Skills Compétences Canada
Vancouver2020

CONTEST DESCRIPTION / DESCRIPTION DE CONCOURS

INDUSTRIAL MECHANIC/MILLWRIGHT

MÉCANICIEN-MONTEUR INDUSTRIEL

POST- SECONDARY / NIVEAU POSTSECONDAIRE

SCNC / OCMT
2020
VANCOUVER

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1 THE ESSENTIAL SKILLS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY

SCC is currently working with Employment and Social Development Canada (ESDC) in order to bring awareness to the importance of Essential Skills that are absolutely crucial for success in the workforce. Part of this ongoing initiative requires the integration and identification of Essential Skills in contest descriptions, projects, and project documents. The next phase and very important aspect of our Essential Skills (ES) initiative is to provide an ES report card to each competitor at the Skills Canada National Competition. The purpose of the ES report card is to inform the competitor about their current level of essential skills based on their competition scores. With this knowledge, the competitor will be made aware which essential 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 essential skills for the workplace in the legend below:

[1]Numeracy, **[2]**Oral Communication, [3]Working with Others, [4]Continuous Learning, [5]Reading Text, [6]Writing, **[7]**Thinking, [8]Document Use, [9]Digital

These essential skills have been identified in section 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)

http://skillscompetencescanada.com/en/careers/manufacturingengineering/industrial-mechanics-millwright/

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, predective maintenance and laser shaft alignment (Fixturlaser SMC & NXA Pro).

2.3 Duration of contest.

12 hours

2.4 Skills and Knowledge to be tested.

Mark breakdown: 100% practical.

3 CONTEST DESCRIPTION

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

DOCUMENT	DATE OF DISTRIBUTION VIA WEBSITE
Skills Sets	January 2020

3.2 Tasks that will be performed during the contest

- Perform hand tool operations. *[1,7]*
- Perform precision hand layout operations. *[1,7]*
- Read and interpret blueprints.*[8]*
- Perform and demonstrate using the suppiled hand tools the required skills to bend stainless steel tubing to the given specifications to fit mechanical components.*[7,8]*
- Install supplied pneumatic components and build the required circuit as per given instruction.*[1,7,8]*
- Perform Predictive Maintenance tasks and a Laser Shaft Alignment including a Thermal Growth Offset.*[7,8,9]*
- Knowledge of Imperial measurement and ANSI symbols.*[1,7,8]*
- ISO Fluid Power (pneumatic) schematic drawings standards. *[1,7,8]*
- All competitors will be required to sign a declaration stating they have not written a certificate of qualification examination, or hold journeyperson status in a related trade.

Essential Skills – [1]Numeracy, [7]Thinking (Critical Thinking, Problem Solving, Significant Use of Memory), [8]Document Use

4 EQUIPMENT, MATERIAL, CLOTHING

4.1 Equipment and material provided by Skills/Compétences Canada

- All required components, tools and equipment.

- 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.

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

4.3 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 SAFETY REQUIREMENTS

5.1 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.

5.2 Personal protective equipment (PPE) provided by Skills/Compétences Canada

- N/A

5.3 Personal protective equipment (PPE) provided by competitors

- 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.

6 ASSESSMENT

6.1 Point breakdown

POINT BREAKDOWN	/100
Fabrication & MIG Welding Precision hand layout, use of hand tools Fluid Power (Pneumatics) Mechanical Component Installation Stainless Steel Tube Bending	75
Predective Maintenance & Laser Shaft Alignment with Thermal Growth Offset	25

7 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
Safety	• Proper PPE must be worn at all times when on the contest floor
Electronic devices	• Electronic devices are not allowed onsite. This includes cell phones.
Time management	• Tardiness will not be tolerated
Food and beverage	• No alcohol or drugs allowed • No energy drinks allowed

8 ADDITIONAL INFORMATION

8.1 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.

8.2 Ties

- Tiebreaker #1: In the event of a tie, the competitor with the highest score in the Laser Alignment Section of the Preventative Maintenance challenge will be declared the winner.
- Tiebreaker #2: If a second tie occurs, the competitior with the highest score in the Welding portion of the machining challenge will be declared the winner.
- Tiebreaker #3: If a third tie occurs, the competitior with the highest score in the Stainless Steel Tube Bending challenge will be declared the winner.

8.3 Test Project change at the Competition

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

8.4 Competition rules

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

9 NATIONAL TECHNICAL COMMITTEE MEMBERS

Member Organisation	Name
British Colombia – Co-Chair	Robert Braun
Manitoba	Mike Williams
Ontario - Chair	Craig Brazil
Quebec	Normand Lavoie
Nova Scotia	Jon Lowthers
Saskatchewan	Neil Dielschneider
Newfoundland & Labrador	Steve Wells
Alberta	Roger Tokay
New Brunswick	Shannon Savoy

Contact the Skills/Compétences Canada national secretariat for any questions or concerns: Nathalie Maisonneuve (nathaliem@skillscanada.com).