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## 2017 Mazda 3 Service and Repair Manual

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| Step | Inspection | | Action |
|---|---|---|---|
| 1 | **INSPECT KEYLESS ANTENNA (INTERIOR, REAR) CONNECTOR CONDITION**<br>• Switch the ignition off.<br>• Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Disconnect the keyless antenna (interior, rear) connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 7. |
| 2 | **INSPECT LF CONTROL UNIT CONNECTOR CONDITION**<br>• Disconnect the LF control unit connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 7. |
| 3 | **INSPECT KEYLESS ANTENNA (INTERIOR, REAR) CIRCUIT FOR SHORT TO GROUND**<br>• Verify that the LF control unit and keyless antenna (interior, rear) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side) and body ground:<br>— Keyless antenna (interior, rear) terminal B<br>— Keyless antenna (interior, rear) terminal A<br>• Is there continuity? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• LF control unit terminal V–Keyless antenna (interior, rear) terminal B<br>• LF control unit terminal T–Keyless antenna (interior, rear) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has a short to ground.<br>Go to Step 7. |
| | | No | Go to the next step. |
| 4 | **INSPECT KEYLESS ANTENNA (INTERIOR, REAR) CIRCUIT FOR OPEN CIRCUIT**<br>• Verify that the LF control unit and keyless antenna (interior, rear) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side):<br>— LF control unit terminal V– Keyless antenna (interior, rear) terminal B<br>— LF control unit terminal T– Keyless antenna (interior, rear) terminal A<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• LF control unit terminal V–Keyless antenna (interior, rear) terminal B<br>• LF control unit terminal T–Keyless antenna (interior, rear) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 7. |
| 5 | **INSPECT LF CONTROL UNIT**<br>• Inspect the LF control unit. (See LF CONTROL UNIT INSPECTION.)<br>• Is the LF control unit normal? | Yes | Go to the next step. |
| | | No | Replace the LF control unit, then go to Step 7. (See LF CONTROL UNIT REMOVAL/INSTALLATION.) |

| Step | Inspection | | Action |
|---|---|---|---|
| 1 | INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CONNECTOR CONDITION<br>• Switch the ignition off.<br>• Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Disconnect the keyless antenna (interior, center) connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 6. |
| 2 | INSPECT START STOP UNIT CONNECTOR CONDITION<br>• Disconnect the start stop unit connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 6. |
| 3 | INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CIRCUIT FOR SHORT TO GROUND<br>• Verify that the start stop unit and keyless antenna (interior, center) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side) and body ground:<br>— Keyless antenna (interior, center) terminal B<br>— Keyless antenna (interior, center) terminal A<br>• Is there continuity? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• Start stop unit terminal 2I–Keyless antenna (interior, center) terminal B<br>• Start stop unit terminal 2K–Keyless antenna (interior, center) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has a short to ground.<br>Go to Step 6. |
| | | No | Go to the next step. |
| 4 | INSPECT KEYLESS ANTENNA (INTERIOR, CENTER) CIRCUIT FOR OPEN CIRCUIT<br>• Verify that the start stop unit and keyless antenna (interior, center) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side):<br>— Start stop unit terminal 2I–Keyless antenna (interior, center) terminal B<br>— Start stop unit terminal 2K–Keyless antenna (interior, center) terminal A<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• Start stop unit terminal 2I–Keyless antenna (interior, center) terminal B<br>• Start stop unit terminal 2K–Keyless antenna (interior, center) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 6. |

| Step | Inspection | | Action |
|---|---|---|---|
| 3 | **INSPECT KEYLESS ANTENNA (INTERIOR, FRONT) CIRCUIT FOR SHORT TO GROUND**<br>• Verify that the LF control unit and keyless antenna (interior, front) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side) and body ground:<br>— Keyless antenna (interior, front) terminal B<br>— Keyless antenna (interior, front) terminal A<br>• Is there continuity? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• LF control unit terminal K—Keyless antenna (interior, front) terminal B<br>• LF control unit terminal M—Keyless antenna (interior, front) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has a short to ground.<br>Go to Step 7. |
| | | No | Go to the next step. |
| 4 | **INSPECT KEYLESS ANTENNA (INTERIOR, FRONT) CIRCUIT FOR OPEN CIRCUIT**<br>• Verify that the LF control unit and keyless antenna (interior, front) connectors are disconnected.<br>• Inspect for continuity between the following terminals (wiring harness-side):<br>— LF control unit terminal K—Keyless antenna (interior, front) terminal B<br>— LF control unit terminal M—Keyless antenna (interior, front) terminal A<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Refer to the wiring diagram and verify whether or not there is a common connector between the following terminals:<br>• LF control unit terminal K—Keyless antenna (interior, front) terminal B<br>• LF control unit terminal M—Keyless antenna (interior, front) terminal A<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 7. |
| 5 | **INSPECT LF CONTROL UNIT**<br>• Inspect the LF control unit. (See LF CONTROL UNIT INSPECTION.)<br>• Is the LF control unit normal? | Yes | Go to the next step. |
| | | No | Replace the LF control unit, then go to Step 7. (See LF CONTROL UNIT REMOVAL/INSTALLATION.) |
| 6 | **VERIFY IF MALFUNCTIONING LOCATION IS KEYLESS ANTENNA (INTERIOR, FRONT) DEPENDING ON REPEATABILITY**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Perform the following work:<br>— Switch the ignition off.<br>— Open the front door (LH).<br>— Close all the doors and liftgate.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Replace the keyless antenna (interior, front), then go to the next step. (See KEYLESS ANTENNA REMOVAL/INSTALLATION.) |
| | | No | Go to Step 8. |

| Step | Inspection | | Action |
|---|---|---|---|
| 2 | INSPECT START STOP UNIT CONNECTOR CONDITION<br>• Disconnect the start stop unit connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 4. |
| 3 | INSPECT ACC RELAY CIRCUIT FOR SHORT TO POWER SUPPLY<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Measure the voltage at the start stop unit terminal 2C (wiring harness-side).<br>• Is the voltage 2.5 V or more? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between ACC relay terminal E and start stop unit terminal 2C.<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to power supply.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Repair or replace the wiring harness which has a short to power supply.<br>Go to the next step. |
| | | No | Go to the next step. |
| 4 | VERIFY THAT REPAIRS HAVE BEEN COMPLETED<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Switch the ignition off and wait for 1 s or more.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Repeat the inspection from Step 1.<br>• If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.)<br>Go to the next step. |
| | | No | Go to the next step. |
| 5 | VERIFY IF OTHER DTCs DISPLAYED<br>• Are any other DTCs displayed? | Yes | Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |

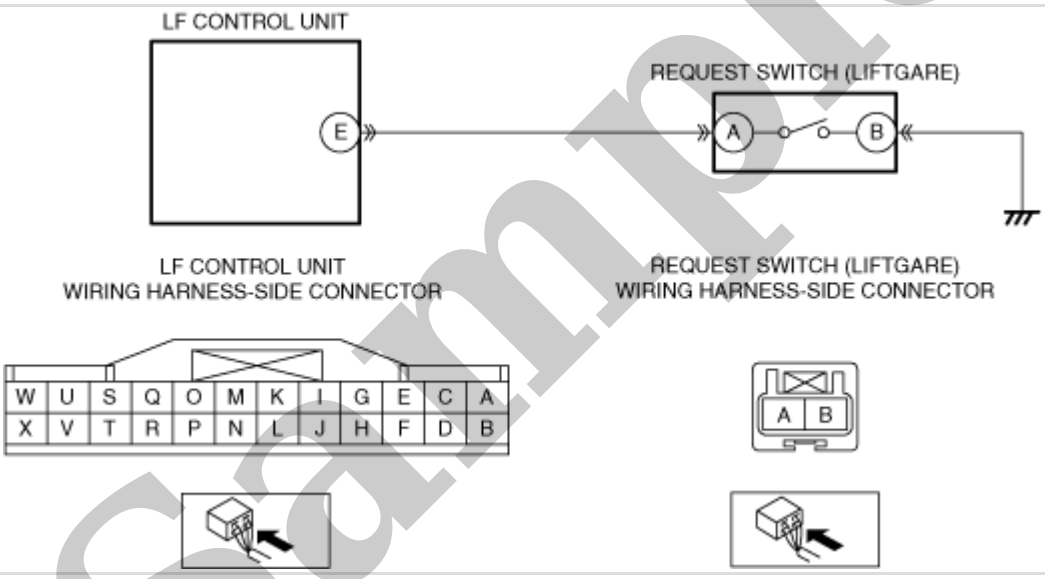
| Step | Inspection | | Action |
|---|---|---|---|
| 6 | **VERIFY IF MALFUNCTIONING LOCATION IS KEYLESS ANTENNA (EXTERIOR, LF) DEPENDING ON REPEATABILITY**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Perform the following work:<br>— Switch the ignition off.<br>— Open the front door (LH).<br>— Close all the doors and liftgate.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Replace the front outer handle (LH), then go to the next step.<br>(See FRONT OUTER HANDLE REMOVAL/INSTALLATION.) |
| | | No | Go to Step 8. |
| 7 | **VERIFY THAT REPAIRS HAVE BEEN COMPLETED**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Perform the following work:<br>— Switch the ignition off.<br>— Open the front door (LH).<br>— Close all the doors and liftgate.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Repeat the inspection from Step 1.<br>• If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.)<br>Go to the next step. |
| | | No | Go to the next step. |
| 8 | **VERIFY IF OTHER DTCs DISPLAYED**<br>• Are any other DTCs displayed? | Yes | Repair or replace the malfunctioning part according to the applicable DTC troubleshooting.<br>(See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |

# DTC B11C4:23 [START STOP UNIT]

SM2899082

id0902p602660

| Description | Request switch (liftgate) circuit malfunction |
|---|---|
| Detection condition | • Start stop unit detected any of the following conditions at a vehicle speed of 5 km/h {3 mph} or more.<br>— The request switch (liftgate) is continuously ON for 2 min or more.<br>— The request switch (liftgate) was ON 7 times. |
| Fail-safe | Not applicable |
| Possible cause | • Request switch (liftgate) connector or terminal malfunction<br>• LF control unit connector or terminal malfunction<br>• Short to ground in wiring harness between LF control unit terminal E and request switch (liftgate) terminal A<br>• Request switch (liftgate) malfunction<br>• LF control unit malfunction<br>• Start stop unit malfunction |






## Diagnostic Procedure

| Step | Inspection | | Action |
|---|---|---|---|
| 1 | INSPECT REQUEST SWITCH (LIFTGATE) CONNECTOR CONDITION<br>• Switch the ignition off.<br>• Disconnect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Disconnect the request switch (liftgate) connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 6. |

| Step | Inspection | | Action |
|---|---|---|---|
| 2 | INSPECT START STOP UNIT CONNECTOR CONDITION<br>• Disconnect the start stop unit connector.<br>• Inspect the connector engagement and connection condition and inspect the terminals for damage, deformation, corrosion, or disconnection.<br>• Is the connector normal? | Yes | Go to the next step. |
| | | No | Repair or replace the connector, then go to Step 6. |
| 3 | INSPECT WIRING HARNESS BETWEEN START STOP UNIT AND LF CONTROL UNIT FOR SHORT TO GROUND<br>• Verify that the start stop unit and LF control unit connectors are disconnected.<br>• Inspect for continuity between LF control unit terminal G (wiring harness-side) and body ground.<br>• Is there continuity? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between start stop unit terminal 2H and LF control unit terminal G.<br>If there is a common connector:<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a short to ground.<br>• Repair or replace the malfunctioning part.<br>If there is no common connector:<br>• Repair or replace the wiring harness which has a short to ground.<br>Go to Step 6. |
| | | No | Go to the next step. |
| 4 | INSPECT WIRING HARNESS BETWEEN START STOP UNIT AND LF CONTROL UNIT FOR OPEN CIRCUIT<br>• Verify that the start stop unit and LF control unit connectors are disconnected.<br>• Inspect for continuity between start stop unit terminal 2H (wiring harness-side) and LF control unit terminal G (wiring harness-side).<br>• Is there continuity? | Yes | Go to the next step. |
| | | No | Refer to the wiring diagram and verify whether or not there is a common connector between start stop unit terminal 2H and LF control unit terminal G.<br>If there is a common connector:<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for an open circuit.<br>• Repair or replace the malfunctioning part.<br>If there is no common connector:<br>• Repair or replace the wiring harness which has an open circuit.<br>Go to Step 6. |
| 5 | INSPECT LF CONTROL UNIT<br>• Inspect the LF control unit. (See LF CONTROL UNIT INSPECTION.)<br>• Is the LF control unit normal? | Yes | Go to the next step. |
| | | No | Replace the LF control unit, then go to the next step.<br>(See LF CONTROL UNIT REMOVAL/INSTALLATION.) |
| 6 | VERIFY THAT REPAIRS HAVE BEEN COMPLETED<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Switch the ignition ON (engine off or on) and wait for 5 s or more.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Repeat the inspection from Step 1.<br>• If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.)<br>Go to the next step. |
| | | No | Go to the next step. |
| 7 | VERIFY IF OTHER DTCs DISPLAYED<br>• Are any other DTCs displayed? | Yes | Repair or replace the malfunctioning part according to the applicable DTC troubleshooting.<br>(See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |

| Step | Inspection | | Action |
|---|---|---|---|
| 6 | **VERIFY IF MALFUNCTIONING LOCATION IS KEYLESS ANTENNA (EXTERIOR, RF) DEPENDING ON REPEATABILITY**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Perform the following work:<br>— Switch the ignition off.<br>— Open the front door (RH).<br>— Close all the doors and liftgate.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Replace the front outer handle (RH), then go to the next step.<br>(See FRONT OUTER HANDLE REMOVAL/INSTALLATION.) |
| | | No | Go to Step 8. |
| 7 | **VERIFY THAT REPAIRS HAVE BEEN COMPLETED**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Perform the following work:<br>— Switch the ignition off.<br>— Open the front door (RH).<br>— Close all the doors and liftgate.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Repeat the inspection from Step 1.<br>• If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.)<br>Go to the next step. |
| | | No | Go to the next step. |
| 8 | **VERIFY IF OTHER DTCs DISPLAYED**<br>• Are any other DTCs displayed? | Yes | Repair or replace the malfunctioning part according to the applicable DTC troubleshooting.<br>(See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |

| Step | Inspection | | Action |
|---|---|---|---|
| 2 | **VERIFY LF CONTROL UNIT POWER SUPPLY VOLTAGE**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Measure the voltage at the LF control unit terminal B (wiring harness-side).<br>• Is the voltage 5 V or more or less than 8.5 V? | Yes | Refer to the wiring diagram and verify whether or not there is a common connector between battery positive terminal and LF control unit terminal B.<br>**If there is a common connector:**<br>• Determine the malfunctioning part by inspecting the common connector and the terminal for corrosion, damage, or pin disconnection, and the common wiring harness for a malfunction.<br>• Repair or replace the malfunctioning part.<br>**If there is no common connector:**<br>• Inspect the wiring harness between battery positive terminal and LF control unit terminal B.<br>— If there is any malfunction:<br>• Repair or replace the wiring harness.<br>— If there is no malfunction:<br>• Replace the LF control unit. (See LF CONTROL UNIT REMOVAL/INSTALLATION.)<br>Go to Step 4. |
| | | No | Go to the next step. |
| 3 | **INSPECT LF CONTROL UNIT**<br>• Inspect the LF control unit. (See LF CONTROL UNIT INSPECTION.)<br>• Is the LF control unit normal? | Yes | Go to the next step. |
| | | No | Replace the LF control unit, then go to the next step (See LF CONTROL UNIT REMOVAL/INSTALLATION.) |
| 4 | **VERIFY THAT REPAIRS HAVE BEEN COMPLETED**<br>• Always reconnect all disconnected connectors.<br>• Connect the negative battery terminal. (See NEGATIVE BATTERY TERMINAL DISCONNECTION/CONNECTION.)<br>• Clear the DTC for the start stop unit using the M-MDS. (See CLEARING DTC [START STOP UNIT].)<br>• Switch the ignition ON (engine off) and wait for 5 s or more.<br>• Retrieve the start stop unit DTCs using the M-MDS. (See DTC INSPECTION [START STOP UNIT].)<br>• Is the same DTC displayed? | Yes | Repeat the inspection from Step 1.<br>• If the malfunction recurs, replace the start stop unit. (See START STOP UNIT REMOVAL/INSTALLATION.)<br>Go to the next step. |
| | | No | Go to the next step. |
| 5 | **VERIFY IF OTHER DTCs DISPLAYED**<br>• Are any other DTCs displayed? | Yes | Repair or replace the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [START STOP UNIT].) |
| | | No | DTC troubleshooting completed. |