

INSTALLATION INSTRUCTIONS

⚠ WARNING

To properly install this light you should have a good understanding of automotive electrical procedures and systems, and proficiency in the installation of high beam and fog lights. **IF YOU DO NOT, PLEASE SEEK PROFESSIONAL ASSISTANCE.**

BEFORE INSTALLATION:

Tools Needed:

- 1/2" & 7/16" Wrench
- 3/16" Hex Key Wrench
- T15 Torx Wrench
- Wire Stripper
- Drill & 3/8 Drill Bit
- Torque Wrench
- Tape Measure

Wire Functions:

- White = High Beam
- Red = Fog
- Black = Ground

In the Box:

- 1. (2x) Mosaic (Model 92)
- 2. (2x) Lamp Mounting Bracket
- 3. (2x) Mounting Bracket
- 4. (2x) Mounting Bolt
- 5. (2x) Lock Washer
- 6. (2x) Hex Nut
- 7. (2x) Cap Screw
- 8. (2x) Hex Locknut
- 9. (4x) Lock Tooth Washer
- 10. (8x) Screw
- 11. (2x) Wire Harness

Supplies Needed (Not Included):

- Inline Fuse
- 4 Pin Relay
- 18 AWG Wire
- Spade Connectors
- Eyelet Terminals
- 10A Fuse
- 2 Prong Switch (optional)

Input Voltage: 12V or 24V DC

Operating Voltage: 10-16V or 18-36V DC

PRE-INSTALLATION INSTRUCTIONS:

1. Read all safety notes and mounting guidelines before installing the product. Verify that all parts listed under "In the Box" are present and complete.

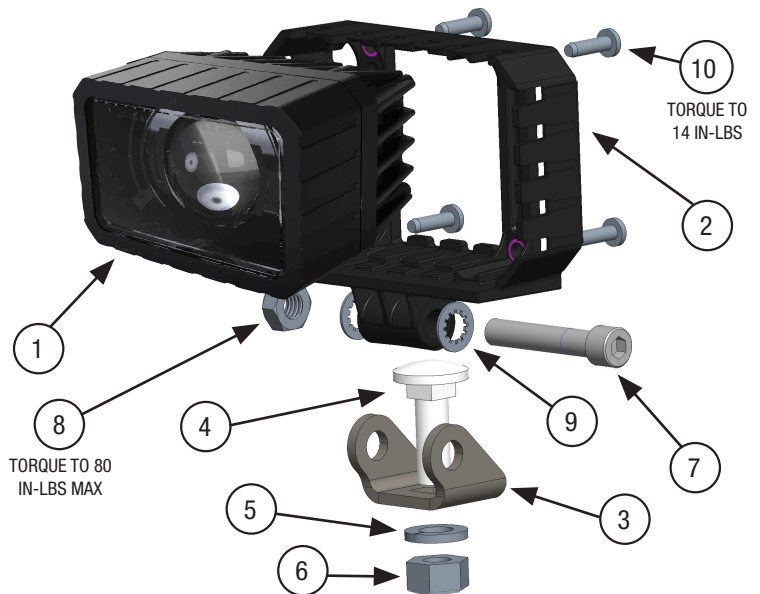
2. Inspect the product for damage. DO NOT install the product if there is any damage. Contact the authorized retailer where you purchased it to initiate a warranty claim if there is damage.

3. Verify that all power supply and/or charging systems comply to the specified voltage limits for the light.

NOTES:

In using this guide, you agree J.W. Speaker is not responsible for any damage, misuse, or personal injuries. This document is intended as an educational guide only and does not make guarantees on any finished results.

To properly install this light you should have a good understanding of automotive electrical procedures and systems, and proficiency in the installation of lights. **IF YOU DO NOT, PLEASE SEEK PROFESSIONAL ASSISTANCE.**



⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov
 ⚠ **AVERTISSEMENT:** Cancer et effet nocif sur la reproduction - www.P65Warnings.ca.gov

PRODUCT WARRANTY:

If you have issues with a J.W. Speaker product, please contact the authorized retailer where you purchased it.

J.W. SPEAKER®
 Engineered. Lighting. Solutions.

INSTALLATION INSTRUCTIONS:

BEFORE BEGINNING: Please follow instructions carefully; some of them are legal requirements.

Consult your local state regulations regarding minimum and maximum height above ground.

Mounting position: Lamps must be mounted in such a way that they are at exactly the same height. They are the same distance from the center of the vehicle. They do not vibrate after they are mounted on the vehicle.

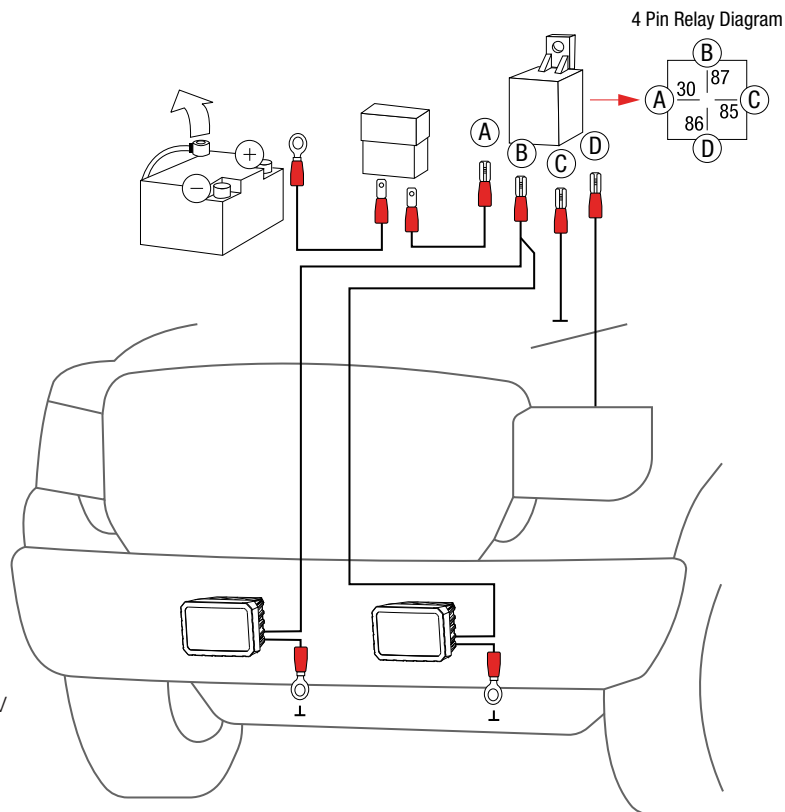
IMPORTANT: Before fitting the lamps make sure that they do not prevent sufficient air reaching the radiator.

1. Disconnect the Battery
2. Run Leads
3. Connect Relay
4. Secure Relay
5. Connect Lamp
6. Connect to Headlamp*

*** NOTE:** Driving lights connect to vehicles high beams - 12V or 24V
Fog lights connect to vehicles low beams - 12V or 24V
Front position connect to vehicle's front position** - 12V or 24V

** Front position follows the same instructions as above using the red wire from the harness and connecting to vehicles stock front position. Another set of components is needed for this install.

Check local legal requirements before installation.



- A** From fuse to pin 30 **B** Pin 87 to white wire for high beam and red wire for fog. **C** Pin 85 to chassis ground. **D** Pin 86 spliced into stock high beam lamp for auxiliary high beam. Splice into stock low beam for fog.

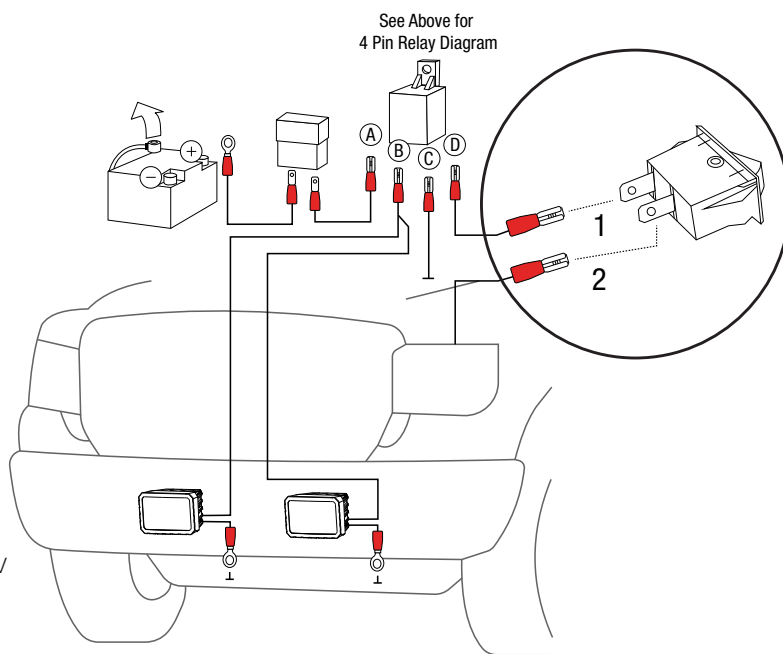
INSTALL INSTRUCTIONS WITH SWITCH:

1. Disconnect the Battery
2. Run Leads
3. Connect Relay
4. Secure Relay
5. Connect Switch
6. Secure Switch
7. Connect Lamp
8. Connect to Headlamp*

*** NOTE:** Driving lights connect to high beams - 12V or 24V
Fog lights connect to low beams - 12V or 24V
Front position connect to vehicle's front position** - 12V or 24V

** Front position follows the same instructions as above using the red wire from the harness and connecting to vehicles stock front position. Another set of components is needed for this install.

Check local legal requirements before installation.



- A** From fuse to pin 30 **B** Pin 87 to white wire for high beam and red wire for fog. **C** Pin 85 to chassis ground. **D** Pin 86 to switch pin 1 then from pin 2 spliced into stock high beam for auxiliary high beam or into stock low beam for fog.

INSTALLATION EXAMPLE:



Mosaic High Beam Kit Installed on a Toyota Hilux

ADDITIONAL SUPPLIED NEEDED (NOT INCLUDED):



Inline Fuse



4 Pin Relay



18 AWG Wire



2 Prong Switch
(Optional)



Eyelet Terminal



Spade Connectors



10A Fuse

HEADLIGHT AIMING INSTRUCTIONS

HEADLIGHTS MUST BE AIMED AFTER INSTALLATION

Headlight must be securely mounted and properly aimed such that the beam pattern “cut off line” complies with all applicable regulations. **If you are not familiar with the legal requirements for aiming your headlights, please see a professional service provider.** We recommend that headlights are aimed with a headlight aiming system for proper alignment. Failure to properly aim your headlights is a risk to other drivers and could result in tickets or citations with local authorities. J.W. Speaker is not liable for any damage to the vehicle or light, or any tickets/citations as a result of using these guidelines.

BEFORE INSTALLATION:

1. Vehicle is being aimed on a level surface.
2. All tires are properly inflated.
3. Vehicle is at normal driving height (applicable to vehicles with hydraulic lifts).

NOTE: Headlights must be AIMED AGAIN if a lift kit is added or removed from the vehicle.

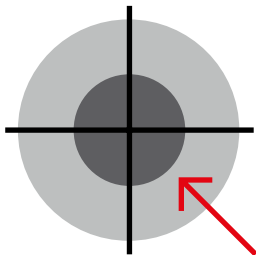
REQUIRED SUPPLIES

- Tape or chalk to mark X and Y lines
- Corresponding tools for your vehicle's aiming mechanism

NOTICE: If you are unsure about aiming your headlight, please see a professional. Failure to properly aim your headlights is a risk to other drives and could result in tickets or citations with local authorities. J.W. Speaker is not liable for any damage to the vehicle or light or any tickets/citations as a result of using these guidelines.

KEY TERMS:

Hot Spot: The brightest part of the pattern, usually in the center.



LHT(Left Hand Traffic):
ECE Regulation countries
like the United Kingdom

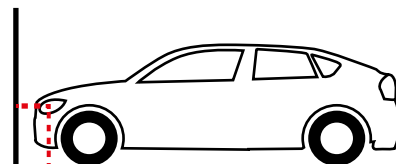
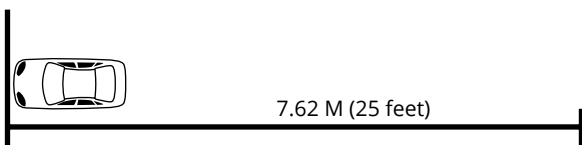
RHT(Right Hand Traffic):
DOT (and some ECE)
Regulation countries like
the United States



The following instructions are illustrated for RHT vehicles. Aiming for LHT vehicles will be mirrored to what is shown.

AIMING GUIDELINES:

1. Park your vehicle close to a wall, in an area where there is at least 7.62 meters (25 feet) of space behind it (excluding the car length).
2. On the wall, draw a line from the ground to the approximate center point of the headlight. Repeat for the other headlight. This will create your Y axis lines.



AIMING GUIDELINES (CONTINUED):

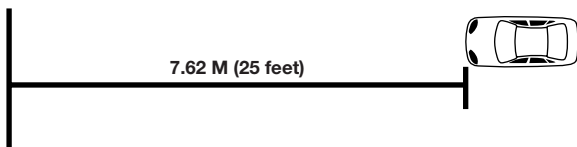
3. Connect the center points between headlights in a straight line, using chalk or tape. This will create your X axis line.
NOTE: Use a straight edge and a level to make sure this line is straight.



4. Extend your vertical, Y axis lines up approximately 3 feet. Your lines should match the diagram below, when looking at the lines straight on.

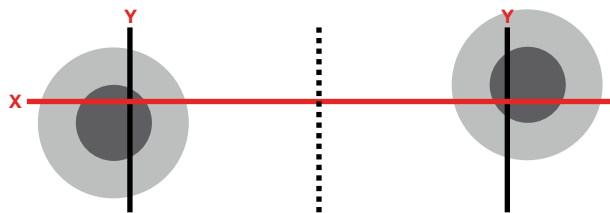


5. Reverse your vehicle in a straight line so that the front of the headlights are 7.62 meters (25 feet) back from the wall.

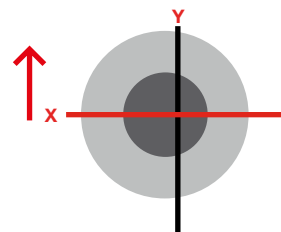


The goal of this sheet is to aim BOTH of your headlights so that the center of the **Hot Spot** is at the v of the horizontal X and vertical Y lines you have drawn. The following directions illustrate the process and proper aiming of headlights.

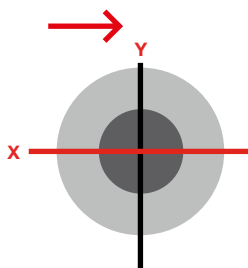
6. When you first turn on your vehicle after installing your headlights, the **Alignment Points** may be positioned differently than shown and will likely be aimed differently from each other.



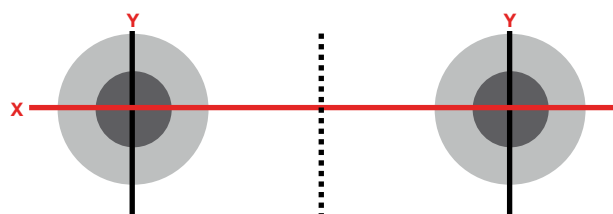
7. Using the alignment mechanisms in your vehicle, adjust one headlight vertically until the alignment point is even with the X axis.



8. On the same headlight, adjust the same headlight horizontally until the alignment point is even with the Y axis.



9. Repeat this process on the other headlight. Both headlights should match the diagram below, where the alignment point is even with the point where the X and Y axis crosses.



FOG LIGHT AIMING INSTRUCTIONS

FOG LIGHTS MUST BE AIMED AFTER INSTALLATION

Fog Lights must be securely mounted and properly aimed such that the beam pattern “cut off line” complies with all applicable regulations.

If you are not familiar with the legal requirements for aiming your headlights, please see a professional service provider.

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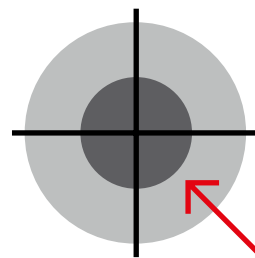
BEFORE INSTALLATION:

1. Vehicle is being aimed on a level surface.
2. All tires are properly inflated.
3. Vehicle is at normal driving height (applicable to vehicles with hydraulic lifts).

NOTE: Fog Lights must be AIMED AGAIN if a lift kit is added or removed from the vehicle.

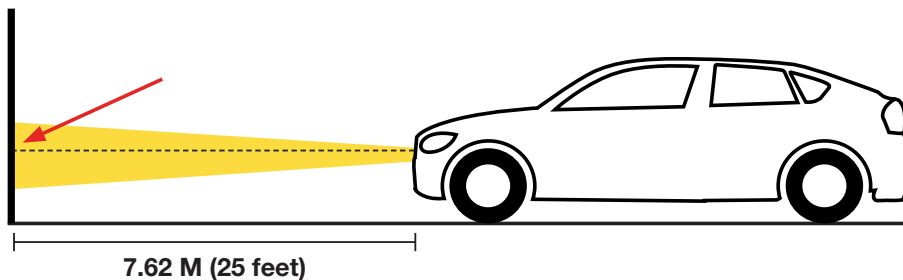
KEY TERMS:

Hot Spot: The brightest part of the pattern, usually in the center.



AIMING GUIDELINES:

Driving Lights or High Beams should be aimed so the hot spot is about 4 centimeters (1.5 inches) BELOW the centerline of the lights.



Fog Lights should be aimed so the top of the beam is about 10 centimeters (4 inches) BELOW the level line of the lights.

