C- 256 Hydraulic Maintenance 1
Course Credential

About this course

This SACA certified C- 256 Hydraulic Maintenance 1 course prepares students for a career in an industrial automated 4.0 industry environment. Participants are taught to install and maintain hydraulic systems.

Modules to be covered

1. Standard 256.1 Apply hydraulic maintenance safety procedures
    - Performance Indicators
        - Apply safety procedures during assembly/disassembly of hydraulic systems
    - Knowledge Indicators
        - Describe hydraulic maintenance hazards

2. Standard 256.2 Install O-rings in hydraulic components
    - Performance Indicators
        - Install an O-ring in an inside, outside part features
        - Install an O-ring using an O-ring installation tool
    - Knowledge Indicators
        - Describe the operation of an O-ring
        - Describe how O-rings are specified

3. Standard 256.3 Install and adjust hydraulic fittings
    - Performance Indicators
        - Install threaded port fittings in hydraulic components
        - Install straight-thread fittings in hydraulic components
        - Install swivel hose fittings in hydraulic components

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- Use a torque wrench to install hydraulic fittings to specification
- Identify size and type of hydraulic fittings

- Knowledge Indicators
  - Describe how hydraulic fittings are specified
  - Describe how to orient hydraulic fittings for hose and tubing connection

4. Standard 256.4 Connect and disconnect hydraulic hoses and fittings
   - Performance Indicators
     - Connect and disconnect hydraulic hose and swivel fittings
     - Identify size and type of hydraulic hose
     - Install hose/ tubing brackets and clips
   - Knowledge Indicators
     - Describe how hydraulic hose are specified

5. Standard 256.5 Connect and disconnect hydraulic steel tubing and fittings
   - Performance Indicators
     - Connect and disconnect hydraulic steel tubing to pipe thread and straight thread fittings
     - Identify size and type of hydraulic tubing
   - Knowledge Indicators
     - Interpret hydraulic pipe and tubing specifications

6. Standard 256.6 Maintain hydraulic filters
   - Performance Indicators
     - Determine delta P across a filter using built-in indicator
     - Determine when to change a filter based on observation and manufacturer's documentation
     - Replace a spin-on filter
     - Replace a cartridge filter
     - Interpret filter specifications
   - Knowledge Indicators
     - Explain how filters are specified

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- Describe the operation of filter types: strainer, spin-on, and cartridge
- Explain when to change a strainer

7. Standard 256.7 Analyze hydraulic reservoir fluid
    - Performance Indicators
        - Inspect hydraulic fluid visually for presence of water or contaminants
        - Inspect hydraulic fluid using feel/smell for excess temperature, lubricity
        - Sample oil for lab testing
    - Knowledge Indicators
        - Describe how hydraulic oil is specified
        - Describe the effects of excess temperature and water on hydraulic system operation
        - Describe hydraulic system applications of oil analysis
        - Describe hydraulic system applications of thermography and IR guns

8. Standard 256.8 Service hydraulic reservoir fluid
    - Performance Indicators
        - Clean hydraulic reservoir fluid using a filter cart
        - Change hydraulic reservoir fluid using a filter cart
        - Use manufacturer's manuals to determine correct oil specifications
        - Determine if an oil specification meets machine requirements
        - Inspect hydraulic reservoir fluid levels and add fluid
    - Knowledge Indicators
        - Describe the operation of a hydraulic filter cart

9. Standard 256.9 Install and adjust hydraulic components
    - Performance Indicators
        - Replace a hydraulic cartridge valve

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  - Install a body-ported hydraulic valve
  - Install and align a hydraulic cylinder
  - Install a subplate-mounted hydraulic valve
  - Bleed a hydraulic cylinder
- Knowledge Indicators
  - Describe the function of hydraulic system bleeding

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