



## 2018 21st ANNUAL SKILLS MANITOBA COMPETITION CONTEST DESCRIPTION

**CONTEST NAME:** Aerospace Technology

**CONTEST NO:** 14

**LEVEL:** Post-Secondary

**CONTEST LOCATION:** Red River College - Stevenson Campus

**NOTE:**

Post-Secondary level: 6 competitors per school.

**CONTEST START TIME AND DURATION:**

8:00 am Start

Estimated Completion 1:00 pm

**PURPOSE OF CHALLENGE:** To demonstrate the skills necessary for aircraft sheet metal work and maintenance tasks

**SKILLS AND KNOWLEDGE TO BE TESTED:**

1. Sheet Metal project
2. Aircraft Starter Generator Inspection

**POINT BREAKDOWN (1000 POINTS)**

Sheet Metal project	500 points
Engine Component Project	500 points
Total Points	1000

**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:

1 aircraft with 2 PT6 engines, or 2 PT6s on stands, including starter generators
Workbenches c/w vices (qty 1 per contestant)
Shop air supply, or 20 gallon portable air compressor (qty 1) and air hoses
Shop air supply, or 4 outlet air pig (qty 1)
3x rivet gun (qty 1 per contestant)
Bucking bar two types (qty 1 each per contestant)
#4 snap (qty 1 per contestant)
#3 snap (qty 1 per contestant)
Center punches (qty 1 per contestant)
Pin punches (3/32, 1/8, qty 1 each per contestant)
Drilling blocks (wood, qty 1 per contestant)
Planking for hose hazards, as required
Cleco Pliers (qty 1 per contestant)
Clecos (3/32, 1/8, qty at least 10 each per contestant)
Rivet MS 20470-AD4-3 (4 oz.)
Rivet MS 20470 AD4-4 (4 oz.)
Rivet MS 20470 AD4-5 (4 oz.)
8" x 8" 2024-T3 aluminum sheet stock .032" (qty 8)
8" x 8" 2024-T3 aluminum sheet stock .040" (qty 8)
Pre-made mock aircraft parts for repair (qty 1 per contestant plus 2 spares)
Fine single cut file, c/w handles (qty 1 per contestant)
File card (qty 1 per contestant)
Stools (qty 1 per contestant)
Conversion charts
Spring divider (qty 1 per contestant)
Vernier caliper (qty 1 per contestant)
Precision ruler (qty 1 per contestant)
Fine point marker (qty 1 per contestant)
Masking tape 1" (6 rolls)
#30 Drill bits (qty 6)
#40 Drill bits (qty 6)
1/8 Drill bits (qty 6)
1/8" rivet gauges (qty 1 per contestant)
Countersink/ De-burring tool (qty 1 per contestant)
Air drill c/w key (qty 1 per contestant)
Toggle clamp (qty 4 per contestant)
Applicable aircraft maintenance manuals or appropriate excerpts
Torque Wrench ¼ drive (for 15-30 in-lbs) (qty 2)
Torque Wrench 3/8 drive (for 15-20 ft-lbs) (qty 2)
Torquing screwdriver (qty 2)
Starter-gen gaskets (MS9135-01/3004506/3009560 or as req'd (qty 2)
Anti-seize compound (Molykote or similar) in labelled containers (2) w/ acid brushes
Bent ½" wrenches (2)
Safety wire 0.032"
Aviation snips or hand shears (qty 2)
Flashlights (qty 2)
Chairs (4) and Tables (2)
Ear plugs or ear defenders (qty as required)
Thread pitch gauges (2)

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

	<b>Basic hand tools (wrenches, socket set, screwdrivers, sidecutters, pliers)</b>
	<b>Safety glasses</b>
	<b>Hearing protection</b>
	<b>Safety footwear</b>
	<b>Calculator</b>
	<b>Pen, pencil</b>

## **WORKSITE SAFETY RULES / REQUIREMENTS:**

As per RRC/Stevenson safety committee requirements

## **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.

Top Essential Skills Required for Aircraft Maintenance: Document Use, Numeracy, Thinking: Critical Thinking

## **FOR MORE INFORMATION PLEASE CONTACT:**

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