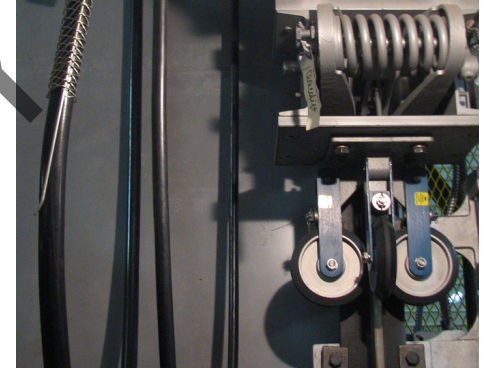


Instructor Guide



217: Elevator: Traction Elevator Module 4: Hoistway

Elevator – Electric Traction Hoistways

Instructor's Guide



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Elevator – Electric Traction Hoistways


Instructor's Guide





Icons Used In This Guide


- 


REVIEW slides
- 


INDIVIDUAL ACTIVITY
- 

ASK
- 

WRITE
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CLASSROOM ACTIVITY
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Multimedia
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SMALL GROUP ACTIVITY
- 

REFER participants to

Agenda

Topic #	Topic Title	Duration
1	Overview	20 minutes
2	Hoistway	20 minutes
3	Hoistway Overhead Components	40 minutes
4	Length of Hoistway Components	50 minutes
5	Pit Area Components	45 minutes
6	Car Components	15 Minutes
7	Common Issues	60 minutes
8	Summary	30 Minutes
9	Field Trips (Four)	200 Minutes
	Total Time:	480 Minutes

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Elevator – Electric Traction Hoistways

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Overview

Purpose The purpose of this module is to:

- The purpose of this unit is to provide a more in depth explanation of components within the hoistway of electric traction transit elevators. The key concepts discussed will aid the trainee in their future applications of elevator concepts and terminology.

Objectives

At the end of this lesson, the transit elevator/escalator trainee will be able to:

- Identify areas and associated components of the hoistway
- List common areas in the hoistway which would require repair or replacement

Materials

Mandatory Make sure you have the following

- PowerPoint Presentation
- Course book
- Quizzes
- Pencils
- Paper
- Elevator's 101 2nd Edition
- "Common Issues Worksheet" in Course book for authority specific notes

Optional

You may also want the following for optional activities:

- Chalk board with chalk, large paper with marker, etc.
- Internet connection
- Lab, simulator or out of service elevator
- ASME A17.1 Code Book
- Elevator Industry Field Employees' Safety Handbook

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Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 480 min This section: 20 min (5 slides) Section start time: _____ Section End Time: _____

DO



REVIEW introduction slides

Instructor's Notes

SAY

In your own words:

Welcome to the module for electric traction elevator hoistways.

Advance.

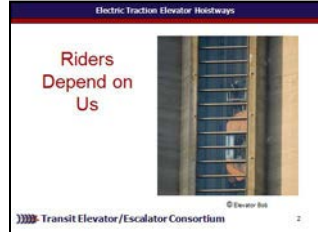
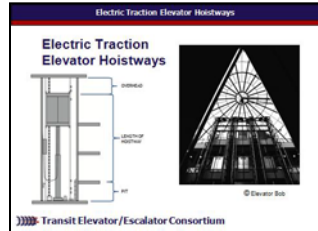
Hoistways come in all styles and varieties. Here is an example of an electric traction hydraulic elevator hoistway at Canada's National Tower from Elevator Bob.

In this course, we will take a closer look at hoistways in electric traction elevator systems.

Advance.

Materials Needed

✓ PPT slides 1, 2



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 480 min This section: 20 min (5 slides) Section start time: _____ Section End Time: _____

DO



REVIEW slide

Instructor's Notes

SAY

In your own words:

Lets take a look at some of the key words we will be defining as move through this module.

Cable support grip, Compensating cable, Connecting "fish" plate, Counterweight, Door frames, Dust covers, Final limit switch, Fire sprinkler, Guide rails, Guide Shoes, Halfway junction box

Advance.

Heat detector, Hoistway fascia plate
Hoistway vents, Homerun, Intermediate limit switches, Ladder, Light, Limit switch
Normal limit switch

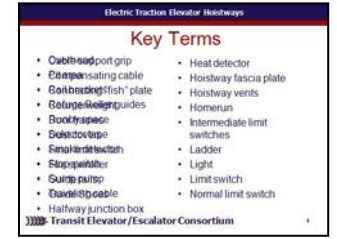
Advance.

Overhead, Pit area, Rail brackets, Refuge Roller guides, Runby space, Selector tape, Smoke detector, Stop switch, Sump pump, Traveling cable

Advance.

Materials Needed

✓ PPT slide 4



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 460 min This section: 20 min (8 slides) Section start time: _____ Section End Time: _____

DO

SAY

Materials Needed



REVIEW slides

In your own words:

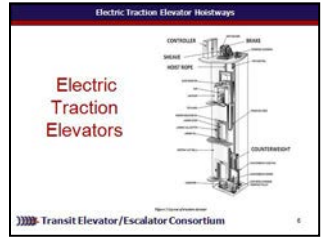
We have looked at some of the major components in a electric traction elevator system in course 213, and some of the major components associated with the operation of this elevator system.

Advance.

Lets start this module by looking reviewing what the hoistway as defined and the areas in the hoistway you will need to know.

Advance.

✓ PPT slides 6, 7



Instructor's Notes

Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 460 min This section: 20 min (8 slides) Section start time: _____ Section End Time: _____

DO



REVIEW slide

Instructor's Notes

SAY

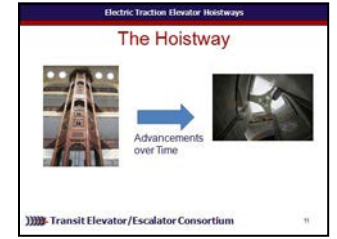
In your own words:

Even though the basic design of the hoistway has remained constant for years, advances in technology have made it easier to monitor the condition and status of the equipment contained in the shaft. Maintenance tasks for elevator systems, including conducting safety checks, are now easier to accomplish than in decades past.

Advance.

Materials Needed

✓ PPT slide 11



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min

Time remaining: 460 min

This section: 20 min (8 slides)

Section start time: _____

Section End Time: _____

DO



REVIEW slide

Instructor's Notes

SAY

In your own words:

The hoistway in an electric traction elevator system may be divided into four areas

Advance. Overhead - this is the space above the car when it is at the top floor level

Advance. Length of hoistway - this is the space from underneath the overhead to the top of the pit area

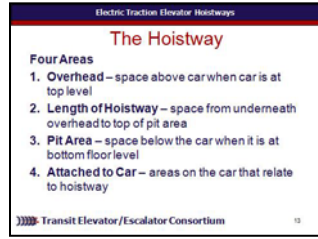
Advance. Pit area - this is the space below the car when it is at the bottom floor level

Advance. Attached to the car - areas on the car that relate to hoistway

Advance.

Materials Needed

✓ PPT slide 13



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min

Time remaining: 440 min

This section: 40 min (16 slides)

Section start time: _____

Section End Time: _____

DO



REVIEW slide

Instructor's Notes

SAY

In your own words:

Typically in an electric traction elevator system there are three limit switches located in the hoistway overhead and pit area: terminal slow down, normal, and final.

Advance. The terminal slow down limit switch signals the controller that the car is reaching the end of the hoistway.

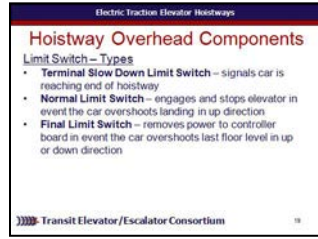
Advance. If the elevator overshoots the landing in the up direction, the normal limit is engaged and removes power to the elevator.

Advance. If the elevator overshoots the last floor level in either the upward or downward direction, the final limit switch is engaged. The final limit removes power to the controller board.

Advance.

Materials Needed

✓ PPT slide 19



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 440 min This section: 40 min (16 slides) Section start time: _____ Section End Time: _____

DO



REVIEW slides

Instructor's Notes

SAY

In your own words:

Here are the locations of the final, normal, and terminal slow down limit switches.

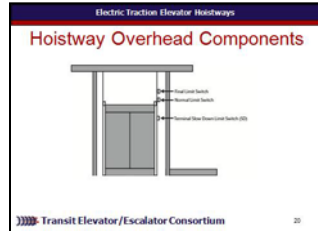
Advance.

In older installations where there is no selector tape, **Advance**, there are other intermediate limit switches along the length of the hoistway to signal to the controller the location of the car is in the hoistway. Discussion on the function of the elevator's selector tape occurs later in the module.

Advance.

Materials Needed

✓ PPT slides 20, 21



Elevator – Electric Traction Hoistways

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Module Length: 480 min Time remaining: 440 min This section: 40 min (16 slides) Section start time: _____ Section End Time: _____

DO



REVIEW slides

Instructor's Notes

SAY

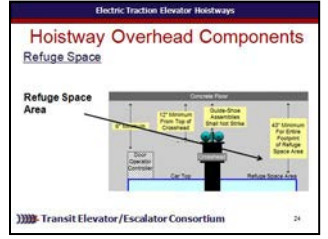
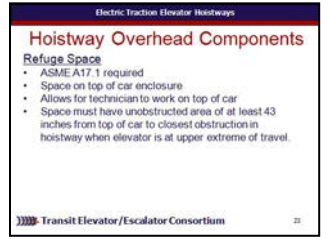
In your own words:

Advance. ASME A17.1 Safety Code requires **Advance.** refuge space on top of the elevator car enclosure so that, if required, **Advance.** an elevator technician can work on top. **Advance.** This refuge space must have a clear unobstructed area of at least 43 inches from the top of the car to the closest obstruction in the hoistway when the elevator is at its upper extreme of travel. **Advance.**

Here is a diagram showing the refuge space area as directed by the Code. **Advance.**

Materials Needed

✓ PPT slides 23, 24



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min

Time remaining: 440 min

This section: 40 min (16 slides)

Section start time: _____

Section End Time: _____

DO



ASK

Instructor's Notes

SAY

In your own words:

The _____ engages and stops the elevator in event the car overshoots the landing in up direction.

- a. Terminal Limit Switch
- b. Normal Limit Switch
- c. Final Limit Switch
- d. Intermediate Limit Switch

Call on participants for answer.

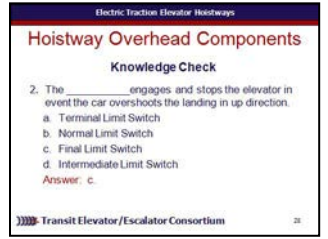
Advance for correct answer.

Answer: c.

Advance.

Materials Needed

✓ PPT slide 28



Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 minutes Time remaining: 300 minutes This section: 50 minutes Section start time: _____ Section End Time: _____

DO

SAY

Materials Needed



**CLASSROOM
ACTIVITY**

In your own words:
Okay, now it's time to see how this works in the real world. Please get your stuff together for a trip to the lab.
[At instructor's discretion, take time to visit the field and look for electric traction length of hoistway components and related information.]
Advance.

✓ PPT slide 53



Instructor's Notes

Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 minutes Time remaining: 205 minutes This section: 50 minutes Section start time: _____ Section End Time: _____

DO

SAY

Materials Needed



**CLASSROOM
ACTIVITY**

In your own words:

Okay, now it's time to see how this works in the real world. Please get your stuff together for a trip to the lab.

[At instructor's discretion, take time to visit the field and look for electric traction pit area components and related information.]

Advance.

✓ PPT slide 66



Instructor's Notes

Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 minutes Time remaining: 80 minutes This section: 50 minutes Section start time: _____ Section End Time: _____

DO

SAY

Materials Needed



**CLASSROOM
ACTIVITY**

In your own words:
Okay, now it's time to see how this works in the real world. Please get your stuff together for a trip to the lab.
[At instructor's discretion, take time to visit the field and look for electric traction common hoistway components, and related information.]
Advance.

✓ PPT slide 78



Instructor's Notes

Elevator – Electric Traction Hoistways

Instructor's Guide



Module Length: 480 min Time remaining: 30 min This section: 30 minutes (3 slides) Section start time: _____ Section End Time: _____

DO



**CLASSROOM
ACTIVITY**

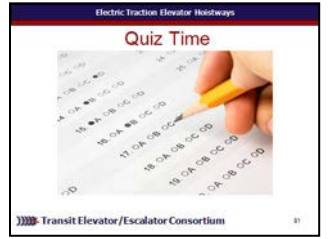
Instructor's Notes

SAY

In your own words:
Administer quiz.

Materials Needed

- ✓ PPT slide 81



PREVIEW ONLY