

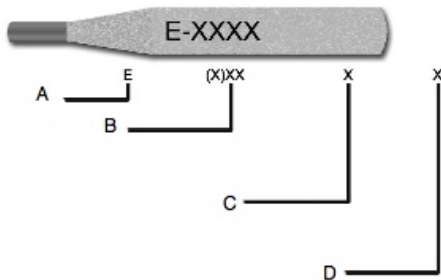
**2013 Wyoming State FFA CDE
Agricultural Technology and Mechanical Systems
Structural Systems-Welding Skill**

You are the manager for a custom spraying operation and have recently purchased two used self-propelled coupe sprayers at local auction last week. The sprayers have worked well on the last few jobs, but have recently begun experiencing problems. One of your operators noticed one of the boom arms has developed a stress crack in the boom suspension and lift assembly. This fault will cause the sprayer to be out of use until it is repaired. In order to stay on schedule you must fix the system on site without disassembly or movement to the shop. Properly set up the SMAW machine for E6013 welding rod and complete the activity. Using the round pipe provided, center the pipe and complete the weld connection to the “lift assembly”.

The welding rod chosen for this application is the Fleetweld 37 E6013 1/8” X 14” rod. List the ideal amperage range for this rod in each of these applications.

AC 110-150 Amps DCEN / DCEP 100-135 Amps

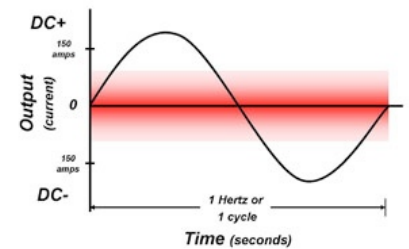
1. Match the correct answer choice to the SMAW Carbon Steel Rod Classification System shown to the left in the answer space provided.



| SMAW Carbon Steel Rod Classification System | | Answer Choices | |
|---|---|----------------|-----------------------------|
| A. _____ | 3 | 1 | Position |
| B. _____ | 4 | 2 | Type of Coating and Current |
| C. _____ | 1 | 3 | Electrode |
| D. _____ | 2 | 4 | Tensile Min. (in psi) |

2. What polarity type commonly used in welding practices is best reflected in the picture?

Answer: _____ AC



3. Arc Blow is a common occurrence when welding under certain conditions. List three possible solutions for this problem.

- A. **When welding with DC current, change to AC**
- B. **Maintain as short of an arc as possible**
- C. **Reduce welding current and / or Wrap the welding cable around the work piece**

| Criterion | Points Possible | Points Earned |
|-------------------------------|-------------------|---------------|
| Boom arm correctly positioned | 3 | |
| Quality of weld | 12 | |
| Questions | 10 (2 points ea.) | |
| Safety | 5 | |