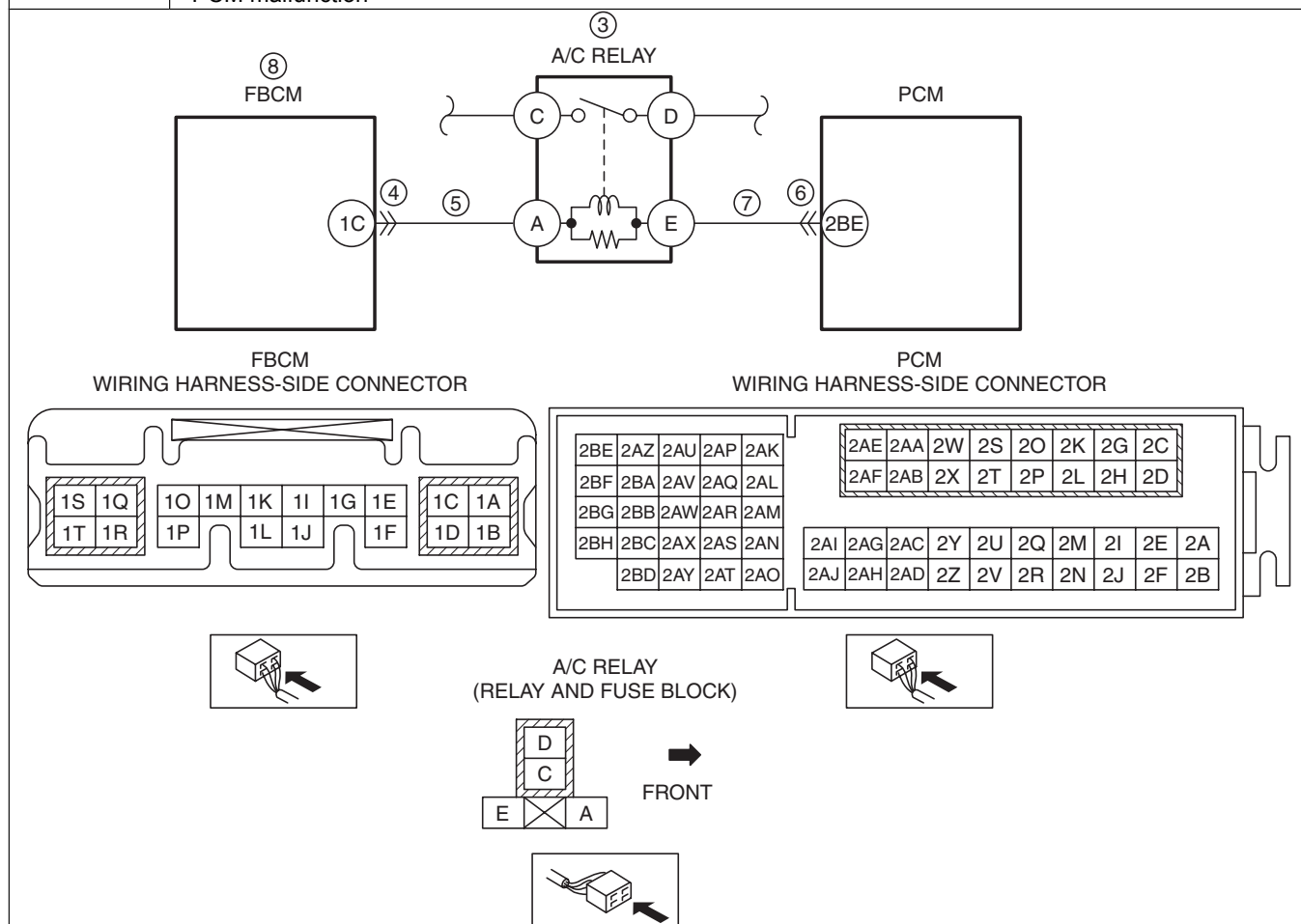


DTC P0647:00 [SKYACTIV-D 2.2]

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DTC P0647:00	A/C relay circuit high input
DETECTION CONDITION	<ul style="list-style-type: none"> When the following conditions are met, PCM detects that the A/C relay voltage is approx. 5 V for a continuous 5 s: <p>MONITORING CONDITIONS</p> <ul style="list-style-type: none"> Battery voltage: 8—20 V <p>Diagnostic support note</p> <ul style="list-style-type: none"> This is a continuous monitor (other). The check engine light does not illuminate. FREEZE FRAME DATA (Mode 2)/Snapshot data is available. DTC is stored in the PCM memory.
FAIL-SAFE FUNCTION	Not applicable
POSSIBLE CAUSE	<ul style="list-style-type: none"> Front body control module (FBCM) DTC is stored A/C relay malfunction Front body control module (FBCM) connector or terminals malfunction Short to power supply in wiring harness between front body control module (FBCM) terminal 1C and A/C relay terminal A PCM connector or terminals malfunction Short to power supply in wiring harness between A/C relay terminal E and PCM terminal 2BE Front body control module (FBCM) malfunction PCM malfunction



Diagnostic Procedure

Diagnostic Procedure			
STEP	INSPECTION		ACTION
1	VERIFY FREEZE FRAME DATA (MODE 2)/ SNAPSHOT DATA HAS BEEN RECORDED • Has the FREEZE FRAME DATA (Mode 2)/ snapshot data been recorded?	Yes	Go to the next step.
		No	Record the FREEZE FRAME DATA (Mode 2)/snapshot data on the repair order, then go to the next step.

STEP	INSPECTION		ACTION
2	VERIFY RELATED SERVICE INFORMATION AVAILABILITY <ul style="list-style-type: none"> • Verify related Service Information availability. • Is any related Service Information available? 	Yes	Perform repair or diagnosis according to the available Service Information.
		No	Go to the next step.
3	VERIFY FRONT BODY CONTROL MODULE (FBCM) DTC <ul style="list-style-type: none"> • Perform the front body control module (FBCM) DTC inspection using the M-MDS. (See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)].)
		No	Go to the next step.
4	INSPECT A/C RELAY <ul style="list-style-type: none"> • Switch the ignition off. • Remove the A/C relay. • Inspect the A/C relay. (See RELAY INSPECTION.) • Is there any malfunction? 	Yes	Replace the A/C relay, then go to Step 10.
		No	Go to the next step.
5	INSPECT FRONT BODY CONTROL MODULE (FBCM) CONNECTOR CONDITION <ul style="list-style-type: none"> • Disconnect the front body control module (FBCM) connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 10.
		No	Go to the next step.
6	INSPECT A/C RELAY CONTROL CIRCUIT FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Verify that the A/C relay is removed. • Verify that the front body control module (FBCM) connector is disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the A/C relay terminal A (wiring harness-side). • Is the voltage 0 V? 	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 10.
7	INSPECT PCM CONNECTOR CONDITION <ul style="list-style-type: none"> • Switch the ignition off. • Disconnect the PCM connector. • Inspect for poor connection (such as damaged/pulled-out pins, corrosion). • Is there any malfunction? 	Yes	Repair or replace the connector and/or terminals, then go to Step 10.
		No	Go to the next step.
8	INSPECT A/C RELAY CIRCUIT FOR SHORT TO POWER SUPPLY <ul style="list-style-type: none"> • Verify that the A/C relay is removed. • Verify that the front body control module (FBCM) and PCM connectors are disconnected. • Switch the ignition ON (engine off). • Measure the voltage at the A/C relay terminal E (wiring harness-side). • Is the voltage 0 V? 	Yes	Go to the next step.
		No	Repair or replace the wiring harness for a possible short to power supply, then go to Step 10.
9	INSPECT FRONT BODY CONTROL MODULE (FBCM) <ul style="list-style-type: none"> • Inspect the front body control module (FBCM). (See FRONT BODY CONTROL MODULE (FBCM) INSPECTION.) • Is there any malfunction? 	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.

STEP	INSPECTION		ACTION
10	VERIFY DTC TROUBLESHOOTING COMPLETED <ul style="list-style-type: none"> • Always reconnect all disconnected connectors. • Clear the DTC from the PCM memory using the M-MDS. (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Start the engine. • Turn the air conditioner on and off. • Perform the DTC Reading Procedure. (See ON-BOARD DIAGNOSTIC TEST [SKYACTIV-D 2.2].) • Is the same DTC present? 	Yes	Repeat the inspection from Step 1. • If the malfunction recurs, replace the PCM. (See PCM REMOVAL/INSTALLATION [SKYACTIV-D 2.2].) Go to the next step.
		No	Go to the next step.
11	VERIFY AFTER REPAIR PROCEDURE <ul style="list-style-type: none"> • Perform the "AFTER REPAIR PROCEDURE". (See AFTER REPAIR PROCEDURE [SKYACTIV-D 2.2].) • Are any DTCs present? 	Yes	Go to the applicable DTC inspection. (See DTC TABLE [SKYACTIV-D 2.2].)
		No	DTC troubleshooting completed.