DTC P0615:16 [START STOP UNIT]

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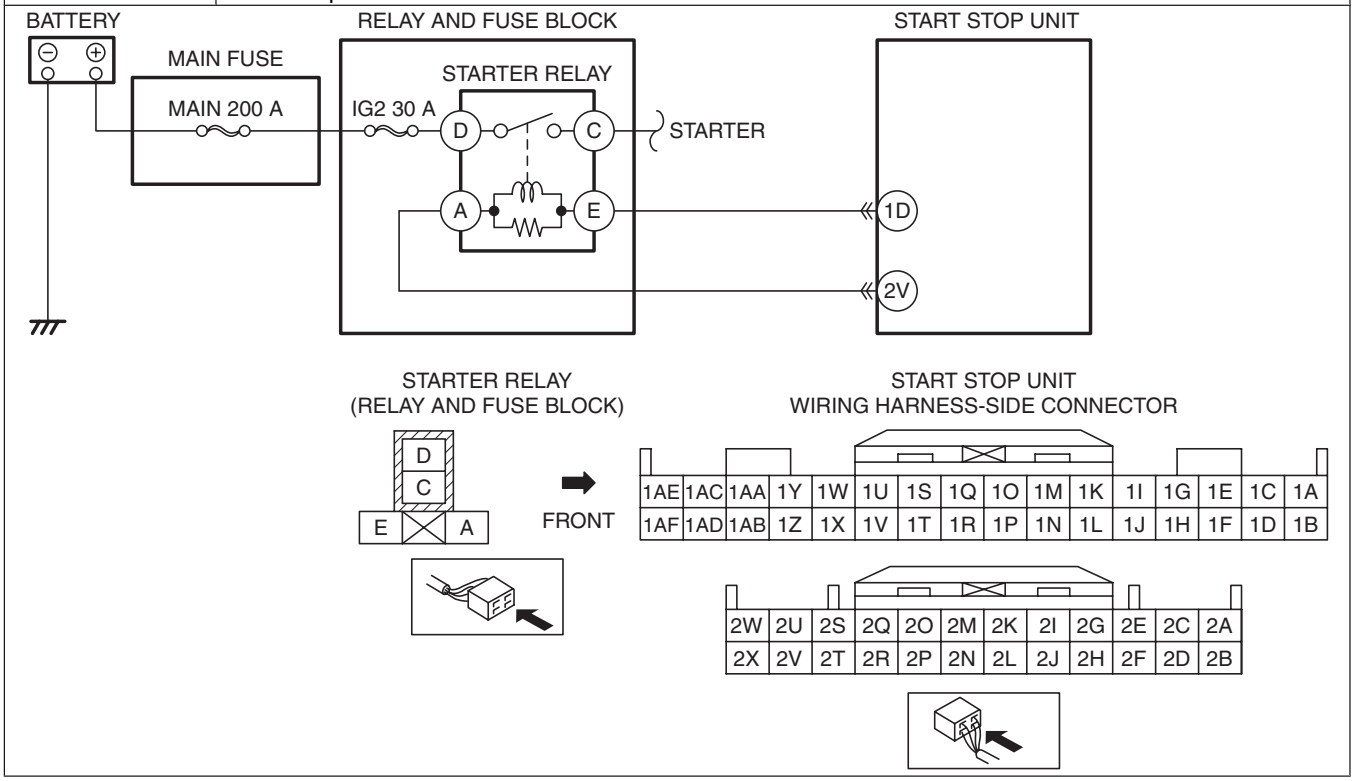
System malfunction location	**Starter relay circuit malfunction**
Detection condition	• The start stop unit detects starter relay circuit voltage that is less than the specification for **1 s or more** during cranking.
Fail-safe	—
Possible cause	• Starter relay malfunction • Start stop unit connector or terminal malfunction • Short to ground in wiring harness between starter relay terminal A and start stop unit terminal 2V • Start stop unit malfunction



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT STARTER RELAY FOR MALFUNCTION** • Switch the ignition to off. • 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)].) (See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].) • Remove the starter relay. (See RELAY LOCATION.) • Inspect the starter relay. (See RELAY INSPECTION.) • Is the starter relay normal?	Yes	Go to the next step.
		No	Replace the starter relay, then go to Step 4. (See RELAY LOCATION.)

Step	Inspection		Action
2	**INSPECT START STOP UNIT CONNECTOR CONDITION** • Disconnect the start stop unit connector. • Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection. • Is the connector normal?	Yes	Go to the next step.
		No	Repair or replace the connector, then go to Step 4.
3	**INSPECT STARTER RELAY CIRCUIT FOR SHORT TO GROUND** • Verify that the starter relay is removed. • Verify that the start stop unit connector is disconnected. • Inspect for continuity between starter relay terminal A (vehicle wiring harness side) and body ground. • Is there continuity?	Yes	Repair or replace the wiring harness which has a short to ground, then go to the next step.
		No	Go to the next step.
4	**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].) • Wait until **1 s or more** have elapsed during cranking. • Perform the DTC inspection for the start stop unit using the M-MDS. (See DTC INSPECTION [START STOP UNIT].) • Is DTC P0615:16 displayed?	Yes	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.)
		No	Go to the next step.
5	**VERIFY IF OTHER DTCs DISPLAYED** • 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.