

Course Title

Shearer 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 Shearers.

Description

The course covers the maintenance and troubleshooting of the Joy Shearer. It focuses on critical knowledge and skills required in supporting the shearer. 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 shearer.
- 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
- Dust and Fire Suppression
- Haulage system: operation and repair
- Ranging arms: gear case and repairs
- Cowl: operation and repair

Day 1

General: 1 hour

- General arrangement of machine
- Lubrication

Hydraulic: 4 hours

- Schematic interpretation
- Locations of components
- Function of components

Water System: 1 hour

- Machine cooling water
- Dust suppression
- Fire suppression

Mechanical: 6 hours

- Haulage system
 - Drive train operation and repair

Day 2

- Ranging arm
 - Gear case operation and repair
- Cowl
 - Operation and repair

Electrical: 8 to 16 hours

- Power and control circuits
 - Reading and interpreting engineering drawings
 - Component identification and function

Day 3

- FaceBoss Diagnostic Display
 - Navigation and interpretation
- Troubleshooting with an electrical training panel: realistic faults
- Remote operation