

Skills Canada National Competition

SCOPE DOCUMENT

SCOPE DOCUMENT	
Competition Year	2012
Competition location	Edmonton, AB
Trade Number	6
Trade Name	CNC Machining
Level	Post-Secondary

1. INTRODUCTION

1.1 Purpose of the Challenge.

Assess the contestant's CNC machining operational skills and techniques using "G" and "M" code programming, Conversational programming and Cam programming

1.2 Duration of contest.

12 hours

1.3 Skills and Knowledge to be tested.

The contest may involve manufacturing a part(s) using CNC turning centre/CNC Vertical Machining centre.

- Reading plans.
- Programming CNC machine tools
- (Turning Centre) External and internal cylindrical turning, grooving, taper turning, threading, drilling, boring and applied metrology.

(Machining Centre) Linear and circular interpolation milling, profile milling, face milling, internal and external thread milling, drilling, reaming, tapping. Applied metrology

2. CONTEST DESCRIPTION

2.1 List of documents produced and timeline for when competitors have access to the documents.

DOCUMENT	DATE OF DISTRIBUTION VIA WEBSITE
Console operational test	January 14 2012

2.2 Tasks that may be performed during the contest

- The measuring system will be imperial (inch).

3. EQUIPMENT, MATERIAL, CLOTHING

3.1 Equipment and material provided by Skills/Compétences Canada

- CNC Machining and Turning Center
- Cutting Tools and Holders
- All raw material
- MasterCam software
- Gauges
- HAAS Machines

3.2 Equipment and material provided by the competitor

- Micrometer 0-4inch
- Digital Caliber 0-8 inch
- Depth Micrometer 0-4 inch
- Thread wires and/or thread micrometer 1-2 inch
- Dial indicator and base
- Edge finder
- Telescoping Gauges ½ -4 inches
- Tri-square
- Parallel Set
- Hammers – dead blow and steel
- Allen keys – inch and metric
- Adjustable wrench (12 inches)
- Files
- Calculator
- Machining Handbook/Machine manual (optional)
- No other tools allowed

* Please advise the National Technical Committee minimum 1 month before the competition if you are unable to supply any of these items.

3.3 Required clothing (Provided by competitor)

- Long pants
- Short sleeve shirt
- Shop coat with rolled up sleeves (optional)

4. SAFETY REQUIREMENTS

4.1 List of required personal protective equipment(PPE) provided by competitors

- Safety Glasses CSA approved safety shoes Latex gloves
 Safety Gloves Welding helmet Dust Mask
 Hard Hat Welding gloves Leather gloves
 Hearing protection Respiratory protection No PPE required

4.2 List of required personal protective equipment(PPE) provided by Skills/Compétences Canada(SCC)

- Safety Glasses CSA approved safety shoes Latex gloves
 Safety Gloves Welding helmet Dust Mask
 Hard Hat Welding gloves No PPE required
 Hearing protection Respiratory protection No additional PPE supplied by SCC

5. ASSESSMENT

5.1 Point breakdown

POINT BREAKDOWN	/1000
Compliance with occupational health and safety regulations	50
Compliance with dimensions, tolerances, and surface finish specified in plans for Milling	425
Compliance with dimensions, tolerances, and surface finish specified in the plans for Turning	425
For additional rough parts (penalty)	-50
Console operational test for Turning Centre	50
Console operational test for Milling Centre	50

6. ADDITIONAL INFORMATION

6.1 Consecutive translation

If consecutive translation is required on site, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service might not be guaranteed.

6.2 Software requirements

If French software is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this software might not be guaranteed.

The competitor may use a different CAM system but must take the responsibility of insuring proper operation, which may include proper working post, technical support, computer hardware/software and CNC connections etc. The HAAS conversational would be able to be switched to a different language.

6.3 Computer keyboard requirements

English Keyboards will be provided, if a French keyboard is required the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this keyboard might not be guaranteed.

6.4 Tie (No ties are allowed)

In the event of a tie, 1st - project completion (time) 2nd - surface finish confirmation will be the determining factor. (NTC Committee vote)

6.5 Competition rules

Please refer to the competition rules for all general SCNC information.

7. NATIONAL TECHNICAL COMMITTEE MEMBERS

Region	Name	Email address
Pacific Region	Dave Grabski	daveg@nait.ca
Western Region	Rob Atamna	rataman@rrc.mb.ca
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