

# FORT WAYNE RAILROAD HISTORICAL SOCIETY INC.

SERVICE CREW TRAINING MANUAL  
3/14

## **FWRHS CREW TRAINING SESSION**

### **OPENING STATEMENT**

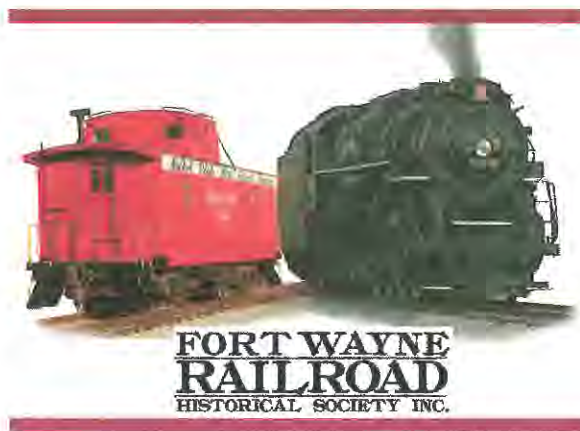
Thank you for your interest and taking your time to attend this training session. Much time has been put into setting this up with concern for your safety and education towards the care and operation and restoration of a historic railroad equipment.

As a rule of good management, it should always be stressed that an individuals' involvement with the crew and operations of 765 and other historic railroad equipment is contingent upon their strict adherence to the practices set forth in this training. Each of us contributes our time to be properly managed by the Board, CMO and Crew Chief, etc. These practices must be approached with a serious attitude of compliance so the plans of the organization can be carried out.

We must stress that we want to work on the locomotive while in the shop - and we want to run, inspect and maintain the locomotive while it is away from the shop. We do not want to be repairing the locomotive when we have a very busy schedule to keep. The contribution of each crew member to adhere to these practices will help insure trouble free running. Any attitude that someone does not have to adhere to these practices will cause trouble within the crew and eventually with the engine.

A crew member with this attitude cannot be involved with our operations. A crew member willfully violating these practices must be removed from involvement with our operations.

If you are unsure of something, ask someone who knows. Be willing to learn, and always take the safest course in everything you do.



*This training course contains safety and operating information for our volunteer crew. The information is a combination of Society and Norfolk Southern safety rules and practices. The course has one lesson which you may review several times. When you feel that you're ready, take the quiz. Thanks for your participation in the Society's activities.*

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## 2013 OPERATIONS

### PERSONAL PROTECTIVE EQUIPMENT

The following personal protective equipment is required by Society or Norfolk Southern safety rules:

- **Hard hat**
  - *Required when performing servicing or maintenance work*
- **Safety glasses**
  - *Required at all times except inside passenger cars or crew sleeper*
- **Hearing protection**
  - *Required when shooting the rods or in the 765's cab during operation*
- **Safety toed footwear**
  - *Required at all times except inside passenger cars or crew sleeper*
- **Gloves**
  - *Leather or cotton. Synthetic blends can melt when heated.*
- **High-visibility safety vest**
  - *Required by Norfolk Southern whenever you are on the ground*

Safety glasses and hearing protection are available in the tool car. Safety vest will be issued and it's your responsibility to keep track of your vest. The vest must be worn as the top layer — don't cover it with a jacket or other item of clothing. Volunteers are responsible for providing other safety equipment.

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### JOB BRIEFING



Before any task is begun a job briefing should be held to ensure that all members of the work group have the same understanding of the following information:

- What work is to be performed
- Where it is to take place
- How the work will be performed
- Who is involved
- Who is in charge
- What other groups/work may be affected
- What other groups may need to be notified



*If the scope of work changes, or there is additional information, a follow up briefing should take place.*

## GETTING ON AND OFF EQUIPMENT

When getting on or off equipment always maintain three points of contact. You cannot carry tools or other items while you're climbing. Use side ladders, sill steps, grab irons, etc. when getting on or off, or up and down and face the equipment. Be especially careful to:

**Three Points of Contact:**  
*have both hands and one foot, or both feet and one hand in contact with the equipment.*

- Get on or off on the side away from main track when conditions permit
- Check for trains or moving equipment on adjacent tracks
- Check for adequate footing before stepping off equipment. Do not release your grip on handholds until you've testing the footing – ballast gravel at an angle can be slippery
- Engine rooms, cabs, walkways, steps, grab irons and other safety appliances must not be obstructed by material, supplies or tools and must be kept free from oil, grease, dirt, rags, etc.

*Getting on or off moving equipment is prohibited.*

## MOUNTING OR DISMOUNTING LOCOMOTIVES

**NS Safety Rule 1072.** Mounting or dismounting locomotives with travel bags, grips, coolers or similar items is permissible only when it can be done safely. If more than one crew member is available, the Buddy System must be used when necessary to safely load or unload the items.

### Buddy System

1. Prior to mounting or dismounting, crew members must discuss how to safely load or unload the items. Consideration must be given to the size and weight of the items,



weather conditions, position of each employee and any other condition that would restrict the safe loading or unloading of the items.

2. Each item must be handed to a co-worker with 1 person located on the platform and the other person located on the ground. Each item received must be placed in a location where it will not present a safety or tripping hazard.

*Any item that cannot be safely handled or properly stored because of size, shape or weight are prohibited.*

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## **RULE G**

Rule G has been around for nearly as long as there have been railroads. The use of alcohol or drugs has long been recognized as detrimental to the operation of a railroad effecting the safety of employees and the general public. The Society's board of directors has adopted the following policy:

*The use of intoxicants or narcotics by any member of the Society while that member is engaged in Society activities will not be tolerated. This applies when both officially on duty and when off duty but still engaged in Society activities.*

When off duty, conspicuous consumption of alcohol or narcotics which may be observed by the general public can be very damaging to the Society's reputation and will not be tolerated. Violation of this policy will be referred to the Disciplinary Committee for review.

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## **PERSONAL CONDUCT**

**NS Rule GCR-1:** Employees(Volunteers) are to conduct themselves in a professional manner and not engage in behavior or display material the would be considered offensive or inappropriate by co-workers, customers, or the public. Offensive or inappropriate behavior includes making disparaging remarks, telling jokes or using slurs concerning race, religion, color or national origin, gender, age, veteran status, sexual orientation, disability or any other legally protected status.

Offensive or inappropriate material includes that which is sexually explicit or insulting to individuals because of race, religion, color, national origin, gender, age, veteran status, sexual orientation, disability or any other legally protected status. Upon discovery, offensive or inappropriate material must be removed immediately from Company property by its owner, or if the owner is unknown or fails to remove it, must be destroyed.

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## **TRACK SAFETY**

- Always look in both directions before stepping on or getting close to any track.
- Crossing tracks in front of moving trains, locomotives, cars, roadway equipment or motor cars is prohibited.
- Never walk in the gauge (between the rails) of any track. Always walk to the side.



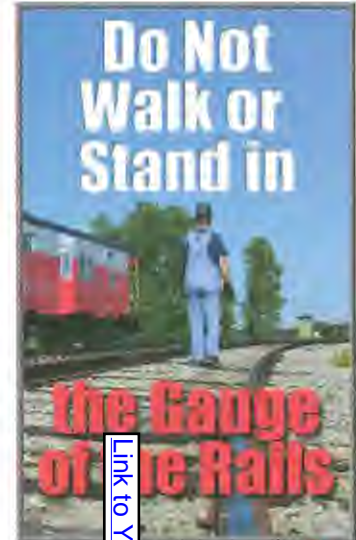
- Expect a train on *any track at any time*. Approaching trains may not make enough noise to be heard and noticed.
- Stepping or walking on rail, frog, switch, signal apparatus, retarder or loose wheel or dragging equipment detector is prohibited.
- Keep hands and feet clear of the movable parts of switches and derails.



*Do not cross tracks closer than 10 feet from the end of standing equipment. This avoids injury if the equipment should move. Exception: equipment that is secured against movement (handbrake or chain) and has blue flag protection applied.*

*against movement (handbrake or chain) and has blue flag*

*protection applied.*



Link to YouTube Blue Signal Protection video: [http://youtu.be/LU1vokW\\_s18](http://youtu.be/LU1vokW_s18)

## BLUE FLAG

Blue flag protection is required whenever workers are going to be on, under or around equipment. This protection consists of two parts:

- Track protection
- Locomotive control protection

When we operate on Norfolk Southern, their employees will provide track protection. In most cases the car department will place blue flags on the track and lock any switches that provide access to the track that we're on. The blue flags will be placed near those switches so they won't necessarily be visible from the 765's location. Once we've been notified that the protection is in place, work can begin after:

- The throttle has been locked with the blue lock
- The locking device is slid over the reverse lever

These two devices alert the engineer that the locomotive cannot be moved. Generally this protection remains in place until shortly before the locomotive is moved and the crew chief or his designate has verified that work is complete and everyone is clear.



## SECURING EQUIPMENT

Before beginning work, rail equipment must be secured against movement. Common practice on Norfolk Southern is to set 100% of the hand brakes on the train. However, in addition to this measure, the 765 must be restrained from movement. Since it does not have a hand brake we use a chain around one of the drive wheels. When placing or removing this chain do not use your hand to place it up against the wheel. This could result in serious injury if the locomotive were to move, even a small amount. Grasp the chain and fling it across the top of the rail and up against the wheel.



## PERSONAL ELECTRONIC DEVICES

Personal electronic devices, including earpieces, must be **turned off and stored (not on your person)** in the following situations:



- By all **Train and Engine service** personnel:
  - *When the train is moving*
  - *When the train is stopped and any crew member is on the ground or on rail equipment or assisting with servicing or repairs*
- By **anyone servicing or repairing** the locomotive or any car on the train
- By anyone **within 4 feet** of the nearest rail.

Train and Engine Service personnel are prohibited from using a personal electronic device for any function **other than voice communication** while on duty. No individual in the cab of a controlling locomotive may use a personal electronic device unless such usage will not interfere with any crew member's performance of safety related duties.

### Exceptions — You may use:

- *A personal electronic device to respond to an emergency involving the operation of the railroad or encountered while performing duty for the railroad*
- *A medical device consistent with the railroad's standards for fitness for duty*
- *A digital watch whose only purpose is as a timepiece*

Personal electronic devices include, but are not limited to:

- Cell phones
- Smart phones
- Lap top computers
- Tablet computers
- Electronic books such as Kindle
- Portable music devices

You may use a portable electronic device:

- While riding the train and not performing any duties
- While off the train, not performing any duties and not within 4 feet of the nearest rail — that's the minimum but further away would be better. Keep in mind that you must remain focused on your surroundings while in a rail yard. Remember, ***expect a train at any time on any track in any direction.***

***If you're in doubt about whether an electronic device can be used, the best course of action is not to use it. The safest place to use it is if you're off duty and riding the train. Trying to capture a "You Tube" moment while part of the crew isn't going to impress the railroad officials.***

# Worker Protection

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## Introduction

Federal regulations specify requirements for the protection of personnel engaged in the inspection, repair and servicing of rail equipment. Every railroad that we operate on has the same Blue Signal requirements. Railroaders typically refer to it as "Blue Flagging" and it's an important step to take before work begins. In many ways our interest in railroad preservation leads us to emulate railroading practices. One practice that all railroads stress daily is operating with a safety state of mind.

## When is it used?

Blue Flag protection must be provided for personnel who are engaged in the inspection, repair and servicing of equipment when they are on, under or between such equipment. The purpose of the protection is to prevent personal injury caused by the movement of the equipment.

## How does it protect personnel?

Blue flag protection provides protection by offering a visual warning and also by blocking access to the track that the equipment is sitting on.

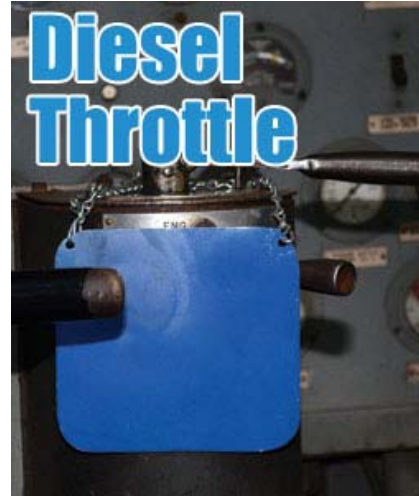
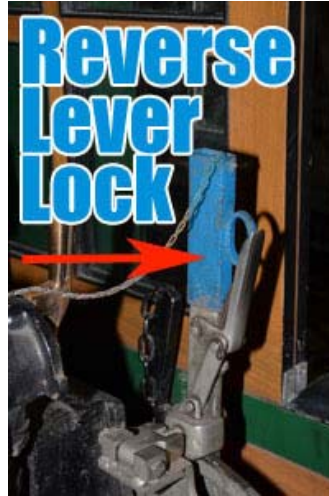
## What devices are used?

The following devices are used to provide protection:

- **Blue flags** – applied at the entrance(s) to the track occupied by the equipment
- **Blue lights** – used at night with the blue flags
- **Switch locks** – switches must be lined to prevent movement onto the protected track and locked. The lock used must be different from the one normally used by the railroad for which their crews have keys. The Society's locks fit this purpose as well as locks used by the railroad's car department. In either case the railroad's operating crews will not be able to open the lock.
- **Locomotive control warning devices** – these come in different forms and convey the message to the engineer that the locomotive must not be moved.







### **What steps are followed?**

We must wait until the railroad has advised us that there will be no further movement of the 765 or its train. Once that determination is reached, blue flag protection may be applied. In most cases the railroad carmen will take care of lining and locking the switches and applying blue flags. If they do not then we can perform that function. The next step is to blue flag the locomotive controls. Finally, a job briefing should be held to advise all crew members that the blue flag protection is in place and that work can commence.

Blue flag protection should only be removed under the direction of the person who is supervising the mechanical work. That person must confirm that all workers are clear before blue flag protection is dropped.

### **Additional protection**

Tracks that contain occupied cars, such as a crew sleeper, must also be protected by camp car signs and also a white light at night. This is in addition to the blue flag and blue light. The Society carries two sets of a combination blue flag/camp car sign with lights that can be used for this purpose. Each set of signs also has a Society lock that can be used to lock switches.

### **Main line**

When we stop on a main track, such as an enroute service stop, we do not have to place blue flags on the track because track occupancy is dispatcher controlled and they will prevent other trains from entering the area.



However, the locomotive controls must be blue flagged. The person in charge of servicing must confirm that protection is in place before work begins and will authorize the removal of all blue flag items once all work is completed and everyone is clear.

### **Other controls . . . Tagout Personnel Protection**

Blue flag protection prevents the train from being moved, but doesn't prevent other controls, such as appliances, from being operated. For example, the engineer could operate the brakes, or the fireman could operate the stoker. In situations where someone will be working on a particular system a **DANGER** Tag should be applied to the control switch, handle or valve to prevent operation of the equipment. In some cases more than one Danger Tag maybe be required to provide adequate protection. Some examples of systems on the locomotive where **DANGER** tagout should be used are as follows:

- Applied to the stoker steam valve when the stoker gear case in the tender is being serviced or the front universal joint fitting is being lubricated with soft grease
- Applied to the brake valve when work is being performed on any part of the brake system
- Applied to the start switch when the tool car generator is being worked on
- Applied to the injector steam and water source valves and possibly the boiler check valve depending on the scope of work to be performed

The tagout system is not limited to appliances on the locomotive or tool car. It can and should be used on any system where operation could cause serious injury or death to the person working on the equipment. This includes passenger car equipment such as electrical and air conditioning as well as shop systems such as the electrical and compressed air systems.

Before applying the tag print your name (with initials in cursive) and date on the front in pen or fine tip marker. Print your cell phone number on the backside of the tag along with any additional notes. Hang the tag on the equipment using either the included string or a tie wrap.





The work crew should be advised that protection has been put in place and it is safe to proceed with the work. The workers should also be advised as to the extent of the applied protection ie what device(s) have been tagged.

Once a DANGER tag has been hung on a valve, switch or other device that switch, valve or other device **SHALL NOT BE OPERATED** under any circumstances.

Once the DANGER tag has been applied you are the **ONLY** person who can remove it. If, for some reason you are not available to remove your tag(s) your supervisor or a FWRHS Manager is authorized to remove the tag but only after contacting you to verify the job has been completed and inspecting the work area to verify all workers are clear of the equipment. Workers should be advised that protection has been removed and that it is no longer safe to work on the equipment unless new protection is applied. If it is necessary to test the system before returning it to normal service all DANGER tags must be removed and then re-installed if additional work is required.

**When a Danger Tag is displayed that switch, valve or other device *SHALL NOT BE OPERATED* under any circumstances. You are the **ONLY** person who can remove it.**

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***Keep in mind that Blue Flag protection may be needed in addition to the DANGER tag. This requirement should be noted on the back side of the DANGER tag.***

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### **Key points:**

- Ensure you know all the hazards associated with the equipment prior to doing any work on it.
- Adequate protection must be applied before work can begin
- Utilize sufficient DANGER tags to mitigate all hazards
- Properly fill out the front and back of the Danger tags and apply them as required
- Notify the work crew of the extent of applied protection and advise that is safe to begin work.
- When work is completed, advise the work crew that protection is to be removed and that no further work is to be performed. Crew must stand down.

- Remove **DANGER** tag(s) and advise operating crew that the system has been returned for normal service
- Destroy the **DANGER** tag(s)

The tagout system works only when everyone strictly abides with the procedure and this strict adherence must be enforced. The following actions will result in removal from the crew pending disciplinary action:

- Operating a device upon which a **DANGER –DO NOT OPERATE** tag is attached
- Removing, without proper authorization, a **DANGER –DO NOT OPERATE** tag which was applied by another person.

IF you see a system with a **DANGER – DO NOT OPERATE** tag applied, **DO NOT OPERATE** that device. No exceptions, **DO NOT OPERATE** period. You and your fellow crew member's health, welfare and life depend upon strictly adhering to the rules and procedures associated with the tagout system.