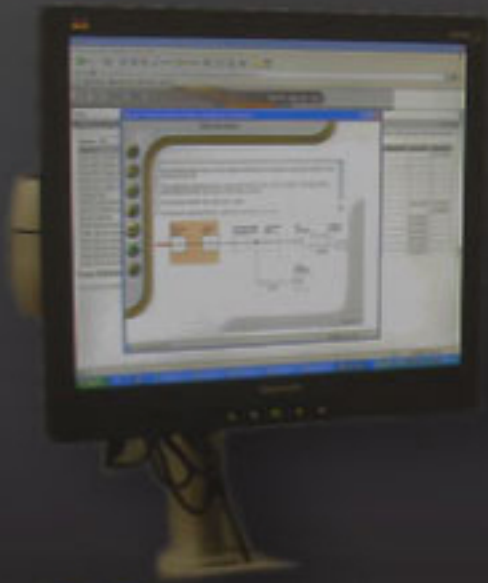


**Drill Operator
eLearning Course
Catalog**

P&H



Peak Services

eLearning



P&H Knowledge and Development Department is proud to announce the availability of Online eLearning content. eLearning is the delivery of self paced learning, training, or educational content, by electronic means. P&H Peak Services eLearning can be accessed by P&H employees through our MineNet website by clicking on Learning Center or by end customers through a website link provided by P&H Peak Services.

Lesson Duration:

Each Lesson within a module is designed with a 45-minute duration in mind. However, eLearning is self-paced instruction; actual lesson duration will vary per student.

Target Audience:

Drill Operator, Technicians, and Engineers who will service and maintain all aspects of a P&H Mining Drill.

Description:

eLearning is the delivery of self paced learning, training, or educational content, by electronic means. It's also a means of providing follow-up training to our online Needs Analysis Assessment. eLearning provides several advantages over traditional training methods:

- Ideal for situations where people are in various locations, and a large amount of people need to be trained on consistent information.
- Improved retention of materials.
- Correct equipment usage.
- Available anywhere to vital information.
- Self paced.
- Quicker productivity.
- Reduced overall costs.
- Consistent content delivery.

Prerequisites:

Students should have a basic working knowledge of computers, and fundamental understanding of Electronics and Electrical Systems.

The lessons in the Drill Operator series are required in order.

Lesson Location:

eLearning can be accessed on any computer that has internet access.

Main Concepts:

- Module 2, Drill Operator

Technological Requirements:

- Internet Explorer 6.0 or better
- Java 1.5 or better
- Flash Player 7 or better
- Windows Media Player

Index of eLearning

Module 2

- Lesson 2.1 Drill Orientation
- Lesson 2.2 Qualifications and Conduct of a Drill Operator
- Lesson 2.3 Operator Functional Checks
- Lesson 2.4.1 Drill Operation 100XP (AVAILABLE IN 3RD QUARTER OF 2009)
- Lesson 2.4.2 Drill Operation 120A
- Lesson 2.4.3 Drill Operation 250XP (AVAILABLE IN 3RD QUARTER OF 2009)
- Lesson 2.4.4 Drill Operation 320XPC

Lesson 2.1 Drill Orientation

Course Description

This Lesson provides the Operator or Maintenance Technician with a complete overview of the Drill Exterior, Interior, and Cab Components of past and current production model P&H Blasthole Drills.

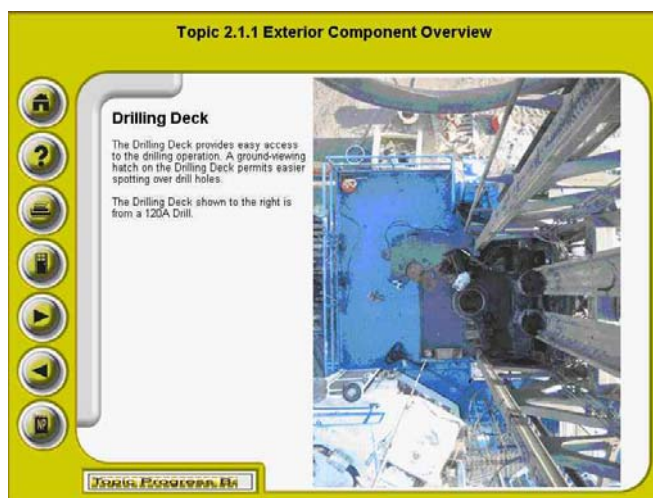
Objectives

Upon completion of this Lesson the Student will:

- Understand the purpose and function of the exterior components associated with P&H Mining Blasthole Drills.
- Understand the purpose and function of the interior components associated with P&H Mining Blasthole Drills.
- Understand the purpose and function of the major components and controls associated with the Operator Cab on P&H Mining Blasthole Drills.

Lesson Outline

- Topic 2.1.1 Exterior Component Overview
- Review Topic 2.1.1 Exterior Components
- Topic 2.1.2 Interior Component Overview
- Review Topic 2.1.2 Interior Components
- Topic 2.1.3 Operator Cab Overview
- Review Topic 2.1.3 Operator Cab Overview



Lesson 2.2 Qualifications and Conduct of a Drill Operator

Course Description

The following P&H Mining Equipment recommendations are presented for the purpose of reducing the possibility of personal injury, either to the Operator, or to those who work on or in the area adjacent to the Drill. This Lesson is general in nature, and your Drill may not be equipped with all devices mentioned.

However, it is impossible to foresee all such conditions, and it must remain the responsibility of the Mining Company and the Drill Operator to anticipate and avoid any unsafe conditions not described in detail in this Lesson. It is understood that safety rules within individual Mining Companies vary, and that, if a conflict exists, the rules of the Mining Company take precedence over the suggestions contained herein.

Objectives

Upon completion of this Lesson the Student will:

- Understand the basic qualifications, as recommended by P&H Mining Equipment, for an Blasthole Drill Operator.
- Have a basic understanding of the proper conduct for an Operator of a P&H Blasthole Drill.
- Have a basic understanding of the Functional Checks required of the Operator before starting and Operating a P&H Blasthole Drill.
- Have a basic understanding of the responsibilities of crew members performing a job on or near a Blasthole Drill.
- Have a basic understanding of the importance of planning a job.

Lesson Outline

- Topic 2.2.1 Operator Qualifications
- Topic 2.2.2 Operator Conduct
- Review Topics 2.2.1 and 2.2.2
- Topic 2.2.3 Operator Functional Checks
- Topic 2.2.4 Crew Member Responsibilities
- Topic 2.2.5 Planning a Job

Lesson 2.3 Operator Functional Checks

Course Description

This Lesson provides information for the Operator to make Pre-Start, Startup, and Shutdown checks of the Blasthole Drill.

Objectives

Upon completion of this Lesson the Student will:

- Have a thorough understanding of the Ground Area Inspection required prior to starting the Drill.
- Have a thorough understanding of the On-Ground Drill Inspection required prior to starting the Drill.
- Have a thorough understanding of the On-Drill Inspection required prior to starting the Drill.
- Have a thorough understanding of the Operator Station Inspection required prior to starting the Drill.
- Have a thorough understanding of the steps required to properly startup a Drill.
- Have a thorough understanding of the steps required to properly shutdown a Drill under normal conditions and under emergency conditions.

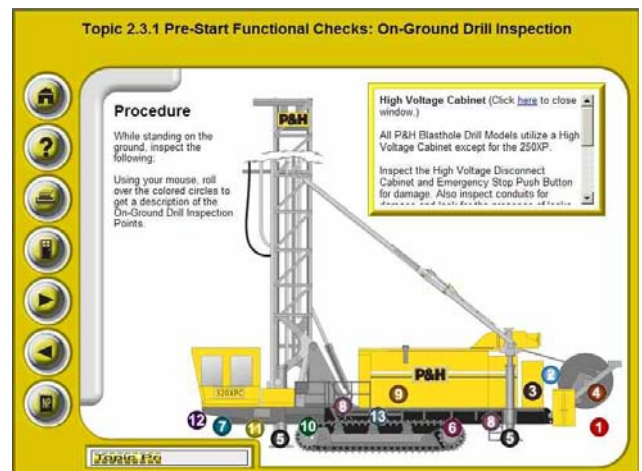
Lesson Outline

- Topic 2.3.1 Pre-Start Functional Checks
- Review Topic 2.3.1
- Topic 2.3.2 Startup Functional Checks
- Review 2.3.2: 100XP
- Review 2.3.2: 120A
- Review 2.3.2: 250XP
- Review 2.3.2: 320XPC
- Topic 2.3.3 Shutdown Functional Checks
- Review 2.3.3: 100XP

Lesson 2.3 Operator Functional Checks

Lesson Outline (Cont.)

- Review 2.3.3: 120A
- Review 2.3.3: 250XP



Lesson 2.4.2 Drill Operation 120A

Course Description

The purpose of this Lesson is to describe the operation of the individual motion controls and include some recommended operating procedures and practices that will aid the Operator in the safe, smooth and efficient operation of P&H Blasthole Drill.

It is important to understand that this Lesson is not complete without follow-up hands on skills based training. This Lesson can provide the knowledge of the controls and functions of the P&H Blasthole Drill. It is this knowledge portion, combined with the skills training from a P&H Factory Authorized Operator Trainer, that will increase the competence of the Drill Operator Trainee.

Objectives

Upon completion of this Lesson the student will:

- Review the responsibilities and conduct requirements for a Drill Operator.
- Have a thorough understanding of the operation of the Propel Joystick Controller.
- Have a thorough understanding of the concepts and procedures required to propel the Drill forward, backward, turn left, and turn right.
- Understand the controls and indicators associated with the Drill Remote Control Unit.
- Have a thorough understanding of the concepts and procedures required to propel the Drill forward, backward, turn left, and turn right using the Remote Control.
- Have an understanding of the procedure required to ready the Drill for towing.
- Understand the concepts and procedures required to level the Drill automatically.
- Understand the concepts and procedures required to level the Drill manually.
- Understand the concepts and procedures required to Auto Lower the Drill.
- Understand the concepts and procedures required to manually lower the Drill.
- Understand the concepts and procedures required to raise and lower the Drill Mast.

Lesson 2.4.2 Drill Operation 120A (cont.)

Objectives (cont.)

- Have an understanding of the procedures required to ready the Drill for Rotary Carriage movement.
- Have an understanding of the procedures required to ready the Drill for using the Deck Wrench.
- Have an understanding of the procedures required to ready the Drill for drill pipe installation.
- Have an understanding of the procedures required to ready the Drill for stabilizer installation.
- Have an understanding of the procedures required to ready the Drill for drill bit installation.
- Have an understanding of the procedures required to ready the Drill for collaring.
- Have an understanding of the procedures required when single pass drilling.
- Have an understanding of the procedures required when drilling to uncouple pipe to add drill pipe.
- Have an understanding of the procedures required when drilling to uncouple pipe to remove drill pipe.
- Have an understanding of the procedures required when drilling to remove the drill bit.
- Have an understanding of the procedures required when drilling to remove the stabilizer.

Lesson Outline

- Introduction
- Topic 2.4.2.1 Propel Operation
- Review Topic 2.4.2.1
- Topic 2.4.2.2 Remote Control Operation
- Review Topic 2.4.2.2
- Topic 2.4.2.3 Towing the Drill
- Review Topic 2.4.2.3
- Topic 2.4.2.4 Leveling Operations
- Review Topic 2.4.2.4
- Topic 2.4.2.5 Raising and Lowering the Mast
- Review Topic 2.4.2.5

Lesson 2.4.2 Drill Operation 120A (cont.)

Lesson Outline (cont.)

- Topic 2.4.2.6 Drilling Setup
 - Rotary Carriage Movement
 - Deck Wrench
 - Review Rotary Carriage Movement and Deck Wrench
 - Drill Pipe Installation
 - Review Drill Pipe Installation
 - Stabilizer Installation
 - Review Stabilizer Installation
 - Drill Bit Installation
 - Review Drill Bit Installation
 - Collaring
 - Review Collaring
- Topic 2.4.2.7 Drilling
 - Single Pass Drilling
 - Review Single Pass Drilling
 - Uncoupling Pipe To Add Drill Pipe
 - Review Uncoupling Pipe To Add Drill Pipe
 - Uncoupling Pipe To Remove Drill Pipe
 - Review Uncoupling Pipe To Remove Drill
 - Pipe
 - Drill Bit Removal
 - Review Drill Bit Removal
 - Stabilizer Removal
 - Review Stabilizer Removal

Lesson 2.4.4 Drill Operation 320XPC

Course Description

The purpose of this Lesson is to describe the operation of the individual motion controls and include some recommended operating procedures and practices that will aid the Operator in the safe, smooth and efficient operation of P&H 320XPC Blasthole Drill.

It is important to understand that this Lesson is not complete without follow-up hands on skills based training. This Lesson can provide the knowledge of the controls and functions of the P&H 320XPC Blasthole Drill. It is this knowledge portion, combined with the skills training from a P&H Factory Authorized Operator Trainer that will increase the competence of the Drill Operator Trainee.

Objectives

Upon completion of this Lesson the Student will:

- Review the responsibilities and conduct requirements for a Drill Operator.
- Have a thorough understanding of the operation of the Propel Joystick Controller.
- Have a thorough understanding of the concepts and procedures required to propel the Drill forward, backward, turn left, and turn right.
- Understand the controls and indicators associated with the Drill Remote Control Unit.
- Have a thorough understanding of the concepts and procedures required to propel the Drill forward, backward, turn left, and turn right using the Remote Control.
- Have an understanding of the procedure required to ready the Drill for towing.
- Understand the concepts and procedures required to level the Drill automatically.
- Understand the concepts and procedures required to level the Drill manually.
- Understand the concepts and procedures required to Auto Lower the Drill.

Lesson 2.4.4 Drill Operation 320XPC (cont.)

Objectives (cont.)

- Understand the concepts and procedures required to manually lower the Drill.
- Understand the concepts and procedures required to raise and lower the Drill Mast.
- Have an understanding of the procedures required to ready the Drill for Rotary Carriage movement.
- Have an understanding of the procedures required to ready the Drill for using the Deck Wrench.
- Have an understanding of the procedures required to ready the Drill for drill pipe installation.
- Have an understanding of the procedures required to ready the Drill for stabilizer installation.
- Have an understanding of the procedures required to ready the Drill for drill bit installation.
- Have an understanding of the procedures required to ready the Drill for collaring.
- Have an understanding of the procedures required when single pass drilling.
- Have an understanding of the procedures required when drilling to uncouple pipe to add drill pipe.
- Have an understanding of the procedures required when drilling to uncouple pipe to remove drill pipe.
- Have an understanding of the procedures required when drilling to remove the drill bit.
- Have an understanding of the procedures required when drilling to remove the stabilizer.

Lesson Outline

- Introduction
- Topic 2.4.4.1 Propel Operation

Lesson 2.4.4 Drill Operation (cont.)

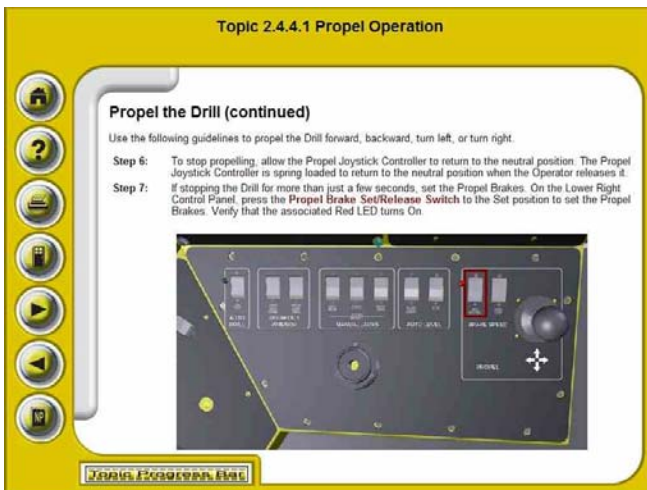
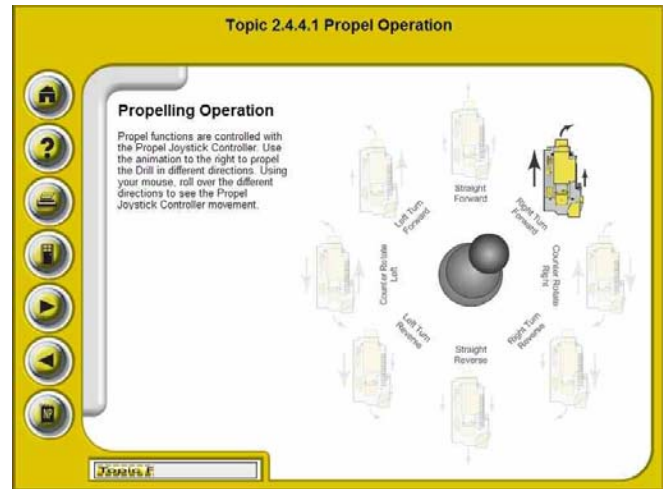
Lesson Outline (cont.)

- Review Topic 2.4.4.1
- Topic 2.4.4.2 Remote Control Operation
- Review Topic 2.4.4.2
- Topic 2.4.4.3 Towing the Drill
- Review Topic 2.4.4.3
- Topic 2.4.4.4 Leveling Operations
- Review Topic 2.4.4.4
- Topic 2.4.4.5 Raising and Lowering the Mast
- Review Topic 2.4.4.5
- Topic 2.4.4.6 Drilling Setup
 - Rotary Carriage Movement
 - Deck Wrench
 - Review Rotary Carriage Movement and Deck Wrench
 - Drill Pipe Installation
 - Review Drill Pipe Installation
 - Stabilizer Installation
 - Review Stabilizer Installation
 - Drill Bit Installation
 - Review Drill Bit Installation
 - Collaring
 - Review Collaring
- Topic 2.4.4.7 Drilling
 - Single Pass Drilling
 - Review Single Pass Drilling
 - Uncoupling Pipe To Add Drill Pipe
 - Review Uncoupling Pipe To Add Drill Pipe

Lesson 2.4.4 Drill Operation (cont.)

Lesson Outline (cont.)

- Uncoupling Pipe To Remove Drill Pipe
- Review Uncoupling Pipe To Remove Drill Pipe
- Drill Bit Removal
- Review Drill Bit Removal
- Stabilizer Removal



Terms and conditions

- eLearning is the primary delivery method for knowledge based training.
- The eLearning provided by Peak Services is Competency Based.
- eLearning content is available to the learner 24 hours a day, 7 days a week, 365 days per year.
- All lessons will be provided via the Internet from the P&H Learning Center.
- eLearning Lessons can be purchased for 90 and 365 Day periods.
- Peak Services highly recommends pre and post-assessments.

Pre-Assessments:

Are used to determine the knowledge gaps and assign individual training plans.

Post-Assessments:

Are used to determine the effectiveness of the training.

- eLearning is available for Shovel and Drill Operator, Electrical, and Mechanical systems, and can be accessed in either English and Spanish, with many also available in Russian, Chinese, or Bahasa Indonesian. Other languages can be made available upon request.
- Each registered student will be provided a user ID and password to access their learning plan.
- Printable Lesson Guides are available for each eLearning Lesson.
- Reports are included with each eLearning Subscription.

Pre and Post-Assessment Reports:

Individual and group results are provided.

Monthly Progress Report:

Individual eLearning reports include Lesson completion status, scores, times, and dates.

- For pricing information contact your local MinePro Account Manager or Sales office.



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