# 28th ANNUAL SKILLS MANITOBA COMPETITION
# CONTEST DESCRIPTION
## Thursday, April 9, 2026

**CONTEST NAME:** SHEET METAL WORK

**CONTEST NO:** 43

**LEVEL:** Post Secondary

**NOTE:** Minimum of 3 competitors

**CONTEST LOCATION:** Red River College Polytechnic - Notre Dame Campus – T126

**CONTEST START TIME AND DURATION:**
9 AM. Contest duration is 6 hours.

**PURPOSE OF CHALLENGE:**
To enable students to demonstrate their skills working with sheet metal

**SKILLS AND KNOWLEDGE TO BE TESTED:**
Sheet metal layout and fabrication skills. 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
- $90^0$ 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

***Methods of Fastening and Joining:***

- Rivets
  - Pop
  - Solid
- Sheet metal screws
- Nuts and bolts
- Welding
  - Spot (Resistance)
- 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.

## POINT BREAKDOWN (100 POINTS):

| | |
|---|---|
| Objective | |
| Critical Dimensions | 20% |
| Secondary Dimensions | 10% |
| Material Usage | 5% |
| Square and Parallel | 5% |
| Subjective | |
| Spot Welding | 5% |
| Seams, Edges and Fasteners | 20% |
| Fit and Forming | 20% |
| Overall Appearance | 15% |

| | |
|---|---|
| *Objective Total* | *40%* |
| *Subjective Total* | *60%* |

In the event of a tie, the competitor with the fastest time will be placed higher in the ranking.

Two weeks before the competition an isometric drawing of the project with be available for all competitors to view on the Skills Canada website.

## NATIONAL COMPETITION ELIGIBILITY:

- A mark of **70% or higher** must be scored by the gold medalist in each contest in order for them to attend the National Skills Competition

## EQUIPMENT, TOOLS, MATERIALS TO BE PROVIDED BY COMMITTEE:

- Flat metal table for welding and grinding (1 for all comp.)
- Spot welder (1 for all comp.)
- Welding helmets
- Face shields
- Scrap Metal Bin
- Brooms (2)
- 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 (blowhorn) 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>0
- Easy edge (1 for 4 comp.)
- 2" X 36" rolls (2 for all comp.)
- Metal cutting chop saw c/w abrasive blade (1 for all comp.)
- Hand groovers
- Pop riveters ( 2 for all comp.)
- ¼" and 5/16" hex screw chucks
- Pittsburgh machine c/w power flanger
- 3' X 6' work surface (1 per comp.)
- Stool (1 per comp.)
- 110V power bar (1 per comp.)
- Bench vise (1 for 2 comp.)
- 30" bar folders (2 for all comp.)
- Stake holders (2 for all comp.)
- 4 ½" angle grinders c/w flexible pads and discs (3 for all comp.)
- Unishears or equivalent – 16 gauge CRS cap. (3 for all comp.)
- Electric hand drills c/w drill bits (3 for all comp.)

## EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR:

- Appropriate CSA approved footwear
- Safely glasses
- Welding gloves
- Proper welding attire (i.e. Long sleeves)

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
- Framing square
- Dividers (2 sets)
- Trammel points
- Marking gauge
- Tape measure
- Hand seamers
- C-clamp vise grips (2 sets)

- Standard vise grips (2 sets)
- Flat file
- Half round file
- 12” and 36” rules
- Centre punch
- Scratch awl
- Mallet (wood)
- Body hammer
- Tinners hammer
- Protractor
- Adjustable wrench
- Hacksaw

## WORKSITE SAFETY RULES / REQUIREMENTS:

- Appropriate CSA approved footwear
- Safety glasses
- Welding gloves
- Proper welding attire (i.e. Long sleeve)

## THE IMPORTANCE OF SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY;

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success (former Essential Skills) model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The following 9 skills have been identified and validated as key skills for success for the workplace: 1.Numeracy, 2.Communication, 3.Collaboration, 4.Adaptability, 5.Reading, 6.Writing, 7.Problem Solving, 8.Creativity and Innovation, 9.Digital

## FOR MORE INFORMATION PLEASE CONTACT:

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