

# Vision Auto Lab, LLC

---

## Vertical Headlight Alignment Guide

### 2012-2016 Tesla Model S with HID

In performing this procedure, you do so at your own risk and I take no responsibility for the modifications you make or the recommendations in this guide.

I suggest reviewing this entire guide before performing the install. If you have any questions, send an email to:

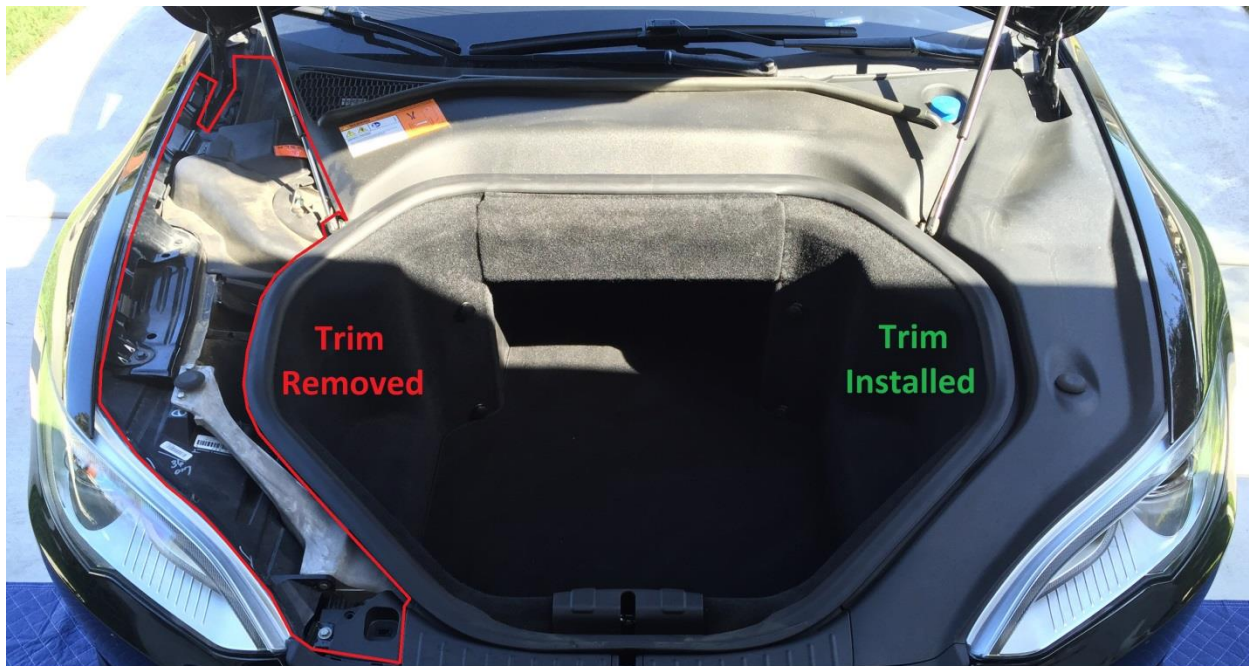
[info@VisionAutoLab.com](mailto:info@VisionAutoLab.com)

**By continuing you acknowledge and agree to these terms!**

## Tools Needed

- 6mm Allen Wrench OR Philips (+) Screwdriver
- Tape Measure (minimum 25ft)

## TRIM REMOVAL



To access the top of the headlight and the vertical adjusters the 2 large plastic trim panels on either side of the frunk must be removed.

Do so by lifting the outer edge of the trim by the fender and gently pull the trim up and away from the frunk.

VISION AUTO LAB

# MEASURING PROJECTOR LENS

At night or in a parking garage where you can see your headlights shine on a wall, find a flat surface where you can safely park your Model S and have your headlights project on a wall 25ft away.

Ideally the wall will be flat and white but the aiming process can be done on various surfaces as long as you can clearly see the beam pattern.

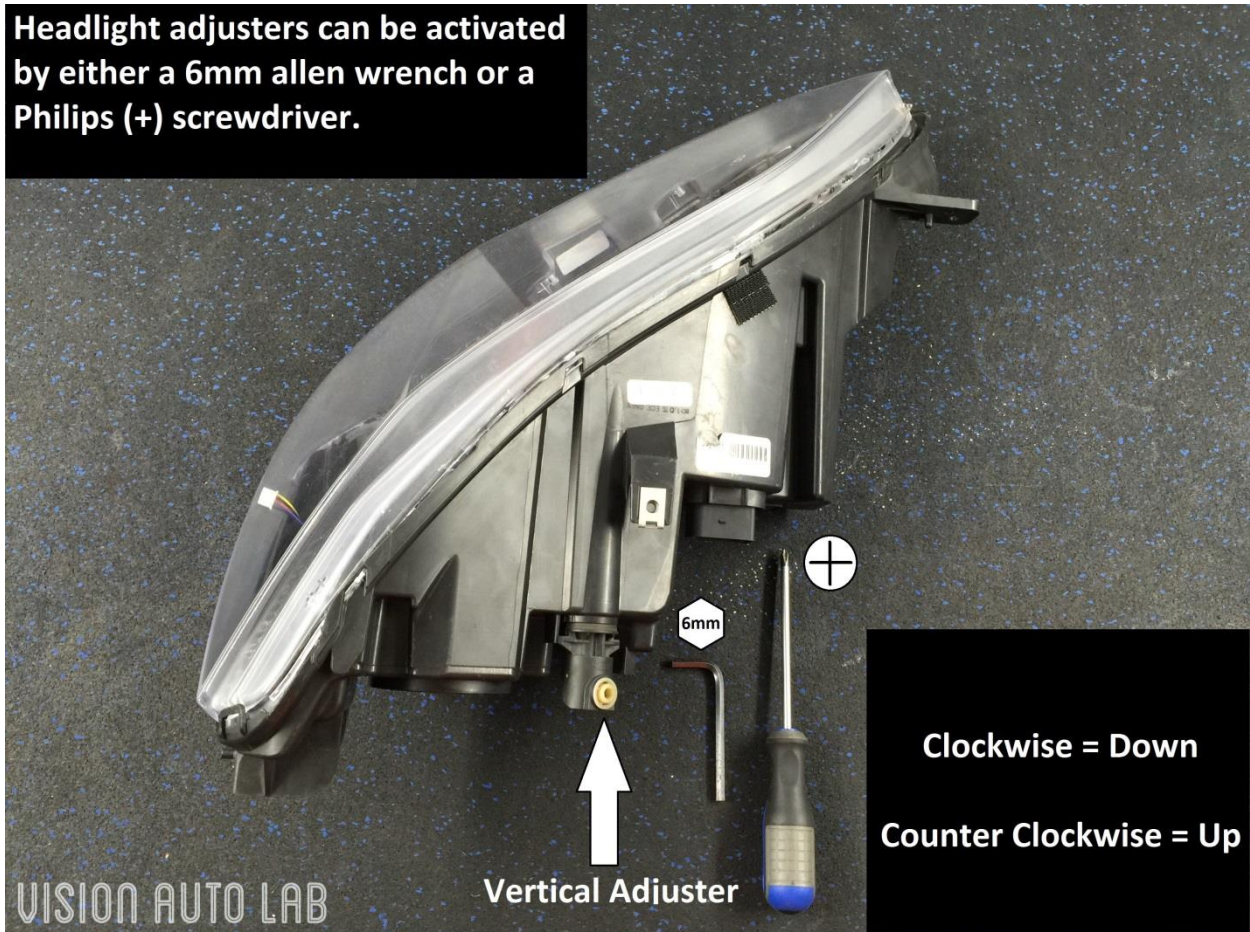
With the headlights on, use a measuring tape to find the height of the projector (white) by measuring from the ground to the center of the projector lens (red).

Take note of this measurement.



# HEADLIGHT ADJUSTER

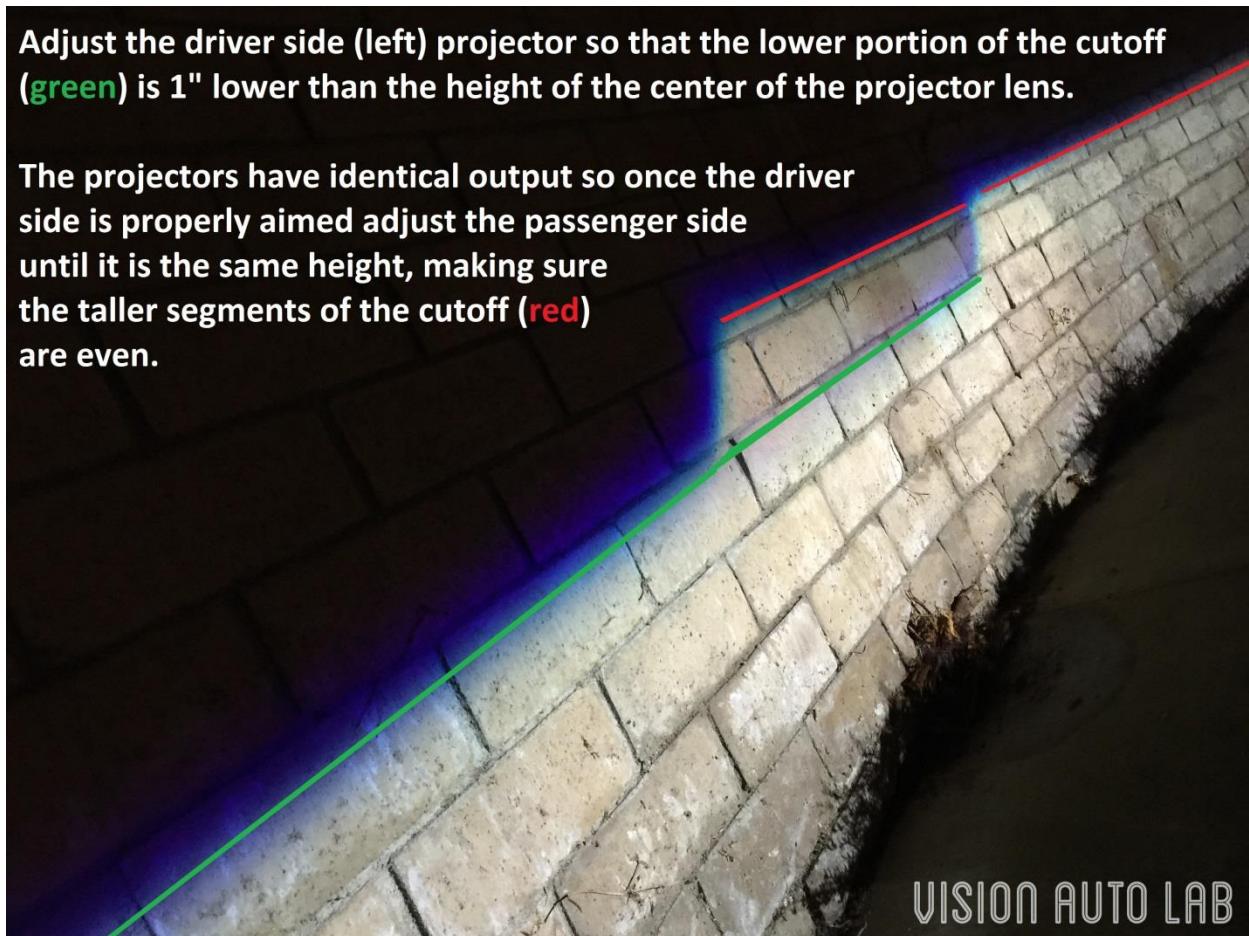
Headlight adjusters can be activated by either a 6mm allen wrench or a Philips (+) screwdriver.



# SETTING VERTICAL AIM

Adjust the driver side (left) projector so that the lower portion of the cutoff (**green**) is 1" lower than the height of the center of the projector lens.

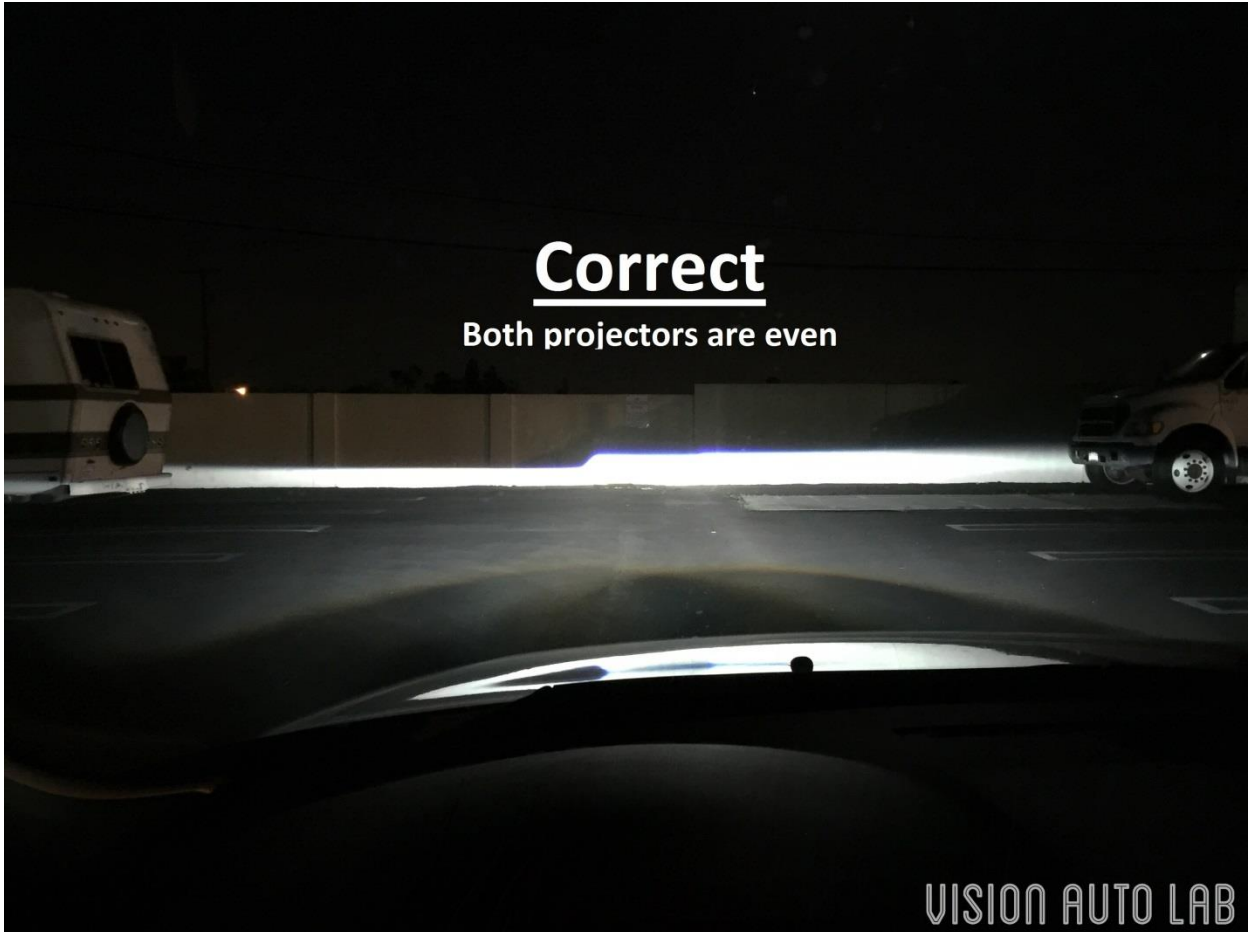
The projectors have identical output so once the driver side is properly aimed adjust the passenger side until it is the same height, making sure the taller segments of the cutoff (**red**) are even.



# EXAMPLE 1



## EXAMPLE 2



# TESTING

After your headlights are aligned it is important to test them on the road to confirm everything is correct.

HEADLIGHTS MAY NEED TO BE RAISED IF:

- Only the road immediately in front of your car is illuminated (<60ft visibility)
- You are having a hard time seeing objects which are 100ft or farther in front of your car

HEADLIGHTS MAY NEED TO BE LOWERED IF:

- You are being frequently flashed by oncoming traffic
- You can see your headlights shining on the side-view mirrors of the car in front of you (or above)
- You can see your headlights shining into the rear window of the car in front of you

If you notice any of these issues listed above, return to a safe headlight aiming area and make small adjustments to correct the alignment. Test and repeat as necessary.

In general, you want your headlights to illuminate the rear bumper and possibly part of the rear license plate but never the side-view mirrors or the cabin of the car you are following.



## **TRIM INSTALLATION**

- Once your headlights have been aligned properly, you will need to reinstall the trim panels which surround the frunk. Make sure you install the panels (R/L) into their respective locations.
- With a downward angle slide the inner edge of the panels under the rubber gasket that seals the frunk against the hood.
- Gently lower the trim and focus on getting the rubber mushroom-looking knob through the circular hole in the trim, if this is properly aligned the rest of the trim should safely be guided into position.
- Gently push the trim down so the mushroom knob comes out the top and then make sure the front of the trim by the nosecone is properly seated in position.