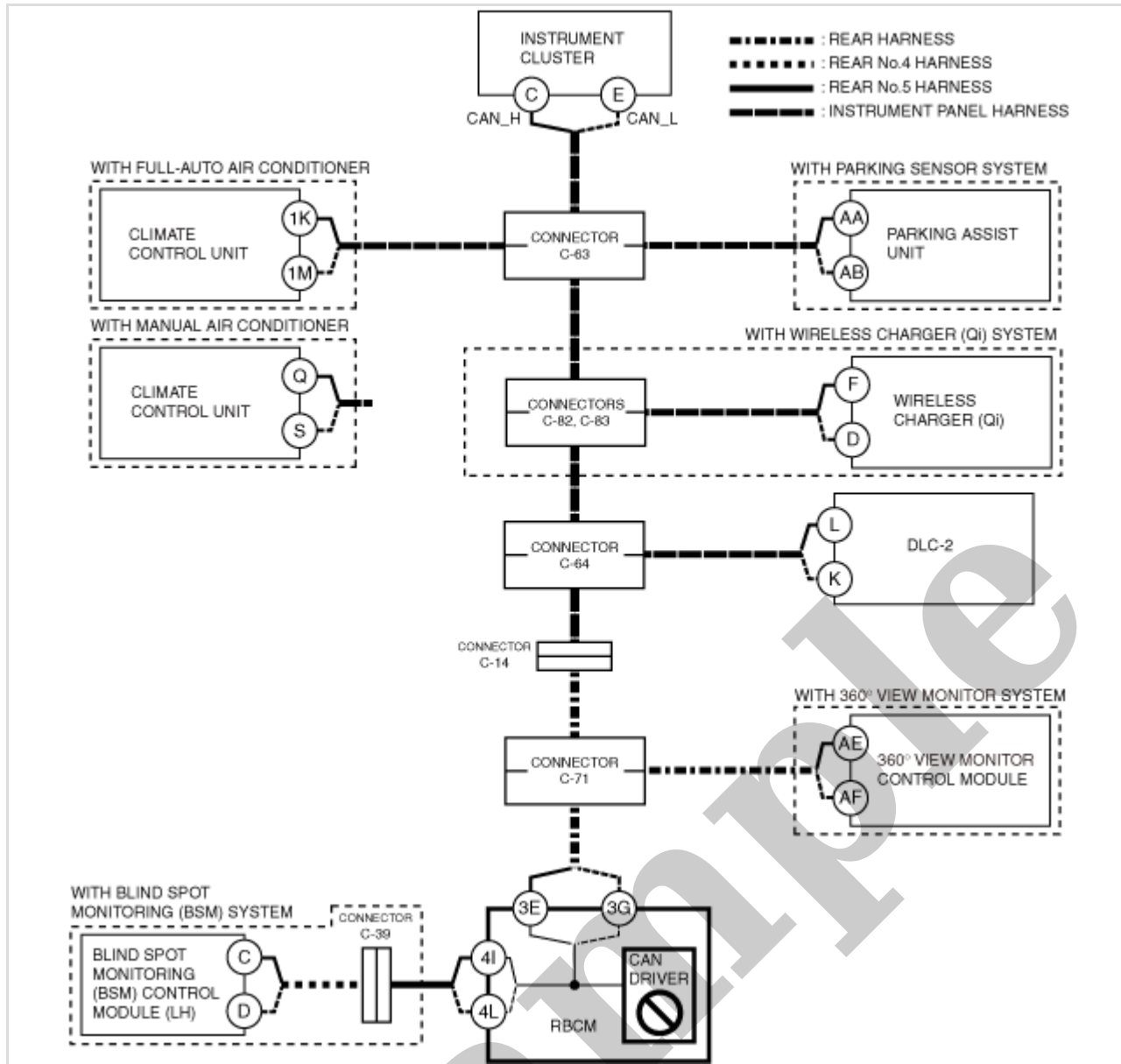


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2021 Mazda MX-5 Miata Service and Repair Manual

[Go to manual page](#)



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Inspection item

- Rear body control module (RBCM) power supply voltage-related wiring harness and fuse
- Rear body control module (RBCM) body ground related wiring harness
- Rear body control module (RBCM)

Step	Inspection		Action
5	INSPECT CAN LINE IN TCM FOR SHORT TO GROUND • Disconnect the TCM connector. • Inspect for continuity at the following terminals: — Between TCM terminal E (wiring harness side) and body ground — Between TCM terminal F (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the TCM and connector C-01 because the wiring harness is shorted to ground.
		No	Replace the TCM because there is a short to ground in the TCM. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [FW6A-EL, FW6AX-EL].)
6	INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-53 AND FRONT BODY CONTROL MODULE (FBCM) • Disconnect connector C-53. • Connect connector 2 which has front body control module (FBCM) terminals 2P and 2N. • Inspect for continuity at the following terminals: — Between DLC-2 terminal F and body ground — Between DLC-2 terminal E and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between connector C-53 and front body control module (FBCM) because the wiring harness is shorted to ground.
		No	Go to the next step.
7	INSPECT FOR SHORT TO GROUND BETWEEN DSC HU/CM AND CONNECTOR C-53 • Inspect for continuity at the following terminals: — Between DSC HU/CM terminal AF and body ground — Between DSC HU/CM terminal AC and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 9.
8	INSPECT CAN LINE IN DSC HU/CM FOR SHORT TO GROUND • Disconnect the DSC HU/CM connector. • Inspect for continuity at the following terminals: — Between DSC HU/CM terminal AF (wiring harness side) and body ground — Between DSC HU/CM terminal AC (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the DSC HU/CM and connector C-53 because the wiring harness is shorted to ground.
		No	Replace the DSC HU/CM because there is a short to ground in the DSC HU/CM. (See DSC HU/CM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
9	INSPECT FOR SHORT TO GROUND BETWEEN RADAR UNIT AND CONNECTOR C-53 • Inspect for continuity at the following terminals: — Between radar unit terminal D and body ground — Between radar unit terminal C and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 58.

Step	Inspection		Action
20	INSPECT FOR SHORT TO GROUND BETWEEN DOSING CONTROL UNIT AND CONNECTOR C-87 • Inspect for continuity at the following terminals: — Between dosing control unit terminal BK and body ground — Between dosing control unit terminal BL and body ground • Is there continuity?	Yes	Go to the next step.
		No	Go to Step 22.
21	INSPECT CAN LINE IN DOSING CONTROL UNIT FOR SHORT TO GROUND • Disconnect the dosing control unit connector. • Inspect for continuity at the following terminals: — Between dosing control unit terminal BK (wiring harness side) and body ground — Between dosing control unit terminal BL (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the dosing control unit and connector C-87 because the wiring harness is shorted to ground.
		No	Replace the dosing control unit because there is a short to ground in the dosing control unit. (See DOSING CONTROL UNIT REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
22	INSPECT FOR SHORT TO GROUND BETWEEN NO_x SENSOR No.1 / NO_x SENSOR No.2 / PM SENSOR AND CONNECTOR C-87 • Inspect for continuity at the following terminals: — Between NO _x sensor No.1 / NO _x sensor No.2 / PM sensor terminal B and body ground — Between NO _x sensor No.1 / NO _x sensor No.2 / PM sensor terminal C and body ground • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between the connector C-24 and connector C-87 because the wiring harness is shorted to ground.
23	INSPECT FOR SHORT TO GROUND BETWEEN CONNECTOR C-84 AND CONNECTOR C-87 • Disconnect connector C-84. • Connect connector C-87. • Inspect for continuity at the following terminals: — Between DLC-2 terminal F and body ground — Between DLC-2 terminal E and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the connector C-87 and connector C-84 because the wiring harness is shorted to ground.
		No	Go to the next step.

Step	Inspection		Action
36	INSPECT CAN LINE IN OCCUPANT CLASSIFICATION SENSOR FOR SHORT TO GROUND • Disconnect the occupant classification sensor connector. • Inspect for continuity at the following terminals: — Between occupant classification sensor terminal 3D (wiring harness side) and body ground — Between occupant classification sensor terminal 3C (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the occupant classification sensor and connectors C-72,C-73 because the wiring harness is shorted to ground.
		No	Replace the occupant classification sensor because there is a short to ground in the occupant classification sensor. (See OCCUPANT CLASSIFICATION SENSOR REMOVAL/INSTALLATION [TWO-STEP DEPLOYMENT CONTROL SYSTEM - US/CANADA/ISRAEL SPEC.] .)
37	INSPECT FOR SHORT TO GROUND BETWEEN POSITION MEMORY CONTROL MODULE AND CONNECTORS C-72,C-73 • Inspect for continuity at the following terminals: — Between position memory control module terminal 1C and body ground — Between position memory control module terminal 1E and body ground • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connectors C-72,C-73 and connector C-71 because the wiring harness is shorted to ground.
38	INSPECT FOR SHORT TO GROUND BETWEEN POSITION MEMORY CONTROL MODULE AND CONNECTOR C-31 • Disconnect connector C-31. • Inspect for continuity at the following terminals: — Between position memory control module terminal 1C and body ground — Between position memory control module terminal 1E and body ground • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness between connectors C-72,C-73 and connector C-31 because the wiring harness is shorted to ground.
39	INSPECT CAN LINE IN POSITION MEMORY CONTROL MODULE FOR SHORT TO GROUND • Disconnect the position memory control module connector. • Inspect for continuity at the following terminals: — Between position memory control module terminal 1C (wiring harness side) and body ground — Between position memory control module terminal 1E (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the position memory control module and connector C-31 because the wiring harness is shorted to ground.
		No	Replace the position memory control module because there is a short to ground in the position memory control module. (See POSITION MEMORY CONTROL MODULE REMOVAL/INSTALLATION. .)

Step	Inspection		Action
54	INSPECT CAN LINE IN CONNECTIVITY MASTER UNIT (CMU) FOR SHORT TO GROUND • Disconnect the connectivity master unit (CMU) connector. • Inspect for continuity at the following terminals: — Between connectivity master unit (CMU) terminal 2E (wiring harness side) and body ground — Between connectivity master unit (CMU) terminal 2F (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the connectivity master unit (CMU) and connector C-63 because the wiring harness is shorted to ground.
		No	Replace the connectivity master unit (CMU) because there is a short to ground in the connectivity master unit (CMU). (See CONNECTIVITY MASTER UNIT (CMU) REMOVAL/INSTALLATION.)
55	INSPECT FOR SHORT TO GROUND BETWEEN ACTIVE DRIVING DISPLAY AND CONNECTOR C-63 • Disconnect the active driving display connector. • Connect connector C-63. • Inspect for continuity at the following terminals: — Between DLC-2 terminal F and body ground — Between DLC-2 terminal E and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the active driving display and connector C-63 because the wiring harness is shorted to ground.
		No	Go to the next step.
56	INSPECT CAN LINE IN ACTIVE DRIVING DISPLAY FOR SHORT TO GROUND • Inspect for continuity at the following terminals: — Between active driving display terminal I and body ground — Between active driving display terminal K and body ground • Is there continuity?	Yes	Replace the active driving display because there is a short to ground in the active driving display. (See ACTIVE DRIVING DISPLAY REMOVAL/INSTALLATION.)
		No	Go to the next step.
57	INSPECT CAN LINE IN INSTRUMENT CLUSTER FOR SHORT TO GROUND • Disconnect the instrument cluster connector. • Inspect for continuity at the following terminals: — Between instrument cluster terminal B (wiring harness side) and body ground — Between instrument cluster terminal D (wiring harness side) and body ground • Is there continuity?	Yes	Repair or replace the wiring harness between the instrument cluster and active driving display because the wiring harness is shorted to ground.
		No	Replace the instrument cluster because there is a short to ground in the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)

Step	Inspection		Action
1	INSPECT FOR SHORT TO POWER SUPPLY BETWEEN FRONT BODY CONTROL MODULE (FBCM) AND INSTRUMENT CLUSTER • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect connector 2 which has front body control module (FBCM) terminals 2K and 2I • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V?	Yes	Go to the next step.
		No	Go to Step 11.
2	INSPECT CAN LINE BETWEEN FRONT BODY CONTROL MODULE (FBCM) AND TCM FOR SHORT TO POWER SUPPLY • Measure the voltage at TCM terminals E and F. • Is the voltage between 1.5 – 3.5 V?	Yes	Go to Step 5.
		No	Go to the next step.
3	INSPECT CAN LINE BETWEEN TCM AND CONNECTOR C-01 FOR SHORT TO POWER SUPPLY • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect connector C-01. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at TCM terminals E and F. • Is the voltage between 1.5 – 3.5 V?	Yes	Repair or replace the wiring harness between front body control module (FBCM) and connector C-01 because the wiring harness is shorted to the power supply.
		No	Go to the next step.
4	INSPECT TCM FOR SHORT TO POWER SUPPLY • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the TCM connector. • Connect connector C-01. • Connect connector 2 which has front body control module (FBCM) terminals 2K and 2I • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V?	Yes	Replace the TCM because there is a short to the power supply in the TCM. (See CONTROL VALVE BODY REMOVAL/INSTALLATION [FW6A-EL, FW6AX-EL].)
		No	Repair or replace the wiring harness between the TCM and connector C-01 because the wiring harness is shorted to the power supply.
5	INSPECT CAN LINE BETWEEN PCM AND FRONT BODY CONTROL MODULE (FBCM) FOR SHORT TO POWER SUPPLY • Measure the voltage at PCM terminals 2AK and 2AL. • Is the voltage between 1.5 – 3.5 V?	Yes	Replace the front body control module (FBCM) because there is a short to the power supply in the front body control module (FBCM). (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)
		No	Go to the next step.

Step	Inspection		Action
18	INSPECT POWER LIFTGATE (PLG) CONTROL MODULE FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the power liftgate (PLG) control module connector. • Connect connector C-24. • Connect connector C-74. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V? 	Yes	Replace the power liftgate (PLG) control module because there is a short to the power supply in the power liftgate (PLG) control module. (See POWER LIFTGATE (PLG) CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the power liftgate (PLG) control module and connector C-74 because the wiring harness is shorted to the power supply.
19	INSPECT CAN LINE BETWEEN CONNECTOR C-87 AND INSTRUMENT CLUSTER FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect connector C-87. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V? 	Yes	Go to the next step.
		No	Go to Step 27.
20	INSPECT CAN LINE BETWEEN DOSING CONTROL UNIT AND CONNECTOR C-87 FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Measure the voltage at dosing control unit terminals BK and BL. • Is the voltage between 1.5 – 3.5 V? 	Yes	Go to Step 22.
		No	Go to the next step.
21	INSPECT DOSING CONTROL UNIT FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the dosing control unit connector. • Connect connector C-87. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V? 	Yes	Replace the dosing control unit because there is a short to the power supply in the dosing control unit. (See DOSING CONTROL UNIT REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Repair or replace the wiring harness between the dosing control unit and connector C-87 because the wiring harness is shorted to the power supply.
22	INSPECT CAN LINE BETWEEN NOx SENSOR No.1 / NOx SENSOR No.2 / PM SENSOR AND CONNECTOR C-87 FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Measure the voltage at NOx sensor No.1 / NOx sensor No.2 / PM sensor terminals B and C. • Is the voltage between 1.5 – 3.5 V? 	Yes	Repair or replace the wiring harness between the connector C-24 and connector C-87 because the wiring harness is shorted to the power supply.
		No	Go to the next step.

Step	Inspection		Action
37	INSPECT CAN LINE BETWEEN POSITION MEMORY CONTROL MODULE AND CONNECTORS C-72,C-73 FOR SHORT TO POWER SUPPLY • Measure the voltage at position memory control module terminals 1C and 1E. • Is the voltage between 1.5 – 3.5 V?	Yes	Repair or replace the wiring harness between connector C-71 and connectors C-72,C-73 because the wiring harness is shorted to the power supply.
		No	Go to the next step.
38	INSPECT CAN LINE BETWEEN POSITION MEMORY CONTROL MODULE AND CONNECTOR C-31 FOR SHORT TO POWER SUPPLY • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect connector C-31. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at position memory control module terminals 1C and 1E. • Is the voltage between 1.5 – 3.5 V?	Yes	Repair or replace the wiring harness between connector C-31 and connectors C-72,C-73 because the wiring harness is shorted to the power supply.
		No	Go to the next step.
39	INSPECT POSITION MEMORY CONTROL MODULE FOR SHORT TO POWER SUPPLY • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the position memory control module connector. • Connect connector C-31. • Connect connectors C-72,C-73. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V?	Yes	Replace the position memory control module because there is a short to the power supply in the position memory control module. (See POSITION MEMORY CONTROL MODULE REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the position memory control module and connector C-31 because the wiring harness is shorted to the power supply.
40	INSPECT CAN LINE BETWEEN CONNECTOR C-16 AND INSTRUMENT CLUSTER FOR SHORT TO POWER SUPPLY • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect connector C-16. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V?	Yes	Repair or replace the wiring harness between connectors C-72,C-73 and connector C-16 because the wiring harness is shorted to the power supply.
		No	Go to the next step.

Step	Inspection		Action
57	INSPECT INSTRUMENT CLUSTER FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the instrument cluster connector. • Connect the active driving display connector. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V? 	Yes	Replace the instrument cluster because there is a short to the power supply in the instrument cluster. (See INSTRUMENT CLUSTER REMOVAL/INSTALLATION.)
		No	Repair or replace the wiring harness between the instrument cluster and active driving display because the wiring harness is shorted to the power supply.
58	INSPECT PCM FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Switch the ignition off (LOCK). • Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Disconnect the PCM connector. • Connect connector C-53. • Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.) • Switch the ignition ON (engine off). • Measure the voltage at DLC-2 terminals F and E. • Is the voltage between 1.5 – 3.5 V? 	Yes	Replace the PCM because there is a short to the power supply in the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.5T].) (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].)
		No	Repair or replace the wiring harness between the PCM and connector C-53 because the wiring harness is shorted to the power supply.