

Instructor/Participant Guide



210: Escalator-Specific: Step Installation and Maintenance

Module 2: Step Removal and Replacement

Step Removal and Replacement



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PREVIEW ONLY



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 to Steps	10 minutes
2	Step Removal Inside the Landing <ul style="list-style-type: none"> • Removal • Replacement 	30 minutes
3	Placement of Axles <ul style="list-style-type: none"> • Removal • Replacement 	30 minutes
4	Specialty Tools	15 minutes
5	Summary	5 minutes
Total Time:		1.5 hours

Step Removal and Replacement



Overview

Purpose	The purpose of this module is to: <ul style="list-style-type: none">• Prepare the participant in the proper procedures to remove and replace escalator steps.	Materials	<ul style="list-style-type: none">• Heavy Duty Transportation System Escalator Design Guidelines (APTA RT-RP-FS 007-02)• Field Employees' Safety Handbook• Transit Agency Handbook
Objectives	At the end of this chapter, the learner will be able to: <ul style="list-style-type: none">• Identify the step removal and replacement procedures for different types of transit escalators.• Determine the types of tools required for step removal and replacement of escalator steps.• Demonstrate the ability to perform step removal and replacement procedures on a transit escalator.	Preparation	PREPARE flip charts with the following titles: <ul style="list-style-type: none">• Class Expectations
Materials	Make sure you have the following: <ul style="list-style-type: none">• 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		

Step Removal and Replacement



Instructor's Notes

General Safety Procedures

Step Removal Inside The Landing

- Remember to do a site hazard assessment
- Look for pinch points
- Good lifting techniques
- Communication, communication, communication
- Follow transit property's or manufacturer's procedures
- Normally the steps are removed from the lower landing
- Check the access cover safety switches
- Use care! SAFETY

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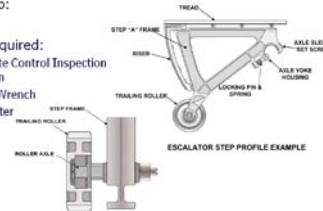
25

General Safety Procedures

Step Removal Inside The Landing

Fujitec step:

- Tools required:
 - Remote Control Inspection Station
 - Allen Wrench
 - Pin Lifter



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Slide 5



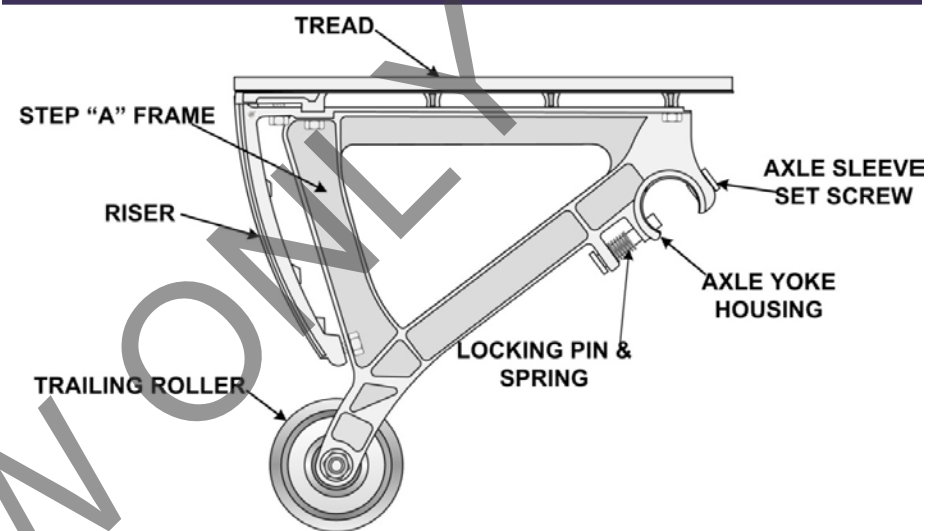
REVIEW slides 5 and 6 walking the participants through the Trailing Roller Removal and Replacement Procedure.



POSSIBLE CLASS ACTIVITY: Have several steps already removed from the escalator available to the participants in the. Have the participants remove the trailing roller.

Slide 6

Step Removal from Landing



ESCALATOR STEP PROFILE EXAMPLE

Figure 1: Step Components

What are some key concepts to note when removing the steps?



Instructor's Notes

Step Removal and Replacement

Incline Step Removal

- Follow Transit Property's Procedures or Manufacturer's Directions
- Ensure the power is Off
- T-handle Allen wrench
- Turn the step captive locking screw counter-clockwise
- Small pry bar lift up and lift the step upward
- Lift the step completely out of the incline



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Step Removal and Replacement

Incline Step Replacement

- Some manufacturers require the axle or a substitute axle remain in the escalator on every fifth step to ensure the step chain will not collapse.
- If you are doing an annual inspection, remove the lower steps in the lower half of the escalator. Follow the transit property's procedures and manufacturer's directions.

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Slide 7

Slide 8

REVIEW slides 7 and 8 and review the Incline step removal and replacement procedures.

Place heavy emphasis on these procedures. Explain that due to the type of escalator, a few of the ancillary steps may change.

POSSIBLE SMALL GROUP ACTIVITY: Have the participants demonstrate the proper procedure to remove a step on the incline.

Step Incline R/R

Prior to starting your removal, what are 3 main concepts to remember?



Figure 2: T Handed Allen Wrench



Instructor's Notes



Slide 10



REVIEW the required specialty tools for removing and replacing steps from slide 10.



ASK the participants to indicate what each specialty tool is used for during the removal/replacement process.

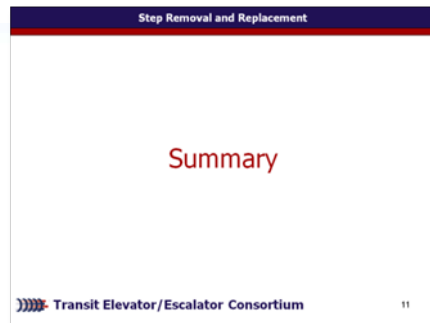
Specialty Tools

List what each specialty tool is used for during removal/replacement.



Instructor's Notes

Summary



Slide 11



REVIEW slide 11 and summarize the module.

Briefly review the main sections of this module before moving to the next.



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



ACTIVITY: Have the participants complete the walkthrough exercise as indicated.