## DTC B13FE:12 [FRONT BODY CONTROL MODULE (FBCM)]

id0902p2008800

System malfunction location	Headlight LO relay (RH) circuit malfunction					
Detection	• The front body control module (FBCM) detects a short to power supply in the headlight LO relay (RH)					
condition	circuit with the ignition switched ON (engine off or on).					
Fail-safe	_					
Possible cause	<ul> <li>Headlight LO relay (RH) malfunction</li> <li>Front body control module (FBCM) connector or terminal malfunction</li> <li>Short to power supply in the wiring harness between headlight LO relay (RH) terminal E and front body control module (FBCM) terminal 2V</li> <li>Front body control module (FBCM) malfunction</li> </ul>					
BATTERY	HEADLIGHT LO RELAY (RH)					
777	MAIN 200 A HID R 15 A  A  W E  TBCM  2V					
	HEADLIGHT LO RELAY (RH) FBCM (RELAY AND FUSE BLOCK) WIRING HARNESS-SIDE CONNECTOR					
	D   C   FRONT   2AA   2Y   2W   2U   2S   2Q   2O   2M   2K   2I   2G   2E   2C   2A   2AB   2Z   2X   2V   2T   2R   2P   2N   2L   2J   2H   2F   2D   2B					

Diagnostic Procedure

Step	Inspection		Action
1	VERIFY FRONT BODY CONTROL MODULE	Yes	Go to the next step.
	(FBCM) DTCs AGAIN	No	Go to Step 6.
	Clear front body control module (FBCM) DTCs		
	using the M-MDS.		
	(See CLEARING DTC [FRONT BODY		
	CONTROL MODULE (FBCM)].)		
	<ul> <li>Switch the ignition ON (engine off or on).</li> </ul>		
	• Perform the front body control module (FBCM)		
	DTC inspection using the M-MDS.		
	(See DTC INSPECTION [FRONT BODY		
	CONTROL MODULE (FBCM)].)		
	• Is DTC B13FE:12 displayed?		

Step	Inspection		Action
2	INSPECT HEADLIGHT LO RELAY (RH) FOR	Yes	Go to the next step.
_	MALFUNCTION	No	Replace the headlight LO relay (RH), then go to Step 5.
	Switch the ignition to off.	110	Tropiado allo ficadaligia 20 folay (1417), alloit go to otop o.
	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		
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	DISCONNECTION/CONNECTION		
	[SKYACTIV-D 2.2].)		
	Remove the headlight LO relay (RH).		
	Inspect the headlight LO relay (RH).		
	(See RELAY INSPECTION.)		
_	Is the headlight LO relay (RH) normal?		
3	INSPECT FRONT BODY CONTROL MODULE	Yes	Go to the next step.
	(FBCM) CONNECTOR CONDITION	No	Repair or replace the connector, then go to Step 5.
	Disconnect the front body control module		
	(FBCM) connector.		
	Inspect the connector engagement and		
	connection condition and inspect the terminals		
	for damage, deformation, corrosion, or		
	disconnection.		
	• Is the connector normal?	.,	
4	INSPECT HEADLIGHT LO RELAY (RH)	Yes	Go to the next step.
	CONTROL CIRCUIT FOR SHORT TO POWER	No	Repair or replace the wiring harness and go to the next
	SUPPLY		step.
	Verify that the headlight LO relay (RH) is		
	removed.		
	Verify that the front body control module		
	(FBCM) connector is 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).		
	Operate the light switch in HEAD position.		
	Measure the voltage at FCBCM terminal 2V		
	(vehicle wiring harness side).		
	• Is the voltage <b>0 V</b> ?		

Step	Inspection		Action
Step 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].)  See NEGATIVE BATTERY CABLE DISCONNECTION/CONNECTION [SKYACTIV-D 2.2].)  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). Perform the front body control module (FBCM) DTC inspection using the M-MDS.	Yes	Action  Repeat the inspection from Step 1.  • If the malfunction recurs, replace the front body control module (FBCM), then go to the next step. (See FRONT BODY CONTROL MODULE (FBCM) REMOVAL/INSTALLATION.)  Go to the next step.
6	(See DTC INSPECTION [FRONT BODY CONTROL MODULE (FBCM)].) • Is DTC B13FE:12 displayed?  VERIFY IF OTHER DTCs DISPLAYED	Yes	Repair the malfunctioning part according to the applicable
٠	Are any other DTCs displayed?	No	DTC troubleshooting.  (See DTC TABLE [FRONT BODY CONTROL MODULE (FBCM)].)  DTC troubleshooting completed.