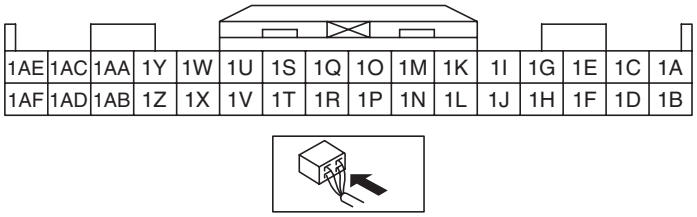
DTC B13AF:62 [FRONT BODY CONTROL MODULE (FBCM)]

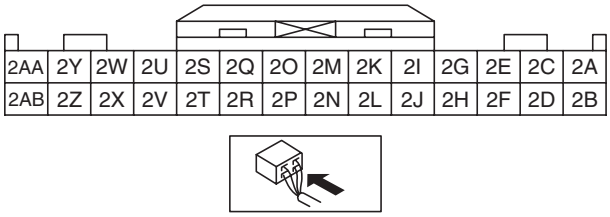
id0902p2008200

System malfunction location	**Headlight LO signal mismatch**
Detection condition	• The condition in which the CAN and module signals are compared and no match is detected between the signals for **5 s or more** with the ignition switched ON (engine off or on).
Fail-safe	—
Possible cause	• Start stop unit malfunction • Light switch malfunction • Front body control module (FBCM) malfunction • Short circuit to ground in wiring harness between start stop unit and front body control module (FBCM) • Open circuit in wiring harness between start stop unit and front body control module (FBCM) • Short circuit to power supply in wiring harness between start stop unit and front body control module (FBCM)

START STOP UNIT
WIRING HARNESS-SIDE CONNECTOR



FBCM
WIRING HARNESS-SIDE CONNECTOR



Diagnostic Procedure

Step	Inspection		Action
1	**INSPECT IF MALFUNCTION CAUSE IS START STOP UNIT OR FRONT BODY CONTROL MODULE (FBCM)** • Display start stop unit PID H/L_SW_LOW using the M-MDS. (See PID/DATA MONITOR INSPECTION [START STOP UNIT].) • Verify the PID while operating the light switch. • Is the display of PID H/L_SW_LOW normal?	Yes	Go to Step 3.
		No	Go to the next step.
2	**INSPECT LIGHT SWITCH** • Inspect the light switch. (See LIGHT SWITCH INSPECTION.) • Is the light switch normal?	Yes	Replace the start stop unit, then go to Step 7. (See START STOP UNIT REMOVAL/INSTALLATION.)
		No	Replace the light switch, then go to Step 7. (See LIGHT SWITCH REMOVAL/INSTALLATION.)

Step	Inspection		Action
3	**INSPECT IF MALFUNCTION CAUSE IS FRONT BODY CONTROL MODULE (FBCM) OR WIRING HARNESS** • Display front body control module (FBCM) PID H/L_SW_LOW1 using the M-MDS. (See PID/DATA MONITOR INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Verify the PID while operating the light switch. • Is the display of PID H/L_SW_LOW1 normal?	Yes	Go to the next step.
		No	• Perform the CAN malfunction diagnosis flow and inspect the CAN for a malfunction. (See CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (L.H.D.)].) (See CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-G 2.0, SKYACTIV-G 2.5 (R.H.D.)].) (See CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-D 2.2 (L.H.D.)].) (See CONTROLLER AREA NETWORK (CAN) MALFUNCTION DIAGNOSIS FLOW [SKYACTIV-D 2.2 (R.H.D.)].) • If there is no malfunction in CAN, replace the front body control module (FBCM), then go to Step 7. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)
4	**INSPECT FOR SHORT TO GROUND BETWEEN LIGHT SWITCH AND FRONT BODY CONTROL MODULE (FBCM)** • Switch the light switch off. • Inspect for continuity between front body control module (FBCM) terminal 2W and body ground. • Is there continuity?	Yes	Repair or replace the wiring harness, then go to Step 7.
		No	Go to the next step.
5	**INSPECT WIRING HARNESS BETWEEN LIGHT SWITCH AND FRONT BODY CONTROL MODULE (FBCM) FOR OPEN CIRCUIT** • Disconnect the front body control module (FBCM) connector. • Disconnect the start stop unit connector. • Inspect for continuity between front body control module (FBCM) terminal 2W and start stop unit terminal 1X. • Is there continuity?	Yes	Go to the next step.
		No	Repair or replace the wiring harness, then go to Step 7.
6	**INSPECT FOR SHORT TO POWER SUPPLY BETWEEN LIGHT SWITCH AND FRONT BODY CONTROL MODULE (FBCM)** • Verify that the start stop unit and front body control module (FBCM) connectors are disconnected. • Connect 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].) • Switch the ignition ON (engine off or on). • Measure the voltage at front body control module (FBCM) terminal 2W. • Is the voltage **0 V**?	Yes	Go to the next step.
		No	Repair or replace the wiring harness and go to the next step.

Step	Inspection		Action
7	**VERIFY THAT REPAIRS HAVE BEEN COMPLETED** • Clear front body control module (FBCM) DTCs using the M-MDS. (See CLEARING DTC [FRONT BODY CONTROL MODULE (FBCM)].) • Switch the ignition ON (engine off or on) and wait for **5 s or more**. • Perform the front body control module (FBCM) DTC inspection using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Is DTC B13AF:62 displayed?	Yes	Replace the front body control module (FBCM), then go to the next step. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)
		No	Go to the next step.
8	**VERIFY IF OTHER DTCs DISPLAYED** • Are any other DTCs displayed?	Yes	Repair the malfunctioning part according to the applicable DTC troubleshooting. (See DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)].)
		No	DTC troubleshooting completed.