



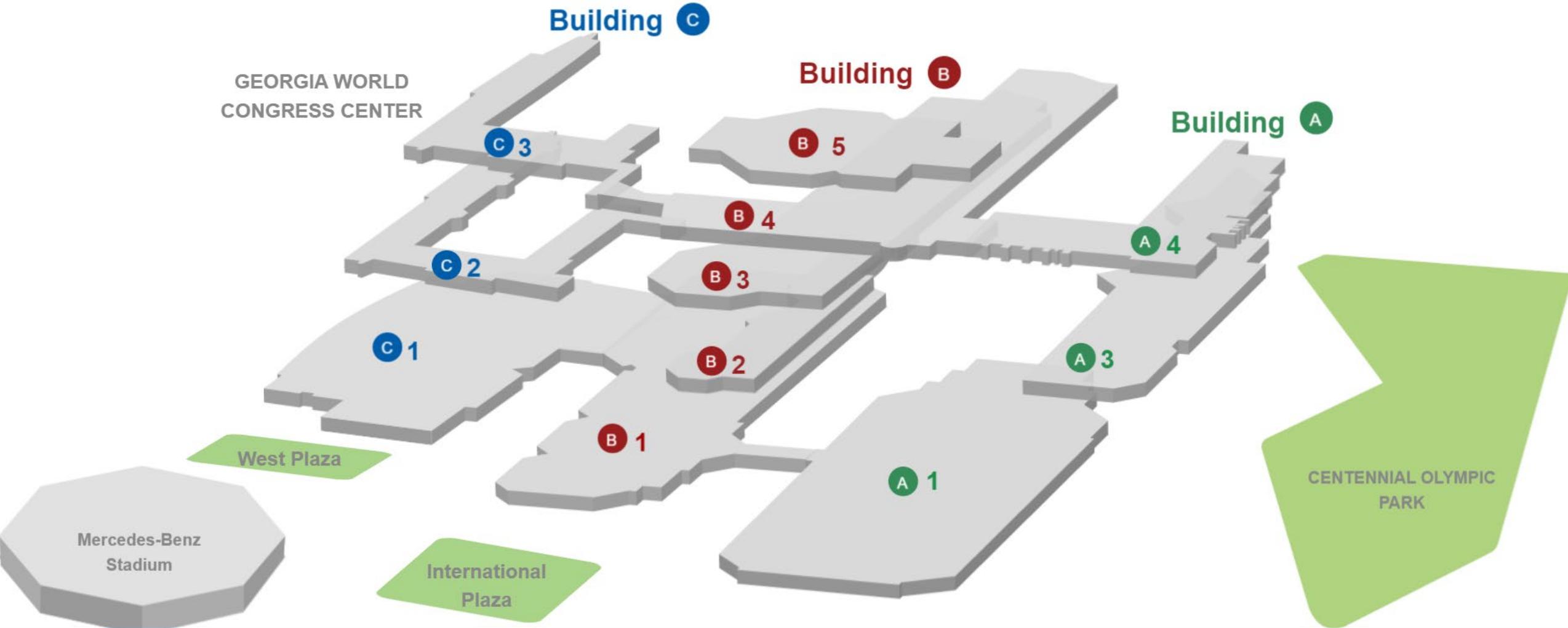
SkillsUSA National Welding Competition

OVERVIEW OF THE WELDING COMPETITION - JUNE 2024 – ATLANTA, GA

AGENDA

1. WELCOME
2. ATTENDANCE
 - ONCE YOUR STATE IS CALLED, PLEASE PUT IN THE CHAT – “HERE, STATE & SECONDARY OR POST-SECONDARY”
3. FLOOR PLAN OF THE GWCC
(GEORGIA WORLD CONGRESS CENTER)
 - ORIENTATION/DEBRIEF
 - COMPETITION AREA
4. COMPETITION
 - DRAWINGS
 - OXY-FUEL CUTTING /PLASMA PROJECT
 - VISUAL INSPECTION TEST
5. SCORING
6. CONTEST UPDATE
 - LINK
7. TOOL LIST
8. PRACTICE KITS
 - WELDERMADE
9. WRAP UP
 - Q&A – KEEP YOUR QUESTIONS TO THE END OF THE PRESENTATION AND USE THE CHAT





OVERALL FLOOR PLAN AT THE GWCC



ORIENTATION/DEBRIEFING ROOMS

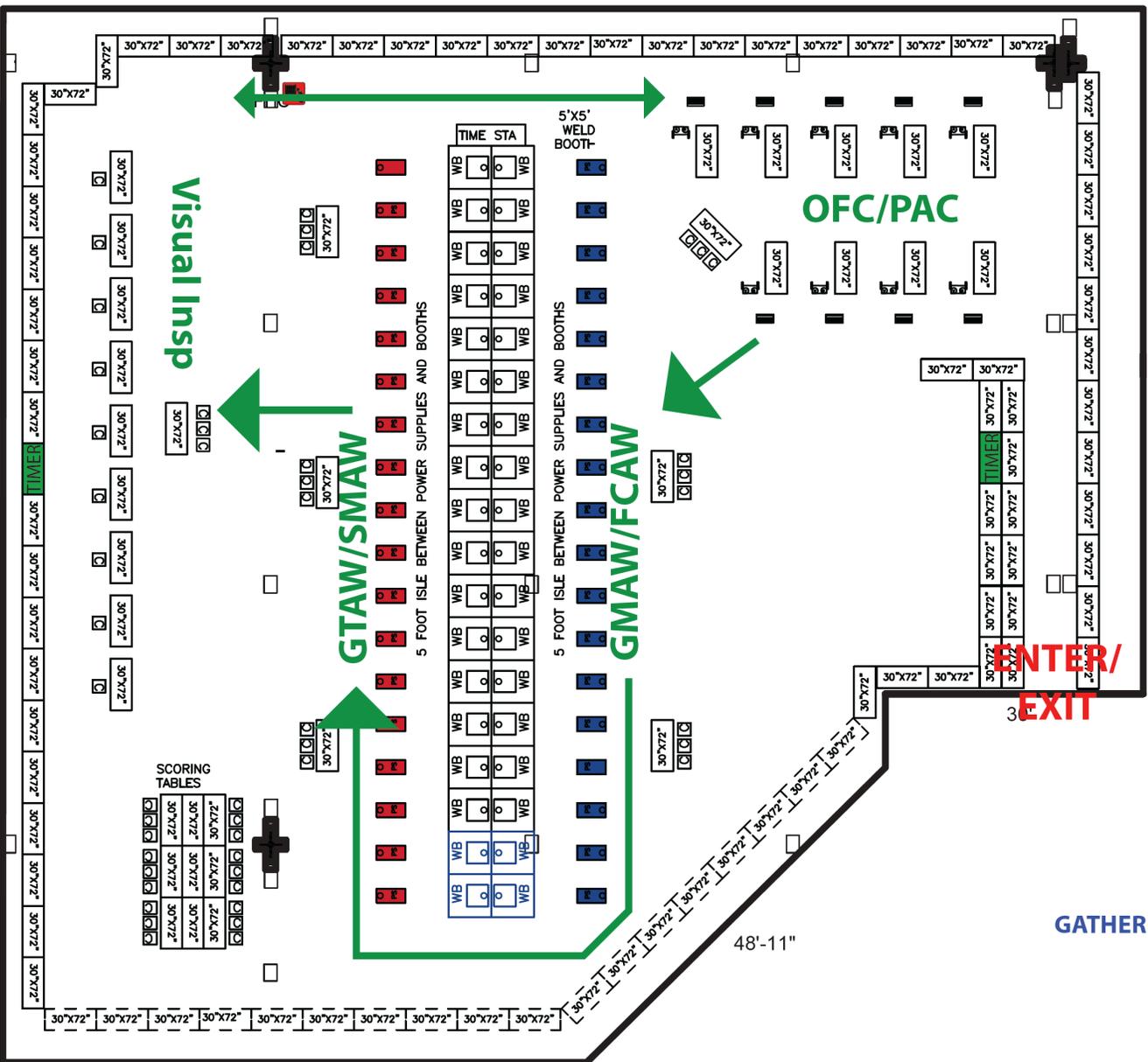
ORIENTATION
Tuesday, June 25th at 10:30 AM

DEBRIEFING
Friday, June 28th at 10:30 AM

160'

3 FOOT ISLF

123'



80'

GATHER HERE

95'-3"

WELDING COMPETITION FLOOR PLAN

WELDING PROJECT DRAWINGS



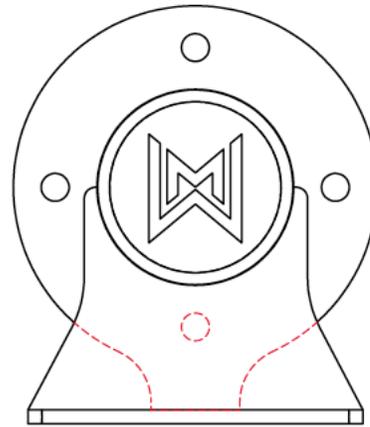
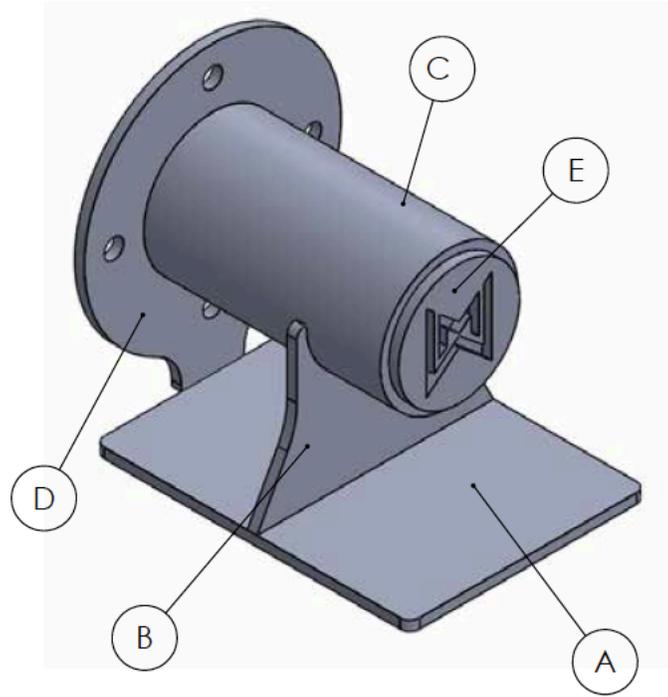
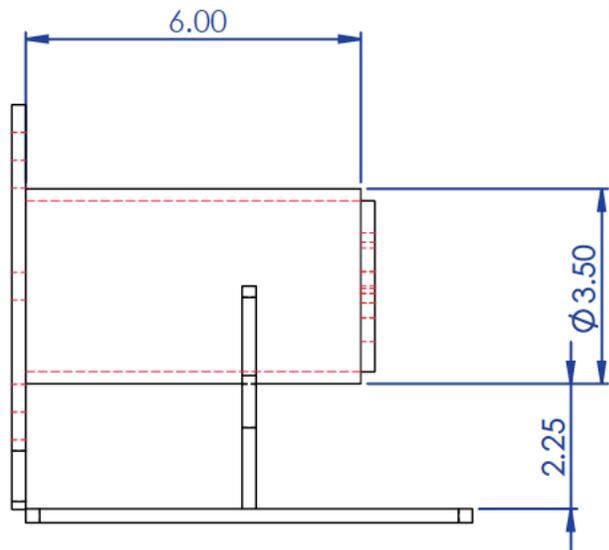
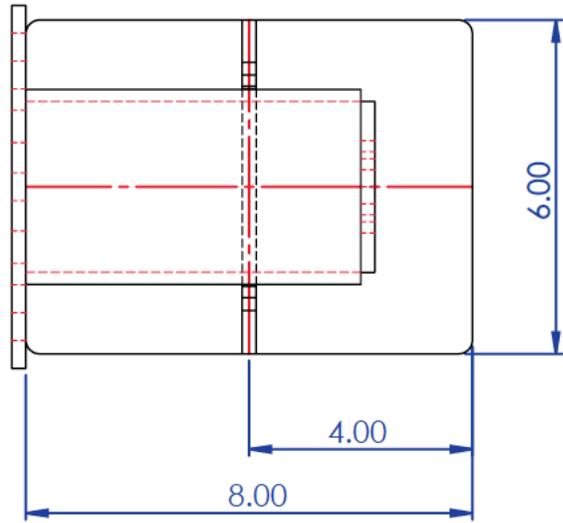
4 PROJECT DRAWINGS



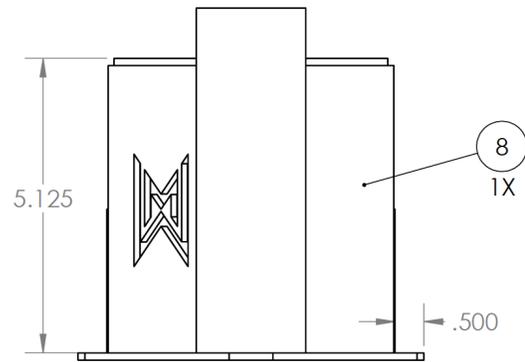
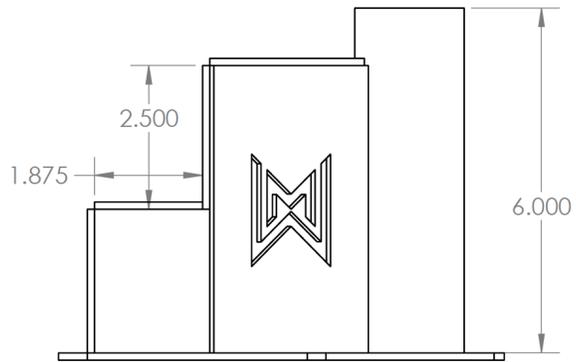
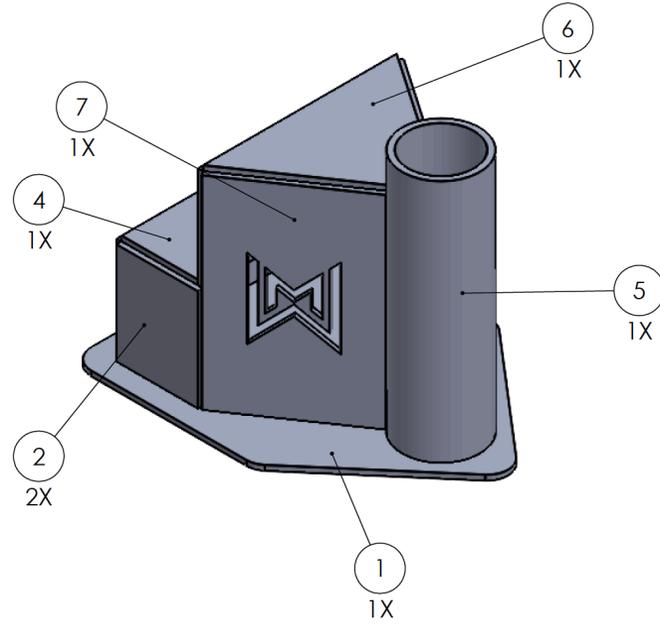
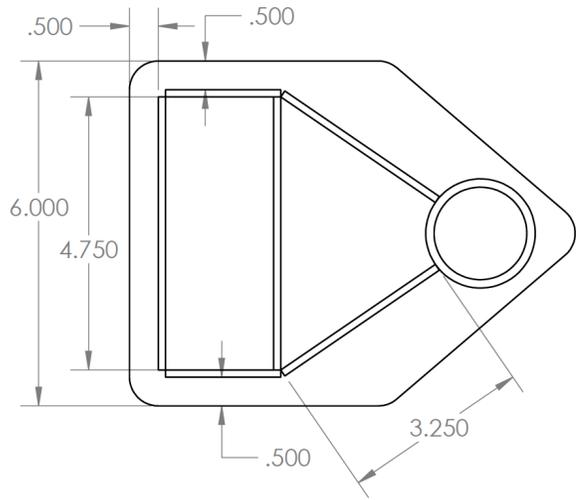
4 ROTATIONS



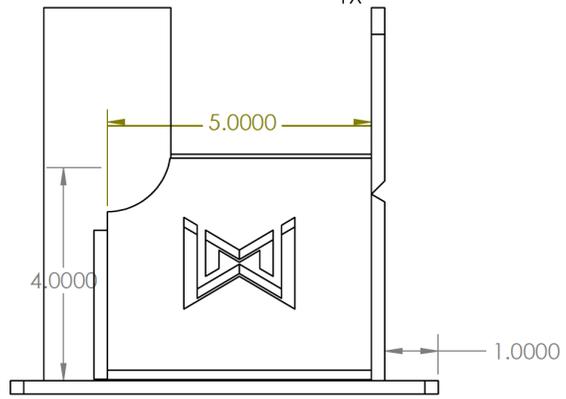
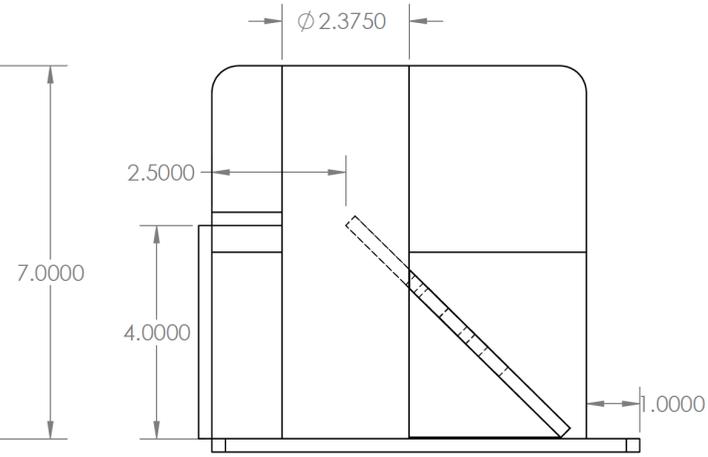
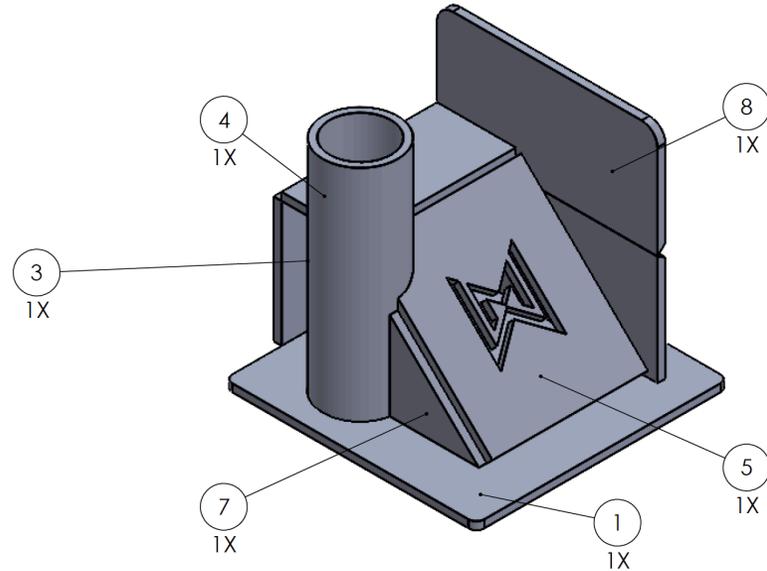
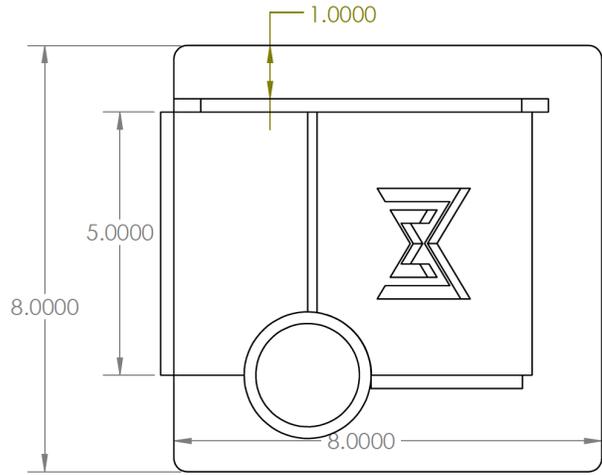
1 HOUR FOR EACH PROJECT



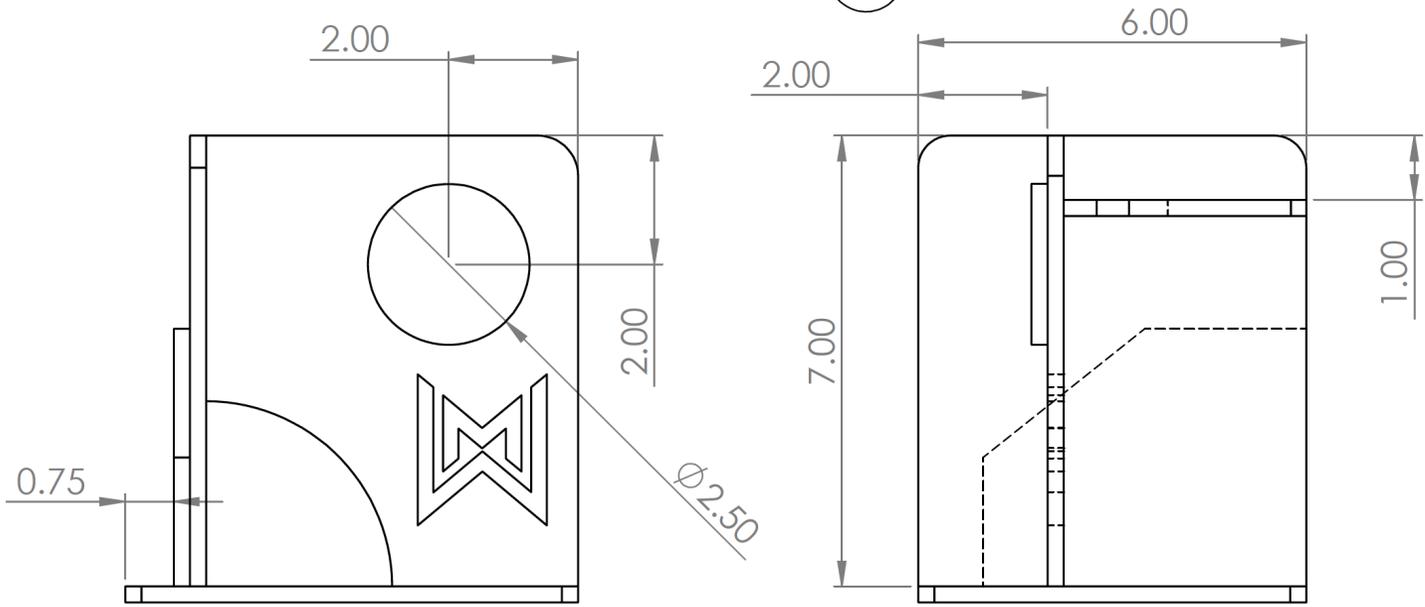
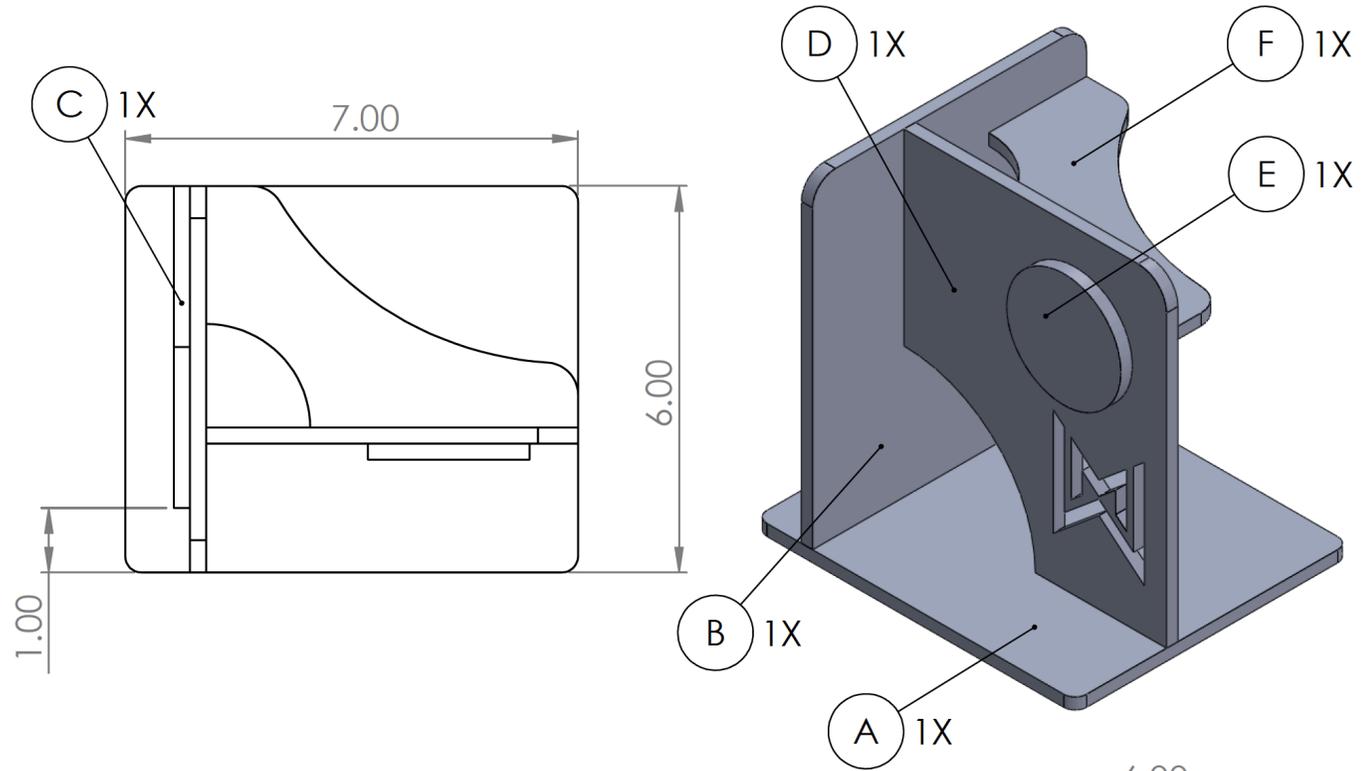
DRAWING 1



DRAWING 2



DRAWING 3



DRAWING 4

OXY-FUEL & PLASMA CUTTING PROJECT

1 HOUR FOR THE PROJECT

1. Receive one (1) plate of mild steel 6" X 12" X 1/4" thick.
2. Lay out shapes including but not limited to circles, squares and triangles.
3. Prepare to make bevel cuts at a given degree and/or straight cuts.
4. Do not use any guides to make cuts.
5. Follow the provided blueprint with exact layout.
6. Contestants will receive layout drawing at the OFC/PAC area during that rotation.
7. Layout drawing must be turned in with completed project or when time has expired.
8. Demonstrate safe use of OFC/PAC equipment throughout the contest.



VISUAL INSPECTION TEST

- 30 QUESTIONS
- CONTESTANTS MUST USE THE INSPECTION TOOLS AND WELDMENTS PROVIDED BY THE COMMITTEE
- 1 HOUR TIME LIMIT



ROTATION

WEDNESDAY								
ARRIVE AT 07:30								
FAMILIRIZATION 8:00 - 8:15								
OFC / VIW			GMAW/FCAW			GTAW/SMAW		
8:30 - 9:30	5501-5511	OFC	8:30 - 9:30	5512-5522	GMAW	8:30 - 9:30	5523-5532	GTAW
9:45 - 10:45		VIW	9:45 - 10:45		FCAW	9:45 - 10:45		SMAW
11:00 - 12:00	5523-5532	OFC	11:00 - 12:00	5501-5511	GMAW	11:00 - 12:00	5512-5522	GTAW
12:00 - 12:30	LUNCH		12:00 - 12:30	LUNCH		12:00 - 12:30	LUNCH	
12:30 - 1:30	5523-5532	VIW	12:30 - 1:30	5501-5511	FCAW	12:30 - 1:30	5512-5522	SMAW
1:45 - 2:45	5512-5522	OFC	1:45 - 2:45	5523-5532	GMAW	1:45 - 2:45	5501-5511	GTAW
3:00 - 4:00		VIW	3:00 - 4:00		FCAW	3:00 - 4:00		SMAW
MISSING:			MISSING:			MISSING:		
THURSDAY								
ARRIVE AT 07:30								
FAMILIRIZATION 8:00 - 8:15								
OFC / VIW			GMAW/FCAW			GTAW/SMAW		
8:30 - 9:30	1501-1516	OFC	8:30 - 9:30	1517-1532	GMAW	8:30 - 9:30	1533-1548	GTAW
9:45 - 10:45		VIW	9:45 - 10:45		FCAW	9:45 - 10:45		SMAW
11:00 - 12:00	1533-1548	OFC	11:00 - 12:00	1501-1516	GMAW	11:00 - 12:00	1517-1532	GTAW
12:00 - 12:30	LUNCH		12:00 - 12:30	LUNCH		12:00 - 12:30	LUNCH	
12:30 - 1:30	1533-1548	VIW	12:30 - 1:30	1501-1516	FCAW	12:30 - 1:30	1517-1532	SMAW
1:45 - 2:45	1517-1532	OFC	1:45 - 2:45	1533-1548	GMAW	1:45 - 2:45	1501-1516	GTAW
3:00 - 4:00		VIW	3:00 - 4:00		FCAW	3:00 - 4:00		SMAW
MISSING:			MISSING:			MISSING:		

'A'=YES it meets this criteria
'B'= NO it does NOT meet this criteria
FCAW FINAL

Assembly
Questions

1	Has surface slag, spatter, and smoke been removed from all of the joints and surrounding areas?
2	Is the Project Assembled In Accordance to the Drawing?
3	Does the overall workmanship display consistency among all welds? (ALL WELDS MUST BE GENERALLY CONSISTENT WITH NO SIGNIFICANT DISCONTINUITIES)
4	Weld # ____ Crater Cross Section. All craters should be filled to provide the specified weld size, except for the end of intermittent fillet welds outside of their effective length. Are the weld craters completely filled to the weld size?
5	Weld # ____ Overall bead width not to exceed 1/16 in. variation in width (from max to min) for any weld face. Does the weld meet this requirement?
6	Weld # ____ Porosity. No visible porosity is acceptable. Does the Weld Meet this Requirement?
7	Weld # ____ Undercut. Not to exceed 1/32 in depth for a total accumulated length of 1 in. Does the weld meet this requirement?
8	Weld # ____ Undersized Welds. Weld size not to be larger by anything greater than 1/16 in. anywhere along the weld length and no smaller than specified on the drawing. Does the weld size meet this requirement?
9	Weld # ____ Weld Profiles. Fillet welds can be slightly concave, flat, or slightly convex with the crown not to exceed 3/32 in. above flat Groove Welds can be flush with an even crown not to exceed 3/32 in. Does this weld meet this requirement?
10	Weld # ____ Weld/Base metal Fusion. Complete fusion shall exist between base and weld metal. Does the weld display complete fusion with no cold lap?
11	Weld # ____ There shall be no Arc Marks outside the weld area. Does the weld meet this requirement?
12	All other Fillet Welds Undersized Welds. Weld Size not to be larger by anything greater than 1/16 in. anywhere along the weld length and no smaller than specified on the drawing. Do all remaining fillet welds meet this requirement?

NOTE: this Final criteria is designed to follow AWD D1-1 Table 6.1 Visual Inspection criteria as a start, but much more difficult. Picking three top performing welds requires that the evaluation is more strict than code. We hope to eventually add tiers of quality to these questions that fall in line with the World Skills Welding Scoring Criteria which is extremely strict to be able to separate near perfect welds to determine a rank. In the future as competition welding performance improves over time these questions will evolve.



**Was there a safety infraction? BE SURE TO NOTE
The Competitor Number and Explain the safety
violation on the Safety Infraction Sheet.**

SCORING

Updated 4-10-2024

The Welding technical committee has released the following updates and an equipment list that will be used for the 2024 national competition:

- Tool Box Size Limits: watch the [demonstration video](#) that shows packing all the tools on the tool list into a small box.
- Coming Soon: link will be posted here to a training video on how to use the welding inspection tools.

Plasma Equipment

- Hypertherm Powermax45® XP

Miller Equipment

- Multimatic® 255 Multiprocess Welder
- FabCO® Triple 7
- Quantum Arc™ 6

Lincoln Electric

- Power Wave® 300C Advanced Process Welder
- Jetweld® 1 Stick (SMAW)
- Excalibur® 7018 MR® Stick (SMAW) Electrode
- Fleetweld® 5P+® Stick Electrode (SMAW)
- WX Multi-Oxide Premium Tungsten Electrode, 3/32 in x 7 in Lincoln Electric WX Multi-Oxide Tungsten Electrodes
- SuperGlaze® 4043 Lincoln Electric TIG (GTAW) Aluminum TIG Welding Rods

CONTEST UPDATE

EQUIPMENT AND MATERIALS

1. Supplied by the technical committee:
 - a. All necessary welding equipment, filler metals, and base materials
 - b. All instructions, Welding Procedure Specifications (WPS), and prints
2. Supplied by the competitor: Only items listed below may be used during the competition. Using any tools other than those listed items below will result in a points deduction for each infraction throughout the competition. Tools should be transported in either a toolbox that does not exceed 9" tall by 14" wide by 22" length or an open 5-gallon bucket. Note: tool bags that meet the same size restriction and that do not have any interior and/or exterior pockets are allowed.
 - a. Hearing and/or ear protection
 - b. Welding gloves — full length (gauntlet) for SMAW, GMAW and FCAW
 - c. Welding gloves — appropriate for GTAW
 - d. Welding cap/beanie
 - e. Welding helmet with appropriate filter plate/lens and protective cover lens for tacking and welding; auto darkening filter plate/lens permissible. Spare filter plate and cover lens.
 - f. Cutting goggles — with shade 5 lens/cover lens for OFC/PAC; helmet with shade 5 capability permissible; face shield headgear with shade 5 permissible. Spare filter and cover lens.
 - g. Pocket calculator
 - h. Pocket flashlight
 - i. Fillet weld gauge — standard set
 - j. Lead pencil and/or ballpoint pen
 - k. Soapstone with or without holder or silver streak pencil
 - l. Scribe without magnet
 - m. Compass
 - n. Protractor
 - o. Combination square set or speed square
 - p. 10-foot (3.1 meters) minimum steel tape measure
 - q. 16-ounce (.45 kilogram) ball peen hammer
 - r. Center punch
 - s. Cold chisel
 - t. 11R or 10-inch (254 millimeters) vise grips
 - u. 6-inch (152 millimeters) side cutting pliers or diagonal cutting pliers
 - v. 6-inch (152 millimeters) needle nose pliers – welpers permissible
 - w. Chipping hammer
 - x. Carbon steel wire brush
 - y. Stainless steel wire brush
 - z. Friction lighter (striker) and tip cleaner
 - aa. All competitors must create a one-page resume. See “Resume Requirement” below for guidelines.

TOOL LIST

PRACTICE KITS



Looking for practice kits for
SkillsUSA Nationals?

Find them

HERE

@

[https://weldermade.com/
collections/skills-usa](https://weldermade.com/collections/skills-usa)

Have any questions or concerns?

Contact:

Chandler Vincent

(435) 232-6426

Chandler@Weldermade.com



THANK YOU & SEE YOU IN ATLANTA, GA

QUESTION AND ANSWERS
PLEASE USE THE CHAT TO ASK YOUR QUESTIONS