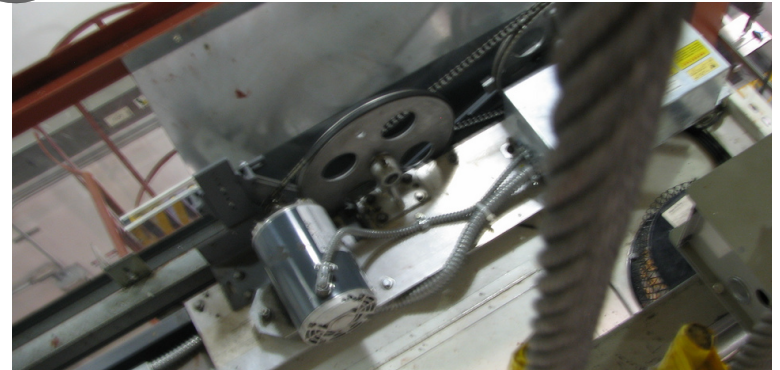
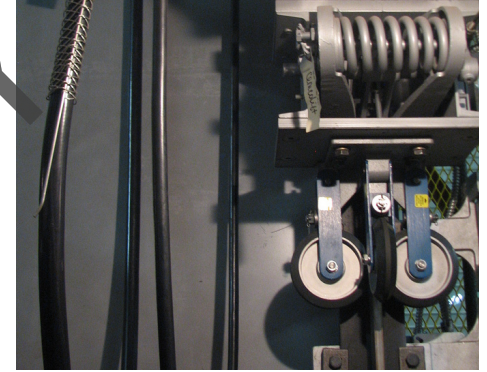
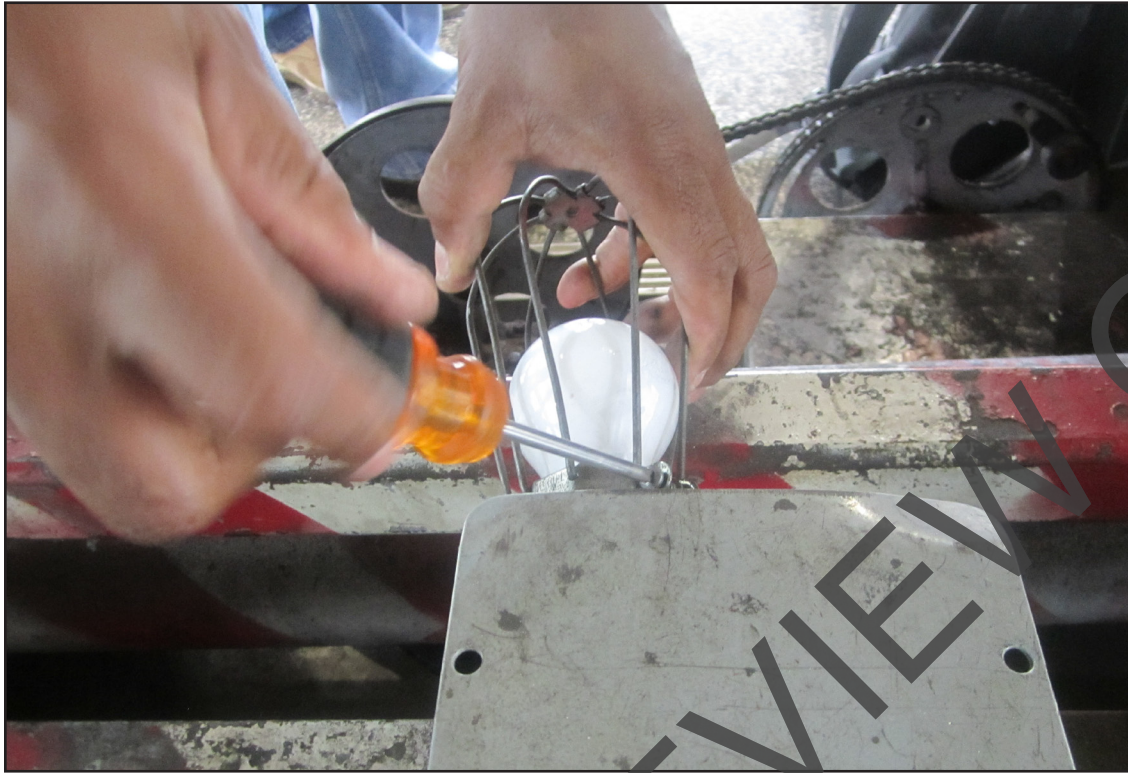


# Instructor Guide



## 219: Elevator: Inspection and Basic Maintenance Module 5: Car and Landings

# Elevator – Car and Landings

*Instructor's Guide*



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PREVIEW ONLY

# Elevator – Car and Landings

## Instructor's Guide



### Icons Used In This Guide



**REVIEW** slides



**INDIVIDUAL ACTIVITY**



**ASK**



**WRITE**



**CLASSROOM ACTIVITY**



Multimedia



**SMALL GROUP ACTIVITY**



**REFER** participants to

### Agenda

| Topic # | Topic Title          | Duration    |
|---------|----------------------|-------------|
| 1       | Overview             | 30 Minutes  |
| 2       | Inspection - Car     | 60 Minutes  |
| 3       | Field Trip           | 120 Minutes |
| 4       | Inspection - Landing | 30 Minutes  |
| 5       | Safety Devices       | 30 Minutes  |
| 6       | Signage              | 30 Minutes  |
| 7       | Lighting             | 20 Minutes  |
| 8       | Field Trip           | 120 Minutes |
| 9       | Summary              | 40 Minutes  |
|         |                      |             |
|         | <b>Total Time:</b>   | 480 Minutes |

# Elevator – Car and Landings

## Instructor’s Guide



### Overview

**Purpose** The purpose of this module is to:

Provide the participant with an overview of inspection and maintenance of transit elevator car and landings.

### Objectives

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

- Identify the areas and components on the top of the car, which require inspection.
- Identify the areas and components in the interior of the car, which require inspection.
- Perform a car inspection.
- Identify the areas and components at the landings, which require inspection.
- Perform a landing inspection.
- Perform an operational test on all safety devices on the Underside.
- Perform an operational test on all safety devices on the Car Top.
- Perform an operational test on all safety devices on the Landing.

- Perform an operational test on all safety devices inside Car.
- List and identify typical signage.
- Describe instances when signage would require repair and/or replacement.
- List the lights at the landing, which require inspection.
- List the lights in the interior of the car, which require inspection.
- Perform an operational test on regular interior lights.

### Materials

**Mandatory** Make sure you have the following

- PowerPoint Presentation
- Coursebook
- Quizzes
- Pencils
- Paper

### 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
- Elevator Maintenance
- ASME A17.1.

# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 480 min

This section: 30 min (8 slides)

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO



**REVIEW** module objectives

### Instructor's Notes

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### SAY

#### In your own words:

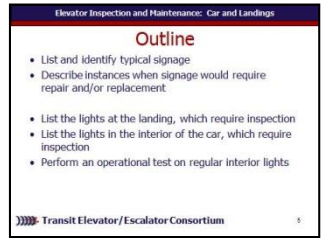
Today we will

- List and identify typical signage
- Describe instances when signage would require repair and/or replacement
- List the lights at the landing, which require inspection
- List the lights in the interior of the car, which require inspection
- Perform an operational test on regular interior lights

#### Advance

### Materials Needed

✓ PPT slide 5





# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 480 min

This section: 30 min (8 slides)

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO



**ASK** participants what they remember about safety and elevators



**SMALL GROUP ACTIVITY**



**WRITE**

### Instructor's Notes

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### SAY

**In your own words:**

Thinking back to other courses or just in general, what do we already know about car components and possible maintenance requirements?

Landing components and maintenance?

Safety devices and maintenance?

Signs and maintenance?

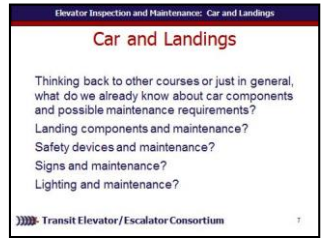
Lighting and maintenance?

*Allow participants to think for a minute and perhaps discuss with a partner ideas as well as write down any ideas. Discuss participant responses and if possible list them on a chalk board or similar.*

**Advance**

### Materials Needed

✓ PPT slide 5



- ✓ Chalk board or large paper
- ✓ Blank Paper
- ✓ Writing instruments

# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 450 min

This section: 70 min (38 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



**REVIEW** slide



**ASK**

### Instructor's Notes

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**In your own words:**

**Ask**

What components do we find on top of the car which may need inspection and maintenance?

**Allow participants to discuss possible answers.**

**Review the list of components inside of a car.**

**Advance**

✓ PPT slide 12



# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 450 min

This section: 70 min (38 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

| DO   | SAY  | Materials Needed   |
|--|--|--|
| <div data-bbox="34 464 144 564" data-label="Image"> </div> <div data-bbox="164 492 415 535" data-label="Text"> <p><b>REVIEW</b> slide</p> </div> <div data-bbox="28 792 454 842" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/> | <div data-bbox="666 428 1023 471" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="666 492 1439 792" data-label="Text"> <p>Guide rollers, Roller guide assemblies, and guide shoes: Check <b>guide rollers</b> for wear and damage and replace as required. Examine the guide rollers for fit and alignment. They should contact the rails with sufficient force to make a firm contact with the rail.</p> </div> <div data-bbox="666 799 1429 1192" data-label="Text"> <p><b>Advance</b> Grease all roller guide assemblies on the elevator, if applicable. Most rollers have sealed bearings that cannot be lubricated. But, a common cause of guide roller misalignment is the lack of lubricant in the pivot bushings. The frequency of lubrication will vary with the environment and operation, but a couple drops of oil once a month is recommended.</p> </div> <div data-bbox="666 1199 1381 1285" data-label="Text"> <p><b>Advance</b> Be sure to replace all car guide shoes, if necessary.</p> </div> <div data-bbox="666 1292 840 1328" data-label="Text"> <p><b>Advance</b></p> </div> | <div data-bbox="1497 471 1748 514" data-label="Text"> <p>✓ PPT slide 20</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div> |



# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 450 min

This section: 70 min (38 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

| DO | SAY | Materials Needed |
|----|-----|------------------|
|----|-----|------------------|



**REVIEW** slides

### Instructor's Notes

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**In your own words:**

Check **traveling cable** for wear, chafing, kinking and alignment.

**Advance** Examine attachment points for secure fastening and looseness.

**Advance** Check for slippage of the cable through the grips. Slippage can be prevented by taping the bottom of the grip with electrical tape.

**Advance**

Clean the **car ventilation and fan opening**. If necessary, remove the fan and clean the blades or squirrel cage.

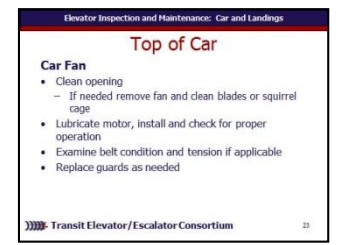
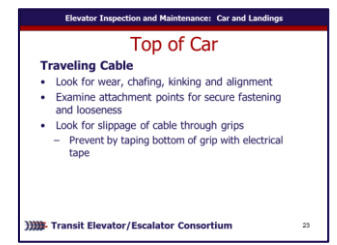
**Advance** Lubricate the motor; install and check for proper operation.

**Advance** If a belt drive is used, examine the belt's condition and tension.

**Advance** Replace all guards on blades, belts and motors as needed.

**Advance**

✓ PPT slides 23, 24



# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 450 min

This section: 70 min (38 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

| DO  | SAY  | Materials Needed  |
|---|--|---|
| <div data-bbox="28 464 144 578" data-label="Image"></div> <div data-bbox="173 499 270 549" data-label="Text"><p>ASK</p></div> <div data-bbox="28 785 454 842" data-label="Section-Header"><h3>Instructor's Notes</h3></div> <hr/> <hr/> <hr/> <hr/> <hr/> | <div data-bbox="666 421 1033 471" data-label="Section-Header"><h4>In your own words:</h4></div> <div data-bbox="666 471 1381 606" data-label="Text"><p>Danny needs to perform inspection and maintenance of the traveling cable. What should Danny do?</p></div> <div data-bbox="666 642 1236 692" data-label="Text"><p><b>Call on participants for answer</b></p></div> <div data-bbox="666 692 1400 735" data-label="Text"><p><b>Advance once given the correct answer</b></p></div> <div data-bbox="666 735 821 778" data-label="Text"><p><b>Answer:</b></p></div> <div data-bbox="676 778 1449 1092" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Look for wear, chafing, kinking and alignment</li> <li>• Examine attachment points for secure fastening and looseness</li> <li>• Look for slippage of cable through grips <ul style="list-style-type: none"> <li>➤ Prevent by taping bottom of grip with electrical tape</li> </ul> </li> </ul> </div> <div data-bbox="666 1092 840 1135" data-label="Text"><p><b>Advance</b></p></div> | <div data-bbox="1487 464 1758 514" data-label="Text"><p>✓ PPT slide 30</p></div> <div data-bbox="1535 549 1864 785" data-label="Image"> <p><small>Elevator Inspection and Maintenance: Car and Landings</small></p> <p><b>Top of Car Knowledge Check</b></p> <p>3. Danny needs to perform inspection and maintenance of the traveling cable. What should Danny do?</p> <p><small>Transit Elevator/ Escalator Consortium 30</small></p> </div> |

# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 450 min

This section: 70 min (38 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



**REVIEW** slide

### Instructor's Notes

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**In your own words:**

Examine the car **operating panel** for secure fastening. Be sure to report any damage due to vandalism. Verify that all raised and Braille characters are present. Check that the inspection mode works in the car operating panel. Examine all car push buttons for illumination and defects. Check the position indicators for condition and operation of all lamps. Replace all burned out lamps.

**Advance**

Activate the audible **alarm push button** on the operating panel (Figure 8) and verify the alarm bell sounds. If not functioning as designed, correct or report the defect as required. In some instances the alarm bell is connected to the in-car **auto-dialer**.

**Advance**

✓ PPT slides 41, 42



# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 380 min

This section: 120 min

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



ASK



CLASSROOM  
ACTIVITY

### Instructor's Notes

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In your own words:

*Take time to visit the field to provide an example demonstration and opportunities for participants to perform the following tests:*

- Perform a car inspection
- Perform a landing inspection

**Advance**

✓ PPT slide 47



# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 260 min

This section: 30 min (12 slides) Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

### DO

### SAY

### Materials Needed



**ASK**

**In your own words:**

Door closing force must be \_\_\_\_\_ of force or less to comply with the code.

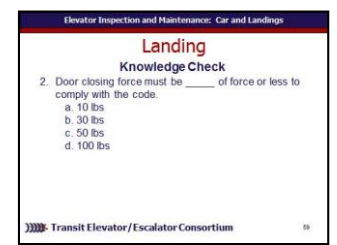
- a. 10lbs
- b. 30lbs
- c. 50lbs
- d. 100lbs

**Call on participants for answer**  
**Advance once given the correct answer**

**Answer: b. 30lbs**

**Advance**

✓ PPT slide 59



### Instructor's Notes

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# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min      Time remaining: 200 min      This section: 30 min (11 slides)      Section start time: \_\_\_\_\_      Section End Time: \_\_\_\_\_

**DO**

**SAY**

**Materials Needed**



**REVIEW** slides

**In your own words:**

ADA signage is important because it helps people with disabilities move about transit facilities, locate accessible areas and safely use transit elevators.

ADA compliant signs for elevators have to follow specific guidelines for the call buttons, hall lanterns, Braille requirements, control buttons and control button height requirements. The ADA Accessibility Guidelines (ADAAG) require that elevators meet the *ASME A17.1-1990 Safety Code for Elevators and Escalators*.

**Advance**

And here are example of braille and raised characters.

**Advance**

✓ PPT slides 71, 72



**Instructor's Notes**

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# Elevator – Car and Landings

## Instructor's Guide



Module Length: 480 min

Time remaining: 170 min

This section: 20 min (9 slides)

Section start time: \_\_\_\_\_

Section End Time: \_\_\_\_\_

| DO  | SAY   | Materials Needed   |
|---|---|--|
| <div data-bbox="34 471 139 574" data-label="Image"> </div> <div data-bbox="173 506 260 542" data-label="Text"> <p><b>ASK</b></p> </div> <div data-bbox="28 792 444 835" data-label="Section-Header"> <h3>Instructor's Notes</h3> </div> <hr/> <hr/> <hr/> <hr/> <hr/> | <div data-bbox="676 428 1023 464" data-label="Section-Header"> <p><b>In your own words:</b></p> </div> <div data-bbox="676 471 1371 599" data-label="Text"> <p>Jim must respond to a call for inadequate lighting in a car at a nearby station. What must Jim do to complete the inspection?</p> </div> <div data-bbox="676 649 1236 692" data-label="Text"> <p><b>Call on participants for answer</b></p> </div> <div data-bbox="676 692 1391 735" data-label="Text"> <p><b>Advance once given the correct answer</b></p> </div> <div data-bbox="676 742 821 778" data-label="Text"> <p><b>Answer:</b></p> </div> <div data-bbox="676 785 1420 1135" data-label="List-Group"> <ul style="list-style-type: none"> <li>• Examine all car push buttons</li> <li>• Replace burned-out lamps and damaged jewels</li> <li>• Test and verify operation of car emergency light</li> <li>• Ensure all fixtures and secure and operational</li> <li>• Repairs as needed</li> </ul> </div> <div data-bbox="676 1185 840 1220" data-label="Text"> <p><b>Advance</b></p> </div> | <div data-bbox="1497 471 1748 506" data-label="Text"> <p>✓ PPT slide 86</p> </div> <div data-bbox="1535 528 1854 763" data-label="Image"> </div> |