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Nebraska Ag Instructors,

During the Ag Symposium two weeks ago I had the wonderful opportunity to share some electrical wiring skills with about 45 students. Further the interaction with about 20 instructors regarding some Ag Mechanics teaching ideas and strategies was fun. I would like to compliment the efforts and interest of all.

To get the ball rolling toward the Ag Mech & Tech CDE next spring let's consider a few thoughts. The theme for this year is "Material Handling Systems". The general format of skills and knowledge to be used will be similar to that engaged in 2016. I sent an email last year the last day of Convention with copies of those tests and exercises.

The **Electrical component** will again be a wiring exercise of a switch, outlet, and lamp, not necessarily in the same order. A test will accompany this part covering safety and knowledge of electrical wiring. (More questions this year.) I will try to email a beginning photo of each student's provided materials. We will also include a diagram for the students to follow with the scoresheet this year. **Again no knives** so practice removing insulation with side cutters or wire strippers.

**Small Engines** will also be similar to last year with parts and tool identification and some micrometer measurements to read. The written component will also be similar with more questions. Someday we might have a simple assembly practicum for students, but not this year.

There will again be a set of questions out of an **Operator's Manual**. Since this year's theme involves material handling and many agricultural bulk items are handled on pallets (mineral tubs, barbwire, seed, etc.). We will use a forklift or skid steer machine manual. Any brand will do for practice. Make up worksheets requiring students to find operational information such as tire pressure, tank capacities, hydraulic limits, safety practices, etc. (This is a good activity for a substitute to monitor.)

We will also have a similar machine available to locate and identify safety shields, lubrication points, connection pins, etc.

The **team activity** will include handling grain and/or hay material. Instruct students to comprehend conversions of pounds to tons, and pounds to bushels for major crops grown in Nebraska. (I won't but what if we used sugar beets for a scenario?) Also determining volume of bins or storage facilities in square feet and bushels.

Some examples might include: If a 100 acre field yields 223 bushels average per acre of 18% corn, what size bin would be needed (diameter and height)? How many truckloads from field to bin if the truck will hold 80,000 pounds of dry corn (15%)?

If given different sizes of grain augers or conveyors to choose from, what diameter, speed, etc. would be needed to empty an 800 bushel truck and return to the field before the next 800 bushel truck was full

and leaving the field (30 minutes to fill the truck and the trip to and from the field takes 10 minutes each way)? (Not a very good yield or else a slow combine, huh?)☺

If a truck can legally haul 600 bushels of corn can the same truck legally haul 600 bushels of soybeans?

These are some general ideas at this time. **Include and visit alumni and community resources to assist developing scenarios and to discuss how they plan for their harvest operations.**

I look forward to challenging Nebraska's ag education students to consider effectively, efficiently, and safely handling the bountiful harvests produced and the scope of materials used.

Contact me with any questions.

Dan Stehlik

NE Ag Mechanics and Technology CDE Coordinator