



Preparation:

- Disconnect the negative battery terminal. Park the vehicle on level ground and set the emergency brake.
- We recommend reading through the installation instructions in whole before performing the work.
- Estimated Installation Time: **2 Hours for OEM Removal/Bumper Installation**

1 Additional Hour to Wire Cube Lights

****This installation requires 2 people for best results****

****Labor Rates are based on a vehicle with no pre-existing damage. Wiring labor is based on a standard wiring procedure with light switches installed in an easily accessible location. Custom light triggering or switch mounting location will result in a greater labor charge.****

You will need the following tools:

- | | | |
|-----------------------------|-------------------------|------------------------|
| - Ratchet | - 8mm Socket | - 16mm Socket |
| - 17mm Socket | - 18mm Socket | - 21mm Socket |
| - 3/16" Allen Wrench/Socket | - 1/2" Wrench | - Wire Crimpers |
| - 7/32" Allen Wrench/Socket | - 9/16" Socket & Wrench | - Butt Connectors (x2) |
| - Electrical Tape | - Zip Ties | - 3/4" Wrench |
| - Drill | - 9/16" Drill Bit | - Putty Knife/Scraper |
| - Epoxy | | |

Included in Kit:

- | | |
|---------------------------------------|---------------------------------|
| 4 - Hex Head Bolts (M14-1.5 x 40mm) | 4 - Flat Washers (M14) |
| 3 - Button Head Bolts (5/16"-18 x 1") | 3 - Flat Washers (5/16") |
| 3 - Nylon Lock Nuts (5/16"-18) | 1 - License Plate Bracket |
| 2 - Hex Head Bolts (3/8"-16 x 1") | 2 - Flat Washers (3/8") |
| 2 - Knurled Rivet Nuts (3/8"-16) | 1 - Grade 8 Bolt (3/8"-16 x 1") |
| 2 - Grade 8 Washers (3/8") | 1 - Hex Nut (1/2"-13) |
| 1 - LED License Plate Light Kit | |

Removal:

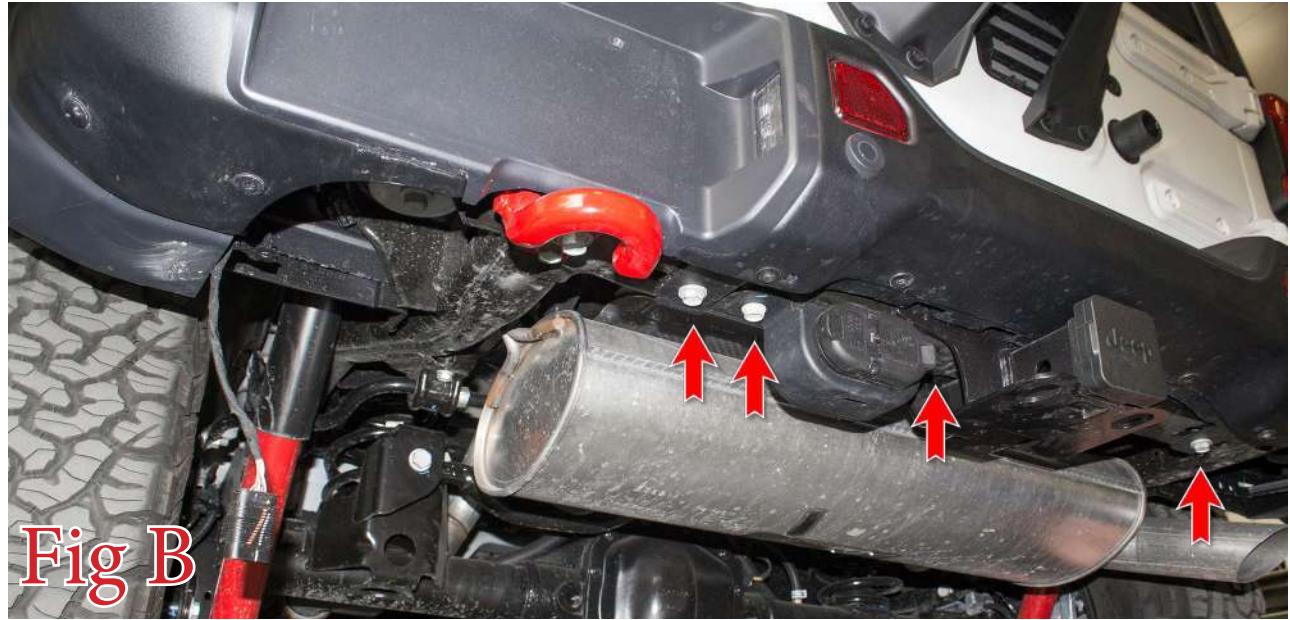
1. Unplug the rear bumper harness connector, then release the two plastic clips holding the bumper end of the harness to the vehicle. This connector is located under the vehicle on the driver side. Refer to (Fig A).



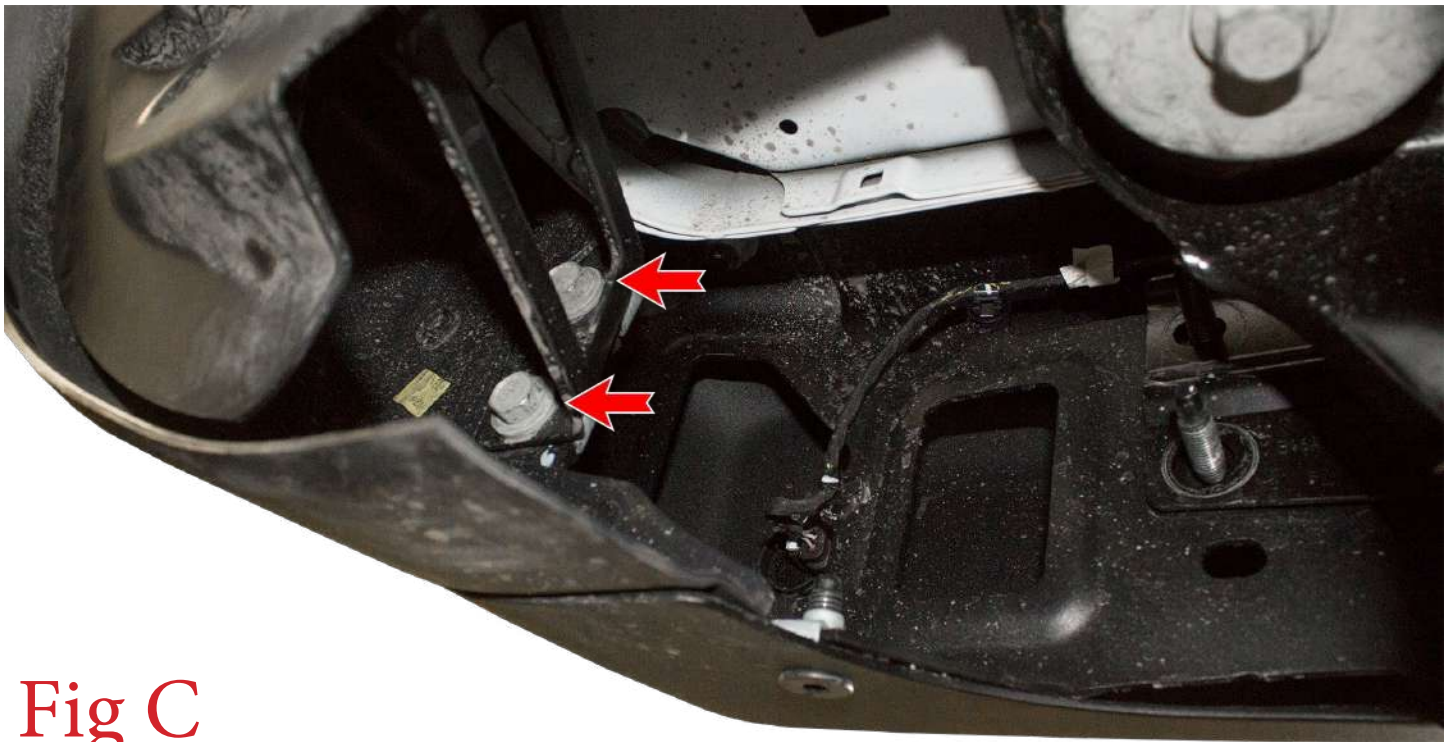
Release these clips



2. Remove your OEM spare tire.
3. Using a 16mm Socket, remove the bottom two bumper bolts and the two trailer plug bracket bolts. **Save these bolts for reuse.** (Fig B)



4. Using a 16mm Socket, remove the bumper side support bolts (2 per side) that are accessible from underneath the truck on the outer section of the bumper. (Fig C)





5. Using a 17mm Socket, remove the bumper mounting nuts (2 per side) which are accessible from underneath the vehicle. Then, remove the OEM bumper. (Fig D)

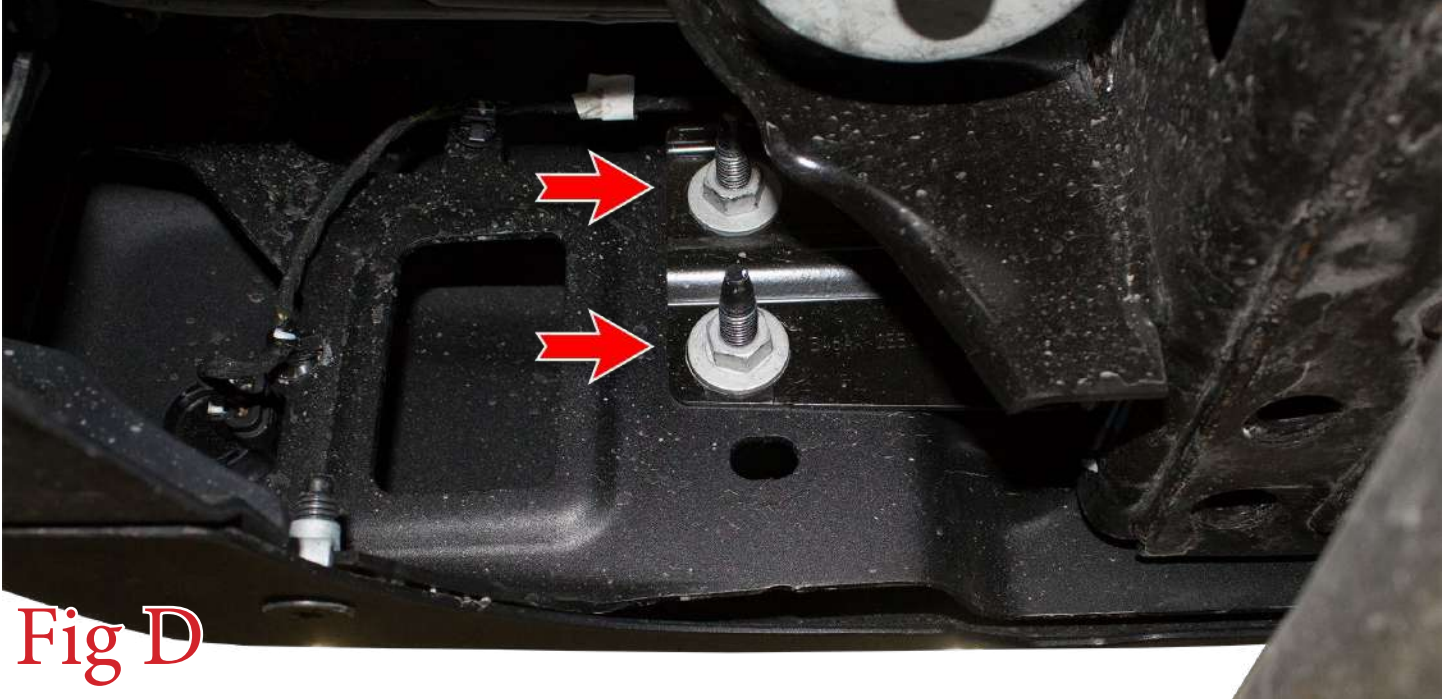


Fig D

6. Using an 8mm Socket, remove the three (per side) inner fender liner bolts referenced in (Fig E). Then, remove the lower inner fender liner pieces from the vehicle.

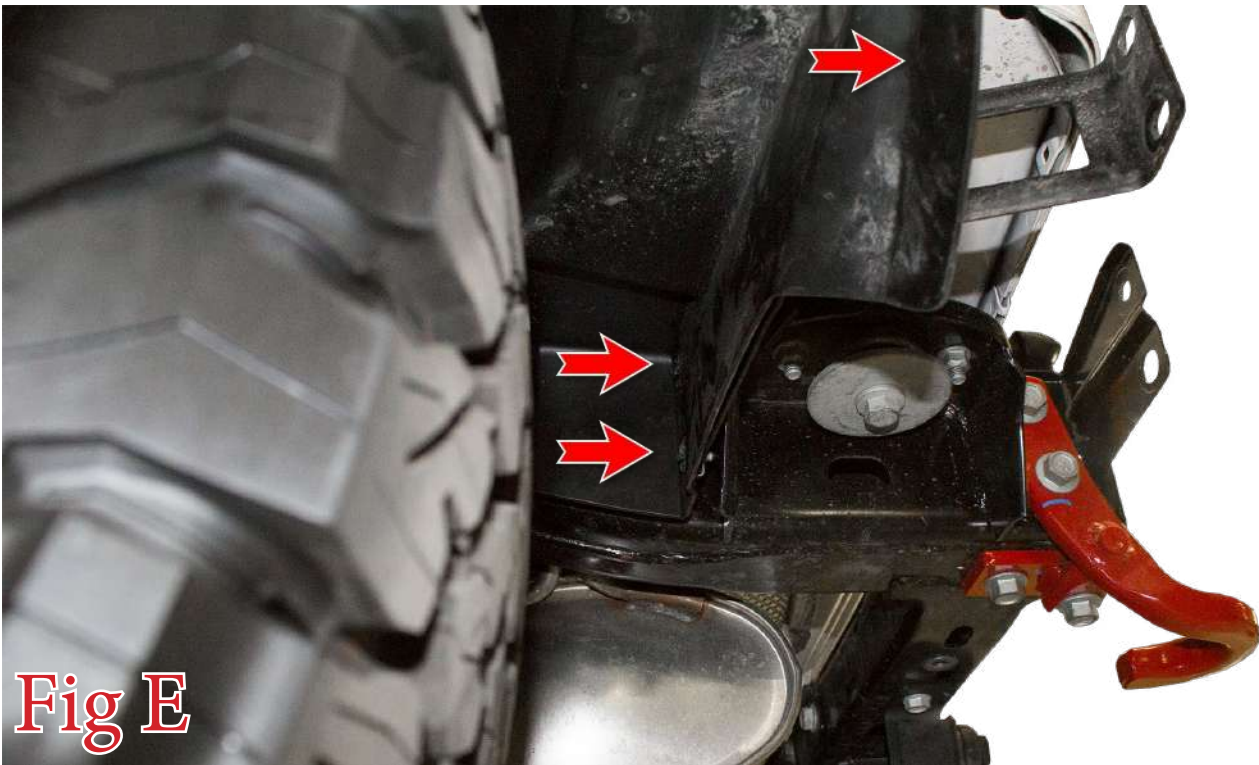


Fig E



7. Remove the two bolts that hold on each bumper side support bracket. Then, remove both brackets from the vehicle. (Fig F)



8. Use an 18mm Socket to remove the driver side tow hook bolts (x4). Then, use a 21mm Socket to remove the passenger side bumper mounting bracket bolts (x2). Remove the tow hook and both bumper mounting brackets from the vehicle. (Fig G)





9. IF YOU HAVE A METAL BUMPER, FOLLOW THIS STEP. IF NOT, SKIP TO STEP 10. Remove the parking sensors from the OEM rear bumper. Do this by first spreading the tabs on the inner mounting ring and releasing the sensor out the back side of the bumper. Then, spread the tabs on the outer mounting ring to release it from the inner mounting ring. Finally, press the tabs in on the inner mounting ring to push it out the front side of the bumper. (Fig H)



Spread these tabs and release the parking sensor from the rear



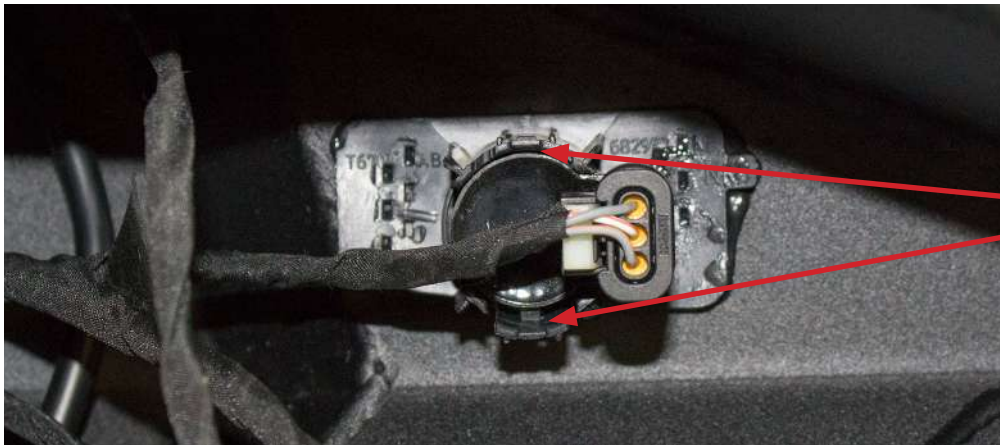
Spread these tabs and release the outer mounting ring from the rear



Fig H



10. IF YOU HAVE A PLASTIC BUMPER, FOLLOW THIS STEP. IF NOT, SKIP TO STEP 11. Remove the parking sensors from the OEM Rear Bumper. Do this by first spreading the tabs on the mounting ring and releasing the sensor out the back side of the bumper. Then, take a putty knife, scraper, or something similar and work it between the sensor ring mounting plate and the rear bumper. Use the scraper to cut through the plastic welds holding that plate to the OEM bumper. Once the plastic welds have been broken, the plate will be free from the bumper. **Make sure to keep track of the order/orientation of the sensors on the OEM bumper as you will need to install them in the same order/orientation on your new bumper.** (Fig I)



Spread these tabs to release the sensor



Use a scraper to separate the mounting plate from the bumper



This is what it looks like once its separated

Fig I



11. Release the series of plastic clips holding the OEM Bumper Harness in the OEM Bumper. Then, remove the harness from the OEM Bumper. (Fig J)



Fig J

Installation:

12. If you have any lights to install on your new bumper, now is a good time to do so. Please follow the light manufacturer's installation guide for mounting/wiring information.

13. Install the supplied license plate bracket. Do this by lining the mounting holes on the bracket up with the mounting holes on the bumper. Then, use the supplied 5/16" Bolts (x3), 5/16" Washers (x3), and 5/16" Lock Nuts (x3) to secure the bracket to the bumper. Install all bolts loosely, then go back and torque them to 13 foot pounds. (Fig K)



Fig K



14. IF YOUR PARKING SENSORS LOOK LIKE THE SENSORS IN STEP 9, FOLLOW THIS STEP. IF NOT, SKIP TO STEP 16. Install the two outer OEM Parking Sensors on your new bumper by pressing the inner mounting ring in from the front until it clicks into place. Then, press the outer ring onto the inner ring from the backside. Finally, press the sensor into place from the back side. **For the two outer sensors, install the sensors 180 degrees from the OEM orientation (with the raised portion of the mounting ring towards the center of the bumper).** (Fig L)



Install this backing ring with the slimmer part faced towards the center of the bumper.



Fig L

Install this ring with the fatter part faced towards the center of the bumper.



15. For the two middle sensors, you will have to face the sensor mounting rings so that the fatter part is towards the top of the bumper as shown in (Fig M). You will also have to switch the backing rings, so that the backing ring that originally went on the left side will now go on the right side and the backing ring that went on the right side will now go on the left side. (Fig N)



Install the backing rings with the slimmer part facing upwards.

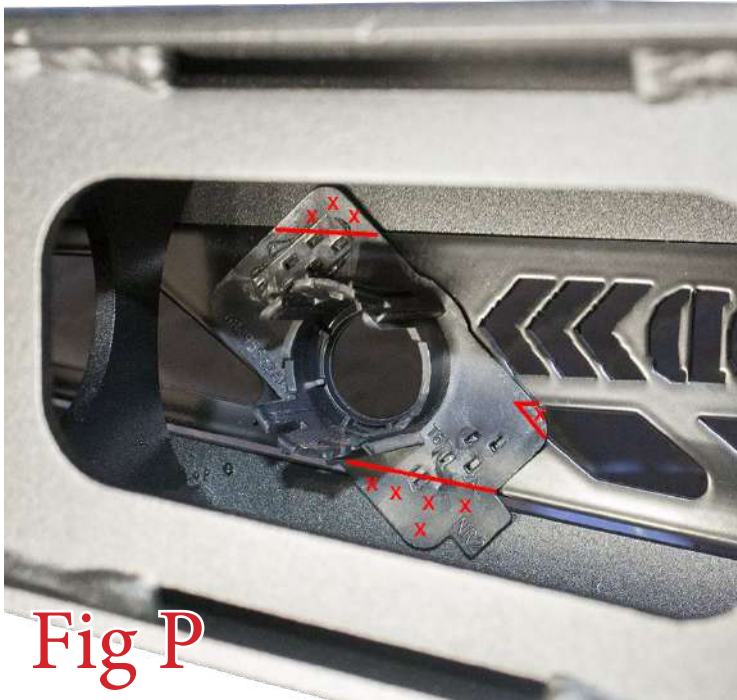
Install the left backing ring on the right side of the bumper and the right backing ring on the left side of the bumper.





16. IF YOUR PARKING SENSORS LOOK LIKE THE SENSORS IN STEP 10, FOLLOW THIS STEP. IF NOT, SKIP TO STEP 18. Before installing the parking sensor mounting plates, you will have to trim both outer plates. Do this by setting them in place in their precut holes (push them in place from the back side keeping the same orientation as on the OEM bumper). Then, mark out where you will have to make your cuts. We cut them so that none of the mounting plate is visible from the front side of the bumper. Refer to (Fig O & Fig P)

Before



After



Fig P

Before



After



Fig O



17. IF YOUR PARKING SENSORS LOOK LIKE THE SENSORS IN STEP 10, FOLLOW THIS STEP. IF NOT, SKIP TO STEP 18. Use a strong epoxy to glue the parking mounting plates to your new bumper. Do this by applying epoxy on the front face of the mounting plate. Then, push the sensor mounting ring through the pre-cut hole in the bumper from the backside of the bumper, so that the front face of the mounting plate gets glued to the back side of the bumper. **Install the sensor rings in the exact position they came off the OEM bumper.** Once the glue has set, push the sensor into the back side of the mounting ring until it clicks into place. (Fig Q)

Apply epoxy on these faces



Fig Q



18. Take the OEM bumper harness and plug it into the newly installed parking sensors. Make sure to leave the main plug of the harness on the driver side of the bumper. (Fig R)



Fig R

19. Mount your license plate to the license plate bracket using the supplied LED License Plate Lights as your mounting bolts. Make sure the LED Lights are facing down at your license plate. (Fig S)

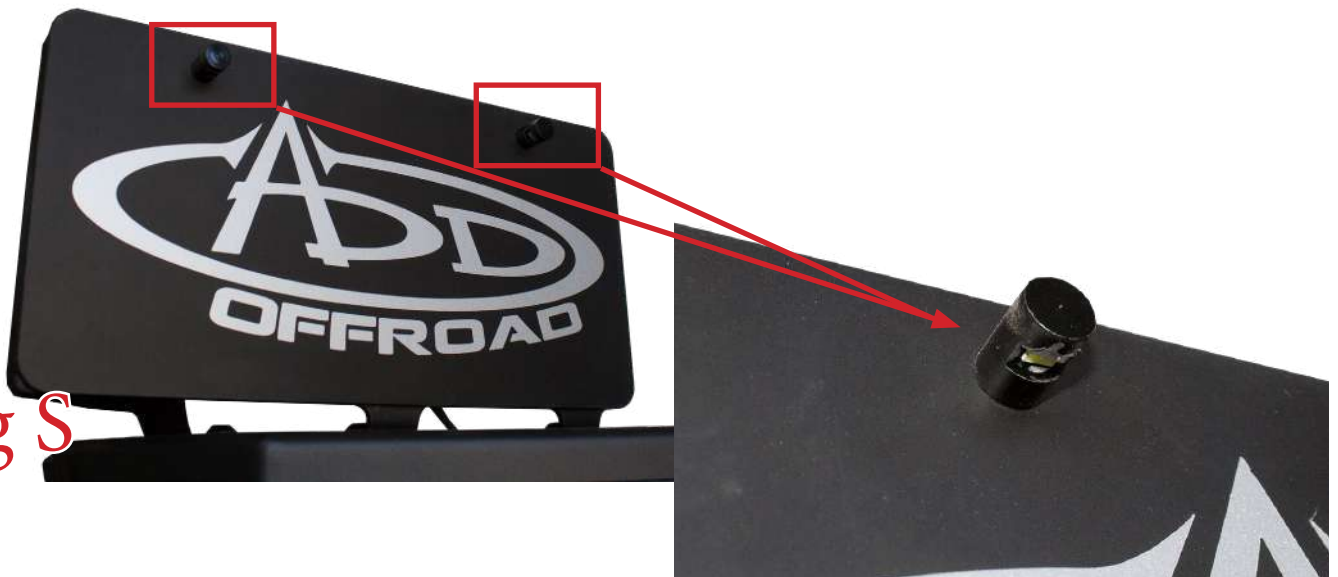


Fig S



20. Locate the license plate light connector on the OEM Bumper Harness. Remove the conduit far enough back to allow this connector to reach the ends of the LED License Plate Light wires. (Fig T)



Fig T

21. Cut the license plate light connector off the OEM Harness. Twist both Red Wires from the LED Lights together and butt connect them to the White/Blue Wire from the OEM Harness. Then, twist both Black Wires from the LED Lights together and butt connect them to the black wire from the OEM Harness. (Fig U)

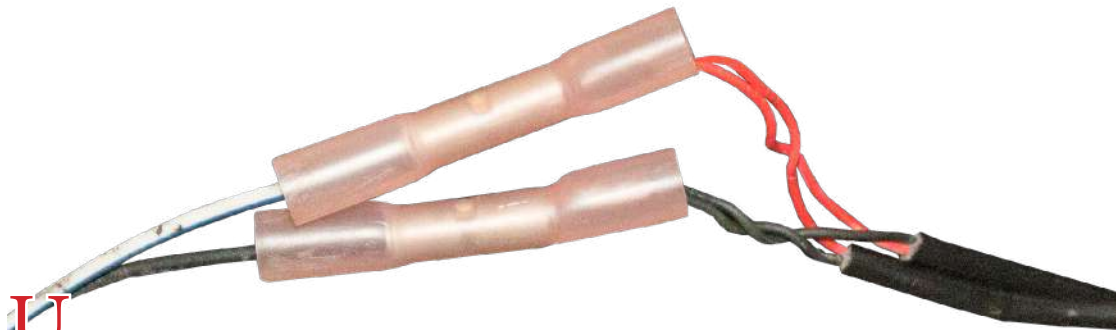


Fig U

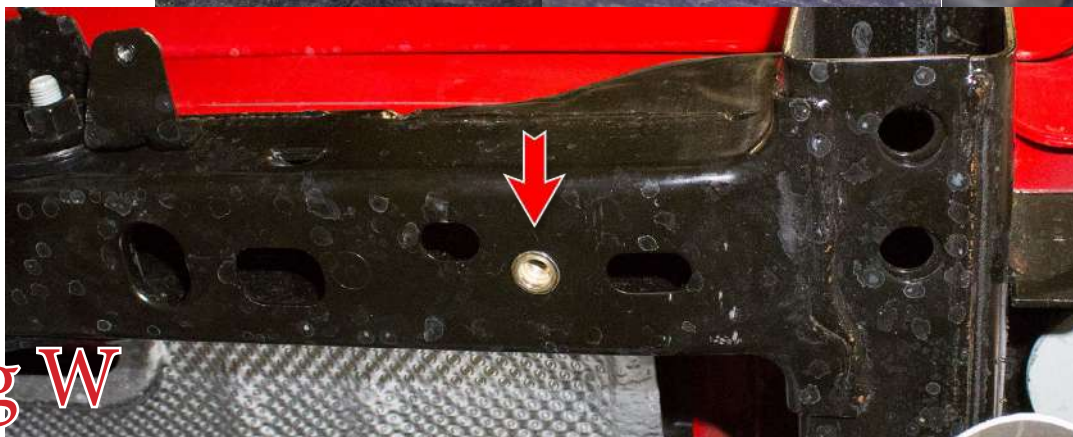
22. Re-cover the now exposed wiring with either electrical tape or wire loom and zip tie the OEM Bumper Harness how you would like it.



23. IF YOUR OEM BUMPER DID NOT HAVE THE BUMPER MOUNTING BOLTS REFERENCED IN STEP 3, FOLLOW STEPS 23 & 24. OTHERWISE, SKIP TO STEP 25. Find the holes on the bottom of the rear frame section. These holes are referenced in (Fig V) and are hexagon shaped. Take a 9/16" Drill Bit and drill them so they are circular.

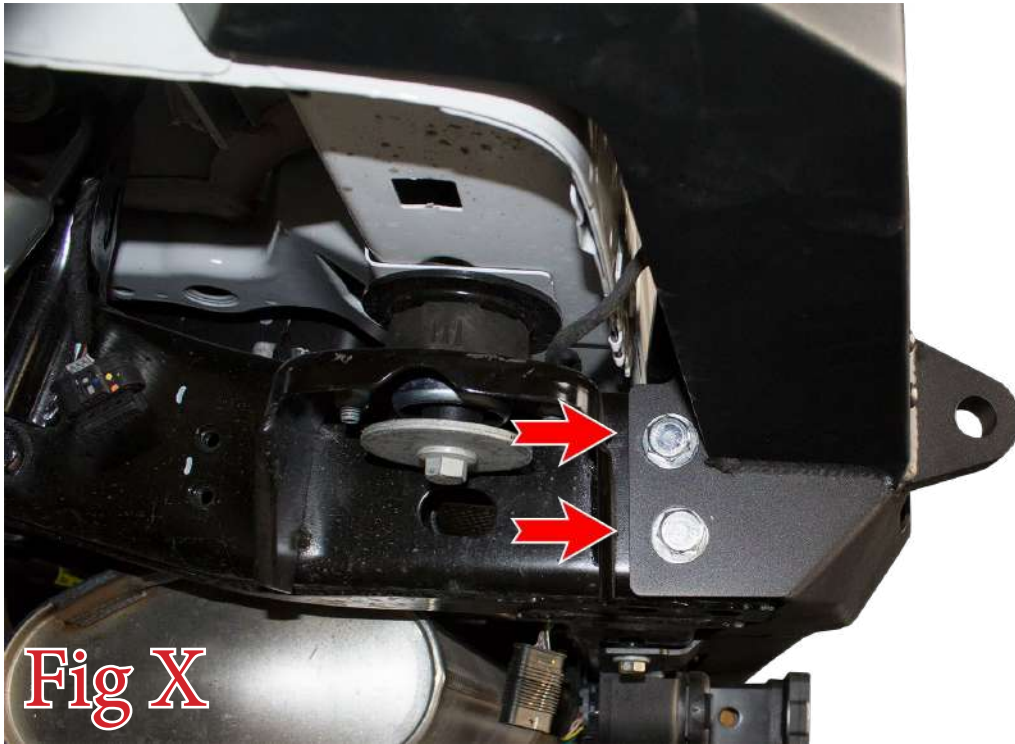


24. Find the supplied 3/8" Grade 8 Bolt (x1), 3/8" Grade 8 Washers (x2), and 1/2" Nut (x1). Assemble them as shown in (Fig W) to create a rivet nut installation tool. Once this tool has been assembled, place the supplied 3/8" Rivet Nuts in the newly drilled holes. Loosely thread the rivet nut installation tool into the rivet nuts. Then, while holding the 1/2" Nut steady, thread the rivet nut tool into the rivet nut until it gets tight. Once it is tight, back the tool out and the rivet nut will be set.





25. Set your new bumper in place on the vehicle. Secure it to the vehicle using the supplied M14 Bolts (x4) and M14 Washers (x4). **Do not reuse the stock bolts and leave these bolts loose for now.** (Fig X)



26. Use a 16mm Socket to install the lower bumper bolts that were set aside in Step 3. If your OEM bumper did not have those bolts, then install the supplied 3/8" Bolts (x2) and 3/8" Washers (x2) through these holes into your newly installed Rivet Nuts. (Fig Y)





27. Position the bumper so that it is straight in relation to the tailgate and is level when viewed from the side. Then, go back and tighten all mounting bolts to OEM torque specs.
28. Plug in the connector from Step 1 and reinstall the plastic clips that hold it in place.
29. Set the trailer plug bracket in place, then reinstall the two trailer plug bracket bolts from Step 3. (Fig Z)



30. Stand back and enjoy your new Stealth Fighter™ Rear Bumper.
31. Check and re-tighten, if needed, all mounting bolts after 100 miles and periodically thereafter.

