Component Procedures: Body Control Systems

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Component Procedures: Body Control Systems

Components (itype_392)

Flowchart

- Use the following flowchart to verify the cause of the trouble.

STEP	INSPECTION		ACTION
1	**INSPECT DTC INDICATION** • Using the M-MDS, inspect if DTCs are displayed for the following module: — PCM — TCM — EHPAS control module — DSC HU/CM — ABS HU/CM — TPMS control module — Instrument cluster — Climate control unit — SAS control module — PJB • Using the self-diagnostic function, inspect if DTCs are displayed for the following module: — Information display • Are any DTCs displayed?	Yes	Go to the next step.
		No	Go to Step 5.
2	**INSPECT CAN SYSTEM-RELATED DTC** • Are any DTCs other than the following displayed? — U0073 — U0100 — U0101 — U0121 — U0127 — U0131 — U0140 — U0151 — U0155 — U0164 — U0181 — U0184 — U0516 — U1900 — U2012 — U2023 — U2202 — U2516 — U2523	Yes	Repair the malfunctioning part by following the related DTC inspection. Go to the next step.
		No	Go to the next step.

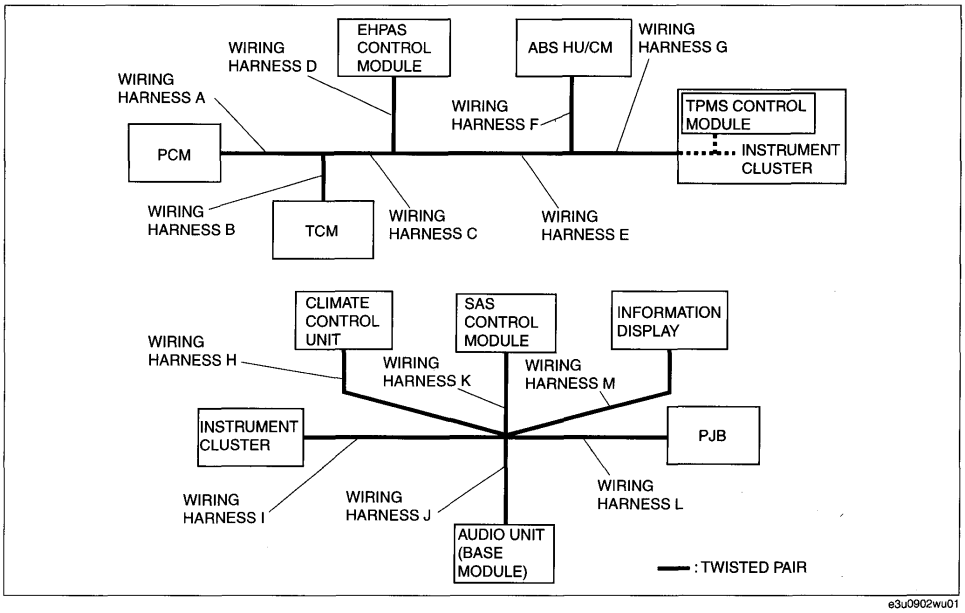
STEP	INSPECTION		ACTION
3	**INSPECT CAN SYSTEM-RELATED DTC** • Are any of the following DTCs displayed? — PCM: U0073, U0101, U0121, U0155 — TCM: U0073, U0100 — EHPAS control module: U0073, U0100, U2023 — DSC HU/CM or ABS HU/CM: U1900, U2012, U2202, U2523 — TPMS control module: U0073 — Instrument cluster: U0073, U0100, U0101, U0121, U0127, U0131, U0140, U0151, U0184, U2516 — Climate control unit: U0140, U0155, U0184, U0516 — SAS control module: U0073, U1900 — Information display: U0164, U0181, U0184, U2516 — PJB: U1900	Yes	Repair the malfunctioning part by following the DTC inspection. Go to the next step.
		No	Troubleshooting completed.
4	**VERIFY TROUBLESHOOTING COMPLETED** • Clear the DTC from the CAN system-related modules using the M-MDS. • Start the engine. • Are any of the CAN related DTCs displayed?	Yes	Go back to Step 3.
		No	Troubleshooting completed.
5	**INSPECT COMMUNICATION CONDITION** • Is there a response from the following modules? — PCM — TCM — EHPAS control module — DSC HU/CM — ABS HU/CM — TPMS control module — Instrument cluster — Climate control unit — SAS control module — PJB	Yes	Troubleshooting completed.
		No	Go to the next step.
6	**INSPECT MODULES THAT DO NOT RESPOND** • Inspect the power supply and the ground circuit for any units that do not respond. • Are they normal?	Yes	Go to the next step.
		No	Repair the malfunctioning part, then go back to Step 1.

STEP	INSPECTION		ACTION
7	**INSPECT CONNECTOR AND WIRING HARNESS BETWEEN MODULES THAT DO NOT RESPOND AND DLC-2** • Turn the ignition switch to the LOCK position. • Inspect the wiring harness and connector between any module that does not respond and the DLC-2. **PCM—DLC-2** • 1AM—F • 1AI—E **TCM—DLC-2** • B—F • E—E **EHPAS control module—DLC-2** • 2B—F • 2H—E **DSC HU/CM—DLC-2** • P—F • D—E **ABS HU/CM—DLC-2** • H—F • L—E **Instrument cluster—DLC-2** • 1I—F • 1K—E • 1M—L • 1O—K **Climate control unit—DLC-2** • X—L • W—K **SAS control module—DLC-2** • 1X—L • 1T—K **PJB—DLC-2** • J-04 D—L • J-04 B—K	Yes	Go to the next step.
		No	Repair the malfunctioning part, then go back to Step 1.
8	**INSPECT WIRING HARNESS** • Turn the ignition switch to the ON position (Engine off). • Measure the voltage between the following terminals. — DLC-2 terminals F and E — DLC-2 terminals L and K • Is the voltage **2.0—3.0 V**?	Yes	Go to the next step.
		No	Go to Step 12.
9	**INSPECT WIRING HARNESS** • Turn the ignition switch to the LOCK position. • Measure the resistance between the following terminals. — DLC-2 terminals F and E — DLC-2 terminals L and K • Is the resistance **59—65 ohms**?	Yes	Replace the modules that do not respond, then go back to Step 1.
		No	Go to the next step.
10	**INSPECT PCM** • Disconnect the PCM connector. • Measure the resistance between following terminals. — PCM terminals 1AM and 1AI (part-side) • Is the resistance **118—130 ohms**?	Yes	Go to the next step.
		No	Replace the PCM, then go to the next step.
11	**INSPECT INSTRUMENT CLUSTER** • Disconnect the instrument cluster connector. • Measure the resistance between the following terminals. — Instrument cluster terminals 1I and 1K (part-side) — Instrument cluster terminals 1M and 1O (part-side) • Is the resistance **118—130 ohms**?	Yes	Go to next step.
		No	Replace the instrument cluster, then go to the next step.

STEP	INSPECTION		ACTION
12	**CLASSIFY WIRING HARNESS MALFUNCTION OR MODULE MALFUNCTION** • Turn the ignition switch to the LOCK position. • Disconnect the connector of any unit that does not respond. (If there are two or more units that do not respond, disconnect only one of the units.) • Turn the ignition switch to the ON position. • Measure the voltage between the following terminals. — DLC-2 terminals F and E — DLC-2 terminals L and K • Is voltage **2.0—3.0 V**?	Yes	Go to the next step.
		No	Retry this step with other module connector disconnected. If all units that do not respond are disconnected, go to Step 14.
13	**INSPECT WIRING HARNESS OF ANY UNIT THAT DOES NOT RESPOND** • Turn the ignition switch to the LOCK position. • Inspect for continuity between the following connector terminals of any disconnected unit. **PCM** • 1AM—other terminals • 1AI—other terminals **TCM** • B—other terminals • E—other terminals **EHPAS control module** • 2B—other terminals • 2H—other terminals **DSC HU/CM** • P—other terminals • D—other terminals **ABS HU/CM** • H—other terminals • L—other terminals **Instrument cluster** • 1I—other terminals • 1K—other terminals • 1M—other terminals • 1O—other terminals **Climate control unit** • X—other terminals • W—other terminals **SAS control module** • 1X—other terminals • 1T—other terminals **PJB** • J-04 D—other terminals • J-04 B—other terminals Is there continuity?	Yes	Repair or replace the wiring harness, then go back to Step 1.
		No	Replace the disconnected unit, then go back to Step 1.
14	**INSPECT CAN RELATED WIRING HARNESS** • Inspect the related wiring harnesses (CAN_L and/or CAN_H) for the short circuit (to power supply or ground). • Is the wiring harness normal?	Yes	Repair or replace the wiring harness, then go back to Step 1.
		No	Go back to Step 1.

Initial Inspection and Diagnostic Overview (itype_377)

System Wiring Diagram



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×: Normal
—: Communication error

Module	Communication status			Malfunction location
	TCM	DSC HU/CM ABS HU/CM	Instrument cluster	
PCM	—	—	—	• Wiring harness A • PCM
	—	×	×	• Wiring harness B • TCM
	×	—	—	• Wiring harness C • Wiring harness E
	×	—	×	• Wiring harness F • DSC HU/CM • ABS HU/CM
	×	×	—	• Wiring harness G • Instrument cluster

×: Normal
—: Communication error

Module	Communication status	Malfunction location
	PCM	
TCM	—	• Wiring harness A • Wiring harness B • TCM • PCM

×: Normal
—: Communication error

Module	Communication status	Malfunction location
	PCM	
EHPAS control module	—	• Wiring harness A • Wiring harness C • Wiring harness D • EHPAS control module • PCM

×: Normal
—: Communication error

Module	Communication status	Malfunction location
	PCM	
ABS HU/CM	—	• Wiring harness A • Wiring harness C • Wiring harness E • Wiring harness F • PCM

×: Normal
—: Communication error

Module	Communication status					Malfunction location
	PCM	TCM	EHPAS control module	DSC HU/CM ABS HU/CM	TPMS control module	
Instrument cluster	—	—	—	—	—	• Instrument cluster
	—	×	×	×	×	• Wiring harness A • PCM
	×	—	×	×	×	• Wiring harness B • TCM
	—	—	×	×	×	• Wiring harness C
	×	×	—	×	×	• Wiring harness D • EHPAS control module
	—	—	—	×	×	• Wiring harness E
	×	×	×	—	×	• Wiring harness F • DSC HU/CM • ABS HU/CM
	×	×	×	×	—	• TPMS control module

×: Normal
—: Communication error

Module	Communication status			Malfunction location
	PJB	SAS control module	Audio unit (base module)	
Instrument cluster	—	—	—	• Wiring harness I • Instrument cluster
	—	×	×	• Wiring harness L • PJB
	×	—	×	• Wiring harness K • SAS control module
	×	×	—	• Wiring harness J • Audio unit (base module)

×: Normal
—: Communication error

Module	Communication status			Malfunction location
	PJB	Instrument cluster	Audio unit (base module)	
Climate control unit	—	—	—	• Wiring harness H • Climate control unit
	—	×	×	• Wiring harness L • PJB
	×	—	×	• Wiring harness I • Instrument cluster
	×	×	—	• Wiring harness J • Audio unit (base module)

×: Normal
—: Communication error

Module	Communication status	Malfunction location
	Instrument cluster	
SAS control module	—	• Wiring harness I • Wiring harness K • SAS control module • Instrument cluster

×: Normal
—: Communication error

Module	Communication status			Malfunction location
	Climate control unit	Instrument cluster	Audio unit (base module)	
Information Display	—	—	—	• Wiring harness M • Information Display
	—	×	×	• Wiring harness H • Climate control unit
	×	—	×	• Wiring harness I • Instrument cluster
	×	×	—	• Wiring harness J • Audio unit (base module)

×: Normal
—: Communication error

Module	Communication status	Malfunction location
	Audio unit (base module) Instrument cluster	
PJB	—	• Wiring harness I • Wiring harness J • Wiring harness L • PJB • Audio unit (base module) • Instrument cluster

Reading Diagnostic Trouble Codes (Article 1469112)

Non Standards
- DTC Inspection (1433560)

Clearing Diagnostic Trouble Codes (Article 1469113)

Non Standards
- With Manufacturer's Scan Tool (1469128)