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2010 FORD F-150 Raptor SVT OEM Service and Repair Workshop Manual

Go to manual page

No	REPAIR the	circuit.		
A18 OPEI	CHECK THE LIN N	(LOCAL INTERCONNEC	T NETWORK) CIR	CUIT TO THE HEADLAMP SWITCH FOR AN
•	lgnition OFF. Disconnect: BCl Measure:	M (body control module)	C2280B.	
	Positive Lead	Measurement / Action	Negative Lead	
	C205-6	Ω	C2280B-49	
ls th	e resistance le	ss than 3 ohms?		
Yes	GO to A19			
No	REPAIR the	circuit.		
A19 (CHECK THE LIN	(LOCAL INTERCONNEC	T NETWORK) CIR	CUIT FOR A SHORT TO VOLTAGE
 Using the Terminal Release Kit, release and temporarily remove BCM (body control module) C2280B-49. Connect: BCM (body control module) C2280B. Ignition ON. Measure: 				
	Positive Lead	Measurement / Action	Negative Lead	
	C2280B-49	ÿ	Ground	

Is any voltage present?

• CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. REPEAT the self-test.

Is the concern still present or does any Diagnostic Trouble Codes (DTCs) return?

REMOVE the known good LDCM (Lighting Driver Control Module) control module. INSTALL a new headlamp assembly.

REFER to: Headlamp Assembly - Electric

(417-01 Exterior Lighting, Removal and Installation).

No The system is operating correctly at this time. The concern may was caused by the LDCM (Lighting Driver Control Module).

A22 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM (body control module) and all related in-line connectors.
- Repair:

Yes

Yes

- corrosion (install new connector or terminals clean module pins)
- damaged or bent pins install new terminals/pins
- pushed-out pins install new pins as necessary
- Reconnect the BCM (body control module) and all related in-line connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

CHECK OASIS (Online Automotive Service Information System) for any applicable service articles:
TSB (Technical Service Bulletin), GSB (General Service Bulletin), SSM (special service message) or
FSA (Field Service Action). If a service article exists for this concern, DISCONTINUE this test and
FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new
BCM (body control module).

REFER to: Body Control Module (BCM)

(419-10 Multifunction Electronic Modules, Removal and Installation).

No The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

LDCMA (Lighting Driver Control Module A) B1D02:4B	Left High Beam Circuit: Over Temperature	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMA (Lighting Driver Control Module A) detects a high temperature LH (left- hand) headlamp internal high beam circuit driver.
LDCMA (Lighting Driver Control Module A) B1D02:87	Left High Beam Circuit: Missing Message	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMA (Lighting Driver Control Module A) detects a message missing from the HCM (headlamp control module) over the CAN (controller area network).
LDCMB (Lighting Driver Control Module B) B1D03:11	Right High Beam Circuit: Circuit Short To Ground	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects a short to ground from the RH (right-hand) headlamp internal high beam circuit.
LDCMB (Lighting Driver Control Module B) B1D03:12	Right High Beam Circuit: Circuit Short To Battery	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects a short to voltage from the RH (right-hand) headlamp internal high beam circuit.
LDCMB (Lighting Driver Control Module B) B1D03:13	Right High Beam Circuit: Circuit Open	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects an open from the RH (right- hand) headlamp internal high beam circuit.
LDCMB (Lighting Driver Control Module B) B1D03:14	Right High Beam Circuit: Circuit Short To Ground Or Open	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects an open or short to ground from the RH (right-hand) headlamp internal high beam circuit.
LDCMB (Lighting Driver Control Module B) B1D03:16	Right High Beam Circuit: Circuit Voltage Below Threshold	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects a high voltage on the RH (right- hand) headlamp internal high beam circuit.
LDCMB (Lighting Driver Control Module B) B1D03:1E	Right High Beam Circuit: Circuit Resistance Out Of Range	A continuous memory and on-demand DTC (diagnostic trouble code) that sets when the LDCMB (Lighting Driver Control Module B) detects an incorrect resistance on the RH (right-hand) headlamp internal high beam circuit.

B2 CHECK THE LH (LEFT-HAND) MULTIFUNCTION SWITCH INPUT

- While placing the LH (left-hand) steering column multifunction switch in the HIGH BEAM and LOW BEAM positions monitor the following Parameter Identifications (PIDs):
 - Access the SCCM (steering column control module) and monitor the HIGH_BEAM_SW (High Beam Switch) PID (parameter identification)
 - Access the SCCM (steering column control module) and monitor the LOW_BEAM_SW (Low Beam Switch) PID (parameter identification)

Do the PID (parameter identification) values agree with the LH (left-hand) steering column multifunction switch position?

STALL a new LH (left-hand) steering column multifunction switch. EFER to: Steering Column Multifunction Switch LH 11-05 Steering Wheel and Column Electrical Components, Removal and Installation). EST the system for normal operation. If the concern still exists, GO to B14 HE PARKING LAMPS AND FRONT TURN SIGNAL LAMP OPERATION
STALL a new LH (left-hand) steering column multifunction switch. EFER to: Steering Column Multifunction Switch LH 11-05 Steering Wheel and Column Electrical Components, Removal and Installation). EST the system for normal operation. If the concern still exists, GO to B14 THE PARKING LAMPS AND FRONT TURN SIGNAL LAMP OPERATION
11-05 Steering Wheel and Column Electrical Components, Removal and Installation). EST the system for normal operation. If the concern still exists, GO to B14 THE PARKING LAMPS AND FRONT TURN SIGNAL LAMP OPERATION
HE PARKING LAMPS AND FRONT TURN SIGNAL LAMP OPERATION
HE PARKING LAMPS AND FRONT TURN SIGNAL LAMP OPERATION
) low beams, front parking lamps and turn signals all inoperative?
RIFY the BCMC (body control module C) (also known as the BJB (battery junction box)) fuse 10 5A) (LH (left-hand) headlamp) or fuse 101 (25A) (RH (right-hand) headlamp) is OK. If OK, GO t If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit ort.
D to B6
e 1 (1) F 5, C

C1509-3	Ÿ	C1509-4
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RH (right-hand) Headlamp

Positive Lead	Measurement / Action	Negative Lead	
C1510-3	$\overline{\mathbf{v}}$	C1510-2	
C1510-3	$\overline{\mathbf{v}}$	C1510-4	

Is the voltage greater than 11 volts?

-	00	
Yes	GO to B12	
No	REPAIR the o	circuit.
B6 CHE	ECK FOR LDCM	IA (LIGHTING DRIVER CONTROL MODULE A) OR LDCMB (LIGHTING DRIVER
CONTR	ROL MODULE I	B) DIAGNOSTIC TROUBLE CODES (DTCS)
• Us	sing a diagnost	ic scan tool, perform the LDCMA (Lighting Driver Control Module A) (LH (left-hand)

headlamp) or LDCMB (Lighting Driver Control Module B) (RH (right-hand) headlamp) self-test. Is LDCMA (Lighting Driver Control Module A) DTC (diagnostic trouble code) B1D02:16, B1D02:1E or B1D02:4B or LDCMB (Lighting Driver Control Module B) DTC (diagnostic trouble code) B1D03:16, B1D03:1E or B1D03:4B present?

INSPECT the front turn signal lamp, wiring, headlamp and LDCM (Lighting Driver Control Module)
 No for damage. REPAIR the wiring or REPLACE any damaged components. If not signs of damage are found, the system is operating correctly at this time.

B10 CHECK THE HEADLAMP MOUNTED LDCM (LIGHTING DRIVER CONTROL MODULE) VOLTAGE CIRCUITS FOR AN OPEN

- Place the LH (left-hand) steering column multifunction switch in the LOW BEAM position.
- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect: Suspect LH (left-hand) Headlamp C1509 or RH (right-hand) Headlamp C1510.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

LH (left-hand) Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509-3	Ÿ	Ground
C1509-5	Ÿ	Ground

RH (right-hand) Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510-3	v	Ground

Yes	GO to B12					
No REPAIR the circuit.		circuit.				
B12 CH	CK THE HEA	DLAMP M	OUNTED LDCM (LI	GHTING DRIVER CONTROL MODULE) PROGRAMMIN		
• Pla • Pla	ce the LH (lef ce the headla	t-hand) st mp switch	eering column multi n in the OFF position	ifunction switch in the LOW BEAM position.		
 Usi LD0 Cor Pla 	 Using a diagnostic scan tool, complete the PMI (programmable module installation) process for the LDCMA (Lighting Driver Control Module A) (LH (left-hand) headlamp) or for the LDCMB (Lighting Driver Control Module B) (RH (right-hand) headlamp) following the on-screen instructions. Place the headlamp switch in the HEADLAMPS positions. 					
 Pla REF self 	ce the LH (lef PEAT the LDC ^f -test.	ˈt-hand) st MA (Lighti	eering column multi ng Driver Control Mo	ifunction switch in the HIGH BEAM position. odule A) or LDCMB (Lighting Driver Control Module B)		
ls the co	oncern still p	present oi	[,] does any Diagnost	tic Trouble Codes (DTCs) return?		
Yes	GO to B13					
	1					
No	• The system is operating correctly at this time. The concern may was caused by the LDCM (Lighti Driver Control Module) .					
B13 CHI	ЕСК ТНЕ НЕА	DLAMP M	OUNTED LDCM (LIC	GHTING DRIVER CONTROL MODULE)		
 Place the LH (left-hand) steering column multifunction switch in the LOW BEAM position. Place the headlamp switch in the OFF positions. 						
• Rei	nstall the orig	ginal head	lamp assembly for t	he inoperative side of the vehicle.		
• INS	TALL a new L	.DCM (Ligh	ting Driver Control N	Module) on the suspect headlamp.		
REF	REFER to: Lighting Driver Control Module - Electric(417-01 Exterior Lighting, Removal and Installation).					

- Ignition ON.
- Using a diagnostic scan tool, complete the PMI (programmable module installation) process for the LDCMA (Lighting Driver Control Module A) (LH (left-hand) headlamp) or for the LDCMB (Lighting Driver Control Module B) (RH (right-hand) headlamp) following the on-screen instructions.
- Place the headlamp switch in the HEADLAMPS positions.

The system is operating correctly at this time. The concern may have been caused by module No connections. ADDRESS the root cause of any connector or pin issues. **B15 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION** Disconnect and inspect all BCM (body control module) and all related in-line connectors. • Repair: • corrosion (install new connector or terminals – clean module pins) damaged or bent pins – install new terminals/pins pushed-out pins – install new pins as necessary • Reconnect the BCM (body control module) and all related in-line connectors. Make sure they seat and latch correctly. • Operate the system and determine if the concern is still present. Is the concern still present? CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin), GSB (General Service Bulletin), SSM (special service message) or FSA (Field Service Action). If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new Yes BCM (body control module). REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation). The system is operating correctly at this time. The concern may have been caused by module No connections. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST C : THE FLASH-TO-PASS FEATURE IS INOPERATIVE

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview(417-01 Exterior Lighting, Description and Operation). REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- LH (left-hand) steering column multifunction switch
- SCCM (steering column control module)

- damaged or bent pins install new terminals/pins
- pushed-out pins install new pins as necessary
- Reconnect the SCCM (steering column control module) connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

CHECK OASIS (Online Automotive Service Information System) for any applicable service articles:
TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or
FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and
FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new
SCCM (steering column control module) .
Vehicles without adaptive steering,

REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). Vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).

No The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

C4 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM (body control module) connectors.
- Repair:

Yes

- corrosion (install new connector or terminals clean module pins)
- damaged or bent pins install new terminals/pins
- pushed-out pins install new pins as necessary
- Reconnect the BCM (body control module) connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes

CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin), GSB (General Service Bulletin), SSM (special service message) or FSA (Field Service Action). If a service article exists for this concern, DISCONTINUE this test and