

A EN 201 - Agricultural Power Units

Engine Electrical Systems

Objectives:

The Student Will Be Able To:

1. Obtain a score of 75% or greater on a quiz focusing on the reading from selected websites;
2. List and describe the function of common electrical systems associated with internal combustion engines;
3. Explain how each electrical system operates;
4. Evaluate agricultural batteries using three different methods;
5. Measure Generator and alternator output using appropriate test equipment;
6. Troubleshoot a starting circuit using appropriate test equipment; and
7. Identify parts of an ignition circuit;

Required Reading For Quiz:

1. Batteries – www.autoshop101.com (Click on Online Instruction & Battery Basics)
2. Alternators – www.autoshop101.com (Click on Online Instruction & Alternators)
3. Generators - <http://www.sciencejoywagon.com/physicszone/lesson/otherpub/wfendt/generatorengl.htm>
4. Ignition Circuits – <http://auto.howstuffworks.com/ignition-system.htm>

I. Introduction:

Engine electrical systems are complex and often overlooked components of the internal combustion engine, even though they are vital to its operation. Unfortunately, many pay little attention to these systems unless there are problems.

This laboratory and required reading will introduce students to common engine electrical systems which include; storage batteries, charging circuits, starting circuits, and ignition circuits. The lab will consist of a required reading quiz, brief lecture, and laboratory activities that correspond with each of the above systems. The following pages consist of Power Point notes and lab sheets.

Required Materials:

- Eye Protection
- Red Rags
- Lab Manual