

Activity – Headlamp Functions and Parameters

QUESTION 1

What conditions need to be met for the Adaptive Front Lighting System (AFS) to operate?

QUESTION 2

What conditions need to be met for the Static Bending Lamps to operate?

QUESTION 3

What conditions need to be met for the Daytime Running Lamps (DRL) to operate?

QUESTION 4

Where are the two height sensors located for the Automatic Headlamp Leveling operation?

Activity – LED Lighting Control System**INSTRUCTION**

OBJECTIVE: Identify the LED lighting components and explore the electronic control of those components.

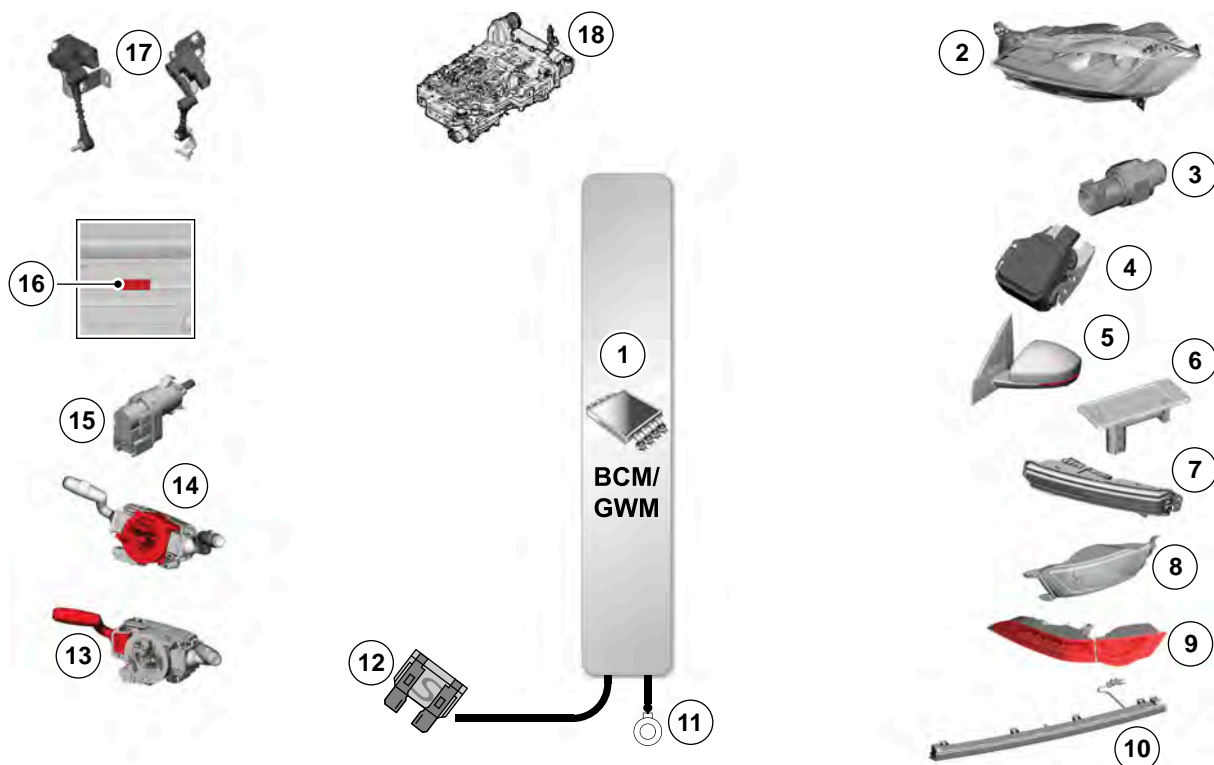
INFORMATION:

- In your group, using the LED Lighting Topology poster and the schematic provided, fill in the missing connections between components 1 to 18.
- Ensure the correct color of marker is used – black for hardwired, red for LIN and additional colors for CAN bus – when completing the poster.
- Discuss your findings with the rest of the group and prepare a take home message for a technician.
- Write your findings in your Student Guide.
- Be prepared to answer questions given by your Trainer during the recap.

TIME: 10 Minutes

Activity - LED Lighting Control System

Headlamp Topology



XEFPD003 A → O → AM AN AO AP

Item	Description	Item	Description
A	Hardwired	7	Front Fog Lamp assembly (x2)
O	LIN Bus	8	Rear Fog Lamp assembly (x2)
AM	Chassis HS CAN	9	Rear Lamps assembly (x2)
AN	Powertrain HS CAN	10	High Mounted Stop Lamp (HMSL)
AO	Body MS CAN	11	Ground
AP	Comfort HS CAN	12	Fuse
1	Body Control Module/Gateway Module (BCM/GWM)	13	Left steering column multifunction switch
2	Headlamp assembly (x2)	14	Steering Wheel Module (SWM)
3	Reverse lamp switch (not NAS)	15	Stop lamp switch
4	Rain/light sensor	16	Hazard warning lamp switch
5	Side repeater lamps in door mirrors (x2)	17	Height sensors (front and rear)
6	License plate lamp (x2)	18	Transmission Control Module (TCM)

INSTRUCTION

- In your group, using the pin board questions and the schematic provided, fill in the answer cards.
- Ensure that time is taken when reading the questions and schematics in order to answer correctly.
- Discuss your finding with the rest of the group and prepare a take home message for a technician.
- Be prepared to answer questions given by your Trainer during the recap.

TIME: 10 Minutes

Question	Answer
Which headlamp functions share a common ground return?	
True or false: the DRL and side lights share the same supply feed.	
Does the DC motor supply come from a fuse or the BCM?	
Is the brake lamp switch supplied by the BCM or a separate fuse?	
Which LIN circuit is the rain/light sensor connected to?	
Is the hazard switch feed supplied by the BCM or a separate fuse?	
Which LIN circuit controls the headlamp LEDDMs?	
Identify the left headlamp ground splice connection terminal.	