| System | IC4 relay aircuit malfunction | | | | |
|---|--|--|--|--|--|
| malfunction IG1 relay circuit malfunction | | | | | |
| Detection • With the ignition switched ON (engine off or on), the start stop unit detects IG1 monitor voltage. | | | | | |
| condition | than 2.5 V for 1 s or more. | | | | |
| Fail-safe | than 2.5 ¥ 101 1 5 01 more. | | | | |
| i un-suic | • IG1 relay malfunction | | | | |
| | IG1 relay power supply circuit malfunction | | | | |
| | Short to ground in wiring harness between MAIN 200 A fuse and IG1 relay terminal D | | | | |
| | MAIN 200 A fuse malfunction | | | | |
| | Open circuit in wiring harness between battery positive terminal and IG1 relay terminal D | | | | |
| Possible cause | Start stop unit connector or terminal malfunction | | | | |
| | Start stop unit power supply circuit (IG1) malfunction | | | | |
| | Short to ground in wiring harness between IG1 relay terminal C and start stop unit terminal 1B | | | | |
| | — C/U IG1 15 A fuse malfunction | | | | |
| Open circuit in wiring harness between IG1 relay terminal C and start stop unit terminal 1B | | | | | |
| DATTED\/ | Start stop unit malfunction RELAY AND FUSE BLOCK START STOP UNIT | | | | |
| BATTERY | | | | | |
| (D) ⊕ MA | IN FUSE IG1 RELAY | | | | |
| T MA | IN 200 A C/U IG1 15 A | | | | |
| | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | | |
| | | | | | |
| | | | | | |
| | A • W • E • (2S) | | | | |
| | | | | | |
| 777 | | | | | |
| | IG1 RELAY START STOP UNIT | | | | |
| | (RELAY AND FUSE BLOCK) WIRING HARNESS-SIDE CONNECTOR | | | | |
| | | | | | |
| | | | | | |
| | C D 1AE 1AC 1AA 1Y 1W 1U 1S 1Q 1O 1M 1K 1I 1G 1E 1C 1A 1AE 1AD 1AB 1Z 1X 1V 1T 1B 1P 1N 1L 1L 1H 1E 1D 1B | | | | |
| | A FRONT 1AF 1AD 1AB 1Z 1X 1V 1T 1R 1P 1N 1L 1J 1H 1F 1D 1B | | | | |
| | | | | | |
| | | | | | |
| | 2W 2U 2S 2Q 2O 2M 2K 2I 2G 2E 2C 2A | | | | |
| | 2X 2V 2T 2R 2P 2N 2L 2J 2H 2F 2D 2B | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

Diagnostic Procedure

| Step | Inspection | | Action |
|------|--|-----|---|
| 1 | INSPECT IG1 RELAY FOR MALFUNCTION | Yes | Go to the next step. |
| | Switch the ignition to off. | No | Replace the IG1 relay, then go to Step 5. |
| | Disconnect the negative battery cable. | | (See RELAY LOCATION.) |
| | (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)].) | | |
| | (See NEGATIVE BATTERY CABLE | | |
| | DISCONNECTION/CONNECTION | | |
| | [SKYACTIV-D 2.2].) | | |
| | Remove the IG1 relay. | | |
| | (See RELAY LOCATION.) | | |
| | Inspect the IG1 relay. | | |
| | (See RELAY INSPECTION.) | | |
| | Is the IG1 relay normal? | | |

| Step 2 INSPECT | | | Action |
|----------------|--|-----|---|
| | Inspection IG1 RELAY POWER SUPPLY | Yes | Go to the next step. |
| CIRCUIT | FOR OPEN CIRCUIT OR SHORT TO | No | Inspect the MAIN 200 A fuse. |
| GROUND | | | If a fuse is burnt out: |
| Verify that | at the IG1 relay is removed. | | Repair or replace the wiring harness which is shorted |
| Connect | the negative battery cable. | | to ground. |
| (See NE | GATIVE BATTERY CABLE | | Replace the fuse. |
| DISCON | NECTION/CONNECTION | | If a fuse is damaged: |
| [SKYAC | TIV-G 2.0, SKYACTIV-G 2.5].) | | Replace the fuse. |
| (See NE | GATIVE BATTERY CABLE | | If the fuse is normal: |
| DISCON | NECTION/CONNECTION | | Repair or replace the wiring harness which has an |
| [SKYAC | TIV-G 2.0, SKYACTIV-G 2.5 | | open circuit. |
| | UT i-stop)].) | | Go to Step 5. |
| (See NE | GATIVE BATTERY CABLE | | |
| | NECTION/CONNECTION | | |
| | TIV-D 2.2].) | | |
| | ne ignition ON (engine off or on). | | |
| | the voltage at IG1 relay terminal D | | |
| | wiring harness side). | | |
| Is the vo | - | | |
| | START STOP UNIT CONNECTOR | Yes | Go to the next step. |
| CONDITIO | | No | Repair or replace the connector, then go to Step 5. |
| | ne ignition to off. | | |
| | ect the negative battery cable. GATIVE BATTERY CABLE | | |
| ' | NECTION/CONNECTION | | |
| | TIV-G 2.0, SKYACTIV-G 2.5].) | | |
| | GATIVE BATTERY CABLE | | |
| ' | NECTION/CONNECTION | | |
| l l | TIV-G 2.0, SKYACTIV-G 2.5 | | |
| 1 - | UT i-stop)].) | | |
| ' | GATIVE BATTERY CABLE | | |
| | NECTION/CONNECTION | | |
| l l | TIV-D 2.2].) | | |
| | ect the start stop unit connector. | | |
| | he connector engagement and | | |
| | on condition and inspect the terminals | | |
| for dama | ige, deformation, corrosion, or | | |
| disconne | ection. | | |
| Is the co | nnector normal? | | |
| | START STOP UNIT POWER | Yes | Go to the next step. |
| | CIRCUIT (IG1) FOR OPEN CIRCUIT | No | Inspect the C/U IG1 15 A fuse. |
| | RT TO GROUND | | If a fuse is burnt out: |
| | at the start stop unit connector is | | Repair or replace the wiring harness which is shorted |
| disconne | the negative battery cable. | | to ground. |
| | GATIVE BATTERY CABLE | | — Replace the fuse. |
| | NECTION/CONNECTION | | If a fuse is damaged: Replace the fuse. |
| | TIV-G 2.0, SKYACTIV-G 2.5].) | | If the fuse is normal: |
| | GATIVE BATTERY CABLE | | Repair or replace the wiring harness which has an |
| | NECTION/CONNECTION | | open circuit. |
| | TIV-G 2.0, SKYACTIV-G 2.5 | | Go to the next step. |
| - | UT i-stop)].) | | · · · · · · · · · · · · · · · · · · · |
| | GATIVE BATTERY CABLE | | |
| , | NECTION/CONNECTION | | |
| [SKYAC | TIV-D 2.2].) | | |
| | ne ignition ON (engine off or on). | | |
| | the voltage at IG1 relay terminal C | | |
| | wiring harness side). | | |
| Is the vo | Itage B+ ? | | |

| Step | Inspection | | Action |
|------|--|--------|---|
| 5 5 | Inspection VERIFY THAT REPAIRS HAVE BEEN COMPLETED Reconnect all the disconnected connectors. Reconnect the disconnected 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)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) Clear DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].) Switch the ignition ON (engine off or on) and wait for 1 s or more. Perform the DTC inspection for the start stop unit using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) | Yes No | Repeat the inspection from Step 1. • If the malfunction recurs, replace the start stop unit, then go to the next step. (See START STOP UNIT REMOVAL/INSTALLATION.) Go to the next step. |
| | • Is the DTC B10E7:16 displayed? | ., | |
| 6 | • Are any other DTCs displayed? | Yes | Repair the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |