



◀ TOM PATSIS

Tom Patsis is a metal artist and owner of Cold Hard Art. After studying automotive technologies in high school and earning his degree in automotive, high performance and alternative fuels at the University of Northwestern Ohio, Tom moved to Indianapolis to work for Don Schumacher Racing. He spent six years with the Pro Stock team before he switched to working in the fabrication shop. It was there that he got started with metal art — later opening up his own shop to use as an outlet for his creativity.

Follow Tom on Instagram @ColdHardArt.

SKILL LEVEL: Beginner
TIME COMMITMENT: 2-3 days

TOOLS

Tools used in building but not required



Miller® Dynasty® 210 TIG welder
(or other TIG welder)



Tubing roller



Cut-off wheel or band saw



Plasma table



Sheet metal brake



Bench-mounted vise

Materials used in this specific build, but also can be substituted to what you have around your shop.

- 1-inch tubing
- Eight Top Fuel pistons
- Eight Top Fuel exhaust valves
- 24 spark plugs
(E3 brand for the visual use of the green stripes)
- Eight Top Fuel inner valve springs
- 17 ¼"-28 by ½ long bolts and nuts
- Eight half-cut opened wrenches
- One piece of 1/8"-thick mild steel, 14" x 1.250" wide

WARNING: READ AND FOLLOW ALL LABELS AND THE OWNER'S MANUAL.



HOLIDAY WREATH

Use any extra items you find in your shop to make your own gearhead holiday wreath. Follow these instructions to design one that fits your creativity!

STEP BY STEP

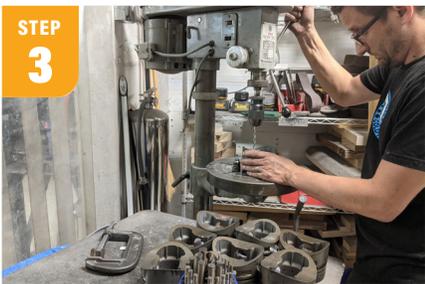


STEP 1
First, create the frame to build your wreath. I chose 1-inch tubing and 17-inch diameter because that was the right size to make eight Top Fuel pistons fit with spare room to add the other pieces. With the roller, I needed extra length on each end so I grabbed a 5-foot stick. I rolled a tight circle so I would have to cut my circle into ¼-sized pieces to get my circle back to flat and get it to that perfect 17-inch diameter. Do whatever is best suited for you.

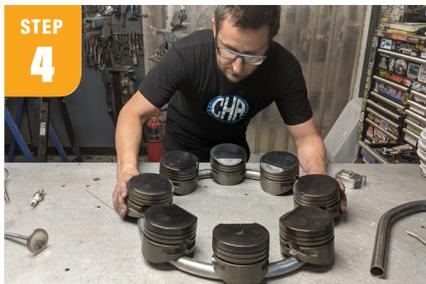


STEP 2
Next, get the circular frame tacked up on both sides and fully welded. Remember to drill a small vent hole, as this circle is fully enclosed and you will continue to weld on it, so you want to avoid the pressure from it blowing out on you later.

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Now it's time for the decorative pieces — I chose the pistons. Because aluminum can't be welded to steel, we need to use bolts welded to the frame. Drill two holes in each piston in a place where you can access them to put nuts on them. Drilling into the bottom of the piston where the wrist pin rest works well, using two large holes on each side. I chose ¼" -28 ½ long bolts, so I drilled holes 17/64 —the next size up from bolt size. I use a larger hole than needed because after all the welding without a proper fixture, bolts move around a bit. This can save you some frustration.



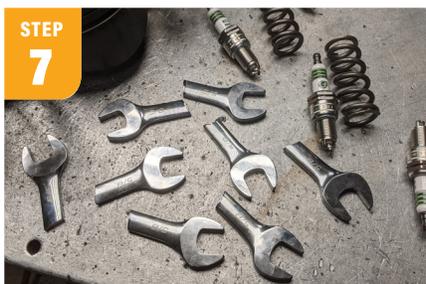
Now mount the pistons to the frame. Space them out correctly and place the bolts with nuts on them. These aren't holding the piston on, but rather they are holding the piston up from the frame to locate the bolts on the frame to have clearance to tack them in place. Tack the opposite side of the bolt, weld it and then repeat these steps seven more times for each bolt. Take the nuts off the bolts and tighten the pistons. This is important to help with the placement of the remaining parts.



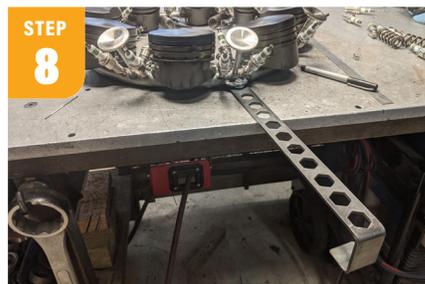
Time to fill the voids between the pistons with valves, which will start to give it that unique snowflake look. I cut 1.5 inches off each valve stem to keep them from being taller than the pistons. Use a cut-off wheel for this since the valves are stainless steel and will wreck any bandsaw blade. Once the valves are cut, place them at a 45-degree angle and tack them in place on both sides before fully welding all of them.



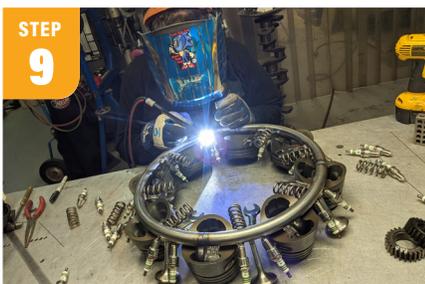
These next few steps are going to test your free spirit, as we will just "eyeball it". I put two spark plugs (electrode toward the frame) because it will leave the green-colored labeled end out to be shown. I put one plug on the inside of the frame centered on each pair of pistons. Then I put two spark plugs on the outside of the frame on both sides of each exhaust valve all the way around. I love to fill all visual voids with something. But there are no rules, so do what you want!



Now, back to the inside of the frame with the smaller inner valve springs and wrenches. If we did our job placing the pistons you should have room to add one spring and half of the opened wrench between each piston. This breaks up the look and fills it with items going in different directions. Remember later you will weld the other side when you flip it over.



The next important step is hanging the fixture. Measure where you want the wreath to hang on your door and consider the wreath's weight as well. The strap must be robust but still look good. I chose to create it on the plasma table out of 1/8-inch mild steel, 1.250 wide with hex holes to break up the look of a strap. I also wanted it to be bolted to the wreath. Then I measured the door thickness to make sure it would slide over the top nicely.



The last step depends on where you are hanging the wreath. If your door is glass you will need to add padding on the back or weld nuts on the back and cover them with rubber thread bump stops to provide a soft spot. For any other type of door, three spots of Velcro will help keep it from wearing away paint off your wood or steel door.



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