



# 2010 13<sup>th</sup> ANNUAL SKILLS MANITOBA COMPETITION CONTEST SCOPE

**CONTEST NAME:** CNC Mill only

**CONTEST NO:** 6

**CATEGORY:** Secondary and Post Secondary

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

**CONTEST START TIME AND DURATION:**  
6 HOURS MAXIMUM, starting immediately after the opening ceremonies 9 to 3

**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 MDI (Manual Data Input G and M codes) only (ISO/EISA)
- 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 / 1000 TOTAL:**

### **TURNING**

- - Project completion 100
- - Compliance with occupational health and safety regulations 50
- - Compliance with dimensions, tolerances, and fits as specified in plans 600
- - Compliance with appropriate surface finish and deburring 250

**TOTAL: 1000**

## **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

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

- Machinists ready reference

### **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 5 competitors**

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

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