

# Metal Shop Plans

The metal shop provides space, tools and resources for metal fabrication. This document provides a plan for the development of the metal shop.

## Mission

- Guild mentality
- Pride
- Lead by Example
- Teach
- [Leave It Better Than You Found It](#)

## Major Tools & Equipment

\*High priority means that this tool needs has a high acquisition, maintenance, modification or repair demands.

### Sheet Metal Work

Tools for manipulating sheet metal.

Tool	Priority	Status	Need
Plasma cutter	High	Needs torch current sense	For plasma cutter table
Metal brake (straight bends)	High	acquire	Fabricating boxes, shapes for sheet metal projects
Metal shear (straight cuts)	High	acquire	Fabrication
Punch	Low	acquire	Holes for projects

### Pipe and Bar Stock

Tools for cutting and working with hollow tubing, solid rods, and smaller bar stock.

Tool	Priori ty	Status	Need
Pipe bender	High	See "Need"	We need a system to be able to temporarily secure equipment (pipe bender, anvil, band saw, grinder, drill press) to the floor in work and storage locations.
Large pipe cutter	Low	acquire	For clean cuts of pipes and making threads.
Small pipe cutter	Medium	acquire	Hand tool for cutting pipe
Metal bandsaw	High	Missing safety gear	Needs belt/pulley guard. Needs prominent e-stop. Needs wheels, rubber feet on other end.

### Thicker Metal Work

- Mill (CNC, or convertible to CNC)
- Metal Lathe
- Drill Press
- Grinder

### Welding

- MIG Welder
- TIG Welder
- Oxyacetylene Welding
- Safety curtains for vision and spark protection
- Clothing: apron, gloves, welding helmets
- Work lights
- Power
- Ventilation

- Welding supplies list
- Welding supply storage
- Welding consumables accounting (prices and pay jar)

## Fastening

- Hand tools
- Air wrench
- Spot welder
- Rivet tool
- Rivnut tool

## CNC

- Large CNC Table (for plasma cutting & 3 axis routing)
- Small CNC

### Other tools

- Press
- Hardness tester
- Temperature controlled kiln (for hardening)

### Painting

- Paint booth
- Powder coating tools
- Rust removal tools and supplies
- Priming equipment
- Etching and anodizing

### Preparation and Finishing

- Files
- Metal shears
- Wire brushes

### Metal Supplies (quality or size not available from local sources, for purchase)

- Common nuts, bolts, washers (metric & SAE)
- Rivnuts
- Rivets
- Sheet metal stock
- Bar stock
- Supplies stock list, sources, price marking, pay jar

### Safety Supplies

- Fire extinguishers
- Protective gear
- First Aid Kits

### Training