VW MKV-A5 Golf/Jettas Discussions area for A5/MkV Jetta/Golf (2005/2006 PD and 2009 CR).

March 4th, 2007, 21:29 #1

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Veteran Member

Join Date: Jul 2006
Location: Houston Texas
TDI(s): 06 Jetta package 2 - now sold

Updated - Adjustment procedure to correct Jetta high beam aiming problem

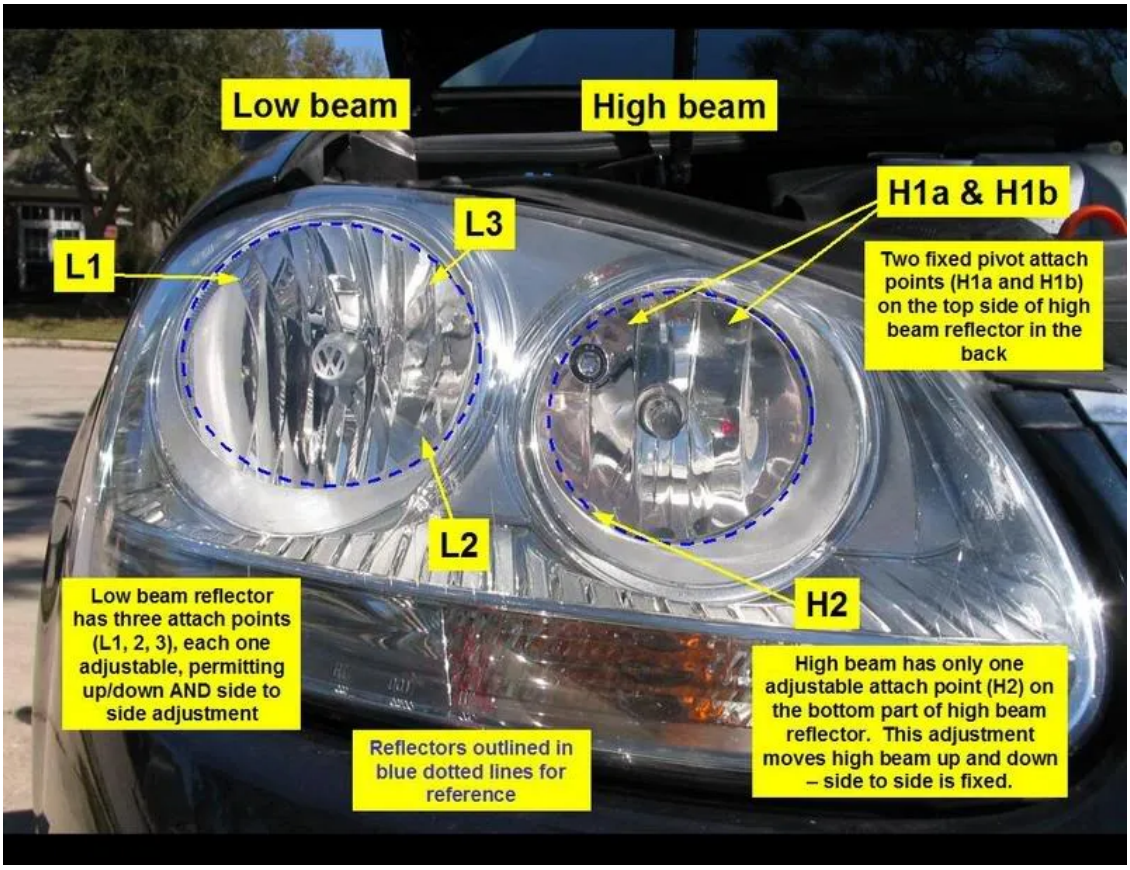
UPDATED!! - Thanks for the many positive comments to this post! I have incorporated some new information that you might find helpful. NOTE: If you have trouble printing this, try coping the entire set of instructions out of your web browser and into a Word doc in HTML format. From there you can resize the photos as required to fit your printer. You will want to maximize the margins in the word document to fit everything nicely.

There have been many, many posts and threads about high beams of the OEM headlights of the Jetta pointing too high and not being adjustable without affecting the low beams too. I was examining my headlights on my June 06 TDI recently and I do believe I may have figured out how to readjust the headlights so that they work like they should. It has always seemed odd to me that VW would set up high beam headlights so that they point well above the road and appear to only light up the trees without a way to correct it.

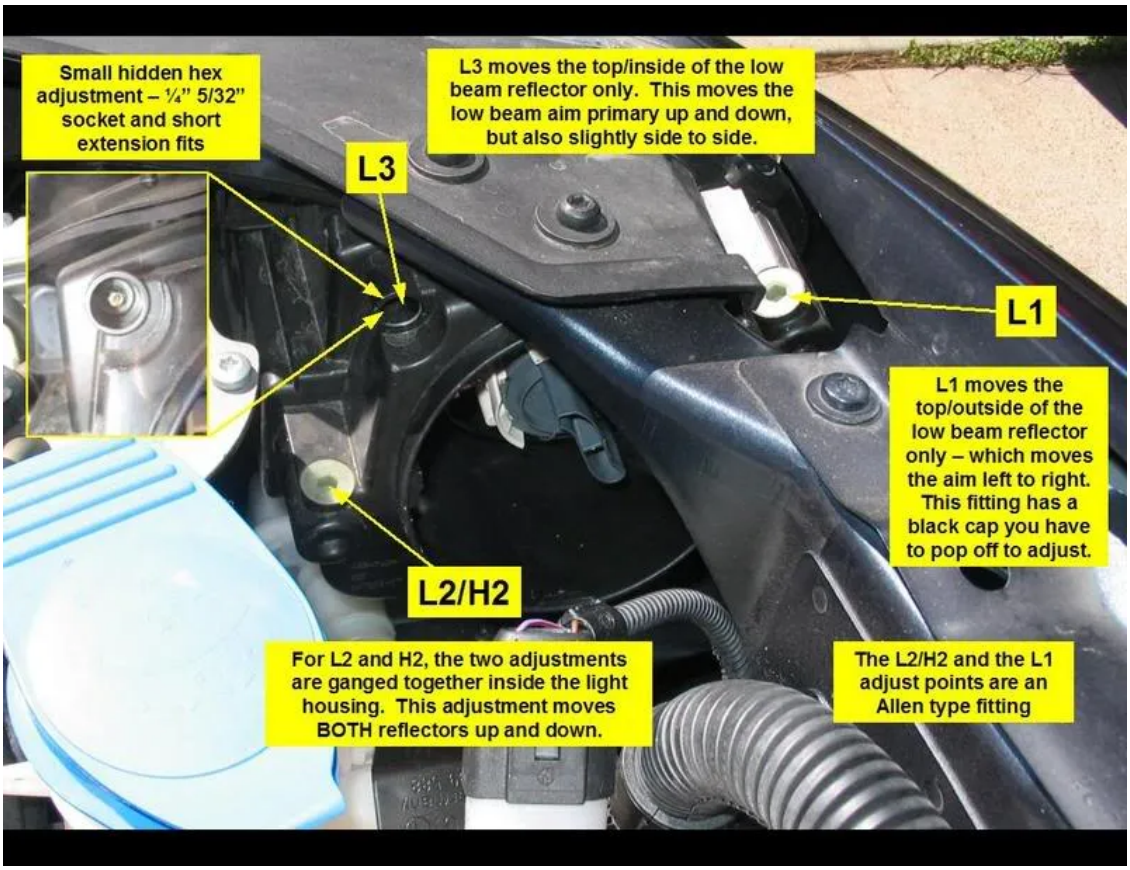
***Well, as it turns out, the* high beams and low beams CAN be adjusted independently of each other**. Below you will find the step by step procedure I used to make these relatively easy adjustments. This information applies to the standard U.S.A. reflector type headlights, and projector lamps may be different. Enjoy!

Here are the basics of how the standard reflector type headlights adjust on our Jettas:

>> As you can see in the photos attached below showing the front of the car, the standard Jetta reflector type headlights are made up of the overall housing which is basically fixed in place, and the individual reflectors for the high and low beams. These reflectors are adjustable independently of each other but doing so is tricky. Just like sealed beam headlights on older cars, the reflectors are supported in the back at 3 points. Some of these attach points are adjustable and some are simply pivot points, and therefore they enable you to change the aiming of the lights.



>> As viewed from the engine side of the passenger headlight assembly, this photo below shows the various adjustment points. Note that I have labeled each adjust point for clarification and for reference in the procedure found below. One of the adjustment points was somewhat hidden. It is this adjustment, labeled **L3** in the diagrams, that enables you to change the up/down aiming of the high and low beams independently of each other. **L1** has a small black cap on it initially that you will have to pop out to gain access to it. The cap can be reinstalled afterwords easily.

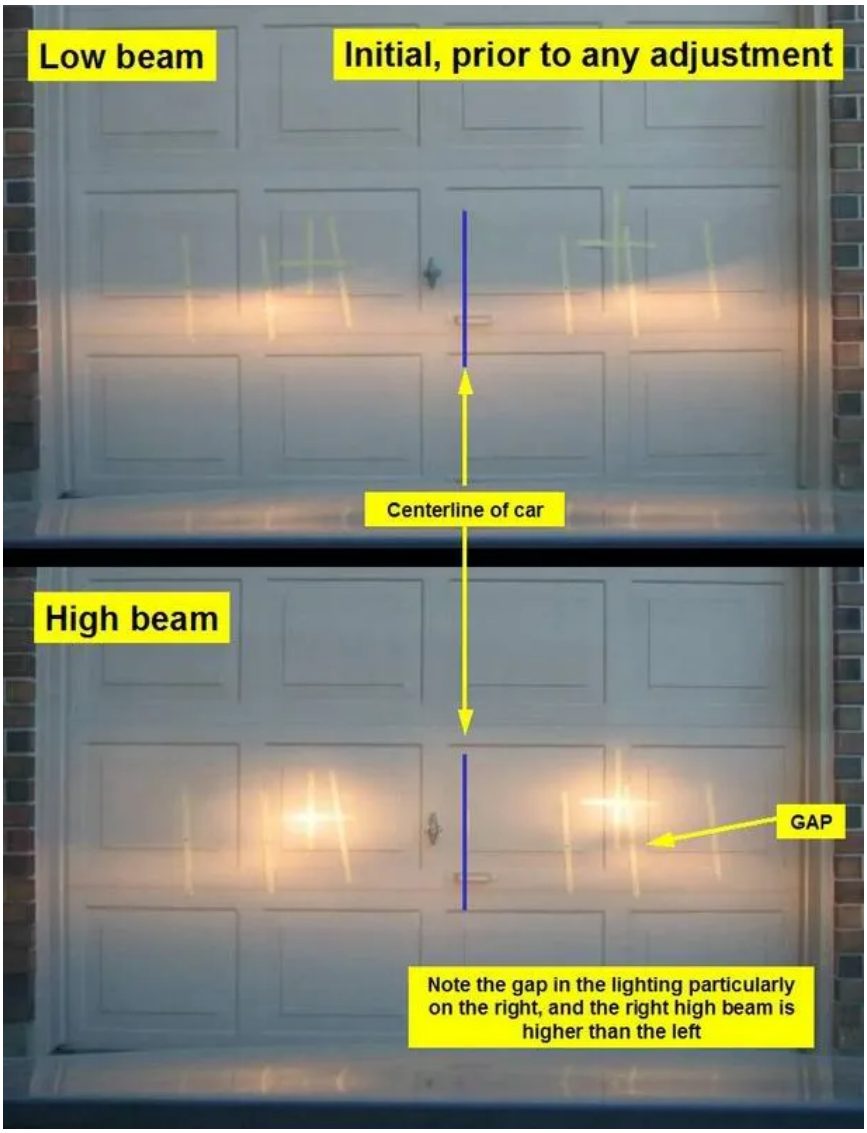


So, what follows is the procedure I used to adjust my headlights. This technique basically lowers your high-beam aiming down to a good position while returning your low-beam aim to the same point they are now.

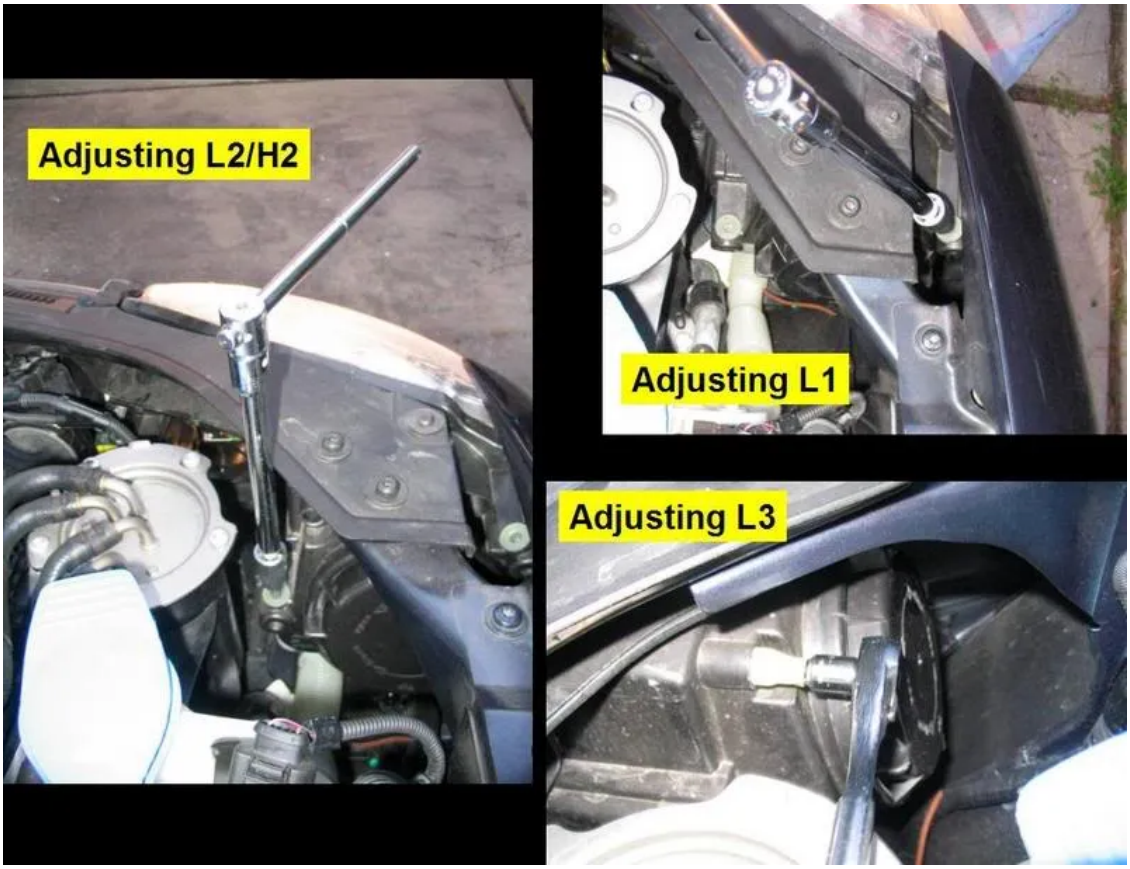
You can go a step further and verify the aim of both low AND high beams to a specification, and I will discuss that towards the end. That additional step requires you to make use of the excellent procedure on another website (linked later) that I was made aware of by another member.

Step 1) Pull your car into a driveway where you can point your headlights at a large flat surface such as a garage door. Your car should be fairly level. When I did this I had the front wheels about 12 feet from the garage door. This is a shorter distance from the wall that is sufficient to make the adjustments here. Make very sure that the car is perpendicular to the garage door (pointing straight at it) and not at an angle. It makes things easier if your car is also centered on the door. Turn on your headlights and make note of the pattern on the door. Obviously you should do this at dusk or dark rather than direct sunlight!

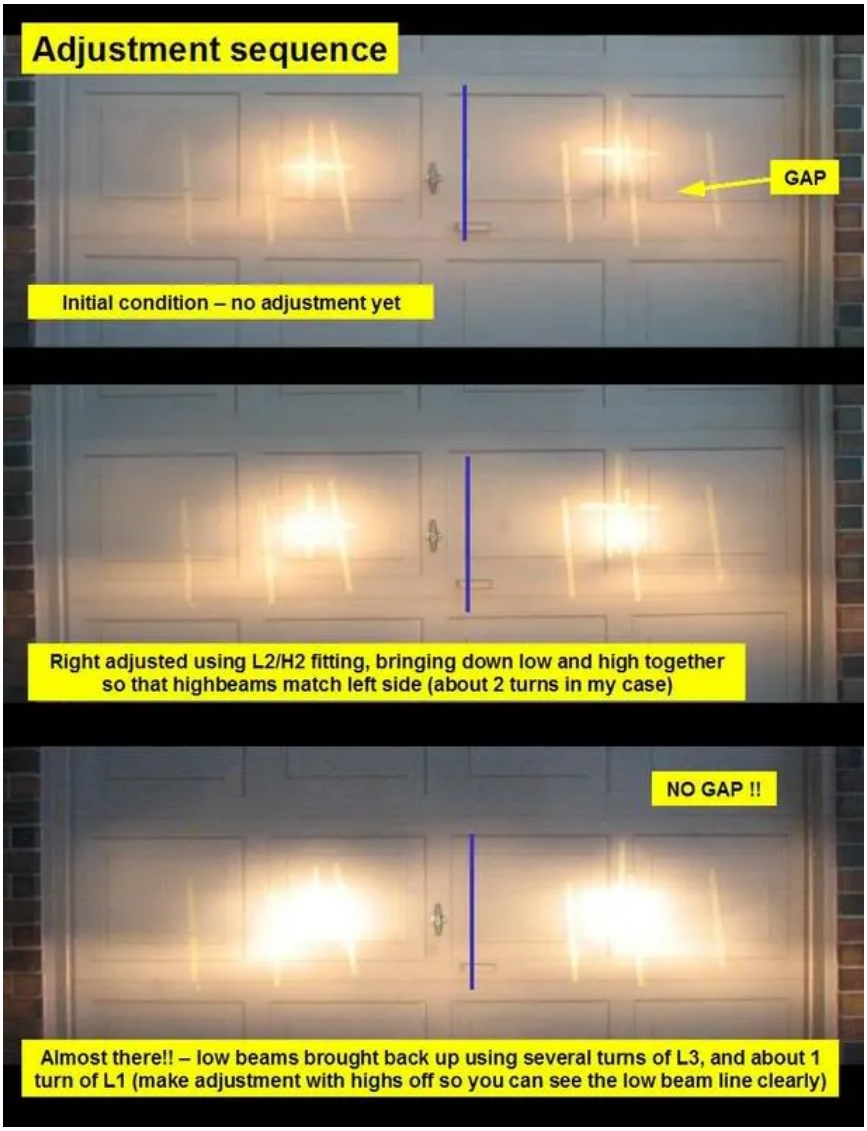
Step 2) As shown in the photo below, get some masking tape and mark the door to document the important points of the existing light pattern. This should include the aim points of the left and right high beams, and with the high beams off mark the cut-off line of each left and right low beams. Note that there is also a point in each low beam where the cutoff line goes from flat to angled upward to the right, also called the "kink" in the line. Specifically mark the "kink" point on the wall. The kink is shown in a later photo below. You will probably notice like I did that the lights might not be aimed evenly as the right high beam was aimed higher, and that there is a visible gap in the coverage between the high and low beams. I can't imagine what the factory was thinking!!



>> Step 3 Now, with the high beams on, you rotate the adjustment labeled **L2/H2** CCW so that the aim points of both high beams are lowered so that the bright center point is just above the horizontal cut off line of their respective low beams that you marked on the door. The high beams should actually point directly straight ahead, focusing on a point the same distance above the ground as the high beam bulb. When you adjust **L2/H2**, both the high and low beams will go down at the same time. Make sure you adjust both the left and right lights as required so that the high beams are even with each other, left to right. If your left and right lights didn't start out even, make sure the high beams are even when you complete this step. The low beams will be readjusted to be the same in a later step. You may have to turn the adjustment several turns CCW to bring the high beams down enough. *Note: When I first ran this procedure I didn't bring the high beams down enough the first time and had to go back and readjust after a test drive (as you can see in the photos).*

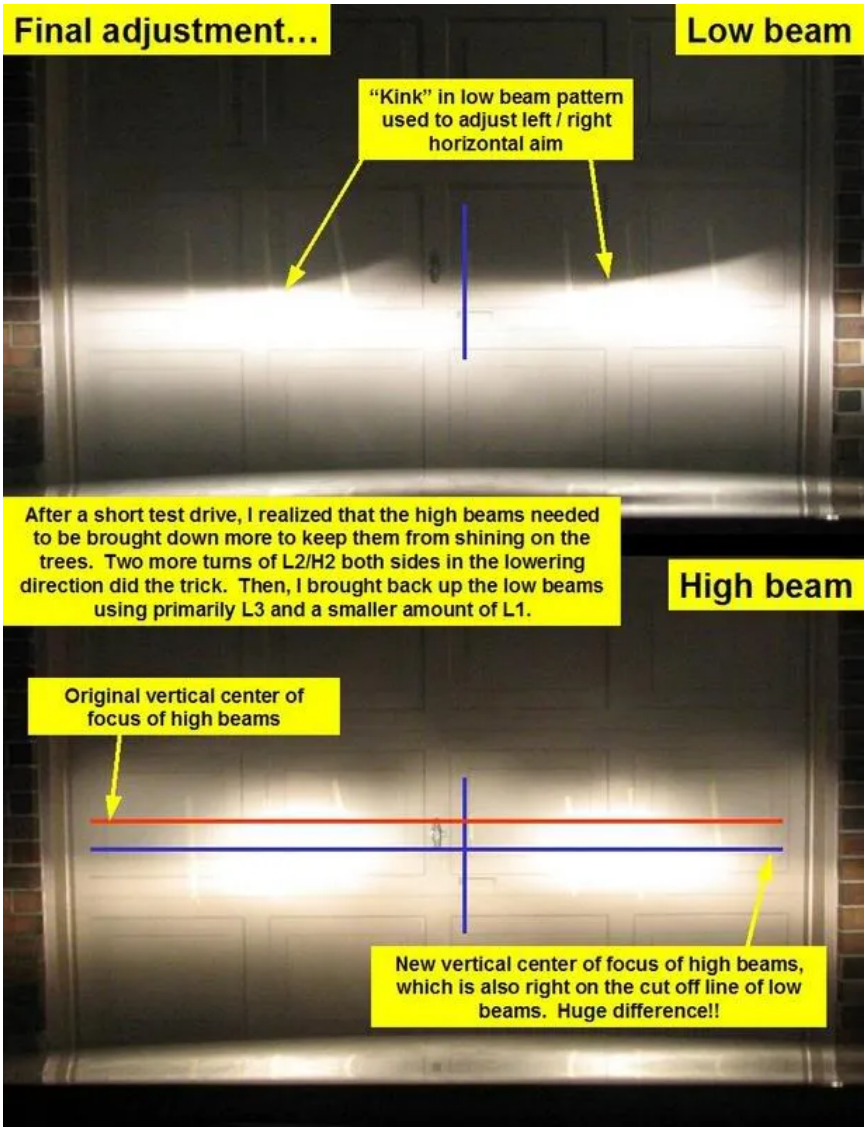


>> Step 4 Next, you adjust the **L3** adjustment CCW with only the low beams turned on to bring back up the low beam cutoff line to where it was at the start (4 mm or 5/32" 1/4" socket). As you turn this adjustment, you should notice that the aim mainly moves up and down, but also moves a smaller amount side to side at the same time. Due to this, if you have to move the adjustment very far, you will also need to adjust the **L1** adjustment screw to move the aim side to side to bring the "kink" point back to where it was. When you are finished with step 4, the aim of the low beams should be right back to where they were when you started, but the high beams will remain lowered significantly. **It is VERY IMPORTANT that the cutoff point of the low beams be returned precisely where they were when you started.** If you adjust the cutoff line too high, you will blind oncoming traffic. If you adjust too low, then you won't put enough light far enough out in front of you. It is for this reason I suggest that you readjust the low beams to the same point they were when you started. ***Note:*** *If, your low beam cutoff lines were not the same height above the ground at the start, I suggest you use the lower of the two and match that one. You can then use the detailed procedure referenced later to readjust to spec if you like.*



Last Step!! You are basically complete at this point. But, you might find upon test driving your car that you are not happy with the aim of the high beams quite yet. That is what I found when I first test drove my car. It was certainly better without any visible gap in lighting, but I still wanted to bring the high beams down a bit more. So, I brought the car back to the same spot in the driveway and readjusted the **L2/H2** adjuster slightly more so that the high beam focus spot was centered on a point the same height above the ground as the high-beam bulbs are from the ground (about 28").

If you do bring the high beams down further using the **L2/H2** adjustment, then make sure you remember to then readjust the **L3** (and a smaller amount of **L1** if required) so that your low beams are aimed to the same cutoff point as when you started. Here is what my aiming job looked like when I was all complete:



Note in the above photo how much I had to bring down the aim point of the high beams before they started behaving like they should!! Luckily, I never ran out of adjustment range of the screws that I adjusted.

The above procedure did not recheck the low beam aiming to any spec, but rather simply re-aimed them to where they were when you started. You can go further and verify/adjust the aim using another procedure. Go to the link below for further information:

http://www.danielsternlighting.com/tech/aim/aim.html

This procedure at the *Dan Stearn Lighting* website is excellent and is quite easy to follow, but it does require you to find a level flat area with the front of the car 25 feet away from a wall. After I ran this procedure, I found that the left/right aiming of my low beams was WAY off, and I had to tweak the height slightly to match the specs listed. In that procedure on highlight aiming, there is a table showing aiming specs for various types of lighting systems. **For our Jetta's, the low beam headlights are about 28 inches above the ground, and they are about 25.5 inches out from the centerline of the car.** You can simply mark these positions on the wall once you have the center point identified. The Jetta headlights are marked "DOT", so I assume we should use the specs listed for "US DOT headlamps marked VOL", however I could not find a marking as such on the actual headlights for the "VOL" part.

Here is a tip that I used to help in finding the center point of the car on the wall when you run the Dan Stearn Lighting procedure:

>> I used a laser level to help me find the center point, and it worked very well. As shown in the photo below, I simply used two reference points in my Jetta that are centered to line up the laser level. One was the center child seat attach point, and one is the vent control knob in the center of the upper dash. The photo shows how I did this, and it is much easier and more reliable than trying to back the car straight back 25 ft as the procedure describes. Use the center point projected by the laser to find all the other points referenced in the Dan Stearn procedure.

Important note: Specifically in the Jetta, make sure you adjust the high beams first using the **L2/H2** adjustment. This adjustment moves both the high and low beams together. Next, after you have the high beams correct, then you can adjust the low beams both up and down (**L3**) and left and right (**L1**) to meet the spec.

If you have comments let myself and everyone know, particularly if you try out the procedure and find something that might help others. If you find errors in my post or improvements I will be glad to edit the procedure. This is version 2.1, updated on 3/12/07. Thanks so much to "CADTechTdi" for letting me know about the Dan Stearn Lighting website!

Have fun, and enjoy the well lit road in front of you!! :-)

Last edited by bondtimbond; November 25th, 2007 at 11:49. Reason: Revised to version 2.0, updated with new information

Quote

March 4th, 2007, 22:03 #2

CATDI
Veteran Member

Join Date: Feb 2007
Location: Bay Area, CA
TDI(s): 2006.5 A5 Jetta TDI Pkg #3

This is absolutely fantastic. This has been driving me crazy for some time. Thank you so much for doing this! Very clear and a detailed. Your hard work will help a lot of A5 owners.

Again, thanks!

Quote

March 5th, 2007, 06:01 #3

TAK1973
Member

Join Date: May 2006
Location: Outside Houston, TX
TDI(s): 2006 Jetta Pkg 1
Fuel Economy: ~37 overall in 27,000 miles

Very nicely done... It's people like yourself that make forums like this work. Thanks for your efforts.

Quote