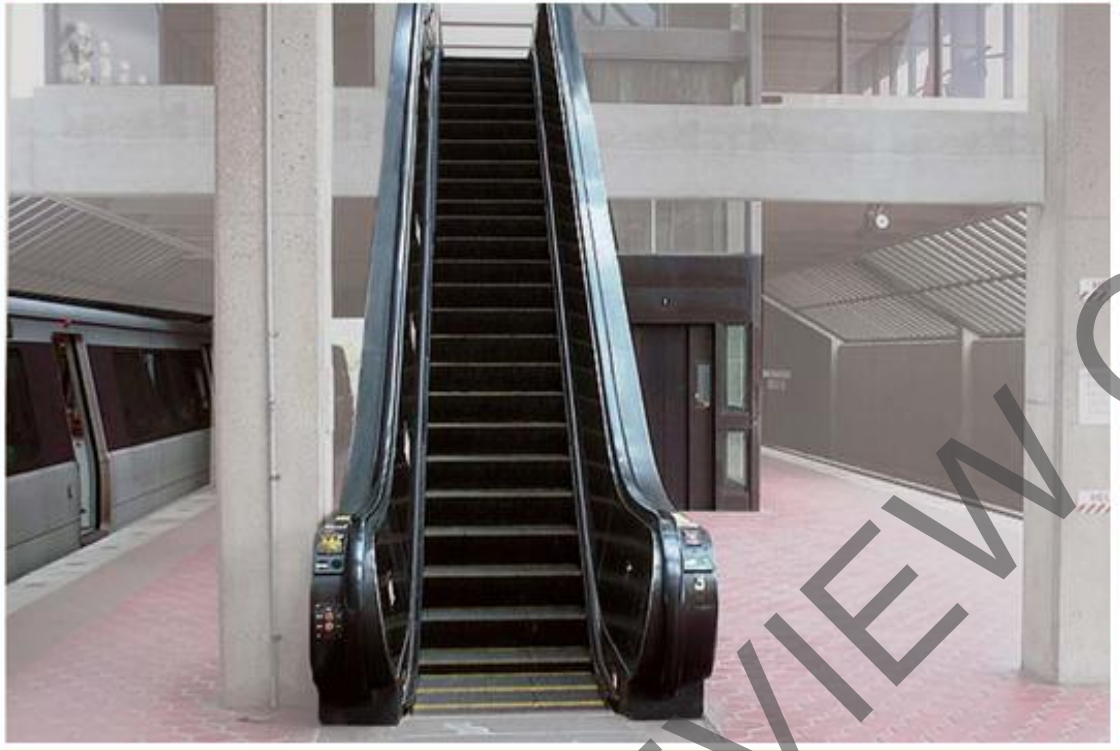
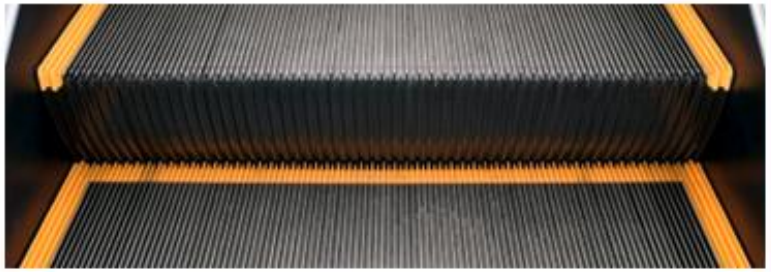
Instructor/Participant Guide





212: Escalator-Inspection & Basic Maintenance

Module 7: Control Systems

Transit Elevator/Escalator Consortium

Table of Contents:

Icons Used in This Guide

Throughout the Instructor's Guide, the following icons indicate the type of content being presented.

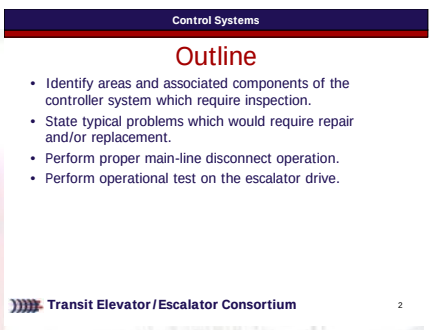
- **Refer To**
- **PowerPoint**
- **Multimedia**
- **Web based Training**
- **Write**
- **Ask**
- **Individual Activity**
- **Small Group Activity**
- **Classroom Activity**
- **Duration**

Agenda

Topic No.	Topic Title	Duration
1	Introduction	5 minutes
2	Programmable Logic Controllers • Electrical Enclosure Preventive Maintenance • Interlocks • Fuses/Overloads • Wiring Terminations • PLC Self Test • PLC Standby	35 minutes
3	Operational Test • Key Switch Start • Normal Operation • Contract Speed • Normal Stop • Escalator Controller • Annunciator Panel • Soft Start	35 minutes
4	VFD/VVFD	10 minutes
5	Summary	5 minutes
	Total Time:	**1.5 hours**

Instructor's Notes

Slide 1



Slide 2

GAIN audience attention by introducing yourself.

WELCOME the participants to the control systems module.

ASK the participants to list some items that they already know about Programmable Logic Controllers.

DIRECT participants to the objectives on slide 2.

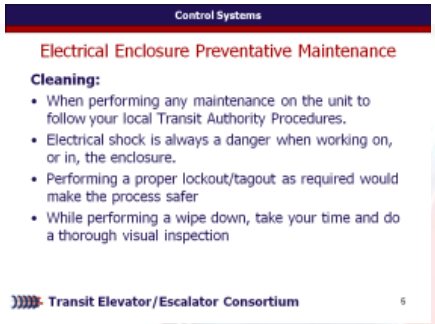
REVIEW the objectives on Slide 2.

Introduction

Welcome to the Control Systems Module.

What do you know about PLCs?

Instructor's Notes



Slide 5

REVIEW slide 5 walk participants through a detailed instruction on electrical enclosure preventative maintenance.

CONTENT: Direct participants to describe in their own words the benefits of proper preventative maintenance.

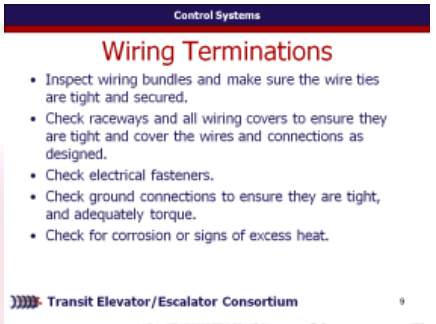
ASK: participants to describe the proper cleaning process and precautions during electrical enclosure preventative maintenance.

Electrical Enclosure Preventative Maint.

Describe the proper cleaning process and precautions during Electrical Enclosure Preventative Maintenance.

Instructor's Notes

Slide 8



Slide 9

REVIEW slide 8 and 9, and discuss what to look for during your inspection of an electrical systems wiring.

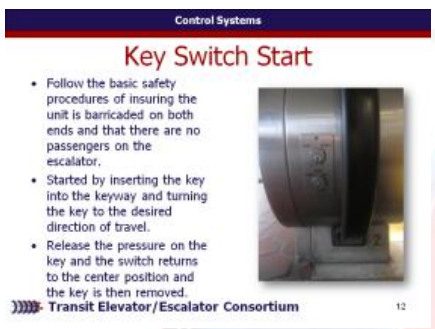
ASK: participants to describe how to check and electrical systems wiring connections.

APPLICATION FEEDBACK: now that we have discussed a little about Electrical Enclosure Preventative Maintenance, have the participants summarize a few key points of interlocks, fuses, and wire termination.

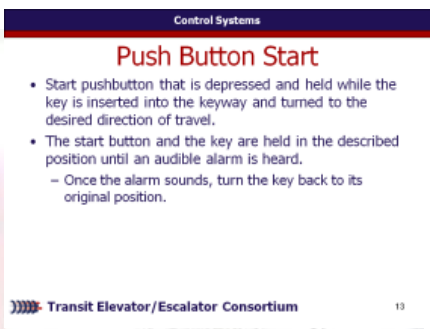
Wiring Terminations

Describe how to check an electrical system's wiring connections.

Instructor's Notes



Slide 12



Slide 13

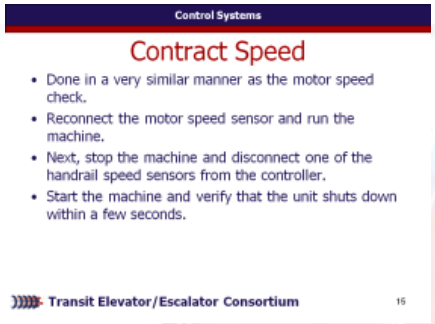
REVIEW slides 12 and 13 and review the proper procedure for using the Key Switch and the push button start.

ASK why the key switch and push button be used at the same time?

Key Switch Start

Why must the Key Switch and push button be used at the same time?

Instructor's Notes



Slide 15

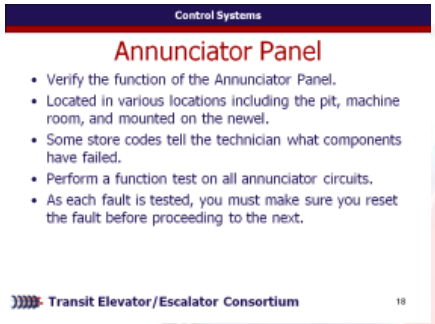
REVIEW slides 15 and review how to inspect the contract speed.

ASK the participants to describe how to check contract speed.

Contract Speed

Describe how to check contract speed

Instructor's Notes



Slide 18

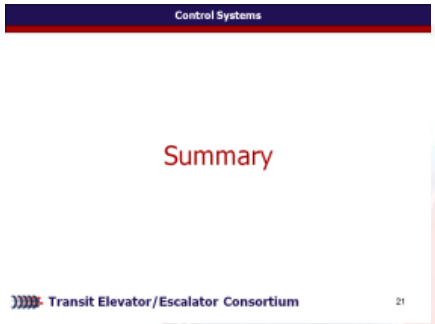
REVIEW slide 18 and describe in detail the Annunciator Panel and its functions.

ASK *what the purpose of the stored codes within the Annunciator Panel is.*

Annunciator Panel

What is the purpose of the stored codes within the Annunciator Panel?

Instructor's Notes



Slide 21

REVIEW slide 21 and summarize the module.

EVALUATION and CLOSURE: Recap the main points of the module before moving on to the next topic within this course.

ASK the participants if they have any outstanding questions on what was presented.

Summary