InterMotive Inc. 12840 Earhart Ave. Auburn, CA 95602

BOM506 Module

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Remove the lower dash panel below the steering column area and find a suitable location to mount the BOM506 module. Locate the module in an area away from any external heat sources (engine heat, heater ducts, etc.). Do not actually mount the module until all wire harnesses are routed and secure. The last step will be to mount the module.

It is the installer's responsibility to route and secure all wiring harnesses where they cannot be damaged by sharp objects, mechanical moving parts and high heat sources. Failure to do so could result in damage to the system or vehicle and create possible safety concerns for the operator and passengers. It is important to avoid placing the module where it could encounter strong magnetic fields from high current cabling connected to motors, solenoids, etc. Also avoid radio frequency energy from antenna's or inverters next to the module. Finally, avoid high voltage spikes in vehicle wiring by always using diode clamped relays when installing upfitter circuits.

Installation Instructions

Disconnect vehicle battery before proceeding with installation.

daytime running lights.

Introduction

Options

C—Deactivates seat belt chime, key in ignition chime, & headlamps on chime.

IMPORTANT - READ BEFORE INSTALLATION

WARNING Disconnect the battery to prevent setting a check engine

light.





BOM506 Black Out Module

2011-2016 Ford F250-F550

2016 Ford Expedition

Contact InterMotive for additional applications

The BOM506 module has the ability to eliminate all exterior lighting to aid in covert operations. When activated, it will eliminate the parking lamps, reverse lights, service Brake lights, and the

Data Link Harness (6-pin connector)

- 1. Locate the vehicle OBDII Data Link Connector. It will be mounted below the lower left dash panel.
- 2. Remove the mounting screws for the OBDII connector. Plug the Red connector from the BOM506 Data Link Harness into the vehicle's OBDII connector. Ensure the connection is fully seated and secure with the supplied wire tie.
- 3. Mount the Black pass through connector from the BOM506 Data Link Harness in the former location of the vehicle's OBDII connector.
- 4. Secure the BOM506 Data Link harness so that it does not hang below the lower dash panel.
- 5. Plug the free end of the Data Link harness into the mating 4-pin connector on the BOM506 module.

8-pin connector pin out definition

- Pin #1 Black Out LED Output (12V)
- Pin #2 N/C
- Pin #3 N/C
- Pin #4 Purple/White Armed Input
- Pin #5 N/C
- Pin #6 Orange Armed LED input
- Pin #7 Yellow Chime Mute
- Pin #8 Green/White Black Out Input



Back of Connector



Harness Part # S-H95C1

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BCM Connections

- 1. Locate the BCM near the passenger compartment. Locate connector C2280D plugged into the BCM and disconnect it. Note the Pin Numbers on the connector. The supplied white 4-pin pigtails will be tapping into several of these wires.
- The supplied **male** pigtail has Blue and White wires. The **female** pigtail has Green and Gray wires.

Note: Performing one step at a time, attach the correct wire to the appropriate 4-pin pigtail wire. These connections must be made using solder and the supplied heat shrink tubing. Cut the tubing to 1" lengths for this purpose.

Center High Mounted Brake Lamp Circuit

- 1. Locate Pin #14 Brown wire.
- 2. Verify with a DVM that there is 12V on the Brown wire when the Service Brake is depressed and 0V when the Service Brake is *not* depressed.
- 3. Cut the Brown wire, pin #14 about 3 inches from the connector.
- 4. Attach the BCM side of the Brown wire, pin 14 to the **male** 4-pin connector Pin #1, Blue wire.
- 5. Attach the harness side of the Brown wire, pin 14 to the **female** 4-pin connector pin #1, Green wire.

Reverse Lamp Circuit

- 1. Locate Pin #13 Blue/White wire
- 2. Verify with a DVM that there is 12V on the Blue/White wire when the vehicle is in Reverse and 0V when the vehicle is in any gear other than Reverse.
- 3. Cut the Blue/White wire, pin #13 about 3 inches from the connector.
- 4. Attach the BCM side of the Blue/White wire, pin 13 to the **male** 4-pin connector Pin #2, White wire.
- 5. Attach the harness side of the Blue/White wire, pin 13 to the **female** 4-pin connector pin #2, Gray wire.

Continue to next page.



C2280D Back of Connector

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BCM Connections (cont.)

- 1. Locate the BCM near the passenger compartment. Locate connector C2280D plugged into the BCM and disconnect it. Note the Pin Numbers on the connector. The supplied white 4-pin pigtails will be tapping into several of these wires.
- The supplied **male** pigtail has Orange and Yellow wires. The **female** pigtail has Brown and Purple wires.

Note: Performing one step at a time, attach the correct wire to the appropriate 4-pin pigtail wire. These connections must be made using solder and the supplied heat shrink tubing. Cut the tubing to 1" lengths for this purpose.

Left Rear Brake Lamp Circuit

- 1. Locate Pin #12 Grey/Brown wire
- 2. Verify with a DVM that there is 12V on the Grey/Brown wire when the Service Brake is depressed and 0V when the Service Brake is *not* depressed.
- 3. Cut the Grey/Brown wire, pin #13 about 3 inches from the connector.
- 4. Attach the BCM side of the Grey/Brown wire, pin 12 to the **male** 4-pin connector Pin #3, Orange wire.
- 5. Attach the harness side of the Grey/Brown wire, pin 12 to the **female** 4-pin connector pin #3, Brown wire.

Right Rear Brake Lamp Circuit

- 1. Locate Pin #15 Violet/Orange wire.
- 2. Verify with a DVM that there is 12V on the Violet/Orange wire when the Service Brake is depressed and 0V when the Service Brake is *not* depressed.
- 3. Cut the Violet/Orange wire, pin #14 about 3 inches from the connector.
- 4. Attach the BCM side of the Violet/Orange wire, pin 15 to the **male** 4-pin connector Pin #4, Yellow wire.
- 5. Attach the harness side of the Violet/Orange wire, pin 15 to the **female** 4-pin connector pin #4, Purple wire.
- 6. Plug in the 4-pin pigtails into the respective BOM506 harness connectors.
- 7. Plug the BOM506 4-pin connector into the mating 4-pin connector on the BOM506 module.



C2280D Back of Connector

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Post Installation / Check List

The following checks must be made after installation of the system, to ensure correct and safe operation of the lift. If any of the checks do not pass, do not deliver the vehicle. Recheck all connections per the installation instructions.

- 1. Turn ignition key on (to "Run").
- 2. Apply the Parking Brake and Turn Off all lights (High Beams, Low Beams, and Parking Lights).
- 3. Arm vehicle (if necessary).
- 4. Black Out LED will be ON 100%
- 5. Apply the Black Out Input (Green/White Pin 8), Black Out LED will dim to 50%.
- 6. Hold Service Brake and verify the Brake lights are disabled.
- 7. Turn on Low Beams , Black Out LED will be ON 100%.
- 8. Hold Service Brake and verify the Brake Lights are lit.
- 9. Turn Off all lights (High Beams, Low Beams, and Parking Lights).
- 10. Apply the Black Out Input, Black Out LED will dim to 50%.
- 11. Place transmission in Reverse and verify the reverse lights are not lit.
- 12. Turn on Low Beams and Black Out LED will be ON 100%.
- 13. Verify that the Reverse Lights are On.

DO NOT PUT VEHICLE IN SERVICE IF IT DOES NOT PASS ALL OF THE ABOVE TESTS Contact InterMotive at 530-823-1048 for technical assistance

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Diagnostics

Diagnostic mode is entered by momentarily grounding the mounting pad labeled "Test" on the module. This can be done with a simple jumper wire by holding one end to chassis ground, while touching the other end to the "Test" pad. The



module provides diagnostic LEDs which illuminate according to the following table. To exit this mode simply cycle the key or momentarily ground the "Test" pad again.

LED	Description	ON	OFF
1	Input Sense	Active High	Active Low
2	DRL Control	Enabled	Enabled
3	Dark Car Control	Enabled	Disabled
4	Black Out State	Active	Inactive
STATUS	See table		

BOM Status Codes

Status Codes provide the current status of the Fast Idle system. The on -board "Status" LED will flash a 2-digit code as shown in the table. The first digit will flash, wait one second, flash the second digit, then wait four seconds before the next code. The Status Codes continue to flash until the module is reset (cycle key), or the test input is momentarily grounded again.

BOM Status Codes			
Status Code	Description		
1-1	Ready for Black Out		
2-3	Low Beams On		
2-4	High Beams On		
2-5	Vehicle Speed > Exit Speed		
2-6	Not ARMED		
2-7	DRL on		
2-8	Parking Lights On		

Black Out Input Sense Active High or Active Low

The default input sense for the Green/White wire, pin 8 on the BOM506 module is active Low. If an active High input sense is desired, the following procedure must be performed:

- 1. Put the Key in the **RUN** position.
- 2. Short the two test pads together on the module to enter diagnostics mode. Verify the Status LED illuminates.
- 3. Apply the Park Brake.
- 4. Apply and hold the Service Brake.
- 5. Put the transmission in **REVERSE.**
- 6. Cycle the High Beams On/Off 3 times within 5 seconds.
- 7. All LED's will flash once for confirmation.

Repeating this procedure will toggle between and active High or Low input sense.

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Blackout Operating Instructions

System Operation

The BOM506 module has the ability to eliminate all exterior lighting to aid in covert operations. When activated it will eliminate the parking lamps, reverse lights, service Brake lights, and the daytime running lights.

ARMED Input

The ARMED Input is used only if the vehicle has DRL's (Daytime Running Lights) enabled and/or Dark Car disabled. These are not ideal conditions for the vehicle to be "Blacked Out" so the ARMED Input will disable DRL's and/or enable Dark Car. If the Input is not "Armed", the module will not enter Black- Out Mode.

Note: The input is not used if vehicle has DRL disabled and Dar car enabled.

Blackout LED

OFF - Vehicle not Armed

ON - Vehicle Armed

DIM - Vehicle in Blackout

Black Out Preconditions:

- Parking lights must be OFF.
- Headlights must be OFF.
- Vehicle speed must be less than exit speed (configurable).
- Vehicle Armed input enabled (if used).
- Momentarily apply Black Out input. (Pin 8 Green/White)

Once in Black Out mode, the stop lamps and reverse lamps are inactive. The module will also dim the instrument panel cluster to its lowest level.

To disable Black Out, apply one of the following:

- Momentarily apply Black Out input.
- Turn ON parking lights.
- Turn ON Headlights.
- Vehicle speed goes over exit speed.

To bypass the "exit speed", hold the Black Out input while driving and the module will keep the tail lights inactive.

Speed Override

The configurable Exit Speed is used for safety purposes and the speed can be set between 5-20 MPH. To bypass the Exit Speed, enter Black Out Mode by momentarily applying the Black Out Input. Once entered, hold the Black Out input and the module will keep the lights disabled at any speed as long as the input is continuously pressed.

Harness Part # S-H84C1

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Toggle U.S. or Canadian Vehicle (Default = U.S.)

- 1. Put the Key in the **RUN** position.
- 2. Short the two test pads together on the module to enter diagnostics mode. Verify the Status LED illuminates.
- 3. Apply the Park Brake.
- 4. Put the transmission in **DRIVE.**
- 5. Cycle High Beams On/Off 3 times within 5 seconds.
- 6. All LED's will flash once for confirmation.

Repeating this procedure will toggle between U.S. and Canadian vehicles.

Toggle DRL Control (Default = Disabled)

- 1. Put the Key in the **RUN** position.
- 2. Short the two test pads together on the module to enter diagnostics mode. Verify the Status LED illuminates.
- 3. Apply the Park Brake.
- 4. Put the transmission in **NEUTRAL**.
- 5. Cycle High Beams On/Off 3 times within 5 seconds.
- 6. All LED's will flash once for confirmation.

Repeating this procedure will toggle DRL Control On/Off.

Toggle Dark Car Control (Default = Disabled)

- 1. Put the Key in the **RUN** position.
- 2. Short the two test pads together on the module to enter diagnostics mode. Verify the Status LED illuminates.
- 3. Apply the Park Brake.
- 4. Put the transmission in **PARK**.
- 5. Cycle High Beams On/Off 3 times within 5 seconds.
- 6. All LED's will flash once for confirmation.

Repeating this procedure will toggle Dark Car Control On/Off.







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Chime Mute (Optional)

Single Yellow wire connection

The BOM506 kit provides a second harness which consists of a white 8 pin connector with a 3' long Yellow wire, pin 7.

1. Locate the BCM near the passenger compartment. Locate connector C2280C plugged into the BCM and disconnect it. Note the Pin Numbers on the connector.

2. Locate the Green/Violet blunt cut wire coming out of pin 9 (be certain it is the Green/Violet wire in pin 9, as there are multiple Green/Violet wires in this harness). Attach the pin 9 wire to the BOM506 Yellow wire, pin 7, using solder and heat shrink.



Enabling/Disabling the Chime Mute option (Default = Enabled)

To toggle this function, perform the following procedure:

- 1. Put the Key in the **ACC** position.
- 2. Short the two test pads together on the module to enter diagnostics mode. Verify the Status LED illuminates.
- 3. Apply the Park Brake.
- 4. Put the transmission in **PARK.**
- 5. Cycle the High Beams On/Off 3 times within 5 seconds.
- 6. All LED's will flash once for confirmation.

Repeating this procedure will toggle between disabling and enabling the Chime Mute option.

Chimes Mute Post Installation Test

With vehicle in Park, Park Brake applied, and Key OFF:

- 1. Turn Key to Run (do not start engine) and plug the 4 pin Data Link connector into the BOM506 module. This allows the BOM506 to read the vehicles VIN to verify which vehicle it is plugged into.
- 2. Verify that the LED's on the module are not scrolling (meaning it has successfully acquired and recognizes the VIN).
- 3. Verify the following chimes no longer sound:
- Key-in-Ignition Warning Chime Key in ignition (Off or ACC), door opened
- Headlamps On Warning Chime Key removed, Headlights on, door opened
- Door Ajar Warning Chime Key in Run (engine on or off), Trans in Park, Door ajar (Note it will still chime if Transmission is out of Park).
- **Safety Belt Warning Chime** Key switched to Run, driver seatbelt unbuckled. Note: this last chime may sound occasionally due to the electrical architecture of the vehicle. This is normal behavior and cannot be avoided.

BOM506 Module Mounting

Ensure all harness are properly connected and routed, and are not hanging below the dash area. Mount the BOM506 module using screws or double sided tape. Reinstall the lower dash panel.

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