

Operation Manual

OFF ROAD BUMPERS CHEVY 3500 AND RAM 3500

YUWSEF ALBABDALHI, TJ ALLEN, MATTHEW BAKER, AND DEJA HUBBARD

Needed Tools

- Wrench of the correct size based on light pods as well as winch mounting bolts and nuts.
- Allen wrench

Assembly

Front Bumper Sub-assembly

Prior to placing the bumper on the vehicle place all the pod lights and the winch on the bumper in the specified location in figure 1. There are a total of four light pods to be installed on bumper. The mounting location will be the same on the opposite side of figure 1. To install light pods, place the light pod in the tab slot referenced in figure one and then bolt the light to the desired distance by attaching the bolt that came with the light pod. Check the alignment and location of the pod lights and winch on the bumper before completing the installation. This ensures that your off-road bumper project has optimal functioning and a polished finish.

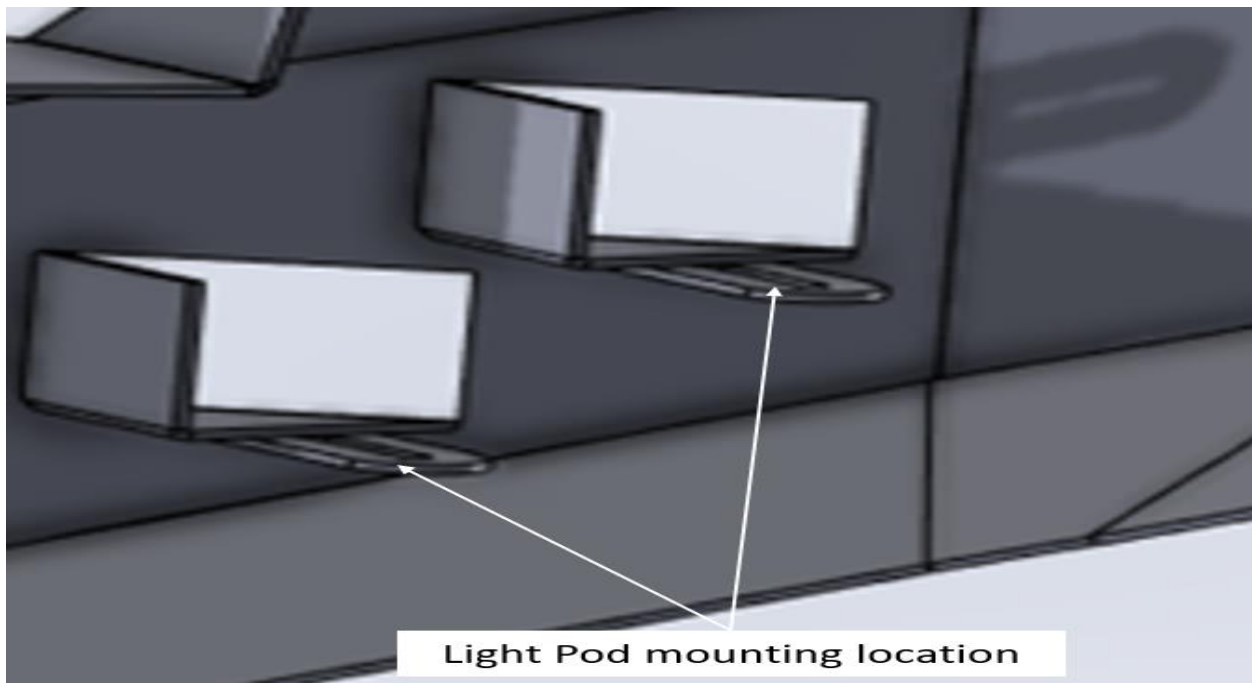


Figure 1: Mounting location of the light pods on the Front Bumper

To install the winch, place the winch in the desired location as shown in Figure 2. Use any of the designated holes that fit the purchased winch within the bumper with respect to the vehicle. After the winch is bolted down with the bolt provided with the winch to the specified torque per the operation manual of the winch. Install the cables per the winch operation manual. There will be limited space to perform the activity after the bumper is installed on the vehicle. The winch is installed by inserting it in the correct spot on the bumper. Use the suitable holes that correspond to the chosen winch, attaching it with the given bolts and according to the torque indicated in the winch's operation handbook. The

installation of cables should also adhere to the instructions in the manual. It's important to remember that once the bumper is put on the vehicle; space may be limited, emphasizing the significance of cautious and exact installation to avoid problems later.

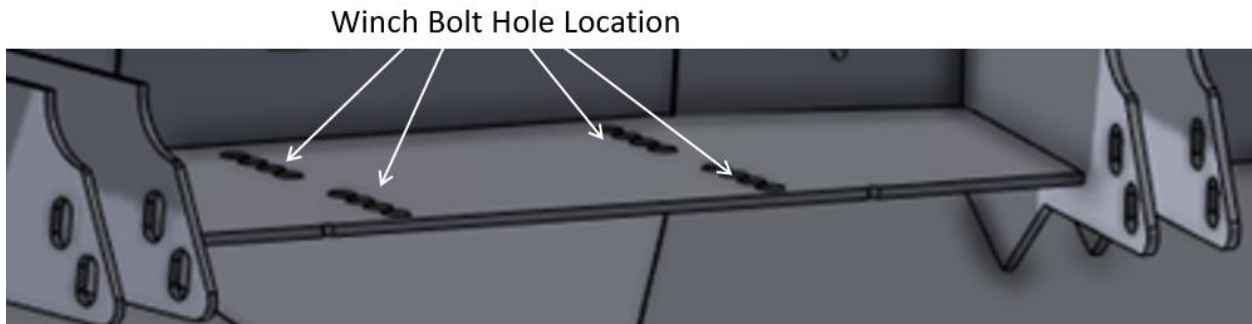


Figure 2: Winch Bolt hole location on Front Bumper

The last sub-assembly required is to install the license plate on the front of the bumper as shown in figure 3. Use the bolts that are present with the bumper. This phase not only completes the bumper's construction but also provides a practical role in terms of regulatory compliance. Properly securing the license plate contributes to the vehicles overall safety and compliance. By following this simple procedure, owners can easily improve both the appearance and usefulness of their automobiles while adhering to quality and safety regulations.

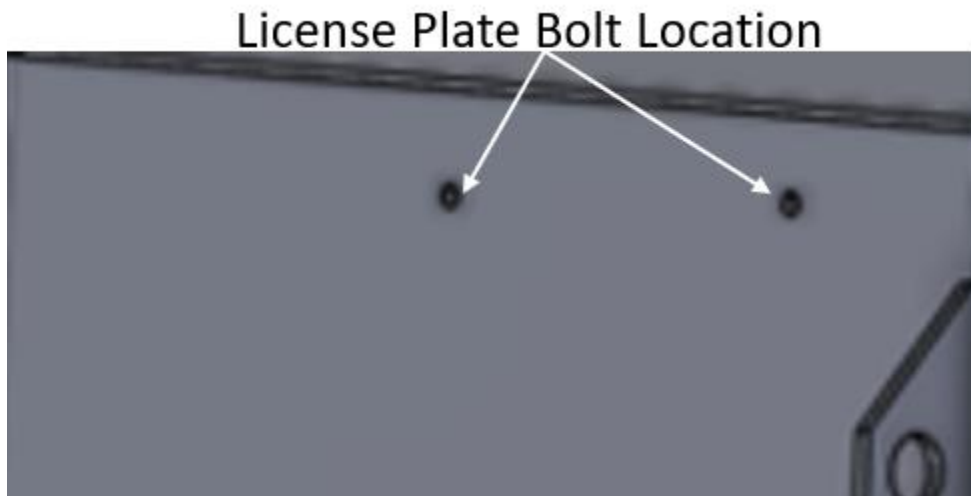


Figure 3: License Plate Location on Front Bumper

Front Bumper installation to Chevy 3500

With all the sub-assemblies installed it time to place the bumper on the vehicle. To do this place the bumper on the correct mounting location for the vehicle and place the 2 sets of bolts from the previous stock bumper and place through the frame of the vehicle and the bumper through the given holes shown in figure 4. The bumper mounts will sit outside the frame on both the left and right sides where the paired bolt will slide through the location shown in figure 4 as well as go through the frame of the

vehicle. Once the bolts are placed adjust the high and position of the bumper till the desired look is achieved and then torque the bolts to 50 lbf-in.



Figure 4: Mounting plate location for Front Bumper

Once the bumper is installed on the vehicle install the necessary wire to provide power to the pod lights and the winch.

Rear Bumpers Ram 3500 Sub-assembly

Back up sensors are to be installed prior to the installation of the bumper on the vehicle. Obtain new back-up sensor lights or remove the original set from the stock bumper. Reference figure 5 for the location of all backup sensors. Back-up sensors must be installed correctly to improve vehicle safety and help drivers during reversing movement. Following this rule ensures that the bumper blends in with the vehicle's current safety elements, contributing to a better overall driving experience.



Figure 5: Backup sensor location for Rear Bumper of Ram 3500

Light pod installation to install light pods place the light in the location referenced in figure 6. Once the desired distance is reached with the slot bolt the light down with the proved nut.

Light pod Location

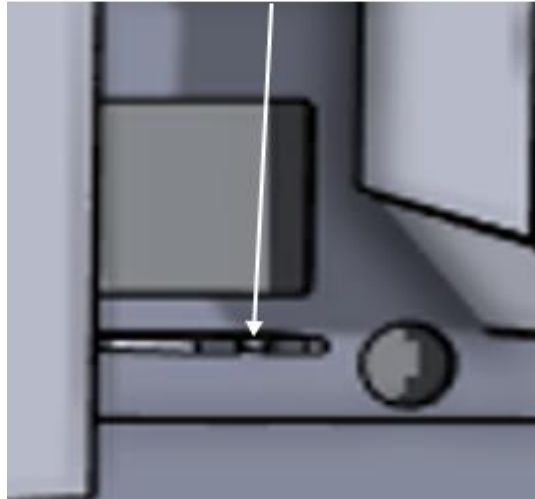


Figure 6: Light pod location

Install the stock license plate lights on the bumper in the location referenced on in figure 7. To install



Figure 7: License plate light locations (Figure is for reference only)

lights, place in the desired location and place the clip over the back of the light after the light is placed within the bumper.

Rear Bumpers Ram 3500 installation

With all the sub-assemblies installed it is time to place the bumper on the vehicle. To do this place the bumper on the correct mounting location for the vehicle and place the 2 bolts one for each side form the previous stock bumper. Place the bolts through the top and bottom hole as shown in figure 8 from the interior of the bumper and screw the bolts into the frame tell they are hand tight. Once the bolt's hand is tight, adjust the high and position of the bumper tell the desired look is achieved and then torque the bolts to 50 lbf-in.



Figure 8: Ram 3500 Rear bumper mounting location

Once the bumper is installed on the vehicle install the necessary wire to provide power to the back-up sensors as well as the pod lights and attach the license plate lights to their previous connection. This step is critical for the seamless connection of the bumper's functionalities with the electrical system of your car. By carefully controlling these connections, you not only improve safety features like backup sensors, but you also ensure that auxiliary components like pod lights and license plate lights work properly. Following this step-by-step procedure ensures a successful and completely functioning integration of your new bumper with your car.

Rear Bumpers Chevy 3500 Sub-assembly

Back up sensors are to be installed prior to the installation of the bumper on the vehicle. Obtain new back-up sensor lights or remove the original set from the stock bumper. Reference figure 9 for the location of all backup sensors. Purchase new backup sensor lights or gently remove the stock set from the bumper. Figure 9 shows a thorough plan of the designated sites for all backup sensors for exact sensor placement. This proactive measure improves the performance of the sensors and leads to a safer driving experience overall.



Figure 9: Rear Chevy 3500 backup sensor locations

Light pod installation to install light pods place the light in the location referenced in figure 10. Once the desired distance is reached with in the slot bolt the light down with the proved nut

Pod light Locations

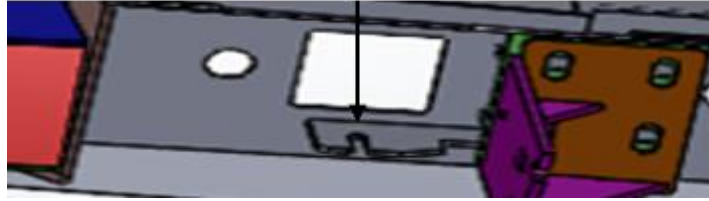


Figure 10: Pod light location for Chevy 3500

Rear Bumpers Chevy 3500 installation

With all the sub-assemblies installed it time to place the bumper on the vehicle. To do this attach the mounting bracket to the bumper by eight bolts four for each side. Reference figure 11 for the location of the four bolts attaching the mounting plate to the bumper.

Mounting Bracket Bolt Locations

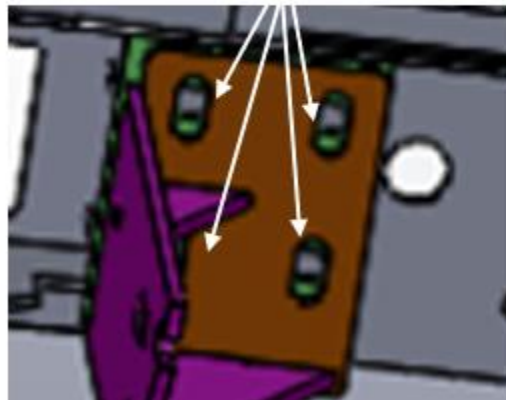


Figure 11: Mounting Bracket Bolt location

Once the mounting bracket is attached and hand tight place the bumper on the correct mounting location for the vehicle and place the pair of bolts through the frame in the same position as the previous stock bumper. Place the paired bolt through the side of the mount through mount and the frame. Also place a bolt through the bottom of the mount and tighten all three bolts to 50lbf-in. Once the bumper is attached adjust the high and position of the bumper till the desired look is achieved and then torque the eight bolts connecting the mounting bracket to the bumper to 50 lbf-in.. Once the bumper is attached adjust the

height and position of the bumper tell the desired look is achieved and then torque the eight bolts connecting the mounting bracket to the bumper to 50 lbf-in.

Frame Bolt Locations

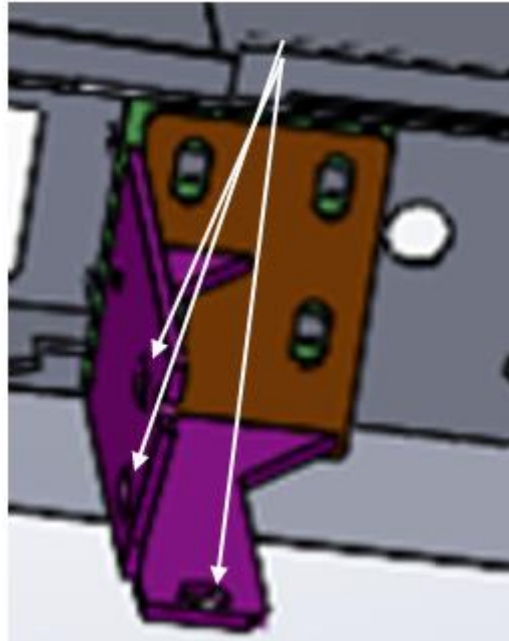


Figure 12: Frame Bolt location for Chevy 3500

Once the bumper is installed on the vehicle install the necessary wire to provide power to the back-up sensors as well as the pod lights and attach the license plate lights to their previous connection and or install new license plate above license plate.

Disassembly

All Bumpers

To disassemble them remove any and all electrical components, when possible, by unplugging them from the vehicle if possible. Next, remove the nuts for the mounting location as shown in the assembly. Ensure to leave the bolts in place to support the bumper weight. Finally, assistance may be required to lift the bumper taking the weight of the bolts so they can be removed from there housing and the bumper can be pulled off the vehicle safely. For additional disassembly of the sub assemble preform the assembly instruction in the reverse order.

Operation

Front Bumper Chevy 3500

Follow these step-by-step instructions to ensure a smooth experience:

- To operate pod lights, turn on fog lights; the pod lights are intended to improve visibility and light up the off-road surroundings.
- To operate the winch, attach remote and or another controller.
 - See winch operation manual or details; maintain a straight line of vision from the remote and the winch when utilizing the remote control.

By following these instructions, users may maximize the performance of the Chevy 3500 front bumper, assuring the smooth and effective operation of both the pod lights and the winch.

Rear Bumper Ram 3500 and Chevy 3500

Follow these step-by-step instructions to ensure a smooth experience:

- To operate Pod lights, turn on the switch located within the tab and/or place the vehicle in reverse.
- Backup sensors will be operational any time the vehicle is in reverse.

Maintenance

Maintaining the longevity and appearance of your bumpers is critical for durability and visual appeal. Here are some pointers to help you maintain the high standards and strength of all of our bumpers:

All Bumpers

- No maintenance is required for these parts; for there are no moving parts and for parts that will break down over time, they will require maintenance.
- Ensure that powder coating remains on the bumper and even if chipping occurs; repair the powder coating if possible or apply some rust prevention.

Trouble Shooting

Follow these instructions for troubleshooting to confirm that all components are performing and functioning properly.

All Bumpers

- In case any of the pod lights and or license plate light isn't working, verify that power is present at the light. Once power is identified to be at the light, verify that the bulb isn't burnout if the light is not an LED. If it's LED and power is received at the light, replace the light.
- If the winch isn't operational, verify that power is present at the winch. If winch had power, refers to the winch operational manual to continue to trouble shoot.
- In the case that the backup sensors are not functioning, verify that power is reaching the sensors. If power is at the sensor, remove and replace the backup sensor.