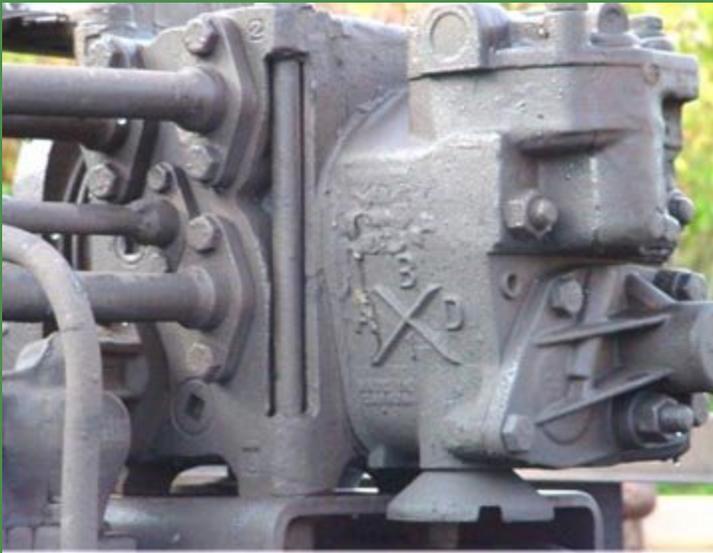


Freight & Locomotive Brake Training Publications

January 2018



1001 Air Brake Avenue, Wilmerding, PA 15148
Phone: 877-922-2627 Fax: 412-825-1117

Wabtec Air Brake Training

For many years Wabtec has produced training material for the rail industry in a format that was user friendly and informative. The publications in many cases are available in more than one language and in some cases are designed as a training package to train people at their own location. Our instructors use these training manuals, combined with work experience and product knowledge to provide training to the industry that is second to none.

Our training packages are usually set up with a workbook, booklet and Instructor Guide. The most requested course is the Single Car Test training package which includes an Instructor Guide, Student Workbook, Student Booklet and a CD. The booklets are available in English, Spanish and French. The Instructor Guide includes both written and practical tests and is designed for the instructor with previous knowledge and training to provide proper training on single car testing using the manual single car test device. The CD is designed to augment the training process. It has all of the information in the workbook/booklet in a step by step format using diagrams and pictures.

There are two types of manuals for single car testing. One for use with the manual tester and the other using the automated tester. The manuals reflect the changes to the S-486 Single Car Test procedure as defined by the AAR for June 1, 2013. At this time the French and Spanish workbooks are not available.

If you need your people certified to FRA or Transport Canada regulations we have provided certification training to companies like GATX, CN Rail, Florida East Coast Railroad, Union Pacific, Union Tank Car, TTX, Norfolk Southern, the FRA, Transport Canada, Trackmobile Inc. and Appalachian Railcar just to name a few.

There are complete Student Workbook for Freight Car or Locomotive Brakes. If you are an instructor and need to train your staff, we have an Instructor package to help. This includes the Instructor Guide, Student Workbook and Overheads or PowerPoint Presentations (CD). The CDs can be used by the instructor in place of overheads as part of the training package. We have provided these manuals for use worldwide by the railroad industry.

There is a description of the various training materials available and an order form in this catalog. Just fill in the order form and fax it to the number on the page. NOTE: There is a different Fax number for orders in Canada. Wherever possible Canadian orders will be shipped from our facility in Montreal rather than Pittsburgh.

We provide training seminars at our headquarters facility annually in the spring and fall in Wilmerding near Pittsburgh, Pennsylvania. These classes provide an opportunity to showcase the equipment we manufacture and it's operation first hand. Observing the equipment in operation provides better understanding for the people that work with the equipment on a daily basis. This ensures better testing, troubleshooting and proper repairs of the equipment. As a result more precise corrective actions are taken to correct failures saving time and money.

To attend one or more of these training sessions contact us at 1-877-922-2627, (412)-825-1453 or visit our website at www.wabtec.com under Corporate Information - Calendar.

We also do on-site training that can be tailored to meet your specific requirements. With over 40 years of industry experience, we will customize the training to meet your time and equipment standards on locomotive and/or freight car brake equipment.

For more information including instruction leaflets, installation instructions and parts descriptions, visit our website at www.wabtecglobalservices.com. Extra information and procedures can be found in the technical information section.

Wabtec Global Services provides Parts Catalogs, Instruction Pamphlets/Leaflets, Operation & Maintenance Manuals, Service Bulletins, etc. to help you keep current with the latest changes in rules and regulations.

NOTE: *For International customers, if you need publications with metric sizes please contact Mike Zenert at mzenert@wabtec.com.*

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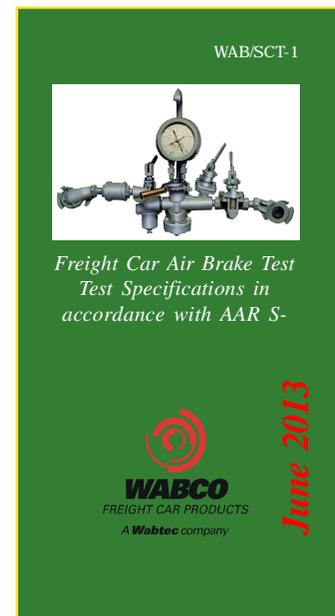
Single Car Testing per AAR S-486

The Wabtec training package provides instruction and direction on how to train and test personnel to meet Federal Regulation Administration Standard 232.203. The training package allows flexibility for each railroad to provide training based on the knowledge of their own employees.

NOTE: The test procedures used in these manuals are in accordance with the Association of American Railroads S-486 dated June 1, 2013. The AAR Single Car Test was revised on June 1 2013 provides until June 1, 2014 to become compliant. Each shop and or repair track must be aware of the changes to this specification.

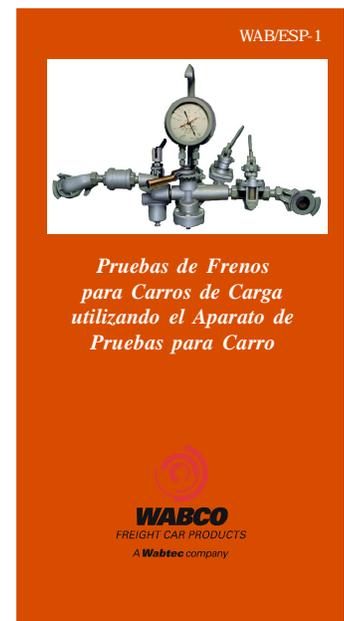
Single Car Test Booklet - SCTWAB1 -English - \$30. ea. USD

The booklet includes troubleshooting and diagrams of equipment that may be worked on by the average carman. The section on Empty/Load Brake equipment covers testing and adjusting of equipment manufactured by Wabtec Corporation and other suppliers. Diagrams identifying the various types of pistons and brake cylinders provide a visual quick reference. The piston travel chart at the back of the book helps verify proper set up.



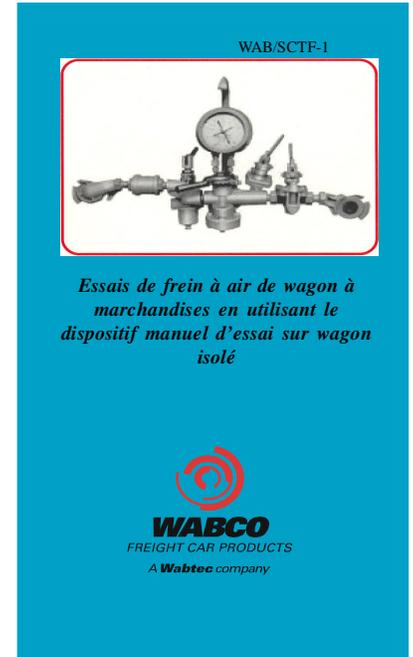
Single Car Test Booklet - SCTESP1 -Spanish - \$30. ea. USD

The booklet includes troubleshooting and diagrams of equipment that may be worked on by the average carman. The section on Empty/Load Brake equipment covers testing and adjusting of equipment manufactured by Wabtec Corporation and other suppliers. Diagrams identifying the various types of pistons and brake cylinders provide a visual quick reference. The piston travel chart at the back of the book helps verify proper set up. The booklets are available in English, Spanish and French.



Single Car Test Booklet - SCTFRE1 -French - \$30 each USD

The booklet includes troubleshooting and diagrams of equipment that may be worked on by the average carman. The section on Empty/Load Brake equipment covers testing and adjusting of equipment manufactured by Wabtec Corporation and other suppliers. Diagrams identifying the various types of pistons and brake cylinders provide a visual quick reference. The piston travel chart at the back of the book helps verify proper set up.



Single Car Test Workbook - SCTWAB2 - \$25 ea USD

The workbook is for classroom use. Designed for someone with little or no experience performing a Single Car Test. The background information and troubleshooting will guide the student through the test procedure. The workbook has all the same information as the Single Car Test Booklet and more. Review exercises throughout the book reinforce the procedures required to qualify the tests. **Available in English only.**

Single Car Test Instructor Guide -SCTWAB3 - \$160 ea. USD

The Instructor Guide has all the information necessary to properly train personnel in the use of a manual Single Car Test Device in accordance with AAR S-486. It mirrors the Single Car Test Booklet (SCT/WAB-2) and includes; suggested methods of teaching, background information, copies of current AAR Specifications pertaining to freight brake equipment, Wabtec Instruction Pamphlets, and various job aids. The written test and practical test in the Instructor Guide, are updated to match the June 1, 2013 changes to the S-486 test. **Available in English, French & Spanish**

Single Car Test CD - SCTCD - \$100 ea.USD

The CD has all the test procedures and information in the manuals in a CD format. With pictures of set up procedures, testing and adjusting of equipment, to extensive troubleshooting of the various types of brake equipment, this CD is a must for every shop. **Available in English, French & Spanish**

Automated Single Car Testing

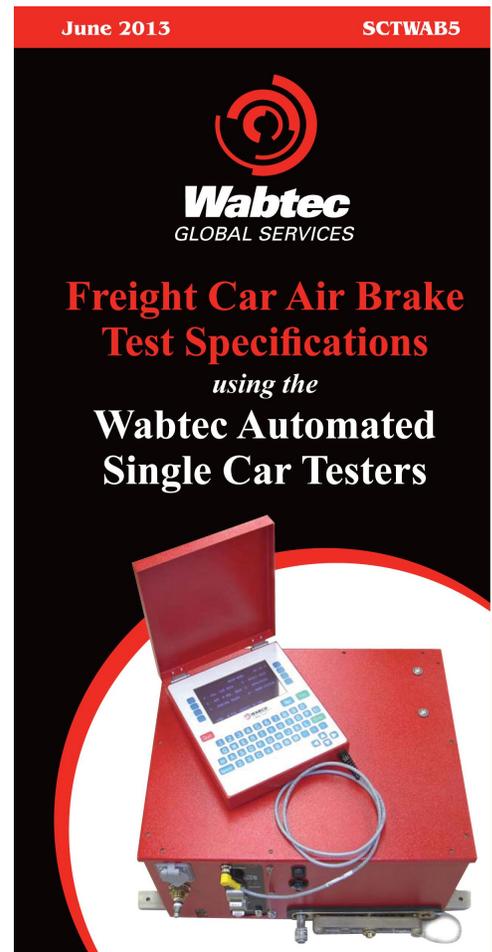
For many years Wabtec has been the leader in brake equipment and testing. Wabtec Automated testers have proven themselves day in and day out by providing state of the art testing of freight cars for over 10 years. To help the users of these testers we have a Single Car Test booklet similar to the manual single car test booklet. It has all of the information the manual test booklet has but it is designed specifically for use with Wabtec Automated testers including the new Gen III tester.

This manual will provide direction in testing and setting up equipment for testing cars using any version Wabtec Automated tester for freight equipment. The test procedures the automated testers follow are in accordance with the Association of American Railroads standards.

Single Car Test Booklet - SCTWAB5 - \$30.00 US ea.

The current effective date of the Association of American Railroads Single Car Test procedure S-486 is June 1, 2013. This booklet has information and tests that reflect the AAR S-486 document.

This booklet is specifically designed for use with our automated testers. The booklet includes troubleshooting and diagrams of equipment that may be worked on or tested by the average carman/car inspector. The section on Empty/Load Brake equipment covers testing and adjusting of equipment manufactured by Wabtec Corporation and other suppliers. The section on troubleshooting and error codes will help the operator diagnose problems with the car or the tester. The Job Aids/Reference section has notes and charts to help get the job done correctly. This includes pressure charts and the piston travel chart to help verify proper set up. The booklets at this time are only available in English. When ordering please specify the booklet you want is the Automated Single Car Test Booklet by using the correct code SCTWAB5.



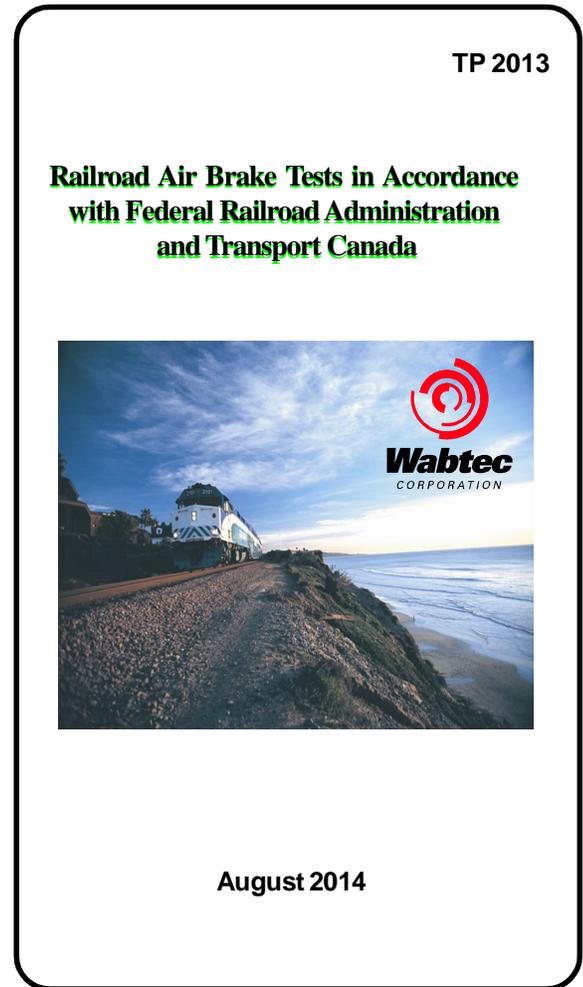
Terminal Brake Testing

TP2013 - Student Workbook - TP2013WK - \$18. ea. USD

This manual covers basic terminal brake tests performed in the USA and Canada. In the USA, the Federal Railroad Administration provides the standards for terminal train brake tests. In Canada, Transport Canada provides the standards for terminal brake tests. The book was updated to reflect the changes brought about in FRA and Transport Canada Regulations. This book shows a common sense approach to performing a terminal air brake test with the use of a locomotive and a yard test device and includes the use of an End -Of-Train (EOT) unit. With diagrams and pictures, the student will gain a better understanding of the requirements for terminal testing. To ensure accuracy, the manual includes various FRA Part 49, and Transport Canada Regulations.

TP2013 Booklet -TP2013bklt - \$30. ea. USD

The booklet fits in your pocket as a quick reference for terminal brake testing. With FRA and Transport Canada regulations the carman/car inspector has the rules at his/her fingertips.



TP2013 - Instructor Guide - TP2013IG - \$35 ea. USD

The Instructor Guide is designed to mirror the Student Workbook. The Instructor Guide will help an instructor set up and deliver a training session on the proper air test procedures as required by the FRA and/or Transport Canada. There is a written test in this manual for the instructor to test the understanding of the students. The instructor guide has a “Notes” column on each page with information for the instructor such as when to apply the overhead slides and background information on certain equipment.

TP2013 - PowerPoint CD - TP2013CD - \$65. ea USD

For each diagram and main text points in the student workbook there is a slide. These can be used with the Instructor Guide to provide detailed information on the test procedures required by the governing bodies..

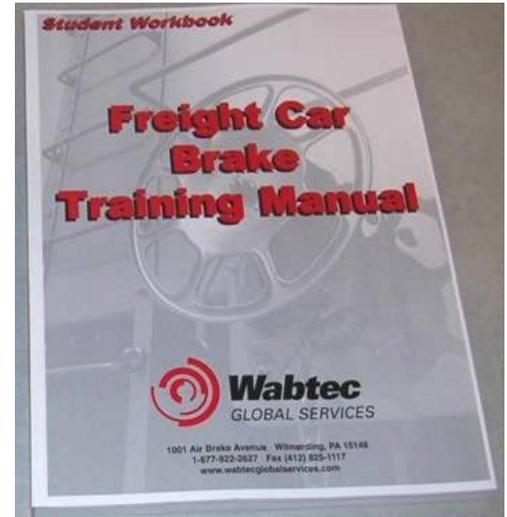
Training Packages

Freight Car Brake Training Package - FRTTX001 - \$125. ea. USD

A comprehensive package of the most desirable freight workbooks have been put together into one bound edition titled the Freight Car Brake Training manual. This is the same training manual used for classroom training in Wilmerding, PA. The following pages in this catalog document the information in each of the workbooks. Each of the workbooks are also available for separate purchase.

The Freight Car Brake Training Manual includes the following manuals:

- TP 2001FRT Train Brake History(\$20 individual price)
- TP 2002 Train Brakes II (\$24 individual price)
- TP 2003 Single Capacity Brakes(\$22 individual price)
- TP 2004 Empty/Load Braking(\$22 individual price)
- WAB/SCT-2 - SCT Workbook(\$25 individual price)



NOTE: Ordering the Freight Car Brake Training package will include the following manuals at no extra charge:

WAB/SCT-1 - SCT Booklet	\$30.00
Binding	\$7.00

Individual purchase of all these workbooks and booklets would be \$146.00. Purchased as a package we reduced the cost to \$125.00. The bound version of the Student text is available in English only. **Note:** Certain Spanish or French manuals may be substituted on request per availability.

Freight Car Brake Instructor Guide - FRTIG001 - \$265. ea USD

If you wish to train your own people using our training manuals we have packaged all of the instructor guides for the book together. Order the Instructor Guide package for Freight Car Training as shown below and you will receive the following:

TP 2001FRT Train Brake History Instructor Guide	(\$55 individual price)
TP 2002 Train Brakes II Instructor Guide	(\$55 individual price)
TP 2003 Single Capacity Brakes Instructor Guide	(\$55 individual price)
TP 2004 Empty/Load Braking Instructor Guide	(\$60 individual price)
WAB/SCT-3 - SCT Instructor Guide	(\$60 individual price)

Note: Each of the Instructor guides are packaged individually. Total individual ordering price is \$285. Ordering as a package is \$265, a saving of \$20.

Freight Car Brake CD Package - FRTCD001 - \$380. ea USD

Each of the CDs can also be purchased separately or together as a package.

TP 2001FRT Train Brake History PowerPoint CD	(\$75 individual price)
TP 2002 Train Brakes II PowerPoint CD	(\$90 individual price)
TP 2003 Single Capacity Brakes PowerPoint CD	(\$75 individual price)
TP 2004 Empty/Load Braking PowerPoint CD	(\$75 individual price)
WAB/SCT-3 - SCT PowerPoint CD	(\$100 individual price)

Total price for the CD package is \$415. Package discount is \$380.

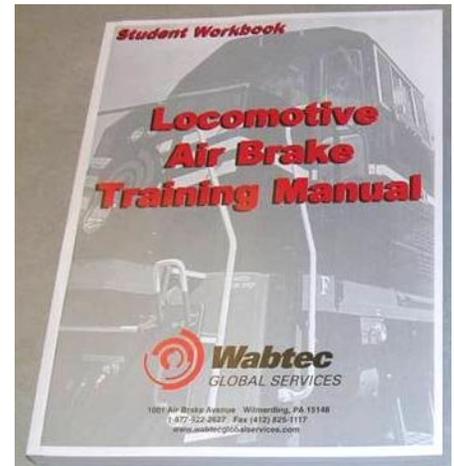
Locomotive Air Brake Training Manual - LOCOTXT001 - \$125 ea. USD

A comprehensive package of the most desirable Locomotive workbooks have been put together into one bound edition titled the Locomotive Air Brake Training Manual. This training manual is the one used for training in Wilmerding, PA. It comes in a white binder with separators between the workbooks for easy access.

Locomotive Training Manual includes the following manuals:

TP 2001LOCO Locomotive Brake History	(\$20 individual price)
TP 2007 The Locomotive Air Brake System	(\$22 individual price)
TP 2010 Locomotive Air Brake Operation I	(\$17 individual price)
TP 2011 Locomotive Air Brake Operation II	(\$30 individual price)
TP 2012 Locomotive Air Brake Operation III	(\$35 individual price)

Purchasing the Locomotive Training Manual as a package we will cover the cost of binding (\$5.00) with a final discounted price of \$125. Purchased individually would cost \$129.00. The complete package will also include Wabtec Publication 5071-8, 26-L Locomotive Air Brake Equipment and Devices.



Locomotive Brake Instructor Guide - LOCOIG001 - \$270 ea. USD

If you wish to train your own people using our training manuals we have packaged all of the instructor guides for the book together. Order the Instructor Guide package for Locomotive Brake Training as shown below and you will receive the following:

TP 2001LOCO Locomotive Brake History Instructor Guide	(\$55 individual price)
TP 2007 The Locomotive Air Brake System Instructor Guide	(\$60 individual price)
TP 2010 Locomotive Air Brake Operation I Instructor Guide	(\$45 individual price)
TP 2011 Locomotive Air Brake Operation II Instructor Guide	(\$60 individual price)
TP 2012 Locomotive Air Brake Operation III Instructor Guide	(\$55 individual price)

Note: Each of the Instructor guides are packaged individually. Total individual ordering price is \$275. Ordering as a package is a discounted rate to \$270.

Locomotive Air Brake CD Package - LOCOCD001 - \$380 ea. USD

Each of the CDs can also be purchased separately or together as a package.

TP 2001LOCO Locomotive Brake History PowerPoint CD	(\$75 individual price)
TP 2007 The Locomotive Air Brake System PowerPoint CD	(\$75 individual price)
TP 2010 Locomotive Air Brake Operation I PowerPoint CD	(\$75 individual price)
TP 2011 Locomotive Air Brake Operation II PowerPoint CD	(\$85 individual price)
TP 2012 Locomotive Air Brake Operation III PowerPoint CD	(\$85 individual price)

Total price for the CD package is \$395. Package discount is \$380.

On-Site Training

We provide on-site training on Basic Brakes, Single Car Testing Certification and Locomotive Air Brakes. Using the manuals in this publication we will come to your location and deliver a training class to meet your needs. A price quote for training on site may be obtained by emailing mzenert@wabtec.com.

Single Car Testing Certification

Class size is generally restricted to 8 people. It takes about two days to certify 8 people or 1 1/2 days for 4 people. It is recommended that supervisors attend the training class as well to be in compliance with FRA regulation 232.

Course overview:

Day 1: Classroom first 2 hours - basic brakes, application of brake cylinder measurement taps, empty/load equipment, daily test & AAR Rule 3 Chart A. (Need overhead projector for this part). Hands on training on railcar, go through daily test and single car test, adjustment and testing empty load - 3 hours. Lunch. Back to classroom, go over exercises in manual and do written test, approximately 2 hours.

Day 2: Hands-on testing of all students having passed the written exam. Approximately 1-1/2 hours per student.

Locomotive Training

The two day training session on Locomotive Brakes covers the following:

1. Train Operation- Focus on how locomotive brakes work in relation to the overall train. This also includes the basic operation of freight cars.
2. Basic Brakes - Identification and function of the major components that make up a typical locomotive brake system.
3. Internal Operation of the main components making up the brake system. This helps in understanding why it works the way it does.
4. How to read an air brake drawing - Using block diagrams and colored air flow to understand what valves are operational on a given brake function.
5. Piping Operation - Following the air flow through the equipment using piping diagrams.
6. Troubleshooting - By covering all the information noted above, the troubleshooting should be part of the overall understanding by recognizing the component and function.

Each Student will be provided with a copy of the Wabtec Locomotive Air Brake Training Workbook, Wabco 26L Locomotive Air Brake Equipment 5071-6, Introduction to Fastbrake and various air brake charts and diagrams.

For more information please contact Mike Zenert at mzenert@wabtec.com or call 412-825-1453. Included in this catalog is a blank form that may be filled in and faxed to our office as a request for training.

Wilmerding Training

Annual training classes are held at our facility in Wilmerding, PA in the spring and fall. Separate courses cover Locomotive and Freight Car Air Brakes. The classes are 3 1/2 days long and provide more in-depth training for people wanting a better understanding or are wanting more knowledge of train brake equipment. . **Each class in Wilmerding starts at 8:30 am and runs until 3:45 pm Tuesday through Thursday. Friday's class will start at 8:30am but will end in the morning to allow for travel. Personal protective equipment needed for the class is safety approved footwear.**

A. Wilmerding Class Schedule 2018

Freight Class Dates:	Locomotive Class Dates:
March 13 - 16	April 10 - 13
April 24 - 27	May 1 - 4
September 25 - 28	October 16 - 19
October 23 - 26	November 13 - 16

B. Class Outline

Freight Air Brake Class:

The freight car air brake training is designed around the Single Car Test Procedure per AAR S-486. We start at basic brakes defining the reason for brakes and testing. From there we cover history of air brakes and the various components that make up a typical freight car. This includes single capacity and empty/load equipment. Once the student understands the makeup of the brake system, we cover train brakes and terminal brake testing. Thursday is spent on Single Car Testing. We define the proper test procedure and the end of the day will be spent on the written exam. Friday is spent with the automated test devices and the test procedures.

We will take time to try various applications and simulations with the 150 car air brake rack . Thursday we will take time for a tour of our facility.

Note, we cannot provide the practical testing at our Wilmerding Facility. This is the third requirement to be certified to perform air tests per FRA Part 49, 232.203. We do not have a railcar available on site. For those that need to be certified alternate arrangements can be made for on-site training. Please contact Mike Zenert at mzenert@wabtec.com.

Locomotive Air Brake Class:

This class is designed for a locomotive mechanic/machinist but it is adaptable to anyone working on locomotive brake equipment. We cover basic locomotive brakes, the history of air brakes and key in on the 26 type brake equipment. In this class you will learn how to read an air brake diagrams, what the various components do and how they work together. By understanding the components the student is better equipped to troubleshoot the 26L or 30ACDW brake equipment. Classes have gone through a transformation to include the operation of electronic brakes with freight pneumatic operation. With more electronic equipped locomotives, Friday mornings are devoted specifically to EPIC and Fastbrake equipment operation.

Locomotive EPIC/Fastbrake Class:

These classes are set up ONLY in response to specific customer request. The class will be tailored to the customer needs in a generic class covering EPIC 3102 or II or Fastbrake or all types of Locomotive brake equipment. It is recommended the students attend the locomotive air brake class as a prerequisite. In this class we cover basics of locomotive brakes and how the electronic brakes have evolved. The various components that make up each of these systems and how to test, calibrate, maintain and troubleshoot of each of the systems.

C. Class Information

Our Address:

Wabtec
1001 Air Brake Avenue
Wilmerding, PA 15148
412-825-1000

Directions:

From the Airport: Drive into Pittsburgh on the Parkway #60 which becomes #376. Follow the road toward downtown. Proceed through the Fort Pitt tunnel and swing right as you cross the river heading toward Monroeville. Proceed approximately 4 miles through the Squirrel Hill Tunnel to the exit of Route 30. Swing right and follow Route 30 to #148 north. (Note the Get Go Gas station on the right.) Turn left and follow the road down the hill. Wabtec will be on your left as you cross the bridge. Turn right at the end of the bridge and loop under to the second stop sign. Turn left, over the Turtle Creek bridge to the red brick building. Wabtec.

Payment:

*To attend any of the classes the cost is **\$1200/student**. Payment can be made through Dan Cranston or Kalea Dozier. Contact Michael Zenert for registration at 412-825-1453 or email mzenert@wabtec.com. Payment can be made to kdozier@wabtec.com.*

Meals:

We will provide coffee, drinks and snacks as well as lunch during the class. All other meals are the responsibility of the student. There are many restaurants in Monroeville including TGI Fridays, Outback Steak House, Red Lobster, Primanti Bros, DeNunzio's, Olive Garden, Patron and Max & Ermas. Monroeville also has all the typical fast food restaurants.

Lodging:

Hotel reservations and bill payment is the responsibility of the student or their company. While Wabtec has agreements with several hotels for special rates, we do not cover this in the class tuition. Here are some of the hotels in the Monroeville area. Monroeville is the closest large metropolitan area to Wilmerding.

Holiday Inn

*2750 Mossie Blvd.
Monroeville, PA 15146
412-372-1022*

Hampton Inn

*3000 Mossie Boulevard,
Monroeville, PA 15146
412-372-1439*

DoubleTree Hotel

*101 Mall Boulevard,
Monroeville, PA
412-373-7300*

Marriott Courtyard Hotel

*3962 William Penn Highway
Monroeville, PA
412-856-8680*

Attention:

Mike Zenert
Manager Field Services & Training
Wabtec Global Services

Request for Training

Company: _____

Contact Person: _____

email: _____

Phone No: _____

Address: _____

Wabtec Representative: _____

City: _____

State: _____

Country: _____ Zip/Postal Code: _____

Type of Training Required: _____

Number of Employees requiring training: _____

Is the training to be done at this location or other? _____

If other please specify: _____

How soon is the training required? _____ ASAP _____ within 1 month
_____ within 3 months _____ not pressing.

Please fax this information to Wabtec Global Services at 412-825-1117 or email the information directly to mzenert@wabtec.com .