

Benders

•Review dress code

- Safety Glasses must be worn at ALL times in the Shop.
- Remind students that long hair must be tied back, loose clothing and/or jewelry must be removed
- Remind students that the EDGES of metal may be VERY sharp.

-Explain we have two types of benders: Universal, and Tubing

-Universal Bender:

- Has an assortment of dies and tooling that can be used to bend various materials such as rod, bar, pipe, and flat stock.
- Explain we do not have the dies for every size and type of material so check before buying material for a project. Show where the dies and tooling are located and the binder with the instructions.
- Show the examples that have been bent
- Demonstrate bending a piece of 1/4" rod
- Inform we have a larger universal bender located outside that has additional dies and tooling

-Tubing Bender:

- Will only bend tubing
- Explain the difference between pipe and tubing: Tubing is measured by the outside diameter and pipe is measured by the inside diameter
- Explain we do not have the dies for every size tubing and each size die has a specific radius that is stamped on the die, so check before buying material for a project.
- Show where the dies and bender parts are located
- Show the assembled bender
- Discuss how the dies are stamped with "top" and a hole number that correlates to the numbers on the bender
- Explain the pins are stamped with letters that correlate with the assembly diagram in the instructions
- Show the example bends

•Remind students to clean up after themselves.

- Clean up ALL materials and scraps from tables and floor, move tools back in place
- Show them where the metal recycling, brooms, etc. are located and what our expectations for clean-up are.

REMEMBER- We are here to help. If you have any questions, ask!