# INSTALLATION GUIDE

## LEXUS GX460 BASE & STC REAR BUMPER


EXPEDITION ONE

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## SKILL LEVEL - 5 STARS ★★★★★

| | |
|---|---|
| 1 STAR ★☆☆☆☆ | EASY - No tools required |
| 2 STARS ★★☆☆☆ | BASIC - Requires standard tools, basic mechanical knowledge and understanding |
| 3 STARS ★★★☆☆ | MODERATE - Requires standard tools. Some drillling and/or cutting. |
| 4 STARS ★★★★☆ | ADVANCED - Requires speciality tools. Drilling, cutting, and/or welding |
| 5 STARS ★★★★★ | EXPERT - Professional installation recommended. |

## DISCLAIMER

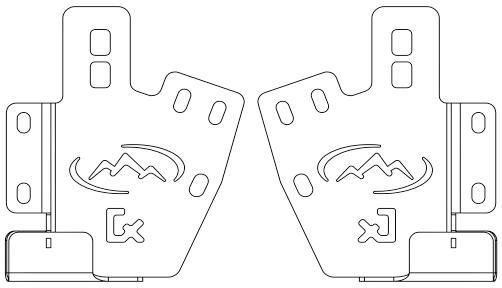
Expedition One is not responsible for any damages to vehicle or injury.
We always recommend professional assistance when installing our vehicle products.

Always follow safety procautions including the use of safety gear and devices.

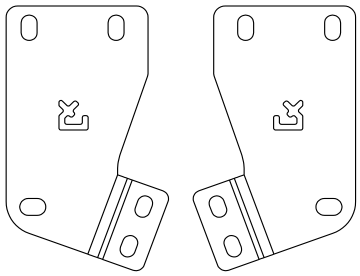
# BUMPER HARDWARE

NOT TO SCALE

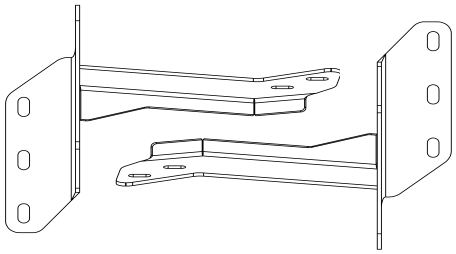
REAR BUMPER HARDWARE - BASE & STC



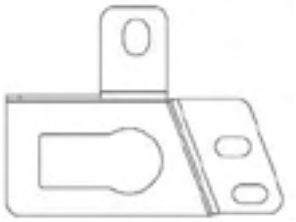
Mounting Bracket 1



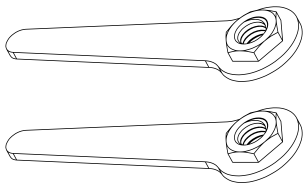
Mounting Bracket 2



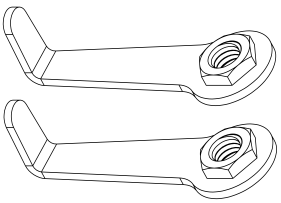
Mounting Bracket 3



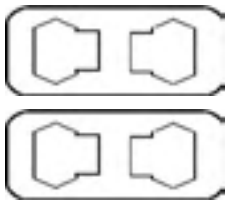
Hitch Plug Bracket



Welded Nut Flat



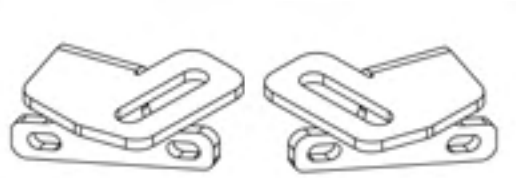
Welded Nut w/ Bend



Two Hole Spacer

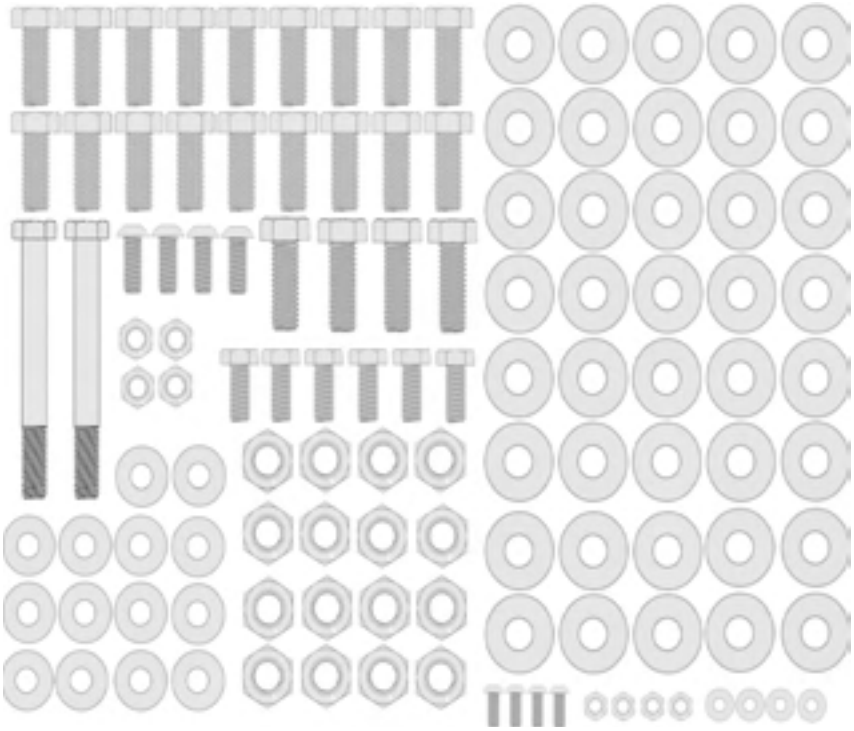

GX STC Tread Plate

| | |
|---|---|
| Tread Plate HW Kit 10 Pack | 2 |
| 1/4”-20 X 3/4”Button Head | 20 |
| 1/4”-20 Nylock Nut | 20 |



Light Port Mounts

| | |
|---|---|
| Sensor Bezels | 4 |

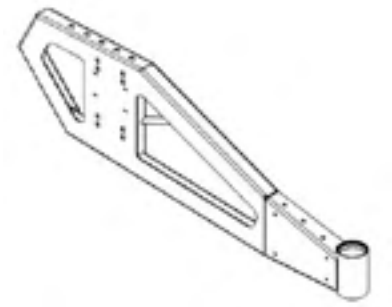


Rear Bumper Hardware

| | |
|---|---|
| 1/4”-20 X 3/4” Button Head Bolt | 4 |
| 1/4”-20 Nyloc Nut | 4 |
| 1/4” USS Washer | 4 |
| 3/8”-16 X 1” Button Head Bolt | 4 |
| 3/8”-16 Nyloc Nut | 4 |
| 3/8” USS Washer | 14 |
| 1/2”-13 X 1 1/2” Hex Cap Bolt | 18 |
| 1/2”-13 X 4 1/2” Hex Cap Bolt | 2 |
| 1/2”-13 Nyloc Nut | 16 |
| 1/2” USS Washer | 40 |
| M8 - 1.25 X 30 Hex Cap Bolt | 6 |
| M12 - 1.25 X 45 Hex Cap Bolt | 4 |

# STC HARDWARE

NOT TO SCALE

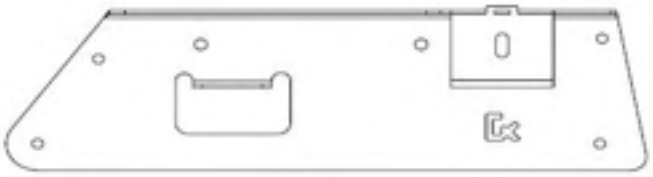


GX STC Swing Arm

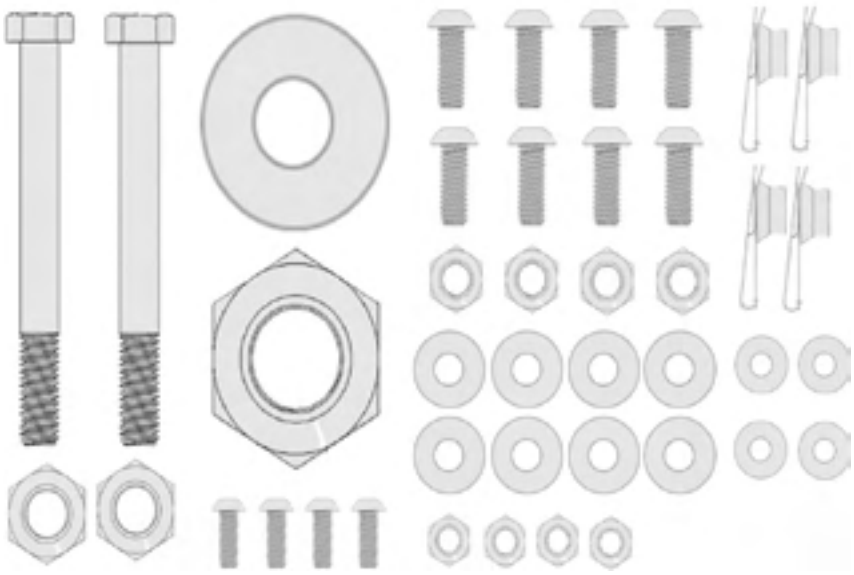
Swing Arm Logo Plate

Internal Door Plate

Door Plate Template



Door Plate



| Swing Arm Coupler | |
|---|---|
| 1/2”-20 Thread Rod | 1 |
| 1/2”-20 Nut | 2 |
| End Joint | 2 |
| Copper Spacers | 8 |

| Swing Arm Kit | |
|---|---|
| Hub Cover w/ O-Ring | 1 |
| Grease Seal | 1 |
| Bearing | 2 |
| Anti-Seize Packet | 1 |

| Bump Stop Kit | |
|---|---|
| Bump Stop | 1 |
| Bumper Stop Spacer | 1 |
| M8-1.25X35 Hex socket | 1 |
| M8-1.25 Nyloc Nut | 1 |

| Wheel Lug Kit | |
|---|---|
| 12 X 1.5 Stud | 3 |
| 12 X 1.5 Lug Nut | 3 |
| Offset Spacer | 3 |
| 1” Washer | 1 |

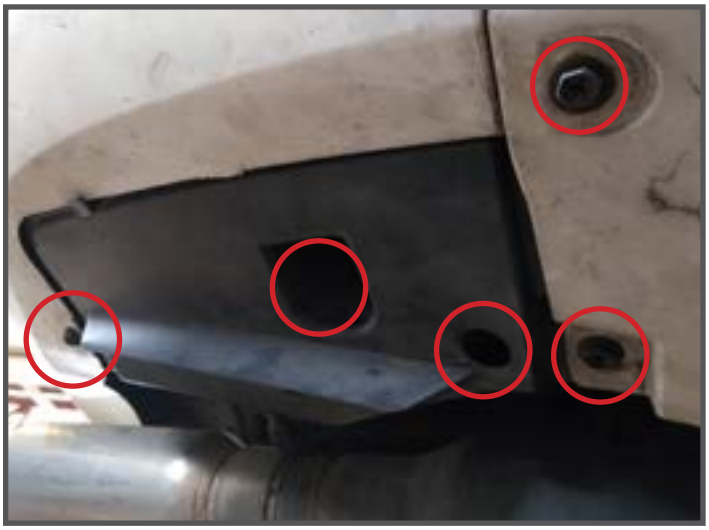
| STC Hardware | |
|---|---|
| 1/4”-20 X 3/4” Button Head Bolt | 4 |
| 1/4”-20 Nyloc Nut | 4 |
| 1/4”-20 USS Washer | 6 |
| 5/16”-18 X 1 1/4” Button Head Bolt | 8 |
| 5/16”-18 Nyloc Nut | 4 |
| 5/16”-18 Clip Nut | 4 |
| 5/16” USS Washer | 8 |
| 1/2”-13 X 3 1/2” Hex Cap Bolt | 2 |
| 1/2”-13 Jam Nyloc Nut | 2 |
| 1”-14 Nyloc Nut | 1 |
| 1” SAE Washer | 1 |
| M6 - 1.0 X 25 Hex Cap Bolt | 2 |

| Tire Mount | |
|---|---|
| Universal Tire Mount | 1 |
| GX Type Arm Mount | 1 |
| 3/8”-16 X 1 1/4” Hex Cap Bolt | 4 |
| 3/8” Nyloc Nut | 4 |
| 3/8” USS Washer | 8 |
| 1/2”-13 X 1 1/4” | 3 |
| 1/2”-13 Nyloc Nut | 3 |
| 1/2” USS Washer | 6 |

# BUMPER REMOVAL

## 1 REMOVE OEM BUMPER HARDWARE

Remove the rear bumper OEM hardware as circled below for each side of the vehicle.



Underside panel and hardware.

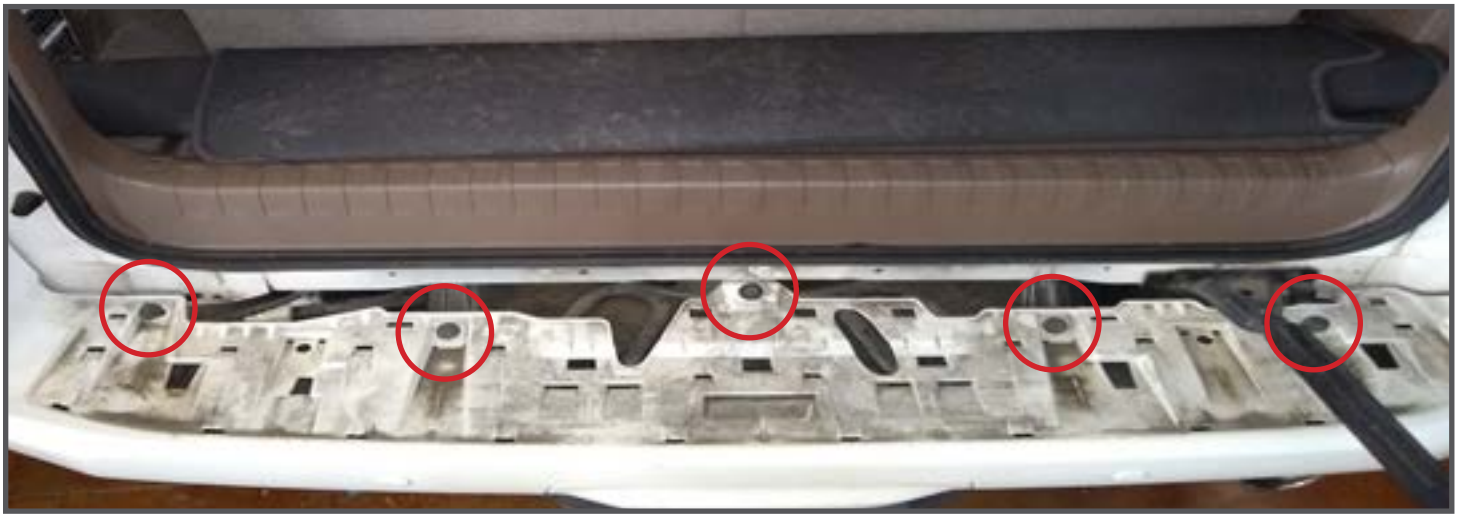
Wheelwell panel (shown Removed) and hardware.

Hardware above the hitch receiver.

Driver's side of tailgate opening.

Remove the rear tread plate by pulling at the corner and away from the vehicle.

CONTINUED



Remove hardware underneath tread plate

Disconnect the parking sensors from the bezels. Be care to not break any clips or parts of the bezel as they will be reused in the new bumper. Remove the bezels once the bumper is removed in step 2

Disconnect all wiring harness connectors

# BUMPER TRIMMING

## 2 BUMPER REMOVAL

Check for any remaining hardware connecting the bumper. Remove the bumper by pulling it away from the corner near the wheelwells.

## 3 BUMPER TRIMMING

Measure 7” from the top of the bumper corner and mark the location. Use this point to create a line around the bumper to the rear lights and tread plate area. Mask the cutting line with tape for a guide line and to protect the edge during cutting.


2010 - 2013 Rear Bumper

2014 - Rear Bumper

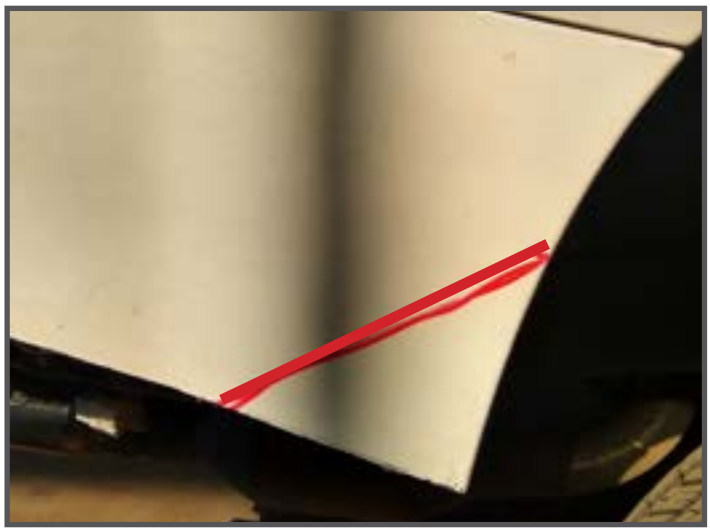
2010 - 2013 Rear Light

2014- Rear Light

It is recommended that the area underneath the lights be trimmed closer as shown to allow room for the upper corners of the bumper.

## 4 WHEELWELL CORNERS

Measure as shown from the top edge of the wheelwell corner to 4". From this point draw a angled line shown below right to the bottom edge. Cut and remove this triangle section from the bumper, repeat for the other side.



# FRAME MODIFICATIONS

## 5 FRAME MODIFICATION AND HITCH RECIEVER

The mount area shown below will need to be removed from both sides of the rear cross frame. Remove the piece and finish the area with paint the prevent rust. Next unbolt the hitch reciever plug from the hitch to provide access and room to mount brackets.

## 6 BRACKET CUT OUT

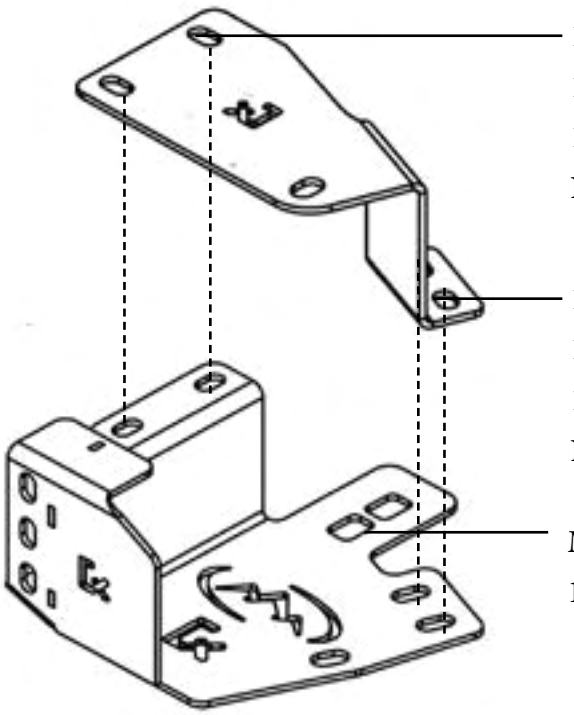
With the bottom of the bumper portion cut, remove any foam remaining on the underside for test fitting. Place the rear bumper brackets as shown on the rear cross member, and loosely mount with 1/2" hardware if needed. Once the brackets are in place, reattach the bumper on the vehicle and trace a section around the bracket (circled). Repeat this step for the other side and remove the bumper to cut out the sections.

## 7 FRAME HARDWARE REMOVAL

Remove the plates located under the cross member above the hitch receiver. Also remove the tow hook on the drivers side and hardware on both sides from the frame location.

If using the factory trailer hitch use the provided two hole spacer when mounting the rear mounting brackets to the underside of the frame.

## 8 MOUNTING BRACKETS TO CROSS MEMBER



| | |
|---|---|
| 1/2”-13 X 1 1/2” Hex Cap Bolt | 3 |
| 1/2”-13 Nyloc Nut | 2 |
| 1/2” USS Washer | 5 |
| Nut Retainer | 1 |
| 1/2”-13 X 1 1/2” Hex Cap Bolt | 3 |
| 1/2”-13 Nyloc Nut | 2 |
| 1/2” USS Washer | 5 |
| Nut Retainer | 1 |
| M12 - 1.25 X 30 Hex Cap Bolt | 2 |
| 1/2” USS Washer | 2 |

# MOUNTING BRACKETS

## MOUNTING BRACKETS TO CROSS MEMBER - CONTINUED

Attach mounting brackets 1 and 2 as shown to the ends of the rear cross member. Remove hitch plug from OEM mount and insert into provided bracket for attachment to driver's side bracket. Mount using the provided hardware. Leave all hardware loose for adjustment.

Position mounting bracket 1 and 2

Attach hardware

Hardware shown behind cross member

Underside (driver's side) with hitch plug bracket

Use the provided nut retainers to attach cross member bolts top and bottom

## 9 OEM BUMPER INSTALLATION

With the brackets mounted reattach the OEM bumper. Mount all hardware on interior opening.

Before reattaching the interior tread plate, trim along the first ridge as shown for the entire tread plate. Once trimmed reattach the tread plate and plastic trim.

# BUMPER INSTALLATION

## 10 BUMPER TREAD PLATE

Attach the tread plate to the bumper before mounting to the vehicle. Start from the center and flatten the tread plate out as you work towards the ends while mounting. Leave hardware loose while installing, only tighten once all tread plate hardware is in place.

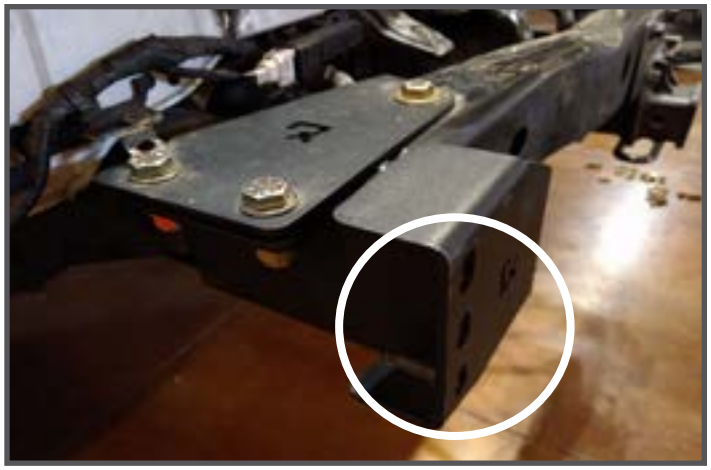
## 11 WIRING HARNESS

Reinstall the wiring harness into the new bumper. Place all wiring out of the way of mounting points and hardware locations. Check that the wiring loom connectors match there original points of connection per each side of the vehicle. Reattach all bezels and sensors. When using the provided replacement rubber bezels use WD40 and align the flat edge directional to the pointed surface when fitting.

## 12 BUMPER MOUNTING

With the tread plate installed mount the bumper can now be mounted to the vehicle. Mount the bumper using the hardware shown. Leave all hardware loose for adjustment.

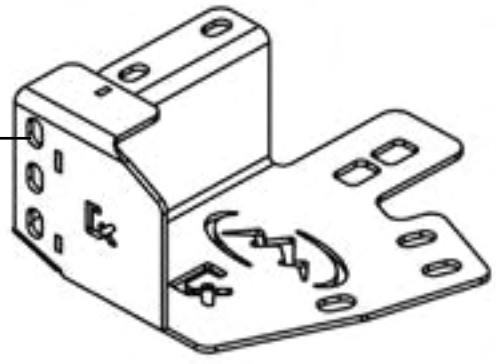
Mount the provided light port brackets at this time to allow for easier access. Attach using the provided 1/4" hardware.



Mounting Location

Make sure the bumper tread plate slides over the orignal tread plate panel and bumper when installing

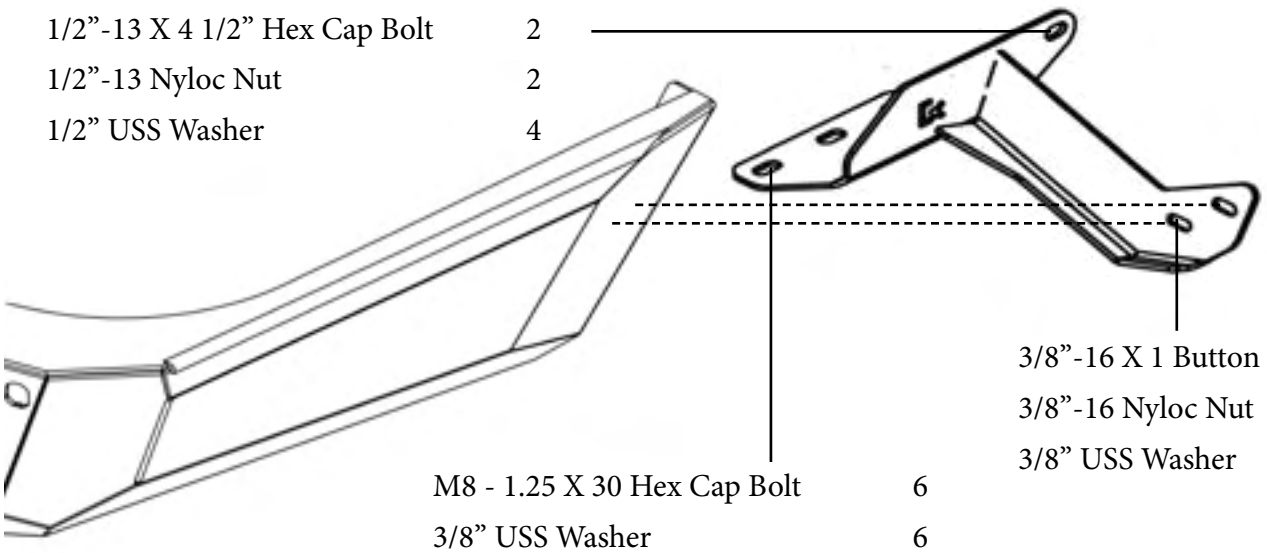
| | |
|---|---|
| 1/2"-13 X 1 1/2" Hex Cap Bolt | 3 |
| 1/2"-13 Nyloc Nut | 3 |
| 1/2" USS Washer | 6 |



## 13 MOUNTING BRACKETS

With the bumper in place mount the wheel well brackets as shown. Mount using the hardware listed. 1/2" hardware will mount thought the frame rails and may require removing covers or caps over the hole locations. Leave all hardware loose for adjustment.

| | |
|---|---|
| 1/2"-13 X 4 1/2" Hex Cap Bolt | 2 |
| 1/2"-13 Nyloc Nut | 2 |
| 1/2" USS Washer | 4 |



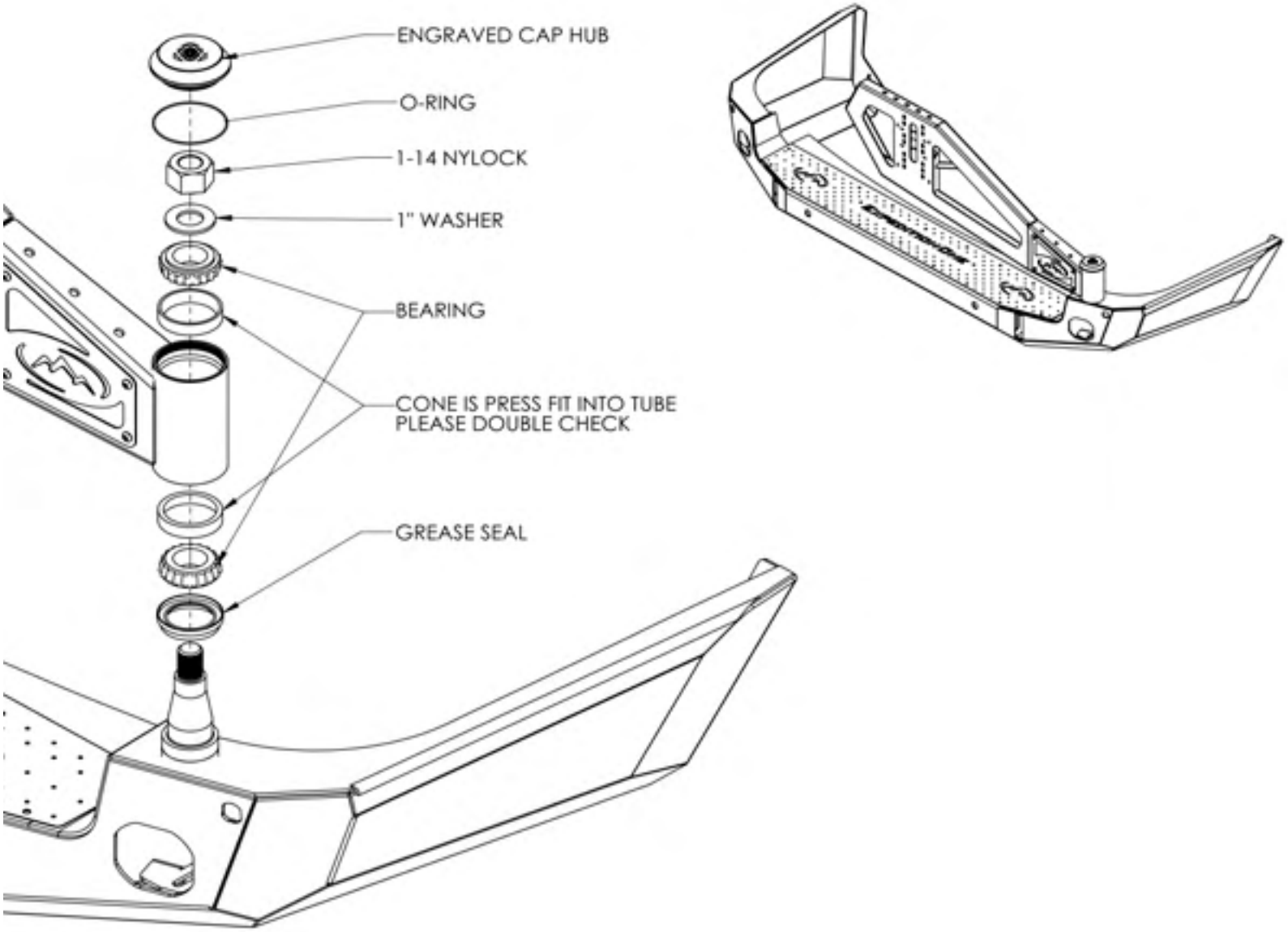
| | |
|---|---|
| 3/8"-16 X 1 Button Head Bolt | 4 |
| 3/8"-16 Nyloc Nut | 4 |
| 3/8" USS Washer | 10 |

| | |
|---|---|
| M8 - 1.25 X 30 Hex Cap Bolt | 6 |
| 3/8" USS Washer | 6 |

## 14 TIGHTEN ALL HARDWARE

Check that all brackets and hardware have been installed. Once complete align and center the bumper with the vehicle. Even and equally space all gaps and spaces with the vehicle. Tighten all hardware.

# STC SWING ARM




## 15 BOTTOM BEARING AND GREASE SEAL

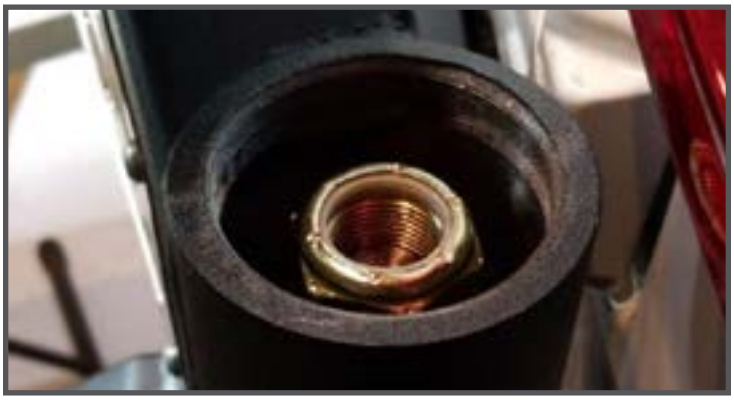
Grease Bearings using marine-based lithium grease. Install the first bearing into the bottom of the swing arm. Then place a grease seal inside the bottom of the arm.

## 16 SWING ARM INSTALLATION

Place the arm on the spindle and move the arm until it falls into place. Insert the bearing into the top of the arm.

## 17 SWING ARM MOUNTING

Place the washer into the swing arm, then insert the nut over the bolt. Tighten the nut using a 36mm socket. Don't over tighten to prevent binding.



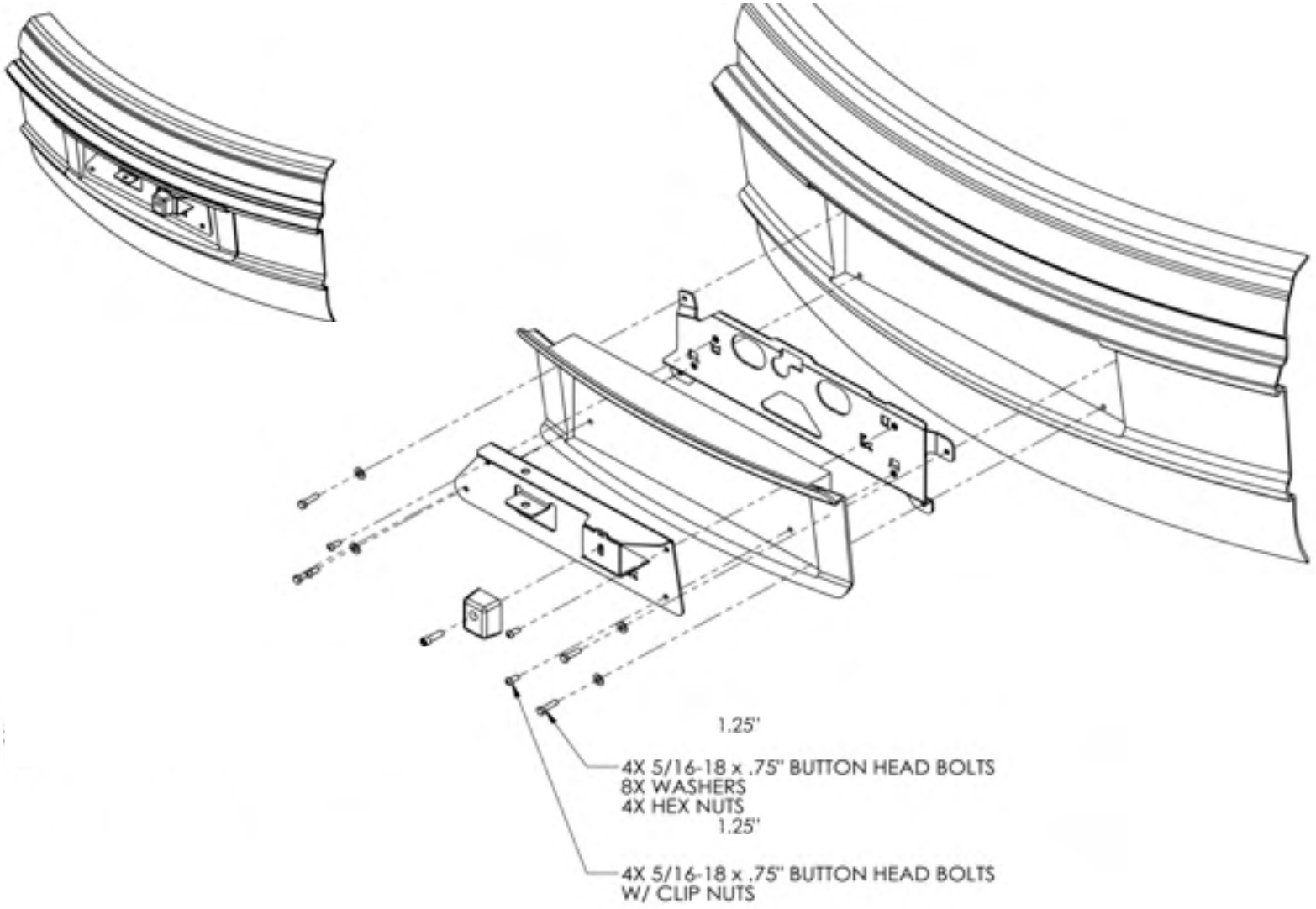
## 18 HUB CAP

Ensure that the inside of the spindle and its contents are coated thoroughly. Check that the hub cap has a o-ring and spread anti-sieze around the cap thread before tightening on the arm.

NOTE - CARE & MAINTANCE

Always be sure to use the anti-seize when installing and re-installing your hub cover, otherwise removal will be very difficult! Remove your hub cover and check inside your hub assembly regularly. If you live in a dry climate and off-road a "standard" amount, we would recommend you check your hub assembly at least once per year. If you live in a wet climate, humid climate, or a climate with extremes, we would recommend you check your hub assembly quarterly or with season changes. Climates with heavy salt content are some the harshest conditions on your components and may need to be checked more frequently. Regrease as needed. USE 36MM SOCKET FOR NUT

# DOOR PLATE




ASSEMBLY DIAGRAM

NOTE - Both the license plate panel and interior door trim will need to be removed

- The internal door plate mounts behind the license plate panel as shown. Not inside of the door or the interior side of the vehicle.

# 19 TRIM AND DOOR PLATE REMOVAL

Remove the interior trim panel by removing the hardware behind the storage pockets and pulling the ends away from the door. Pull back the plastic cover to gain access to the hardware. Unbolt the hardware connecting the exterior door panel and handle as well as disconnecting wiring before removing.

Remove the center section

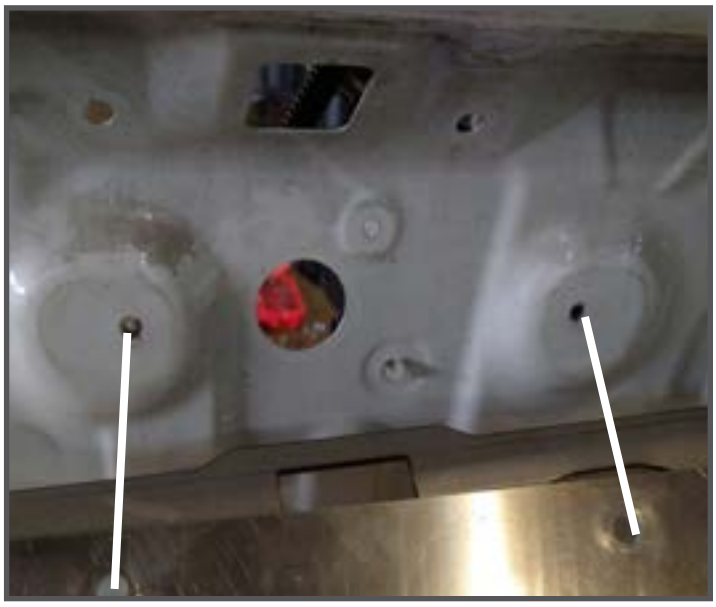
Unclip the sides, pulling towards the middle of the door

Hardware Locations

Hidden clip location

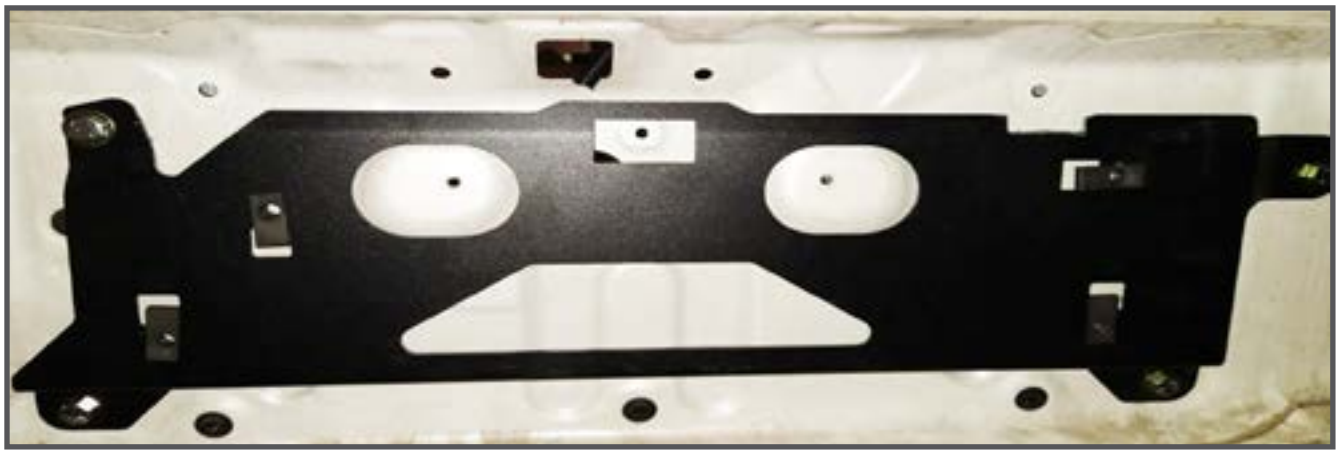
## 20 DRILLING TEMPLATE

Start by taking the internal door plate and placing the template over the top - lining up the holes. Take the template and internal door plate and match them to the rear door license plate holes. With the internal door plate in place mark the locations (as circled). Drill the holes to fit 5/16" hardware and paint to prevent rust.  The plates can be bolted together to help align the template.



## 21 INTERNAL DOOR PALTE MOUNTING

Attach the clip nut hardware into place and mount the internal door plate to the rear door using 5/16" hardware.

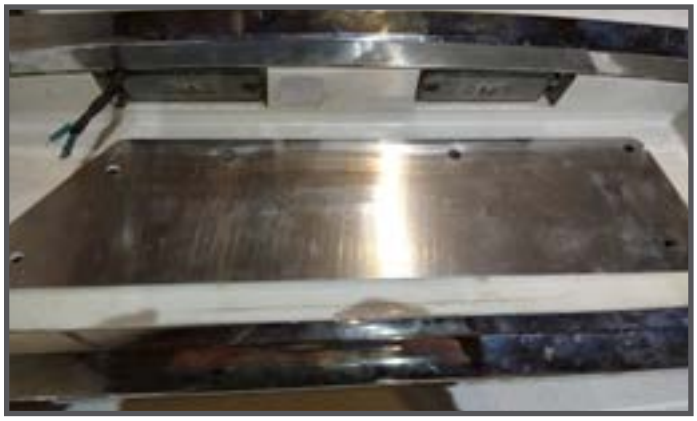


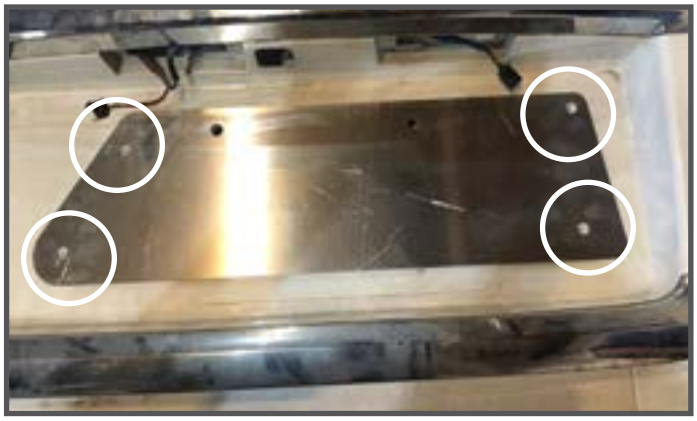
## 22 DOOR PANEL DRILLING

Align the door template with the license plates holes on the exterior door panel and mark the locations (as circled) for drilling holes to fit 5/16" hardware. Once completed reattach the exterior door panel to the rear door. Mount all hardware inside the door and reapply the plastic cover before replacing interior trim

NOTE

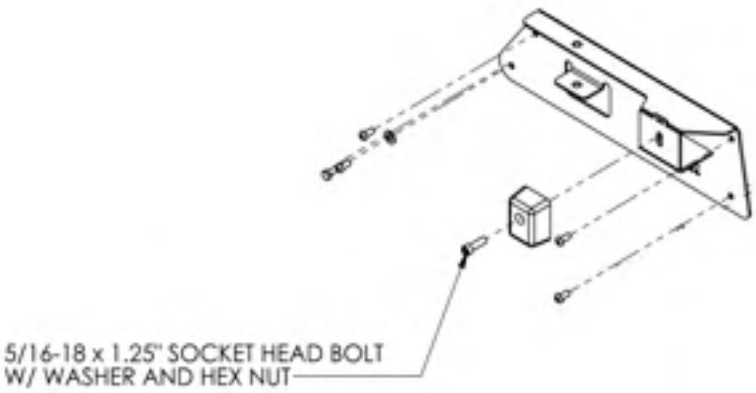
If attaching accessories for back up camera or license plate bracket see those instructions for wiring and other hardware before replacing door panel or interior trim.

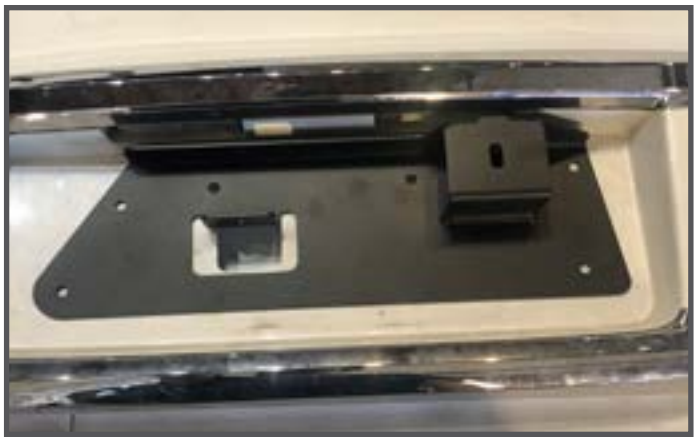




## 23 DOOR PLATE MOUNTING

Attach the provided bump stop and hardware to the door plate. Once completed attach the door plate to the exterior door panel using 5/16" hardware.



## 24 SWING ARM ATTACHMENT

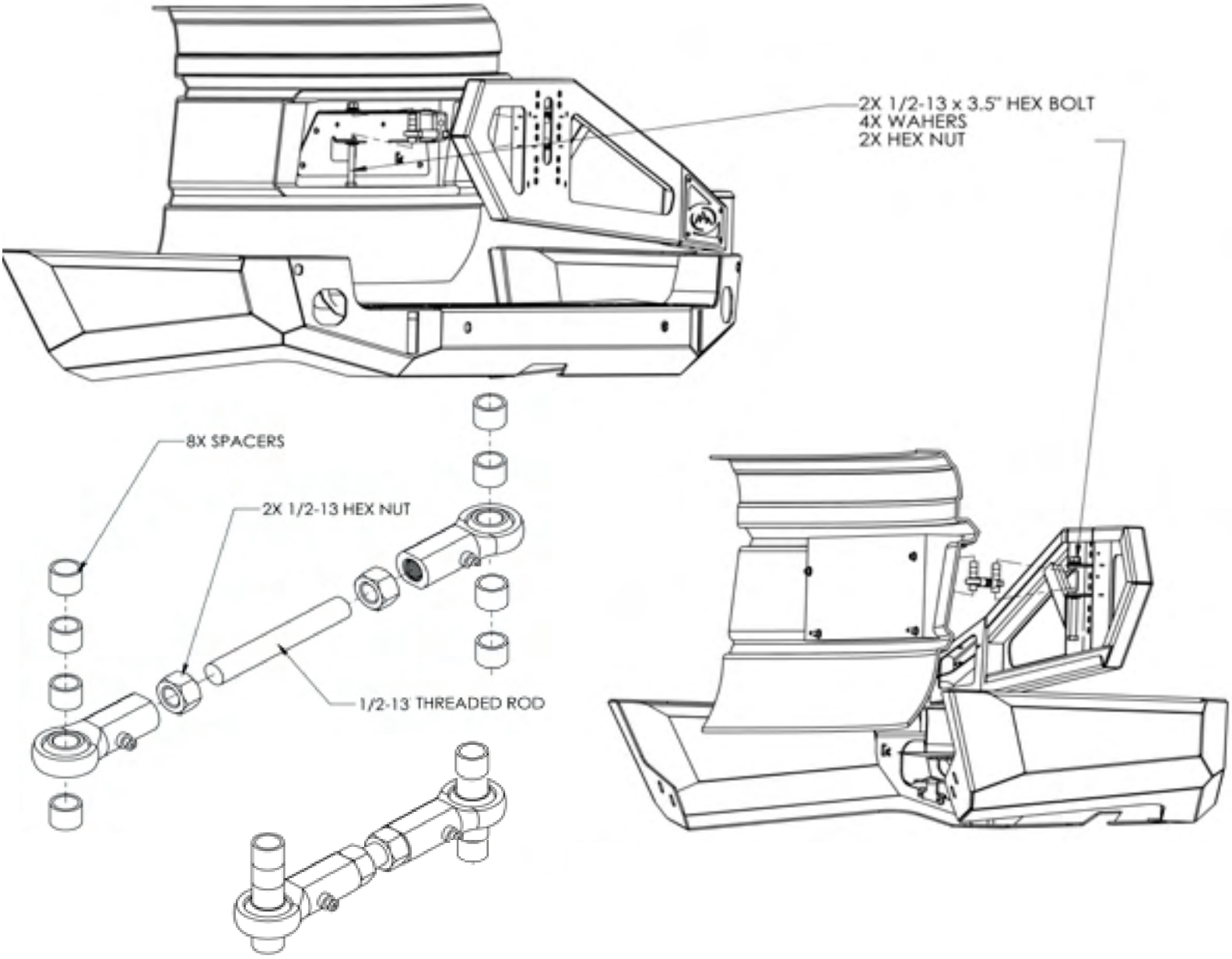
Connect the swing arm and door as shown using the provided hardware and coupler with spacers.

DO NOT TIGHTEN BOLTS WITH NUTS UNTIL ADJUSTMENTS ARE COMPLETE

Overall, you want the carrier to be snug against the rear door. The coupling joints are the key to this. With the rear gate and carrier in the closed position, you can now start the adjustment of the coupling joints. You may need to adjust the height of the coupling joints with the spacers so it doesn't bottom-out.

NOTE: The door and the carrier swing at slightly different angles. With the tire carrier installed and the door in the closed or almost closed position, the bump-stop needs to be making contact with the door. Adjust the coupling joint so that when the door is open and is 1 inch from closing, the bump-stop initially contacts the door mount plate on the tail gate (this may need to be adjusted later when the spare tire is mounted to the carrier). You want the carrier to shut and be snug but not overly tight.
If the door swings with little or no binding the installation can now be completed. Check the swing of the arm, if there is little or no binding you may finish the install and tighten all hardware.

CONTINUED

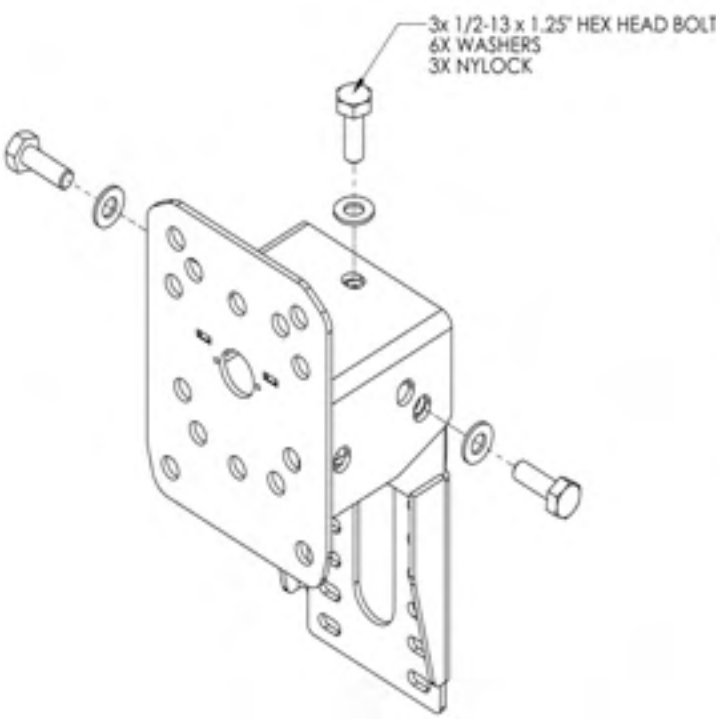


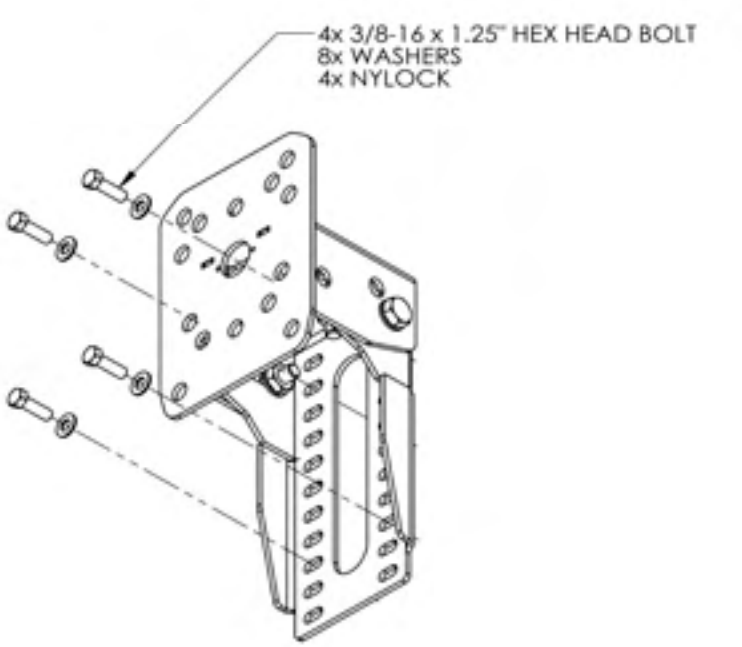

NOTE - DO NOT OVER TIGHTEN THE COUPLER
- Check that the door and swing arm are not binding and are adjusted accordingly
- Some movement in the carrier is normal as both the door and swing arm are serperate items. Do not over tigthen mounts or modify items to compensate for this.
- Check bearings and seal regularly for maintenance.

# 25 TIRE MOUNT INSTALLATION

Test fit your tire and rim size to the correct pattern and press in the provided studs (and spacers if needed dependeing on offset). Assemble the tire mount as shown with the provided hardware. Once completed mount to the swing arm using the 3/8" hardware. Tire mount position is dependent on tire and wheelsize and providing clearance for any hardware, accessories or OEM vehicle features sure as lights. Test fit or check for any interference before mounting and adjust to fit before tighten all hardware

TRIANGLE CUTOUT - TOP SIDE





NOTE

A narrow wheel with an extreme positive offset or a very wide tire may not work with the standard tire mount. Aftermark fitments vary and may not match the provided pattern or studs sizes.