

## **4-H WELDING**

### **County Only Project**

#### **Requirements:**

**Must be in grade 6 or above to participate. Any welding process and mode of transfer is allowed but must be noted on the Information/Craft Card.**

#### **Grades 6 & 7 Beginner**

Complete and exhibit one of the following:

- a. 6" T fillet
- b. 6" Lap Joint
- c. 6" Butt Joint

**Welds will be judged on weld consistency in weld size and length and lack of imperfections (undercut, underfill, etc.) See attached drawings for specifics.**

#### **Grades 8 & 9 Intermediate**

Complete and exhibit one of the following:

- a. a sample weld using a flat position pipe to flat.
- b. a joint listed above using overhead welds.
- c. a small project using overhead welds

**Welds will be judged on weld consistency in weld size and length and lack of imperfections (undercut, underfill, etc.) See attached drawings for specifics.**

**Must supply a simple drawing with the correct weld symbol called out for the weld used.**

#### **Grades 10 & 11 Advanced**

Complete and exhibit one of the following:

- a. A pipe to pipe weld in position. (looking for a hot pass, multiple filler passes, and a weaved cap)
- b. a joint listed above using vertical welds correct for the welding process.
- c. a small project using out of position welds.

**Welds will be judged on weld consistency in weld size and length and lack of imperfections (undercut, underfill, etc.) See attached drawings for specifics.**

**Must supply a simple drawing with the correct weld symbol called out for the weld used.**

#### **Grade 12 Senior**

Member **may** choose to make their project using any or multiple welding processes.

Accompanying this **shall** be a paper explaining the use of different gases, different alloys and different wires. Also, must have a simple drawing and call out 3 different types of welds used.

**\*All projects must be accompanied by the provided welding/craft card.**

## Welding Information/Craft Card

Name\_\_\_\_\_ County\_\_\_\_\_ Grade\_\_\_\_\_

**Division:**      **Beginner**                      **Intermediate**                      **Advanced**                      **Senior**

Process(s) used (Circle):              GMAW (MIG)    GTAW (TIG)      SMAW (Stick)    FCAW (Flux Core)

Other:

Electrode number:

Electrode diameter:

Amperage or dial setting:

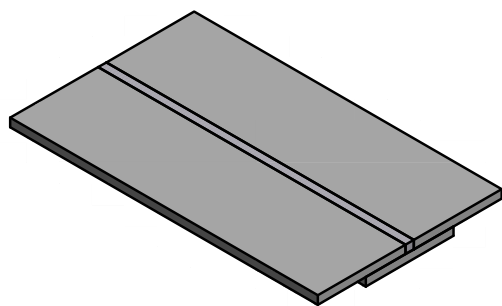
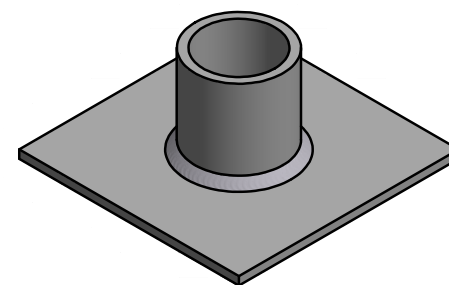
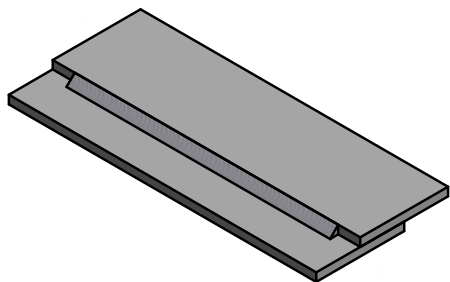
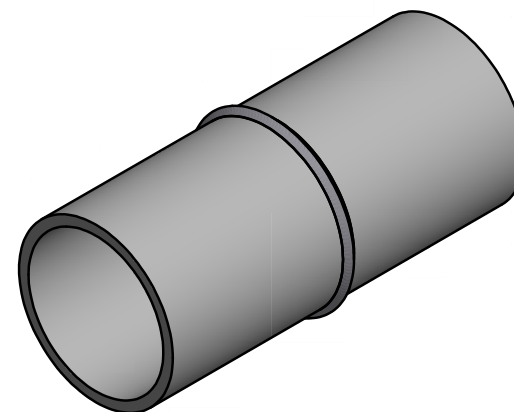
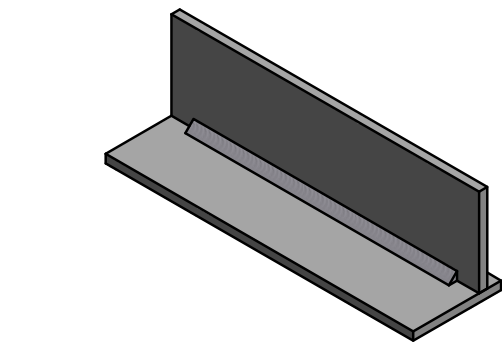
Polarity setting:

Safety equipment used:

Joint Type if applicable:

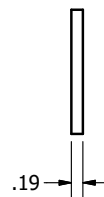
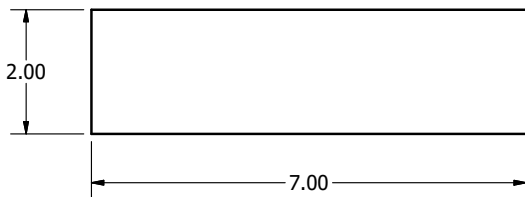
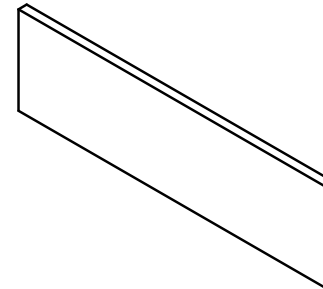
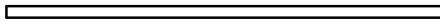
# Joint Examples

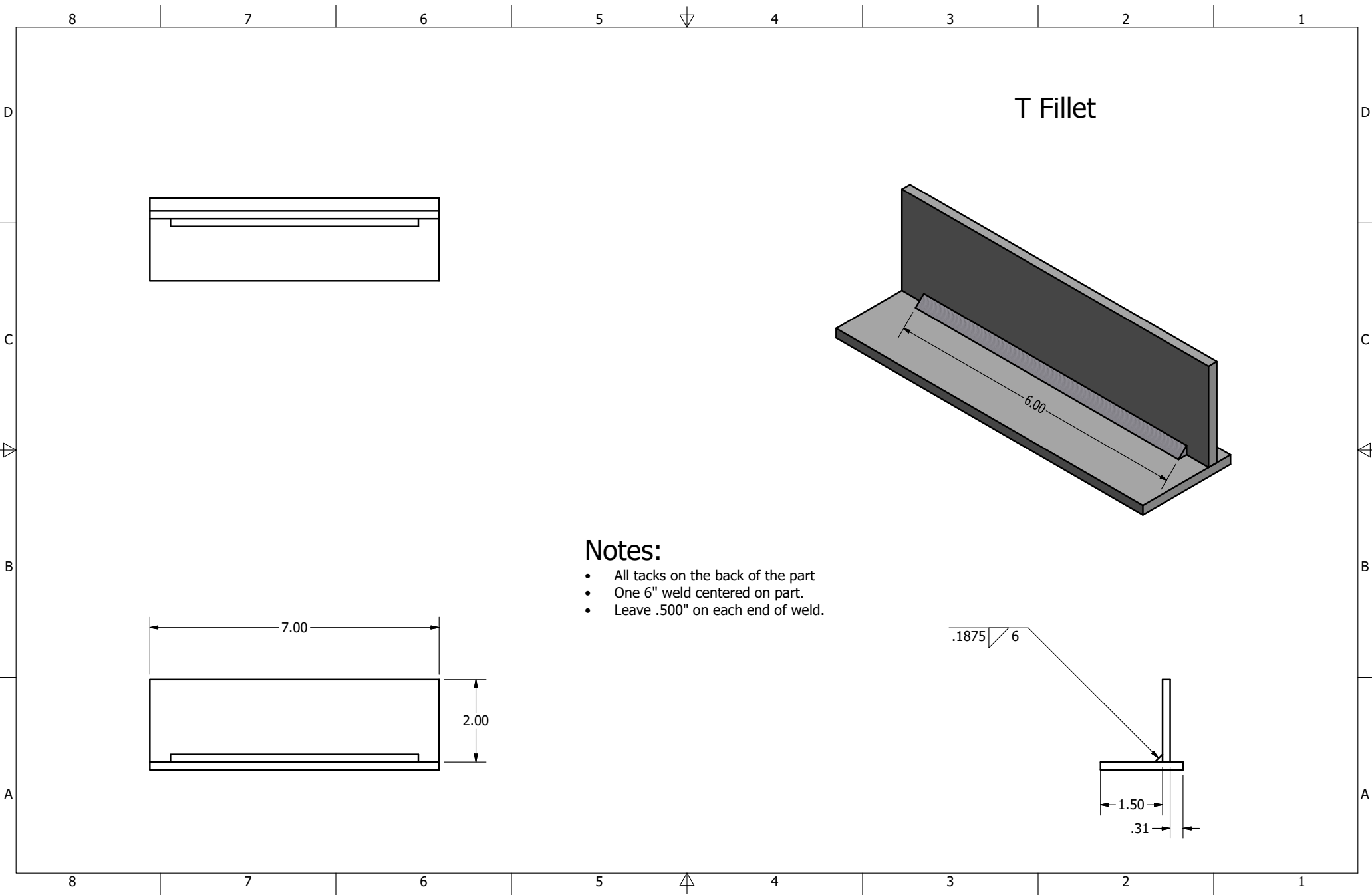
Clay Co 4H Welding

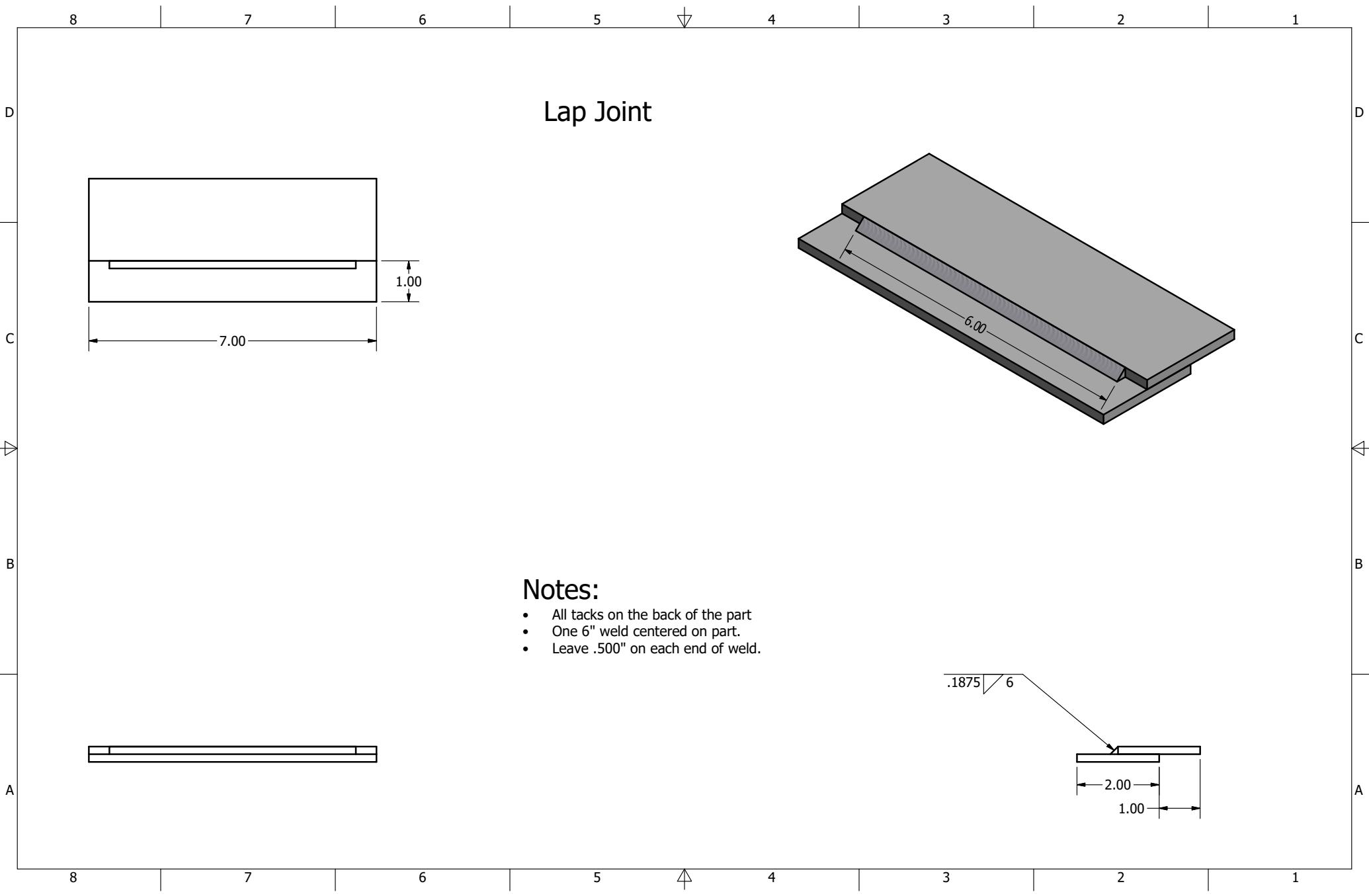


What You'll Need for the joint welds

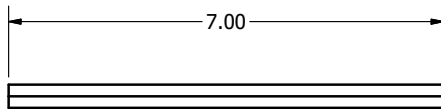
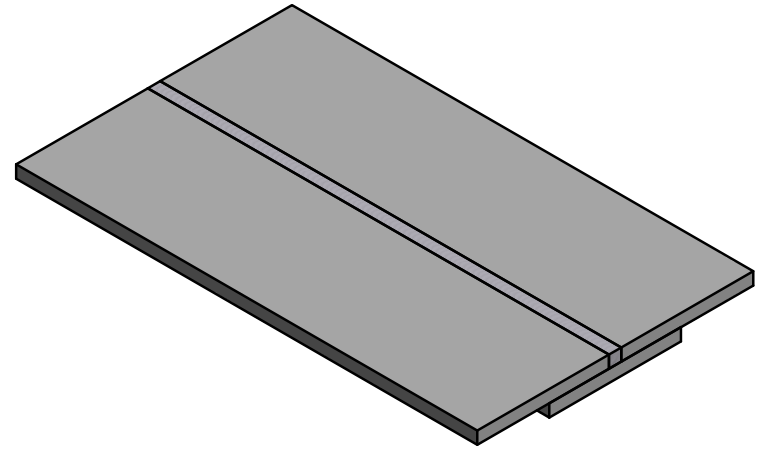
- 2 or 3 pcs of 2"x7" Mild steel plate





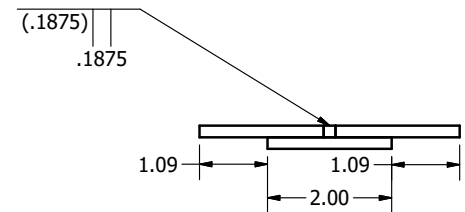


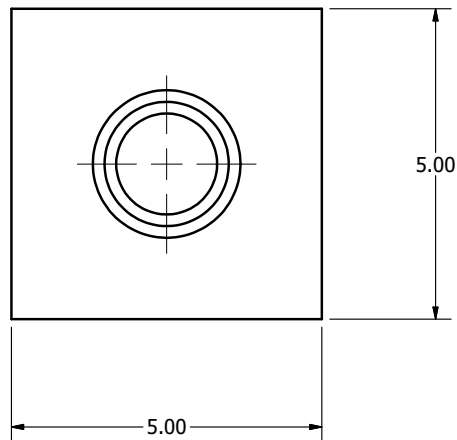
# Butt Weld



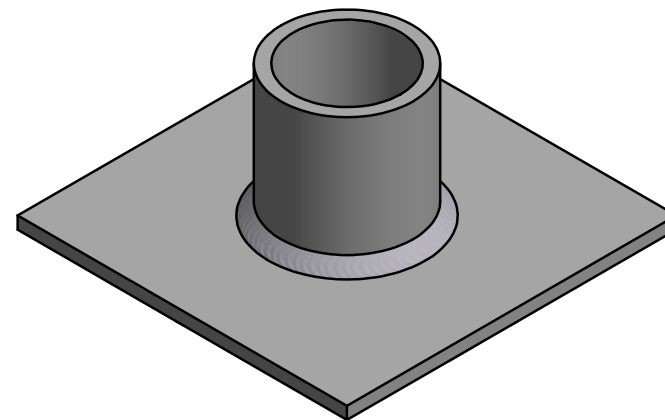
## Notes:

- All tacks on the back of the part
- Be sure to start with a .1875" gap
- Weld gap full to each end
- This part requires 3 pcs of plate.
- Use the third as a backing plate



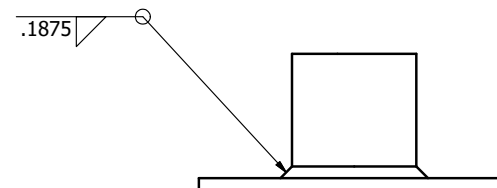
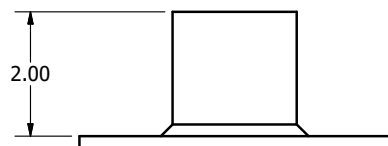


## Pipe to Plate



## What You'll Need for this weld

- 1pc of 5"x5" Mild steel plate
- 1pc of 2" sch40 pipe 2" long

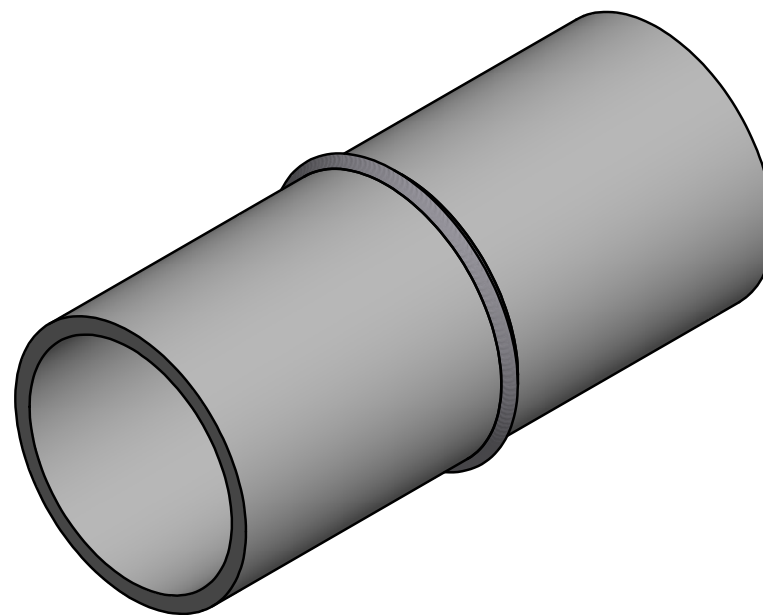
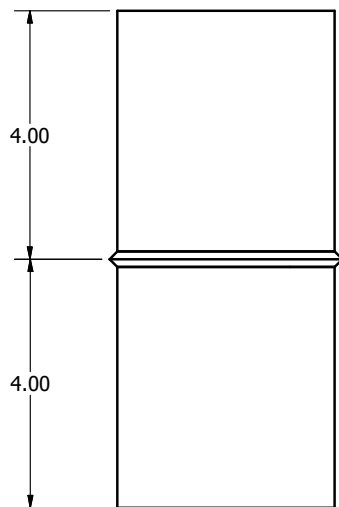


## Notes:

- Center pipe on blank
- Weld continous all the way around



## Pipe to Pipe



## What You'll Need for the pipe to pipe weld

- 2 pcs of 3"sch 40 pipe 4" long

## Notes:

- Grind bevel on pipe before welding
- Weld continuous all the way around

