



**120A P&H Drill
Systems Maintenance**

Course Duration

4 days

Target Audience

Electricians, Mechanics, Technicians and Engineers who will service and maintain P&H Mining Blasthole Drill.

Course Objectives

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

- Identify and explain the purpose of all the major Systems and components.
- Demonstrate proficiency in reading, interpreting and use mechanical and electrical schematics.
- Understand and describe maintenance and service procedures for main systems.
- Conduct failure analysis.
- Explain the inter-relationship of the drill systems.

Description

This course introduces the student to the operation and maintenance of the P&H Blasthole Drill. It focuses on critical knowledge and skills required in supporting current production models of the P&H Blasthole Drills.

The topics include Main systems and components, operation, maintenance troubleshooting and service. Maintenance and troubleshooting concepts are analyzed in a team environment, allowing the student to gain knowledge based on real world problems and experience.

Main Concepts

- Machine Intro and Overview
- Machine Systems
- Power Unit
- Main Air
- Main hydraulics
- Auxiliary Hydraulics
- Rotary System
- Hoist/Pulldown System
- Rotary Carriage
- Mast
- Undercarriage
- Propel Systems
- Electrical and Control
- System Maintenance and Service

Course Location

Milwaukee

Prerequisites

Students should have a basic knowledge of fluid power concepts, electronics and computers.

It is also suggested that students complete the Systems overview and machine overview eLearning modules prior to coming to the course.



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Monday	Tuesday	Wednesday	Thursday
<p>Introduction</p> <ul style="list-style-type: none"> Review of Agenda Material Review Schematics Symbols Main Motions Machine Systems <p>Main Air System</p> <ul style="list-style-type: none"> System Overview Main Air System (Start Up) Main Air System Oil Circulation <p>Lunch</p> <ul style="list-style-type: none"> Main Air System Compression Main Air System Control Main Air System Air Production Maintenance and Troubleshooting <p>Q&A</p>	<p>Main Hydraulic System</p> <ul style="list-style-type: none"> System Overview Schematics Reading Closed Circuit Hydraulic Tank Hydraulic Pumps Hydraulic Propel Motors System Control Propel System Maintenance and Troubleshooting <p>Lunch</p> <p>Auxiliary Hydraulics</p> <ul style="list-style-type: none"> System Overview Schematics Open Circuit Pump Valve Banks VB1 VB2 VB3 Low Pressure Circuit Auto Leveling System Relief Maintenance and Troubleshooting <p>Q&A</p>	<p>Rotary System</p> <ul style="list-style-type: none"> Rotary Carriage Rotary Motors System Control Speed Maintenance and Troubleshooting <p>Hoist/Pulldown</p> <ul style="list-style-type: none"> Rotary Carriage Pulldown Motors System Control <p>Lunch</p> <ul style="list-style-type: none"> Speed Maintenance and Troubleshooting <p>Mast</p> <ul style="list-style-type: none"> Inspection and Maintenance <p>Q&A</p>	<p>Undercarriage</p> <ul style="list-style-type: none"> Sideframes Equalizer Axle Adjustments Inspection and Maintenance <p>Pipe Handling</p> <ul style="list-style-type: none"> Pipe Racks Breakout Wrench Winch <p>Lunch</p> <p>Electronics and Control</p> <ul style="list-style-type: none"> PLC/SLC GUI Panels Cabinets Cables Motors Maintenance and Troubleshooting <p>Q&A</p> <p>Review & Assessment</p> <p>Rap up</p>