

General eLearning Course Catalog

Maintaining a skilled, knowledgeable workforce is a challenge everyone faces. With changing technologies and fluctuations within the mining industry, it can be especially daunting. Whether you need training for a new hire or a veteran, it can be difficult to find training that is engaging, technologically relevant and easy to fit into busy schedules. Product Training and Publications, the technical communication and training group within P&H Mining Equipment, strives to provide you with the knowledge, skills and competencies needed for your employees to achieve their highest performance potential.

Product Training and Publications has identified eLearning as the primary delivery method for the knowledge components of Fundamental and Product Specific Training. eLearning provides several advantages over traditional training methods:

- eLearning content can be accessed on any computer that has Internet access by any individual who has the appropriate login and password credentials.
- Immediate availability of training content. Students receive the training they require right now, when the training is required most. This provides a quicker, more productive workforce.
- Reduces the cost of training by eliminating travel, living, and other expenses associated with Instructor Led Training.
- Provides students with the ability to learn at their own pace and in their own comfortable environment.
- Improved retention of technical and operational content.
- The training content can be delivered to a large contingent of people in varying locations and be technically consistent across the board.
- Training content can be tailored to an individual's personal strengths and weaknesses. This provides a targeted more effective training solution for today's workforce.
- When used as a prerequisite to Instructor Led Training, eLearning can level the playing field between novice and senior personal. This makes the Instructor Led Training more effective by allowing the Instructor to spend more time developing skills rather than knowledge-based components.

This Course Catalog contains descriptions of the eLearning Lessons available to you through Product Training and Publications.

Lesson Duration:

Each eLearning Lesson is designed to be 45 minutes in duration. However, because eLearning is self-paced training, actual duration may vary per student.

Target Audience:

Operators, Technicians, and Engineers who will operate and/or perform maintenance on P&H Mining Shovels and/or Drills.

Prerequisites:

Students should have a basic working knowledge of computers, and fundamental understanding of electronics, mechanics, pneumatics, hydraulics, operation, etc., as it applies to the systems of a P&H Shovel and/or Drill.

Lesson Location:

eLearning content can be accessed on any computer that has Internet access by any individual who has the appropriate login and password credentials.



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Computer Requirements:

It is recommended that all computers accessing eLearning content have the basic minimum requirements:

- Internet Explorer version 7 or better.
- Flash Player version 8 or better.
- Java version 1.5 or better.
- Latest version of Windows Media Player.
- Adobe Reader version 8 or better.

General eLearning

Module 2 Safety (KMC Only)

Lesson 2.1	General Safety Precautions
Lesson 2.2	Electrical Hazards
Lesson 2.3	Mechanical Hazards

Module 3 Product Overview

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Lesson 3.8	320XPC Product Overview

General Lesson Descriptions

Module 2 Safety Lessons (KMC Only)

Lesson 2.1 General Safety Precautions

Lesson Description:

In this Lesson you will learn about the general safety issues associated with P&H Electric Mining Shovels.

Objectives:

Upon completion of this Lesson the student will:

- State the purpose of a Lockout/Tagout program.
- Identify sources of safety information/references.
- Identify the responsibilities of all crew members.
- State the purpose of planning a job.

Lesson Outline:

- Topic 1 Lockout/Tagout
- Topic 2 Safety Sources
- Topic 3 Responsibility of All Crew Members
- Topic 4 Planning the Job

Lesson 2.2 Electrical Hazards

Lesson Description:

This Lesson will identify some common-sense electrical safety rules you can use to be safe while working on the electrical equipment.

Along with these common-sense electrical safety rules, this Lesson teaches you how to perform a general Risk Analysis that will help you identify those electrical hazards that are associated with your particular situation.

Objectives:

Upon completion of this Lesson the student will:

- Identify and describe safety concerns on P&H Electric Mining Shovels as related to electrical hazards.
- Describe how to perform a risk analysis of the electrical system.
- State the definition of ESD and explain how to avoid damaging equipment through the transfer of static energy.

Lesson Outline:

- Topic 1 General Electrical Safety
- Topic 2 Risk Analysis
- Topic 3 ESD

Lesson 2.3 Mechanical Hazards

Lesson Description:

This Lesson will identify some common-sense mechanical safety rules you can use to be safe while working on the equipment.

Along with these common-sense mechanical safety rules, this Lesson teaches you how to perform a general Risk Analysis that will help you identify those mechanical hazards that are associated with your particular situation.

Objectives:

Upon completion of this Lesson the student will:

- Identify and describe safety concerns on P&H Electric Mining Shovels as related to mechanical hazards.
- Describe how to perform a risk analysis of the mechanical systems.

Lesson Outline:

- Topic 1 General Mechanical Safety
- Topic 2 Risk Analysis

Module 3 Product Overview Lessons

Lesson 3.1 Shovel Operation Overview

Lesson Description:

In this Lesson you will learn about the different motions associated with a P&H Electric Mining Shovel and the controls used by the Operator.

Objectives:

Upon completion of this Lesson the student will:

- Describe the different motions associated with P&H Electric Mining Shovels.
- Describe the basic Operator Controls associated with the Loading Control Center.
- Describe the basic Operator Controls associated with older style P&H Electric Mining Shovels.

Lesson Outline:

- Topic 1 Motions
- Topic 2 Shovel Controls

Lesson 3.2 Shovel Orientation

Lesson Description:

In this Lesson you will learn where common shovel mechanical and electrical components are located and get a brief description of their purpose.

Objectives:

Upon completion of this Lesson the student will:

- Describe the different exterior components associated with P&H Electric Mining Shovels.
- Identify and locate components associated with the exterior of the shovel.
- Describe the different interior components associated with P&H Electric Mining Shovels.
- Identify different shovel deck plans and locate components associated with those deck plans.

Lesson Outline:

- Topic 1 Shovel Exterior Components
- Topic 2 Machinery Deck Layout

Lesson 3.3 Shovel Electrical Overview

Lesson Description:

In this Lesson you will learn where common shovel electrical components are located and get a brief description of their purpose.

Objectives:

Upon completion of this Lesson the student will:

- Locate and state the purpose of the components used in distributing power on a P&H Electric Mining Shovel.
- Locate and state the purpose of the components used in converting power on a P&H Electric Mining Shovel.
- Locate and state the purpose of the major protection circuits associated with a P&H Electric Mining Shovel.
- Locate and state the purpose of components used for Reactive Power Compensation on a P&H Electric Mining Shovel.
- Locate and state the purpose of the DC Motors associated with a P&H Electric Mining Shovel.

Lesson Outline:

- Topic 1 Power Distribution
- Topic 2 Power Conversion
- Topic 3 Protection Circuits
- Topic 4 Reactive Power Compensation
- Topic 5 DC Motors

Lesson 3.4 P&H Centurion Control System - Touch Panels

Lesson Description:

In this Lesson you will learn about the new Operator interface, or Touch Panel, associated with the Centurion Control System.

Objectives:

Upon completion of this Lesson the student will:

- Explain and identify the different parts of the Centurion Control System Touch Panel.
- Identify and navigate through the various Operational Screens associated with the Centurion Control System Touch Panel.
- Identify and navigate through the various Diagnostic Screens associated with the Centurion Control System Touch Panel.
- Identify and navigate through the various Setup Screens associated with the Centurion Control System Touch Panel.
- Identify and navigate through the various Activity Screens associated with the Centurion Control System Touch Panel.
- Identify and navigate through the various Help Screens associated with the Centurion Control System Touch Panel.

Lesson Outline:

- Topic 1 Touch Panel Basics
- Topic 2 Operation Screens
- Topic 3 Diagnostic Screens
- Topic 4 Setup Screens
- Topic 5 Activity Screens
- Topic 6 Help Screens

Lesson 3.5 Shovel Electrical Overview AC Shovels

Lesson Description:

This Lesson provides the learner with a general overview of some of the electrical components of the P&H AC Shovel.

Objectives:

Upon completion of this Lesson the student will:

- Have a basic understanding of the Power Distribution on a P&H AC Shovel.
- Have a basic understanding of the purpose of the different Protection Circuits used on a P&H AC Shovel.
- Identify the location of the AC Motors used on a P&H AC Shovel.

Lesson Outline:

- Topic 1 Power Distribution
- Topic 2 Protection Circuits
- Topic 3 AC Motors

Lesson 3.6 P&H Centurion Control Systems - Touch Panels - AC

Lesson Description:

This Lesson introduces the Shovel Operator and Maintenance Technician to the different screens associated with a Centurion AC Shovel Touch Panel.

Objectives:

Upon completion of this Lesson the student will:

- Have a thorough understanding of the layout of a Centurion AC Shovel Touch Panel.
- Have a thorough understanding of the Operation Screens and how to navigate through them.
- Have a thorough understanding of the Diagnostic Screens and how to navigate through them.
- Have a thorough understanding of the Setup Screens and how to navigate through them.
- Have a thorough understanding of the Activity Screens and how to navigate through them.
- Have a thorough understanding of the Help Screens and how to navigate through them.

Lesson Outline:

- Topic 1 Touch Panel Basics
- Topic 2 Operation Screens
- Topic 3 Diagnostic Screens
- Topic 4 Setup Screens
- Topic 5 Activity Screens
- Topic 6 Help Screens

Lesson 3.8 320XPC Product Overview

Lesson Description:

This Lesson will provide a base knowledge of the new 320XPC drill. Descriptions and locations of the various components will be provided to give a better understanding of the drill's new layout.

Objectives:

Upon completion of this Lesson the student will:

- Discuss major historical developments and facts of P&H Blasthole Drills.
- Identify the importance of the P&H Blasthole Drills in mine operations.
- Describe the purpose and capabilities of the 320XPC Blasthole Drill.
- Identify the main systems of the 320XPC Blasthole Drill.

Lesson Outline:

- Topic 1 320XPC Blasthole Drill Introduction
- Topic 2 320XPC Main Systems