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| Module 3: | Drawing and Welding Symbol Interpretation  **Key Indicators**   1. Interprets basic elements of a drawing or sketch.   **Objective:** Provided with a period of instruction and demonstration, a drawing, and base material, the trainee will layout the individual parts of a welded assembly.  **Evaluation:** The trainee identifies the fabrication requirements according to drawings or sketch specifications on a routine basis. The instructor observes the trainee preparing to layout according to fabrication requirements. Workmanship sample information is correctly interpreted during workmanship and performance qualification testing and verified by test supervisor. In accordance with the requirements of AWS QC10, the trainee shall pass the drawing fundamentals element of a written examination.  **Recommended Instructional Activities:**  □ Provide an introduction to drawing or sketch reading.  □ Provide instruction in drawing view interpretation.  □ Provide instructions in title block interpretation.  □ Provide instruction in drawing notes interpretation.  □ Provide instruction in version control system for drawings.  □ Provide instruction in drawing list of materials and parts list interpretation.  □ Provide instruction in drawing dimensions and tolerances for both U.S. customary and SI metric units.  □ Demonstrate drawing element interpretation.  □ Introduce related terms and definitions.  □ Provide training exercises related to drawing and sketch interpretation.  □ Develop and administer formative (diagnostic) tests relevant to drawing fundamentals.  □ Prepare trainee for the drawing fundamentals element of a written examination.  □ Keep training records reflecting results of drawing element interpretation.   1. Interprets welding symbol information.   **Objective:** Provided with instruction and demonstration, drawings and sketches with welding symbols and supplementary data, the trainee locates and determines welding requirements.  **Evaluation:** The trainee identifies welding requirements according to welding symbol information on a routine basis. In accordance with the requirements of AWS QC10, the trainee shall pass the welding symbol element of a written examination based on related sections of AWS A2.4, Standard Symbols for Welding, Brazing and Nondestructive Examination, and AWS A3.0, Standard Welding Terms and Definitions.  **Recommended Instructional Activities:**  □ Provide introduction in welding symbol interpretation.  □ Demonstrate welding symbol interpretation.  □ Provide training exercises related to welding symbol interpretation.  □ Introduce related terms and definitions.  □ Observe trainee carrying out welding requirements from welding symbol information.  □ Develop and administer formative (diagnostic) tests related to welding symbol information.  □ Prepare trainee for the welding symbol element of a written examination based on the related sections of AWS A2.4 and A3.0.  □ Keep training records reflecting results of welding symbol interpretation requirements.   1. Fabricates parts from a drawing or sketch.   **Objective:** Provided with a drawing or sketch, layout tools, measuring devices, a handheld calculator, fabrication and welding equipment, and base metals, the trainee fabricates a weldment from parts.  **Evaluation:** The trainee prepares, assembles, and tack welds parts according to drawings or sketch specifications on a routine basis. In accordance with the requirements of AWS QC10, the trainee shall pass the fabrication and weld symbol interpretation elements of workmanship qualification.  **Recommended Instructional Activities:**  □ Provide safety tour and orientation to fabrication tools and equipment.  □ Provide instruction in fabrication tools and equipment safe practices.  □ Provide instructions in in the care and use of fabrication tools and equipment.  □ Provide instruction in base metal identification and shapes.  □ Provide instruction in welded joint geometry.  □ Demonstrate the selection and use of fabrication tools and equipment.  □ Demonstrate fabrication techniques.  □ Demonstrate the preparation of welded joints.  □ Provide written fabrication exercises with U.S. (customary) elements for welding practices.  □ Provide written fabrication exercises with S.I. (metric) elements for welding practices.  □ Observe trainee selecting fabrication tools and equipment.  □ Observe trainee selecting base metals.  □ Observe trainee performance during various stages of fabrication.  □ Observe trainee following safe practices.  □ Develop and administer formative (diagnostic) tests relevant to fabrication and weld symbol interpretation.  □ Prepare trainee for the fabrication and weld symbol interpretation elements of performance qualification tests. (See drawings AWS EDU-1 through AWS EDU-6.)  □ Prepare trainee for the fabrication fundamentals element of a written examination.  □ Keep training records reflecting results of fabrication from drawing and sketch requirements. |