

# NPR 739 Operating mechanical interlocking machines

## Description

This document describes the procedure for operating mechanical interlocking machines

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## Introduction

Mechanical interlocking machines in signal boxes have large levers directly connected by:

- rods to the points that they control
- cables (wires) to the signals that they control.

## Interlocking is mechanical or electrical.

At some locations the levers are connected to power-operated signals and points. On a track indicator diagram, or behind the interlocking machine, there may be lights to show:

- whether signals display **PROCEED** (signal repeaters)
- the position of points.

To show the correct levers to use for setting intended routes, some interlocking machines have pulling lists.

A lever may be identified by a plate showing its function.

## Controls

Levers are colour coded:

Lever colour	Function
Blue	Operates facing point locking Operates releases Closing lever for switching in or out
Black	Sets points

## Procedures

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Lever colour	Function
Red	Operates signals

## Indicators

### Point indicator and transit lights

If present, point indicator lights show that points have operated correctly.

Indicator colour	Means that points are
White and letter N	In <b>NORMAL</b> position
White and letter R	In <b>REVERSE</b> position
Green or white	<b>FREE</b> , and can be moved

A flashing point transit indicator light shows that the relevant points do not have detection, because:

- the points are not in position, or
- the points are changing position, or
- facing point locking is not engaged.

### Signal repeater lights

If present, signal repeater lights show that signals have operated correctly.

Light colour	Means that signal is
Red	At <b>STOP</b>
Green	Not at <b>STOP</b>
White	Not at <b>STOP</b>

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## Operating points and signals

Qualified Worker



### Warning

The lever of a signal protecting points with mechanical interlocking only must not be returned to **NORMAL** before:

- rail traffic has passed completely beyond the points, or
- rail traffic has been brought to a stand before the points.

- 1 If there is a pulling list, use it to find the correct order of levers to set the intended route.



### Note

Do not force a lever. Too much force may damage the interlocking machine.

- 2 If necessary, use blue levers to remove facing point locking.
- 3 Use black levers to set points.
- 4 If necessary, use blue levers to re-apply facing point locking.
- 5 Use red levers to set signals.
- 6 Check that points and signals are set correctly for the route.

## Failure of intended route to set

Qualified Worker

- 1 If points or signals do not move to the intended position, check that you are using the correct levers in the correct order.
- 2 If you are qualified, adjust the connecting wire tension.
- 3 Check that linkages move freely.

## Procedures

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- 4 Return the levers to their previous positions.
- 5 Check that there is no obstruction in the points.
- 6 If the route cannot be set, tell:
  - a Signals Maintenance Representative
  - the Network Controller.

## Related Documents

**NPR 707 Clipping points**

**NPR 719 Operating groundframes**

**NPR 738 Operating powered interlocking machines**