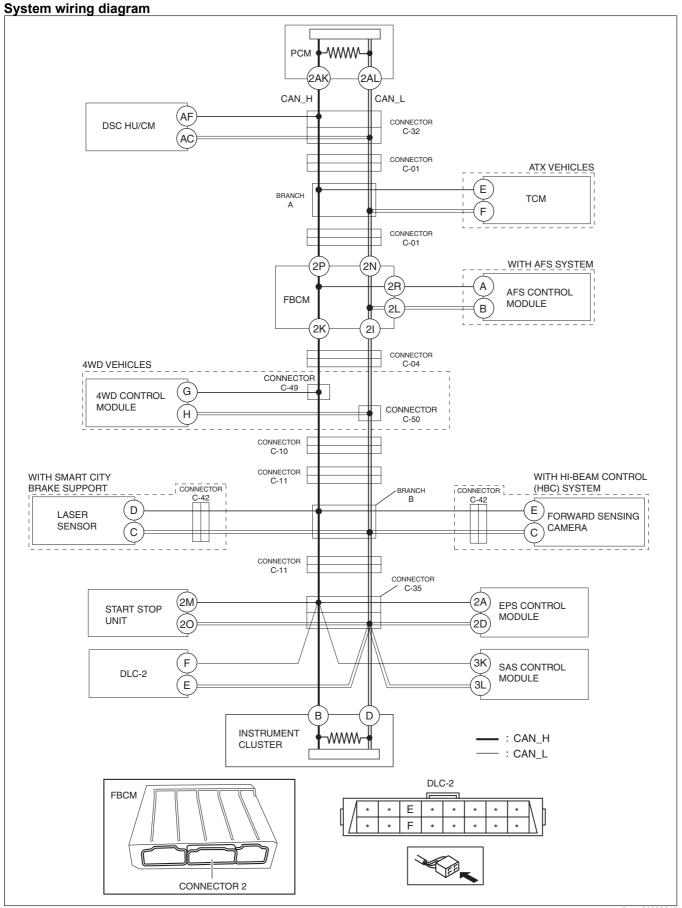
DETERMINING SHORT TO GROUND LOCATION (HS-CAN) [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)]

Caution

 Perform the following malfunction diagnosis only when it is diagnosed with a short to ground by CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)].



Determination procedure

Caution

- When disconnecting the connector, verify that there is no looseness, damage, deformation, corrosion, or poor connection of the connector terminals.
 When inspecting the DLC-2, touch it with a paper clip or similar thin pin without directly inserting a tester into the terminals.

| Step | Inspection | | Action |
|------|---|------|---|
| 1 | INSPECT FOR SHORT TO GROUND | Yes | Go to Step 5. |
| | BETWEEN FRONT BODY CONTROL MODULE | No | Go to the next step. |
| | (FBCM) AND INSTRUMENT CLUSTER | | · |
| | Disconnect the negative battery cable. | | |
| | (See NEGATIVE BATTERY CABLE | | |
| | DISCONNECTION/CONNECTION | | |
| | [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) | | |
| | (See NEGATIVE BATTERY CABLE | | |
| | DISCONNECTION/CONNECTION | | |
| | [SKYACTIV-G 2.0, SKYACTIV-G 2.5 | | |
| | (WITHOUT i-stop)].) | | |
| | Disconnect 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? | | |
| 2 | INSPECT CAN LINE INSIDE FRONT BODY | Yes | Replace the front body control module (FBCM) because |
| | CONTROL MODULE (FBCM) FOR SHORT TO | | there is a short to ground in the front body control module |
| | GROUND | | (FBCM). |
| | • Inspect for continuity at the following terminals: | | (See FRONT BODY CONTROL MODULE (FBCM) |
| | Between front body control module (FBCM) To remine L2D and body ground | N. 1 | REMOVAL/INSTALLATION.) |
| | terminal 2P and body ground | No | Go to the next step. |
| | Between front body control module (FBCM) terminal 2N and body ground | | |
| | • Is there continuity? | | |
| 3 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| Ü | BETWEEN AFS CONTROL MODULE AND | No | Go to Step 25. |
| | FRONT BODY CONTROL MODULE (FBCM) | | 00 to 0.0p 20. |
| | Inspect for continuity at the following terminals: | | |
| | Between AFS control module terminal A | | |
| | and body ground | | |
| | Between AFS control module terminal B | | |
| | and body ground | | |
| | Is there continuity? | | |
| 4 | INSPECT CAN LINE IN AFS CONTROL | Yes | Repair or replace the wiring harness between the AFS |
| | MODULE FOR SHORT TO GROUND | | control module and front body control module (FBCM) |
| | Disconnect the AFS control module connector. | | because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: | No | Replace the AFS control module because there is a short |
| | Between AFS control module terminal A | | to ground in the AFS control module. |
| | (wiring harness side) and body ground | | (See ADAPTIVE FRONT LIGHTING SYSTEM (AFS) |
| | Between AFS control module terminal B | | CONTROL MODULE REMOVAL/INSTALLATION.) |
| | (wiring harness side) and body ground | | |
| | Is there continuity? | | |

| Step | Inspection | | Action |
|------|--|------|---|
| 5 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN CONNECTOR C-04 AND | No | Repair or replace the wiring harness between the front |
| | INSTRUMENT CLUSTER | | body control module (FBCM) and connector C-04 because |
| | Disconnect connector C-04. | | the wiring harness is shorted to ground. |
| | 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? | | |
| 6 | INSPECT FOR SHORT TO GROUND | Yes | Go to Step 9. |
| | BETWEEN CONNECTOR C-49 AND C-50 AND | No | Go to the next step. |
| | INSTRUMENT CLUSTER | 110 | Go to the next step. |
| | Disconnect connector C-49 and C-50. | | |
| | Inspect for continuity at the following terminals: | | |
| | Between DLC-2 terminal F and body | | |
| | ground | | |
| | Between DLC-2 terminal E and body | | |
| | ground | | |
| 7 | • Is there continuity? | \/-· | Co to the most star |
| 7 | INSPECT FOR SHORT TO GROUND BETWEEN 4WD CONTROL MODULE AND | Yes | Go to the next step. |
| | CONNECTORS C-49 AND C-50 | No | Repair or replace the wiring harness between connector C-04 and connectors C-49 and C-50 because the wiring |
| | • Inspect for continuity at the following terminals: | | harness is shorted to ground. |
| | Between 4WD control module terminal G | | mariless is shorted to ground. |
| | and body ground | | |
| | Between 4WD control module terminal H | | |
| | and body ground | | |
| | Is there continuity? | | |
| 8 | INSPECT CAN LINE IN 4WD CONTROL | Yes | Repair or replace the wiring harness between the 4WD |
| | MODULE FOR SHORT TO GROUND | | control module and connectors C-49 and C-50 because the |
| | Disconnect the 4WD control module connector. | NI- | wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: Between 4WD control module terminal G | No | Replace the 4WD control module because there is a short to ground in the 4WD control module. |
| | (wiring harness side) and body ground | | (See 4WD CONTROL MODULE REMOVAL/ |
| | Between 4WD control module terminal H | | INSTALLATION.) |
| | (wiring harness side) and body ground | | interview, |
| | • Is there continuity? | | |
| 9 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN CONNECTOR C-10 AND | No | Repair or replace the wiring harness between connectors |
| | INSTRUMENT CLUSTER | | C-49 and C-50 and connector C-10 because the wiring |
| | • Disconnect connector C-10. | | harness is shorted to ground. |
| | • Inspect for continuity at the following terminals: | | |
| | Between DLC-2 terminal F and body ground | | |
| | ground — Between DLC-2 terminal E and body | | |
| | ground | | |
| | Is there continuity? | | |
| 10 | INSPECT FOR SHORT TO GROUND | Yes | Go to Step 16. |
| | BETWEEN CONNECTOR C-11 AND | No | Go to the next step. |
| | INSTRUMENT CLUSTER | | |
| | Disconnect connector C-11. | | |
| | Inspect for continuity at the following terminals: | | |
| | Between DLC-2 terminal F and body | | |
| | ground | | |
| | Between DLC-2 terminal E and body ground | | |
| | ground • Is there continuity? | | |
| | · is there continuity! | | |

| Step | Inspection | | Action |
|------|--|-----|--|
| 11 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN LASER SENSOR AND CONNECTOR C-42 • Disconnect connector C-42. • Inspect for continuity at the following terminals: — Between laser sensor terminal D and body ground — Between laser sensor terminal C and body ground | No | Go to Step 13. |
| | • Is there continuity? | | |
| 12 | INSPECT CAN LINE INSIDE LASER SENSOR FOR SHORT TO GROUND • Disconnect the laser sensor connector. | Yes | Repair or replace the wiring harness between the laser sensor and connector C-42 because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: Between laser sensor terminal D (wiring harness side) and body ground Between laser sensor terminal C (wiring harness side) and body ground Is there continuity? | No | Replace the laser sensor because there is a short to ground in the laser sensor. (See LASER SENSOR REMOVAL/INSTALLATION.) |
| 13 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| 13 | BETWEEN FORWARD SENSING CAMERA AND CONNECTOR C-42 Inspect for continuity at the following terminals: Between forward sensing camera terminal E and body ground Between forward sensing camera terminal C and body ground Is there continuity? | No | Go to Step 15. |
| 14 | INSPECT CAN LINE IN FORWARD SENSING | Yes | Repair or replace the wiring harness between the forward |
| | CAMERA FOR SHORT TO GROUND Disconnect the forward sensing camera connector. Inspect for continuity at the following terminals: Between forward sensing camera terminal E (wiring harness side) and body ground Between forward sensing camera terminal C (wiring harness side) and body ground | No | sensing camera and connector C-42 because the wiring harness is shorted to ground. Replace the forward sensing camera because there is a short to ground in the forward sensing camera. (See FORWARD SENSING CAMERA (FSC) REMOVAL/INSTALLATION.) |
| 15 | Is there continuity? INSPECT FOR SHORT TO GROUND BETWEEN CONNECTORS C-11 AND C-42 | Yes | Repair or replace the wiring harness between connector C-11 and connector C-42 because the wiring harness is |
| | Connect connector C-42. Inspect for continuity at the following terminals: Between forward sensing camera terminal E and body ground (with high beam control (HBC) system) Between forward sensing camera terminal C and body ground (with high beam control (HBC) system) Between laser sensor terminal D and body ground (with smart city brake support) Between laser sensor terminal C and body ground (with smart city brake support) Is there continuity? | No | shorted to ground. Repair or replace the wiring harness between connector C-10 and connector C-11 because the wiring harness is shorted to ground. |
| 16 | INSPECT FOR SHORT TO GROUND BETWEEN CONNECTORS C-35 AND DLC-2 • Disconnect connector C-35. | Yes | Repair or replace the wiring harness between connector C-35 and DLC-2 because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: | No | Go to the next step. |

| Step | Inspection | | Action |
|------|--|-----|---|
| 17 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| '' | BETWEEN START STOP UNIT AND CONNECTOR C-35 • Inspect for continuity at the following terminals: | No | Go to Step 19. |
| | Between start stop unit terminal 2M and body ground | | |
| | Between start stop unit terminal 2O and body ground Is there continuity? | | |
| 18 | INSPECT CAN LINE IN START STOP UNIT FOR SHORT TO GROUND | Yes | Repair or replace the wiring harness between the start stop unit and connector C-35 because the wiring harness is |
| | Disconnect the start stop unit connector. Inspect for continuity at the following terminals: | No | shorted to ground. Replace the start stop unit because there is a short to |
| | Between start stop unit terminal 2M (wiring harness side) and body ground Between start stop unit terminal 2O (wiring harness side) and body ground Is there continuity? | | ground in the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.) |
| 19 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN EPS CONTROL MODULE AND CONNECTOR C-35 | No | Go to Step 21. |
| | Inspect for continuity at the following terminals: Between EPS control module terminal 2A and body ground | | |
| | Between EPS control module terminal 2D and body ground Is there continuity? | | |
| 20 | INSPECT CAN LINE IN EPS CONTROL | Yes | Repair or replace the wiring harness between the EPS |
| | MODULE FOR SHORT TO GROUND • Disconnect the EPS control module connector. | | control module and connector C-35 because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: | No | Replace the EPS control module because there is a short |
| | Between EPS control module terminal 2A (wiring harness side) and body ground Between EPS control module terminal 2D (wiring harness side) and body ground | | to ground in the EPS control module. (See STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION.) |
| | • Is there continuity? | | |
| 21 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN SAS CONTROL MODULE AND CONNECTOR C-35 | No | Go to Step 23. |
| | Inspect for continuity at the following terminals: Between SAS control module terminal 3K and body ground | | |
| | Between SAS control module terminal 3L and body ground | | |
| 22 | Is there continuity? INSPECT CAN LINE IN SAS CONTROL | Yes | Repair or replace the wiring harness between the SAS |
| | MODULE FOR SHORT TO GROUND • Disconnect the SAS control module connector. | 103 | control module and connector C-35 because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: | No | Replace the SAS control module because there is a short |
| | Between SAS control module terminal 3K (wiring harness side) and body ground | | to ground in the SAS control module. (See SAS CONTROL MODULE REMOVAL/ |
| | Between SAS control module terminal 3L | | INSTALLATION.) |
| | (wiring harness side) and body ground • Is there continuity? | | , |
| 23 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN INSTRUMENT CLUSTER AND CONNECTOR C-35 | No | Repair or replace the wiring harness between connector C-11 and connector C-35 because the wiring harness is |
| | Inspect for continuity at the following terminals: Between instrument cluster terminal B and body ground | | shorted to ground. |
| | Between instrument cluster terminal D and body ground Is there continuity? | | |
| | | | I . |

| Step | Inspection | | Action |
|------|---|------|--|
| 24 | INSPECT CAN LINE IN INSTRUMENT | Yes | Repair or replace the wiring harness between the |
| | CLUSTER FOR SHORT TO GROUND | 103 | instrument cluster and connector C-35 because the wiring |
| | Disconnect the instrument cluster connector. | | harness is shorted to ground. |
| | | No | Replace the instrument cluster because there is a short to |
| | • Inspect for continuity at the following terminals: | No | |
| | Between instrument cluster terminal B | | ground in the instrument cluster. |
| | (wiring harness side) and body ground | | (See INSTRUMENT CLUSTER REMOVAL/ |
| | Between instrument cluster terminal D | | INSTALLATION.) |
| | (wiring harness side) and body ground | | |
| | Is there continuity? | | |
| 25 | INSPECT FOR SHORT TO GROUND | Yes | Repair or replace the wiring harness between connector |
| | BETWEEN CONNECTOR C-01 AND FRONT | | C-01 and the front body control module (FBCM) because |
| | BODY CONTROL MODULE (FBCM) | | the wiring harness is shorted to ground. |
| | Disconnect connector C-01. | No | Go to the next step. |
| | 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? | | |
| 26 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| 20 | BETWEEN CONNECTOR C-01 AND TCM | No | Go to Step 28. |
| | • Inspect for continuity at the following terminals: | 140 | G0 t0 0tcp 20. |
| | Between TCM terminal E and body ground | | |
| | Between TCM terminal F and body ground | | |
| | | | |
| 27 | • Is there continuity? INSPECT CAN LINE IN TCM FOR SHORT TO | V | Denois or replace the wining berness between the TCM and |
| 21 | GROUND | Yes | Repair or replace the wiring harness between the TCM and |
| | | | connector C-01 because the wiring harness is shorted to |
| | Disconnect the TCM connector. | | ground. |
| | • Inspect for continuity at the following terminals: | No | Replace the TCM because there is a short to ground in the |
| | Between TCM terminal E (wiring harness) | | TCM. |
| | side) and body ground | | (See CONTROL VALVE BODY REMOVAL/ |
| | Between TCM terminal F (wiring harness) | | INSTALLATION [FW6A-EL, FW6AX-EL].) |
| | side) and body ground | | |
| | Is there continuity? | | |
| 28 | INSPECT FOR SHORT TO GROUND | Yes | Repair or replace the wiring harness between connector |
| | BETWEEN CONNECTORS C-32 AND C-01 | | C-32 and connector C-01 because the wiring harness is |
| | Disconnect connector C-32. | | shorted to ground. |
| | Connect connector C-01. | No | Go to the next step. |
| | 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? | | |
| 29 | INSPECT FOR SHORT TO GROUND | Yes | Go to the next step. |
| | BETWEEN DSC HU/CM AND CONNECTOR | No | Go to Step 31. |
| | C-32 | _ | ' |
| | 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? | | |
| 30 | INSPECT CAN LINE IN DSC HU/CM FOR | Yes | Repair or replace the wiring harness between the DSC HU/ |
| 00 | SHORT TO GROUND | . 03 | CM and connector C-32 because the wiring harness is |
| | Disconnect the DSC HU/CM connector. | | shorted to ground. |
| | Inspect for continuity at the following terminals: | No | |
| | | No | Replace the DSC HU/CM because there is a short to |
| | Between DSC HU/CM terminal AF (wiring barness side) and bady ground | | ground in the DSC HU/CM. |
| | harness side) and body ground | | (See DSC HU/CM REMOVAL/INSTALLATION.) |
| | Between DSC HU/CM terminal AC (wiring | | |
| | harness side) and body ground | | |
| | Is there continuity? | | |

| Step | Inspection | | Action |
|------|--|-----|---|
| 31 | INSPECT CAN LINE IN PCM FOR SHORT TO GROUND • Disconnect the PCM connector. | Yes | Repair or replace the wiring harness between the PCM and connector C-32 because the wiring harness is shorted to ground. |
| | Inspect for continuity at the following terminals: Between PCM terminal 2AK (wiring harness side) and body ground Between PCM terminal 2AL (wiring harness side) and body ground Is there continuity? | | Replace the PCM because there is a short to ground in the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-G 2.0, SKYACTIV-G 2.5].) |