

# INSTALL INSTRUCTIONS FOR 2014+ 4RUNNER (NON-LIMITED TRIMS) HIGH CLEARANCE REAR BUMPER

## READ INSTRUCTIONS THROUGHOUT BEFORE INSTALLING BUMPER!

Professional installation recommended. This install is fairly difficult and should only be attempted by someone with strong mechanical/fabrication knowledge and capabilities. If you lack the tools, knowledge, or capabilities; take it to or get help from someone that has them.

## DISCLAIMERS

- **NO TOW RATING! INTENDED FOR OFF-ROAD USE ONLY.**
- **REQUIRES CUTTING AND REMOVAL OF THE REAR FRAME CROSSMEMBER.**
- **REQUIRES ADDITIONAL HOLES DRILLED THROUGH FRAME RAILS.**
- **CUTTING OF PLASTIC BUMPER COVER IS REQUIRED.**
- **WILL NOT WORK WITH SPARE IN FACTORY LOCATION.**
- Designed for stock body height and suspension lifted vehicles only. Having a body lift will result in a different fitment than pictured. You will need to cut the plastic cover at a different height.
- Depending on wheel offset, you may have to run spacers in order to prevent the sides of the tire from hitting the swingout.
- Max recommended tire size is 35".
- Requires sensors in rear bumper cover to be removed.
- Swingout options will partially/fully block rearview camera.
- No guarantee on the swingout working with hatch mounted ladders.
- When running the swingout with a spare or extra weight from gear, you may experience a slight shake or bounce when hitting repetitive bumps.
- When running the swingout with a spare, the factory license location will be partially covered. You will need to relocate your license plate.
- The bumper is only shipped as raw steel. There may be evidence of anti-spatter spray, oils, areas with light surface rust, small amounts of weld splatter, and shallow scratches caused during manufacturing and/or shipping.
- Once again, **THE RECEIVER IS NOT RATED!!!** It was designed to be as strong as possible and comparable to the oem capacity, but **LEGALLY WE CAN NOT GIVE IT A RATING.** It is intended for offroad use only and towing a trailer or carrying any hitch mounted accessories on public roads/highways is at your own risk and the user takes all liability. We can not provide any insight or recommendations as to what you can safely tow. Use your best judgment.

- **WHAT'S INCLUDED:**

- **BASE BUMPER PARTS**

- 1X BASE BUMPER WELDMENT
- 4X ALUMINUM MOUNTING SPACER PLATE
- HARDWARE
  - 4X M12-1.75\*130MM HEX HEAD BOLT
  - 4X M12-1.50\*40MM FLANGED HEX HEAD BOLT
  - 4X M12 OVERSIZED WASHER, 13MM ID, 37MM OD
  - 4X M12 WASHER, 13MM ID, 24MM OD

- **SWINGOUT PARTS (OPTIONAL)**

- 1X SWINGOUT WELDMENT ASSEMBLY (LEFT OR RIGHT)
  - 1X ACCESSORY PANEL (OPTIONAL)
- 1X WHEEL MOUNT WELDMENT ASSEMBLY
- 1X PLASTIC SWINGOUT STRIKE PAD
- 1X ADHESIVE RUBBER STRIP
- 1X TOGGLE LATCH ASSEMBLY
- 1X PIN PLUNGER ASSEMBLY
- 1X PLUNGER STRIKE PLATE
- SPINDLE HARDWARE
  - 1X CASTLE NUT
  - 1X COTTER PIN
  - 1X CAP
  - 2X BEARING
  - 2X BEARING RACE (PRE-INSTALLED)
  - 1X PLASTIC SEAL
- HARDWARE
  - 2X M6-1.0\*25MM FLAT HEAD BOLT
  - 2X M6-1.0\*15MM BUTTON HEAD BOLT
  - 4X M6-1.0\*8MM BUTTON HEAD BOLT
  - 2X M6-1.0\*14MM FLANGED BUTTON HEAD BOLT
  - 4X M6-1.0 NYLON LOCKNUT
  - 3X M12-1.5 LUG NUT
  - 4X M12-1.75\*30MM HEX HEAD BOLT
  - 4X M12-1.75 NYLON LOCKNUT
  - 4X M12 WASHER, 13MM ID, 24MM OD
- 1X CAMP TABLE (OPTIONAL)
  - 1X DRAW LATCH ASSEMBLY
  - 2X OFFSET HINGE
  - 2X 18" EYE TO EYE LANYARD
  - HARDWARE
    - 14X M5-0.8\*15MM BUTTON HEAD BOLT
    - 10X M5-0.8 NYLON LOCKNUT
    - 4X PUSH-IN RUBBER BUMPER

\*HARDWARE IN PICTURES MAY BE DIFFERENT THAN WHAT'S ACTUALLY INCLUDED.

## **WHAT YOU WILL NEED:**

- PERSONAL PROTECTIVE EQUIPMENT!!! (SAFETY GLASSES, FACE SHIELD, RESPIRATOR, GLOVES, AND PROPER SHOES AND CLOTHING)
- SOCKET AND WRENCH SET (REMOVING STOCK BUMPER, HITCH, AND INSTALLING NEW BUMPER HARDWARE)
- METRIC ALLEN WRENCHES
- ANGLE GRINDER WITH CUT-OFF WHEELS, FLAP SANDING DISKS, AND WIRE-WHEEL
- DREMEL TOOL WITH CUT-OFF WHEELS
- DRILL WITH BITS
- HAMMER
- BLACK SPRAY PAINT
- SANDPAPER / FILES / DEBURRING TOOLS
- PAINTERS TAPE
- SHARPIE / PEN / PENCIL
- TAPE MEASURE
- CENTER PUNCH
- SMALL FLATHEAD SCREWDRIVER
- AUTOMOTIVE GREASE
- MECHANICAL KNOWLEDGE AND ABILITIES
- ZIP TIES

## **BASE BUMPER INSTALL STEPS**

### **STEP 1: PREP THE WORK AREA**

- If the bumper and frame is covered in mud, wash it.
- Spray penetration fluid on any nuts/bolts you'll be removing.
- Unplug any sensors or lights mounted in the rear bumper cover.
- If your exhaust runs under your frame rail and prevents easy access to the bolts, remove the hanger bushing and pry and tie the exhaust end off to the side.



### **STEP 2: REMOVE STOCK COMPONENTS**

Remove the following stock components.

- Plastic bumper cover and foam pad.
- Rear splash guards.
- Trailer harness plug and bracket. (Also remove plug from bracket).
- Any tie down or tow hooks mounted on underside of the frame rails.
- Receiver/hitch.
- Save all hardware.



### STEP 3: CUT OFF REAR CROSSMEMBER

1. Clean the areas on either side where the crossmember meets the inside wall of the frame rails.
2. Put some painters tape on the top, front, and bottom of the crossmember.
3. Using a flexible straight edge, rest it against the inside wall of the frame rail and draw a line on the tape on the top of the crossmember.
4. Repeat step 3 on the bottom of the crossmember.
5. Using a straight edge on the front surface of the crossmember, connect the ends of the two lines from steps 3 and 4.
6. **PUT ON YOUR SAFETY GEAR!!!!!!**
7. Using an angle grinder with cut-off wheels, cut along the top and bottom marked lines. Only break through the outer material and try not to cut into the frame rail on the inside.
8. On the backside, cut along the edge where the crossmember meets the side of the frame rail. Position the angle grinder so you are only cutting into the crossmember and not into the frame rail.
9. Cut along the line on the front side of the crossmember. Cut this last so the crossmember doesn't fall on you while you're underneath it.
10. Knock out crossmember.
11. Switch from cut-off wheel to flap sanding disks and clean up the cut edges and any sharp points.
12. With a flap disk, clean up any burrs and sharp edges.
13. Grind off the center welds on the top side of the frame rails.
14. Grind any high spots on the welds on the bottom side of the frame rails.





#### STEP 4: CUT PLASTIC COVER

1. Can have bumper cover on or off the vehicle.
2. Put some painters tape spanning across the center of the bumper. The center of the tape should line up with the edge of the textured black material on the center surface of the bumper.
3. Continue to tape around the sides. The tape should be parallel to the horizontal crease where the plastic snaps to the metal body.
4. From that same edge on the plastic cover, measure down 10-1/8" and mark on the tape. Do this at multiple points along the edge before it starts to curve under the taillights.
5. From the outer points on the corners of the bumper, measure down 1-1/2" and mark.
6. From the inside points closer to the hatch, measure down 1-5/16" and mark.
7. Mark a line at the corner along the bottom edge of the textured black material (roughly a foot in from the outside of the hatch on either side).
8. Mark along the bottom edge of the textured black material between the marks from the previous step.
9. Use a somewhat flexible straight edge and connect all the marks.
10. PUT ON YOUR SAFETY GEAR!!!!!!!
11. Using a dremel tool with a cut-off wheel (recommended, but can use a different cutting tool) cut along the marked lines.
12. Once split into two pieces, discard the bottom piece.
13. Leave the painters tape on until the end of the install process in case you need to mark and cut more of the plastic cover.
14. Take a file and sandpaper to remove any rough edges. A metal edge deburring tool (rotoburr) also works great for this.

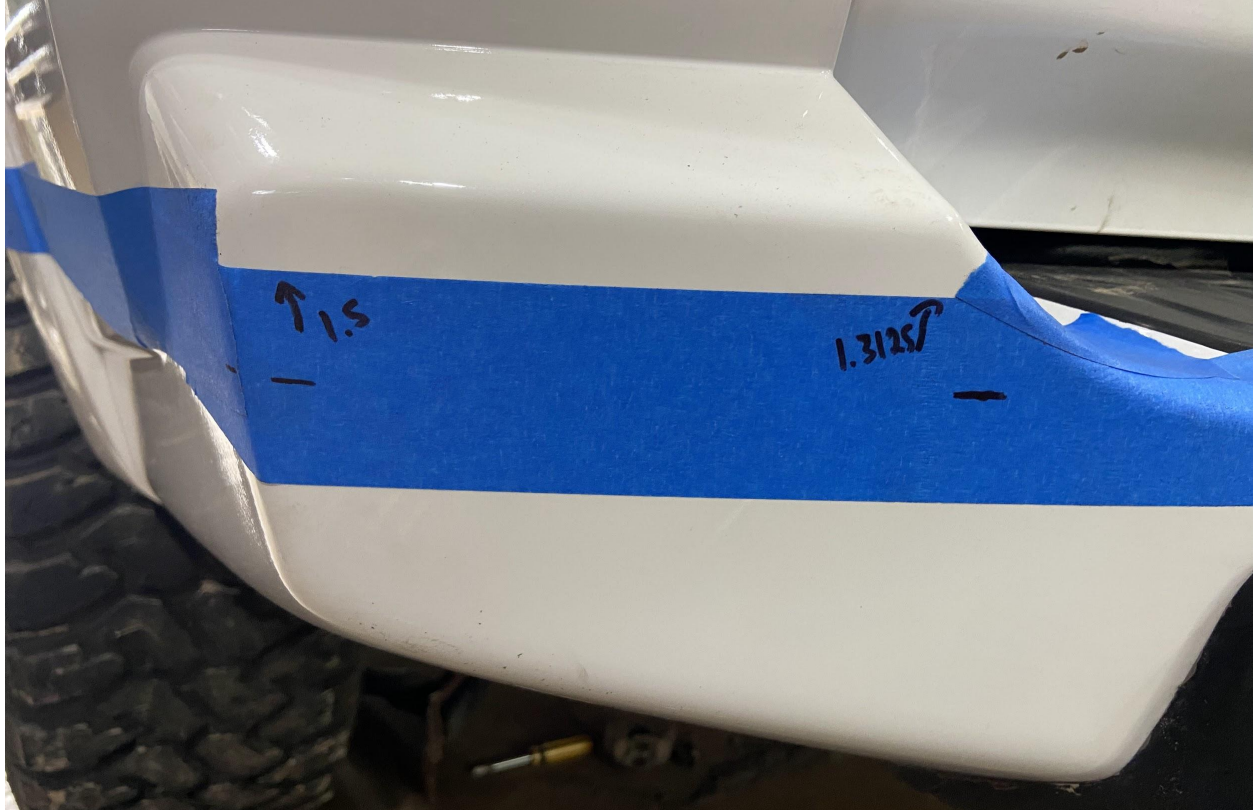


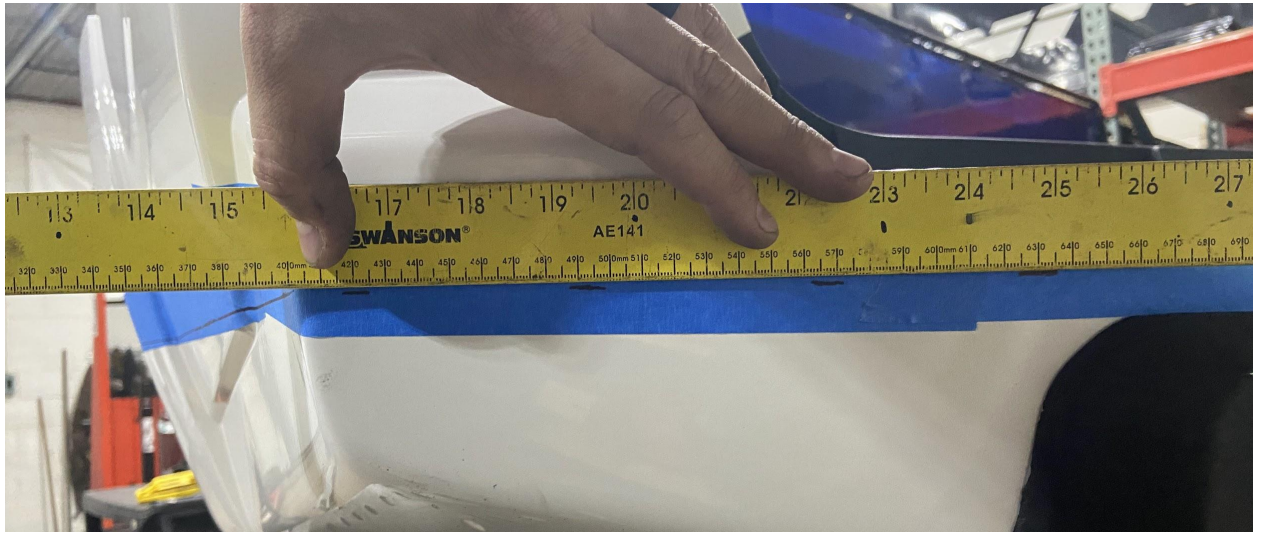


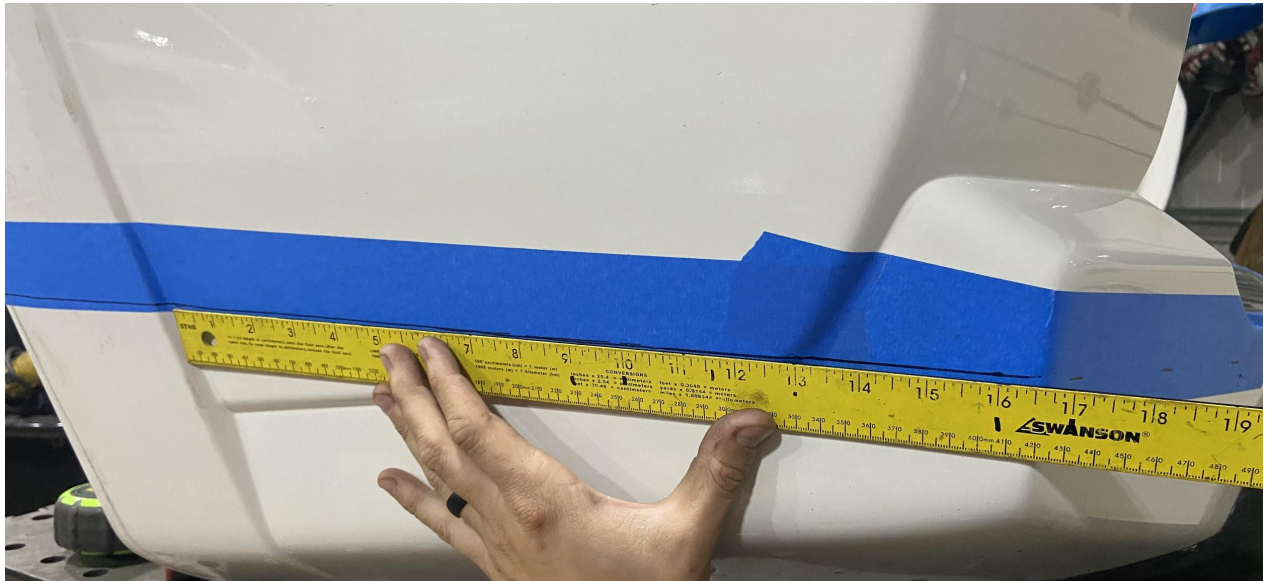
\*IMAGE SHOWS 10-1/4" BUT SHOULD SHOW 10-1/8"











## STEP 5: CUT SPLASH GUARDS

1. Hold the splash guards up to the cut plastic bumper cover and align the holes.
2. Mark on the splash guards where they line up to the cut line on the bumper cover.
3. Draw a horizontal line across the guards to use as a cut line.
4. Cut along the lines.
5. Sand the rough edges from the cut.
6. Install on the vehicle.



## STEP 6: TEST FIT BUMPER

1. Take the bumper and slide it over the ends of the frame rails and roughly into position. The brackets on the inner pocket of the bumper should rest on top of the frame rails.
2. Take the aluminum spacer plates and slide them in between the bottom of the frame rail and the bottom mounting surface of the bumper. Used 2 stacked spacer plates per frame rail. They are direction specific and the slots in them line up with the holes/slots on the bottom of the bumper. When putting on the spacers, the longer edge should be facing the outside of the vehicle.
3. Put the oversized M12 washers (13mm ID, 37mm OD) on the flanged M12\*40mm bolts.
4. Thread the bolts up into the stock hitch/tow point holes but leave them loose.
5. Move the bumper around so the tube ends line up with the splash guards (or move it farther back if you want extra wheel clearance).
6. Move the bumper side to side until it looks even on either side.
  - a. If you are having gap issues, you can loosen the screws for the splash guards, pull/push on the sides of the plastic cover, and retighten the splash guards bolts.
7. Tighten the bolts down. Be careful to not let the washers overlap. You may need to grind a small flat spot on the edge of either washer to give them a little clearance.
8. Check that there's an even/tolerable vertical gap between the bumper and cut edge of the plastic cover.
9. If there's any spots on the cover that are rubbing or uneven, perform the following:
  - a. Mark the cover.
  - b. Remove the bumper.
  - c. Retrim or sand the problem areas.
  - d. Reinstall the bumper.

10. If you are running a swingout, perform the following:
  - a. Mark on the plastic cover where it meets the edges of the raised material for the swingout spindle and latch mechanisms.
  - b. Take the bumper back off.
  - c. Mark a horizontal line 1/4" up from the bottom cut edge of the plastic cover between the two marked lines.
  - d. Cut the plastic cover on those lines.
  - e. Sand the rough edges from the cut.
  - f. Wrap the swingout spindle and latch mechanism with a liberal amount of painters tape (so to not scratch the plastic cover when removing in future steps).
  - g. Reinstall the bumper and make sure it's in your desired position.
  - h. Tighten down mounting hardware.
11. If you plan on taking your vehicle offroad where you will experience a lot of body flex, it is a good idea to have extra clearance on the sides of the bumper.





## STEP 7: REMOVE PLASTIC COVER

1. Remove the splash guards.
2. Unsnap and remove the plastic cover.
  - a. If you have a swingout, you will have to remove it while flexing it over the spindle and latch mechanisms. It is a tight fit but can be done. Wrap spindle and latch mechanism in painters tape to prevent scratching.

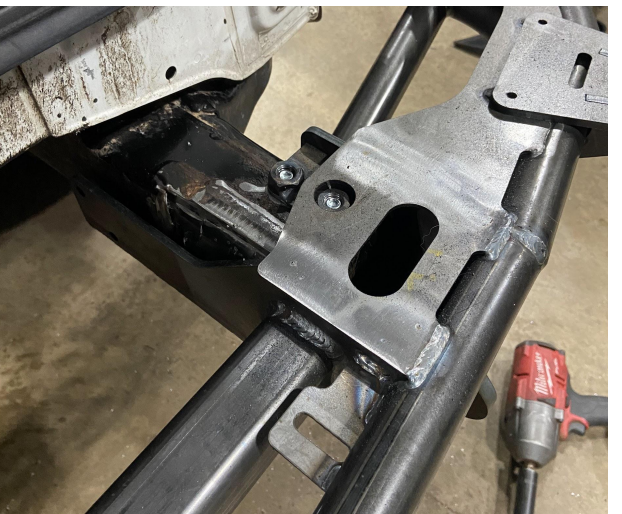


## STEP 8: DRILL HOLES IN FRAME RAILS

1. With the plastic cover removed and the bumper still firmly tightened down in its desired location, use a pencil or sharpie to mark the center of the hole locations on the bottoms of the frame rails.
2. Mark the center hole locations on the top side of the frame rails through the weld-nuts.
3. Remove hardware and bumper.
4. Using a center punch, mark the hole centers on the top and bottom of the frame rails (this will help prevent the drill bit from walking when starting the hole, you want these to be as accurate as possible).
5. **PUT ON YOUR SAFETY GEAR!!!!!!**
6. Start with a smaller drill bit and work your way up until the final hole is 1/2" in diameter. This is the most difficult step of the entire install process. Use sharp bits with tapping/cutting oil or coolant to help prevent the drill bits from burning out. If you start to burn the bit and overheat the metal, you will harden the edge of the hole and have a much more difficult time.
7. Once holes are drilled, try dropping one of the M12\*130mm bolts through the holes to make sure they are concentric. If they are noticeably out of alignment, you will have to drill your holes slightly larger.
8. Put the bumper back on and check that the bolts can go up through the bottom, through the frame rails, and thread into the weld-nuts on the bumper.
  - a. If you are still having fitment issues, try marking the interfering hole edge with a sharpie, removing the bumper, and then remove material on that mark with a small file or grinder.
9. Once you successfully fit all 4 bolts through, remove the bumper.







## STEP 9: CLEAN AND PAINT FRAME RAILS

1. PUT ON YOUR SAFETY GEAR!!!!!!
2. Using a wire wheel on an angle grinder, clean any rust or debris off the ends of the frame rails.
3. Wipe off any grease or oils.
4. Mask the area to prevent overspray.
5. Paint the ends of the frame rails to prevent rust from forming on the cut/ground areas.
6. Allow time for paint to cure.



## STEP 10: DRILL HOLES IN SPLASH GUARDS

1. With the plastic cover and splash guards off the vehicle, hold the splash guards up to it and align the holes.
2. Towards the bottom next to the cut area, mark a dot about 1/2" to 1" up from the bottom centered on the flange of the plastic cover.
3. Make sure the splash guard is held firmly against the side of the plastic cover.
4. Drill through both with a small bit. (1/8")
5. Drill through just the splash guard again but with a larger bit. (1/4")



## STEP 11: CUT BRACKETS (OPTIONAL)

1. These technically aren't in the way but are a bit of an eyesoar. Up to you if you want to cut them or not. You can also just bend them upward.
2. **PUT ON YOUR SAFETY GEAR!!!!!!**
3. Using an angle grinder with a cutt-off wheel, cut the brackets off just below the body.
4. Clean and touch up the cut area with paint to prevent rust.



## STEP 12: INSTALL BUMPER

1. Put the cut plastic cover and splash guards back on.
2. Take some of the screws leftover from the lower half of the bumper cover and use them to screw the splash guards to the bumper cover in the holes you just drilled.
3. Slide the bumper over the frame rails so the holes line up with the holes you drilled through the frame rails.
4. Put the aluminum spacer plates (two per side) between the bumper and bottom of the frame rails.
5. Put the 13MM ID, 24MM OD washers on the M12\*130mm bolts and loosely install them up through the bumper and frame rails into the weld nuts. These should move the bumper and lock it back in your desired position.
6. Install the flanged M12\*40mm bolts with oversized washers and tighten them down. Again be careful to not overlap the washers.
7. Tighten down the M12\*130mm bolts with washers.
8. If you notice any misalignment after tightening the longer bolts, either grind some material off the aluminum spacers to angle the surface or can put some oversized washers between them to shim the bumper and cause it to twist a little.
9. Reconnect your exhaust bracket if you had to disconnect it previously.
10. If running a swingout, remove any tape left of the spindle or latch mechanisms.



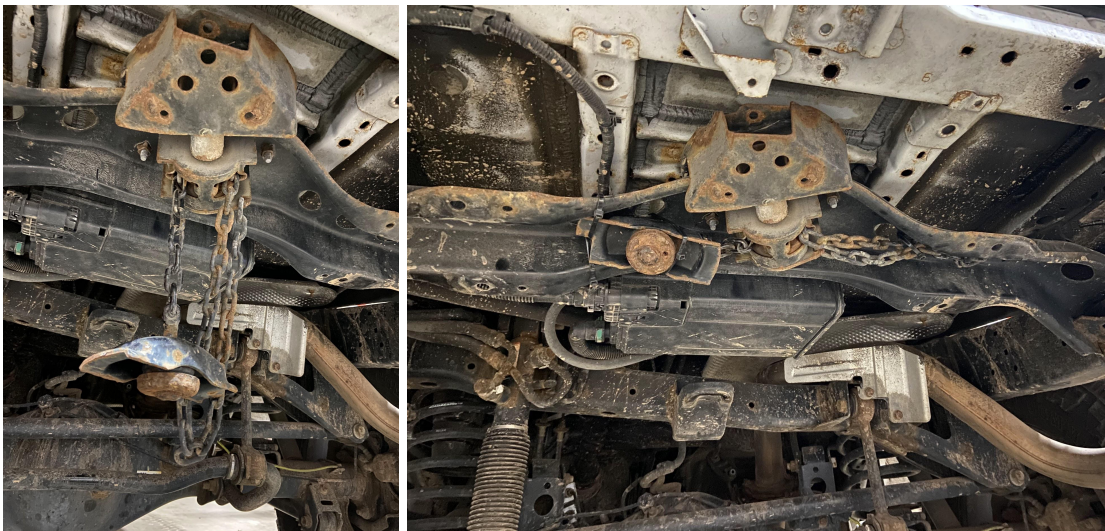
### STEP 13: INSTALL TRAILER PLUG

1. Reconnect trailer plug to the vehicle harness.
2. Ziptie trailer plug to the holes on the bumper on the drivers inner side of the frame.



### STEP 14: INSTALL TRAILER PLUG

1. Either remove your spare tire lowering chain or ziptie it up and out of the way.



## **SWINGOUT INSTALL STEPS (OPTIONAL)**

### **STEP 15: ASSEMBLE AND INSTALL LATCH**

1. Thread the thinner nuts all the way down to where the threads end on the U bolt.
2. Insert the pin through the hole in the latch assembly.
3. Put the ends of the U bolt through the holes in the pin. The flat spots on the pin should be facing towards the ends of the U bolt.
4. Thread the nylon locknuts onto the U bolt and leave them loose for now.
5. Take the 4X M6\*8mm button head bolts and install the latch onto the angled plate on the end of the swingout.



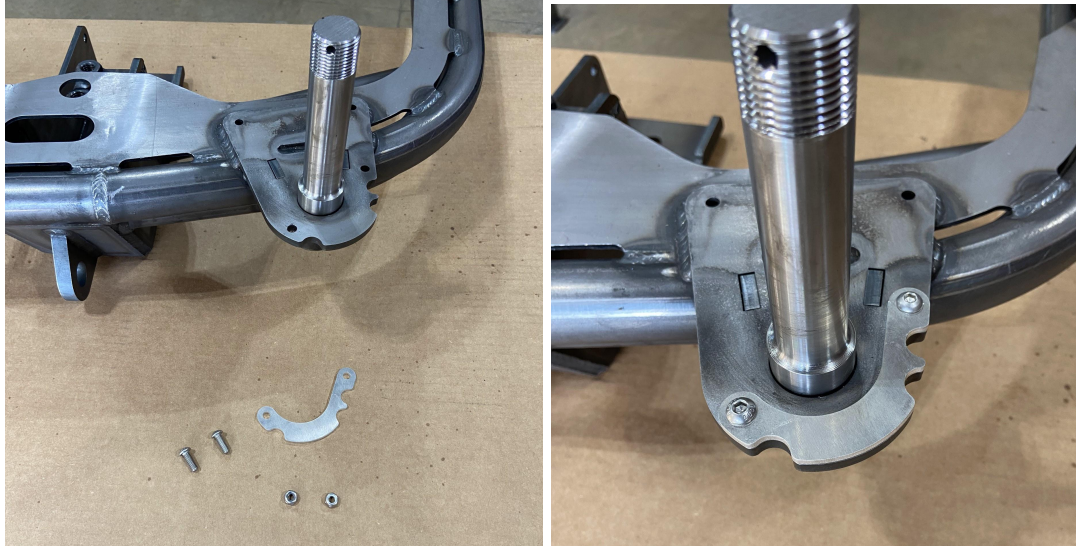
### **STEP 16: INSTALL SPRING PLUNGER**

1. Apply some grease to the inside of the plunger housing on the swingout and to the plunger pin and spring assembly.
2. Thread the plunger assembly into the plunger housing on the swingout and tighten it down.



## STEP 17: INSTALL PLUNGER STRIKE PAD

1. Take the aluminum plunger strike pad and align it over the holes at the base of the spindle on the bumper.
2. Insert the 2X M6\*15mm button head bolts through the two holes from the top.
3. Thread a M6 nylon locknut onto the bolts from the bottom side and tighten them down.



## STEP 18: INSTALL SWINGOUT STRIKE PAD

1. Cut the adhesive rubber strip to match the back plate of the latch mechanism. Extra material is provided in case you mess up or if it loses its adhesion in the future and needs to be replaced.
2. Attach it to the front surface of the backing plate on the latch mechanism.
3. Take the plastic strike pad and align it over the holes on the latch mechanism. There should be some rubber material sandwiched behind the plastic strike pad.
4. Insert the 2X M6\*25mm flat head bolts through the two holes from the top. Make sure the top surface of the bolts is flush or below the top surface of the strike pad.
5. Thread a M6 nylon locknut onto the bolts from the bottom side and tighten them down.



## STEP 19: INSTALL SWINGOUT ASSEMBLY ON SPINDLE

1. Take some grease and apply it to the bearings, inside the swingout spindle tube, and onto the spindle on the bumper.
2. Insert the lower bearing into the bottom of the spindle tube. The grease should help hold it in place.
3. Take the plastic seal and install it on the bottom of the spindle tube. Carefully tap it in with a soft hammer. The seal should be flush with the bottom surface of the tube.
4. Pick up the swingout assembly and align the hole in the seal over the spindle. Lower it over the spindle and let the other end of the swingout rest on the strike pad.
5. Take the other bearing and install it on the top of the spindle.
6. Take the castle nut and thread it onto the spindle. Do not over tighten, it only needs to be tight enough to make sure the bearings are fully seated into the races. Make sure the openings in the castle nut align with the hole through the top of the spindle.
7. Insert the cotter pin through the castle nut and spindle.
8. Take a pliers and bend the end of the cotter pin so that it can not be removed from the spindle.
9. Take the cap and align it with the top of the spindle tube. Carefully tap it with a soft hammer until it is fully seated.







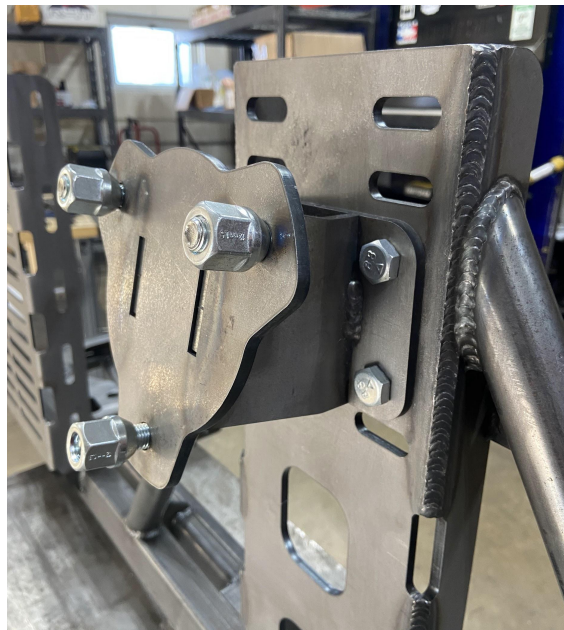
## STEP 20: ADJUST LATCH TENSION

1. Fully seat the end of the swingout against the rubber strip and strike pad.
2. With the latch open, move the end of the U bolt behind the hook on the side of the latch mechanism.
3. Close the latch.
4. Using a deep socket or wrench, tighten down the nylon locknuts on the ends of the U bolt until there is tension caused by the U bolt being stuck behind the hook. Make sure the locknuts are an even distance from the ends of the U bolt.
5. Toggle the latch thumb lock and open the latch.
6. Tighten down the locknuts 1-2 more full revolutions.
7. Close the latch.
8. Tighten the thin nuts on the U bolt to the other side of the pin.



## STEP 21: INSTALL WHEEL MOUNT

1. Take the wheel mount assembly and align it over the slots at your desired height on the tower on the swingout assembly.
2. Install the 4X M12\*30mm bolts through the holes on the back of the wheel mount and through the slots on the swingout tower.
3. Put a M12 washer (13mm ID, 24mm OD) over each of the bolts on the inside pocket of the swingout tower.
4. Thread a M12 nylon locknut onto each of the bolts and tighten them down.
5. Install your spare. Depending on the backspacing on your wheel you may have to put a few washers on the wheel mount studs, run a wheel spacer, or move the height of the wheel mount up or down. New lug nuts are provided but you may need to use different ones depending on what type of wheels you are running. Having the spare mounted as low as possible will decrease the amount of leverage put on the spindle and latch as well as decrease the amount of swingout shake/bounce you may experience.

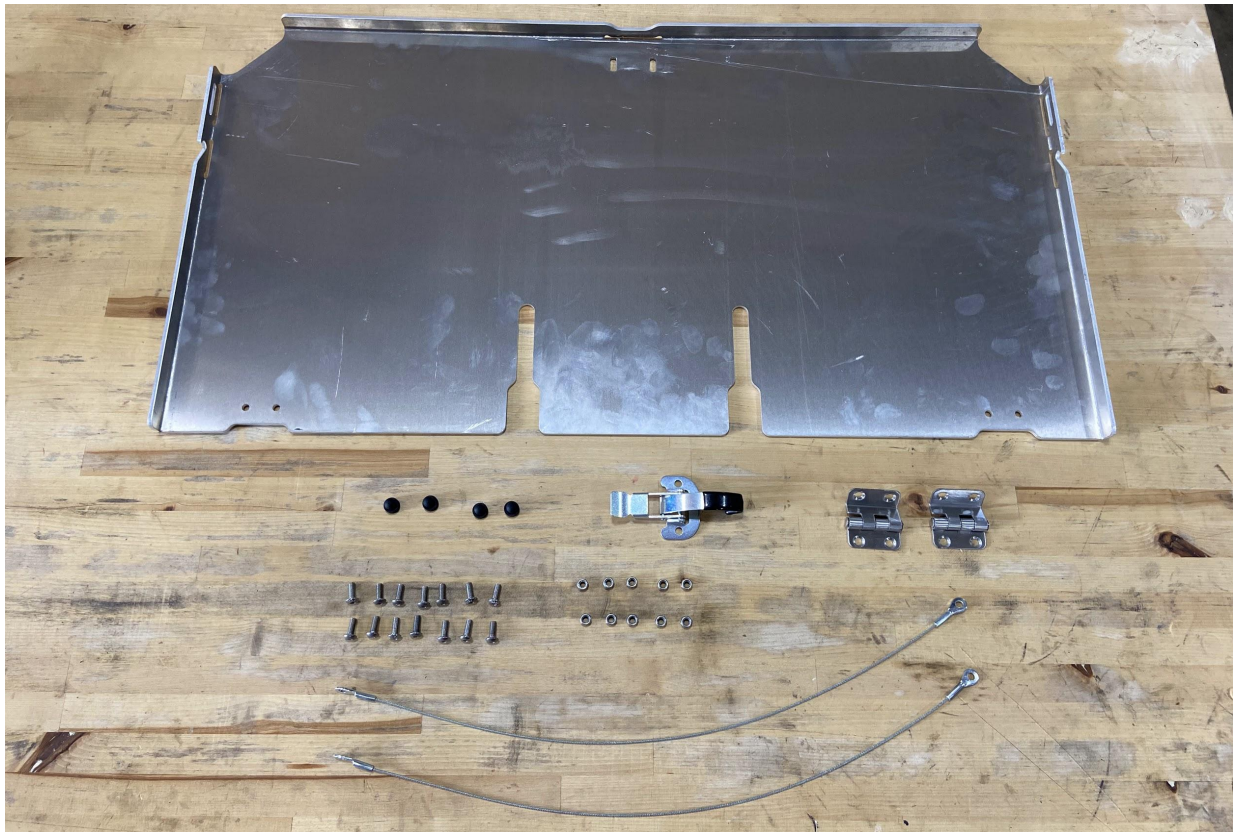


## STEP 22: RELOCATE LICENSE PLATE

1. There are two M6 threaded holes on the outside of the rectangular tube on the swingout. If running an accessories panel, they will be centered directly below that.
2. If running an accessories panel, align the holes on the top of your license plate over the holes on the swingout.
3. If not running an accessories panel, you can use either the top or bottom set of holes on the license plate.
4. Thread the 2X M6\*14mm flanged button head bolts through the license plate and into the threaded holes and tighten them down.



## **CAMP TABLE INSTALL STEPS (OPTIONAL)**



### **STEP 23: INSTALL LATCH**

1. Align the latch with the slots on the underside of camp table.
2. Take two of the M5\*15mm button head bolts and pass them through the slots on the top side of the camp table and through the holes on the latch.
3. Thread a M5 nylon locknut onto each of the bolts. Leave a little loose for now.



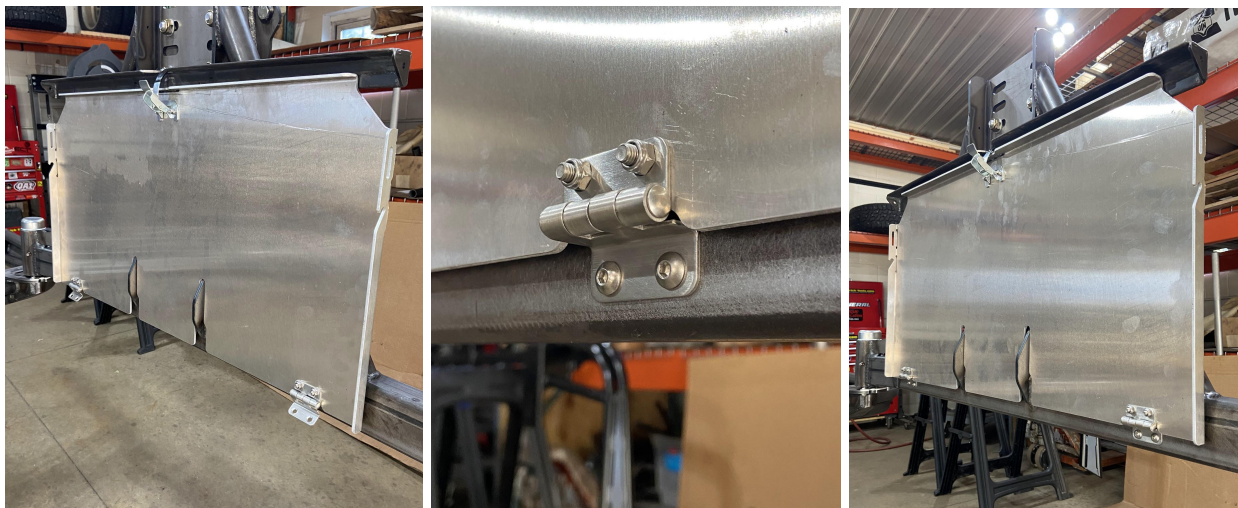
## STEP 24: INSTALL HINGES

1. Align the holes in the non offset leaf of the hinge with the holes on the camp table. The hinge leaf should be on the bottom side surface of the table.
2. Put more M5\*15mm button head bolts through each of the holes on the top surface of the camp table and through the holes on the hinges.
3. Thread a M5 nylon locknut onto each of the bolts. Leave a little loose for now.



## STEP 25: INSTALL CAMP TABLE ON SWINGOUT

1. Hold up the table assembly to the swingout.
2. Using the latch, hook it over its latching point and let the table hang from it.
3. Align the holes in the hinges with the M5 threaded holes in the rectangular tube on the swingout.
4. Pass a M5\*15mm button head bolt through each of the hinge holes and thread into the holes on the swingout. Leave bolts somewhat loose
5. Once all 4 bolts are started, tighten them down.
6. Tighten down the other bolts attaching the hinges to the camp table.
7. Open the latch and let the table dangle.



## STEP 26: INSTALL LANYARDS

1. Align one of the eyes on both lanyards to the holes on either end of the angle bracket on the swingout.
2. Pass a M5\*15mm button head bolt through each of the lanyard eyes and through the holes on either end of the angle bracket.
3. Thread a M5 nylon locknut onto each of the bolts. Leave a little loose for now.
4. Hold up the end of the table.
5. Align the eye on the other end of the lanyards to the slots on the sides of the table.
6. Pass a M5\*15mm button head bolt through each of the lanyard eyes and through the slots on either end of the table.
7. Thread a M5 nylon locknut onto each of the bolts. Leave a little loose for now.
8. Move the bolt forward or backwards along the slots on the sides of the table to adjust the levelness.
9. Once the table is level, tighten down all nuts and bolts on the ends of the lanyards.



## STEP 27: INSTALL RUBBER BUMPSTOPS

1. Take the 4X rubber bumpers and press them through each of the holes on the inside surface of the angle bracket. Using some wd40 or something similar to lube the ends of the bumpers and make them easier to press through.



## STEP 28: ADJUST LATCH TENSION

1. Close the camp table.
2. Close the latch so the end is hooked over the latching point on the angle bracket on the swingout.
3. Pull the latch body downward so it builds tension and mark a line along the top of the latch base on the camp table.
4. Open the latch and lower the table.
5. Move the latch body about 1/8" below the line you marked.
6. Tighten the M5 nuts and bolts holding the latch on.
7. Close the table and latch.
8. Check tension on the latch and make sure the table will not open when hitting bumps.
9. If needed, readjust the latch and add more or less tension.
10. Wipe off any marks drawn on the table.

