

INSTALL INSTRUCTIONS FOR 06-09 4RUNNER LOW CLEARANCE REAR BUMPER

READ INSTRUCTIONS THROUGHOUT BEFORE INSTALLING BUMPER!

Professional installation recommended. This install is moderately difficult and should only be attempted by someone with 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

- **INTENDED FOR OFF-ROAD USE ONLY.**
- **(IF RUNNING SWINGOUT) REQUIRES ADDITIONAL HOLES DRILLED THROUGH FRAME RAILS.**
- **CUTTING OF PLASTIC BUMPER COVER IS REQUIRED.**
- **WILL NOT WORK WITH LARGE V8 DROP RECEIVER WITHOUT SPACERS AND EXTENDED HARDWARE. DESIGNED FOR USE WITH THE METAL TECH RECEIVER OR THE OEM V6 RECEIVER (PN 51909-35011 OR 90119-12361).**
- **CHANGING FROM THE LARGE V8 DROP RECEIVER TO THE SMALLER VERSION WILL REDUCE YOUR TOW CAPACITY.**
- 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".
- 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.

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
 - 12X 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 FLAP SANDING DISKS AND WIRE-WHEEL
- DREMEL TOOL WITH CUT-OFF WHEELS
- DRILL WITH BITS
- HAMMER
- BLACK SPRAY PAINT
- SANDPAPER / FILES / DEBURRING TOOLS
- SHARPIE / PEN / PENCIL
- TAPE MEASURE
- CENTER PUNCH
- SMALL FLATHEAD SCREWDRIVER
- AUTOMOTIVE GREASE
- MECHANICAL KNOWLEDGE AND ABILITIES
- ZIP TIES

BASE BUMPER INSTALL STEPS

***SOME PICS MAY SHOW HIGH CLEARANCE VERSION WITH CROSSMEMBER REMOVED. YOU WILL NOT BE CUTTING YOUR CROSSMEMBER BUT ALL OTHER STEPS ARE THE SAME, HENSE REUSING THE SAME PICTURES.**

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.

1. Plastic bumper cover and foam pad.
2. Rear splash guards.
3. Any tie down or tow hooks mounted on underside of the frame rails.
4. Large V8 drop receiver/hitch. (If you have the smaller V6 version that only mounts to the center of the crossmember, you can leave it attached)
5. Save all hardware.



STEP 3: CUT FOAM

1. Using a tape measure and straight edge, measure and mark a line 5-½ inches in from the end on either side.
2. Carefully cut along lines.
3. Reinstall foam on top of crossmember.



STEP 4: GRIND DOWN WELDS ON FRAME RAILS

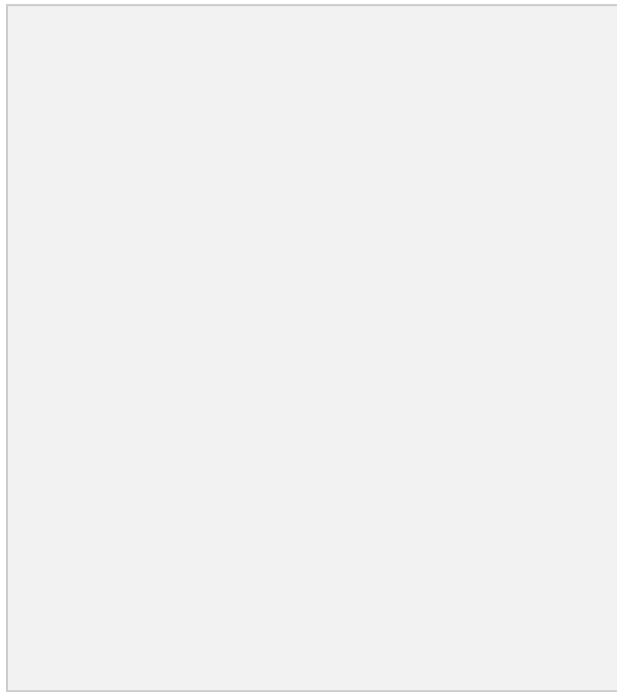
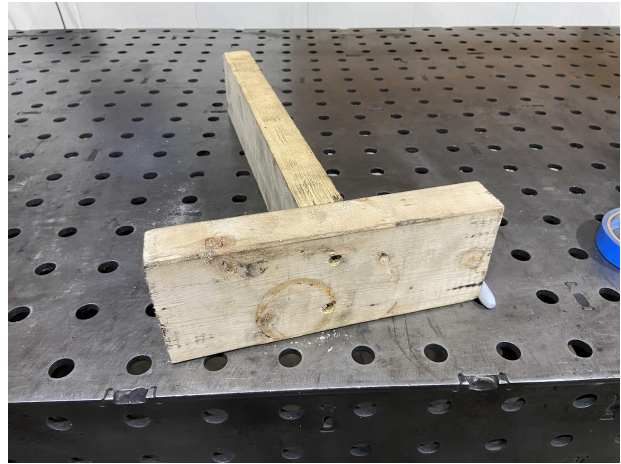
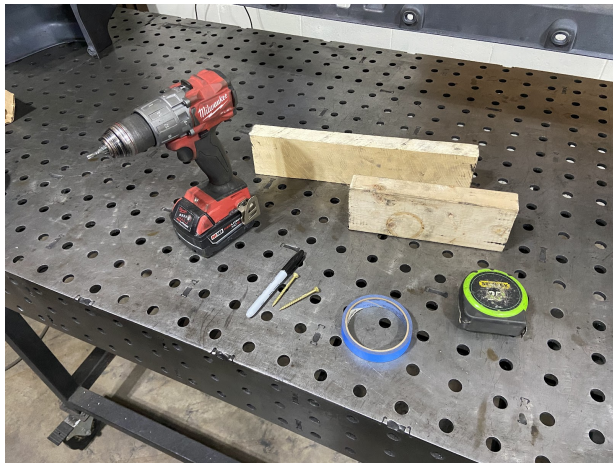
1. PUT ON YOUR SAFETY GEAR!!!!!!
2. Using an angle grinder with a sanding flap disk, grind off any high points on the welds on the top and bottom sides of the frame rails.

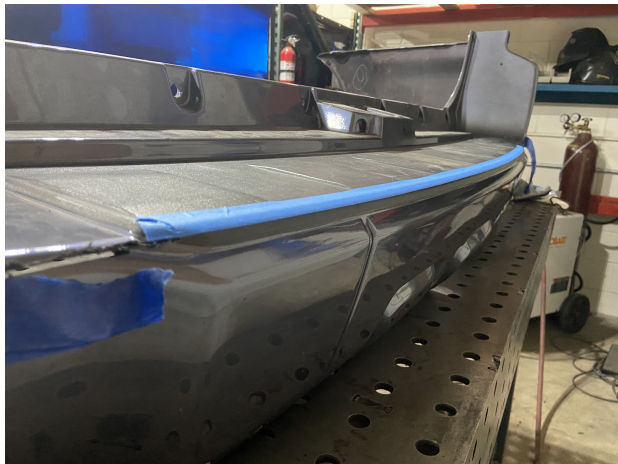
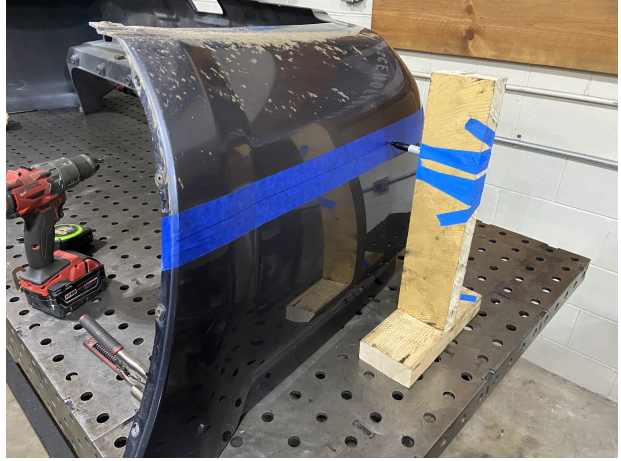
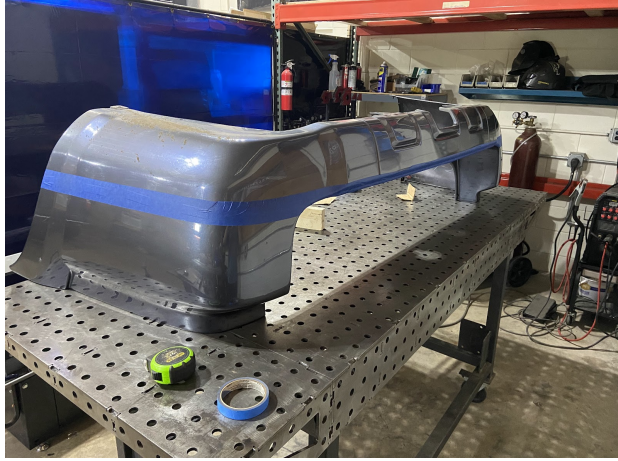


STEP 5: CUT PLASTIC COVER

1. Easiest way to accurately cut the plastic cover is to build a simple jig.
 - a. Take some scrap 2x4s and screw two of them together into a T shape.
 - b. Flip the T upside down so the horizontal piece is the base.
 - c. From the bottom, measure up 11.75" and draw a mark.
 - d. Tape a sharpie over that mark and position the tip so it's exactly 11.75" from the ground. It should be tightly taped so if bumped it doesn't change height.
2. Place the bumper cover upside down on a flat surface.
3. With the cap on the sharpie, set the jig near the sides of the bumper to use as a reference while putting painters tape on the bumper. You want the sharpie to be roughly at the center of the tape.
4. Take the cap off and drag the jig along the sides of the bumper cover so its leaving a mark on the painters tape. Continually recheck the 11.75" measurement to the tip on the sharpie.
5. Flip the bumper cover over.
6. Take the painters tape and align the bottom edge with one of the marked lines. Tape over the center area of the bumper to the other side so there is an even gap between the bottom of the tape and the edge of the textured area on the top surface of the bumper leading into the cargo area. There should be roughly 3/8" of textured material left below the edge of the tape.
7. PUT ON YOUR SAFETY GEAR!!!!!!
8. Using a dremel tool with a cut-off wheel (recommended, but can use a different cutting tool) cut along the marked lines on the sides.
9. Cut along the bottom edge of the tape on the center area of the bumper.
10. Once split into two pieces, discard the bottom piece.
11. 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.

12. Take a file and sandpaper to remove any rough edges. A metal edge deburring tool (rotoburr) also works great for this.
13. Put the bumper cover back on the vehicle.





STEP 6: CUT SPLASH GUARDS

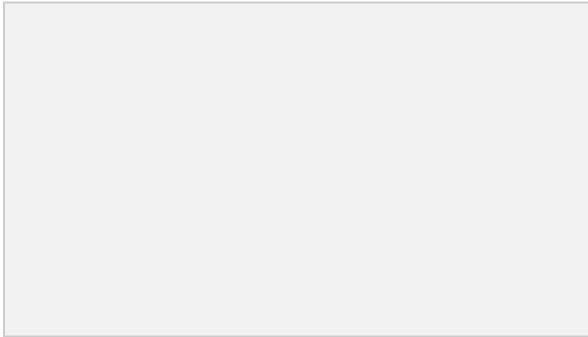
1. Hold the splash guards up to the cut plastic bumper cover and align the holes.
2. Mark on the splash guards where they line up to the cut line on the bumper cover.
3. Draw a horizontal line across the guards to use as a cut line.
4. Cut along the lines.
5. Sand the rough edges from the cut.
6. Install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

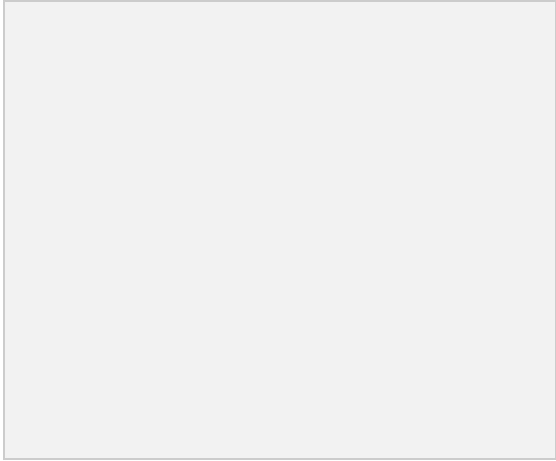


STEP 7: TEST FIT BUMPER

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. Use 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.
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 8: REMOVE PLASTIC COVER

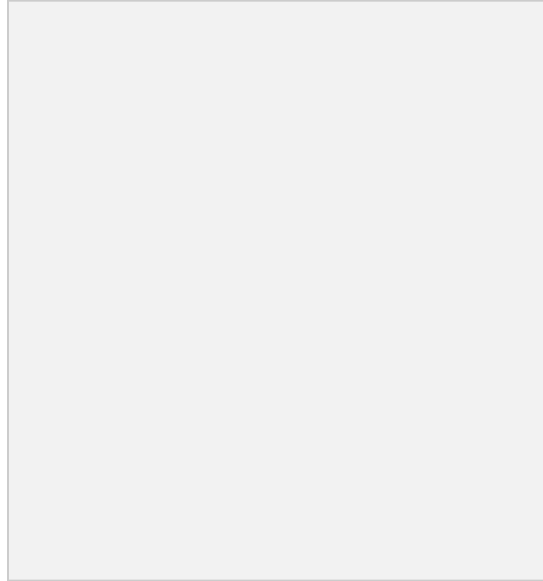
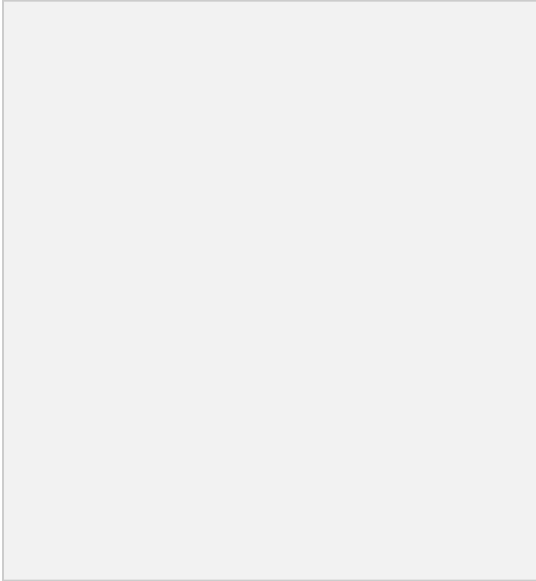
1. Remove the splash guards.
2. Unsnap and remove the plastic cover.
 - a. If you have a swingout, you will have to remove it while flexing it over the spindle and latch mechanisms. It is a tight fit but can be done. Wrap spindle and latch mechanism in painters tape to prevent scratching.

STEP 9: DRILL HOLES IN FRAME RAILS

If you are running a swingout, it is **HIGHLY** recommended to drill and install the dual shear bolts at least on the furthest rear hole on the swingout spindle side of the bumper.

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.

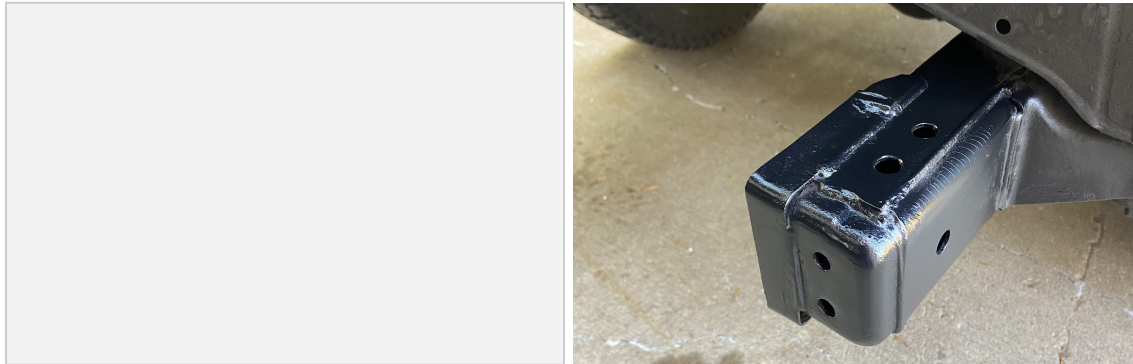
9. Once you successfully fit all 4 bolts through, remove the bumper.
10. (OPTIONAL) If you are concerned about the holes reducing the strength of the frame rails, you can overdrill the holes and weld in pieces of tubing that the bolts can pass through.





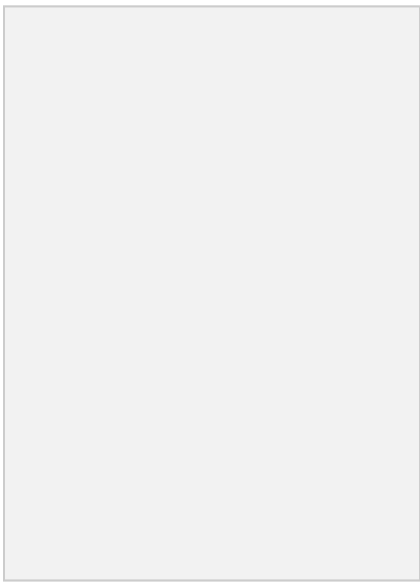
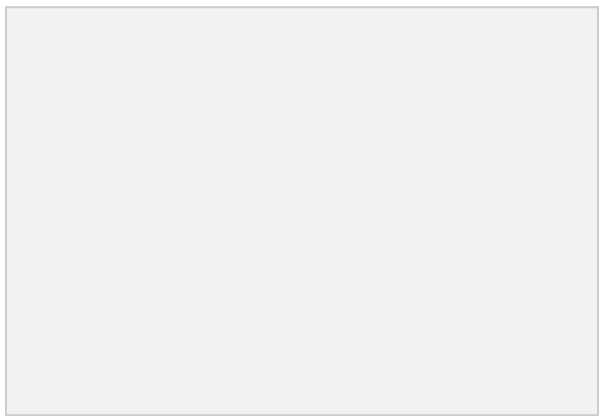
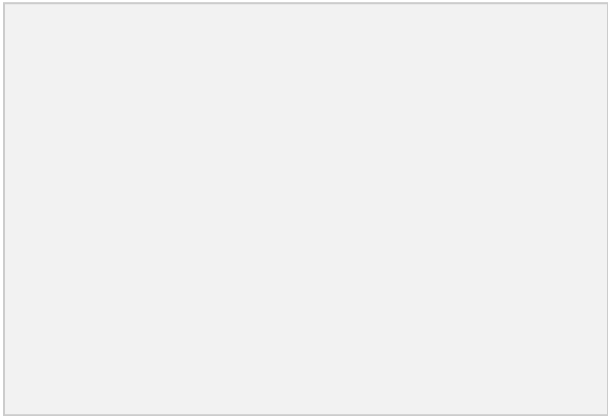
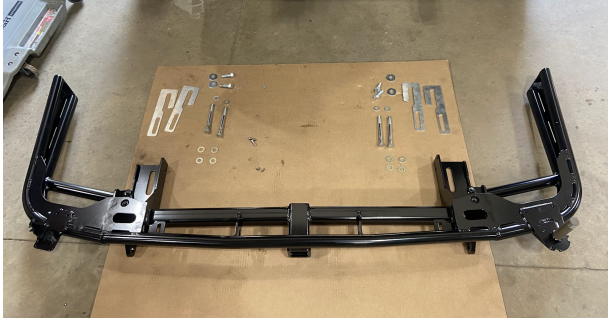
STEP 10: CLEAN AND PAINT FRAME RAILS

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.
7. After paint cures, it's highly recommended to spray the exterior and interior of the frame rails with rust prevention coating such as Fluid Film or Wool Wax.



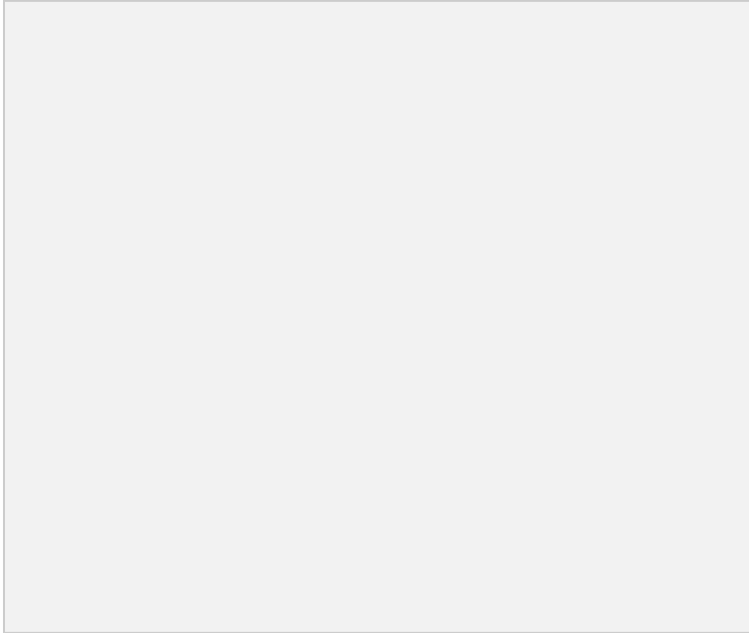
STEP 11: INSTALL BUMPER

1. Slide the bumper over the frame rails so the weld-nuts line up with the holes you drilled through the frame rails.
2. Put the aluminum spacer plates (two per side) between the bumper and bottom of the frame rails.
3. Loosely install the M12*130mm bolts up through the bumper and frame rails. These should move the bumper and lock it back in your desired position.
4. Install the flanged M12*40mm bolts with oversized washers and tighten them down. Again be careful to not overlap the washers.
5. Remove the M12*130mm bolts.
6. Take the smaller M12 washers (13mm ID, 24mm OD) and put one on each of the M12*130mm bolts.
7. Take the remaining washers and fit them between the top of the frame rails and the bracket with the weld nuts. Depending on your particular spacing you may end up stacking washers. Use a small flathead screwdriver to center them over the holes.
8. Install the M12*130mm bolts with washers up through the bumper and frame and tighten them down.
9. 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.
10. Plug in the connectors for the trailer harness into the vehicle harness.
11. Reconnect your exhaust bracket if you had to disconnect it previously.
12. If running a swingout, remove any tape left of the spindle or latch mechanisms.



STEP 12: CUT BRACKETS (OPTIONAL)

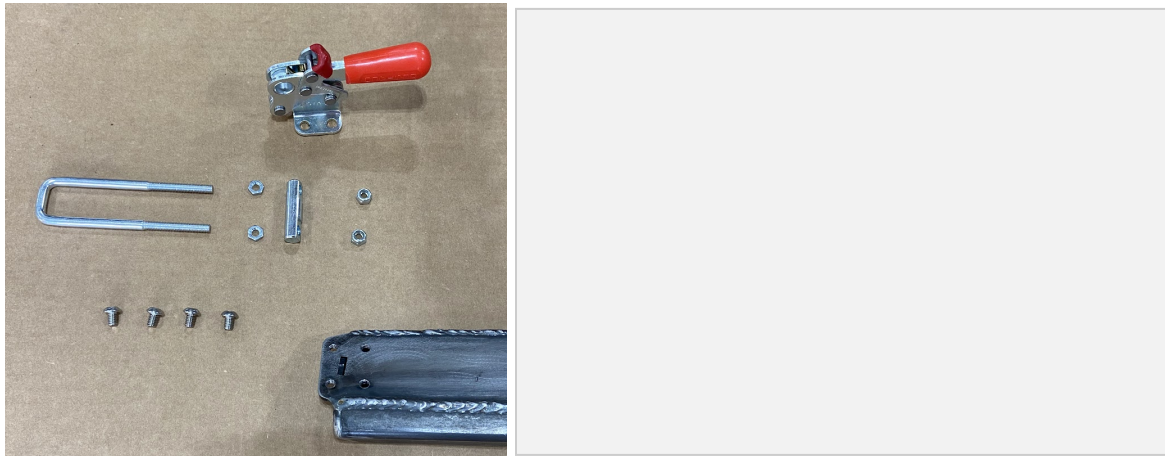
1. These technically aren't in the way but are a bit of an eyesoar. Up to you if you want to cut them or not. You can also just bend them upward.
2. **PUT ON YOUR SAFETY GEAR!!!!!!**
3. Using an angle grinder with a cutt-off wheel, cut the brackets off just below the body.
4. Clean and touch up the cut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



SWINGOUT INSTALL STEPS (OPTIONAL)

STEP 13: 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.



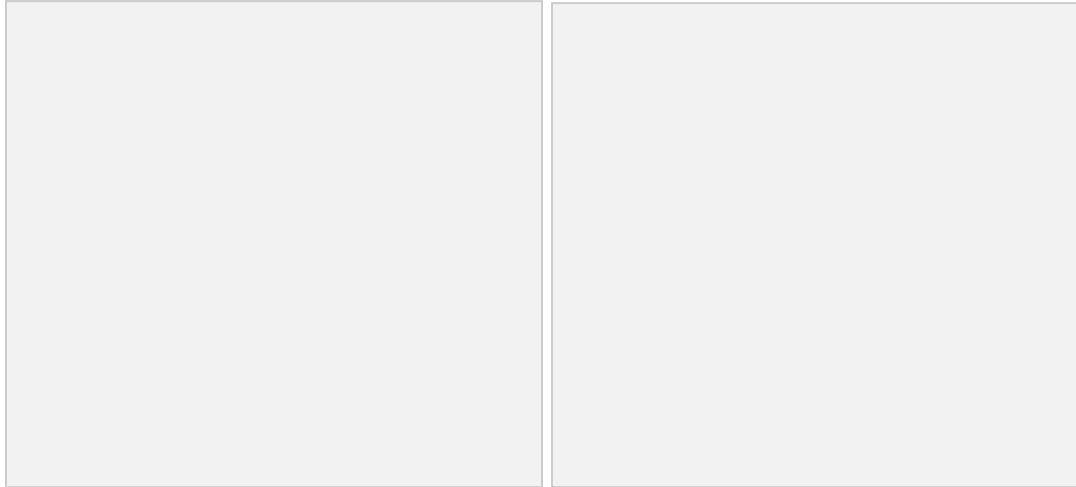
STEP 14: INSTALL SPRING PLUNGER

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.



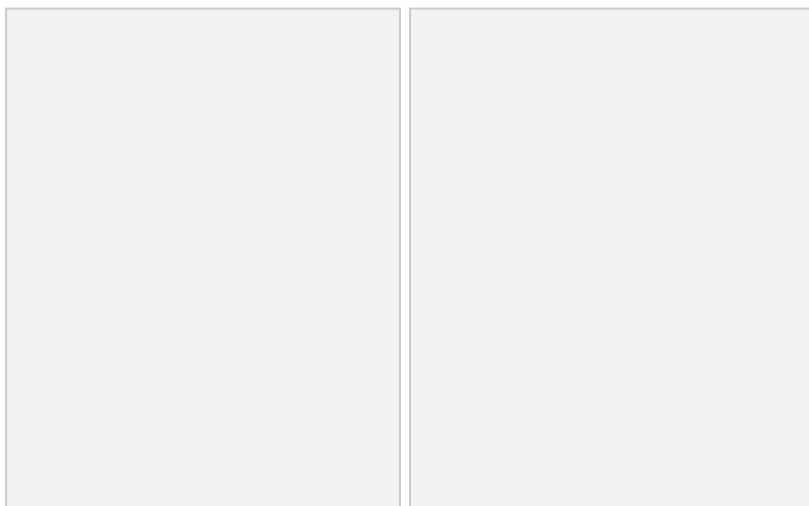
STEP 15: INSTALL PLUNGER STRIKE PAD

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.



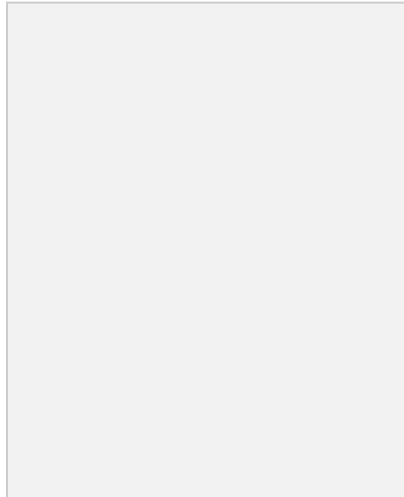
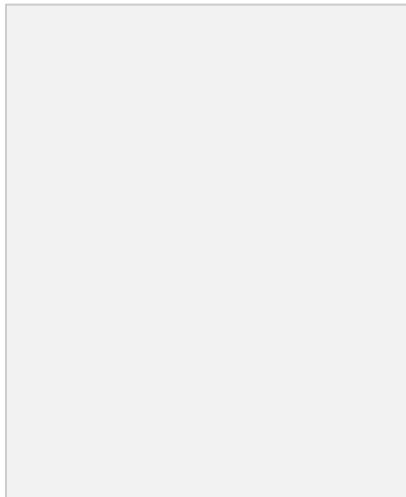
STEP 16: INSTALL SWINGOUT STRIKE PAD

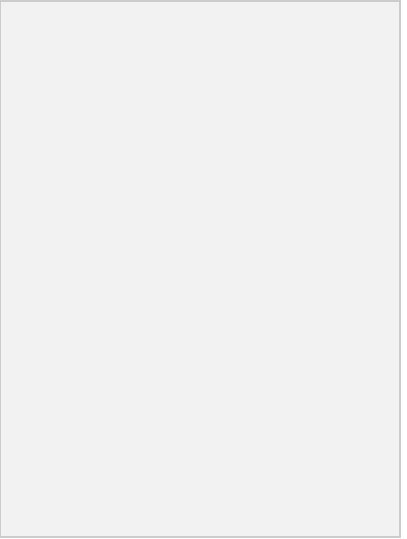
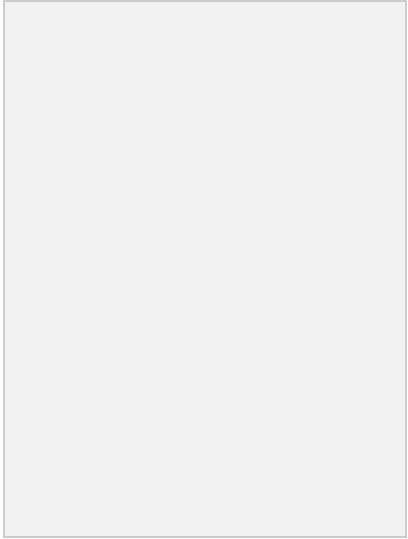
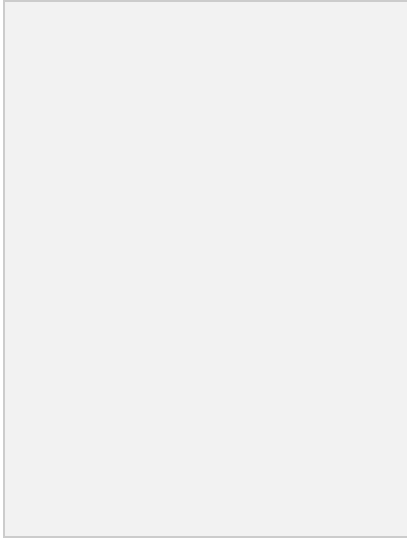
1. Cut the adhesive rubber strip to match the back plate of the latch mechanism. Extra material is provided in case you mess up or if it loses its adhesion in the future and needs to be replaced.
2. Attach it to the front surface of the backing plate on the latch mechanism.
3. Take the plastic strike 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 17: INSTALL SWINGOUT ASSEMBLY ON SPINDLE

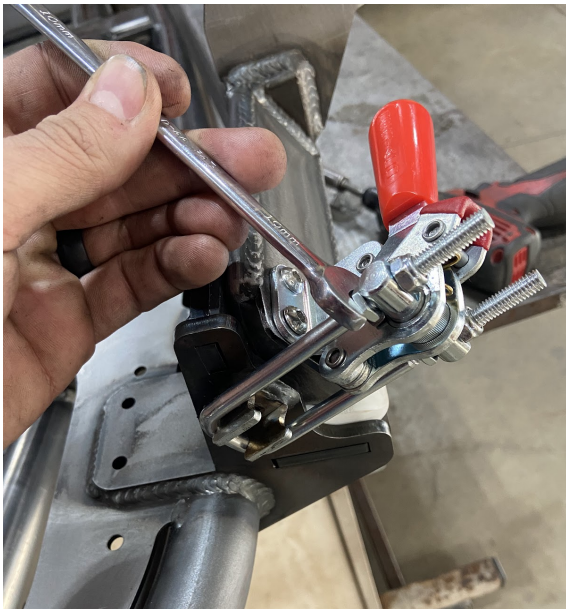
1. Take some grease and apply it to the bearings, inside the swingout spindle tube, and onto the spindle on the bumper.
2. Insert the lower bearing into the bottom of the spindle tube. The grease should help hold it in place.
3. Take the plastic seal and install it on the bottom of the spindle tube. 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.





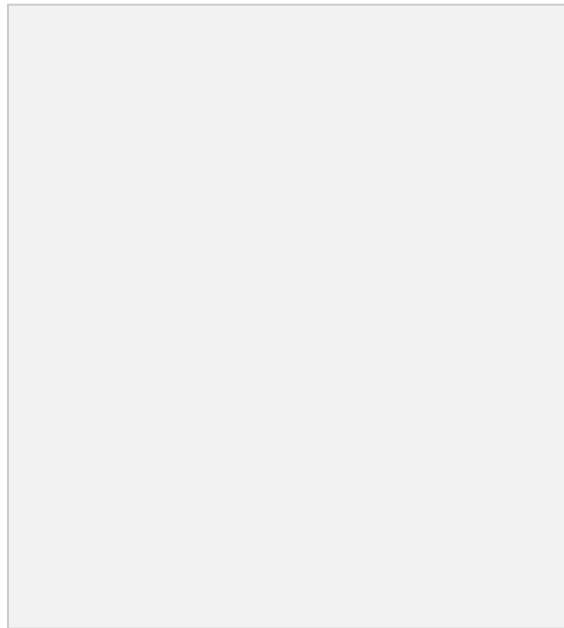
STEP 18: ADJUST LATCH TENSION

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.



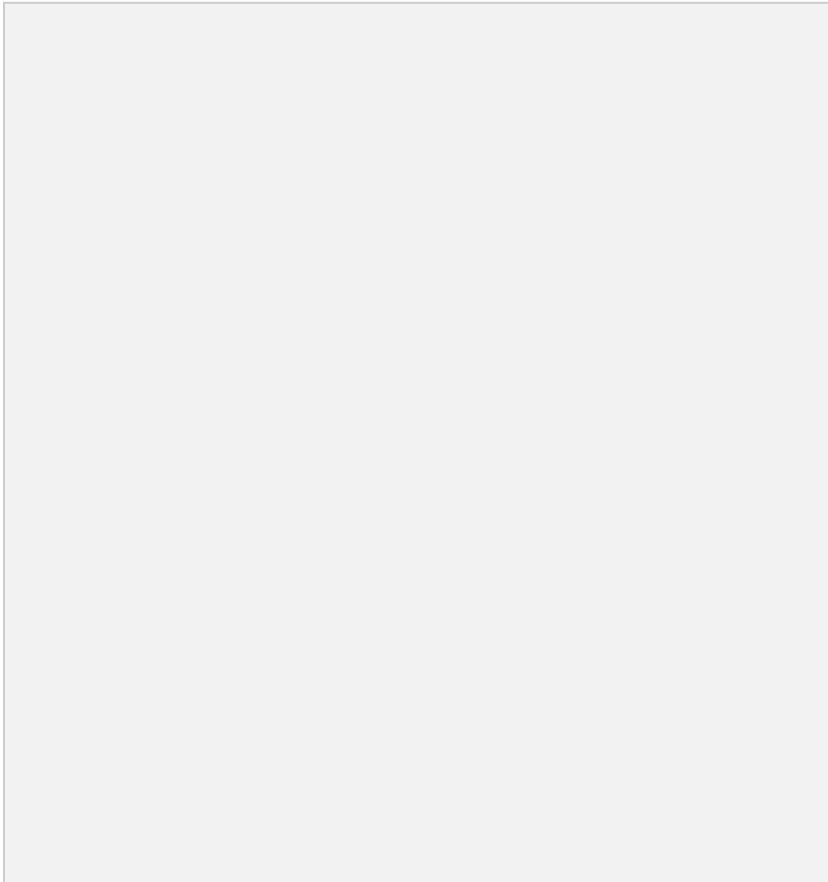
STEP 19: INSTALL WHEEL MOUNT

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.

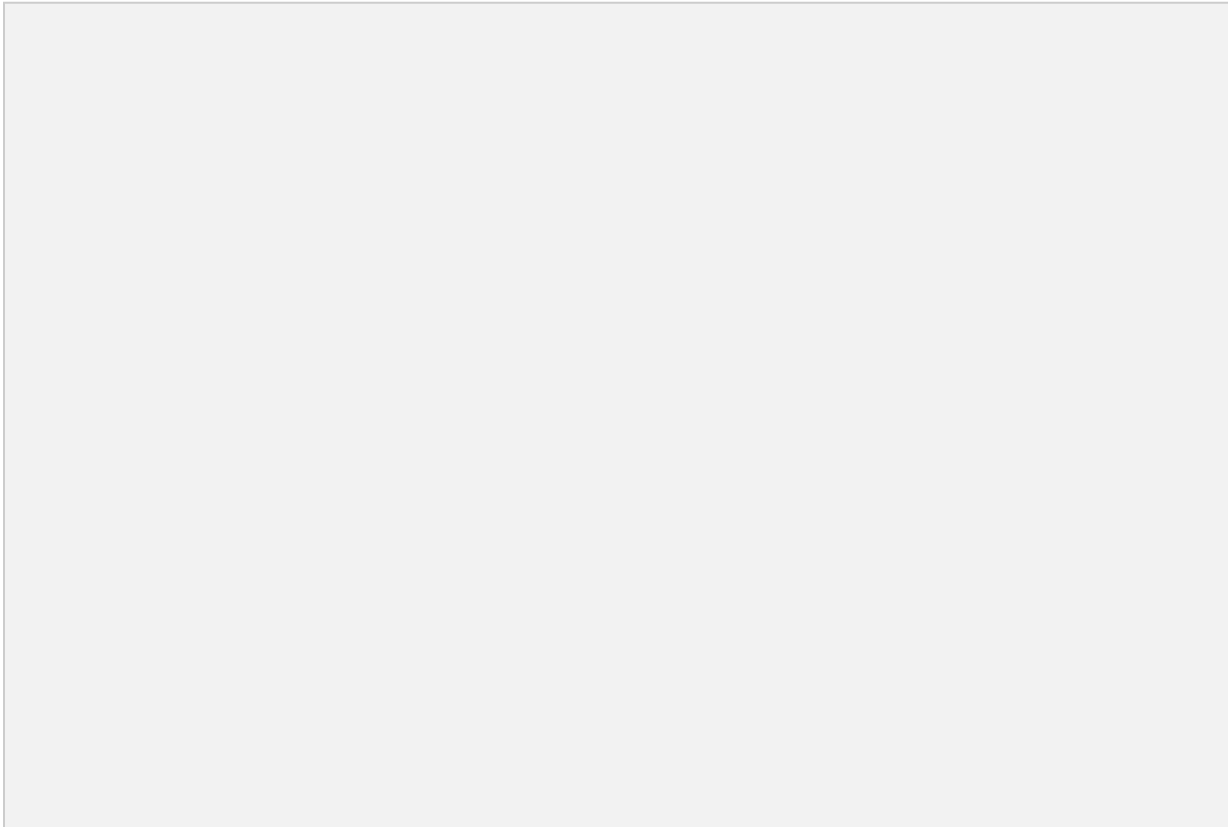


STEP 20: RELOCATE LICENSE PLATE

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.

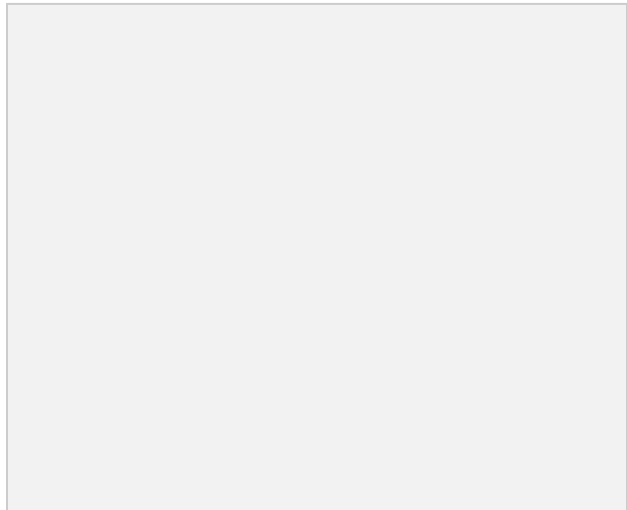
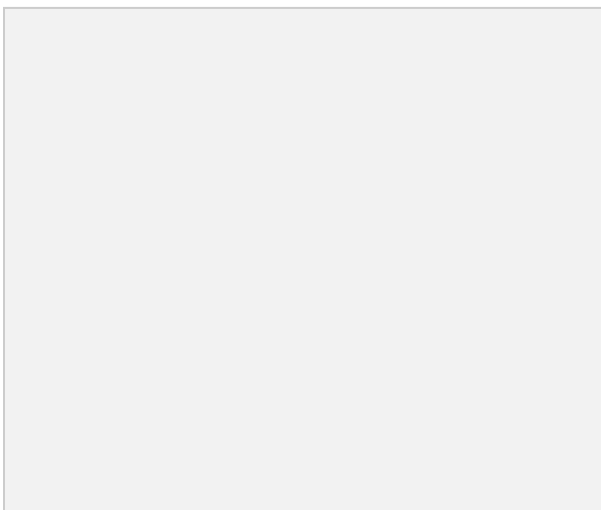


CAMP TABLE INSTALL STEPS (OPTIONAL)



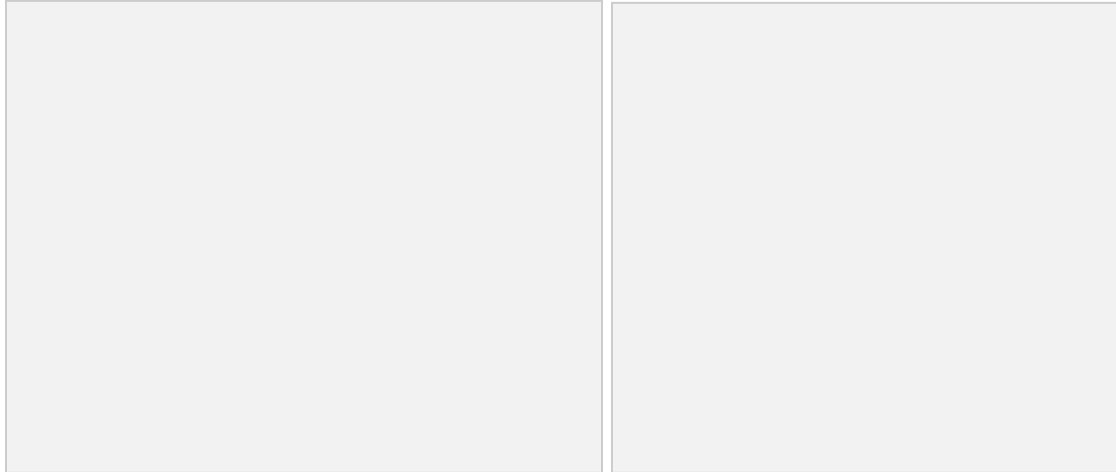
STEP 21: INSTALL LATCH

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.



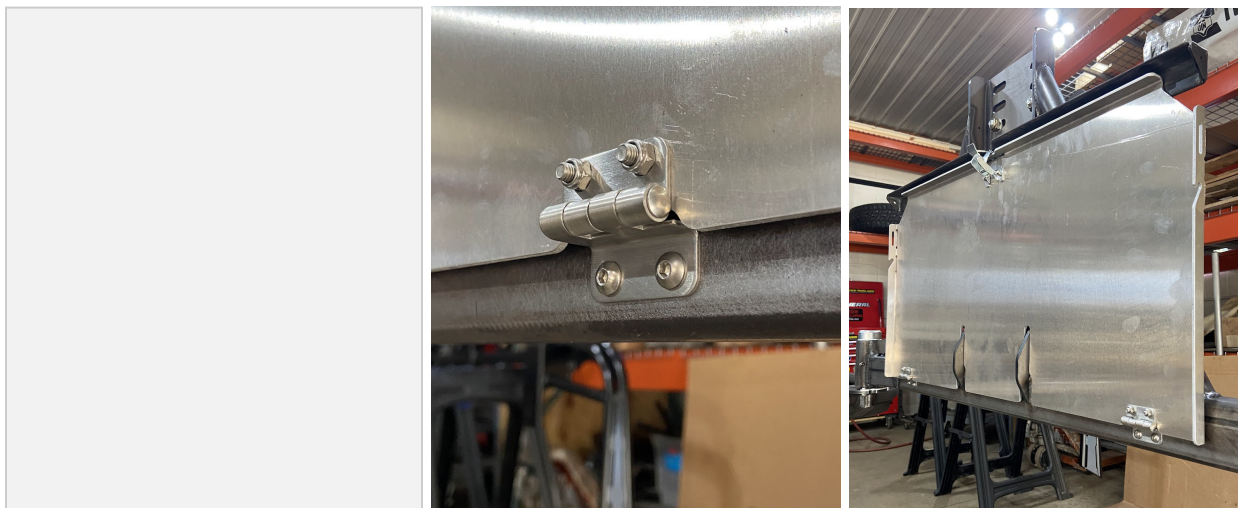
STEP 22: INSTALL HINGES

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 23: 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.



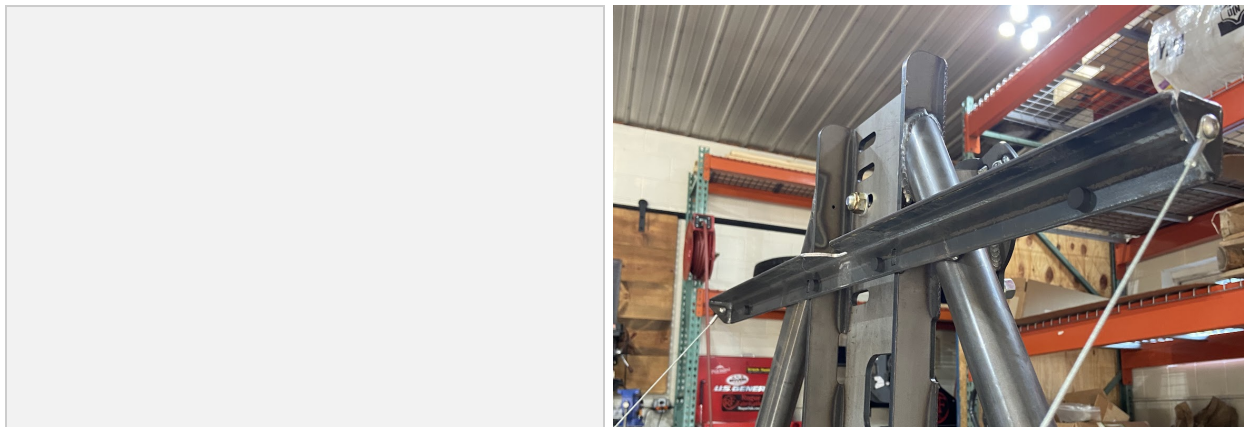
STEP 24: INSTALL LANYARDS

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 25: 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 26: 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.

