Component Procedures: Instrument Cluster / Carrier

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Component Procedures: Instrument Cluster / Carrier

Parts and Labor (itype_189)

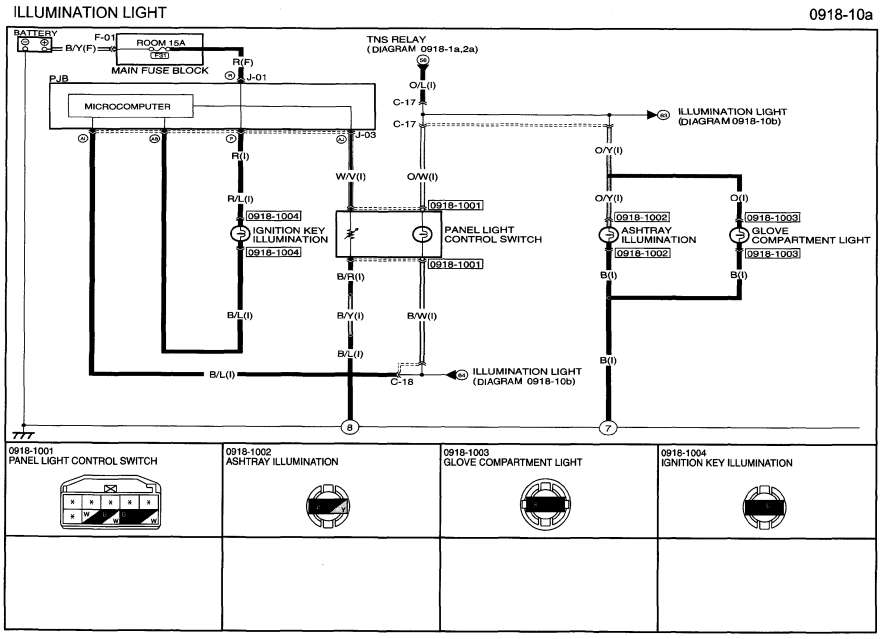
Parts

Qualifier	Part #	Name	Price	Note
Instrument Cluster > Manual ?	BAP355471A	Instrument Cluster	1206.70	Includes Fuel, Speedometer?
Instrument Cluster > Manual ?	BAP455471A	Instrument Cluster	906.70	Includes Fuel, Speedometer?
Instrument Cluster > Manual ?	BAA155471	Instrument Cluster	664.57	Includes Fuel, Speedometer?
Instrument Cluster > Auto Tr?	BAP755471A	Instrument Cluster	914.80	Includes Fuel, Speedometer?
Instrument Cluster > Auto Tr?	BAR355471A	Instrument Cluster	1185.83	Includes Fuel, Speedometer?
Instrument Cluster > Auto Tr?	BAA355471	Instrument Cluster	791.30	Includes Fuel, Speedometer?

Labor

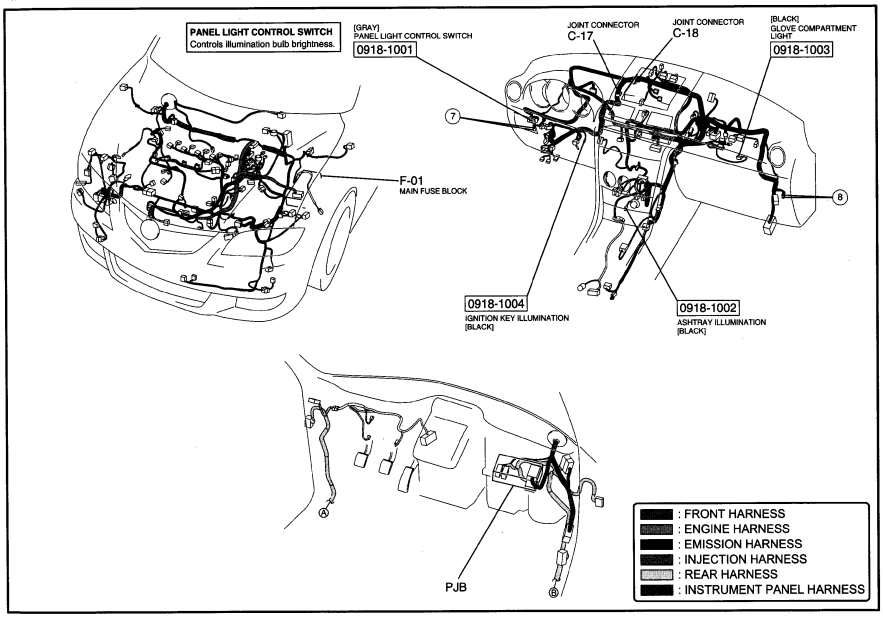
Operation	Qualifier Path	Skill	Std Hrs	Wty Hrs
Replace	Instrument Cluster, R&R	B	0.6	0.4

Instrument Panel Illumination (Article 1462469)



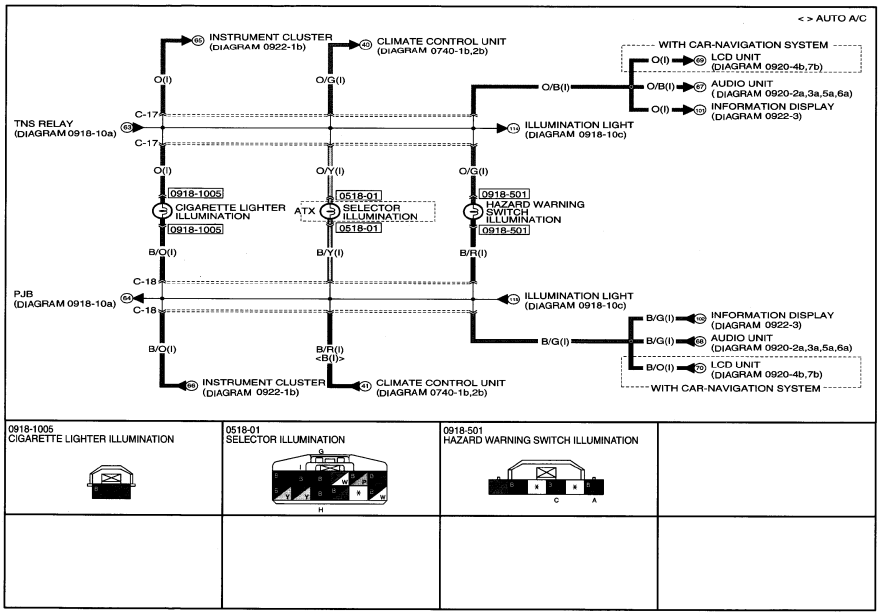
ILLUMINATION LIGHT

0918-10a

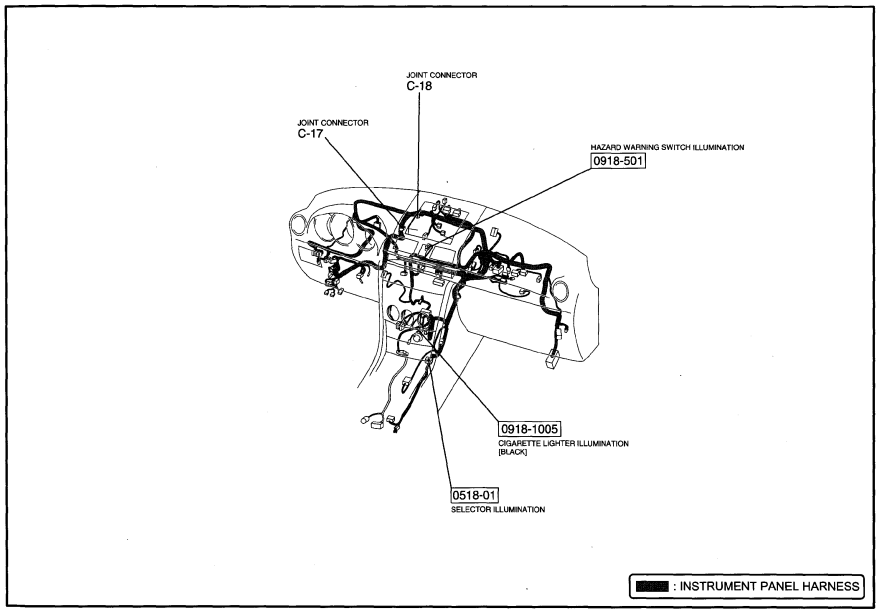


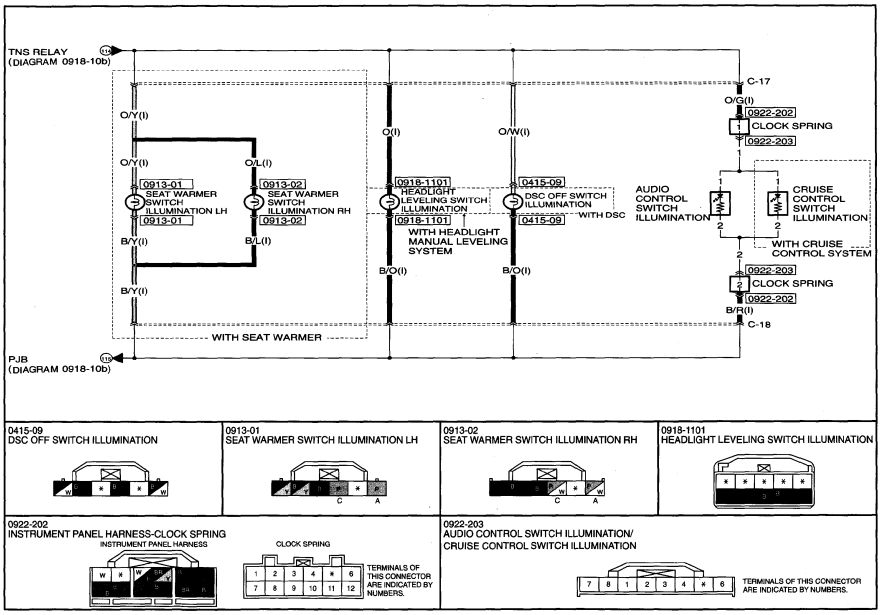
ILLUMINATION LIGHT

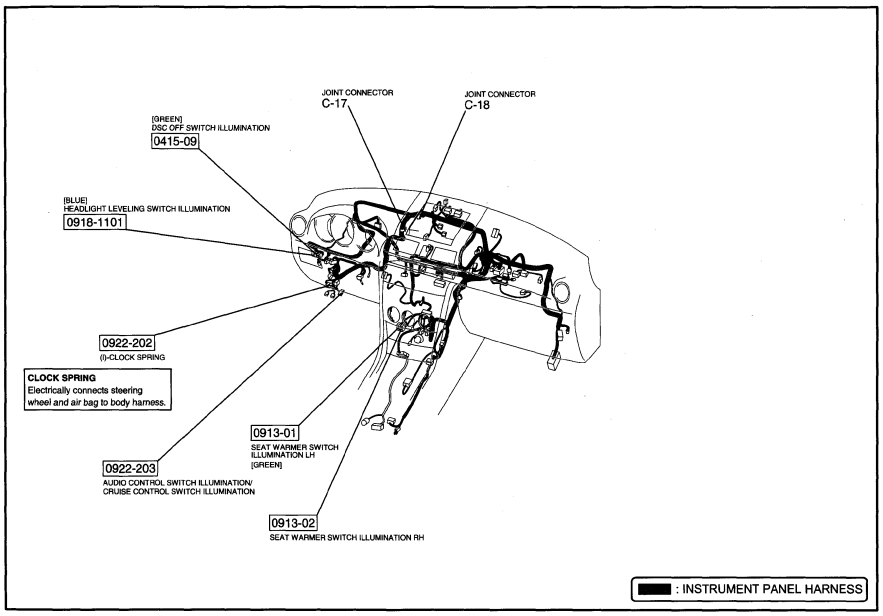
0918-10b



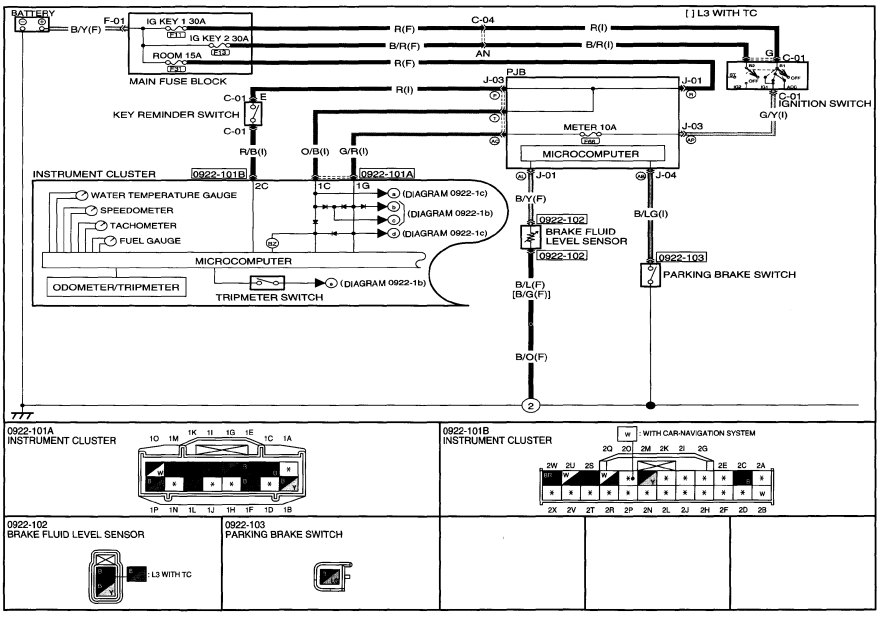
0918-1005 CIGARETTE LIGHTER ILLUMINATION	0518-01 SELECTOR ILLUMINATION	0918-501 HAZARD WARNING SWITCH ILLUMINATION	


JOINT CONNECTOR
C-18
JOINT CONNECTOR
C-17
HAZARD WARNING SWITCH ILLUMINATION
0918-501
0918-1005
CIGARETTE LIGHTER ILLUMINATION
[BLACK]
0518-01
SELECTOR ILLUMINATION
: INSTRUMENT PANEL HARNESS

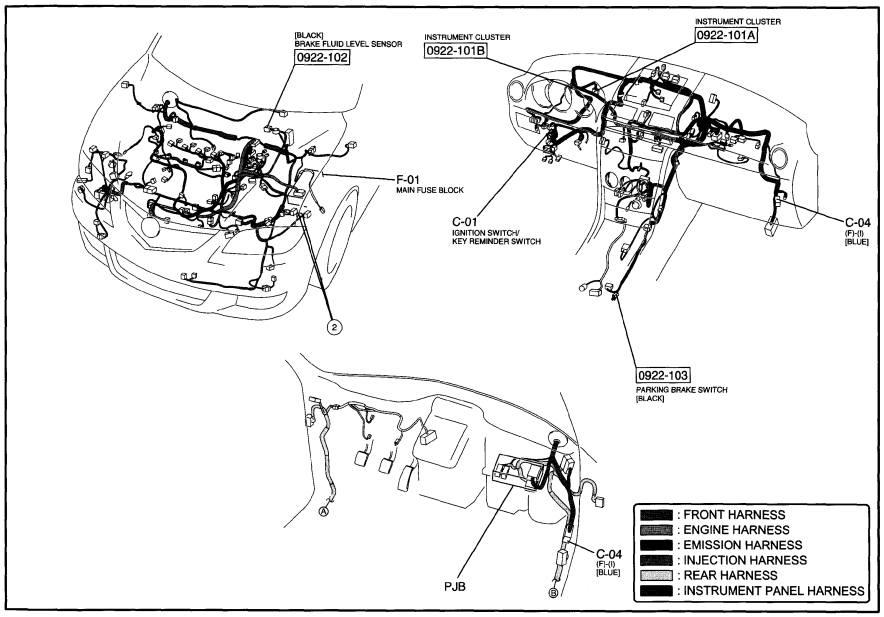

TNS RELAY
(DIAGRAM 0918-10b)
PJB
(DIAGRAM 0918-10b)
C-17
C-18
O/G(I)
0922-202
CLOCK SPRING
0922-203
O/Y(I)
O/L(I)
O(I)
O/W(I)
0913-01
SEAT WARMER SWITCH ILLUMINATION LH
0913-02
SEAT WARMER SWITCH ILLUMINATION RH
0918-1101
HEADLIGHT LEVELING SWITCH ILLUMINATION
WITH HEADLIGHT MANUAL LEVELING SYSTEM
0415-09
DSC OFF SWITCH ILLUMINATION
WITH DSC
AUDIO CONTROL SWITCH ILLUMINATION
CRUISE CONTROL SWITCH ILLUMINATION
WITH CRUISE CONTROL SYSTEM
B/Y(I)
B/L(I)
B/O(I)
B/R(I)
WITH SEAT WARMER
0415-09
DSC OFF SWITCH ILLUMINATION
0913-01
SEAT WARMER SWITCH ILLUMINATION LH
0913-02
SEAT WARMER SWITCH ILLUMINATION RH
0918-1101
HEADLIGHT LEVELING SWITCH ILLUMINATION
0922-202
INSTRUMENT PANEL HARNESS-CLOCK SPRING
INSTRUMENT PANEL HARNESS
CLOCK SPRING
TERMINALS OF THIS CONNECTOR ARE INDICATED BY NUMBERS.
0922-203
AUDIO CONTROL SWITCH ILLUMINATION/
CRUISE CONTROL SWITCH ILLUMINATION
TERMINALS OF THIS CONNECTOR ARE INDICATED BY NUMBERS.



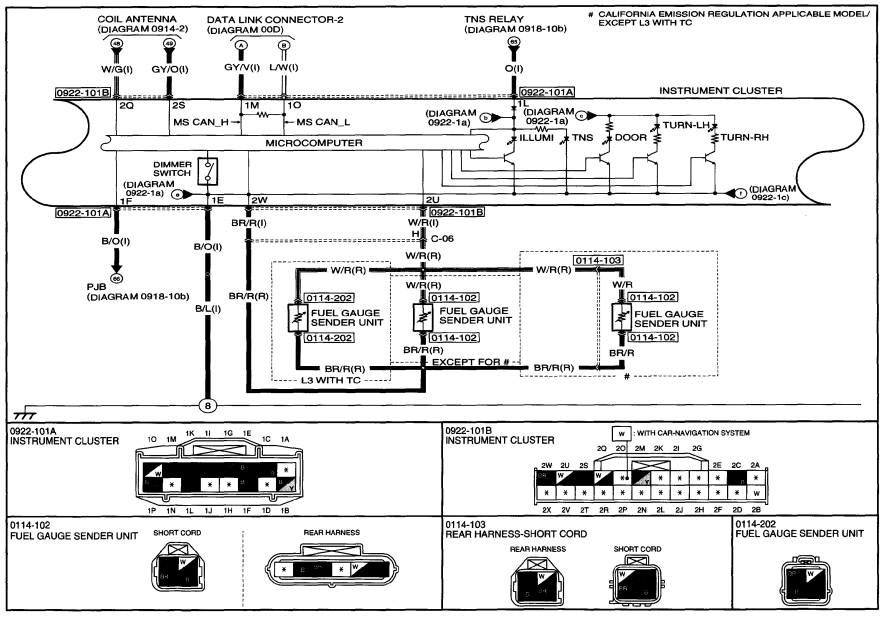
Instrument Cluster (Article 1462470)

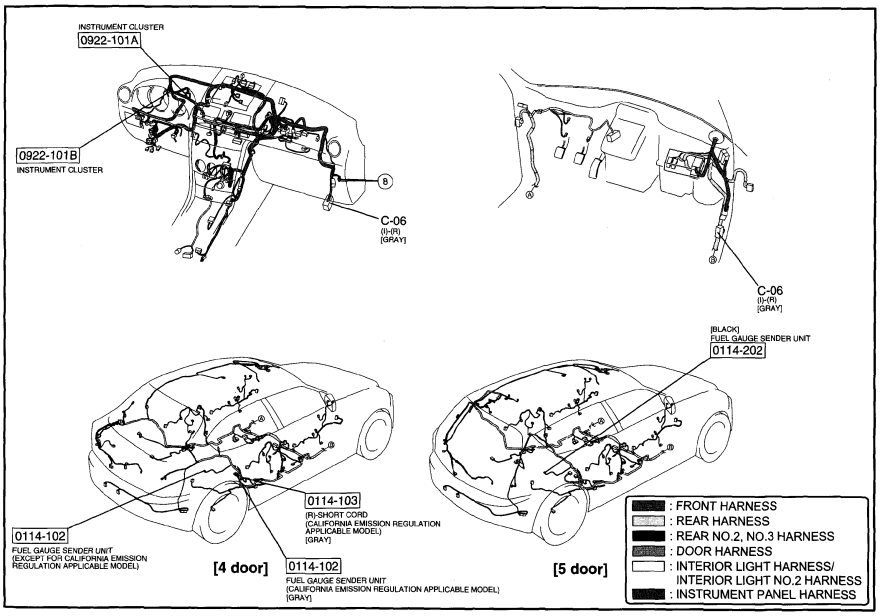


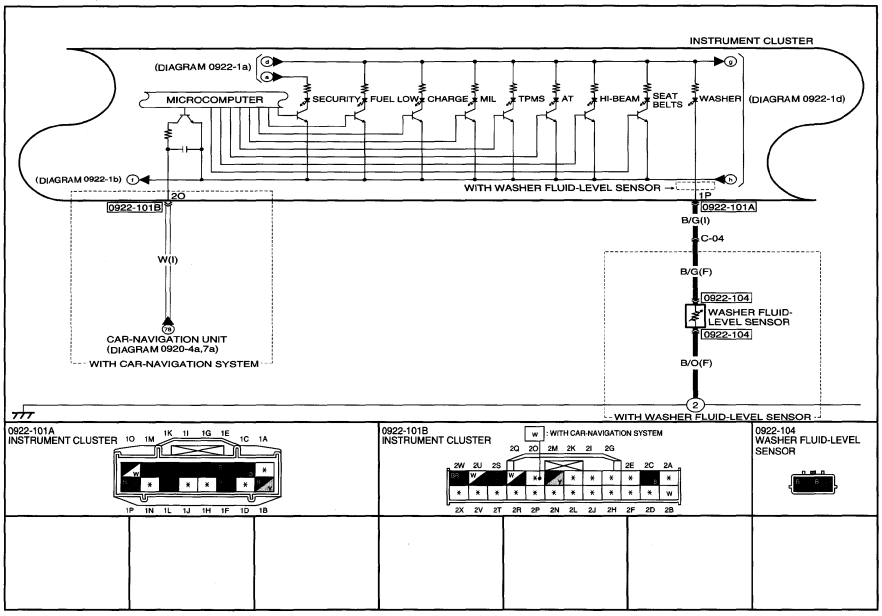
INSTRUMENT CLUSTER 0922-1a



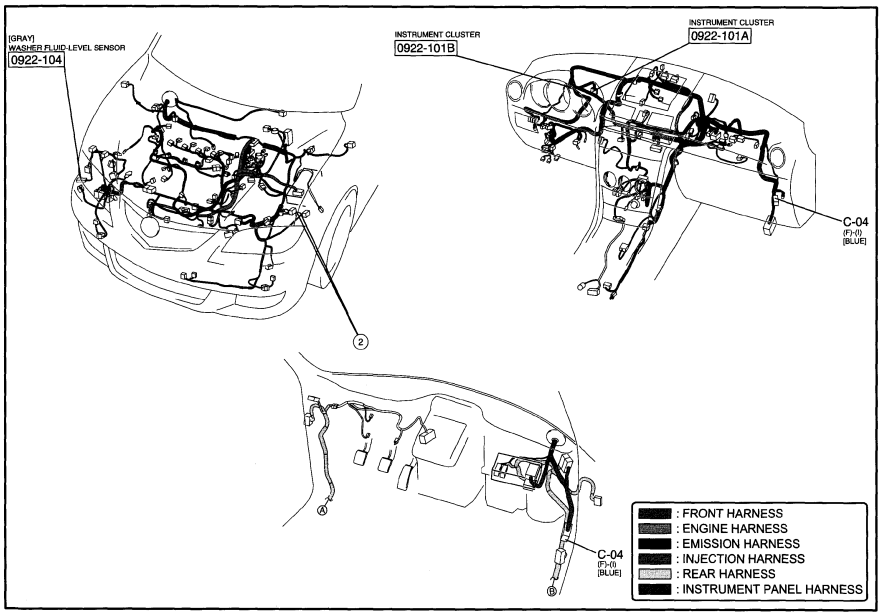
INSTRUMENT CLUSTER 0922-1b



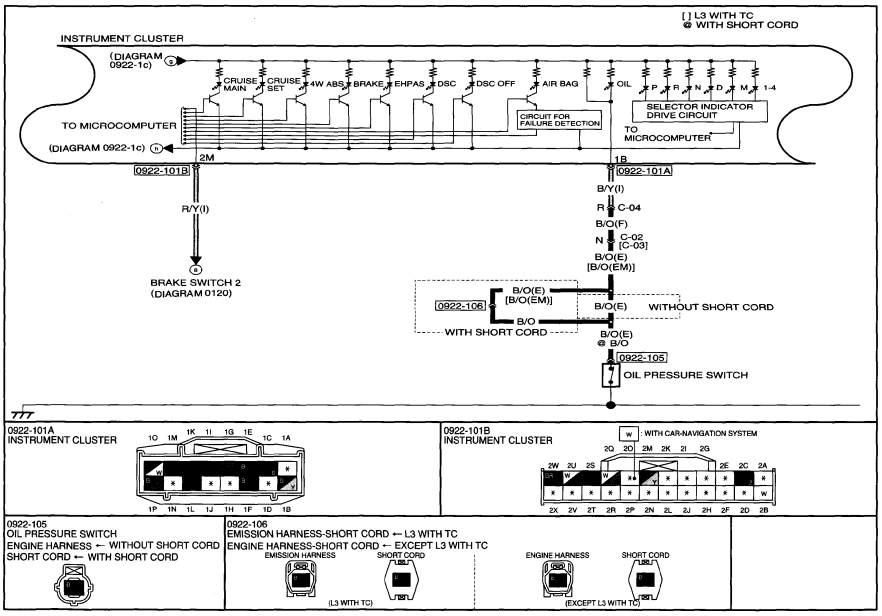

INSTRUMENT CLUSTER
0922-101A
0922-101B
INSTRUMENT CLUSTER
C-06
(I)-(R)
[GRAY]
C-06
(I)-(R)
[GRAY]
[BLACK]
FUEL GAUGE SENDER UNIT
0114-202
0114-103
(R)-SHORT CORD
(CALIFORNIA EMISSION REGULATION APPLICABLE MODEL)
[GRAY]
0114-102
FUEL GAUGE SENDER UNIT
(EXCEPT FOR CALIFORNIA EMISSION REGULATION APPLICABLE MODEL)
[4 door]
0114-102
FUEL GAUGE SENDER UNIT
(CALIFORNIA EMISSION REGULATION APPLICABLE MODEL)
[GRAY]
[5 door]
: FRONT HARNESS
: REAR HARNESS
: REAR NO.2, NO.3 HARNESS
: DOOR HARNESS
: INTERIOR LIGHT HARNESS/
INTERIOR LIGHT NO.2 HARNESS
: INSTRUMENT PANEL HARNESS

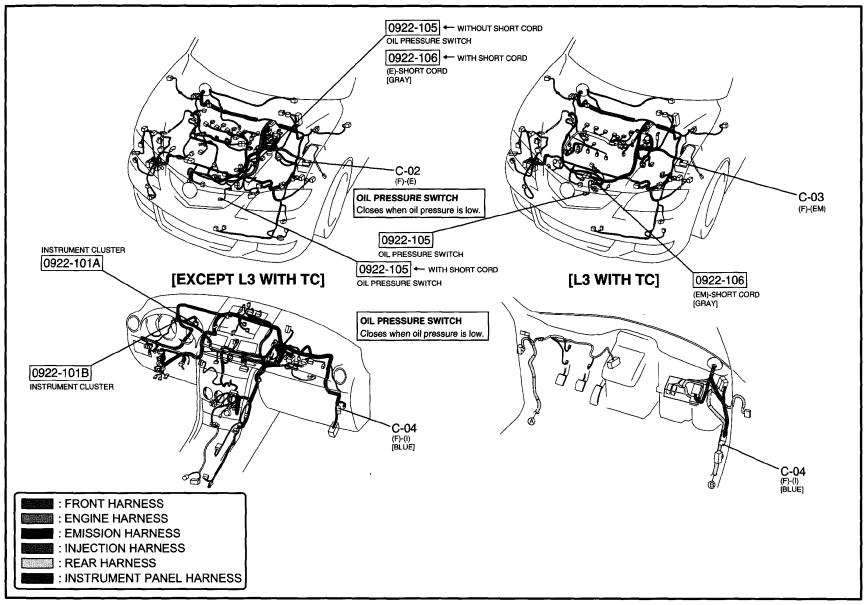

INSTRUMENT CLUSTER
(DIAGRAM 0922-1a)
MICROCOMPUTER
SECURITY
FUEL LOW
CHARGE
MIL
TPMS
AT
HI-BEAM
SEAT BELTS
WASHER
(DIAGRAM 0922-1d)
(DIAGRAM 0922-1b)
WITH WASHER FLUID-LEVEL SENSOR
0922-101B
2O
1P
0922-101A
B/G(I)
C-04
W(I)
B/G(F)
0922-104
WASHER FLUID-LEVEL SENSOR
0922-104
B/O(F)
CAR-NAVIGATION UNIT
(DIAGRAM 0920-4a,7a)
WITH CAR-NAVIGATION SYSTEM
WITH WASHER FLUID-LEVEL SENSOR
0922-101A
INSTRUMENT CLUSTER
0922-101B
INSTRUMENT CLUSTER
: WITH CAR-NAVIGATION SYSTEM
0922-104
WASHER FLUID-LEVEL SENSOR

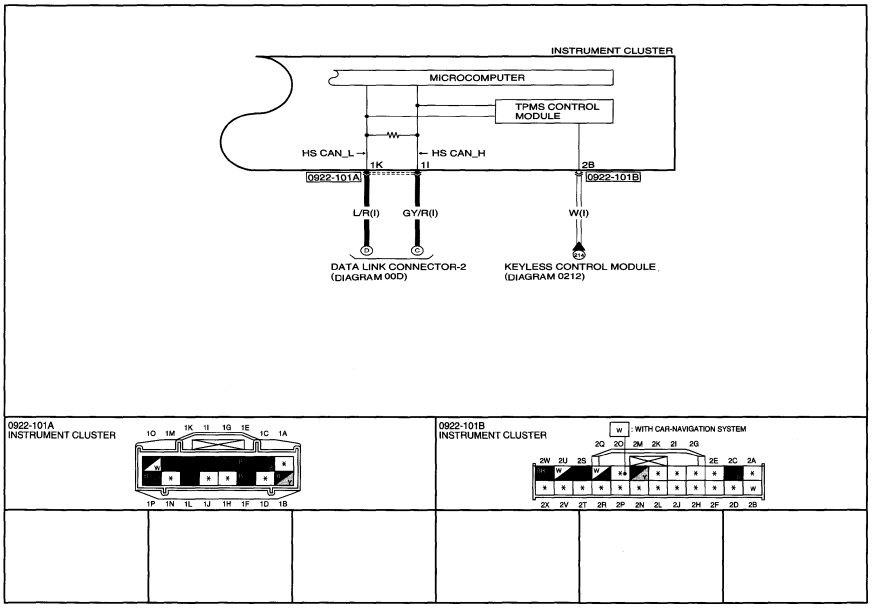
INSTRUMENT CLUSTER 0922-1c

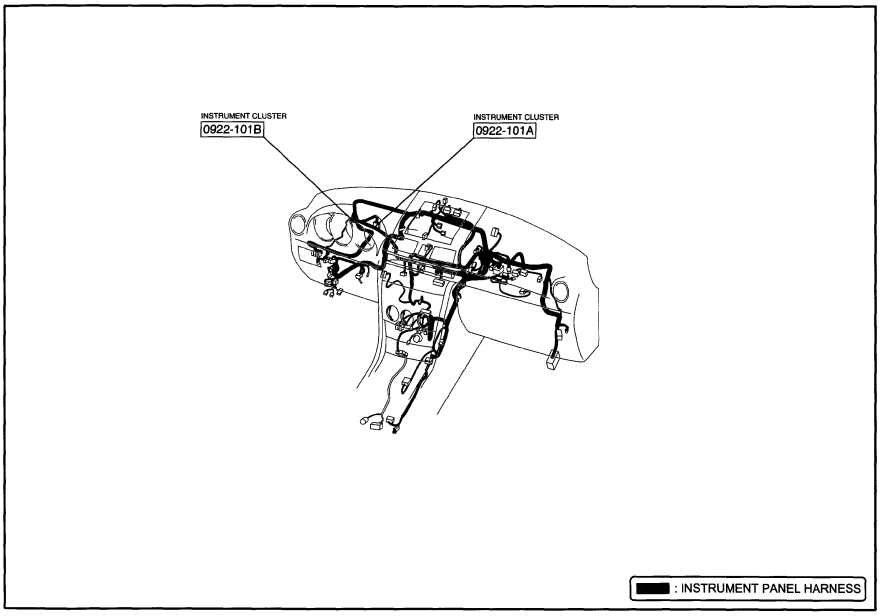


INSTRUMENT CLUSTER 0922-1d



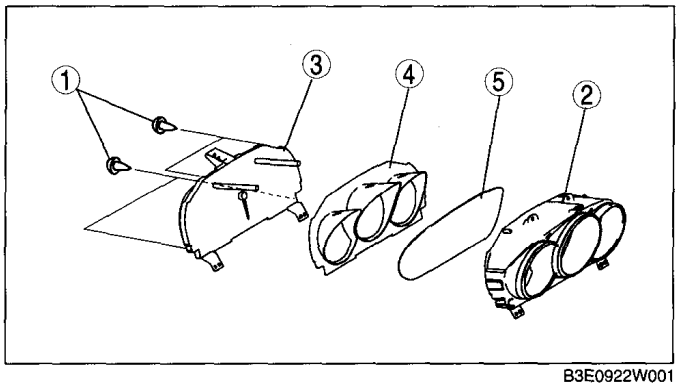

0922-105 ← WITHOUT SHORT CORD
OIL PRESSURE SWITCH
0922-106 ← WITH SHORT CORD
(E)-SHORT CORD
[GRAY]
C-02
(F)-(E)
OIL PRESSURE SWITCH
Closes when oil pressure is low.
0922-105
OIL PRESSURE SWITCH
0922-105 ← WITH SHORT CORD
OIL PRESSURE SWITCH
C-03
(F)-(EM)
INSTRUMENT CLUSTER
0922-101A
[EXCEPT L3 WITH TC]
[L3 WITH TC]
0922-106
(EM)-SHORT CORD
[GRAY]
OIL PRESSURE SWITCH
Closes when oil pressure is low.
0922-101B
INSTRUMENT CLUSTER
C-04
(F)-(I)
[BLUE]
C-04
(F)-(I)
[BLUE]
: FRONT HARNESS
: ENGINE HARNESS
: EMISSION HARNESS
: INJECTION HARNESS
: REAR HARNESS
: INSTRUMENT PANEL HARNESS


INSTRUMENT CLUSTER
MICROCOMPUTER
TPMS CONTROL MODULE
HS CAN_L
HS CAN_H
1K
1I
2B
0922-101A
0922-101B
L/R(I)
GY/R(I)
W(I)
DATA LINK CONNECTOR-2
(DIAGRAM 00D)
KEYLESS CONTROL MODULE
(DIAGRAM 0212)
0922-101A
INSTRUMENT CLUSTER
1O 1M 1K 1I 1G 1E 1C 1A
1P 1N 1L 1J 1H 1F 1D 1B
0922-101B
INSTRUMENT CLUSTER
W : WITH CAR-NAVIGATION SYSTEM
2Q 2O 2M 2K 2I 2G
2W 2U 2S 2E 2C 2A
2X 2V 2T 2R 2P 2N 2L 2J 2H 2F 2D 2B



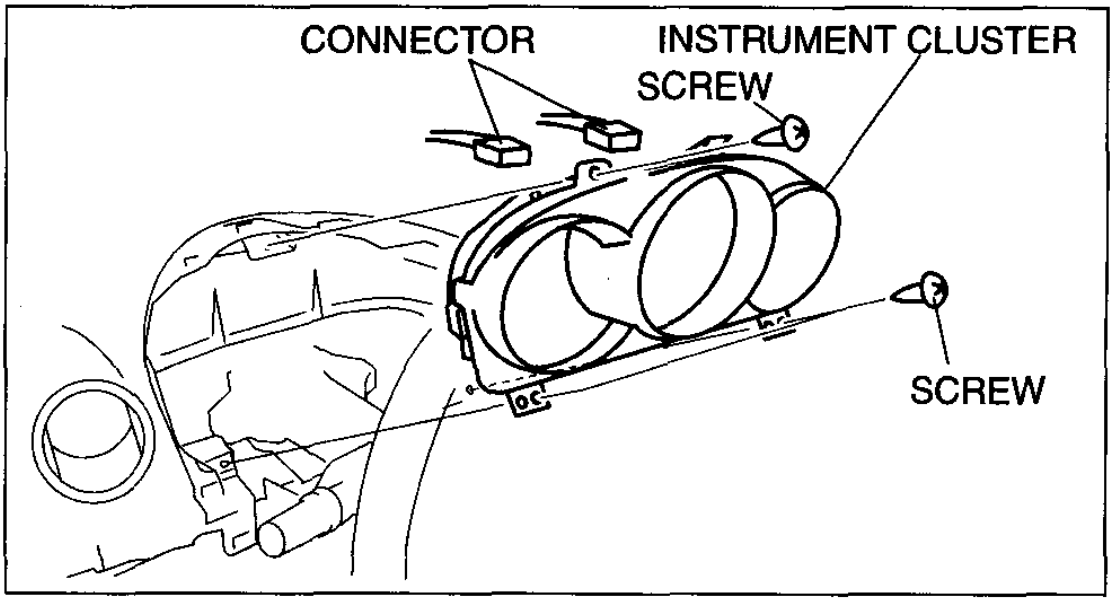
Overhaul (itype_402)

1	Screw
2	Cover
3	Instrument cluster unit
4	Hood
5	Lens

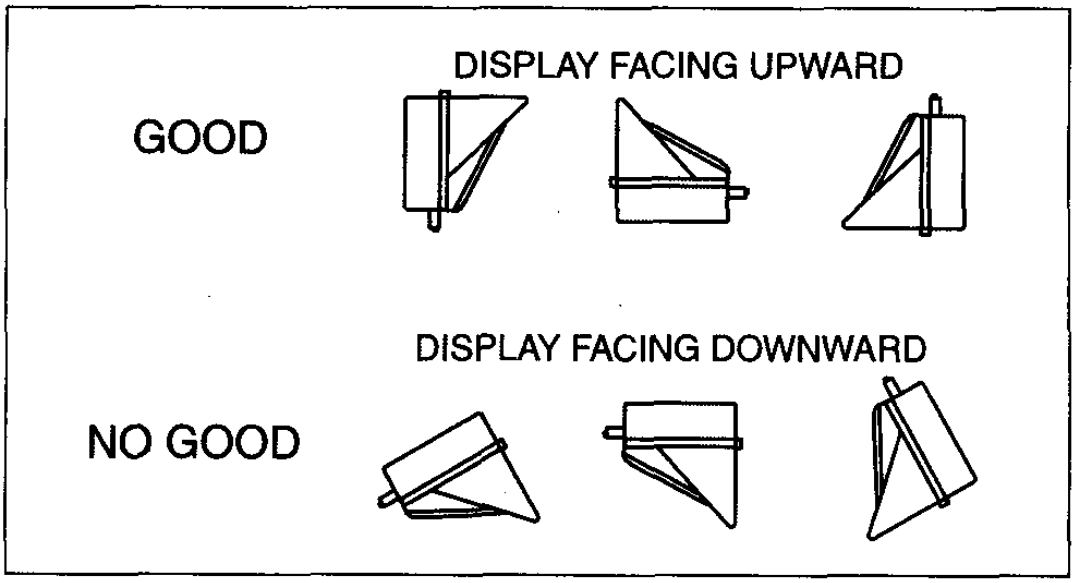


B3E0922W001

Instrument Cluster Removal/Installation (Article 1358150)

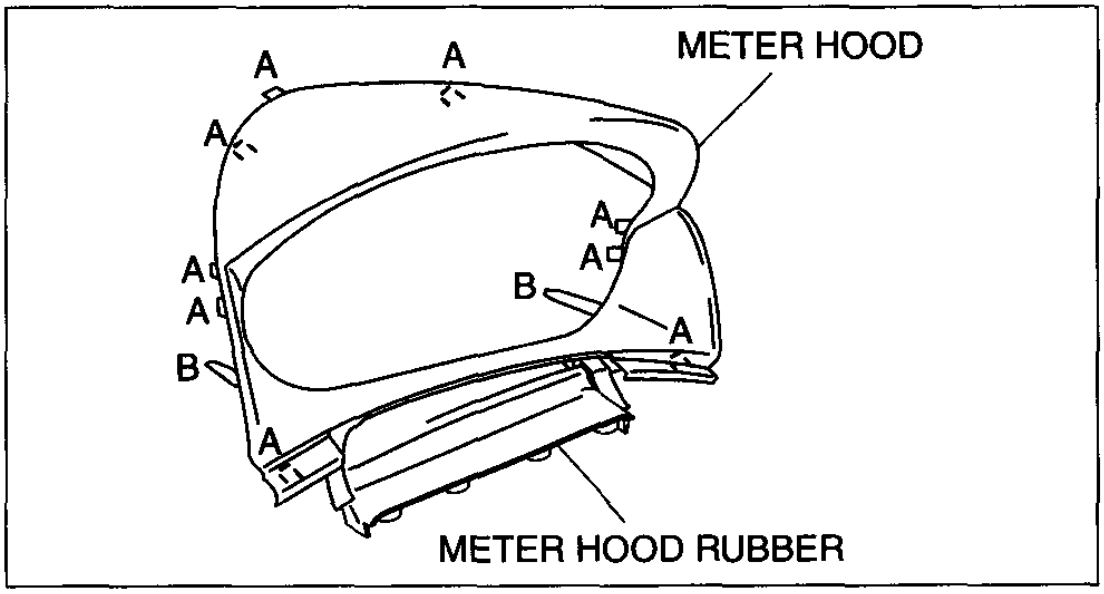


B3E0922W010



B3E0922W011

Meter Hood Removal/Installation (Article 1463741)

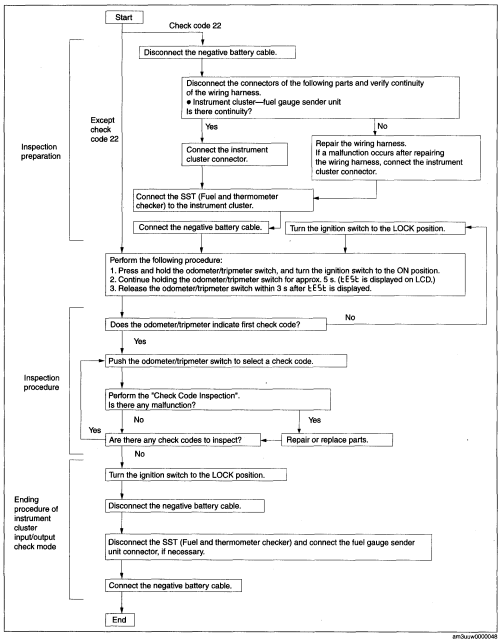


B3E0917W105

Instrument Cluster Input/Output Check Mode (Article 1358131)

Check Code Table

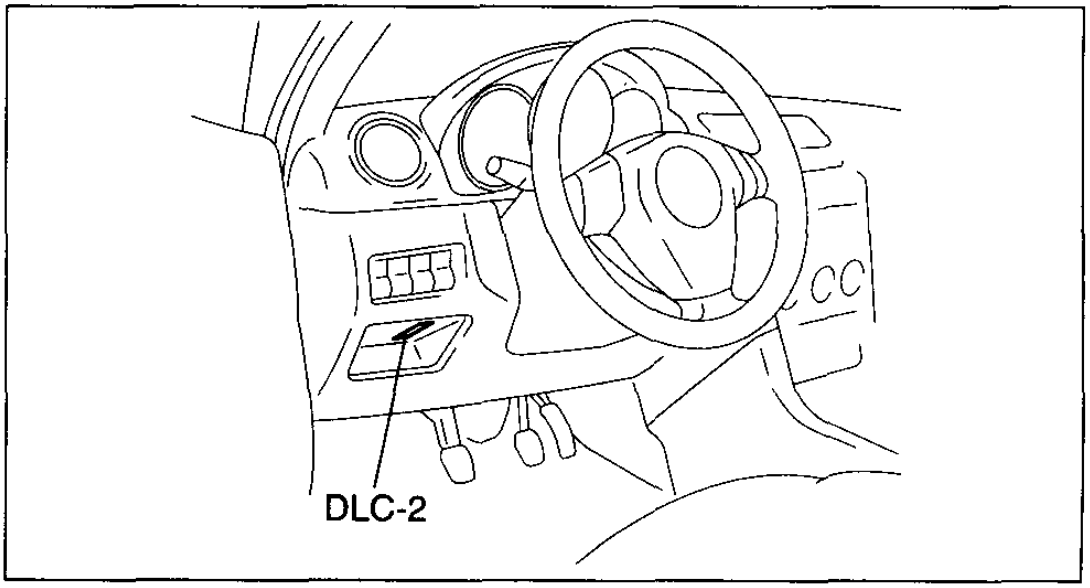
Check code	Check item	Related items
08	TNS relay	• Lights-on reminder warning alarm • Each illumination light
12	Speedometer	Speedometer
13	Tachometer	Tachometer
14	Buzzer	Buzzer
16	Fuel-level warning light	Fuel-level warning light
22	Fuel gauge sender unit	Fuel gauge
23	Fuel gauge	Fuel gauge
25	Water temperature gauge	Water temperature gauge
26	• Odometer/tripmeter (LCD) • Warning and indicator light	• Odometer/tripmeter (LCD) • Warning and indicator light
31	Key reminder switch	Key reminder warning alarm
32	Indicator buzzer	Indicator buzzer
55	Dimmer switch	Panel light control



Instrument Cluster Inspection (Article 1358167)

Speedometer tester indication (km/h)	Allowable range (km/h)	
	L3 with TC	Except L3 with TC
20	18—22	18—22
40	38—41	38—41
60	58—62	58—62
80	77—82	78—82
100	97—102	97—102
120	117—122	117—122
140	136—143	137—142

Speedometer tester indication (mph)	Allowable range (mph)	
	L3 with TC	Except L3 with TC
10	8.6—11	8.7—11
20	19—21	19—21
30	29—31	29—31
40	39—41	39—41
50	49—51	49—51
60	59—61	59—61
70	68—72	69—71
80	78—82	78—82



am3uuw0000047

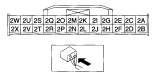
Pinpoint Test 1 (Article 1463400)

NO. 1 FUEL GAUGE NEEDLE POSITION INCORRECT [INSTRUMENT CLUSTER]

id0903d5807400

1	Fuel gauge needle position incorrect
POSSIBLE CAUSE	• Fuel gauge sender unit malfunction • Instrument cluster malfunction • BCM malfunction • Connector or pin malfunction • Fuel gauge sender unit is improperly installed • Open or short circuit in wiring harness between instrument cluster and ground • Open or short circuit in wiring harness between instrument cluster and fuel gauge sender unit

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Turn the ignition switch to the ON position. • Verify that the fuel gauge needle does not move after ignition switch is turned off, or the display does not indicate F even though the fuel tank is full. • Is the fuel gauge normal?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Start the instrument cluster input/output check mode. • Select the check code 22. • Display value is **12—129**?	Yes	Go to the next step.
		No	Go to Step 4.
3	• Perform the check code 23 inspection. • Is there any malfunction?	Yes	Replace the instrument cluster.
		No	Go to the next step.
4	• Perform the check code 22 inspection. • Is there any malfunction?	Yes	Go to the next step.
		No	Go to Step 6.
5	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?  	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.
6	• Turn the ignition switch to the LOCK position. • Remove the instrument cluster. • Disconnect the instrument cluster connector. • Inspect for continuity between the following wiring harnesses. — 2M terminal—ground — 2D terminal—ground • Is there continuity?	Yes	Repair or replace the wiring harness between the instrument cluster and ground.
		No	Go to the next step.
7	• Turn the ignition switch off. • Inspect the fuel gauge sender unit connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
8	• Turn the ignition switch to the LOCK position. • Inspect for continuity between the following wiring harnesses the instrument cluster and fuel gauge sender unit. — 2M terminal—C terminal — 2D terminal—A terminal • Is there continuity?	Yes	Go to the next step.
		No	Inspect the BCM and BCM terminals. • If there is a malfunction, replace the BCM. • If there is no malfunction, repair or replace the wiring harness between the instrument cluster and the fuel gauge sender unit.
9	• Turn the ignition switch off. • Is the fuel gauge sender unit installed properly?	Yes	Inspect the fuel gauge sender unit.
		No	Reinstall the fuel gauge sender unit.

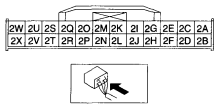
Pinpoint Test 2 (Article 1463401)

NO. 2 ALL METERS AND GAUGES DO NOT OPERATE [INSTRUMENT CLUSTER]

id0903d5807500

2	All meters and gauges do not operate
POSSIBLE CAUSE	• Instrument cluster malfunction • Connector or pin malfunction • Fuse malfunction • Open or short circuit in power supply (IG1) wiring harness • Open or short circuit in ground wiring harness

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Turn the ignition switch to the ON position. • Inspect the following: — Does the odometer/tripmeter illuminate? — Does the fuel gauge operate? — Dose the MIL illumination turn off within **approx. 3 s**?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Inspect the METER fuse. • Is the fuse normal?	Yes	Go to the next step.
		No	Replace the fuse. • If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.
3	• Turn the ignition switch to LOCK position. • Remove the instrument cluster. • Disconnect the instrument cluster connector. • Inspect the voltage between instrument cluster wiring harness-side connector terminal 2F and terminal 2V. • Turn the ignition switch to the ON position. • Is the voltage B+?  	Yes	Go to the next step.
		No	Inspect the suspected wiring harness, then repair or replace.
4	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.

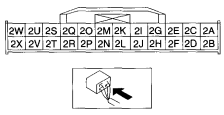
Pinpoint Test 3 (Article 1463402)

NO. 3 ABS WARNING LIGHT ILLUMINATES [INSTRUMENT CLUSTER]

id0903d5807600

3	ABS warning light illuminates
POSSIBLE CAUSE	• ABS/TCS HU/CM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine. • Does the ABS warning light turn off?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Are there a number of warning lights illuminated?	Yes	Go to Step 4.
		No	Go to the next step.
3	• Start the instrument cluster input/output check mode. • Does the ABS warning light turn off with a check code other than 26?	Yes	Inspect the ABS/TCS HU/CM.
		No	Replace the instrument cluster.
4	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 6.
5	• Inspect DLC-2 terminals F and E for a short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
6	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?  	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.

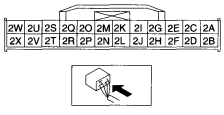
Pinpoint Test 4 (Article 1463403)

NO. 4 MIL ILLUMINATES [INSTRUMENT CLUSTER]

id0903d5807700

4	MIL illuminates
POSSIBLE CAUSE	• PCM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine. • Does the MIL turn off?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Are there a number of warning lights illuminated?	Yes	Go to Step 4.
		No	Go to the next step.
3	• Start the instrument cluster input/output check mode. • Does the MIL turn off with a check code other than 26?	Yes	Inspect the PCM.
		No	Replace the instrument cluster.
4	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 6.
5	• Inspect DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
6	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?  	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.

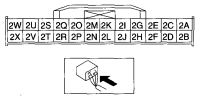
Pinpoint Test 5 (Article 1427723)

NO. 5 BRAKE SYSTEM WARNING LIGHT ILLUMINATES [INSTRUMENT CLUSTER]

id0903d5807800

5	Brake system warning light illuminates
POSSIBLE CAUSE	• ABS/TCS HU/CM malfunction • Brake fluid level sensor malfunction • Parking brake switch malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine. • release the parking brake. • Does the brake system warning light turn off?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Are there a number of warning lights illuminated?	Yes	Go to Step 5.
		No	Go to the next step.
3	• Does the brake fluid need replenishment?	Yes	Add brake fluid.
		No	Go to the next step.
4	• Start the instrument cluster input/output check mode. • Does the brake system warning light turn off with a check code other than 26?	Yes	Inspect the ABS/TCS HU/CM, brake fluid level sensor, parking brake switch or connectors.
		No	Replace the instrument cluster.
5	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 7.
6	• Inspect DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
7	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?  	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.

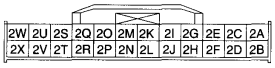
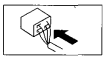
Pinpoint Test 6 (Article 1463404)

NO. 6 INSTRUMENT CLUSTER ILLUMINATION DOES NOT ILLUMINATE [INSTRUMENT CLUSTER]

id0903d5807900

6	Instrument cluster illumination does not illuminate
POSSIBLE CAUSE	• Instrument cluster malfunction • Connector or pin malfunction • Fuse malfunction

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Turn the light switch to the TNS position. • Does the instrument cluster illumination turn on?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Does the non-illumination include the entire instrument cluster?	Yes	Go to the next step.
		No	Replace the instrument cluster.
3	• Inspect the ROOM and ILLUMI fuse. • Are the fuses normal?	Yes	Go to the next step.
		No	Replace the fuse. • If the fuse is melted, inspect the wiring harness for a short to ground. Repair or replace the wiring harness, then replace the fuse.
4	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?  	Yes	Replace the instrument cluster.
		No	Repair or replace the terminal.

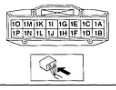
Pinpoint Test 7 (Article 1463405)

NO. 7 SPEEDOMETER INDICATION IS DEFECTIVE [INSTRUMENT CLUSTER]

u0903a5800000

7	Speedometer indication is defective
POSSIBLE CAUSE	• ABS HU/CM or DSC HU/CM malfunction • PCM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine, and drive the vehicle. — Does the speedometer needle move smoothly? — Does the speedometer needle indicate correct speed?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Do the tachometer and the water temperature gauge operate normally?	Yes	Go to Step 5.
		No	Go to the next step.
3	• Inspect the DTC for the instrument cluster ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [INSTRUMENT CLUSTER].)
		No	Go to the next step.
4	• Inspect the DTC for the PCM and ABS HU/CM or DSC HU/CM ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [LF, L3].) (See DTC TABLE [L3 WITH TC].) (See ON-BOARD DIAGNOSIS [ABS].) (See ON-BOARD DIAGNOSIS [DYNAMIC STABILITY CONTROL (DSC)].)
		No	Go to the next step.
5	• Start the instrument cluster input/output check mode. • Inspect the speedometer using the check code 12. (See INSTRUMENT CLUSTER INPUT/OUTPUT CHECK MODE.) • Is the speedometer normal?	Yes	Go to the next step.
		No	Replace the instrument cluster.
6	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 8.
7	• Disconnect the negative battery cable. • Inspect DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
8	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
9	• Disconnect the negative battery cable. • Measure the resistance between instrument cluster connector terminals 1I and 1K. • Is the resistance **114—126 ohms**? 	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.

Pinpoint Test 8 (Article 1463406)

NO. 8 TACHOMETER INDICATION IS DEFECTIVE [INSTRUMENT CLUSTER]

u0903a5808109

8	Tachometer indication is defective
POSSIBLE CAUSE	• PCM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

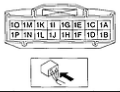
STEP	INSPECTION		ACTION
1	• Start the engine. — Does the tachometer needle move smoothly? — Does the tachometer needle indicate the correct engine speed?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Do the speedometer and the water temperature gauges operate normally?	Yes	Go to Step 5.
		No	Go to the next step.
3	• Inspect the DTC for the instrument cluster ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [INSTRUMENT CLUSTER].)
		No	Go to the next step.
4	• Inspect the DTC for the PCM ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [LF, L3].) (See DTC TABLE [L3 WITH TC].)
		No	Go to the next step.
5	• Start the instrument cluster input/output check mode. • Inspect the tachometer using the check code 13. (See INSTRUMENT CLUSTER INPUT/OUTPUT CHECK MODE.) • Is the tachometer normal?	Yes	Go to the next step.
		No	Replace the instrument cluster.
6	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 8.
7	• Disconnect the negative battery cable. • Inspect DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
8	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
9	• Disconnect the negative battery cable. • Measure the resistance between instrument cluster connector terminals 1I and 1K. • Is the resistance **114—126 ohms**? 	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.

Pinpoint Test 9 (Article 1463407)

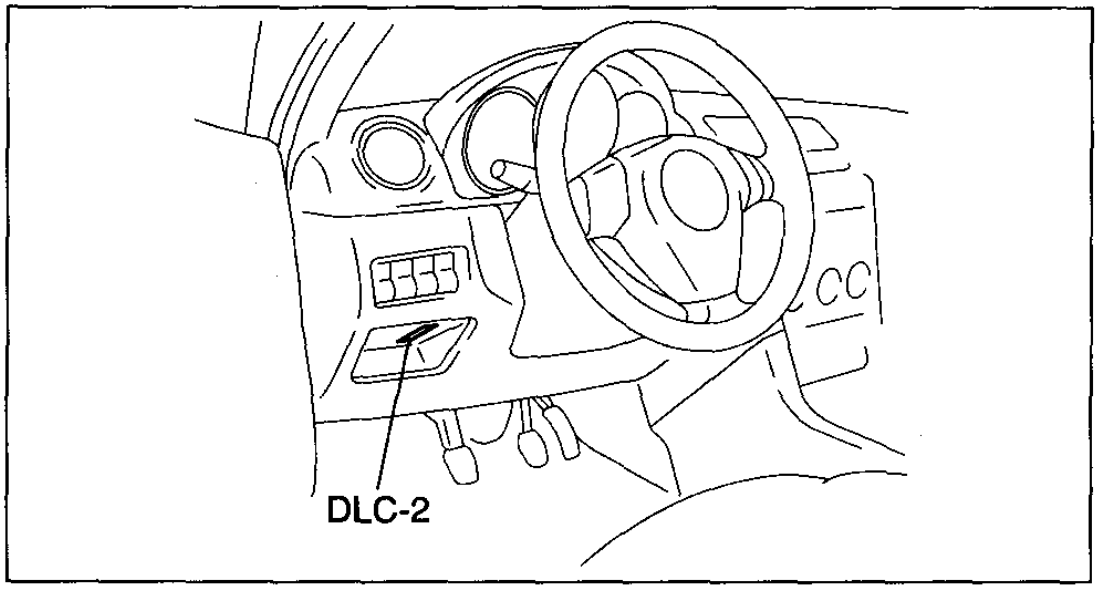
NO. 9 WATER TEMPERATURE GAUGE INDICATION IS DEFECTIVE [INSTRUMENT CLUSTER] id090305809200

9	Water temperature gauge indication is defective
POSSIBLE CAUSE	• PCM malfunction • Instrument cluster malfunction • Connector or pin malfunction • Short circuit in wiring harness between CAN-L, CAN-H and ground • Open circuit in CAN wiring harness (CAN-L, CAN-H) • CAN wiring harness (CAN-L, CAN-H) short to each other

Diagnostic procedure

STEP	INSPECTION		ACTION
1	• Start the engine. • Does the water temperature gauge needle move to medium range gradually and stay there?	Yes	Troubleshooting completed.
		No	Go to the next step.
2	• Do the speedometer and the tachometer operate normally?	Yes	Go to Step 5.
		No	Go to the next step.
3	• Inspect the DTC for the instrument cluster ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [INSTRUMENT CLUSTER].)
		No	Go to the next step.
4	• Inspect the DTC for the PCM ON-BOARD DIAGNOSTIC SYSTEM. • Has a DTC been recorded in memory?	Yes	Go to the applicable DTC troubleshooting procedure. (See DTC TABLE [LF, L3].) (See DTC TABLE [L3 WITH TC].)
		No	Go to the next step.
5	• Start the instrument cluster input/output check mode. (See INSTRUMENT CLUSTER INPUT/OUTPUT CHECK MODE.) • Inspect the water temperature gauge using check code 25. • Is the water temperature gauge normal?	Yes	Go to the next step.
		No	Replace the instrument cluster.
6	• Disconnect the negative battery cable. • Measure the resistance between DLC-2 terminals F and E. • Is the resistance **54—66 ohms**?	Yes	Go to the next step.
		No	Go to Step 8.
7	• Disconnect the negative battery cable. • Inspect DLC-2 terminals F and E for short to power supply or ground. • Is there any malfunction?	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.
8	• Turn the ignition switch off. • Inspect the instrument cluster connector terminals for poor connection (such as damaged/pulled-out pins, and corrosion). • Are the terminals normal?	Yes	Go to the next step.
		No	Repair or replace the terminal.
9	• Disconnect the negative battery cable. • Measure the resistance between instrument cluster connector terminals 1I and 1K. • Is the resistance **114—126 ohms**? 	Yes	Inspect the wiring harness and CAN system-related module. Repair or replace the malfunctioning part.
		No	Replace the instrument cluster.

Instrument Cluster Configuration (Article 1389699)



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Symptom Diagnostic Index (Article 1409104)

SYMPTOM TROUBLESHOOTING [INSTRUMENT CLUSTER]

No.	TROUBLESHOOTING ITEM
1	Fuel gauge needle position incorrect
2	All meters and gauges do not operate
3	ABS warning light illuminates
4	MIL illuminates
5	Brake system warning light illuminates
6	Instrument cluster illumination does not illuminate

QUICK DIAGNOSTIC CHART [INSTRUMENT CLUSTER]

id0903d5807300

X: Applicable

No.	Troubleshooting item / Possible factor	Poor connection of fuel gauge sender unit connector, terminal damage	Poor connection of instrument cluster connector, terminal damage	Fuel gauge sender unit	Instrument cluster	Fuel gauge sender unit is improperly installed	Open or short circuit in wiring harness between instrument cluster and GND	Open or short circuit in wiring harness between instrument cluster and fuel gauge sender unit	Fuse malfunction (METER)	Open or short circuit in power supply (IG1) wiring harness	Open or short circuit in GND wiring harness	Poor connection of ABS/TCS HU/CM connector, terminal damage	ABS/TCS HU/CM	Short circuit in wiring harness between CAN-L, CAN-H and GND	Open circuit in CAN wiring harness (CAN-L, CAN-H)	CAN wiring harness (CAN-L, CAN-H) short each other	Poor connection of PCM connector, terminal damage	PCM	Poor connection of BCM connector, terminal damage	BCM	Poor connection of brake fluid level sensor connector, terminal	Brake fluid level sensor	Poor connection of Parking brake switch connector, terminal damage	Parking brake switch	Fuse malfunction (ROOM ILLUMI)
1	The indicator position of the fuel gauge is not correct	x	x	x	x	x	x	x												x	x				
2	Neither the entire meter nor gauges operate		x		x					x	x	x													
3	ABS warning light illuminates		x		x								x	x	x	x									
4	MIL illuminates		x		x										x	x	x	x	x						
5	Brake system warning light illuminates		x		x								x	x	x	x					x	x	x	x	
6	Instrument cluster illumination does not illuminate		x		x																				x

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