



Underground eLearning
Shuttle Car Course Catalog

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Global 10SC32 Electrical Training

Description:

In this module, we will cover common electrical components found across 10SC32 machines globally. You will learn what each of these components main functions are as well as gain the ability to locate and identify these components on a 10SC32 Shuttle Car. Throughout this module you will be given exercises and assessments that you must successfully complete before moving forward in the module. This module is intended to cover electrical components for global 10SC32 Shuttle Cars not including Shuttle Cars in the United States.

Module Outline:

- Lesson 1 - Introduction
- Lesson 2 - Protection Devices
- Lesson 3 – Supply
- Lesson 4 – Control
- Lesson 5 – Display Unit and Screen Navigation
- Lesson 6 – General Diagnostics 1
- Lesson 7 – General Diagnostics 2

Objectives:

Upon completion of this lesson you will:

- Gain a basic understanding of what electrical components are used on a global 10SC32 shuttle car as well as locate the controller case.
- List and describe the electrical components used to protect the electrical circuits in a global 10SC32 shuttle car.
- Locate and identify the electrical components used to protect the electrical circuits in a global 10SC32 shuttle car.
- List and describe the electrical components used as a supply on the global 10SC32 shuttle cars.
- Locate and identify the electrical components used as a supply on the global 10SC32 shuttle cars.
- List and describe the electrical components used in the control circuit on global 10SC32 shuttle cars.
- Locate and identify the electrical components used in the control circuit on the global 10SC32 shuttle cars.
- Describe the function of the display unit on the 10SC32.
- Navigate the display unit and have the ability to read each display screen.
- Describe machine diagnostics for pump start command, machine tram command, and conveyor commands as well as general machine diagnostics.
- Describe machine diagnostics for the pump and conveyor overload relays as well as the OptiDrives.

Global 10SC32 Operator Training

Description:

This is the Global 10SC32 Operator eLearning module. In this module you will be given a general overview of the machine, learn about the instruments and controls used to operate the shuttle car, learn routine maintenance procedures, operational checks, operational troubleshooting, tramping the machine, normal shutdown procedure, towing the machine, safety devices, and the start-up procedure.

Module Outline:

- Lesson 1 - General Overview
- Lesson 2 - Instruments and Control
- Lesson 3 - Routine Maintenance
- Lesson 4 - Machine Tramping
- Lesson 5 - Safety Devices
- Lesson 6 - Start Up Procedures

Objectives:

Upon completion of this lesson you will:

- The machines characteristics and configuration, basic machine dimensions, the major hydraulic, mechanical, and electrical components, as well as the wheels and tires.
- List the different emergency shutdown devices on the machine as well as identify the locations of these devices on the 10SC32 Shuttle Car.
- Explain the best way to shut down the machine while it is moving.
- List the actions that must be completed to perform basic machine isolation.
- Identify and describe the instruments and controls used on the Global 10SC32 Shuttle Car.
- Complete pre-operational checks.
- Successfully complete the start-up procedure.
- Run basic diagnostics on the machine start up.
- Successfully complete the conveyor start procedure.
- Complete operational checks and basic troubleshooting on the machine.
- Successfully tram the machine.
- Complete a normal shutdown.
- Understand how to tow the machine.
- Know the steps to complete the routine maintenance on the machine.

Global 10SC32 Mechanical and Hydraulic Training

Description:

This is the Global 10SC32 Mechanical/Hydraulic eLearning module. In this module you will learn about safety devices on the machine, the mechanical system, the hydraulic system as well as the hydraulic diagram and hydraulic components. You will also learn mechanical and hydraulic maintenance procedures as well as machine lubrication procedures.

Module Outline:

- Lesson 1 - Safety Devices
- Lesson 2 - Hydraulic - Mechanical Systems
- Lesson 3 - Pump Circuit and Components
- Lesson 4 - Brake Circuit and Components
- Lesson 5 - Cable Reel Circuit and Components
- Lesson 6 - Conveyor Circuit and Components
- Lesson 7 - Enclosure Cooling and Steering
- Lesson 8 - Floorjack and Powerfill Circuit
- Lesson 9 - Return Circuit and Components
- Lesson 10 - Towing Circuit and Components
- Lesson 11 - Mechanical Maintenance
- Lesson 12 - Hydraulic System Maintenance
- Lesson 13 - Machine Lubrication

Objectives:

Upon completion of this lesson you will:

- List the different emergency shutdown devices on the machine as well as identify the locations of these devices on the 10SC32 Shuttle Car.
- Explain the best way to shut down the machine while it is moving.
- List the actions that must be completed to perform machine isolation.
- Identify the major components that make up the traction, steering, conveyor and cable reel systems.
- Located the major components on the machine.
- Understand the basics of how each of the main components in the systems work.
- Identify and locate the pump circuit components on the machine.
- Understand how different pump components work.
- Identify and locate the brake circuit components on the machine.
- Understand how different brake components work.
- Identify and locate the cable reel circuit components on the machine.

- Understand how different cable reel components work.
- Identify and locate the conveyor circuit components on the machine.
- Understand how different conveyor components work.
- Identify and locate the cooling circuit components on the machine.
- Identify and locate the steering circuit components on the machine.
- Understand how different cooling components work.
- Understand how different steering components work.
- Identify and locate the floorjack circuit components on the machine.
- Identify and locate the powerfill circuit components on the machine.
- Understand how different floorjack components work.
- Understand how different powerfill components work.
- Have an understanding as to what the return circuit is.
- Identify the key components that comprise the return circuit.
- Have an understanding as to what the towing circuit is use for.
- Identify the key components that comprise the towing circuit.
- Identify the mechanical components which need to me maintained.
- Have an understanding of the procedure to maintain mechanical the components.
- Identify the machine components which need to be lubricated.
- Have an understanding of the procedure use to lubricate the machines components.

USA 10SC32 Electrical Training

Description:

This is the USA 10SC32 Electrical eLearning module. In this module we will cover common electrical components found across 10SC32 machines used in the US. You will learn what each of these component's main functions are as well as gain the ability to locate and identify these components on a US 10SC32 shuttle car. Throughout this module you will be given exercises and assessments that you must successfully complete before moving forward in the module. This module does not cover Global 10SC32 Shuttle Cars.

Module Outline:

- Lesson 1 - Introduction
- Lesson 2 - Protection Devices
- Lesson 3 - Supply
- Lesson 4 - Control 1
- Lesson 5 - Control 2

Objectives:

Upon completion of this lesson you will:

- Gain a basic understanding of what electrical components are used on a USA 10SC32 shuttle car as well as locate the controller case.
- List and describe the electrical components used to protect the electrical circuits in a USA 10SC32 shuttle car.
- Locate and identify the electrical components used to protect the electrical circuits in a USA 10SC32 shuttle car.
- List and describe the electrical components used as a supply on USA 10SC32 shuttle cars.
- Locate and identify the electrical components used as a supply on USA 10SC32 shuttle cars.
- Locate the control switches on the USA 10SC32 Shuttle Car.
- Describe how each control switch affects the USA 10SC32 Shuttle Car.
- Understand what vacuum contactors are and their purpose.
- Locate the vacuum contactors on the USA 10SC32 Shuttle Car.
- Perform basic maintenance on the vacuum contactors.
- Identify the different contactors in the controller case.
- Locate the variable frequency drives on a USA 10SC32 Shuttle Car.
- Describe what the variable frequency drives are, and how they are used.
- Locate the fault indicator code lights.
- Identify and understand the fault indicator codes on the variable frequency drives.



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