



CONTEST DESCRIPTION

Industrial Mechanics

TEAM CANADA

Table of Contents

1	THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY	2
2	CONTEST INTRODUCTION.....	2
3	CONTEST DESCRIPTION.....	3
4	EQUIPMENT, MATERIAL, CLOTHING	3
5	HEALTH AND SAFETY	4
6	SAFETY REQUIREMENTS	5
7	ASSESSMENT	6
8	CONTEST SPECIFIC RULES	6
9	ADDITIONAL INFORMATION.....	7
10	TEAM CANADA EXPERT	7

1 THE 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 next phase and very important aspect of our Skills for Success (SfS) initiative is to provide a *Skills Report Card* to each competitor at the Skills Canada National Competition. The purpose of the report card is to inform the competitor about their current level of nine identified Skills for Success based on their competition scores. With this knowledge, the competitor will be made aware which skill may require improvement. Full implementation is expected in the next Skills Canada National Competition.

The following 9 skills have been identified and validated as key skills for success for the workplace in the legend below:

¹Numeracy, ²Communication, ³Collaboration, ⁴Adaptability, ⁵Reading, ⁶Writing, ⁷Problem Solving, ⁸Creativity and Innovation, ⁹Digital

These Skills for Success have been identified in section 2.4 and/or 3.2 of your Contest Description and if applicable, in your Project and supporting documents.

2 CONTEST INTRODUCTION

2.1 Description of the associated work role(s) or occupation(s)

[Click here](#)

2.2 Purpose of the Challenge

To test the knowledge and skills of each competitor in the areas of: blueprint reading, fluid power (pneumatics) ISO schematics, precision hand layout, precision fitting skills, use of hand tools, hand drills etc., install mechanical components, MIG welding and fabrication, stainless steel tube bending, predictive maintenance and laser shaft alignment (Fixturlaser SMC & NXA Pro).

2.3 Duration of contest

15 hours

2.4 Skills and Knowledge to be tested.

Welding, alignment, hand tool operation, layout operation, knowledge of imperial and ANSI measuring

3 CONTEST DESCRIPTION

3.1 List of documents produced and timeline for when competitors have access to the documents on the Skills/Compétences Canada website

DOCUMENT	DATE OF DISTRIBUTION
Skill Sets Document	January 2022

3.2 Tasks that may be performed during the contest

- Perform hand tool operations. ^{1,7}
- Perform precision hand layout operations. ^{1,7}
- Read and interpret blueprints.⁵
- Perform and demonstrate using the supplied hand tools the required skills to bend stainless steel tubing to the given specifications to fit mechanical components.^{5,7}
- Install supplied pneumatic components and build the required circuit as per given instruction.⁵
- Perform Predictive Maintenance tasks and a Laser Shaft Alignment including a Thermal Growth Offset.^{5,9}
- Knowledge of Imperial measurement and ANSI symbols.¹
- ISO Fluid Power (pneumatic) schematic drawings standards.⁵

Skills for Success - ¹Numeracy, ⁵Reading, ⁷Problem Solving, ⁹Digital

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- Fixturlaser NXA Pro & Fixturlaser SMC Balancing Tool will be supplied and will be used for the predictive maintenance and alignment challenge.
- “Swagelok” tube bending tools and components will be used for the stainless steel tube bending challenge.
- Festo Didactic Pneumatic components for fluid power.
- Welding equipment
- All hand tools needed will be provided

COMPETITORS WILL BE REQUIRED TO USE THE MATERIAL AND EQUIPMENT PROVIDED BY SCC. ALL OTHER MATERIAL AND EQUIPMENT WILL BE REMOVED FROM THE SKILL AREA.

4.2 Equipment and material provided by the competitor

- No tools or equipment permitted

4.2.1 Toolboxes Guidelines

Competitors are not permitted to bring toolboxes.

4.3 Required clothing provided by the competitor

- Dressed in an appropriate manner with no visible Logos (Provincial attire is acceptable)
- Long hair must be tied back
- No loose clothing

5 HEALTH AND SAFETY

5.1 Safety program

SCC has implemented a comprehensive safety program as health and safety is an integral part of our competitions. Our safety program includes guidelines and procedures to make the work environment in each skill area safer.

5.1.1 Safety manual

As part of our program a safety manual has been created in order to monitor and document health and safety within each skill area. It includes a definite plan of action designed to prevent accidents. The safety manual will be provided for every skill and these instructions must be followed and respected by all participants and officials at the SCNC.

5.1.2 Safety workshop

During orientation, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety, and environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

- 5.2 List of required personal protective equipment (PPE) provided by competitors
- N/A

5.3 COVID-19 Protocol

The COVID-19 guidelines will be shared as soon as they are available.

The COVID-19 guidelines will be subject to change based on the BC COVID-19 guidelines in place at the time of the competition.

6 SAFETY REQUIREMENTS

6.1 Safety workshop

Upon arrival at the Skill area, Competitors will participate in a Safety workshop and they will be expected to work and maintain a safe working area during the competition. Any Competitor breaking any health, safety and environmental rules, may be required to undertake a second safety workshop, this will not affect the Competitor's competition time.

- 6.2 List of required personal protective equipment (PPE) provided by Skills/Compétences Canada

- N/A

- 6.3 List of required personal protective equipment (PPE) provided by the competitor

- Safety Glasses (Clear Lens Only)
- CSA approved Safety shoes/boots
- Mechanics gloves may be used. (Optional at the discretion of the NTC's)
- Competitors may bring their own certified Welding Jackets and/or gloves
- Note: Competitors will not be allowed to compete if the above items are not brought and used.

Note: Contestants who do not have the required protective gear will not be allowed to participate in the contest

7 ASSESSMENT

7.1 Point breakdown

Note: This list is subject to change.

TASKS	/100
Fabrication & mig welding, precision layout, use of hand tools, fluid power (pneumatics), Mechanical component installation, stainless tube bending	75
Predictive Maintenance & laser shaft alignment with Thermal growth offset	25

8 CONTEST SPECIFIC RULES

Contest specific rules cannot contradict or take priority over the Competition Rules. They do provide specific details and clarity in areas that may vary from contest to contest. Any additional contest rules will be reviewed during the competitor orientation.

TOPIC/TASK	CONTEST SPECIFIC RULE
Electronic devices	<ul style="list-style-type: none"> Electronic devices are not allowed on site including cell phones
Safety	<ul style="list-style-type: none"> Proper PPE to be worn at all times on contest floor
Drawings	<ul style="list-style-type: none"> Only drawings provided will be allowed on contest floor
Tools	<ul style="list-style-type: none"> All tools will be provided
Time Management	<ul style="list-style-type: none"> Tardiness will not be tolerated
Food and Beverage	<ul style="list-style-type: none"> No alcohol or drugs allowed No energy drinks allowed

9 ADDITIONAL INFORMATION

9.1 Interpreter

If a competitor requires the help of an interpreter once onsite during the competition, 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.

9.2 Ties

- Tiebreaker #1: Competitor with highest score in laser alignment will be declared the winner.
- Tiebreaker #2: If second tie occurs the competitor with the highest score in welding portion will be declared the winner.
- Tiebreaker #3: If third tie occurs the competitor with the highest score in the stainless tube bending will be declared the winner.

9.3 Test Project change at the Competition

Where the Test Project has been circulated to Competitors in advance, Expert shall change a maximum of 30% of the work content. Please refer to the Competition Rules.

9.4 Competition rules

Refer to the competition rules of the Skills Canada National Competition which can be found on our website.

10 TEAM CANADA EXPERT

Brian Vintinner

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Sophie Courchene at sophie@skillscanada.com