

Receiver Hitch Cover

Description:

The hitch cover is used with a standard 2" receiver hitch commonly found on trucks and SUVs. Cover design may be made from any simple graphic such as a team logo on a Plasma Cam. Simple designs can be cut by hand.

Skills Required:

Cold metal, arc welding, and layout skills are used to construct this project.

Materials:

- 2 x 2 x .188" Steel Tubing
- Scrap sheet metal
- 5/8 CR Round Stock

Tools Required:

- Chop saw or horizontal band saw
- Bench grinder or angle grinder
- Arc Welder
- Drill Press
- 9/64" drill bit
- 11/16" drill bit
- Steel Tape
- Plasma Cam or similar

Bill of Materials:

Complete the bill of materials below for this project. Use the completed bill of materials for your record book budget by entering the name of the project and the total amount as an expense

Size	Description	Units	Qty/Project	Cost/Unit	Order	Amount
					TOTAL	

Project Price:

Enter the expected price you will receive for the project in your record book budget (income).

Estimated Construction Time:

4 hours.

Directions:

1. Cut the 2" square tube to length.

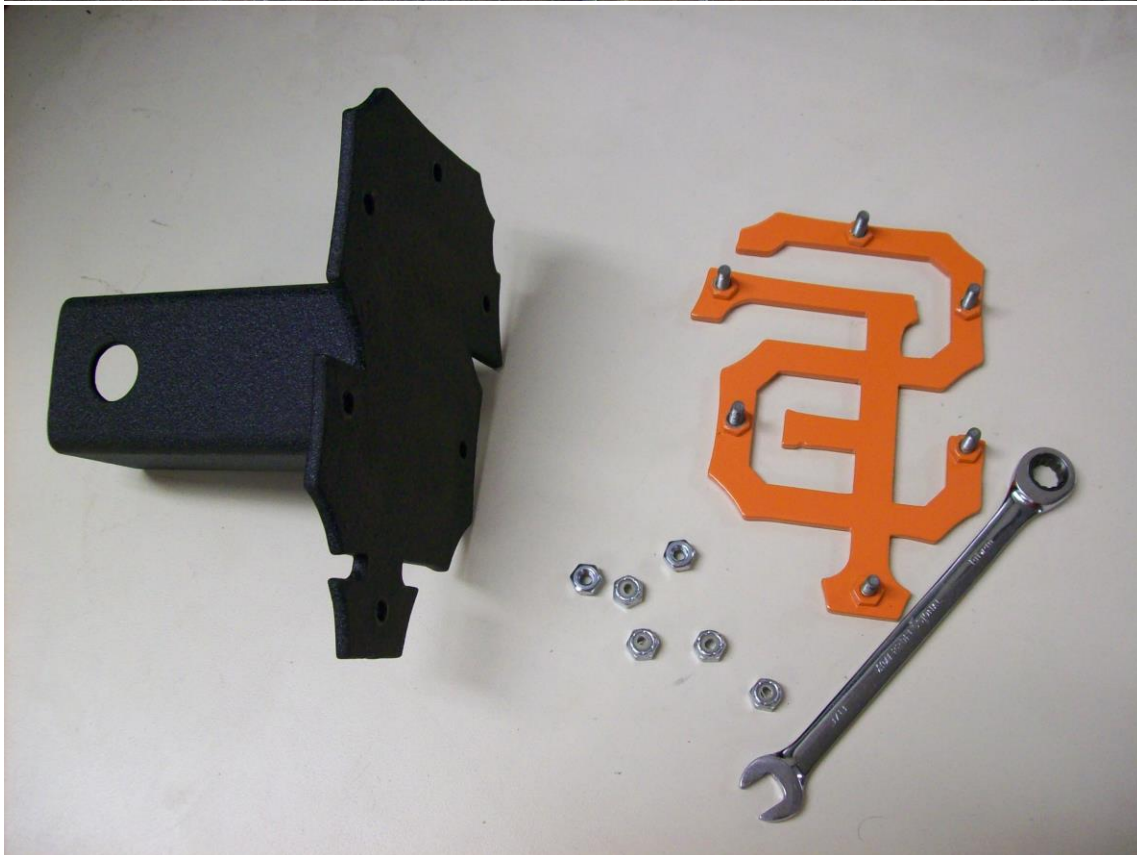
2. Cut round stock to length.
3. Layout and drill the 9/64" hole in round stock.
4. Layout and drill the 11/16" hole in the square tubing. This is a critical dimension as the hole must match the receiver hitch. You may wish to drill a pilot hole first to insure proper placement.
5. Using a coarse bench grinder round the edges of the pin and flat stock.
6. Cut out the cover design using the Plasma Cam and clean up any sharp edges.
7. Weld the design in place as shown in the drawing.
8. Place the round stock in a vise and heat the bend. Bend as shown in the plan.
9. Clean up any sharp edges on the project. Test the fit in a hitch and make any needed adjustments.
10. Painted or powder coat as desired.

Notes:

Two layer logos are made in separate pieces and attached with studs. Drill both layers. Cut machine screws heads off and weld into top piece from the top. Grind top flat. Paint pieces. Assemble with Nyloc nuts. See example photos.

A 5/8" x 3" bolt may be used with a lock nut instead of the pin. This is more secure.

Photos/Drawing:





<p>INSTRUCTIONS:</p> <p>Step 1 Cut out materials. 1 - 2" x .120 Sq. Tubing @ 4-1/2" (cut both ends square) 1 - 5/8" Round Stock @ 5-1/2"</p> <p>Step 2 Mark and drill holes. Use center punch. 1/16" hole in the tubing centered and 1" from end 5/32" hole in round stock centered and 1/2" from end</p> <p>Step 3 Determine cover design & cut out</p> <p>Step 4 Weld cover back plate to tubing with 1/2" beads on the corners</p> <p>Step 5 Drill holes and weld in bolts for front plate (design)</p> <p>Step 6 Bend cover pin (45°) as indicated. Use an O/A unit to heat and bend.</p> <p>Step 7 Sandblast & paint or powder coat.</p> <p>Step 8 Assemble</p>		
<p>Hilmar Metal Works</p>	<p>Hitch Cover Plans</p>	<p>Scale: 1" = 1-1/2" June, 2014</p>

Construction Log:

Complete the log below making an entry every day you work on the project. Transfer the logged hours to your record book journal for this SAE enterprise.

Date	Tasks Completed	Skills Used/Learned	Hours

Actual Price Received:

Enter the actual price you received for the project in your record book journal as income.

Project Portfolio:

Complete a portfolio for the project that includes:

- A description of the project and the skills you learned building the project. Include the hours spent on the project and the income (if sold). Use the construction log to complete this narrative. Write in complete sentences.
- The Bill of Materials
- The project plan
- 2-8 photos documenting the project at various stages of construction.