



Southern California Regional Transit Training Consortium

SYLLABUS

Course Name:

Basic Transit Brake Systems and Troubleshooting – Foundation Brakes

Course Item Number: SC-BR-1300-I

Prerequisites: None

Course Description:

The course covers primarily Foundation Brake Systems. The course covers at the introductory level theory (physics), inspection and maintenance, trouble shooting and repair as well as guided hands on exercises to reinforce learning outcomes.

Course Benefits:

This course is designed such that successful course completers will be capable to apply the principles of repair and basic troubleshooting of Transit Foundation Brake Systems in the work place. The course focuses on the most commonly performed maintenance and trouble shooting work on W Series Transit S-cam brakes. Additionally students will be able to complete an S-cam brake reline in accordance with the APTA foundation brake reline procedures authored by the American Public Transportation Association (APTA) Brake force Committee.

What you will learn:

- Braking Theory (Physics)
- How the W-series foundation brake operates
- Foundation Brake system inspection and maintenance including brake adjustment
- Foundation Brake system trouble shooting and repair
- APTA foundation brake reline procedure authored by the American Public Transportation Association (APTA) Brake Committee.

Number of Days: 2

Continuing Education Units (CEU): 0

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Equipment Requirements

- Classroom with computer/projector
- PowerPoint presentation
- Student workbook for each technician
- Tools and replacement parts necessary to complete a brake re-line as outlined in the instructor guide
- W – Series Transit Axle or at a minimum a transit bus with access to garage and bus hoist.
- It is desirable to have access to a disc and wedge type foundation brake and a transit bus air system training board

Course Outline

- I. Introductory Material
 - Instructor and student introductions
 - Safety Briefing
- II. Physics
 - Newton's 1st, 2nd and 3rd Laws
 - Pascal's Principle
 - Pressure vs Area
 - Torque and leverage
 - AL Factor
 - Friction
 - Edge Codes
 - Primary and Secondary Shoes
 - Conservation of Energy, Heat and Temperature
 - Thermal and Drum Expansion
 - Transmission Retarders
 - Brake Balance
- III. APTA Brake Reline and Inspection Procedures
 - Pre Inspection
 - Disassembly
 - Inspection
 - Installation
 - Wheel Bearing
 - Inspection
 - Lubrication
 - Installation
 - Brake Inspection and adjustment
 - Road Test and Final Inspection