

Course Title

Continuous Miner Electrical Hydraulic and Mechanical Systems Training

Course Duration

3 days

Target Audience

This training is for Mine Maintenance and Service personnel responsible for preventative and corrective maintenance and servicing of Joy Continuous Miners.

Description

The course covers the maintenance and troubleshooting of the Joy Continuous Miner. It focuses on critical knowledge and skills required in supporting the continuous miner. All electrical, hydraulic and mechanical systems and adjustments are discussed. Recommended preventative and corrective maintenance procedures and practices are also discussed.

Prerequisites

Students should have a basic knowledge of electrical, hydraulic and mechanical terminology and practical experience with maintenance equipment.

Course Location

Customer Site

Course Objectives

Upon completion of this course the student will be able to:

- Locate and identify major electrical, hydraulic and mechanical components.
- Identify and describe general purpose of electrical, hydraulic and mechanical systems and components.
- Use the FaceBoss Diagnostic Display to locate relevant information.
- Identify required engineering drawings to troubleshoot, repair and maintain the continuous miner.
- Analyze and interpret engineering diagrams to trouble shoot and repair systems.
- Perform maintenance adjustments and repair.

Main Concepts

- Lubrication
- Main hydraulic systems: schematics, component location and function
- Electrical power and control systems ; schematics, component location and function
- FaceBoss Diagnostic Display
- Remote operation
- Removal and replacement of major mechanical components. This includes the crawler drives, conveyor boom, gathering heads, and cutter boom.

- Fire and dust suppression
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Day 1

- Pre-assessment
- General arrangement
- Describe all training materials
- Explain electrical schematic functions
- Identify and explain function of all electrical components
- FaceBoss Diagnostic Display screen navigation and interpretation
- Remote system operation

Day 2

- Initiate fault on electrical training panel
 - Divide trainees, allowing approximately 20 percent of the class to utilize the training panel to diagnose and locate the fault. The remaining portion of the class uses the provided laptops and electrical schematics to locate and diagnose the same problem.
 - Continue the same process with the next group on the training panel.

Day 3

- Explain all hydraulic piping diagrams and schematics
- Explain relief settings on hydraulic piping diagrams.
- Explain each hydraulic components function and the proper troubleshooting processes.
- Explain how to remove and install all major mechanical components.
 - Crawler drives
 - Conveyor booms
 - Gathering heads
 - Cutter boom
- Cover fire and dust suppression
- Explain and show all machine lubrication points
- Administer post class assessment test