



Bi-LED ACA headlights for C5 Corvette

Installation Guide (Updated for 2022)

Tools list

Required tools

- - Philips head screwdriver
- - Torx 15 screwdriver
- - Torx 20 screwdriver
- - 8mm open end wrench
- - 10mm wrench or socket
- - 1/2" socket
- - socket extension (6" ideally)

Suggested Tools

- WD-40, Liquid wrench or similar
- Socket extension suggested

Phase 1: removal of old headlights:

1. Raise your headlight using the manual crank. You'll see three Philips head screws that hold the plastic trim bezel in place. remove these screws and the bezel



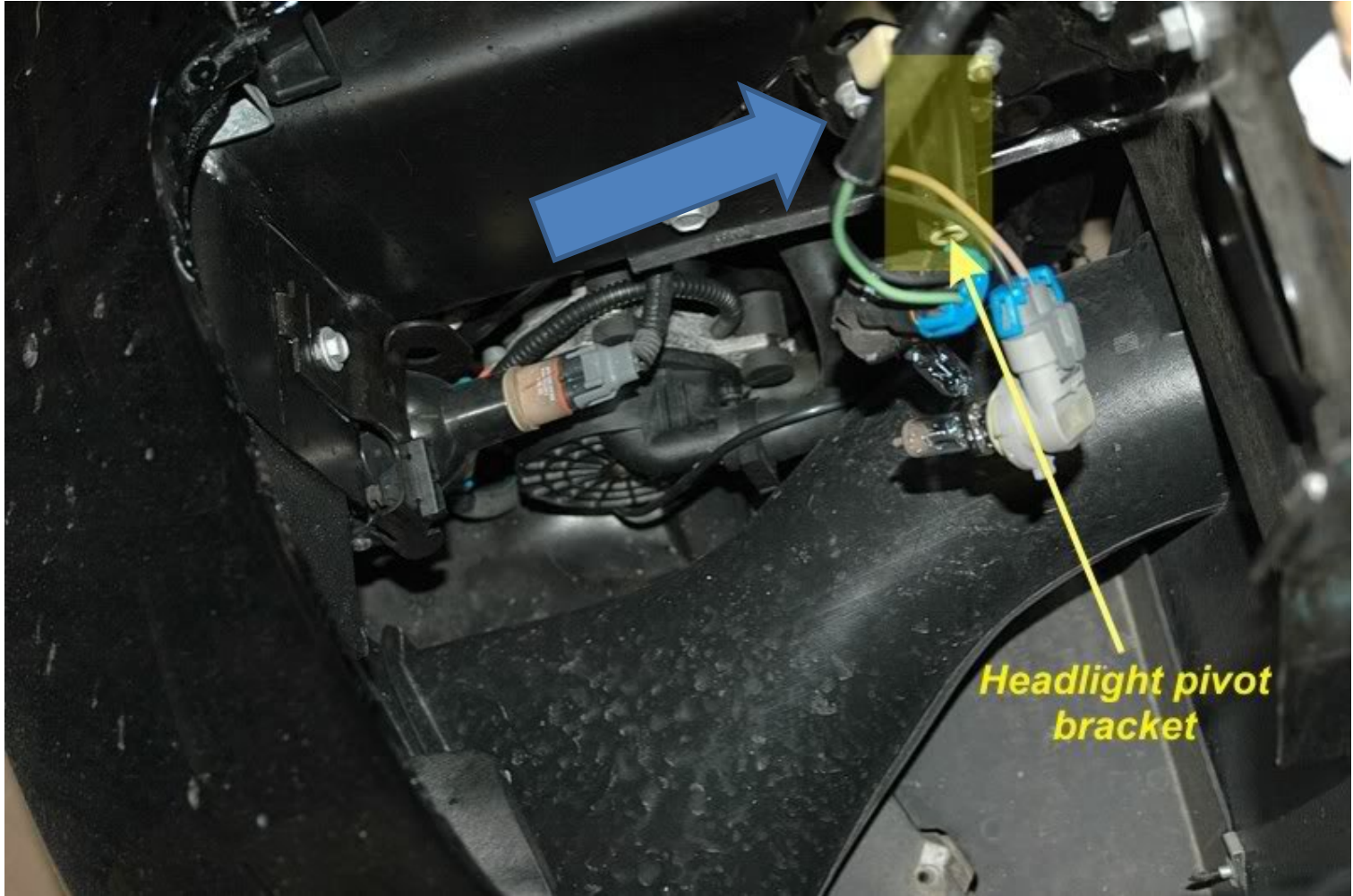
2. Remove the 4 torx 15 screws that hold the headlight cover in place. 2 are on the back and there's one on each side. Remove these and the headlight cover. Be sure not to lose the plastic or metal sleeve for the bolts.



3. Remove the 2 Torx 20 bolts/8mm nuts that are the headlight hinge joint. (It may be beneficial to spray these with WD-40 or similar as they are installed with Blue Lock tight from the factory)



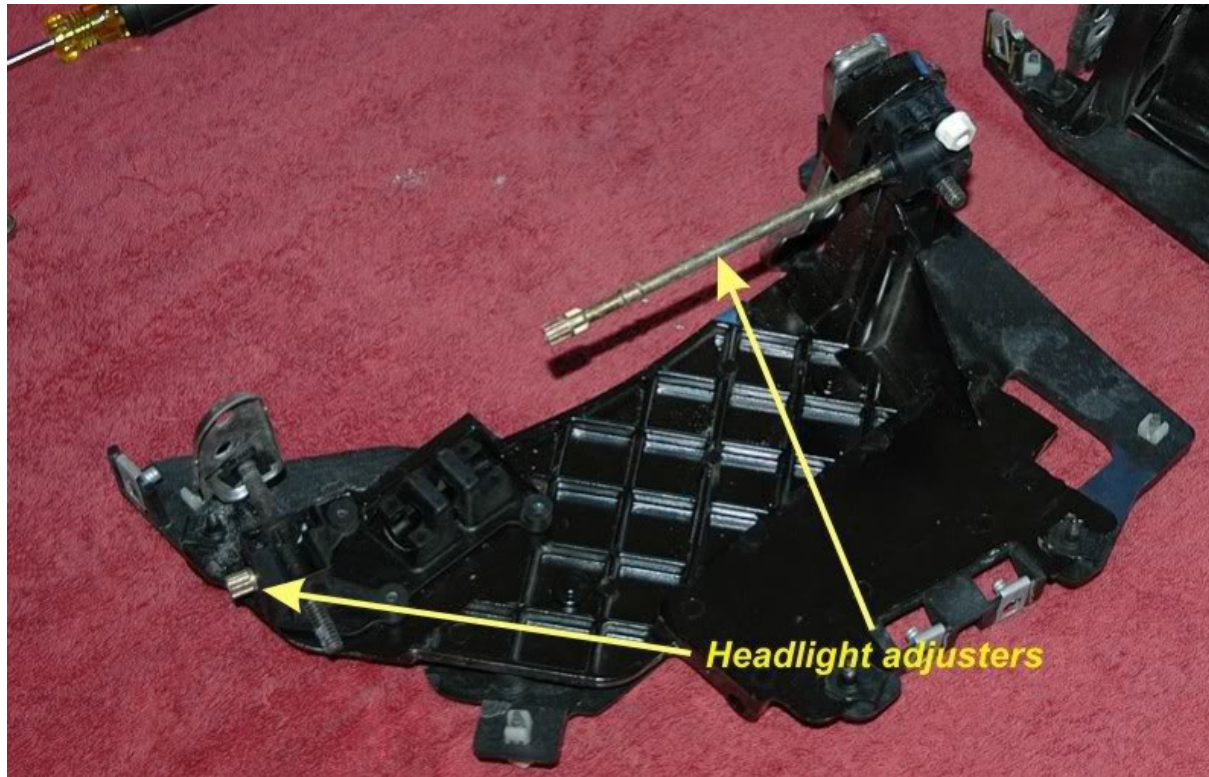
4. With the headlight tilted down, remove the 10mm nut that holds the headlight lifting arm to the headlight motor. Disconnect the headlight bulb sockets and remove the headlight (picture shows the placement of the nut without the headlight).



5. With the headlight assembly out of the car, remove the headlight housing by removing the three 10mm screws on the back of the housing. (you may need your socket extension to reach the bolts on the outer side).



6. At this point, it's a good idea to identify your factory headlight adjusters. I **STRONGLY** suggest shooting the gear mechanisms with WD40, PB blaster or similar lubricant compound as these have a tendency to seize up and sometimes break after many years of non-use. The short rod is your horizontal adjuster and the long one is the vertical adjuster. You'll need to remember this when aiming. After letting the lubricant penetrate, test the adjusters gently. If the brass adjusters turn but the black adjuster screw spins but doesn't move in/out, hold the adjuster screw with a Torx 15 from the screw head and gently turn the brass adjuster rod until the black adjuster screw moves. (force may be required)



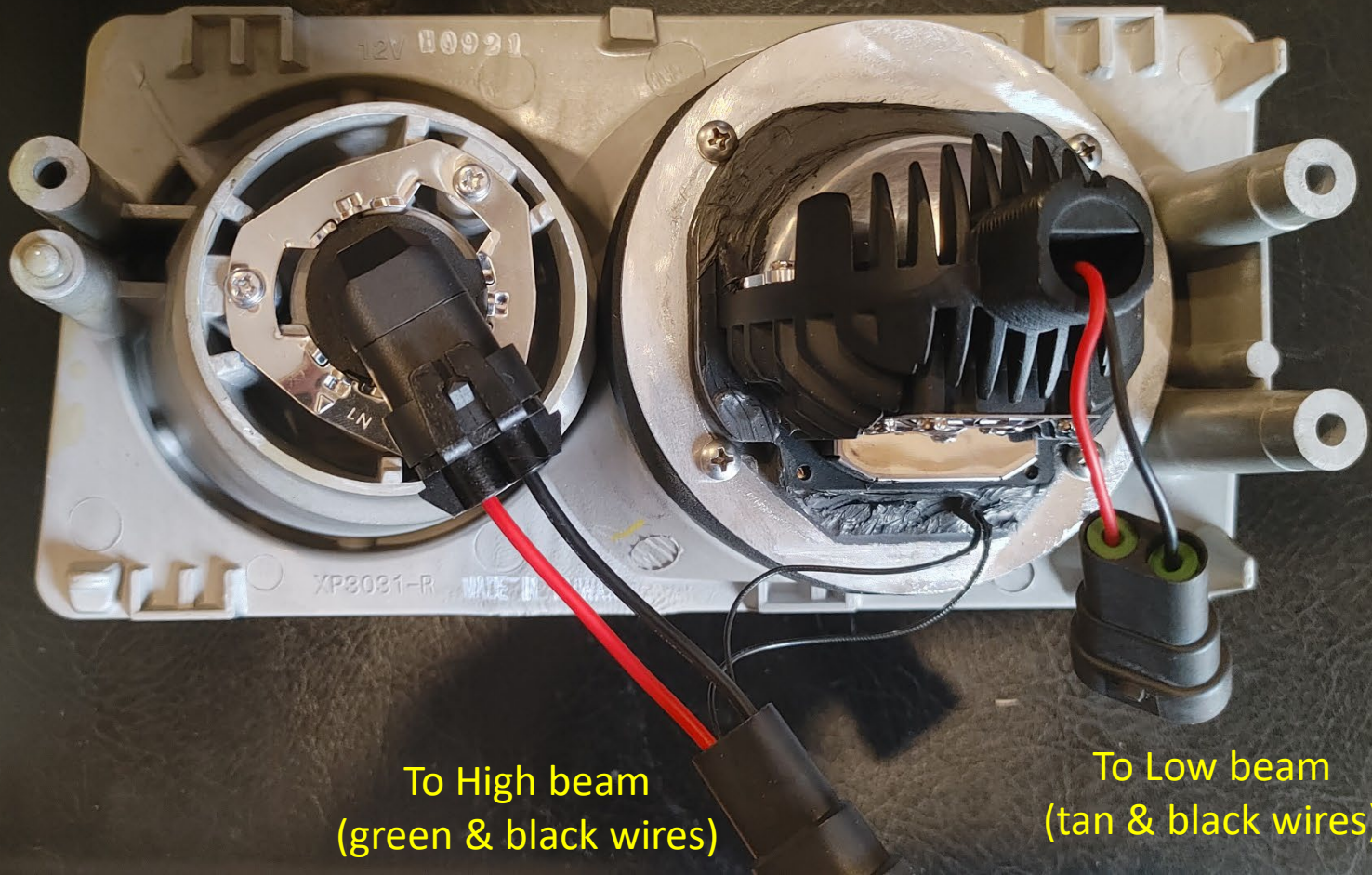
Phase 2: Installation of new headlights

7. Mount the new headlights using the same mounting screws removed from the factory headlights. Tighten the screws until they are snug, but be careful not to over tighten or the mounting points will crack. (DO NOT use power tools here.)



Suggested note: The mounting screws are self-tapping. To help avoid cracking the mounting points from the pressure of the cutting threads, insert the screw one turn then back the screw out and clear the debris. Tighten two turns, then back out and clear debris. Continue until the mounting hole is fully threaded.

8. Connect to the factory headlight connectors as shown.



To High beam
(green & black wires)

To Low beam
(tan & black wires)

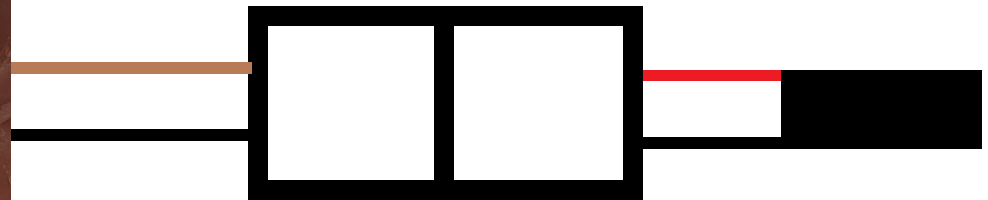
9. Set the headlight in the opening and secure the lifting arm to the headlight motor shaft. On the driver's side connect the factory low beam connector (tan and black wires) directly to the LED wires coming out of the back of the projector. Then connect the high beam (green and black wires) to the connector that goes between the high beam bulb and wires coming from the bottom of the projector.



Driver's side connection

Factory low
beam
connector

To LED driver 



10. On the passenger side, connect the lifting arm to the motor shaft, then connect the small relay harness with male and female headlight connections between the factory low beam connector and projector as shown. Make sure the polarity is correct on the connections (black wires should line up with the black wire on the harness and black wire to the projector)

11. Connect the high beam the same way you did on the driver's side.



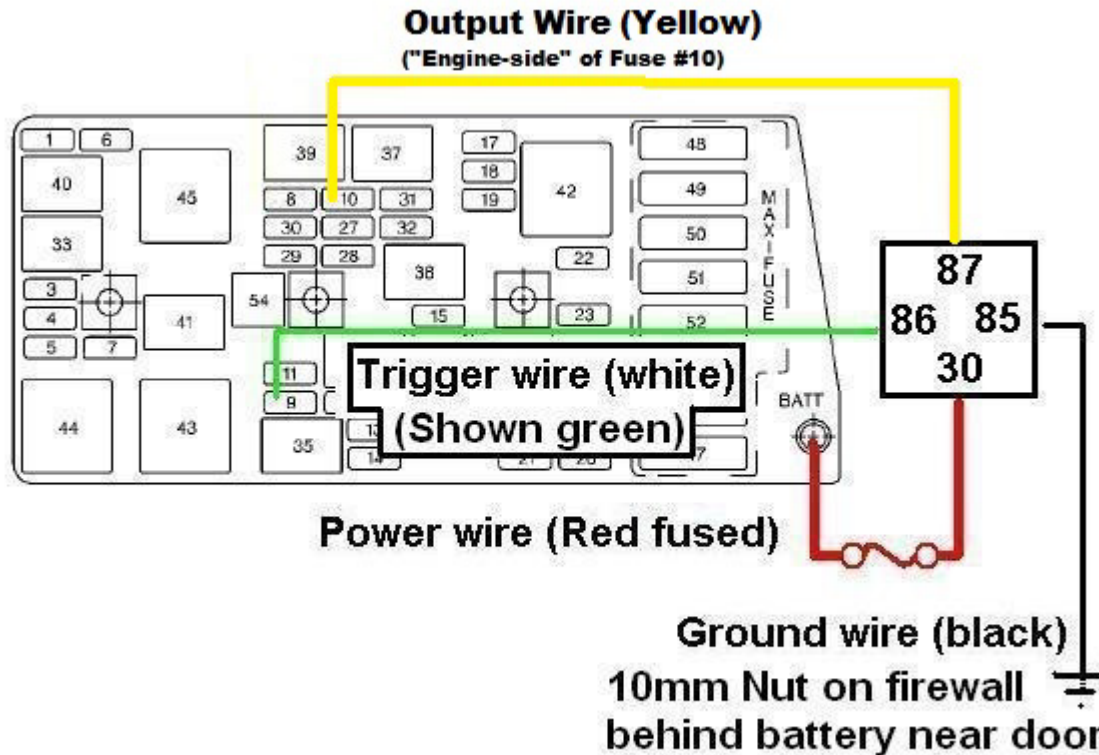
12. Re-install the Torx 20 screws, washers and nuts, then conduct a quick test of the headlights to verify all circuits have been wired correctly. Check your high beams as well. At this point, you projector will shut off in high beam mode, but your halogen high beams will turn on and you should be able to hear the high beam solenoids activate with a "click" sound. (Full function will be established with the installation of the Hi-4 harness in phase 3)



Phase 3: Installation of Hi-4 harness

The Hi-4 harness keeps the Low beams on with the high beams and is essential for the Bi-xenon system to operate correctly.

13. Remove the cover of the under hood fuse box and note the positions of the fuses to be tapped.



Tap the fuses as shown using the fuse taps supplied with your harness. The leg of the fuse will slide through the tap and back into the fuse socket. The fuse may not seat completely, but as long as you have good contact it will work as intended. Fuse taps install like this:



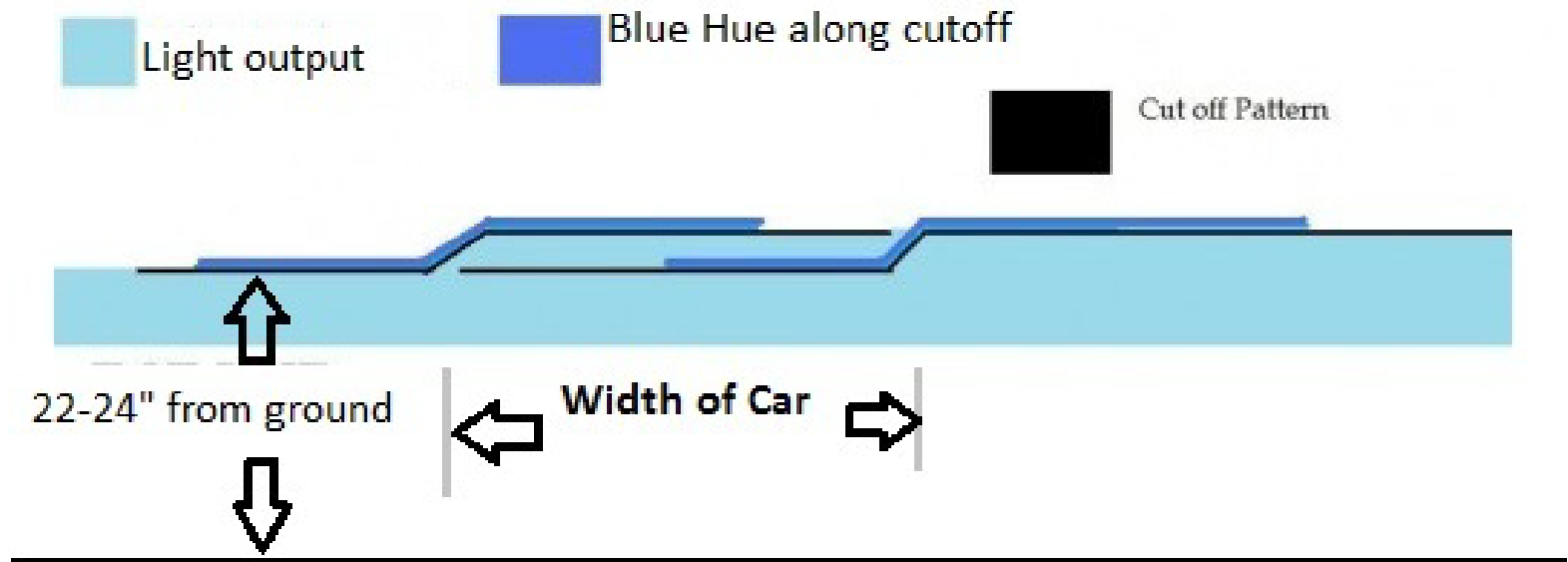
Once installed, test your lights again to ensure full function. Your low beams should remain lit when in high beam mode.

Phase 4: Aiming.

14. Park your car on a level surface 15-20 feet away from a wall (preferably a white or light colored wall) You may need painter's/masking tape and a tape measure as well.

The lower (left) portion of the cutoff should be between 22 and 24" for a stock ride-height car. Lowered cars should be 21-22" from the ground.

The "step" in the cutoff pattern should shoot directly in front of each headlight roughly the width of the car. This way, the steps (which are the most intense part of the beam pattern) remain parallel down the road and never cross. This adjustment may need to be done several times to get it perfect and you'll know after you've driven the car at night for a while.



The pattern should look like this when you're finished:



At this point, I suggest taking your car for a test drive to see if you like where the lights are aimed. Be sure to check that you have all the hardware removed from under the hood prior to a test drive.

Phase 5: Wrapping up

15. Complete the installation by re-installing the painted headlight cover with four Torx-15 screws, then the headlight bezel and 3 Phillips screws.



Congratulations. You've completed the installation. If you have any questions, please let me know: (832) 431 4500 or email president@sharplightinnovations.com

