

Welding Fabrication

CO-CHAIR: Dana Tobias, Air Gas

CO-CHAIR: Chris Parsons, Air Gas

CONTEST DATE: April 25, 2019

CONTEST LOCATION: Hutchinson Career Technical Education Academy – V110

CONTEST TIME: 7:30 am Check in – All Teams (see schedule in Contest Updates)

PROJECT: Bench

PURPOSE: To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of welding fabrication.

ELIGIBILITY: (Team of three) Open to active SkillsUSA members enrolled in programs with welding as the occupational objective. This is a team event. Each team will be comprised of three student members from the same school and training program.

CLOTHING REQUIREMENT: Official SkillsUSA khaki work shirt (long sleeved) and pants (both the pants and shirt must be 100 percent cotton); black, brown or tan leather work shoes; and safety glasses with side shields or goggles. (Prescription glasses can be used only if they are equipped with side shields. If not, they must be covered with goggles.) For State Competition, students may wear the Kansas State Official T-shirt and blue jeans, unless instructed differently from the contest chair. *(See contest chair updates below)*

Kansas State Official T-shirt



Official SkillsUSA attire



CONTEST UPDATES: For contest guidelines refer to the Technical Standards.

ATTENTION!!!!

- **STRICT ENFORCEMENT** OF PERSONAL PROTECTIVE EQUIPMENT (PPE) WILL BE OBSERVED DURING THE 2019 WELDING COMPETITION
- ALL ISSUES CONCERNING INADEQUATE OR INAPPROPRIATE PPE MUST BE RESOLVED DURING THE ALLOWED CHECK-IN TIME FOR EACH STUDENT
- IF THE ISSUE CANNOT BE RESOLVED DURING THE TIME PERIOD, THE STUDENT WILL NOT BE ALLOWED TO COMPETE
- PLEASE REVIEW THE LIST OF PPE REQUIREMENTS FOR THIS WILL BE STRICTLY ENFORCED

EACH TEAM WILL RECEIVE A SPECIFIC CHECK-IN TIME. THIS TIME SLOT WILL BE THE ONLY OPPORTUNITY FOR THE STUDENTS TO ENTER THE COMPETITION.

PLEASE REVIEW THE GUIDELINES PROVIDED BY SKILLSUSA CONCERNING THE DRESS CODE

COMPLIANCE WITH THIS DRESS CODE WILL BE ASSESSED IN THE FINAL SCORE FOR EACH TEAM.

DENIM OR FRC PANTS WILL BE PERMITTED.

AWS SENSE WPS WILL BE USED FOR WELDING PARAMETERS. PLEASE REVIEW THESE DOCUMENTS WITH YOUR STUDENTS PRIOR TO THE WELDING COMPETITION.

FAB CONTEST

Torch Tips for Victor and Victor style Radnor Equipment

Oxy Start-up Guidelines:

- ✓ Inspect Equipment
- ✓ Regulator adjust screw loose
- ✓ Crack cylinder valve slowly
- ✓ Oxy Cylinder open till backseated
- ✓ Open torch valve or lever
- ✓ Set line pressure on regulator with adjusting screw

Fuel Gas Start-up Guidelines

- ✓ Inspect Equipment
- ✓ Regulator adjust screw loose
- ✓ Crack cylinder valve slowly
- ✓ Acetylene Cyl open ½ to 1 full turn
- ✓ Open torch valve
- ✓ Set line pressure on regulator with adjusting screw

Shut Down Guidelines

- ✓ Close Cylinder valve
- ✓ Open torch valve or lever, bleed the line pressure
- ✓ Loosen adjusting screw

Fuel gas line pressure 10 PSI

OXY gas line pressure 30-40 PSI

2019 TOOLS/SAFETY LIST

Each contestant **MUST** have the following safety equipment:

- Eye Protection, safety glasses, (side-shields if prescription on goggles required)
- Hearing Protection, ear plugs or ear muffs
- Welding Helmet with welding lens (quick change hoods are allowed)
- Cutting Goggles/face shield #5
- Leather work shoes (no tennis shoes)
- Leather Gloves (welding and tig gloves)
- Leather or FR Coat or cape and bib

ALLOWABLE TOOLS:

- 4 ½ in Angle Grinder with guard attached
- Spare welding lens
- Lead pencil for written test
- Soap Stone with holder or other metal marking pencil
- Combo Square set
- Steel measuring tape (standard and metric)
- Fillet Weld Gauge
- Ball Peen Hammer
- Vice Grip Pliers (no more than 2)
- Side Cutter Pliers (welpers, or Needle nose are allowed)
- Chipping Hammer
- Wire Brush
- Stryker for cutting torch
- Steel file for dressing cut edges
- Compass
- Chisel
- Adjustable wrench
- Center punch

All tools are to be placed into a bucket for our inspection, and only the tools listed above are approved for the contest. No copies of the Pre Test or outside notes are allowed. Each contestant will be given a set of Welding/Cutting prints and welding procedures before the start of the competition.

2019 KANSAS STATE CHAMPIONSHIPS (KSC) CONTEST UPDATE



INSTRUCTIONS: Each student will be expected to demonstrate the following processes:

*Students may be welding in the following positions

<u>PROCESS</u>	<u>POSITION</u>
GTAW	2F, 3F, 1G, 2G
SMAW	2F, 3F, 4F, 1G, 2G
GMAW-S	2F, 3F, 4F, 1G, 2G

Potential Equipment for use:

- Miller Syncrowave 200
- Miller Syncrowave 180SD
- Lincoln Powermig 350P
- Miller 350P

Blueprint Reading

Layout Skills Tolerance will be $\pm 1/16$

General Knowledge

IMPORTANT:

There will be **NO** communication devices allowed after the student checks in. Simply put, if you are caught, you are **DISQUALIFIED.**

Teachers or coaches will not have any contact with the competitors during the competition.

Participating teams will be expected to make a plan during their print review with some idea of tasks, operation steps and assignments. The plan doesn't have to be strictly followed but students will need to be able to explain why adjustments were made.

The project will be relatively simple welding cart, but will have an added fit up/accuracy component. It will require the use of some heating and bending as well as cuts and fit up in addition to the normal welding.

Tape measures will be used to check some measurement!

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2019 KANSAS STATE CHAMPIONSHIPS (KSC) CONTEST UPDATE



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Make sure to read the Technical Standards for further guidelines in preparing for the State competitions. Good luck!

Welding Fabrication Schedule

7:30 AM	Check-In	All Teams	
7:45 AM	Orientation	All Teams	
8:00 AM	Written Test	All Teams	
8:30 AM	Classroom Tool Check-In	Group A	(Advisors Allowed)
8:45 AM	Blue Print Review/ Booth Assignment	Group A	(No Advisors)
9:00 AM	Welding Starts	Group A	
12:00 PM	Welding Stops/ Clean Area/Lunch	Group A	
12:30 PM	Contestants released through rear shop	Group A	
12:30 PM	Classroom Tool Check-In	Group B	(Advisors Allowed)
12:45 PM	Blue Print Review/ Booth Assignment	Group B	(No Advisors)
1:00 PM	Welding Begins	Group B	
4:00 PM	Welding ends/clean-up/Welders are Released	Group B	

NOTE

Advisors will be allowed to enter shop area from rear of shop after welding begins at 9AM and 1 PM.

Group A (Postsecondary)

Dodge City Community College
Kansas City Kansas Community College
North Central Kansas Technical College
Northwest Kansas Technical College
Seward County Community College
WSU Tech

Group B (High School)

Hutchinson Career & Technical Ed Academy
Kansas City Kansas Community College
Labette County High School
Paola High School
Washburn Institute of Technology