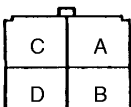
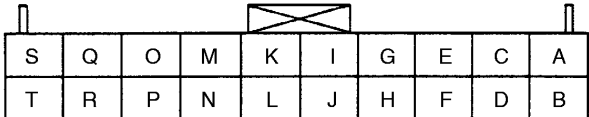
DTC	Output pattern	Diagnosed circuit	Page
01		Cruise actuator	(See 01-02B-8 DTC 01)
05		Brake switch	(See 01-02B-9 DTC 05)
07		Brake switch	(See 01-02B-10 DTC 07)
11		Cruise control switch (SET/COAST switch)	(See 01-02B-10 DTC 11)
12		Cruise control switch (RESUME/ACCEL switch)	(See 01-02B-10 DTC 12)
15		Cruise control module	(See 01-02B-11 DTC 15)

Note

- When two or more service codes are indicated, inspect the malfunction with the smallest number first.

DTC 01

A5U010266350W11

DTC 01	Cruise actuator
DETECTION CONDITION	<ul style="list-style-type: none"> Voltage detected at terminal A, B or C are not approximately 12 V.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction Cruise actuator malfunction Malfunction in wiring harness between cruise control module and cruise actuator Malfunction in wiring harness between cruise actuator and brake switch Malfunction in wiring harness between cruise control module and brake switch
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>BRAKE SWITCH</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> <div style="text-align: center;"> <p>CRUISE ACTUATOR</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> <div style="text-align: center;"> <p>CRUISE CONTROL MODULE</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> </div>	

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Are wiring harnesses between cruise control module and cruise actuator okay? 	Yes Go to next step.
		No Repair wiring harness. (Cruise control module—Cruise actuator)
2	<ul style="list-style-type: none"> Disconnect cruise actuator connector. Turn ignition switch to ON position. Turn cruise control main switch on. Is voltage at terminal C of cruise actuator connector approximately 12 V? 	Yes Go to Step 6.
		No Go to next step.

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

STEP	INSPECTION		ACTION
3	<ul style="list-style-type: none"> Is voltage at terminal 2B of brake switch connector approximately 12 V? 	Yes	Repair wiring harness. (Cruise actuator—Brake switch)
		No	Go to next step.
4	<ul style="list-style-type: none"> Is voltage at terminal 2A of brake switch connector approximately 12 V? 	Yes	Replace brake switch. (See 04–11–5 BRAKE PEDAL REMOVAL/INSTALLATION)
		No	Go to next step.
5	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01–20–2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Is voltage at terminal H of cruise control module connector approximately 12 V? 	Yes	Repair wiring harness. (Cruise actuator—Brake switch)
		No	Replace cruise control module. (See 01–20–2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
6	<ul style="list-style-type: none"> Connect cruise actuator connector. Turn ignition switch to ON position. Turn cruise control main switch on. Is voltage at terminal B of cruise actuator connector approximately 12 V? 	Yes	Go to next step.
		No	Replace cruise actuator. (See 01–20–2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
7	<ul style="list-style-type: none"> Is voltage at terminal D of cruise actuator connector approximately 12 V? 	Yes	Go to next step.
		No	Replace cruise actuator. (See 01–20–5 CRUISE ACTUATOR REMOVAL/INSTALLATION)
8	<ul style="list-style-type: none"> Is voltage at terminal D of cruise actuator connector approximately 12 V? 	Yes	Replace cruise control module. (See 01–20–2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No	Replace cruise actuator. (See 01–20–5 CRUISE ACTUATOR REMOVAL/INSTALLATION)

01–02B

DTC 05

A5U010266350W12

DTC 05	Brake switch
DETECTION CONDITION	<ul style="list-style-type: none"> Always approximately 0 V detected at terminal M
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction


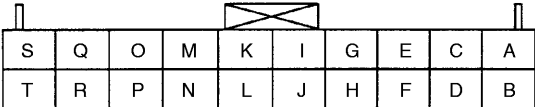
Diagnostic procedure

STEP	INSPECTION		ACTION
—	<ul style="list-style-type: none"> Was operation mode performed? 	Yes	Perform operation mode on-board diagnostic again. Even if no malfunctions are detected in operation mode, if DTC 05 is indicated in condition detection mode on-board diagnostic, replace cruise control module. (See 01–20–2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No	Perform operation mode.

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

DTC 07

A5U010266350W13

DTC 07	Brake switch
DETECTION CONDITION	<ul style="list-style-type: none"> Voltage detected at terminal M or O is always approximately 12 V. Voltage detected at terminal O is always approximately 0 V.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction Brake switch malfunction Malfunction in wiring harness between cruise control module and brake switch
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;"> <p>BRAKE SWITCH</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> <div style="text-align: center;"> <p>CRUISE CONTROL MODULE</p>  <p>HARNESS SIDE CONNECTOR (VIEW FROM HARNESS SIDE)</p> </div> </div>	

Diagnostic procedure

STEP	INSPECTION	ACTION
1	<ul style="list-style-type: none"> Disconnect brake switch connector. Is there continuity between terminal 1A and 1B of brake switch? 	Yes
		Replace brake switch. (See 04-11-5 BRAKE PEDAL REMOVAL/INSTALLATION)
2	<ul style="list-style-type: none"> Remove lower panel. Remove cruise control module with connector connected. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION) Turn ignition switch to ON position. Turn cruise control main switch on. Depress brake pedal. Is voltage at terminal M of cruise control module connector approximately 0 V? 	No
		Go to next step.
		Yes
		Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No
		Repair wiring harness. (Cruise control module—Brake switch)

DTC 11

A5U010266350W14

DTC 11	Cruise control switch (SET/COAST switch)
DETECTION CONDITION	<ul style="list-style-type: none"> Resistance detected between terminal N and ground is always 210 ohms.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
—	<ul style="list-style-type: none"> Was operation mode performed? 	Yes
		Perform operation mode on-board diagnostic again. Even if no malfunctions are detected in operation mode, if DTC 11 is indicated in condition detection mode on-board diagnostic, replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No
		Perform operation mode.

DTC 12

A5U010266350W15

DTC 12	Cruise control switch (RESUME/ACCEL switch)
DETECTION CONDITION	<ul style="list-style-type: none"> Resistance detected between terminal N and ground is always 910 ohms.
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction

ON-BOARD DIAGNOSTIC [CRUISE CONTROL SYSTEM]

Diagnostic procedure

STEP	INSPECTION		ACTION
—	<ul style="list-style-type: none"> Was operation mode performed? 	Yes	Perform operation mode on-board diagnostic again. Even if no malfunctions are detected in operation mode, if DTC 12 is indicated in condition detection mode on-board diagnostic, replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)
		No	Perform operation mode.

01-02B

DTC 15

A5U010266350W16

DTC 15	Cruise control module
DETECTION CONDITION	<ul style="list-style-type: none"> Malfunction in cruise control module circuit
POSSIBLE CAUSE	<ul style="list-style-type: none"> Cruise control module malfunction

Diagnostic procedure

STEP	INSPECTION	ACTION
—	—	Replace cruise control module. (See 01-20-2 CRUISE CONTROL MODULE REMOVAL/INSTALLATION)