



## 27th ANNUAL SKILLS MANITOBA COMPETITION CONTEST DESCRIPTION APRIL 10, 2025

**CONTEST NAME:** CNC Mill only

**CONTEST NO:** 6

**CATEGORY:** Post-Secondary

**CONTEST LOCATION:** RRC Polytech - Notre Dame Campus – B177

**CONTEST START TIME AND DURATION:**

Start time: 8:15 AM for safety and contest information

Duration: 3.5 HOURS MAXIMUM

**Max of 4 competitors**

**PURPOSE OF CHALLENGE:**

Assess the contestant's CNC skills and trade knowledge through practical and theoretical testing at the post-secondary level. The competition will only utilize the CNC milling machine (Haas VF1 or VF2).

**Note:** The level of complexity for the post-secondary project will "NOT" vary accordingly.

**SKILLS AND KNOWLEDGE TO BE TESTED:**

**PRACTICAL SKILLS AND KNOWLEDGE**

- Setup and operate CNC milling equipment
- Utilize Mastercam
- Profiling
- Pocketing
- Drilling
- Reaming
- Tapping
- Chamfering
- Thread milling

- Applied metrology

**THEORETICAL SKILLS AND KNOWLEDGE:**

- Interpretation of engineering drawings
- Mathematical calculations
- Following safety regulations

**Note:**

The measuring system can be metric or imperial. When candidates are programming, manuals are available at the link below:

[http://www.haascnc.com/custserv\\_updates.asp#manualupd](http://www.haascnc.com/custserv_updates.asp#manualupd)

**POINT BREAKDOWN / 100 TOTAL:**

**Milling**

- Project completion 10
- Compliance with occupational health and safety regulations 5  
**PLEASE NOTE: All Shop safety procedures must be followed, or the contestant will be removed from the competition**
- Compliance with dimensions, tolerances, and fits as specified in plans 60
- Compliance with appropriate surface finish and deburring 25

**TOTAL: 100**

**NATIONAL COMPETITION ELIGIBILITY:**

- The gold medalist must score a mark of 70% or higher to attend the National Skills Competition

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

- All appropriate measuring tools for the Mill project
- All appropriate Mill cutting tools and holders

**Note:** Contestants may be required to share some of the tools and equipment supplied.

**EQUIPMENT, TOOLS, AND MATERIALS TO BE SUPPLIED BY COMPETITOR:**

- CSA-approved safety glasses and safety boots or shoes
- Shop coat or equivalent (optional)
- A non-programmable scientific calculator
- Hearing protection REQUIRED

**Contestants may bring the following optional items:**

- Machinists ready reference  
**No tutorials of any kind can be used.**

**Project Materials:**

- Milling project – aluminum or steel

Each contestant will have a maximum of two blank workpieces for the mill projects.

**Note:** If a second workpiece is required, the contestant will lose 10% of the total project mark.

**WORKSITE SAFETY RULES / REQUIREMENTS:**

Before the start of the competition, contestants and coaches will be provided with a comprehensive safety orientation, including machine operations.

**SPECIAL CONDITIONS / ADDITIONAL INFORMATION:**

**In the event of a tie, the project's completion time will decide the winner.**

**Max of 4 competitors**

**THE IMPORTANCE OF SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES:**

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 CONTACT TECHNICAL COMMITTEE MEMBER:**

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