



2022 24th ANNUAL SKILLS MANITOBA COMPETITION CONTEST SCOPE

CONTEST NAME: Heavy Vehicle Technology

CONTEST NO: 94

CATEGORY: Post-Secondary

CONTEST LOCATION: Heavy Equipment Training Center Building Z

CONTEST START TIME AND DURATION:
8:00am - 6 hours

PURPOSE OF CHALLENGE:

To give students and apprentices the opportunity to apply their knowledge and abilities in the trade of Heavy Equipment repair. To build confidence and elevate self-esteem in contestants and to provide a non-threatening and friendly atmosphere where they can compete in a fair and equitable competition.

SKILLS AND KNOWLEDGE TO BE TESTED:

1. Hydraulics

Diagnose various hydraulic system faults.
Safely identify Hydraulic pressures and flows

2. Written examination

Theoretical knowledge of all aspects of heavy equipment service.

3. Measuring

Perform precision measuring on various components
Selection of the proper measuring devices

4. Electrical Diagnostics

Perform electrical tests on heavy duty equipment using various pieces of electrical test equipment. Perform electrical fault analysis through the use of diagnostic equipment

5. Machine Shop (Layout and Bench work)

Perform a layout on a selected piece of metal. Drilling, taping and bolt extraction.
Selection of proper drill bits and taps.

6. Perform Engine Adjustments

Perform adjustments on engine top end components
Adjust engine, fuel timing, and injectors
Engine brake adjustments

7. Drive Train Repair and Analysis.

Perform adjustments and or Analyze Drive components.
Make adjustments if necessary to Clutches, Rear axles, or Transmissions related to Heavy Equipment.

POINT BREAKDOWN / 1000 TOTAL:

Each practical station shall have equal value and total 90% of the competition total

Contestants will be judged on the following:

Follows correct procedures
Achieves target results
Time
Compliance with safety regulations
Vehicle and equipment care
Uses industry accepted practices
Shows a positive attitude toward other contestants and judges

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:

- All tools and equipment will be provided by the committee

EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR:

- Competitors may use their own Flashlight, Multimeter.

WORKSITE SAFETY RULES / REQUIREMENTS:

- Proper Safety glasses/Goggles and clothing must be worn at all times during the competition.
- CSA approved footwear
- Coveralls/Shopcoats

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.

Essential Skills Required for Heavy Equipment Service: Document Use, Thinking: Problem Solving, Decision Making

TECHNICAL COMMITTEE MEMBERS CONTACT INFORMATION

Bryan Neufeld
Red River College
Provincial Technical Committee Chair
National Technical Committee Member
Ph: (204) 697-5933
Email: bneufeld@rrc.ca