



2011 Nova Scotia Skills Competition
Thursday, April 29 – NSCC Akerley Campus
Heavy Duty Equipment Mechanic
Post Secondary Level

Skills and knowledge to be tested:

1. There will be a 50 question test based on 1st year Heavy Duty Repair Theory.
2. A- Competitors will be asked to disassemble a 12 volt brushless alternator to identify the polarity of and test the diodes and reassemble the alternator.
 - b- Identify the parts of a starter checking the components for opens grounds and shorts.
3. 7 W case wheel loader outboard planetary gear set
 - a- Disassemble and identify components
 - b- Determine approximate ratio and direction
 - c- Reassemble and verify operation
4. Measuring (1) Main journals using a micrometer to within .002"
 - (2) Rod journals using a micrometer to within .002"
 - (3) Using a 4"x4" x ½ mild steel plate you will have to drill and tap two holes for a bolt size 3/8" – 16 NC, and a ½" -20 NF. There will be a number of unmarked, unsharpened drill bits.

You will be required to measure the drill bit for correct size also you will be required to sharpen the drill bit.

You will be required to thread a bolt into the tapped holes to demonstrate thread quality.
5. Plunge cut with an acetylene torch a hole large enough to allow for a ¾" bolt to be inserted. Install a ¾" lock washer and nut on the bolt and torque the nut to 150 foot lbs. Arc weld the head of the ¾" bolt to the 3/8" plate and cut the nut off the ¾" bolt with as little damage

Technical Committee Member and Judges:

Chair – Owen Sanford
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