

APPROACH SERIES FRONT BUMPER DIY KIT WELD INSTRUCTIONS

**FULLY READ THE WELDING AND INSTALLATION INSTRUCTIONS
PRIOR TO STARTING ON THE KIT!**

DISCLAIMERS

- This is a DIY kit. You are responsible for following the instructions and welding it yourself.
- Failure to follow the instructions, using the incorrect tools, not welding on a flat surface, or not properly fixturing parts properly while welding may lead to the bumper not fitting correctly and/or not being as strong as it was designed to be.
- The parts are shipped as raw steel. There may be evidence of oils, areas with light surface rust, and shallow scratches caused during manufacturing and/or shipping.
- You are responsible for applying any finish (paint, powdercoat, ect) to the bumper once it is finished being fabricated. Failure to do so or improperly prepping before coating could lead to rust.
- Not welding on a flat surface or improper clamping/fixturing of parts while welding will lead to parts moving out of place and/or warping materials.
- Ascend Fabrications takes no liability in the event of damage, loss, or injury to the customer, their vehicle, or any other affected party during the fabrication, installation, or use (or misuse) of our products.
- By fabricating, installing our products, or by purchasing or driving a vehicle with our products already installed, you assume any and all risk and liability.
- This bumper, when welded correctly, will fit the following vehicles. Some vehicle specific mounting components may differ between models.
 - 03-09 4runner
 - 05-15 Tacoma
 - 03-09 Lexus GX470
 - 06-14 FJ Cruiser (center cradle is the same, plated wings are similar but slightly shorter.)

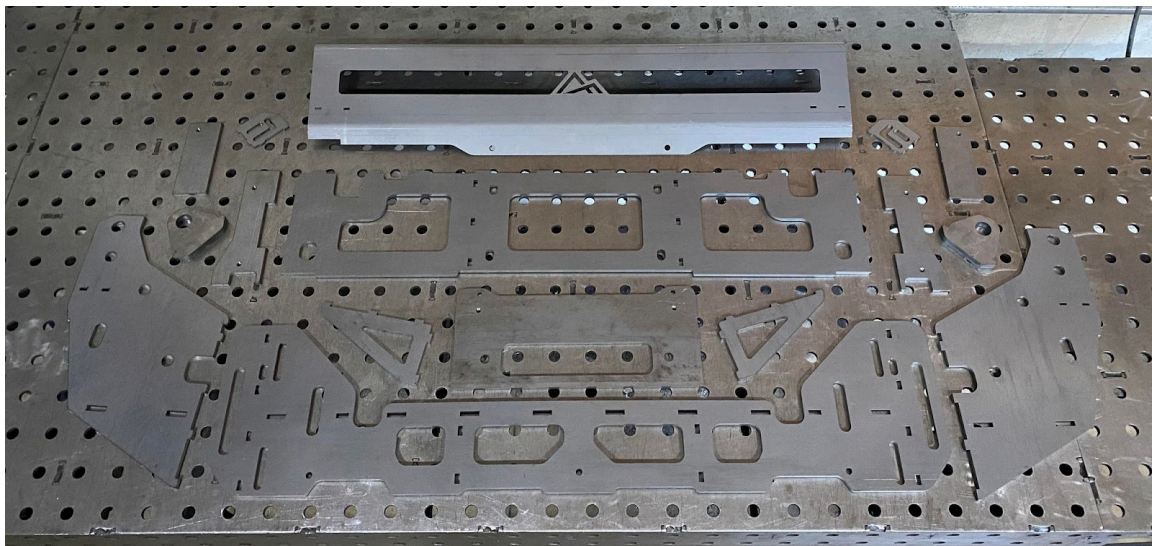
FABRICATION TOOLS NEEDED

- 220v+ welder (preferably MIG with shielding gas)
- Angle grinder with grinding/flap disks and cut off wheels
- Flat surface to weld on (preferably a fixture table you can clamp to)
- Clamps
- Tape measure
- Angle finder
- Carpentry square
- 90 degree magnetic squares (various sizes)
- Proper safety and welding gear
- Basic mechanic/automotive tools (hammer, wrenches, ect)

WHAT'S INCLUDED

CENTER CRADLE

- 1x Aluminum front cover
- 1x Mounting plate
- 1x Winch plate
- 1x Fairlead plate
- 1x Formed upper cover
- 2x Winch plate supports
- 2x Side plates
- 2x Shackle mounts
- 2x Light brackets
- 2x Upper cover backing plates
- 2x Lower cover backing plates
- 2x M8 Flat head bolts



PLATED WINGS

- 2x Inner wings (1x left & 1x right)
- 2x Outer wings (1x left & 1x right)
- 2x Underwing tubes (1x left & 1x right)
- 2x Light brackets
- 2x Mounting plates
- 2x End caps
- 2x Filler triangles
- 1x Aluminum cover



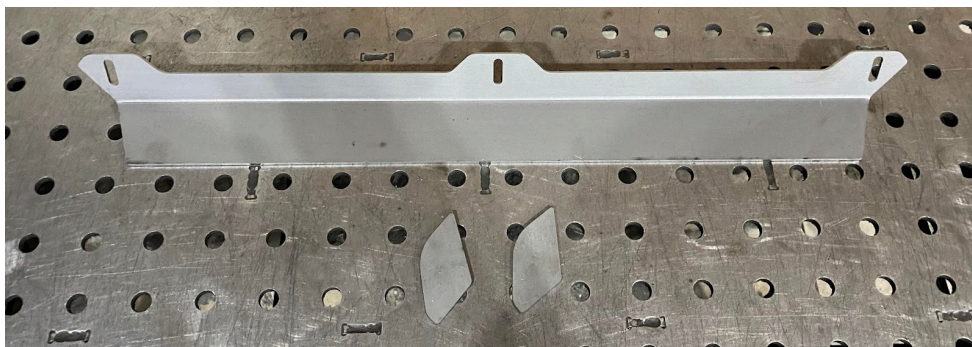
HYBRID WINGS

- 2x Upper wing tubes (1x left & 1x right)
- 2x Lower wing tubes (1x left & 1x right)
- 2x Mounting plates
- 2x Lower wing support
- 2x Top plate
- 2x Light bracket supports
- 2x Formed covers (1x left & 1x right)
- 2x Light brackets
- 2x End caps
- 4x M12 Weldnuts



(OPTIONAL) MINI SKID

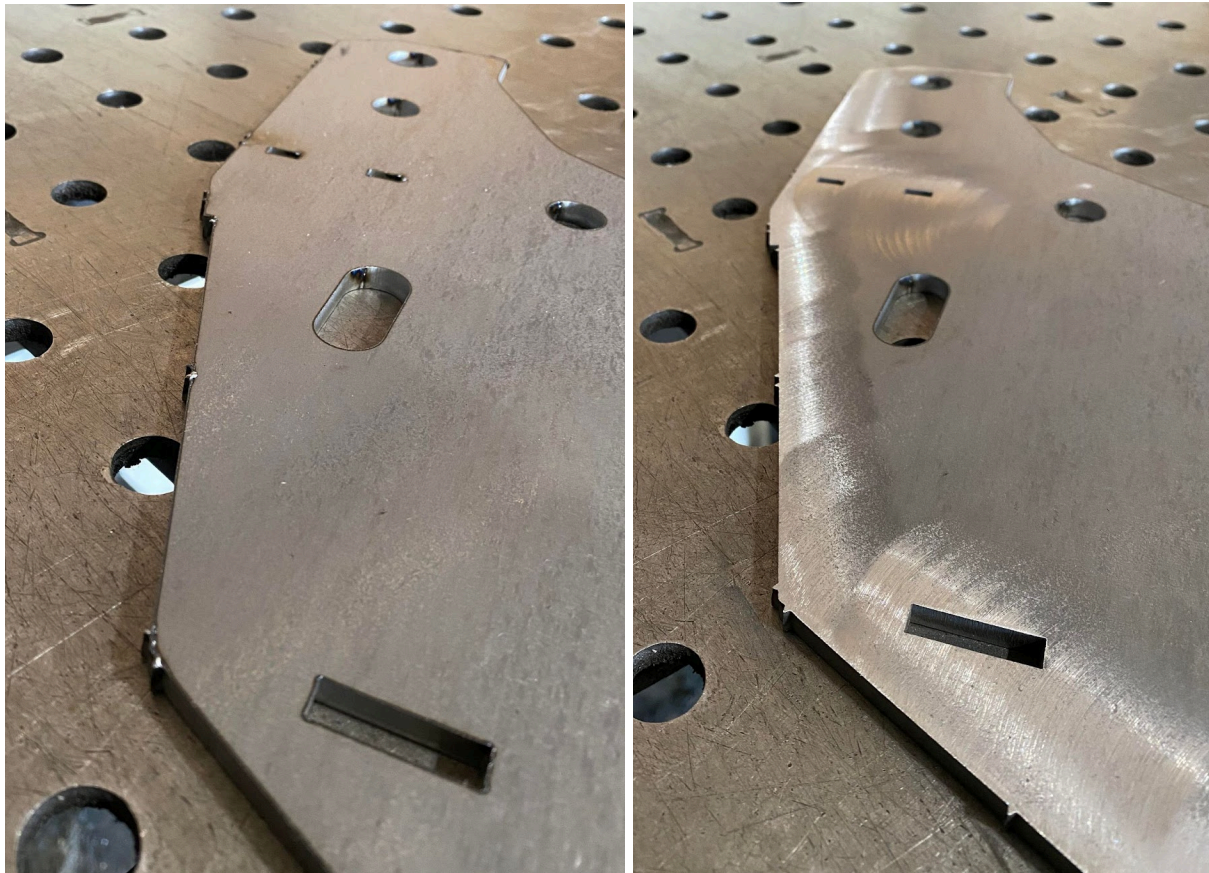
- 1x Formed bracket
- 2x End caps



FABRICATION STEPS

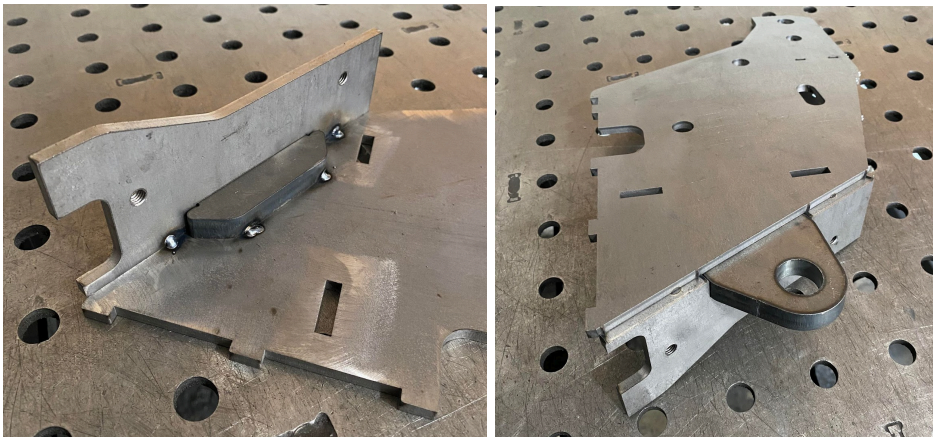
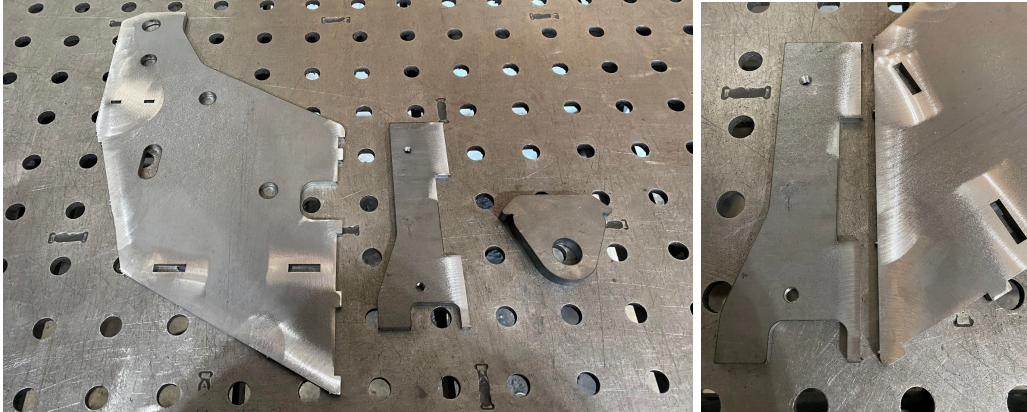
PREP PARTS

- Check that all parts are accounted for.
- Wipe off any oils from weld areas.
- Sand off any surface rust.
- Using an angle grinder with a flap disk, remove any slag from the edges of the parts. Pay specific attention to edges of tabs/slots as slag can interfere with fitment. **DO NOT** accidentally remove little triangle points from edges, these are keys to align open corner joints.



CENTER CRADLE

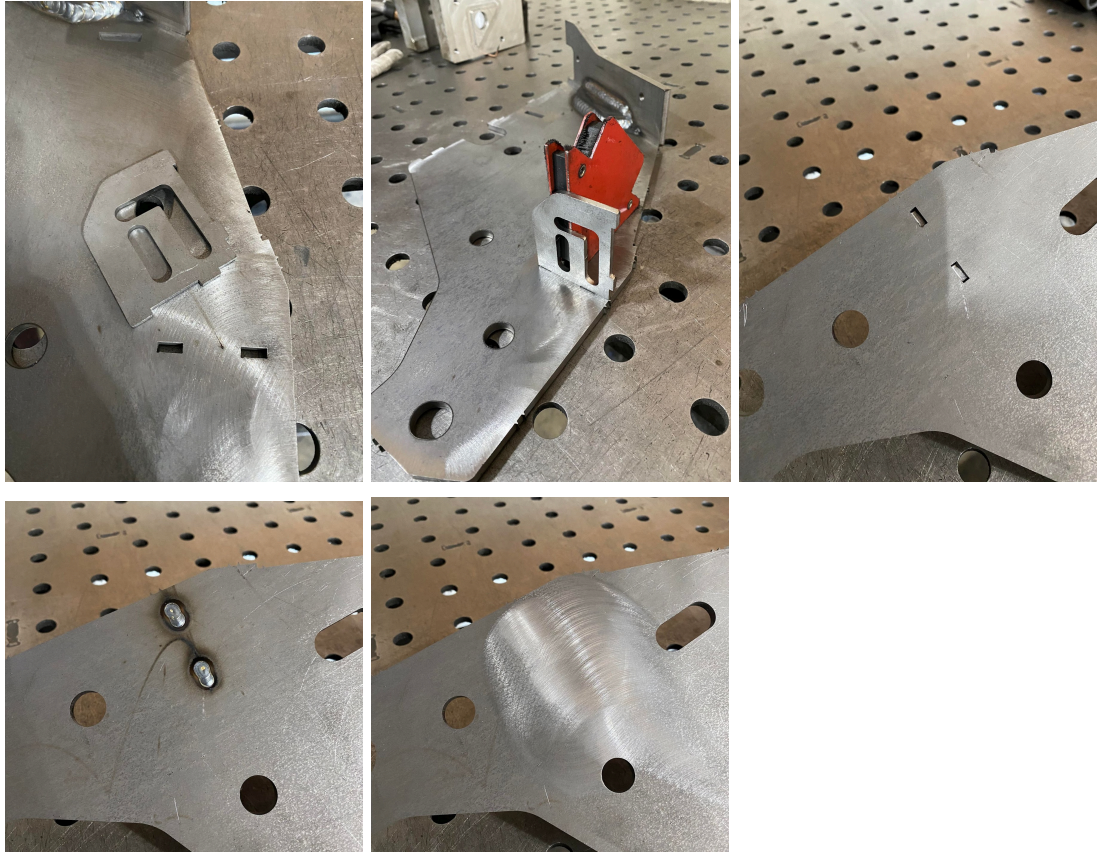
1. Build sub assemblies using the winch cradle side plates and lower cover backing plates. Assemble them as shown so the little alignment tabs on the edges of the winch cradle side plates and lower cover backing plates are centered between each other. Insert the shackle mount through the hole of the sub assembly and clamp it flat to the cradle side plate. Tack everything together. Final fit up should be at 90 degrees but due to welds pulling inward it is best to tac them together at 95.



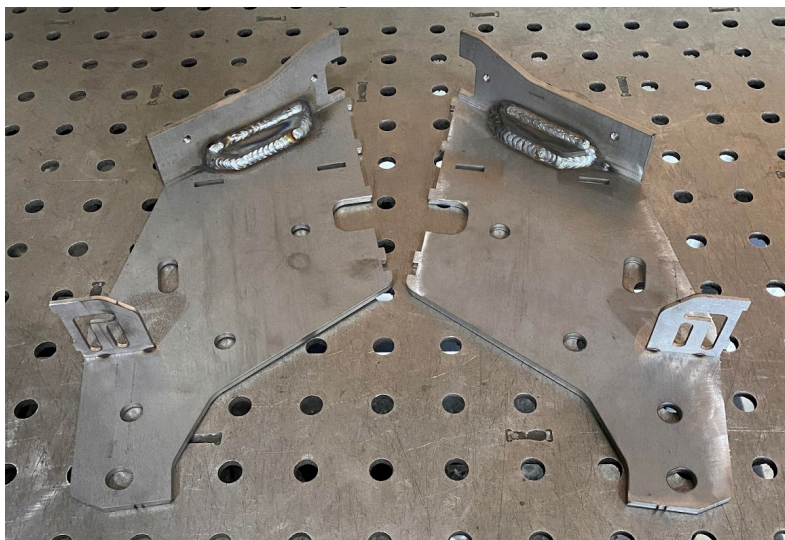
2. Fully weld around the back side of the shackle mount. Be careful to not get any weld splatter in the tapped holes.



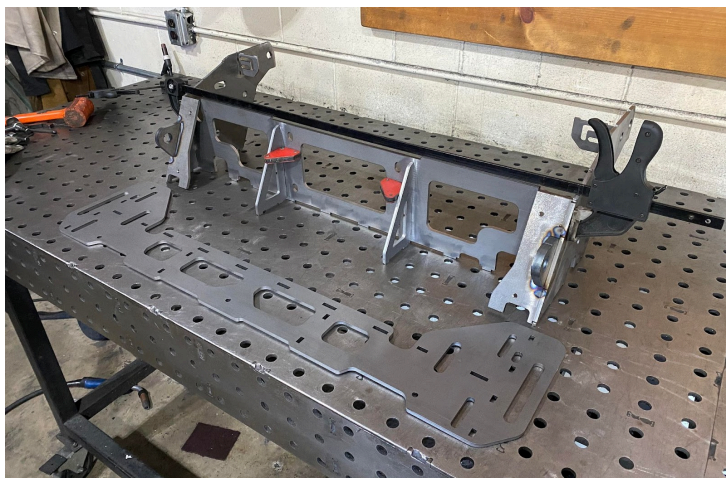
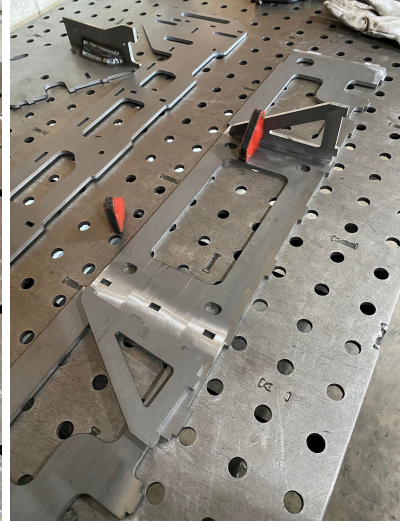
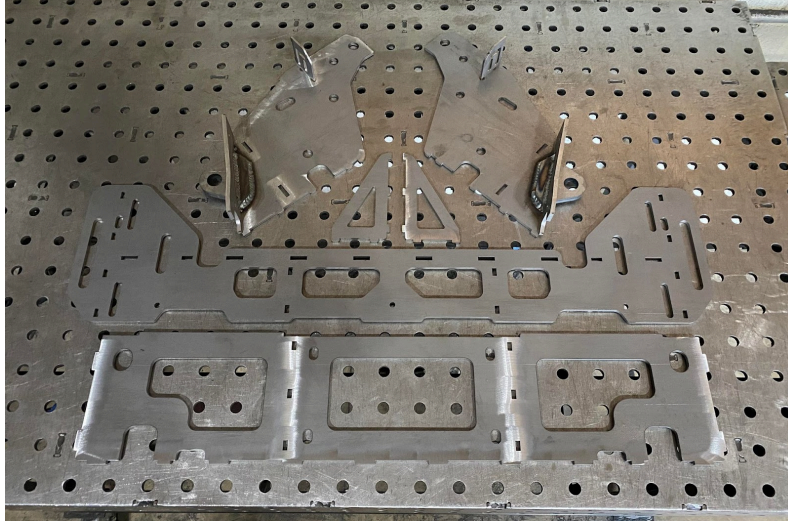
3. Take the light bracket and insert the tabs into the slots on the cradle side plates. Align it as shown so it's on the same side of the plate as the shackle mount with the tabs facing out. Use a 90 degree magnet to hold it in place at the correct angle. Flip the assembly over and fill the slots for the light bracket on the back of the cradle side plates with weld, thus attaching the light bracket. Grind these welds flush with the surface.



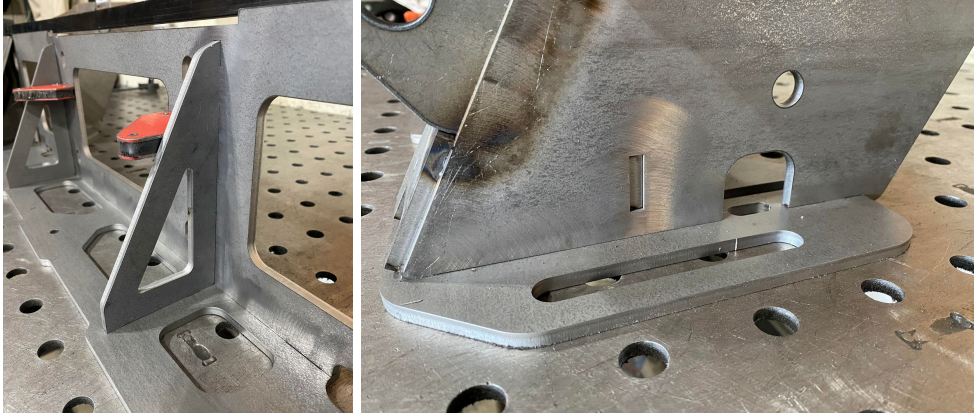
4. Repeat steps 1 through 4 to make a mirrored (left and right version) sub assembly using the same parts.



- Using the two sub assemblies from previous steps, mounting plate, winch plate, and two winch plate supports, assemble as shown mating the tabs/slots between parts. Easiest method is to take the side sub assemblies, winch plate, and winch plate supports and hold them together using clamps/magnets over the mounting plate and drop all the tabs in at once.



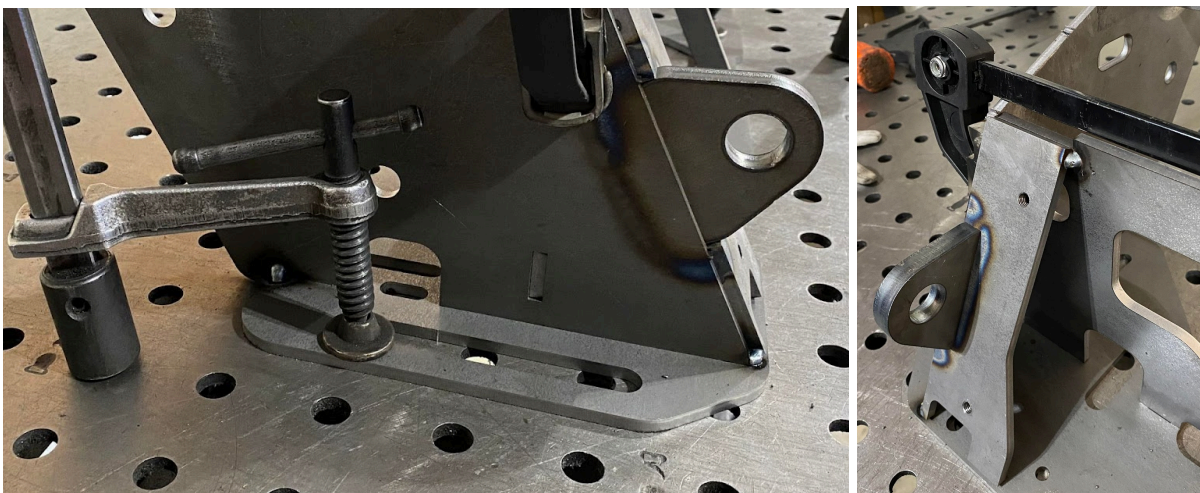
6. Make sure all tabs are fully seated and there are no gaps/angles between edges.



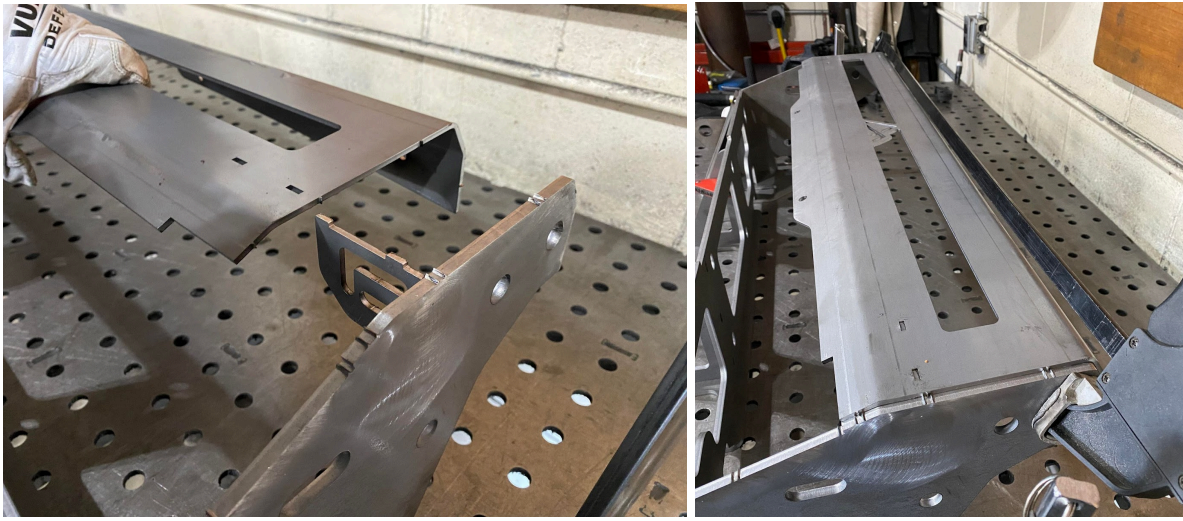
7. Clamp the outer ends and center of the mounting plate so it's flat against a weld table.



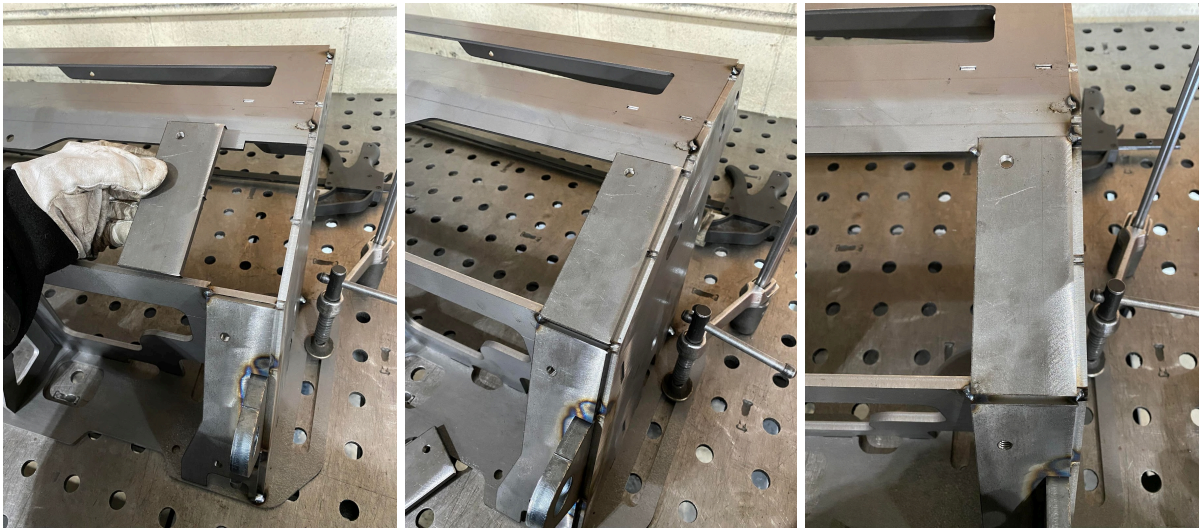
8. Put a small tack weld on either end of the side plates to the mounting plate. Put a large tack in the upper corner of the lower cover backing plate to the winch plate.



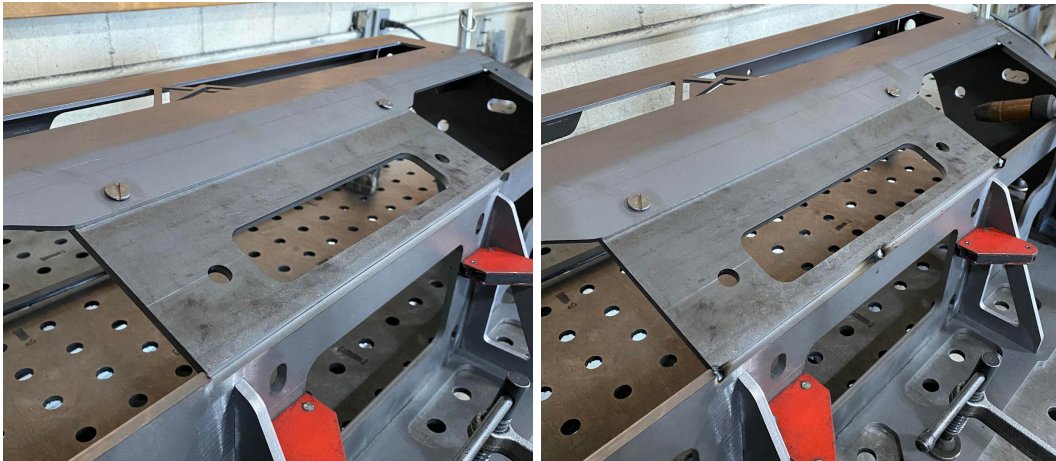
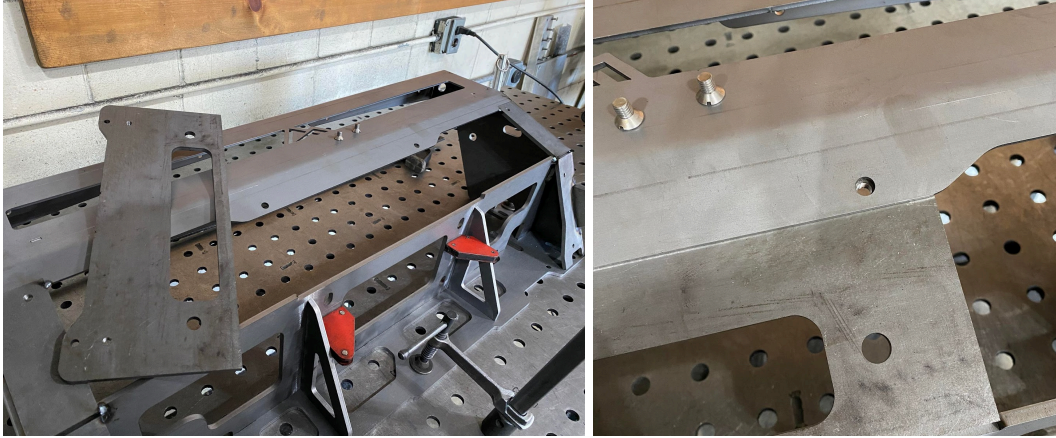
9. Take the formed upper cover and drop it over the side assemblies so the keyed edges line up and the tabs/slots on the light brackets fit together.



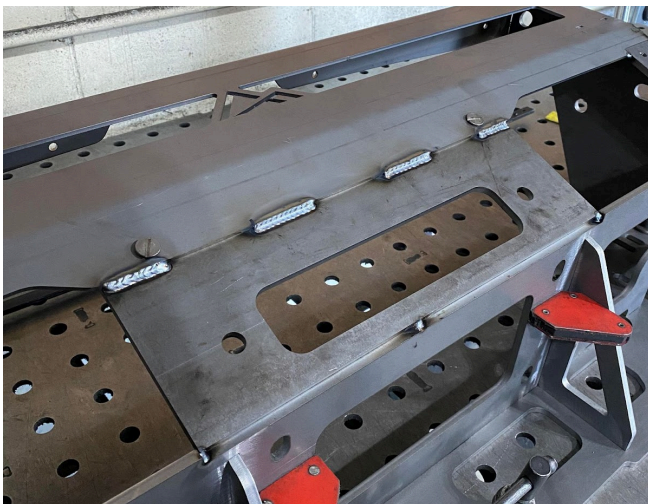
10. Take the upper cover backing plates and align them as shown. Make sure the tapped hole is up. Align the keyed edges. Once aligned, tack into place.



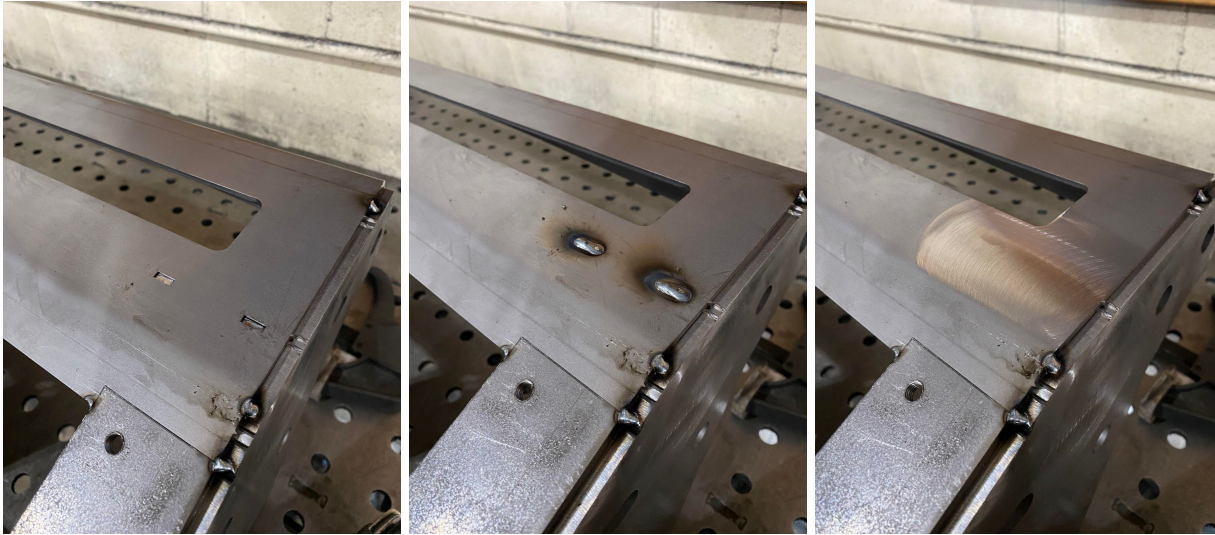
11. Take the fairlead plate and align the tapped holes on the back side of the holes on the formed upper cover. Using the provided 2x M8 flat head bolts, thread them through the cover into the holes in the fairlead plate and tighten them down. Align the bottom edge of the fairlead plate to the front edge of the winch plate. Put a few tacks between them.



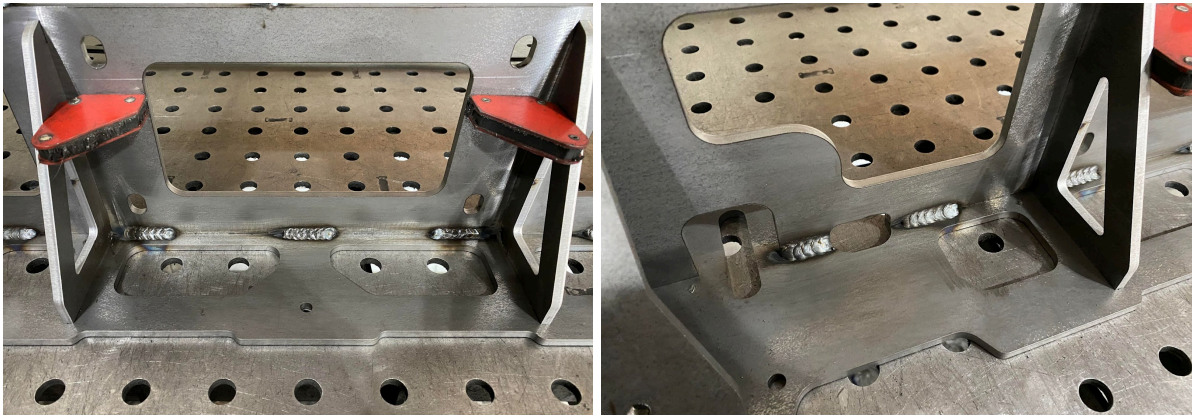
12. (OPTIONAL) Stitch weld along the seam between the fairlead mount and formed upper cover. Keep the weld bead as small as possible.



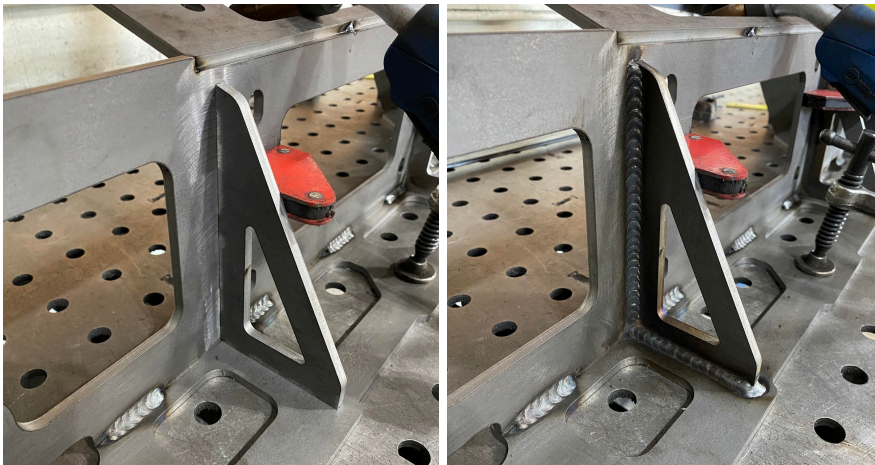
13. Weld over the tabs/slots on the front of the formed upper cover for the light brackets.
Grind down welds so they are smooth and flush with the surface.



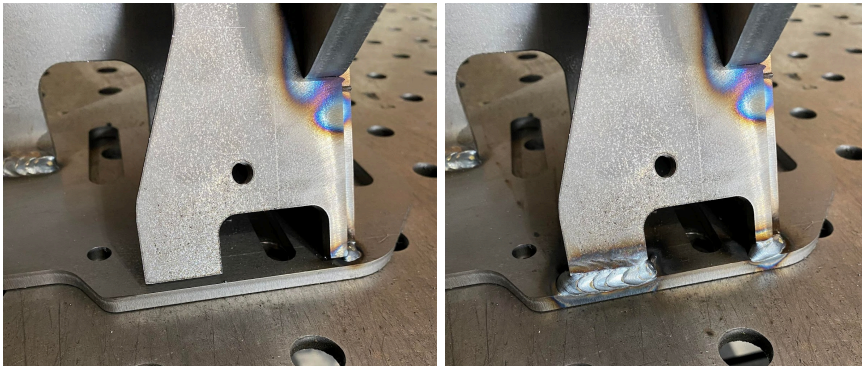
14. Stitch weld the inner edges between the mounting and winch plates.



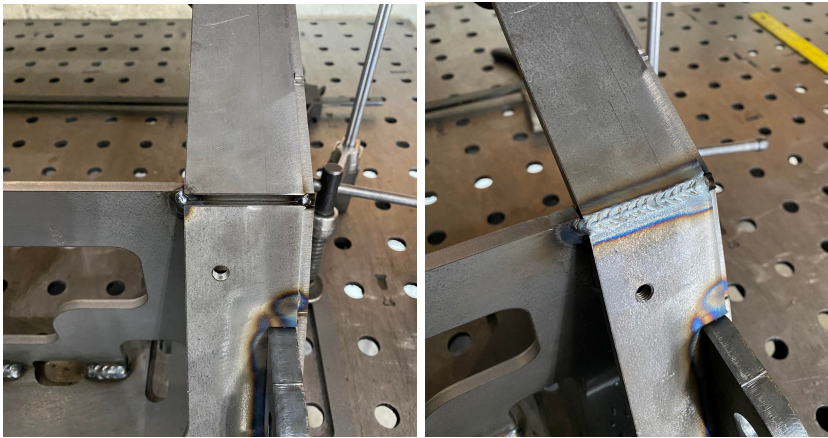
15. Fully weld the outer edges of the winch plate supports. DO NOT weld the inner edges, the weld bead could interfere with the bolts/nuts for mounting a winch.



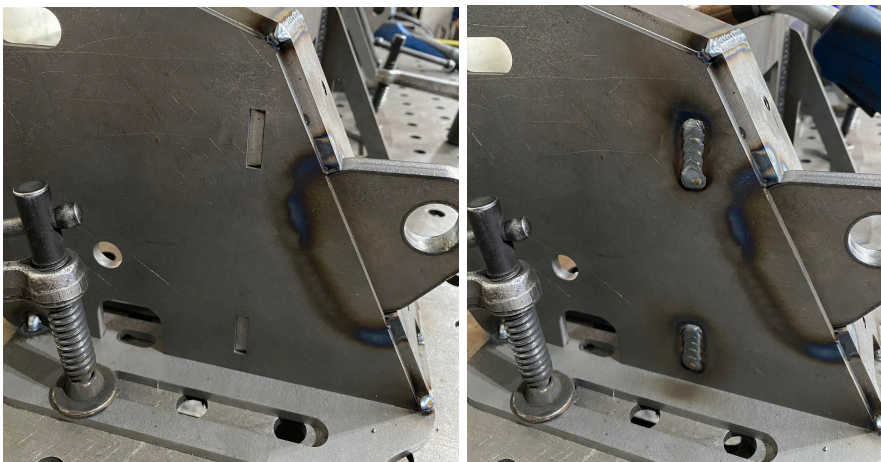
16. Weld the seam between the lower cover backing plates and bottom edge of the mounting plate.



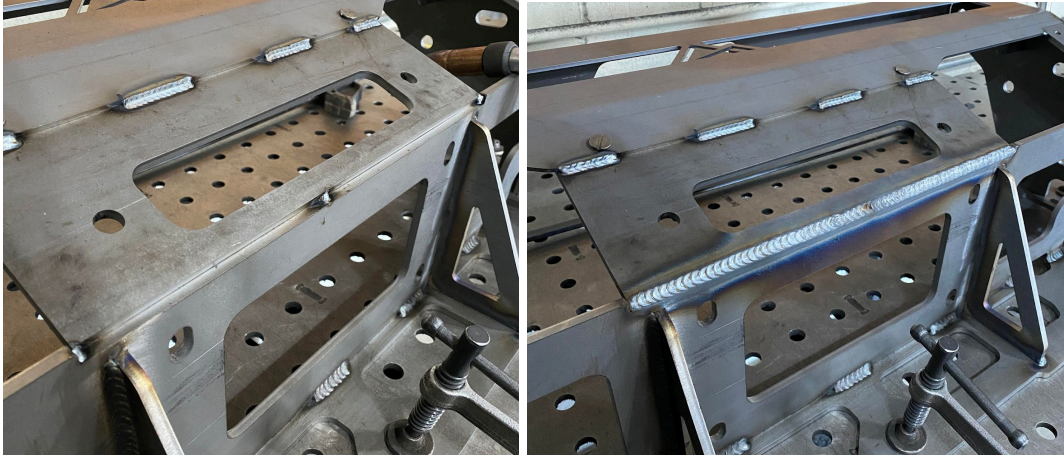
17. Weld the seam between the upper and lower cover backing plates. Keep this weld as low profile as possible to not interfere with the aluminum cover.



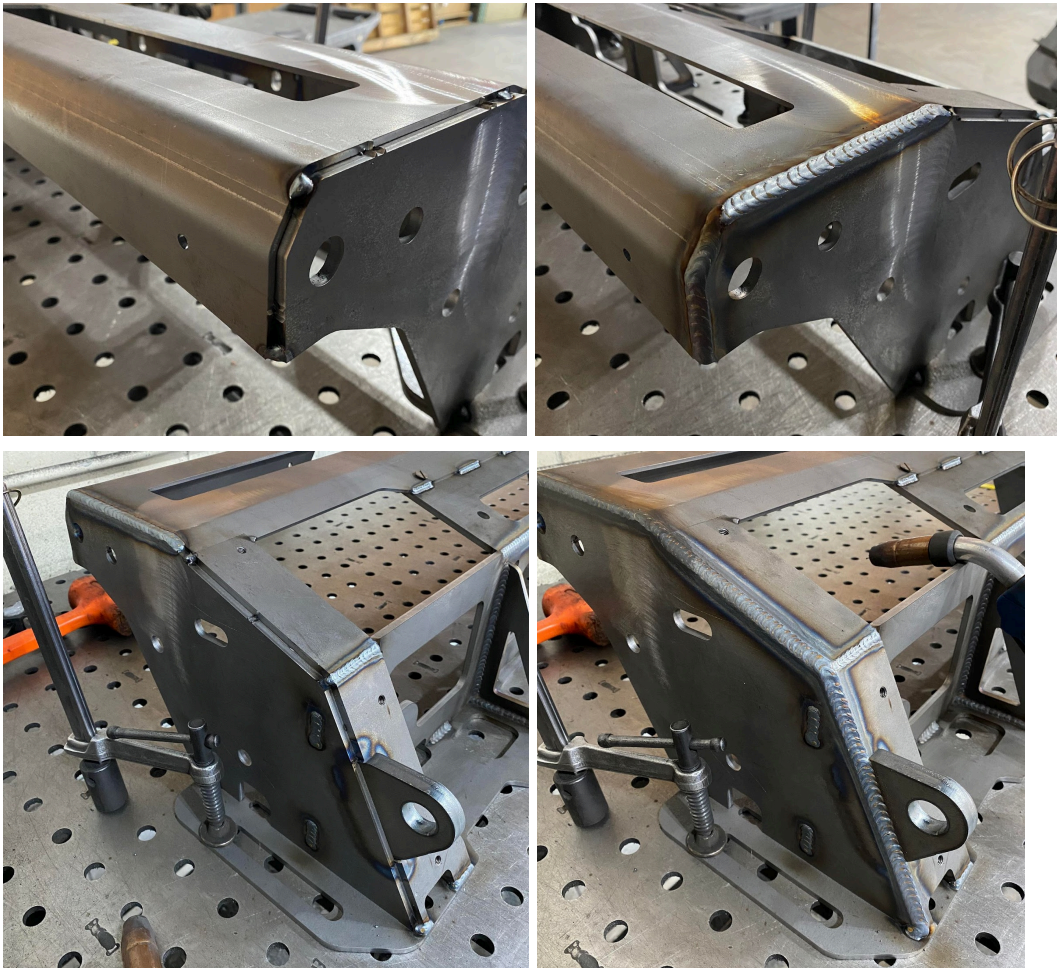
18. Weld over the tabs/slots for the winch plate on the outside of the side plates.



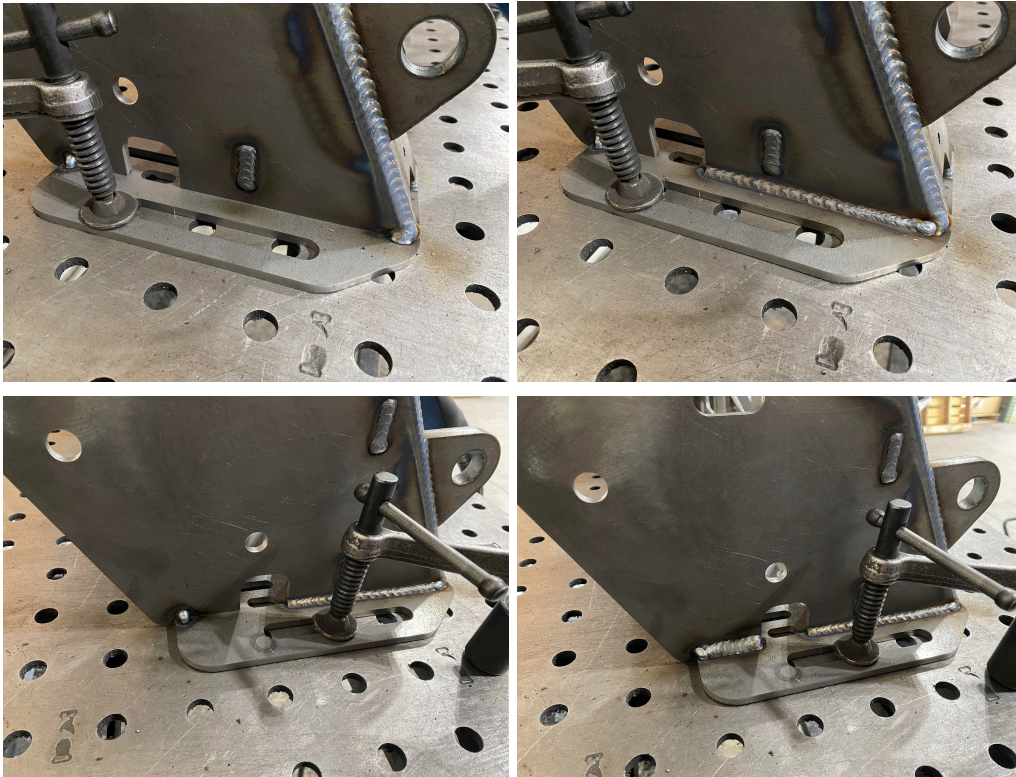
19. Weld the seam between the fairlead and winch plates.



20. Weld the entire outer seams along the top and forward edges of the side plates between them and the formed upper cover, upper and lower cover backing plates, and the shackle mounts. (OPTIONAL: Weld the upper portion along the edge of the formed upper cover first and then grind the weld smooth to a radius. Then continue to weld the lower portion and leave the weld raw.)

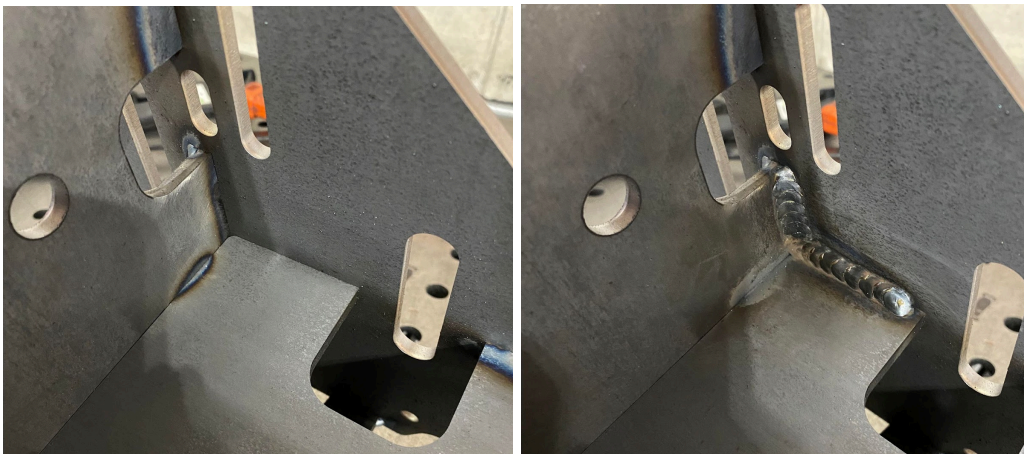


21. Weld the outer seam between the mounting plate and back edge of the side plates. On the upper portion, do a larger weld. On the lower portion next to the slotted mounting holes, do a lower profile weld.

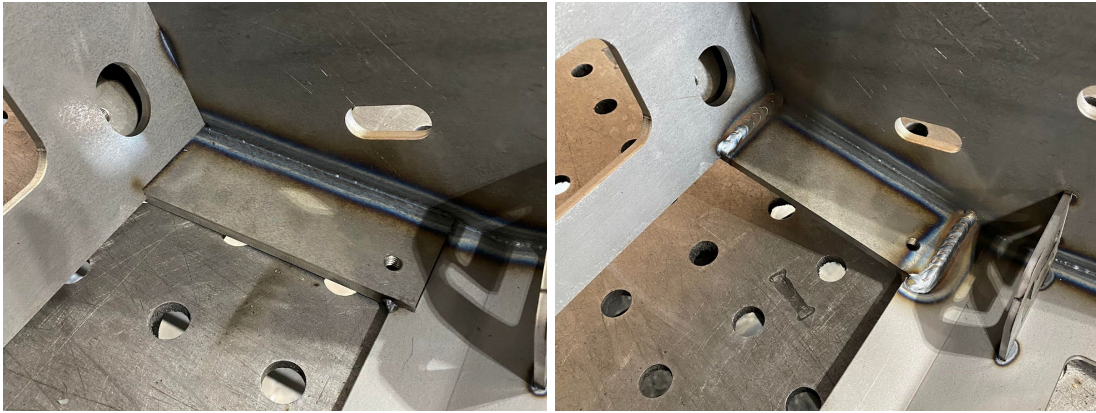


22. Unclamp the assembly from the table and flip it over.

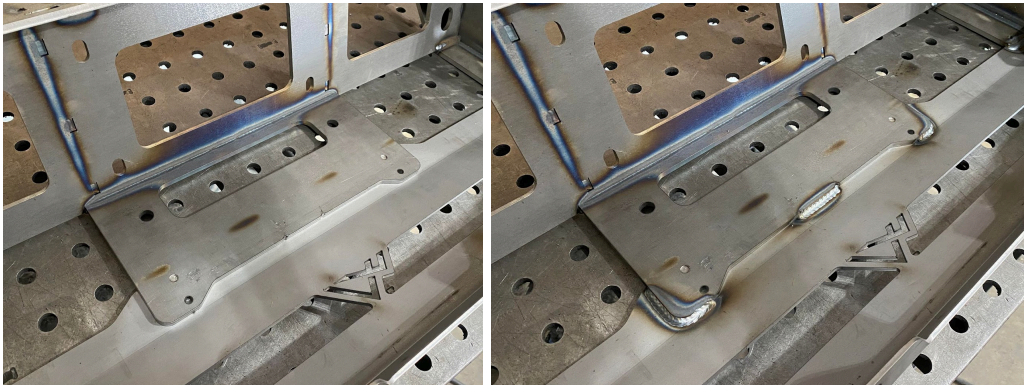
23. On the inside of the cradle, weld the corner where the edge at the back of the side plates meet the mounting plate and down along the back of the winch plate.



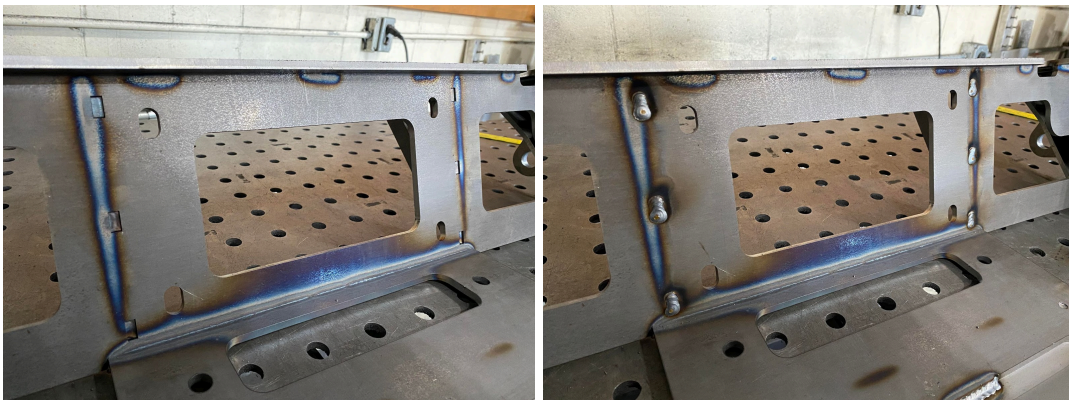
24. On the inside of the cradle, weld the top and bottom edges of the upper cover backing plate to the winch plate and formed upper cover.



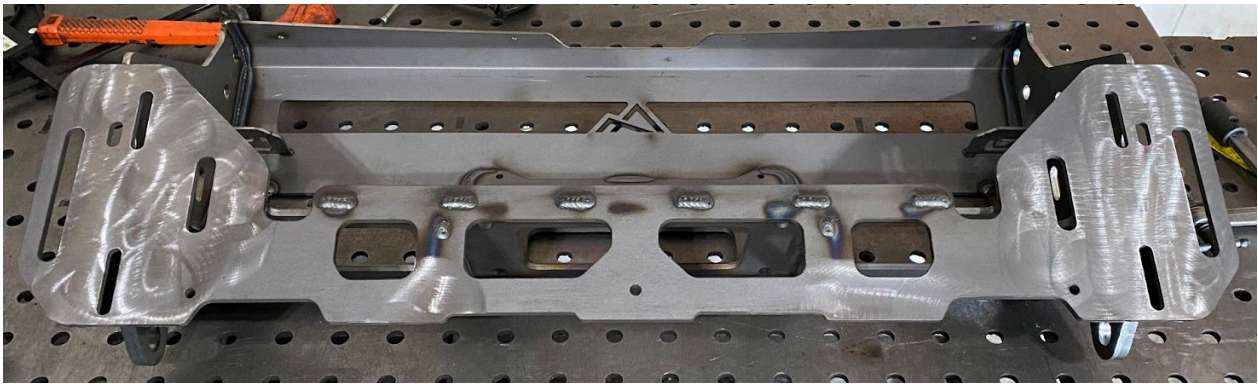
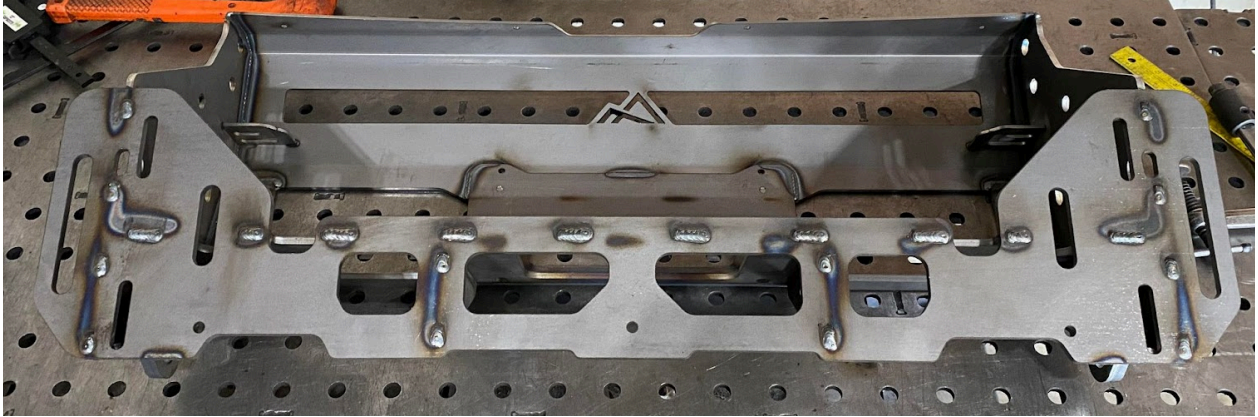
25. On the inside of the cradle, weld the center and corners of the fairlead plate to the formed upper cover.



26. On the inside of the cradle, weld over the tabs/slots for the winch plate supports on the surface of the winch plate.



27. Weld over all the tabs/slots on the back side of the mounting plate. Once welded, grind all of the 12 outer and 2 lower center welds flush/smooth with the surface. You don't need to grind the 8 upper center welds.

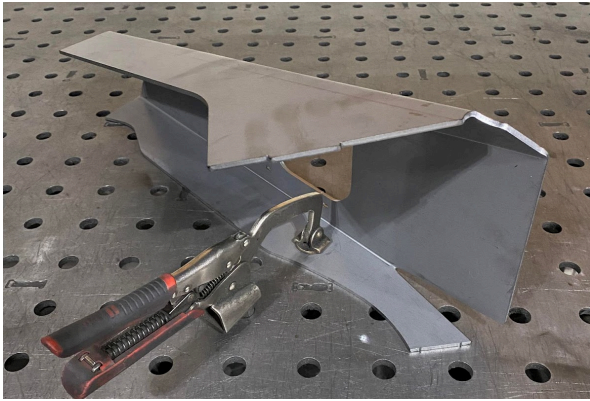


28. Lightly grind the upper edges of the side plates to knock down any weld that's hanging over the edges that could cause fitment issues with the wings.

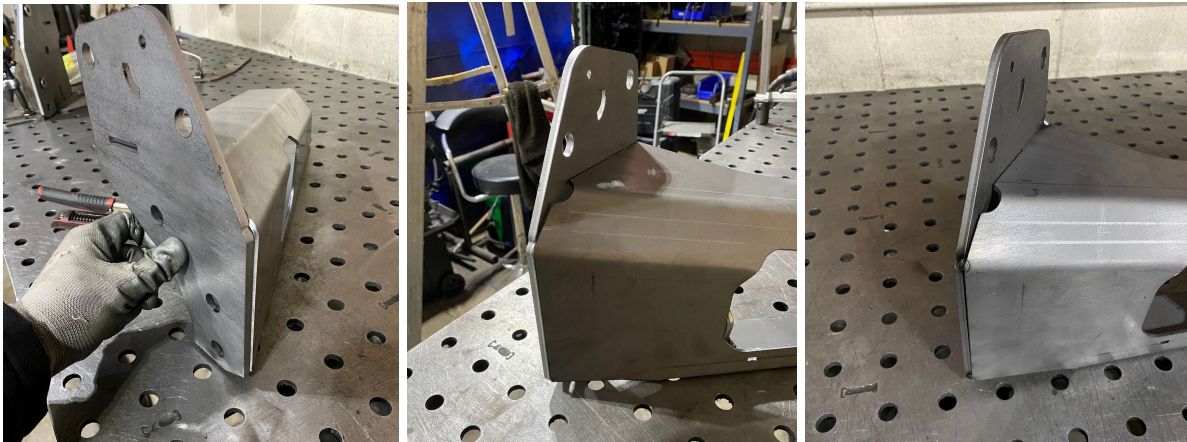


PLATED WINGS

1. Take the inner wing and clamp the top surface upside down to a weld table.



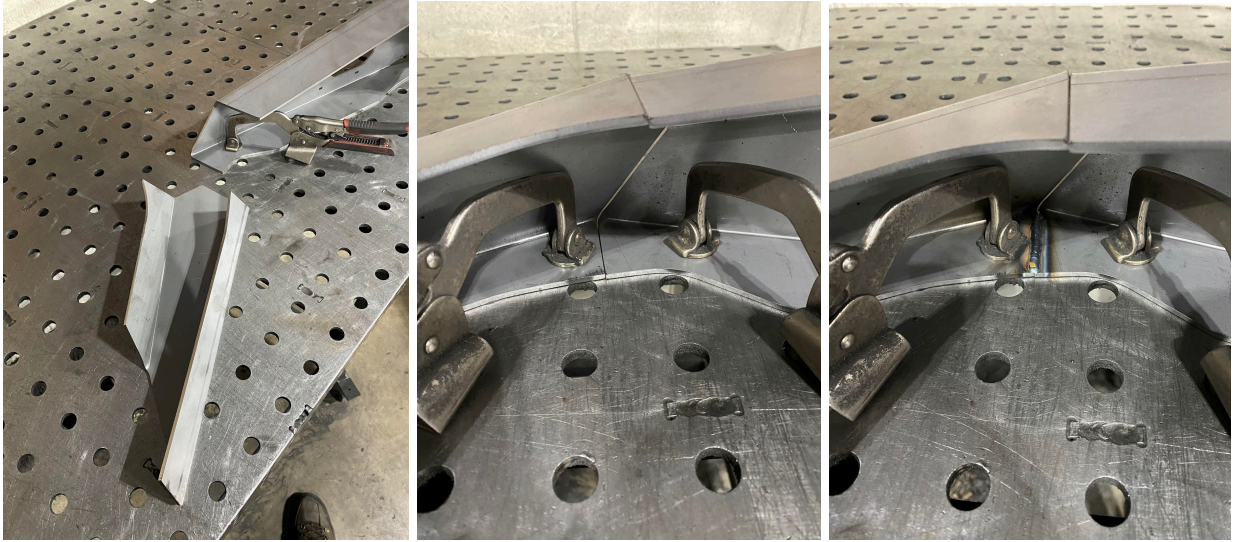
2. Take the mounting plate and align it with the tab/slot and keyed edges on the inner wing. The top surface of the wing is 90 degrees to the surface of the mounting plate. Tack the parts together.



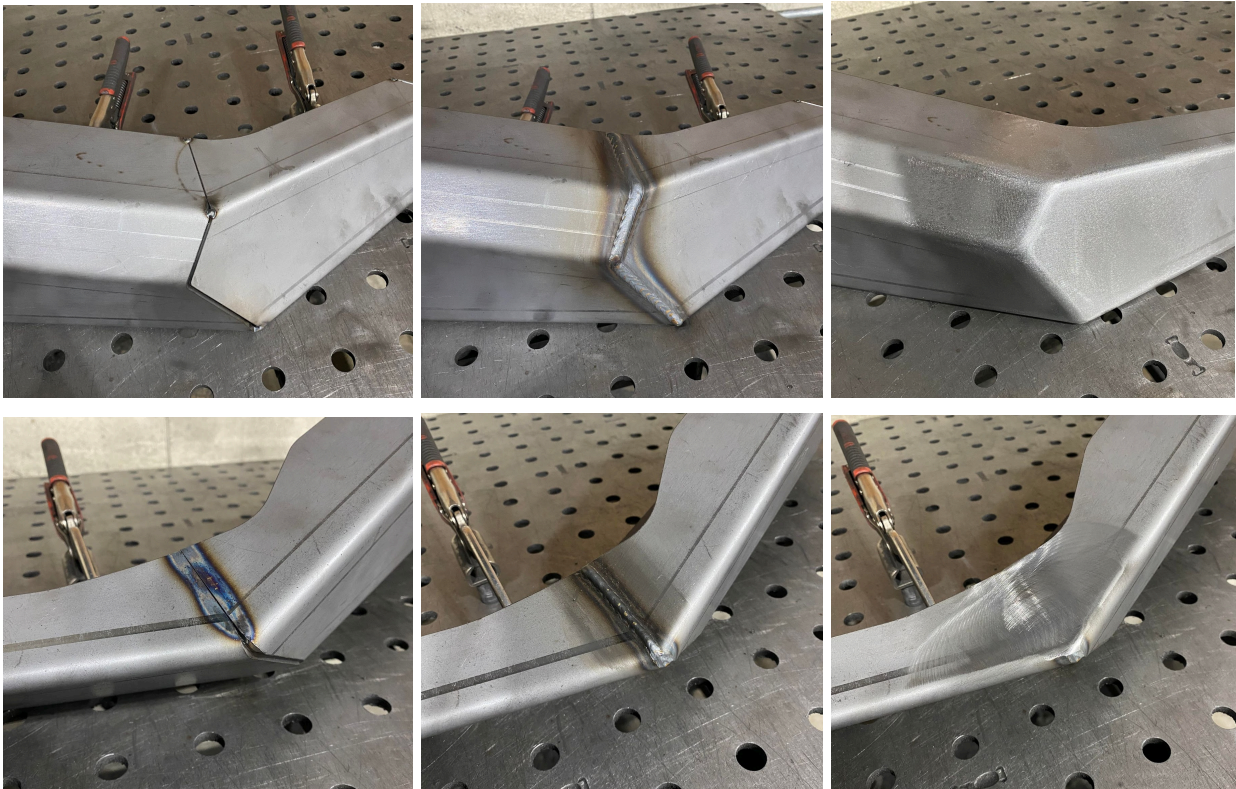
3. Put a small weld on the inside of the bumper along the mounting plate. Make sure to leave room for a bolt head.



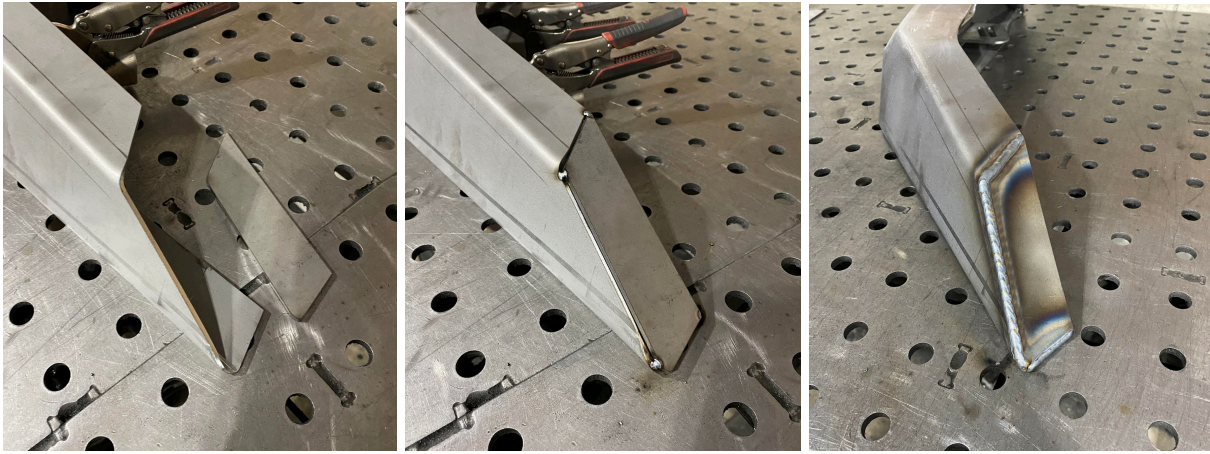
4. With the inner wing still clamped upside down to a weld table, take the outer wing and align the top edge with the edge on the inner wing. Start by aligning, clamping, and tacking the top edges of the wing. This should locate and correctly align the outer wing. Weld the inner top edge.



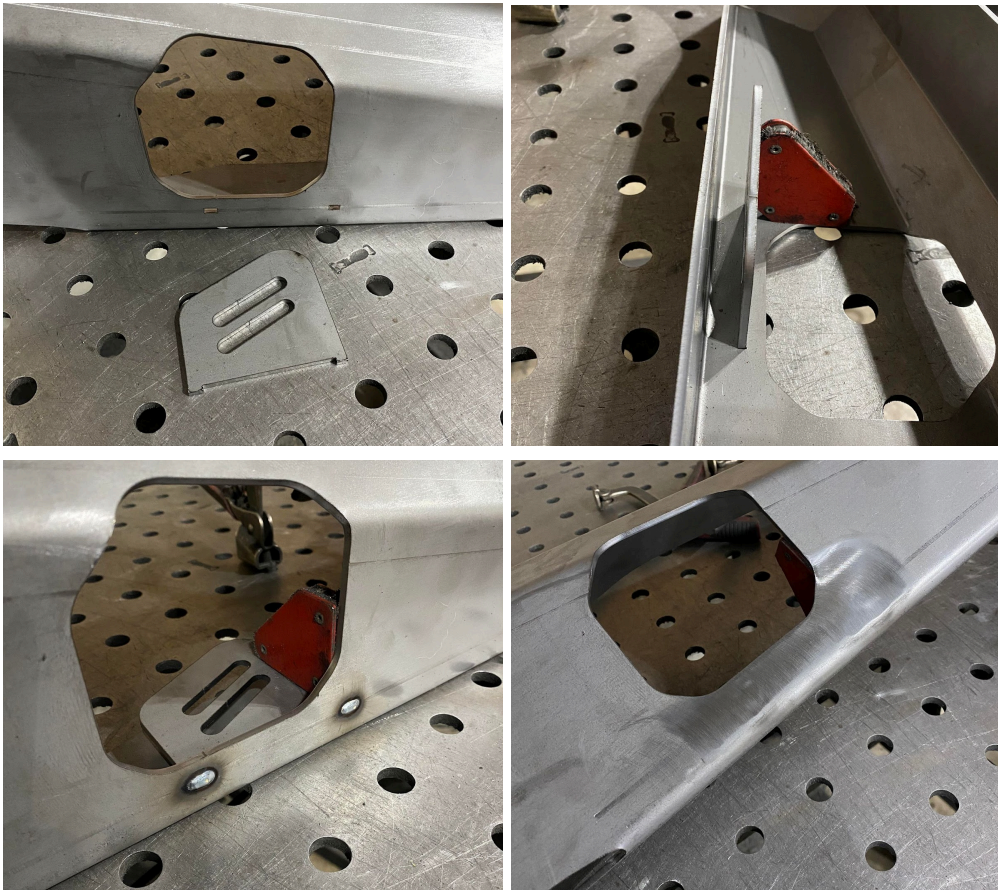
5. Clamp and tack around the rest of the outside of the joint between the inner and outer wings. Fully weld all exterior seams then grind smooth to a radius.



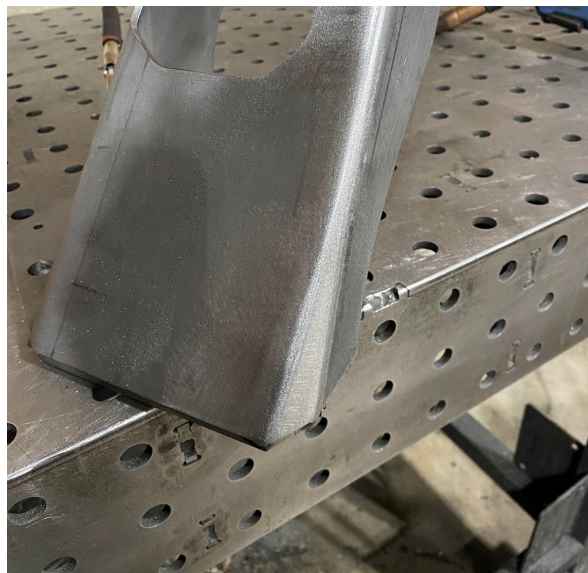
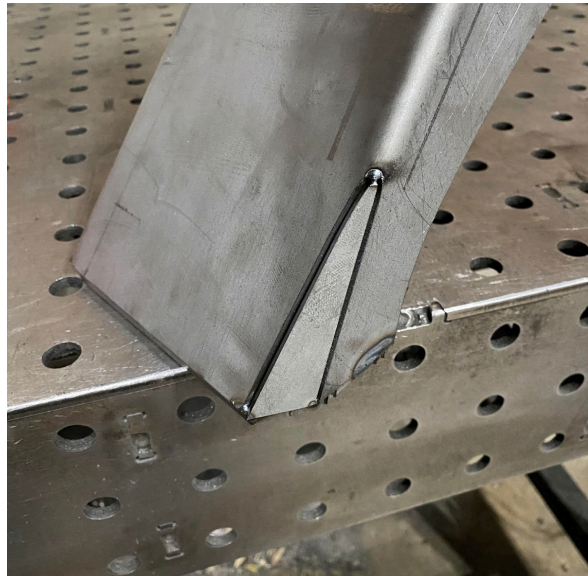
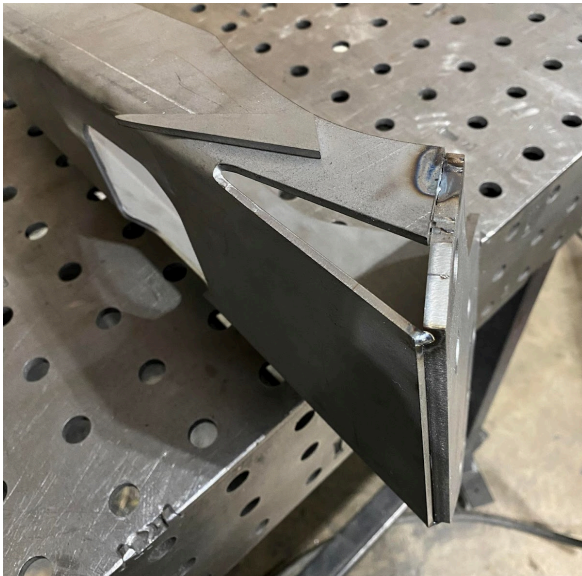
6. Take the end cap and align it to the end of the outer wing. Tack into place then fully weld.
(OPTIONAL: Grind welds smooth to a radius)



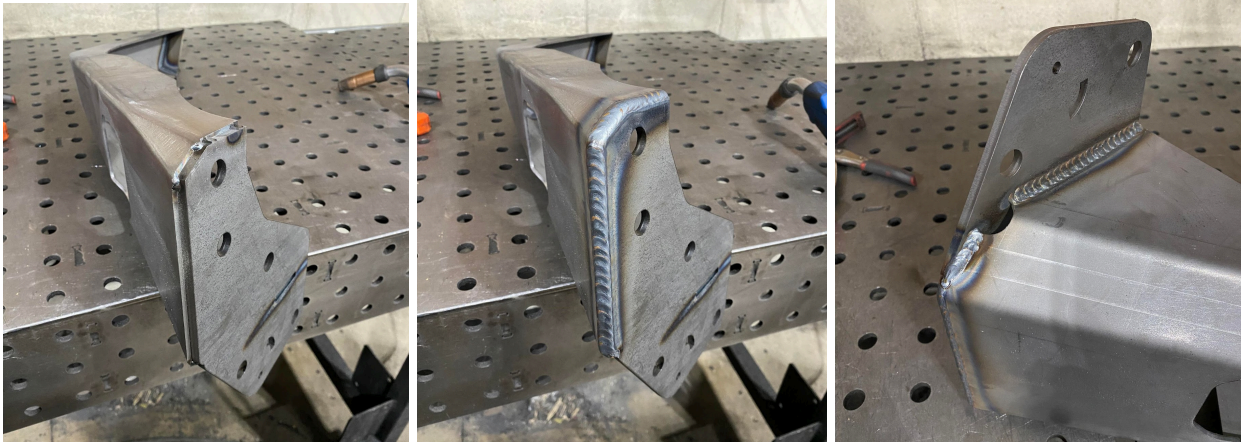
7. Take the light bracket and align it with the tabs/slots on the inner wing. The bracket should be parallel with the top surface of the wing. Weld over the face of the tabs/slots then grind smooth.



8. Take the triangle filler and align it into the gap in the top corner of the inner wing. Tack into place then fully weld the two longer seams. DO NOT weld the end of the filler to the mounting plate. Grind welds smooth to a radius.



9. Fully weld outer seams between mounting plate and inner wing. (OPTIONAL: Grind welds smooth to a radius)



10. Take the underwing tube and align the tab on the end of it with the slot on the mounting plate. The mitered end of the tube should be centered on the surface of the bottom flange of the inner wing. Tack into place then fully weld both ends. You don't need to attempt to fully weld the tight inside corner at the start of the long miter, it's fine to leave this unwelded.



11. Lightly grind the edges of the mounting plates to knock down any weld that's hanging over the edges that could cause fitment issues with the cradle.



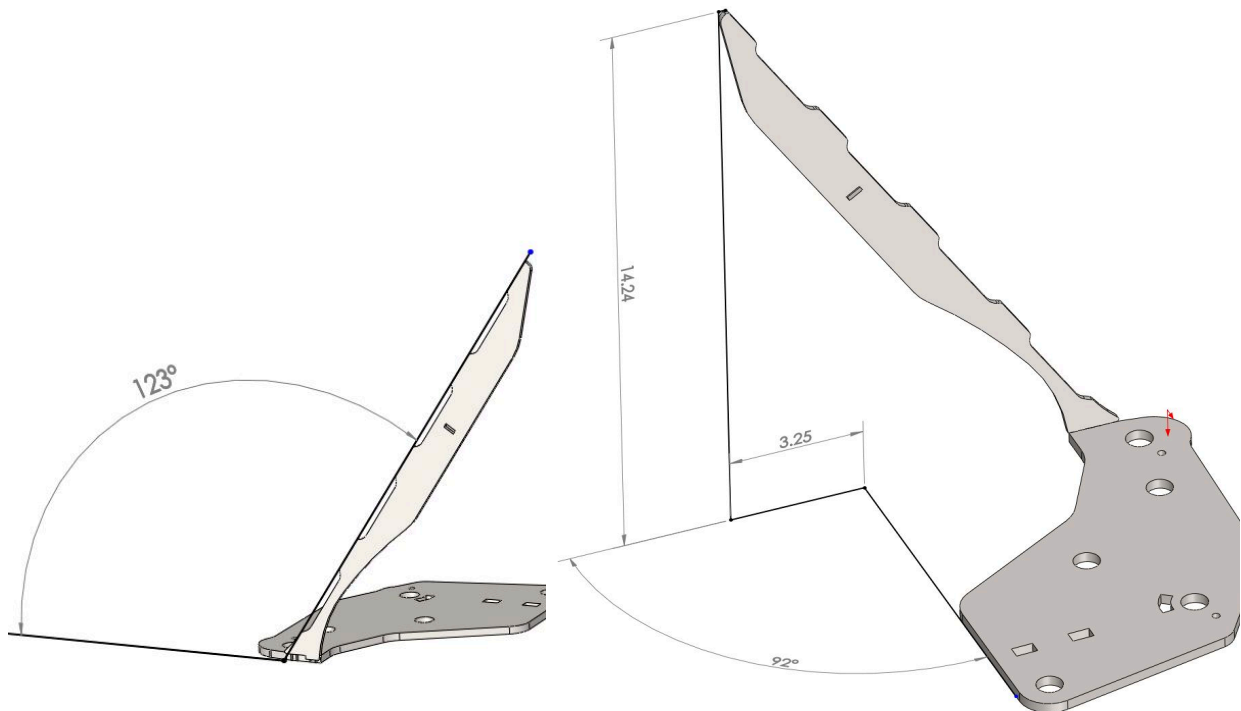
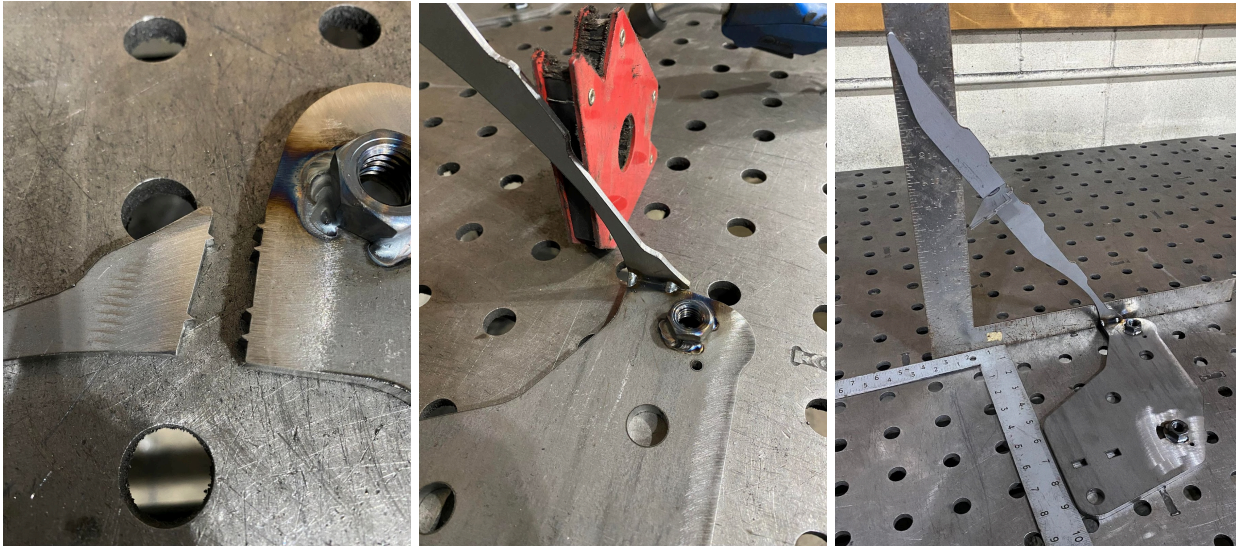
12. Repeat steps 1 through 11 to make a mirrored/opposite version of the wing.

HYBRID WINGS

1. Take the mounting plates and M12 weld nuts. Align the rim on the weldnut and insert them into the two holes as shown. Make sure they are centered in the holes. Weld into place with an extremely small weld bead, TIG preferred. Repeat the process with the other mounting plate and make a mirrored version.



2. Take the top plate and align the keyed edge with the top edge of the mounting plate. It is critical that the edges are perfectly aligned and at 90 degrees. The weldnuts should be on the same side as the top plate. While the mounting plate is on a flat surface, using a square and a straight edge, the tip of the top plate should be 14- $\frac{1}{4}$ " from the flat surface. Take a straight edge and place it against the back edge of the mounting plate and up to the square while its against the outer tangent edge of the top plate. It should be 3- $\frac{1}{4}$ " from the point where it touches the square to the tangent edge. The front edge of the top plate should be at 123 degrees. Be aware that the back edge of the mounting plate is NOT perfectly square to the top plate. Tack weld the parts together then recheck alignment and angle.



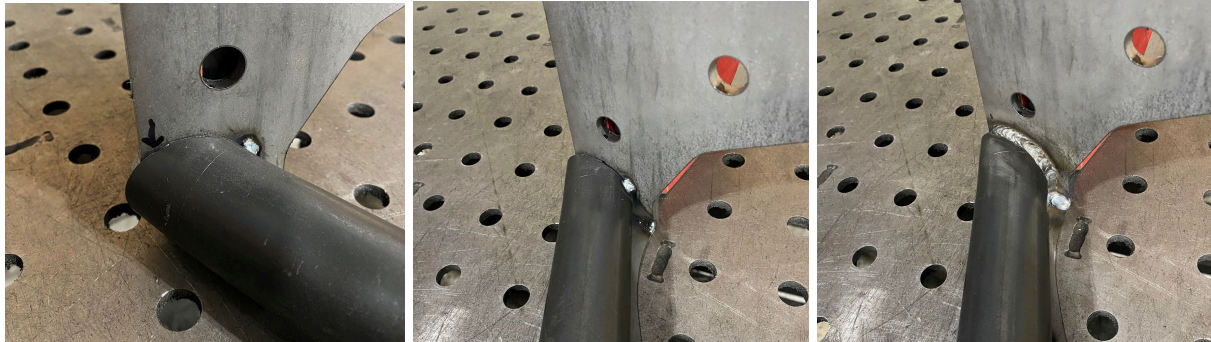
3. Take the light bracket support and align the tab on it to the slot on the top plate as shown. Tack weld into place at 90 degrees.



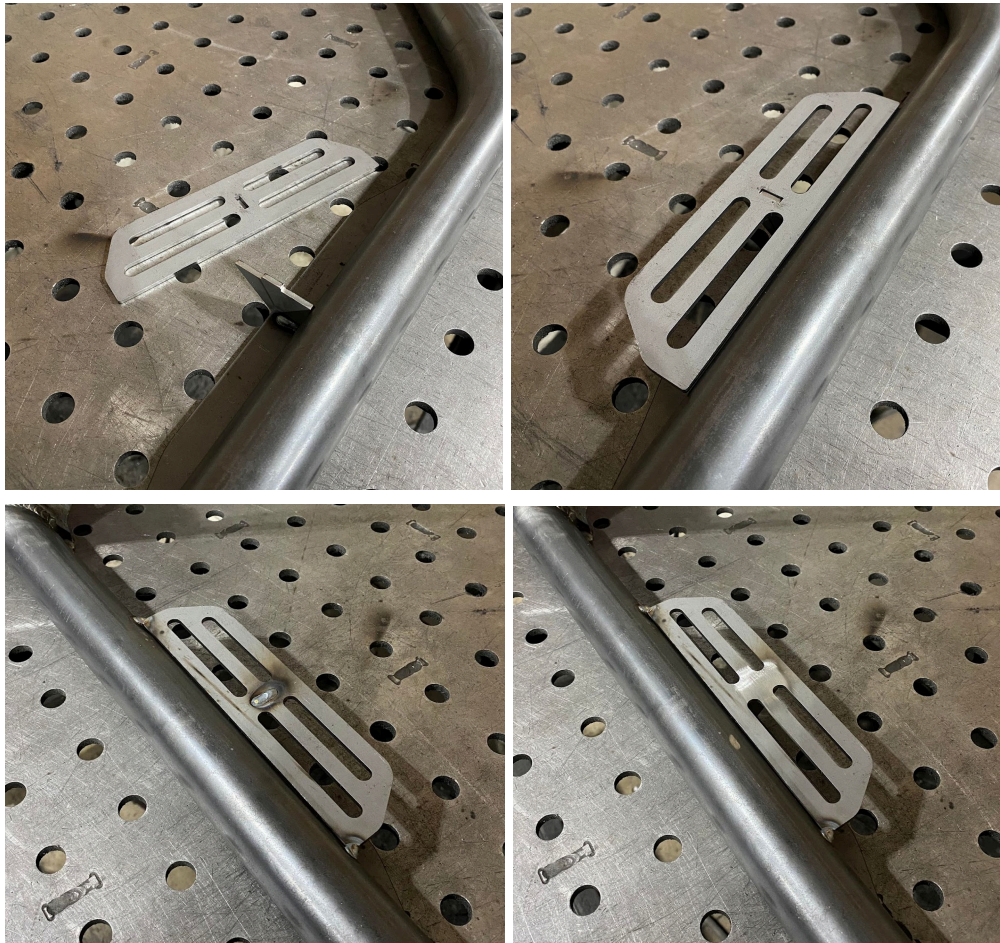
4. Flip the assembly so it is clamped to a flat surface and resting on the top surface of the top plate. Use a magnet/clamps to make sure the mounting plate is 90 degrees to the weld table.
5. Take the upper wing tube and align it so it is butting up against the edges of the top plate. The end of it should fit over one of the weld nuts. The alignment tab should align with the slot on the back of the tubing. Tack weld into place.



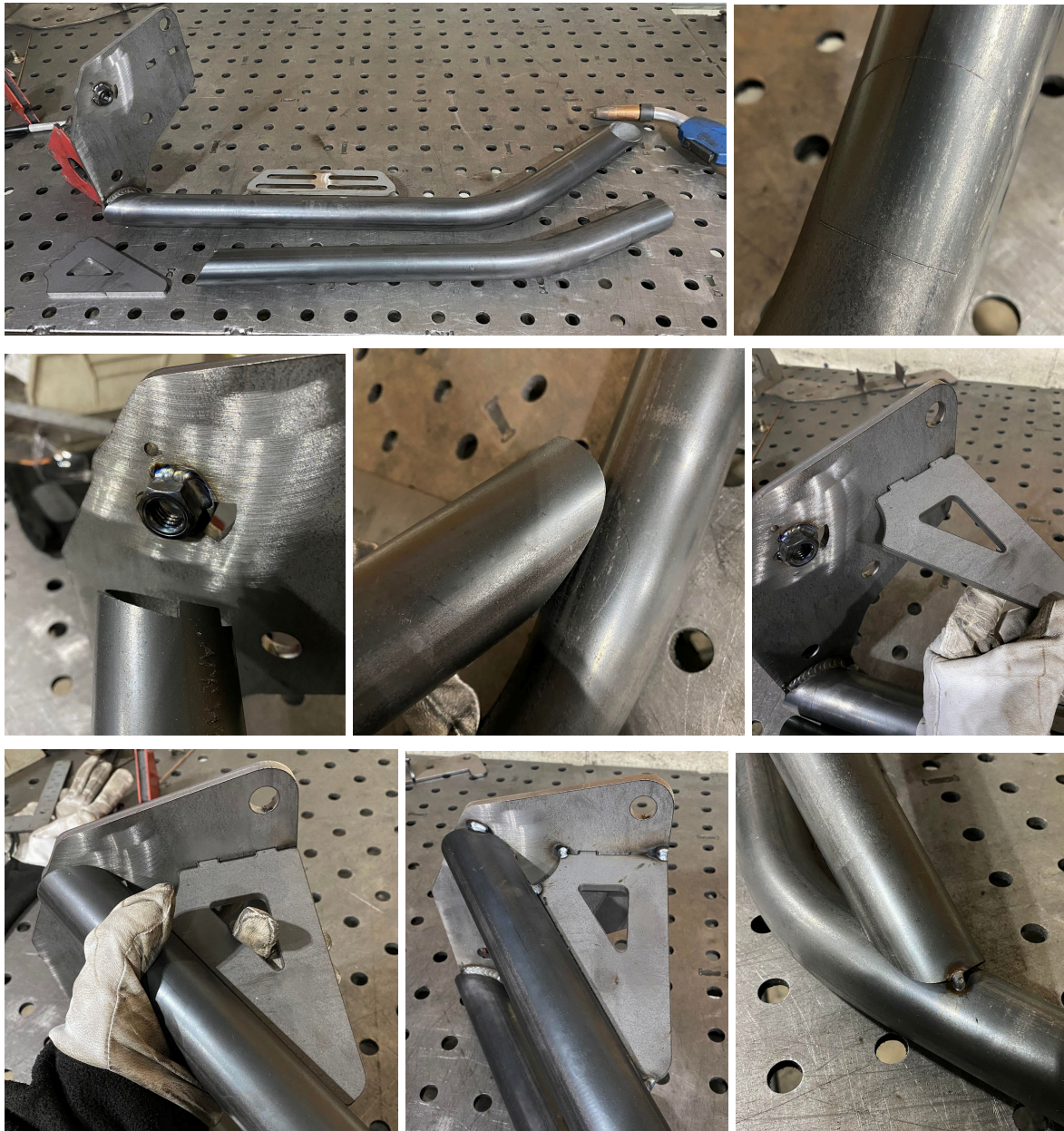
6. Where the end of the upper tube meets the mounting plate, fully weld the back half down to the top plate. Then continue to weld the entire seam where the top plate meets the mounting plate. Do not weld the front half past where the vertical edge of the mounting plate meets the tube (see sharpie mark in pics).



7. Take the light bracket and align the slot on it with the tab on the top of the alignment tab. The bracket should be parallel to the top surface of the wing. Put large tacks on either end where it touches the tube. Weld over the tab/slot. Grind the weld smooth/flush with the surface.



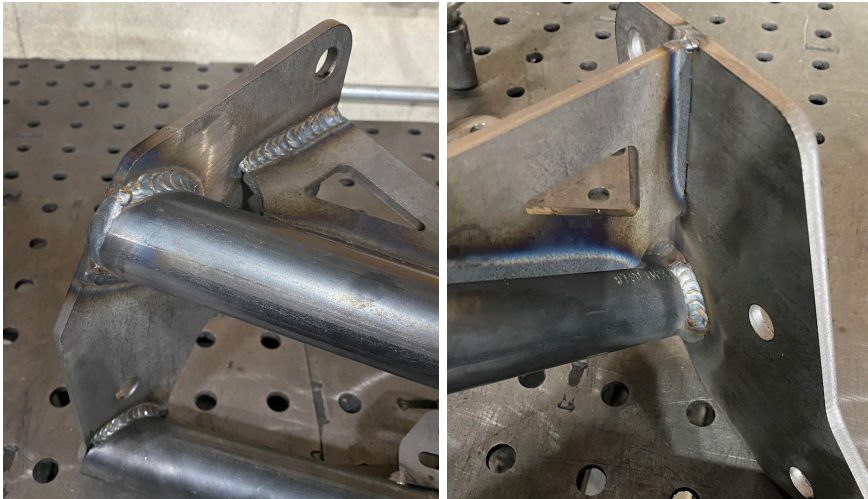
8. Add both the lower wing tube and the lower wing support to the assembly.
 - a. Align the tabs on the ends of the lower tube to the slots on the mounting plate. The end of the tube should fit over the second weldnut.
 - b. The cope on the other end of the lower tube should align to a saddle etching on the bottom surface of the upper tube.
 - c. While holding the lower tube align the tabs on the wing support to the tabs on the mounting plate. The front edge of the support plate should be parallel with and flush against the surface of the lower tube. The support plate should be angled downward to be parallel with the axis of the lower tube.
 - d. Use the support plate edge to help get the correct rotation alignment of the lower tube.
 - e. Tack weld all parts into place.



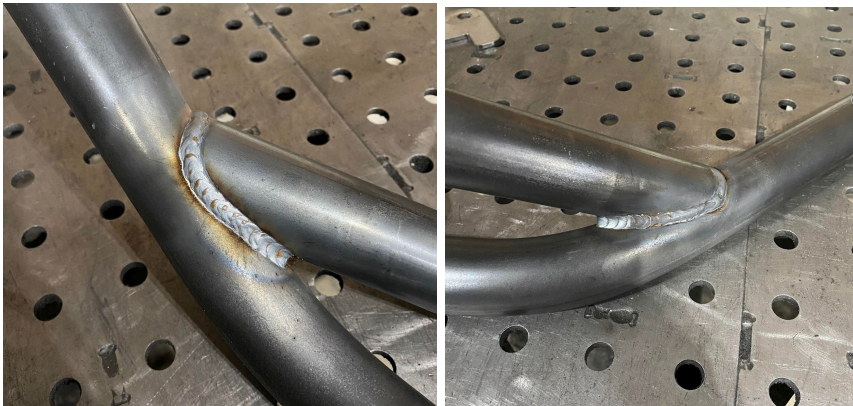
9. Fully weld the outer seams between the lower tube support, mounting plate, and lower tube.



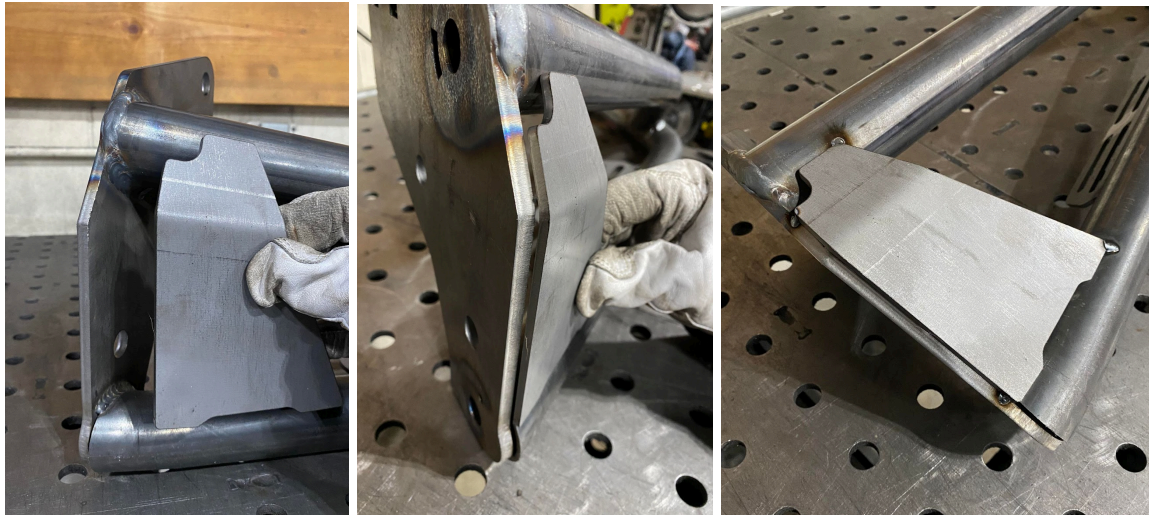
10. Fully weld around the end of the lower tube to the mounting plate.



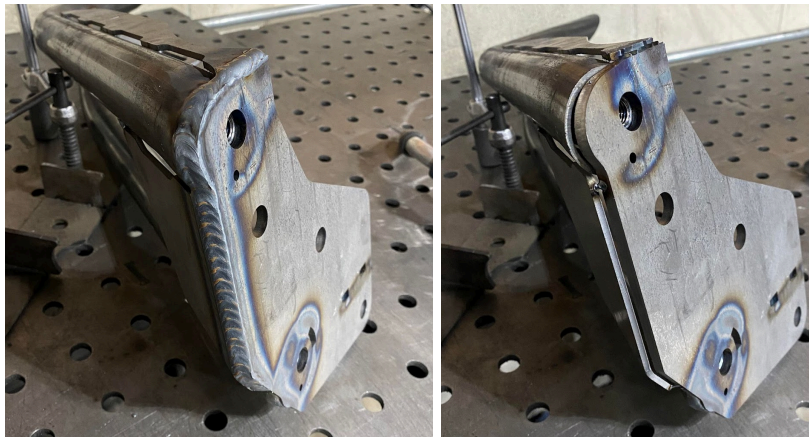
11. Fully weld around the cope where the upper and lower tubes meet.



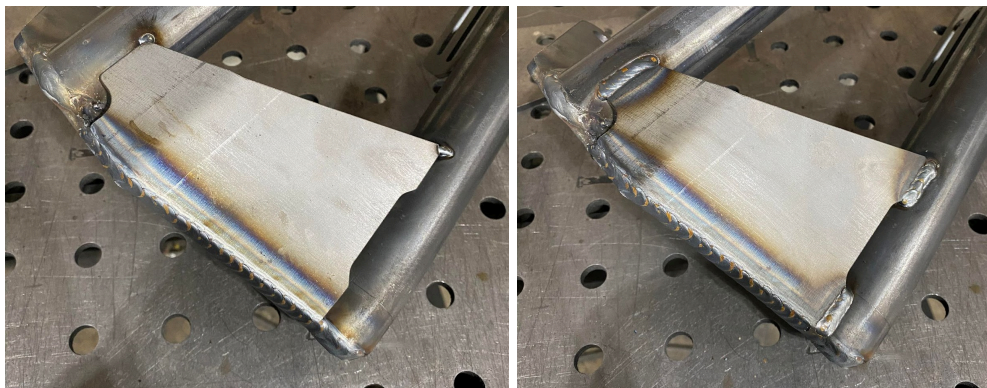
12. Align the formed cover so the edge meets up with the vertical edge on the mounting plate. Tack the upper and lower edges to the tubing.



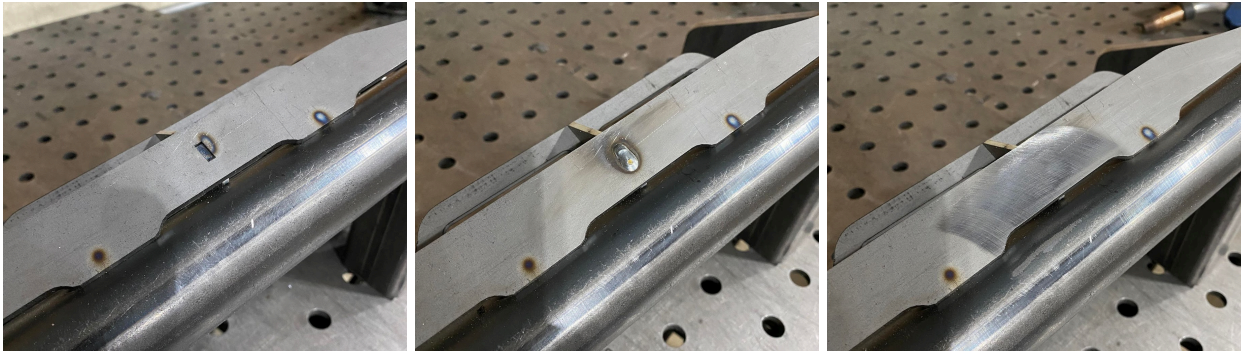
13. Fully weld the outside open corner between the formed cover and mounting bracket. Continue this weld down along the end of the upper tube and end of the top plate. (OPTIONAL: Grind welds smooth to a radius)



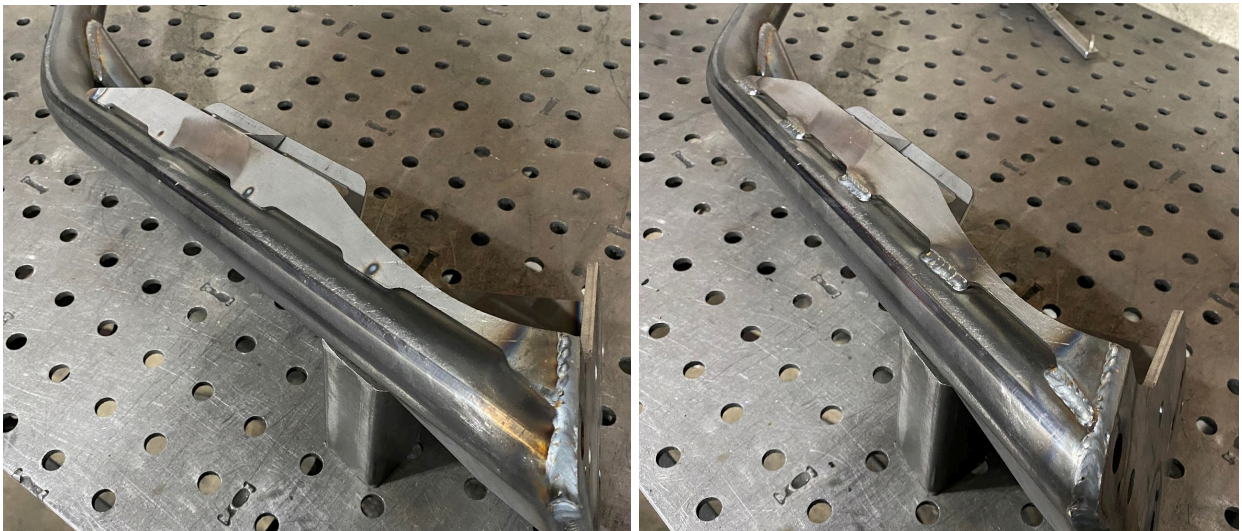
14. Fully weld the tabs on the top and bottom of the formed cover where they meet the tubes.



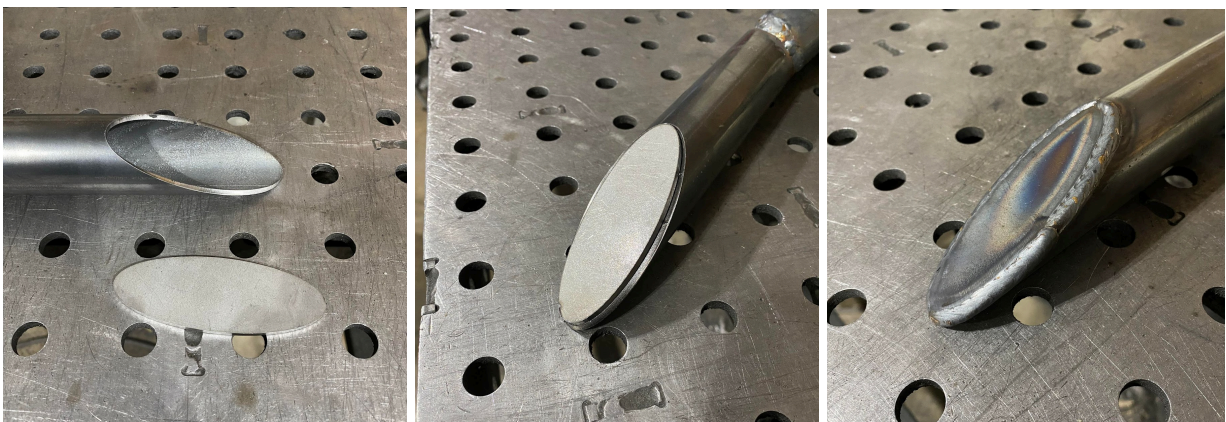
15. Weld over the tab/slot on the top surface of the top plate. Grind the weld smooth/flush with the surface.



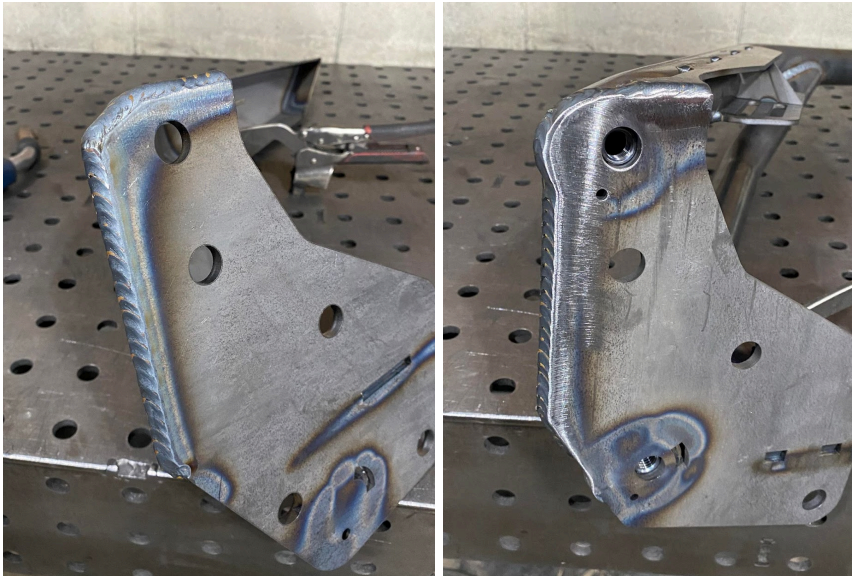
16. Weld along the edge of the top plate at each point where it meets the upper tube.



17. Take the end cap and align the edges to the ID on the end of the upper tube. Tack into place then fully weld around the edges. (OPTIONAL: Grind welds smooth to a radius).



18. Lightly grind the edges of the mounting plates to knock down any weld that's hanging over the edges that could cause fitment issues with the cradle.



19. Repeat steps 1 through 18 to make a mirrored/opposite version of the wing.

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1. Take the formed bracket and two end caps. Align the caps to the ends of the bracket and tack into place then fully weld outside edges. (OPTIONAL: Grind welds smooth to a radius).

