

Alaska Railroad Corporation

***BLUE SIGNAL PROTECTION
PROCEDURE***

**Locomotive and Car
Department**

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ARRC - BLUE SIGNAL PROTECTION PROCEDURE

Introduction

Federal regulation 49 CFR Part 218, Blue Signal Protection of Workers sets forth the minimum requirements for use of blue signal protection. The Alaska Railroad Corporation (ARRC) has developed this procedure to achieve compliance with the regulation and to offer a high level of protection for those covered by blue signal protection.

Mechanical Department personnel and others covered by this procedure are expected to have a thorough working knowledge of the ARRC - Blue Signal Protection Procedure and federal blue signal regulation. All personnel covered by blue signal protection, including supervisors, are expected to fully comply with these procedures.

Blue signal protection is designed to protect workers who are engaged in inspecting, testing, repairing, and servicing rolling equipment. Workers, including contractors that are part of the work group, who are working on rolling equipment, locomotives, locomotive cranes, and other on-track equipment are authorized to display and use blue signal protection. The proper application of blue signal protection:

- ❑ Protects workers against unexpected movement of equipment.
- ❑ Prevents coupling into equipment when workers are present.

When a car department worker provides support for a locomotive service track area, he/she is responsible to abide by the blue signal procedure as outlined for the locomotive department. When a locomotive department worker provides support for a car repair service area he/she must abide by the blue flag procedure for the car department.

Definitions

The following definitions specifically apply to blue signal protection as identified in this procedure.

Blue signal means a clearly distinguishable blue flag or blue light by day and a blue light at night. A blue light may be displayed as a steady or flashing light. When a blue signal is attached to the operating controls of a locomotive, it does not need to be lighted if the locomotive cab is sufficiently lighted to make the blue signal clearly distinguishable.

Blue flag staffs include one blue flag attached to a ridged post. When applying a blue signal to a locomotive on a service track, a blue flag staff will be attached to the engineer's side of the lead locomotive. The flag must be clearly visible when looking down the side of the locomotive from either the front or rear of the locomotive. Only one blue flag staff may be applied to a locomotive.

Common authority is a process that allows personnel from a different department to join a work group, if authorized to do so by the employee in charge of the work group (supervisor or work group leader). The employee in charge is responsible to notify all affected personnel in the work group know that another person has joined the work group. When working under a common authority, blue signal protection may only be installed / removed after all affected employees are notified that protection is going to be removed and they are in the clear.

Car repair service area means one or more tracks within an area in which testing, servicing, repair, inspection, or rebuilding of railroad rolling equipment is under the exclusive control of Mechanical Department personnel.

Derails are a track safety device designed to guide a locomotive or car off the rails at a selected spot. Derails provide protection against collisions and other accidents.

Effective locking device includes specially designated locks, which meet FRA requirements, that only designated people trained in Blue Signal Protection have keys for and are under the exclusive control of the class, craft or group of employees for whom the protection is being provided. These locks are used to secure switches that could provide access to a blue signaled track and to secure derails to protect employees on the blue signaled track. Personnel who are not designated and trained in Blue Signal Protection, including hostlers, are not permitted to have keys, nor remove blue signal protection.

Group of workers means two or more workers of the same or different crafts assigned to work together as a unit under a common authority and who are in communication with each other while the work is being done.

Locomotive servicing area includes one or more tracks within an area where engine testing, servicing, repairing, inspection, or rebuilding is controlled exclusively by Mechanical Department personnel.

Main track is a track extending through yards and between stations that must not be occupied without authority or protection.

Marker is a reflector, flag, or highly visible marking device, in a red-orange-amber color, attached to the rear of a train to indicate the train is complete.

Notified means that the worker is contacted through an adequate communication to alert the workers.

Personal blue tags include the name and craft of the person responsible for the tag. The tags are metal, blue in color, and may only be used at switches and derails.

Photo blue tags include the name, craft, and photo of the person responsible for the tag. Affected personnel will be issued two photo blue tags. Photo blue tags, or supervisor issued numbered blue tags are the only acceptable blue tag to apply to locomotives.

Rolling equipment includes locomotives, railroad cars, and one or more locomotives coupled to one or more cars. For the purposes of this procedure, rolling equipment also includes locomotive cranes, spreader #9, and power cars P-31 & P-32.

Switch providing access means a switch that if traversed by rolling equipment, could permit that rolling equipment to couple to the equipment being protected.

Worker means any railroad employee assigned to inspect, test, repair, or service railroad rolling equipment, or their components, including brake systems. Mechanical Department supervisory personnel are considered to be workers for the purpose of this procedure. Members of train and yard crews are not considered to be workers, except when engaged in the inspection, testing, repair, and servicing of rolling equipment that is not part of the train or yard movement that they have been called to operate.

Photo Blue Tags, Temporary Blue Tags and Derailments

Workers will be issued two photo blue tags. Photo blue tags are the only acceptable tags to apply blue signal protection to a locomotive. When a blue tag is applied to the blue flag staff on a locomotive in a shop, the entire track is considered to be under blue signal protection. In a shop, workers are to apply one of their photo blue tags to a locomotive blue flag staff on the track they are working on. If they are called to an adjacent track, it is permissible to apply their remaining photo blue tag to a locomotive blue flag staff on that track. If the worker is called to perform work outside the confined of the shop, the worker must remove their photo blue tag(s).

Supervisors will also maintain a supply of temporary blue tags that can be assigned to visitors, contractors, or other individuals who have not been issued photo blue tags. The temporary blue tags will be numbered and a log will be maintained to record specifics about the worker it was issued to. These temporary blue tags will be considered the equivalent of a photo blue tag.

All affected workers at derailment will work under the common authority of the Employee in Charge (EIC).

Blue Signal Protection for Locomotive Service Area

Locomotive shops on the ARRC system follow the blue signal requirements as outlined in 49 CFR Part 218. The locomotive shops take advantage of the “Alternate Methods of Protection” as specified in CFR Part 218.29. (See also “Main Track and Other than Main Track” section).

In locomotive service areas, the derails, switches, and blue signals are under the exclusive control of supervisors and locomotive shop employees (excluding hostlers) that have been trained, tested, and qualified in blue signal protection.

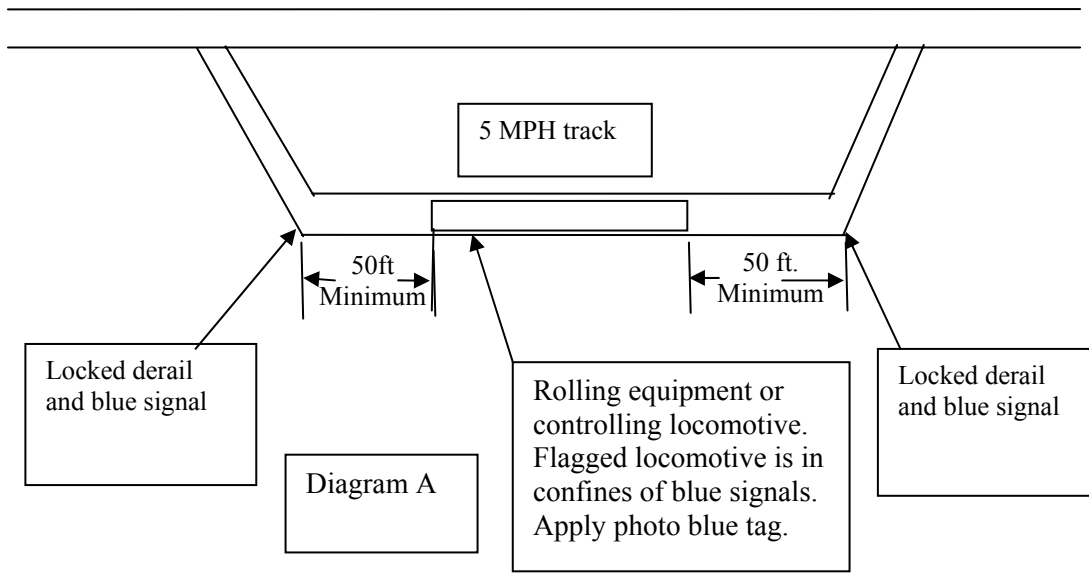
For locomotive service areas, ARRC uses two approaches to physically restrict movement into a blue signaled track:

1. **Preferred:** Each **manually operated switch** providing entrance to or departure from the blue signaled track is lined against movement and secured with an effective locking device.

The operator of affected **remotely-controlled switches** must be notified to line switches against movement to the track. The operator is responsible to apply an effective locking device to the lever, button, or other device controlling the switch prior to informing the employee in charge of the work to be performed that protection has been provided.

or

2. **Alternate:** If speeds are restricted to five (5) miles per hour or less, derail(s) capable of restricting access to the track where the work will occur, must be secured in the derailing position with an effective locking device. The derail must be positioned at least 50 feet from the rolling equipment to be worked and a blue signal must be positioned at the derail.



A blue light and/or blue flag must be positioned at the clearance point of a manual switch or at the derail. A **blue flag staff** must be applied to all locomotives. An alternate type of blue signal may be used to provide protection for cab cars, power cars, RDCs, DMU's, spreaders, or locomotive cranes.

Each worker who will go on, under, or between rolling equipment, must attach his/her **photo blue tag** to the blue flag staff or similar blue signal at the locomotive or other controlling equipment. The tag must be displayed in a clearly visible position so that it may be observed when looking down the side of the locomotive or other controlling equipment from either end.

Joining a Work Group with Common Authority

When a worker is providing support to another department and needs to become part of the work group, the worker's supervisor/lead person or personnel in charge of the blue signal protection, must contact the other department's supervisor/lead person and gain permission to transfer common authority to him or her. Upon arrival, the worker must contact the supervisor / lead person or personnel in charge of the blue signal protection prior to joining the work group under the supervisor's/ lead person's "common authority". The supervisor / lead person will notify all the people in the work group that the new worker will join the work group. When the new worker's tasks are completed, he/she must notify the supervisor / lead person that they are leaving the work group. The supervisor/lead person must notify the work group of this change in status and return authority to person's original supervisor.

Joining a Work Group without Common Authority

The worker joining the group/individual must also attach his/her photo blue tag to the blue signal (blue flag staff) on the locomotive and apply their own on derails/switches that provide protection. People returning from another location to work on a track with blue signal protection must also check for other workers and the presence of personal blue tags. This requirement applies to both locomotive service track and yard applications of blue signal protection.

Workers are responsible to remove their blue tags once they are no longer working on, under or between the rolling equipment. Blue signal protection may not be removed from a locomotive or other controlling equipment if a photo blue tag is still attached, except as outlined in the below “Abandoned Blue Tag Procedure”.

Abandoned Blue Signal Protection Procedure

Employees sometimes forget to remove an approved locking device and other blue signal protection from a switch or derail. The following procedure must be followed in such circumstances.

1. The person desiring to remove the abandoned blue signal protection must contact the supervisor, lead person, or supervisor designee under whose common authority the employee is working.
2. The supervisor, lead person, or supervisor designee must make every reasonable attempt to contact the person whose blue signal protection is applied.
3. The supervisor, lead person, or supervisor designee must personally conduct a search on, under, and between all rolling equipment on the track affected by the blue signal protection. He/she must verify that no one is in danger on the track and alert others to the action via the public address or other audible warning system.
4. Once the safety of the track is determined, the supervisor, lead person, or supervisor designee may remove the blue signal protection.
5. The supervisor, lead person, or supervisor designee must then provide notification to the person(s) who abandoned the blue signal protection, that the protection has been removed. This may include calls to the employee’s home/cellular phone, written notification in the employee’s mailbox, and/or face-to-face conversation with the employee.

Removal of Blue Signals from Track

Blue signal protection may only be removed from a track after all photo blue tags and blue signals have been removed from the locomotive or other controlling equipment. The person(s) removing the blue signal is/are responsible to check on, under, and between equipment to ensure no one is in danger. At this point the locks and blue signals at the derails and/or protecting switches can be removed. If at the close of shift there is no succeeding shift coming on duty, derails and blue signal protection may be removed and any protecting switches unlocked.

Blue signal protection may not be removed from a locomotive or other controlling equipment if a photo blue tag is still attached, except:

- When all workers with photo blue tags on the track are notified of an impending locomotive repositioning or movement into or out of the shop.
- As outlined in the “Abandoned Blue Tag Procedure”.

Movement of Locomotive and Equipment in Shop

When blue signal protection is in place, all movement of locomotives/equipment in the shop are under the exclusive control of supervisors and shop employees who have been trained, tested, and

qualified in blue signal protection (excludes hostlers). Prior to any movement of locomotives/equipment in shop, all affected personnel must be notified, including a broadcast on the public address system or other audible warning system and a track walk around completed. Movement may be made in the following situations:

- ❑ Locomotives/equipment may be moved into a locomotive servicing area track after the blue signal protection has been removed from the entrance switch/derail to the area. The locomotive must be stopped short of coupling into another locomotive.
- ❑ Locomotives/equipment may be moved out of a locomotive servicing area track after the blue signal protection has been removed from the locomotive(s)/equipment on the track and from the departure switches/derails.
- ❑ A locomotive/equipment protected by blue signals, may only be repositioned within the blue signal and track under the direction of the employee in charge of the workers. The locomotive must be stopped short of coupling into another locomotive or piece of equipment.

The continuous use of the locomotive/equipment crossing bell while the movement is being made is required. At some ARRC locations the use of rotating lights and audible alarms/horns will be required prior to movement on a track. Contact your local supervisor/lead person or documentation for location specific requirements.

Blue signal protection that is removed to accommodate movement must be immediately re-established when the locomotive(s)/equipment clears the switch.

Servicing Equipment without Blue Signal Protection

Federal Railroad Administration (FRA) regulations allow railroad workers to perform various activities (servicing) on locomotives without blue signal protection. These activities include: supplying cabooses, locomotives, or passenger cars with items such as ice, drinking water, tools, sanitary supplies, stationary, or flagging equipment. They also include visual observations made by an employees positioned inside or alongside a caboose, locomotive, or passenger car.

The following specific activities, in a locomotive service area, are also considered to be in compliance with these requirements:

- ❑ Inspecting or testing locomotive from inside the cab or walking on the walkways, provided that high voltage cabinet doors are closed and door planes are not broken.
- ❑ Performing visual inspections of cab interior.
- ❑ Starting the locomotive, provided that the employee performing this task has verified no blue signal protection has been established. If the locomotive is blue signal protected, the employee must establish communication with all employees whose personal blue tags are displayed and get their concurrence to start the locomotive.
- ❑ Opening the battery switch compartment door to access the knife switch and circuit breakers is permissible

This procedure is not intended to cover every conceivable circumstance related to blue signal protection. CFR 49 Part 218 and various letters and interpretations from the FRA provide additional guidance and background. When in doubt about the application of this procedure, reference the CFR and contact a supervisor for guidance.

Blue Signal Protection Car Repair Service Area

Car repair service areas on the ARRC system follow the blue signal requirements as outlined in 49 CFR Part 218. Workers in the car repair shop generally follow the same basic procedure as used in the locomotive service area with the exception that:

- ❑ Car repair service areas do not use photo blue tags, unless a locomotive is included in the consist.
- ❑ Blue signals (blue flag staff or equivalent) are not attached to the rail cars, but blue signals are positioned at derails and switches.

In car repair service areas, the derails, switches, and blue signals are under the exclusive control of supervisors and car shop employees who have been trained, tested, and qualified in blue signal protection.

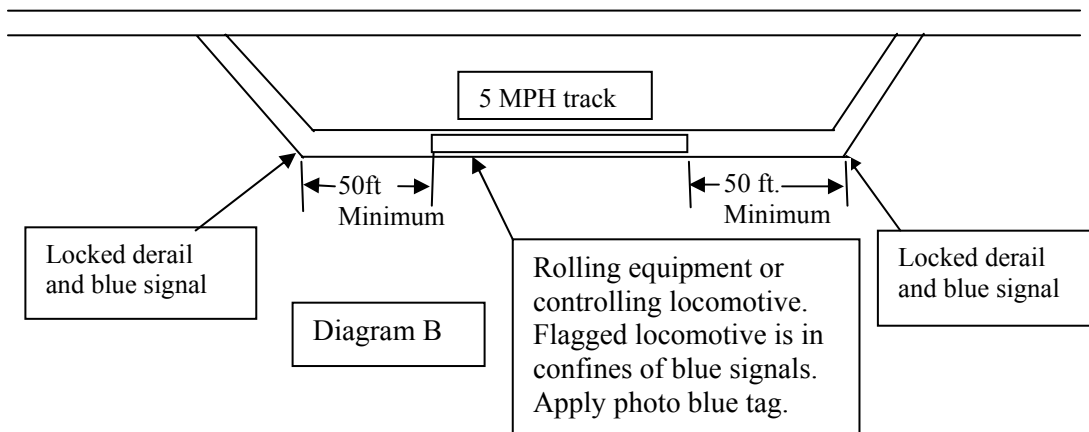
For car repair service areas, ARRC uses two approaches to physically restrict movement into a blue signaled track:

1. **Preferred:** Each **manually operated switch**, providing entrance to or departure from the blue signaled track is lined against movement and secured with an effective locking device. A blue signal is positioned at the manually operated switch.

The operator of affected **remotely controlled switches** must be notified to line switches against movement to the track. The operator is responsible to apply an effective locking device to the lever, button, or other device controlling the switch prior to informing the employee in charge of the work to be performed that protection has been provided. A blue signal is positioned at the remote controlled switch.

or

2. **Alternate:** If speeds are restricted to five (5) miles per hour or less, derail(s) capable of restricting access to the track where the work will occur, must be secured in the derailing position with an effective locking device. The derail must be positioned at least 50 feet from the rolling equipment to be serviced and a blue signal must be positioned at the derail.



Joining a Work Group with Common Authority

When a worker is providing support to another department and needs to become part of the work group, the worker's supervisor/lead person or personnel in charge of the blue signal protection must contact the other department's supervisor/lead person and gain permission to transfer common authority to him or her. Upon arrival, the worker must contact the supervisor/lead person personnel in charge of the blue signal protection prior to joining the work group under the supervisor's/ lead person's "common authority". The supervisor will notify all the people in the work group that the new worker will join the work group. When the new worker's tasks are completed, he/she must notify the supervisor that they are leaving the work group. The supervisor/lead person must notify the work group of this change in status and return authority to person's original supervisor.

Joining a Work Group without Common Authority

The worker joining the group/individual must also attach his/her photo blue tag to the blue signal (blue flag staff) on the locomotive and apply their own locks to derails/switches that provide protection. People returning from another location to work on a track with blue signal protection must also check for other workers and the presence of personal blue tags. This requirement applies to both locomotive service track and yard applications of blue signal protection.

Workers are responsible to remove their photo blue tags once they are no longer working on, under or between the rolling equipment.

Movement of Locomotive and Equipment

When blue signal protection is in place, all movement of locomotives/equipment in the shop are under the exclusive control of supervisors and shop employees who have been trained, tested, and qualified in blue signal protection (excludes hostlers). Prior to any movement of locomotives/equipment in shop, all affected personnel must be notified, including a broadcast on the public address system or other audible warning system and a track walk around completed. Movement may be made in the following situations:

- ❑ Locomotives/equipment may be moved into a car servicing area track after the blue signal protection has been removed from the entrance switch/derail to the area. The locomotive must be stopped short of coupling into another locomotive.
- ❑ Locomotives/equipment may be moved out of a locomotive servicing area track after the blue signal protection has been removed from the locomotive(s)/equipment on the track and from the departure switches/derails.
- ❑ A locomotive/equipment protected by blue signals, may only be repositioned within the blue signal and track under the direction of the employee in charge of the workers. The locomotive must be stopped short of coupling into another locomotive or piece of equipment.

The continuous use of the locomotive/equipment crossing bell while the movement is being made is required. At some ARRC locations the use of rotating lights and audible alarms/horns will be required prior to movement on a track. Contact your local supervisor/lead person or documentation for location specific requirements.

Blue signal protection that is removed to accommodate movement must be immediately re-established when the locomotive(s)/equipment clears the switch.

Removal of Blue Signals from Track

Blue signal protection may only be removed under the authority of supervisor/lead person. Locks and blue signals at the derails and/or switches will be removed at his/her direction. If at the close of shift there is no succeeding shift coming on duty, derails and blue flag protection may be removed and any protecting switches unlocked.

Blue signal protection may not be removed from a locomotive or other controlling equipment if a photo blue tag is still attached, except:

- When all workers with photo blue tags on the track are notified of an impending locomotive repositioning or movement into or out of the shop.
- As outlined in the “Abandoned Blue Tag Procedure”.

Abandoned Blue Signal Protection Procedure

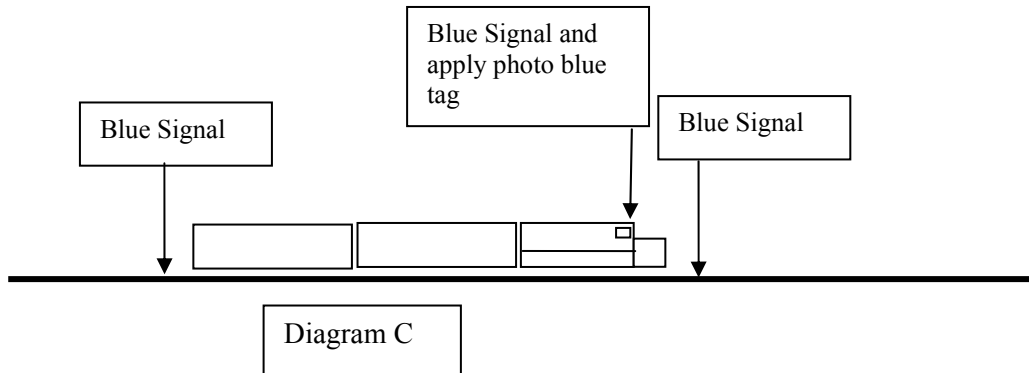
Employees sometimes forget to remove an approved locking device and other blue signal protection, from a switch or derail. The following procedure must be followed in such circumstances.

1. The person desiring to remove the abandoned blue signal protection must contact the supervisor, lead person, or supervisor designee under whose common authority the employee is working.
2. The supervisor, lead person, or supervisor designee must make every reasonable attempt to contact the person whose blue signal protection is applied.
3. The supervisor, lead person, or supervisor designee must personally conduct a search on, under, and between all rolling equipment on the track affected by the blue signal protection. He/she must verify that no one is in danger on the track and alert others to the action via the public address or other audible warning system.
4. Once the safety of the track is determined, the supervisor, lead person, or supervisor designee may remove the blue signal protection.
5. The supervisor, lead person, or supervisor designee must then provide notification to the person(s) who abandoned the blue signal protection, that the protection has been removed. This may include calls to the employee’s home/cellular phone, written notification in the employee’s mailbox, and/or face-to-face conversation with the employee.

Main Track and Other than Main Track

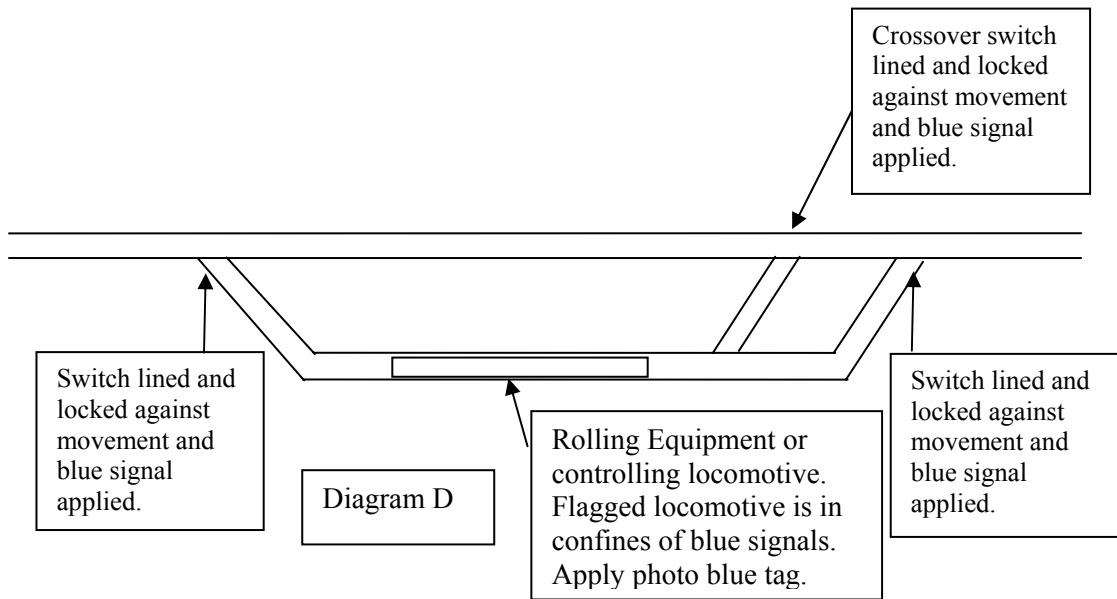
When workers need to go on, under, or between rolling equipment, while on main track, and other than main track, the following protection must be provided.

On Main Track a blue signal must be displayed at both ends of the rolling equipment and a blue signal must be attached to the controlling locomotive. No derails can be applied and no movement of equipment is permitted. A photo blue tag must be attached to the controlling locomotive. In an “emergency” event and no photo blue tag is available, follow guidelines set forth in CFR 218.25(a).

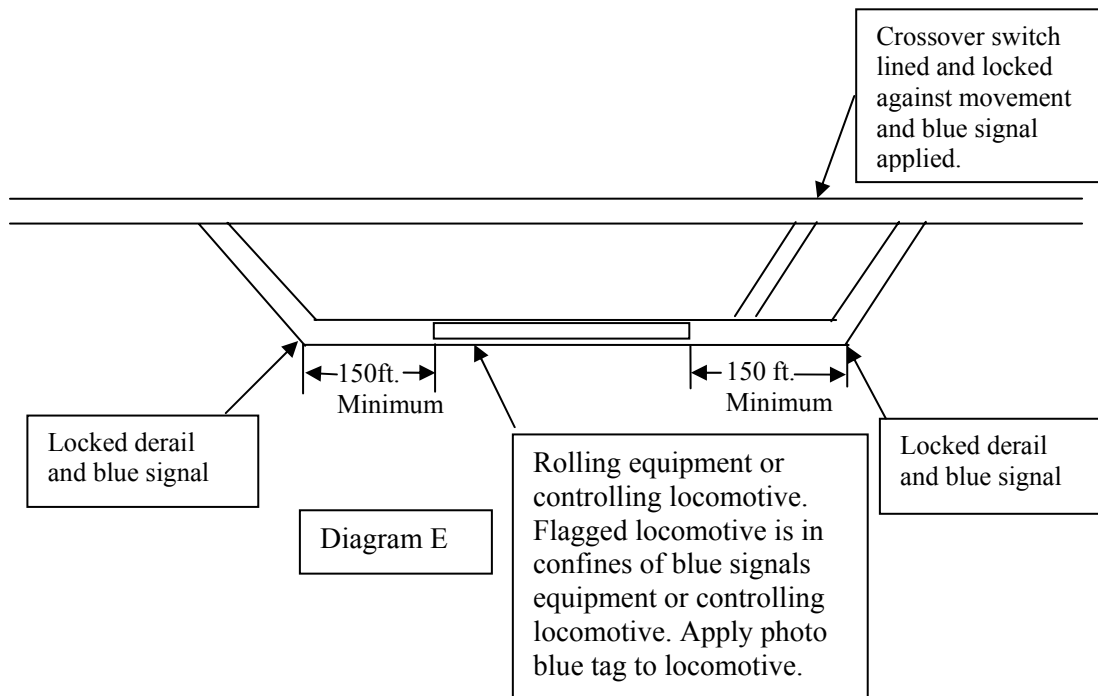


On Other than Main Track one of the following two methods of protection must be used:

1. Preferred Approach - Each manually operated switch that provides entrance to or departure from the blue signaled track shall be lined against movement and secured with an effective locking device. A blue signal must be placed at each switch clearance point and attached to the locomotive control stand. In addition, any facing point crossover switch must be lined against movement, secured with an effective locking device, and a blue signal placed at the switch. A photo blue tag must be attached to the controlling locomotive.



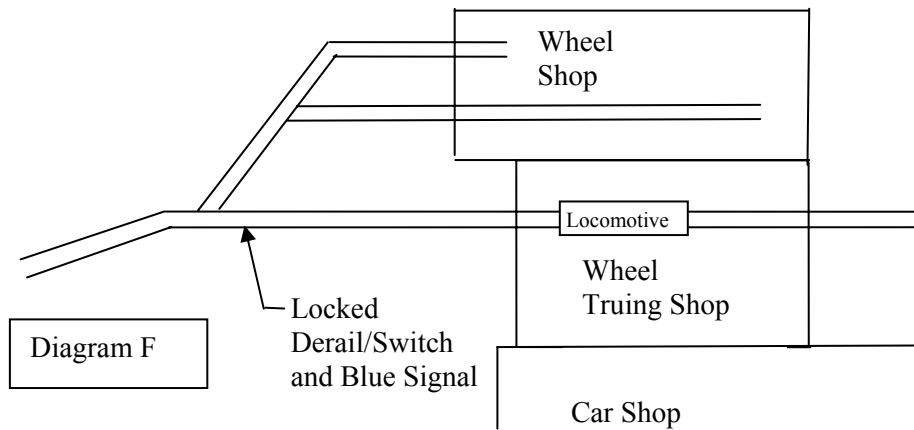
2. Alternate Approach - Derail(s) capable of restricting access to the track where the work will occur must be secured in the derailing position with an effective locking device. The derail must be positioned at least 150 feet from the rolling equipment and a blue signal must be positioned at the derail. In addition, any facing point crossover switch must be lined against movement, secured with an effective locking device, and a blue signal placed at the switch.



All other blue signal requirements as identified in this procedure apply to main track and other than main track situations. A photo blue tag must be attached to the controlling locomotive.

Example – Anchorage Truing Track

A photo blue tag must be applied to the locomotive blue flag staff when it is positioned in the Wheel Truing track area. The locomotive is considered to be within the confines the Car Shop's blue signal protection. One person's photo blue tag is all that is required in this unique situation.



References:

- ❑ 49 CFR Parts 218.5 & 218.21 – 218.30 Railroad Operating Practices – Blue Signal Protection of Workers.
- ❑ 49 CFR Part as Amended, in Addition to Part 218, “Blue Signal Protection of Workmen”
- ❑ Alaska Railroad Safety Manual, Revised May 15, 2001; rule 23.
- ❑ 49 CFR Part 218.00 Blue Flag Interpretations

Note: Audible warning signals may not be in place at time of this publication, requiring more vigilance in clearing the area prior to moving cars / locomotives.