



2012 Provincial Skills Canada Competition

Scope Document

Edmonton Expo Center, Edmonton

May 10 & 11, 2012

EVENT: Sheet Metal	LEVEL: Post-Secondary
COMPETITION START TIMES: May 10: 8:00 AM May 11: 8:00 AM	LOCATION: HALL A Edmonton Expo Centre, Edmonton
DURATION: 10 hours (2 days)	
WORLDSKILLS TRADE #: 14	

GENERAL DESCRIPTION

Purpose of the Challenge:

Enable students to demonstrate their skills working with sheet metal.

Skills and Knowledge to be Tested:

Sheet metal layout and fabrication skills.

PROJECT DESCRIPTION

The project will be in imperial units and may include any, but not necessarily all of the following skills.

Layout Skills

- Simple triangulation from plan view of a square or rectangle to round (Parallel Openings)
- Simple radial line development with parallel openings
- Square or round rain caps
- 90° round on round tees
- Round elbows and offsets (Non reducing except for BE – SE)
- Any of the following rectangular fittings (All changes in size must occur on the cheeks)
- Offsets
- Elbows
- Y-Branches
- Take-offs
- Simple Layout

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Methods of Fastening and Joining

- Rivets (Pop and Solid)
- Sheet metal screws
- MIG Welding
- Spot (Resistance) Welding
- Grooved seams
- Single and double seams
- Lap and spot
- Hammerlock (Round or rectangular)
- BE – SE slip
- Pittsburgh (Irish) lock
- Slip and drive
- Standing “T” or C.P.R
- Elbow Lock

EQUIPMENT & MATERIALS

Equipment and Materials Competitors Must Supply:

The following hand tools are recommended as a basic set. This list may be augmented by the competitor but certain specialized tools may be subject to approval by the committee.

- Screwdrivers (Standard and Robertson)
- Aviation snips (left and right cutting)
- Combination snips
- Combination square
- Tee square
- Dividers (2 sets)
- Trammel points
- Marking gauge
- Tape measure
- Hand seamers
- C-clamp vice grips (2 sets)
- Standard vice grips (2 sets)
- Flat file
- Half round file
- Center punch
- Scratch awl
- Mallet (wood)
- Body hammer
- Tinnerns hammer
- Protractor
- Adjustable wrench
- Hack saw

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Equipment and Materials Supplied by the Committee:

- MIG welders c/w 030" wire and 25% CO2/ 75% Argon (1 for 3comp.)(120v)
- Fume eaters for welders(3)
- Flat metal table for welding and grinding (1 for all comp)
- Welding helmets
- Face shields
- Standard hand brake – 16 gauge min. (1 for all comp.)
- Box and pan brake – 16 gauge min. (1 for all comp.)
- 3' foot shear – 16 gauge min. (2 for all comp.)
- Funnel (blow horn) stakes (2 for all comp.)
- Hatchet (knife) stakes (2 for all comp.)
- Bevel edge square stakes (2 for all comp.)
- Hollow mandrel stakes (4 for all comp.)
- Deep throat comb. Rotary machine c/w wheels (1 for 4 comp.)
- 2" x 36" rolls (2 for all comp.)
- Framing Square (1 for all comp.)
- 36" Ruler (1 for all comp.)
- Welding Screens (8, 6' * 8')
- 2-Conductor Stakes
- Easy edger (1 for 4 comp)
- Hand groovers (3)
- Pop riveters (3)
- 1/4" and 5/16" hex screw chucks(2 of each)
- 3' x 6' work surface (1 per comp.)
- Stool (1 per comp.)
- 110V power bar (1 per comp.)at benches
- Bench vice (1 for 2 comp.)
- 30" bar folders (2 for all comp.)
- Stake holders (2 for all comp.)
- Electric hand drills c/w drill bits (3 for all comp.)
- Brooms (2)
- Beverly Shear or hand Notcher
- Elbow Machine (2 req)

Tools and Equipment for Judges

Flat surface for performing measurements

18" calliper

12" and 36" rules

24" framing square

Materials

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- 16 gauge CRS
- 20 to 26 gauge galvanized iron
- #8 x 1/2" and #10 x 3/4" TEK screws
- Pop rivets 1/8 #44

SAFETY

The health, safety and welfare of all individuals involved with Skills Canada Alberta are of vital importance. Safety is a condition of participation with Skills Canada Alberta and shall not be sacrificed for the sake of expediency. At the discretion of the judges and technical committees, any competitor can be denied the right to participate should they not have the required proper safety equipment and/or act in an unsafe manner that can cause harm to themselves or others.

JUDGING CRITERIA

The marking is divided into two categories, objective and subjective. The objective marking is done as a group for every competitor and every judge for every competitor does the subjective marking. All subjective marks are out of 10 points and are weighted accordingly in the final calculation. Subjective marks must not have a range of more than 3 points between judges. All dimensions are outside unless otherwise noted.

Objective (40%)

Critical Dimensions 20%
Secondary Dimensions 10%
Square and Parallel 5%
Material Usage 5%

Subjective (60%)

Seams, Edges and Fasteners 20%
Fit and Forming 20%
MIG Welding 10%
Overall Appearance 15%

ADDITIONAL INFORMATION

Lunch

Lunch for accredited competitors only will be provided by Skills Canada Alberta.

Parking & Venue Maps

<http://www.edmontonexpocentre.com/attend/parking/>

Awards Ceremony



The awards ceremony will take place on Friday May 11, 2012 at 5:30pm in Hall D of the Edmonton Expo Center. Admission is free and everyone is welcome to attend. The awards ceremony will be shown live at www.skillsalberta.com.

Team Alberta Information

Team Alberta will be selected at the Provincial Skills Canada Competition (PSCC) on May 10-11, 2012. Then two days later the gold medalists from PSCC will compete at the Skills Canada National Competition (SCNC) in Edmonton, Alberta. It is recommended that competitors review the SCNC scope documents to be familiar with the national scope and project. <http://www.skillscanada.com>.

During the PSCC Awards Ceremony on May 11 all students who earn a medal will be escorted backstage after we photograph their onstage moments of success. Gold medalists will be given their Team Alberta information package and will confirm their participation in the SCNC.

Students must be present at the Awards Ceremony to claim their position on Team Alberta. If the Gold medalist is not able to attend SCNC, the next top ranking individuals will be asked to participate.

Committee Members

Jason Cunningham
Dan Palmerchuk
Rick Carter
Scott St Louis

NAIT
Sheet Metal Workers' Local 8
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