

Instructor/Participant Guide



210: Escalator-Specific: Step Installation and Maintenance

Module 3: Roller Removal and Replacement

Roller 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 <ul style="list-style-type: none"> Set Expectations Safety Precautions Site Preparation 	20 minutes
2	Trailing Rollers - Generic <ul style="list-style-type: none"> Removal Replacement 	30 minutes
3	Guide Roller – Generic	15 minutes
4	Horizontal Guide Track Rollers - Generic	15 minutes
5	Running Chain Rollers <ul style="list-style-type: none"> Removal Replacement 	30 minutes
6	Specialty Tools	15 minutes
7	Summary	5 minutes
Total Time:		2.2 hours



Overview

Purpose	The purpose of this module is to: <ul style="list-style-type: none">• Provide the course participant with a basic understanding of escalator step removal and replacement procedures on various types of transit escalators.	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 roller removal and replacement procedures for different types of steps used in various transit escalators.• Determine the types of tools required for roller removal and replacement procedures for different types of escalator steps.• Demonstrate the ability to perform roller removal and replacement procedures for different types of steps on transit escalators.	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		



Instructor's Notes



Slide 3



CLASS ACTIVITY – Choose a Case.



ASK for a volunteer to pick a case. Click on the case chosen and ask the participants if the item held within would be used during roller removal and/or replacement.



ANSWERS:

1. Yes
2. No
3. Yes
4. Yes
5. Yes
6. Yes
7. Yes
8. No

Choose a Case

Which of these items would be used during roller removal and replacement?

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Roller Removal and Replacement



Instructor's Notes

Roller Removal and Replacement

Trailing Roller Removal

1. Position step on its back end.
2. Clean the dirt and grease.
3. Check the step trailer roller.
4. Remove if necessary.
5. Check both trailer rollers.



removing interior snap ring

Transit Elevator/Escalator Consortium 6

Slide 6

Roller Removal and Replacement

Trailing Roller Replacement

1. Lay the step on a flat surface (tread side down).
2. Insert a T-40 Torx head wrench into the bolt located in the center of the roller hub.
3. Turn wrench counter clockwise until bolt and washer are removed.
4. Pull off roller.
5. Insert new roller.
6. Re-insert torx bolt and washer.
7. Tighten torx bolt with torx wrench.
8. Inspect new roller.



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Slide 7



REVIEW slides 6 and 7 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 class (The steps may have been removed during the Step Removal module - Module 2). Have the participants remove the trailing roller.

Trailing Roller R/R



Figure 1: Trailing Roller



Figure 2: Snap Ring Removed



Instructor's Notes

Roller Removal and Replacement

Specialty Tools

Includes:

- Snap Ring Pliers
 - 45 degree
 - 90 degree
 - Multi-tip




Slide 13



REVIEW slide 13 to 15 showing some of the special tools required for wheel (roller) removal and replacement.



ASK the participants to name some of the special tools required.

General Safety Procedures

Specialty Tools

- Includes:
 - Ratchets
 - Torx sockets and bits
 - Torx Drivers
 - Torx tips






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Slide 15

Specialty Tools

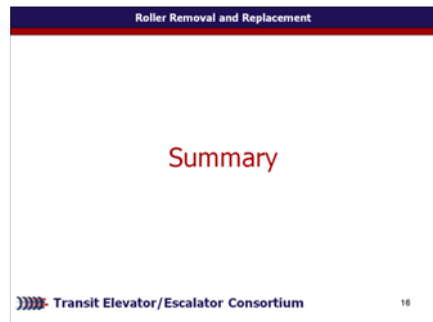
What are some of the special tools required?

ONLY



Instructor's Notes

Summary



Slide 16



REVIEW slide 16 and summarize the module.



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



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