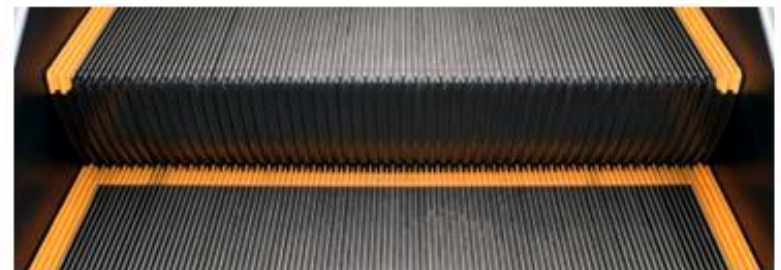


# Instructor/Participant Guide



## 212: Escalator-Inspection & Basic Maintenance

### *Module 2: Lighting and Heating*



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PREVIEW ONLY



## Icons Used in This Guide

Throughout the Instructor's Guide, the following icons indicate the type of content 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	Passenger Lighting <ul style="list-style-type: none"> <li>• Combplate Lighting</li> <li>• Understep/Demarcation Lighting</li> <li>• Balustrade Lighting</li> </ul>	30 minutes
3	Maintenance Lighting	10 minutes
4	Heating <ul style="list-style-type: none"> <li>• Truss Heaters</li> <li>• Pit Heaters</li> <li>• Landing Heaters</li> <li>• Machine Room Heaters</li> </ul>	40 minutes
5	Summary	5 minutes
<b>Total Time:</b>		<b>1.5 hours</b>



## Overview

### Purpose

The purpose of this module is to:

- Prepare participants to perform inspections and basic maintenance on the lighting and heating systems commonly found in U.S. transit systems.

### Objectives

At the end of this chapter, the learner will be able to:

- Identify the specific lighting and heating components and their locations.
- Complete a visual inspection of the lighting
- Clean, repair and/or replace any faulty lighting components
- Check all heater and thermostatic controls for proper operation
- Complete applicable maintenance documentation

### Materials

Make sure you have the following:

- Laptop (one for leader)
- Participant Guides
- PowerPoint slide deck
- LCD projector
- A17.1 Safety Code for Elevators and Escalators
- A17.2 Guide for Inspection of Elevators, Escalators and Moving Sidewalks
- A17.3 Safety Code for Existing Elevators and Escalators

### Preparation

- Heavy Duty Transportation System Escalator Design Guidelines (APTA RT-RP-FS 007-02)
  - Field Employees' Safety Handbook
  - Transit Agency Handbook
- PREPARE** flip charts with the following title:
- Class Expectations



## Instructor's Notes

Lighting and Heating Systems

### Lighting and Heating Systems



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Lighting and Heating Systems

### Outline

- Identify the specific lighting and heating components and their locations.
- Complete a visual inspection of the lighting.
- Clean, repair and/or replace any faulty lighting components.
- Check all heater and thermostatic controls for proper operation.

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### Slide 1

**GAIN** audience attention by introducing yourself.



**WELCOME** the participants to the Lighting and Heating Systems module.



**ASK:** What type of inspection is done on most lighting and heating systems?

**DIRECT** participants to the objectives on slide 2.



**REVIEW** the objectives on Slide 2.

### Slide 2

## Introduction

Welcome to the Lighting and Heating Systems module.

*What type of inspection is done on most lighting and heating systems?*

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## Instructor's Notes

Lighting and Heating Systems

### Combplate Lighting

- Found at the landings immediately above the combplates.
- Verify that this light is clear and bright.
- Verify that the cover is intact, clean, and secure.



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### Slide 3



**REVIEW** the basics of combplate lighting.



**ASK** the participants to describe each of the items listed.

## Combplate Lighting

*Where is this style of lighting located?*

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**Figure 1: Combplate Lighting**



## Instructor's Notes

Lighting and Heating Systems

### Balustrade Lighting

- Provided to illuminate all exposed steps.
- Conduct a visual inspection of:
  - Lens cover
  - Lamp
  - Reflector
  - Hardware
  - Electrical conduit and fittings



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### Slide 6



**REVIEW** slide 6 and discuss balustrade lighting.

**CONTENT:** Direct participants to describe in their own words the basics of passenger lighting.

**APPLICATION FEEDBACK:** Now that we have discussed a little about passenger lighting, have the participants answer the following questions.



**ASK** participants to describe what the balustrade light illuminates.

## Balustrade Lighting

*What does the balustrade lighting illuminate?*

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**Figure 2: Demarcation Lamps**



### Instructor's Notes

#### Lighting and Heating Systems

##### Heaters

- Used to maintain proper operating temperatures for the equipment, for snow/ice removal, and humidity control.
- Heaters are generally thermostatically controlled.
- Supply voltage varies by unit but generally will be 120 or 220 volts AC.
- When inspecting or testing these components, ensure that proper electrical safety procedures are followed as the power source may not be de-energized.

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#### Slide 8



**REVIEW** slide 8 and the basics of heaters.



**ASK:** What is the supply voltage for most heaters?

### Heaters

*What is the supply voltage for most heaters?*

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### Instructor's Notes

#### Lighting and Heating Systems

##### Truss Heaters

- Used to reduce accumulation of ice and snow.
- Located throughout the truss base.
- Refer to location-specific drawings to insure that all necessary points are inspected.



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#### Slide 9



**REVIEW** slide 9 and the details on truss heaters.



**ASK:** What is the purpose of truss heaters?

### Truss Heaters

*What is the purpose of the truss heater?*

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**Figure 3: Truss Heater**

## Landing Heater

## Landing Heater

- Primary function is to maintain operating temperatures in the unit during cold weather.
- Located on both the upper and lower ends of the unit.
- Thermostatically controlled and must be inspected and tested according to manufacturer and Authority procedures.
- Drawings must be used to determine the location of heating units, thermostats, and controllers.

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## Slide 11



**REVIEW** slide 11 and the landing heater's functions.



**ASK:** What is the landing heater's primary function?

What is the landing heater's primary function?



### Instructor's Notes

Lighting and Heating Systems

#### Summary

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#### Slide 13



**REVIEW** slide 13 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