



## 2016 19<sup>th</sup> ANNUAL SKILLS MANITOBA COMPETITION CONTEST DESCRIPTION

**CONTEST NAME:** CNC Mill only

**CONTEST NO:** 6

**CATEGORY:** Secondary and Post Secondary

**CONTEST LOCATION:** Red River College - Notre Dame Campus – B168

**CONTEST START TIME AND DURATION:**  
6 HOURS MAXIMUM

**PURPOSE OF CHALLENGE:**

Assess the contestant's CNC skills and trade knowledge through practical and theoretical testing at the secondary and post-secondary levels.

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

**SKILLS AND KNOWLEDGE TO BE TESTED:**

The contest will occur over one day. The day will consist of 6 hours of theory and practical work including safety, math, Interpreting Engineering drawings, and CNC machining.

**PRACTICAL SKILLS AND KNOWLEDGE**

**CNC Mill (6 hours) (may include any of the following):**

- Program in Gibbs/MasterCAM
- Parallel and perpendicular milling
- Drilling
- Reaming
- Tapping
- Applied metrology

- Assembly of parts

## **THEORETICAL SKILLS AND KNOWLEDGE:**

### **Note:**

The measuring system can be metric or imperial. When candidates are programming, manuals will be available. There also 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 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:**

- A mark of **70% or higher** must be scored by the gold medalist in order 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 supplied tools and equipment.

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

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

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

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

### **Project Materials:**

- Milling project - aluminum

Each contestant will be supplied with a maximum of two work piece blanks for the mill projects.

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

**WORKSITE SAFETY RULES / REQUIREMENTS:**

Prior to the start of the competition, contestants and coaches will be provided with a comprehensive safety orientation which will include 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 ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES;**

Essential skills are used in nearly every job and at different levels of complexity. They provide the foundation for learning all other skills and enable people to evolve with their jobs and adapt to workplace change. Good Essential Skills means you will understand and remember concepts introduced in technical training. The level of Essential Skills required for most trades is as high as or higher than it is for many office jobs.

The following 9 skills have been identified and validated as key essential skills for the workplace:

Numeracy, Oral Communication, Working with Others, Continuous Learning, Reading Text, Writing, Thinking, Document Use, Digital.

Essential Skills required for CNC Machining: Numeracy, Document Use

**FOR MORE INFORMATION CONTACT TECHNICAL COMMITTEE MEMBER:**

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