

Network Safeworking Rules and Procedures

Operation of Points

Procedure Number: 9012

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Document History

Version	Effective Date	Pages updated	Reasons for change
2.02	21 11 2022	5, 9	Glossary terms and update switch rail to switch blade

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1. Purpose

The purpose of this procedure is to provide instructions for operating and managing *Points* in the *Network*.

2. General

The normal position of *Points* will be indicated by the diagram of signalling in *Centralised Traffic Control (CTC) Territory* and the *Station* sketch in *Train Order Territory*.

Points on *Running Lines* over which *Rail Traffic* is to pass must be *Secured* for the safe passage of *Rail Traffic*.

Points may be operated by electric motors or mechanically by the use of a hand lever.

Electric motor operated *Points* in *CTC Territory* are remotely operated by the *Network Controller*.

The different types of motors in use are:

- Type "D84M".
- Type "X".
- Type "Y".
- Type "Modified Y".
- Type "W".
- Type "Z".

Should one or more of the motors fail to operate or if electronic detection of the *Points* is lost, an indication will be displayed in *Network Control*. Signals controlling *Routes* over *Points* with no detection will only display a STOP indication.

When a *Points* failure or loss of detection occurs, the *Points* may be required to be manually operated by a crank handle or manual lever attached to the electric *Points* motor. The crank handle is kept in a cabinet close to the electric *Points* motor.

Locally operated *Points* are provided in yards, depots and *Train Order Territory*, for the setting of *Routes* for *Rail Traffic* movements, these *Points* can be either electrically or mechanically operated by a *Competent Worker*.

Locally operated *Points* are:

- *Self-Restoring Points (SRP)*;
- Little david levers;
- Rigid levers (May be a D84M);
- Cheese knobs;
- Racor levers.

Non moveable *Points* include:

- Transposition of common rail;
- Gauntlets.

Points giving Access to CTC Territory may be Secured by a Switchlock. Refer to Procedure 9024 Operation of Switchlocks.

3. Setting Points

3.1 Indications of Points Setting

The setting of *Points* must be communicated to *Rail Traffic Crews*, by:

- Signal indication;
- *Points Indicators*;
- Direct observation of the *Points*; or
- Other *Competent Workers*.

Points that are operated by hand must be examined to ensure that the *Points* are set for the intended *Route*.

Points on *Running Lines* must be Secured to prevent *Points* blade movement or unintended operation.

3.2 Hand Operated Points

The *Network Controller* must Authorise the operation of *Points* on *Running Lines* for *Shunting* or maintenance purposes.

3.3 Restoration of Points



WARNING: At approved junctions and other approved *Locations*, *Points* may be left set for the last movement and not restored.

Rail Traffic Crews must be prepared to find the *Points* incorrectly set at these *Locations*.

Points and locking mechanisms on *Running Lines* must be restored to their normal position after use unless otherwise instructed by the *Network Controller*.

In *Train Order Territory*, other than *Self-Restoring Points (SRP)*, *Rail Traffic Crews* must advise the *Network Controller* that the *Siding is Secured* and the *Annett's Key Is On The Locomotive (AKOL)*.

4. Movement Over Points



WARNING: *Points* must not be operated while *Rail Traffic* is moving over or standing on the *Points*.

4.1 Rail Traffic

Rail Traffic must remain *Clear* of the *Points* until they are correctly set for the movement.

4.2 Competent Workers

Competent Workers must stand in a *Safe Place*, well *Clear* of *Points* and operating mechanisms, when *Rail Traffic* is passing through *Points*.

4.3 Trailing Points

Rail Traffic must not run through *Trailing Points* that are not correctly set for the movement.



WARNING: *Points* must not be operated while *Rail Traffic* is moving over or standing on the *Points*. *Rail Traffic Crews* must not *Set Back* after *Points* have been run through until the *Points* have been inspected and declared safe.

If *Rail Traffic* runs through a set of *Trailing Points*, the *Infrastructure Representative* must be advised and:

- the movement must continue in the same direction; and
- the *Points* must be inspected by a *Competent Worker* before another movement is made over them.

5. Damaged Points



WARNING: *Competent Workers* required to inspect or hand operate *Points* must make sure that:

- safety measures are in place before starting work in the *Danger Zone*; and
- there is an easily reached *Safe Place* near the *Points*.

If *Points* are found to be defective or damaged, the *Network Controller* must be advised and the *Points* must not be used until:

- the *Points* are inspected by a *Competent Worker* and found safe for the intended movement;
- a *Competent Worker* makes the *Route* safe for the *Rail Traffic* movement by clipping or *Securing* the *Points* in accordance with Procedure 9000 Clipping and Securing Points; or
- the *Points* are inspected and repaired by a *Infrastructure Representative*.

6. Failed Electrically Operated Points

If the electrically operated *Points* are unable to be operated correctly, the *Points* must be:

- placed into the hand operated mode;
- isolated by the removal of the crank handle; or
- set and clipped for the intended *Route*, in accordance with Procedure 9000 Clipping and Securing Points.

7. Manual Operation of Electric Points

7.1 Network Controller Responsibilities

When *Points* fail or have lost detection, the *Network Controller* must:

- make further attempts to operate the *Points* and if they still do not work correctly, arrange for a *Competent Worker* to attend the *Points*.
- advise the *Infrastructure Representative* and record on the *Network Control Diagram*:
 - the number of the defective *Points*; and
 - when repairs have been completed.
- electronically lock the *Points*. This will ensure that the *Points* cannot move should the power be reinstated.
- instruct the *Competent Worker* to visually check the *Points* for *Obstructions*. If an *Obstruction* is found, instruct the *Competent Worker* to safely remove the *Obstruction*.
- give permission to remove the crank handle and manually operate the *Points* into either the normal or reverse position, if no *Obstruction* is found.
- instruct the *Competent Worker* not to replace the crank handle until *Authorised* to do so.
- *Authorise* the *Rail Traffic Crew* to pass the relevant signal at STOP in accordance with Rule 6013 Passing Fixed Signals at STOP, when advised by the *Competent Worker* that the *Points* are in the required position.
- advise the *Rail Traffic Crew* to ensure that the *Points* are set correctly before *Travelling* over them.

7.2 Competent Worker Responsibilities



- **WARNING: When removing an *Obstruction* from *Points* mechanisms do not place hands between or near parts that can move**

The *Competent Worker*, when instructed to manually crank *Points* must:

- have *Communications Equipment* and, during periods of darkness and *Low Visibility*, a torch;
- visually check the *Points* for any *Obstruction* that may be preventing the blades from closing. If an *Obstruction* is found, contact the *Network Controller*, then safely remove the *Obstruction*;
- liaise with the *Network Controller* who will advise which sets of *Points* are to be cranked, and the position (normal or reverse) if the failure of the *Points* is not due to an *Obstruction*;
- obtain permission from the *Network Controller* before removing the crank handle from the switch in the cabinet;
- not replace the crank handle until *Rail Traffic* has passed completely over the *Points*, and then only when instructed to do so by the *Network Controller*;
- ensure all *Points* with the same number and K Blades, if present, have been cranked to the position nominated by the *Network Controller*;
- check that all the *Points* are set correctly for the passage of the *Rail Traffic* once the *Points* have been cranked to the required position; and
- advise the *Network Controller* that the *Points* are set correctly.

7.3 Responsibilities of the Rail Traffic Crew

Where no *Competent Worker* is present and the *Rail Traffic Crew* are instructed to pass a signal at STOP, the *Rail Traffic Crew* must, before moving across each set of *Points*, stop and examine the *Points* to ensure that they are set for the safe passage of the *Rail Traffic*.

7.4 Resumption of Normal Working

When normal working is to resume, the *Network Controller* will instruct the *Competent Worker* to return the crank handle to its switch.

When the crank handle has been returned to its switch the *Network Controller* must be advised.



NOTE: *Points* are to be tested after the crank handle is restored to the switch.

8. Points Motors

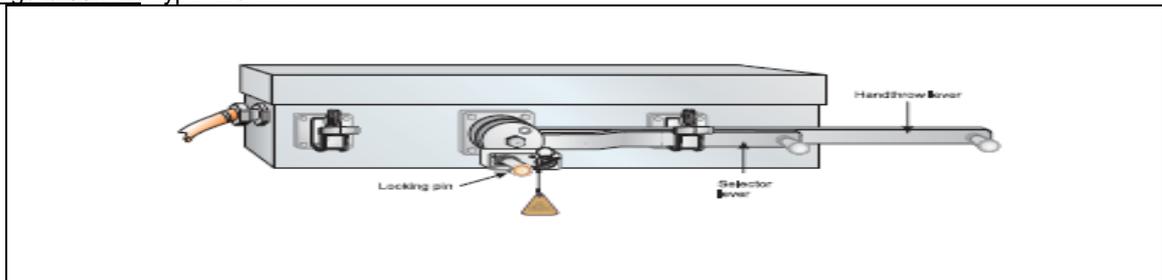
8.1 Type “D84M”



WARNING: Where D84M type *Points* motor is to be set and Secured using *Points* clips to prevent normal operation, they must be placed in Hand mode prior to Securing.

The following instructions are to be followed when using a Type “D84M” *Points* motor.

Figure 9012-1 Type “D84M”.



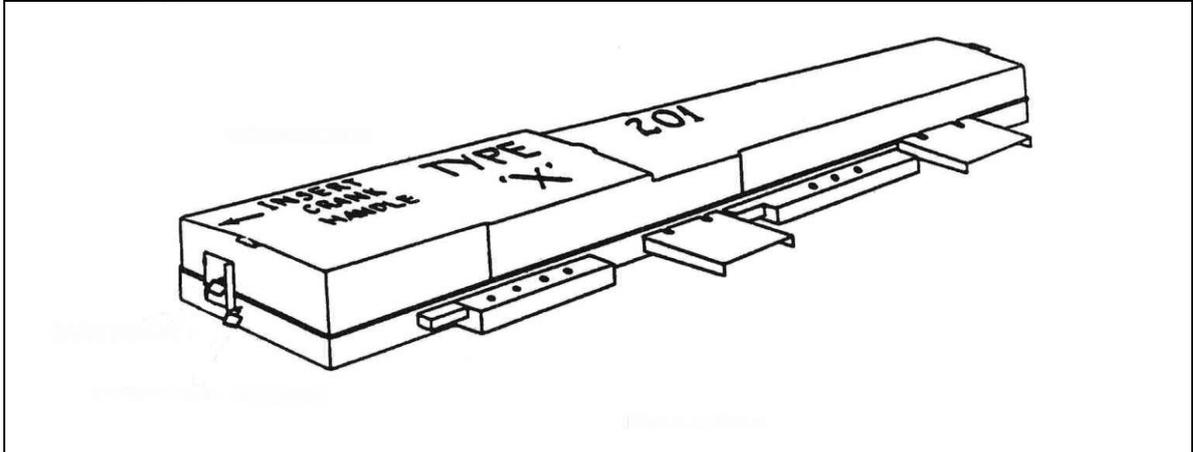
- Obtain the *Network Controller's* permission to operate the *Points* machine.
- Find the correct *Emergency Operating Lock (EOL)* cabinet for the *Points*.
- Unlock the cabinet with a Traffic Standard key.
- If there are instructions in the cabinet to help you operate the *Points*, read and follow them.
- Turn the EOL keys from LOCKED to UNLOCKED. Take them from the cabinet in the correct order; removing them will cause *Network Control* to lose detection of the *Points*.
- Check the key labels to make sure they are the correct keys.
- Unlock the Traffic Standard lock securing both the handthrow and the selector levers.
- Turn the EOL key in the EOL lock on the *Points* machine. The lock captures the key.
- Pull out the locking pin to allow the levers to be moved.
- Lift the catch holding the selector lever.
- Move the selector lever from MOTOR to HAND. Keep the lever in place with the catch.
- Lift the catch holding the handthrow lever.
- Move the handthrow lever to move the *Points* to the required position.
- Make sure that the switch blade is hard against the stock rail.
- *Secure* the handthrow lever with the Traffic Standard lock.

Keep the handthrow lever in place with the catch. If it is not held by the catch when the switch rail is hard against the stock rail, tell the *Network Controller*.

8.2 Type “X”

The following instructions are to be followed when using a Type “X” *Points* motor.

Figure 9012-2 Type “X”.

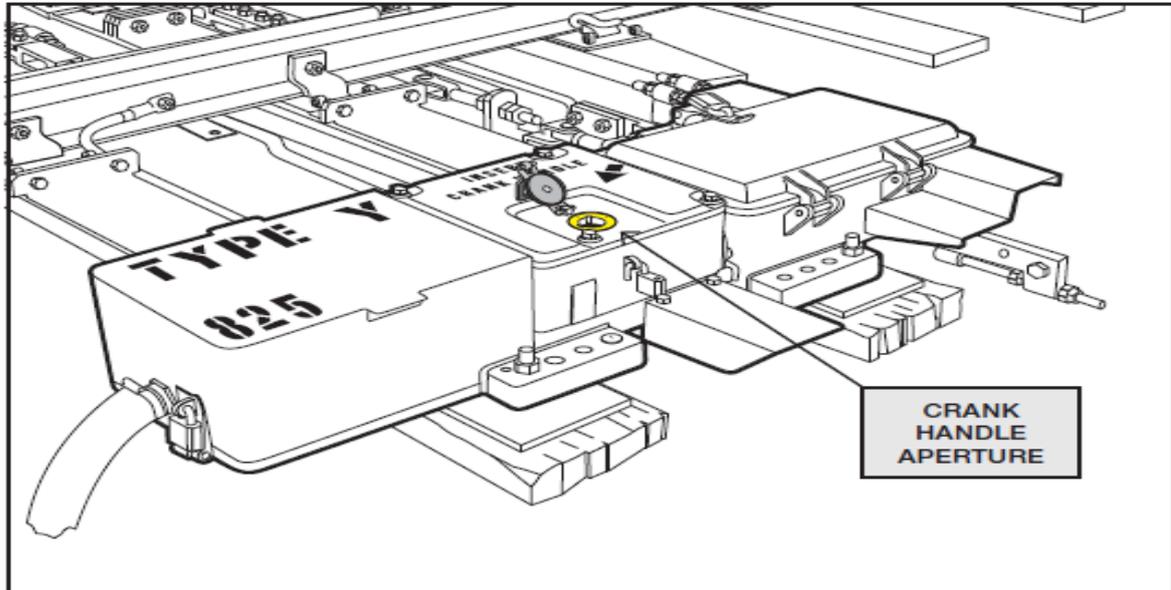


- Unlock the Traffic Standard lock and open the hinged cover plate at the end of the machine above ground level.
- Insert the crank handle through the slotted guide plate, lift the plate with the handle against the spring and then push crank handle through guides.
- Rotate slowly to locate the nibs in the slotted guide plate and push them home to engage the motor shaft.
- The crank handle must be wound until it will go no further.
- Check all the *Points* to ensure that they are set correctly and then contact the *Network Controller*.
- Follow the instructions from the *Network Controller*.
- When the *Network Controller* advises normal working is to resume, remove the crank handle and then close and padlock the cover plate.
- Replace the crank handle into the crank handle switch.
- Contact the *Network Controller* before leaving the area and ensure that the crank handle cabinet is locked.

8.3 Type “Y” and “Modified Y”

The following instructions are to be followed when using Type “Y” and “Modified Y” *Points* motors.

Figure 9012-3 Type “Y” and “Modified Y”.

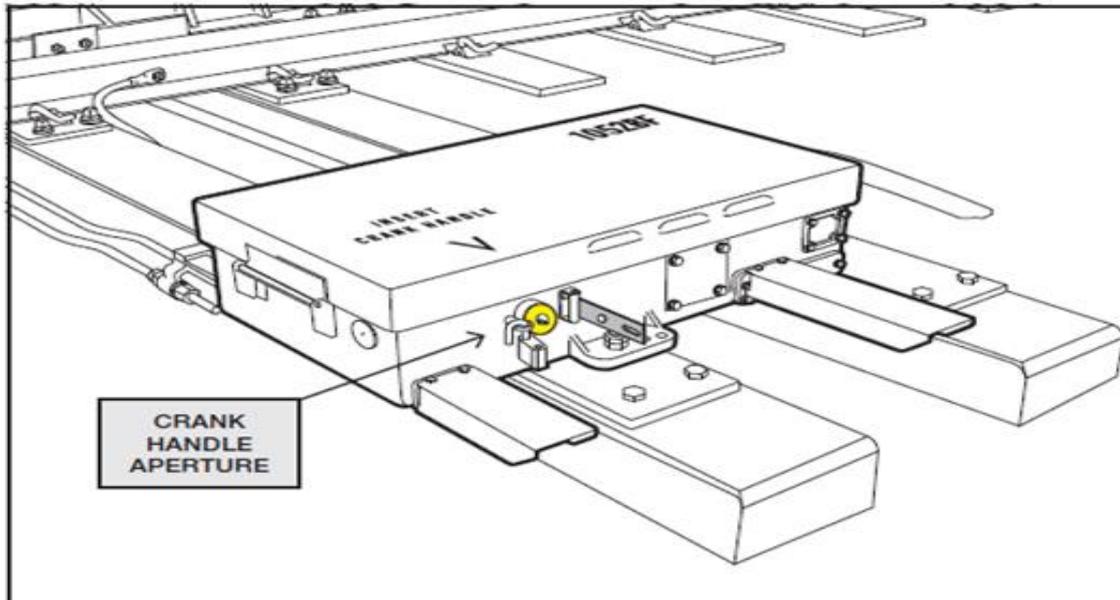


- Unlock the Traffic Standard lock and open the crank handle aperture cover by exerting downward pressure on the hasp to release it.
- On the type “Y”, remove the plug under the aperture cover using the crank handle.
- Insert the crank handle into the motor.
- Locate the indicator which shows the position of the *Points*.
- The crank handle must be wound until it will go no further and the indicator shows the required position.
- Check all the *Points* to ensure that they are set correctly and then contact the *Network Controller*.
- Follow the instructions from the *Network Controller*.
- When the *Network Controller* advises normal working is to resume, remove the crank handle, and replace and padlock the hasp.
- On the type “Y”, replace the plug under the aperture cover.
- Replace the crank handle into the crank handle switch.
- Contact the *Network Controller* before leaving the area and ensure that the crank handle cabinet is locked.

8.4 Type “W”

The following instructions are to be followed when using a Type “W” *Points* motor.

Figure 9012-4 Type “W”.



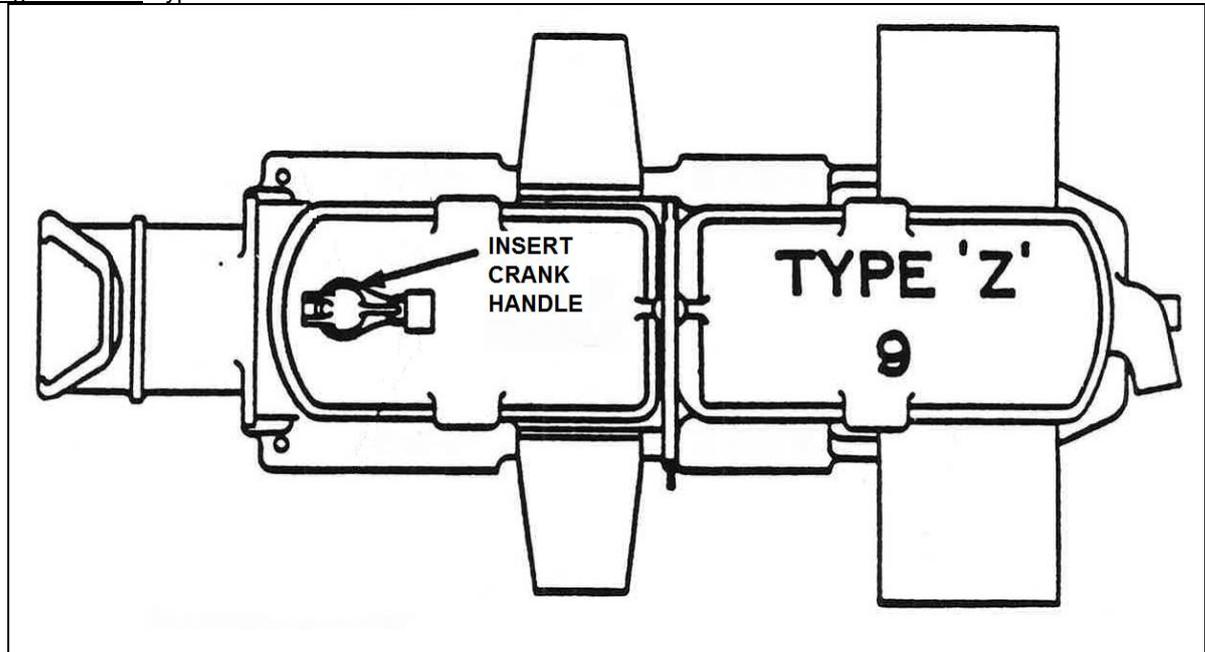
WARNING: Care should be taken when turning the crank handle (as instructed below) to ensure that the operator’s hands are not damaged by the heads of the bolts in the sleeper. It is recommended that gloves be worn.

- Unlock the Traffic Standard lock and open the hinged cover plate on the side of the machine.
- Insert the crank handle into the circular hole behind the cover plate.
- Wind the crank handle until there is an audible “click”, at which point the indicator will show the required position of the *Points*. (Note: continue to crank even after the point where the blade appears to be flush with the rail).
- Follow the instructions from the *Network Controller*.
- When the *Network Controller* advises normal working is to resume, remove the crank handle and then close and padlock the cover plate.
- Replace the crank handle into the crank handle switch.
- Contact the *Network Controller* before leaving the area and ensure that the crank handle cabinet is locked.

8.5 Type “Z”

The following instructions are to be followed when using a Type “Z” *Points* motor.

Figure 9012-5 Type “Z”.



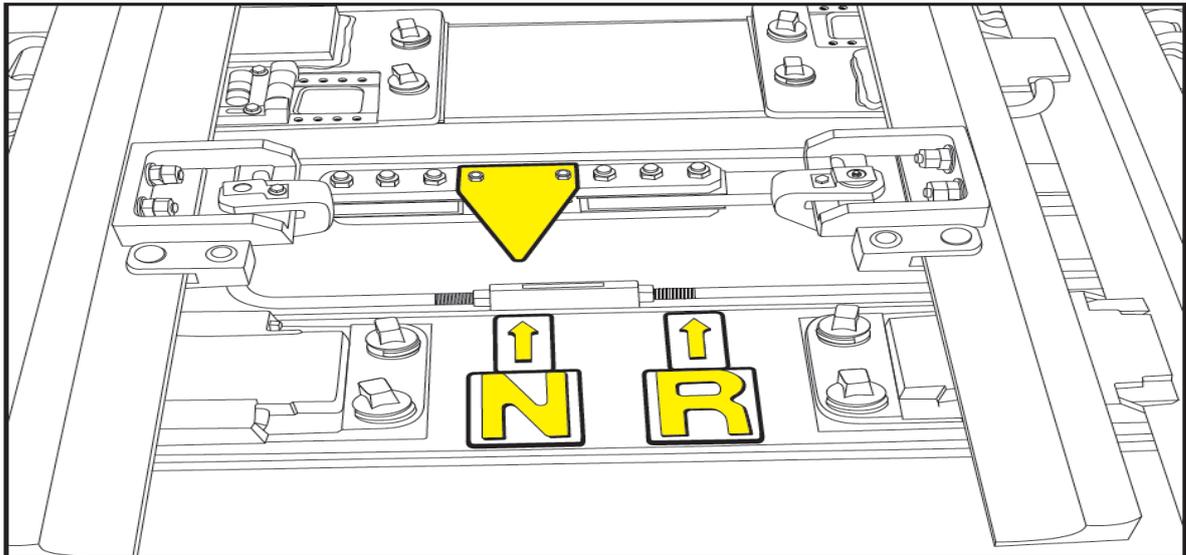
- Unlock the Traffic Standard lock and open the crank handle aperture cover.
- Move the slide directly over the crank handle socket and insert the crank handle into the motor.
- The crank handle must be wound until it will go no further and the indicator shows the required position.
- Check all the *Points* to ensure that they are set correctly and then contact the *Network Controller*.
- Follow the instructions from the *Network Controller*.
- When the *Network Controller* advises normal working is to resume, remove the crank handle, ensure the slide has moved aside to the fullest extent possible and replace and padlock the hasp.
- Replace the crank handle into the crank handle switch.
- Contact the *Network Controller* before leaving the area and ensure that the crank handle cabinet is locked.

9. Additional Information

9.1 Normal or Reverse Indicators

To indicate the normal and reverse setting of the *Points*, metal letters are provided, fixed on the sleeper at the toe of each blade. “N” indicates the *Points* are set normal; “R” indicates the *Points* are set for reverse.

Figure 9012-6 Normal or Reverse indicator.



9.2 K Blades

At some *Dual Gauge* turnouts where a conflict of gauge occurs, the *Points* may be provided with K Blades. For this reason it is necessary to thoroughly examine the *Points* before *Rail Traffic* is permitted to *Travel* over them.

Figure 9012-7 K Blades.

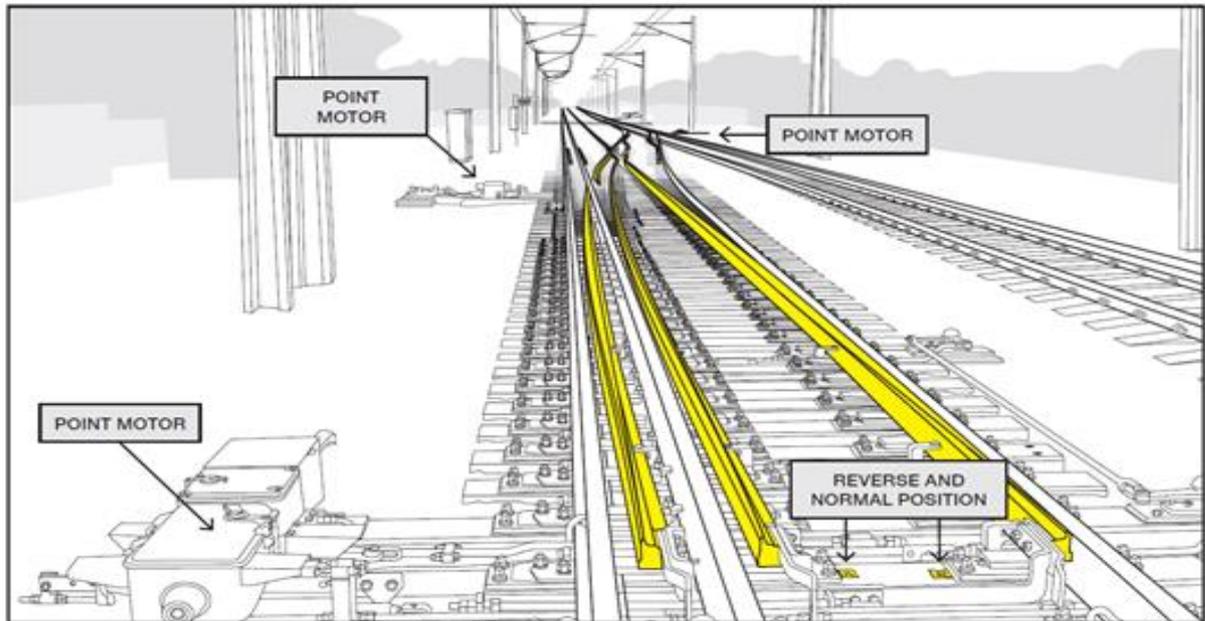
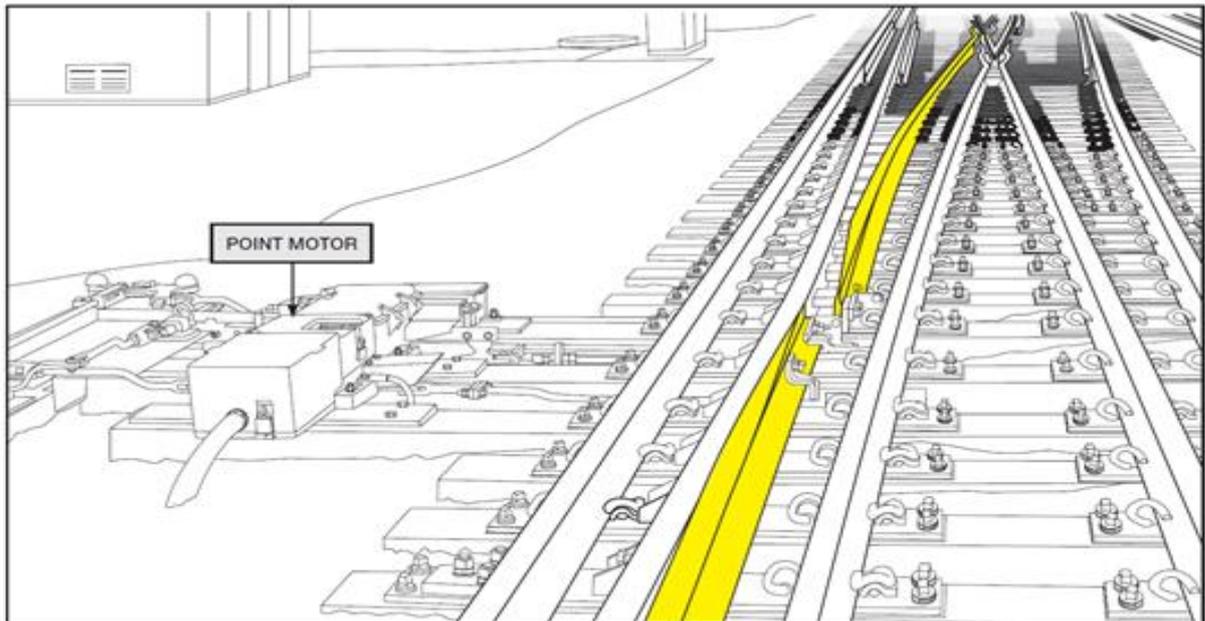


Figure 9012-8 K Blades.



9.3 Catch Points

Catch Points are *Points* placed at depots and *Sidings*. The purpose of these *Points* is to derail any vehicle which might run out onto a *Running Line* and become a danger to *Rail Traffic* movements on that line.

Usually they are a single blade that will lead the *Rail Traffic* away from the *Main Line*. These single blades can be controlled by any of the types of *Point* motors that have been described already in this instruction.

Figure 9012-9 Single Blade Catch Point.



10. Clipping and Securing Points

If it cannot be assured that the *Facing Points* on *Running Lines* will remain in the correct position, the *Points* are to be *Secured* in accordance with Procedure 9000 Clipping and Securing Points.

11. Permanent Record

The *Network Controller* and the *Infrastructure Representative* must keep a *Permanent Record* of the *Points* failure.

12. References

6013 Passing Fixed Signals at STOP

9000 Clipping and Securing Points

9024 Operation of Switchlocks

13. Effective Date

21 November 2022