



# Magnetic Assembly

User Instructions

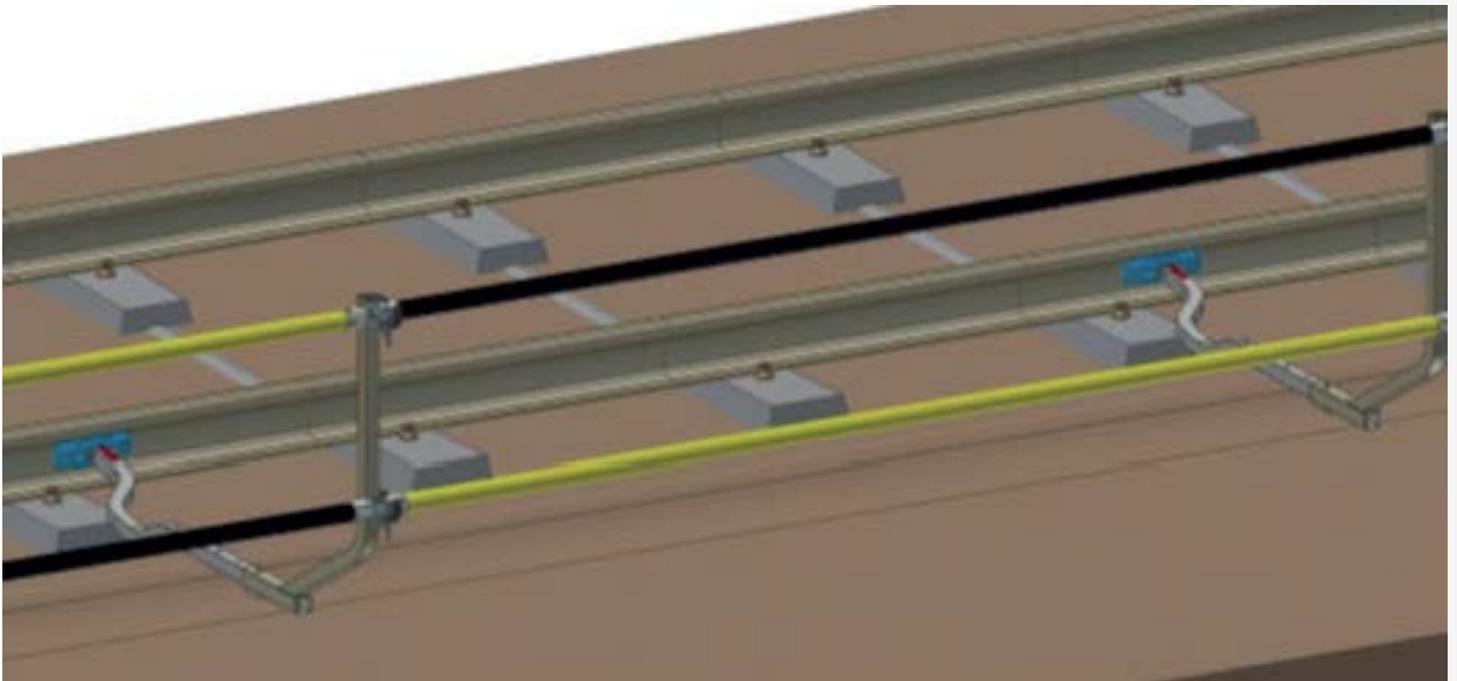
# User Instructions

Magnetically Safety Barrier provides physical and health protection for the workforce working in and on the railway from moving Trains and RRV vehicles.

## Purpose of the system

Under local and European regulations, it is in most cases, a legal requirement when working on and at the track-side to protect people with a physical barrier to prevent operatives coming too close to any track with trains operating on them. The Magnetically Safety Barrier system is intended to realise effective protection for work on the track.

**NB:** When fitted in axle counter areas it is required that the head of the magnet is placed at least 100 mm minimum distance either side of any trackside signaling equipment (e.g. magnets are no closer than 100mm from any axle counter head or track circuit). This requirement is to avoid any potential magnetic interference, and/or actually touching/attaching to any specialized equipment accidentally and causing damage during the installation or removal of the magnet.



The system should be used with a maximum spacing of 3 metres between stanchions. The distance to the rail is adjustable from (1.25m to 2.00m - 4'00" to 6'6").

## Placing the Magnet

The magnet should be placed alongside the Rail Clip (Pandrol Clip), NOT on it or behind it! The 'S' shape has been purposefully designed so that the horizontal arm of the stanchion can rest on the sleeper.

This ensures the handrails are level and 'pleasing to the eye'. It is not essential, as the horizontal leg can rest on the ballast but this may give a wavy appearance to the top handrail.

It's still safe and in compliance but does not look as neat to the eye and as neat as horizontal handrails would.



### The following certification standards have been applied:

- RLN00077-V004 industry directive on physical screening, separation and marking (07-2010)
- EN 13374 temporary edge protection systems

**NB:** The COSS key point card – Network Rail Reference NR9925 issue 10 - dated 2012, specifically states:

### Your Safe System Of Work - Fenced:

You must put up a fence between the site of work and nearest open line. The distance between the fence and the open line depends on the type of fence and speed of trains on the line. **Rigid Barrier 0-125mph – at least 1.25m.** The Rail Safety Systems BV Safety Barrier allows you to comply with this directive.

The system is suitable for rails of all types 85-95 lb, UIC 54(113A) and UIC 60(CEN 60 113A)  
Flat Bottomed and Bullhead Rail.

## Building and dismantling the system

**NB:** This system is NOT designed to be used in situations where a 'third rail' is present.

When building, dismantling or moving the system, ensure appropriate personal protection equipment is used and all safety rules and procedures are followed.

### Before building:

1. Set all the adjustable stanchions to the required distance defined by the COSS for the appropriate line speed of trains. The distance is adjustable between 1.25 and 2.0m metres in steps of 0.1 metres.
2. Check that all components of the system to be used are free of damage or any defects.
3. Check beforehand that the rails are not fitted with noise-dampening rubber in the web of the rail. If noise-dampening rubber is present in the web of the rail, this magnetic barrier guardrail system cannot be used.
4. Check that the sleepers on which the stanchions are supported are free of obstacles or debris on the top surface. It is not essential to use a sleeper for support; the barrier can rest on the ballast.
5. In case the system is used between two tracks. Check the centre to centre distance between two tracks; if the centre to centre distance is smaller than 4 metres also check the position of the stanchions and handrail tube position relative to both tracks.

**NB:** The first two handrails MUST be supported by two (2no) stanchions. Thereafter, each handrail MUST be supported by one (1) stanchion at 3m distance from the preceding stanchion.

### Adjusting Stanchions

Using the Allen Key set bolt, set the stanchion to the agreed length. From the web of the rail the distances are:

- 1st hole 1.25 metres
- 4th hole 2.25 metres – for storage in transport crate
- 7th hole 2.00 metres

### Socket screw M10x55



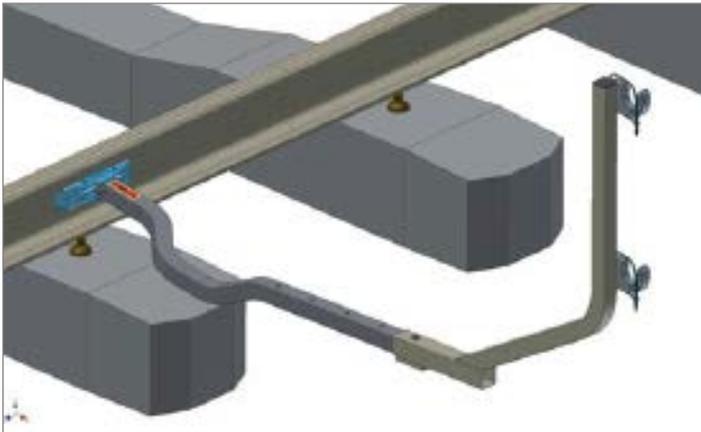
## Building

Ensure you maintain the Safe System of Work that is in place. Place 1st stanchion with magnetic head into the web of the rail as close to the sleeper as possible, so that the stanchion can be supported on the sleeper after lowering the stanchion into position. It is not essential to use a sleeper for support; the barrier can rest on the ballast. However, using the sleepers as a support ensures that the handrails are level after construction, and is more aesthetically or visually pleasing. Then place a 2nd stanchion not further than 3 metres of the 1st stanchion and place 2 handrail tubes in the clamping blocks.

It is suggested that when building a length of barrier, that the transport frames containing the stanchions and handrails, are placed somewhere near the middle of the length to be protected. You can then build in both directions and save time and effort in walking the components to the track.

**NB:** The first handrail length MUST be supported by two (2no) stanchions. Thereafter, each handrail MUST be supported by one (1) stanchion at 3m distance from the preceding stanchion.

Ensure the magnets are placed flat in the web of the rail at all times, the horizontal leg of the stanchion is level with the rail and the vertical leg of the stanchion is perpendicular to the rail.



### Building 1st stanchion

1. Place the stanchion in the web of the rail alongside the 'rail clip' and if possible make sure it is supported by the sleeper. Ensure that the tube of the stanchion is in a vertical position.

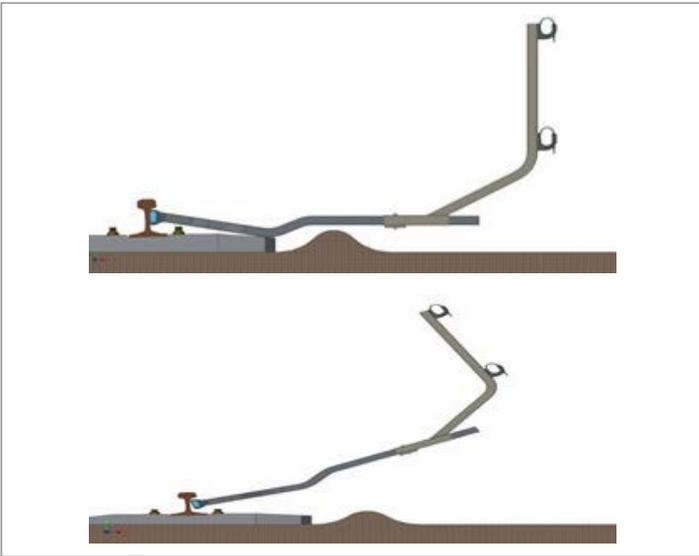
Using gloves, remove coarse soiling between the magnet and the rail. The stanchion must be freely supported on the sleeper.



### Building 2nd stanchion

2. Place the 2nd stanchion at a distance of approximately 3 metres from the 1st stanchion, but not more than 3 metres

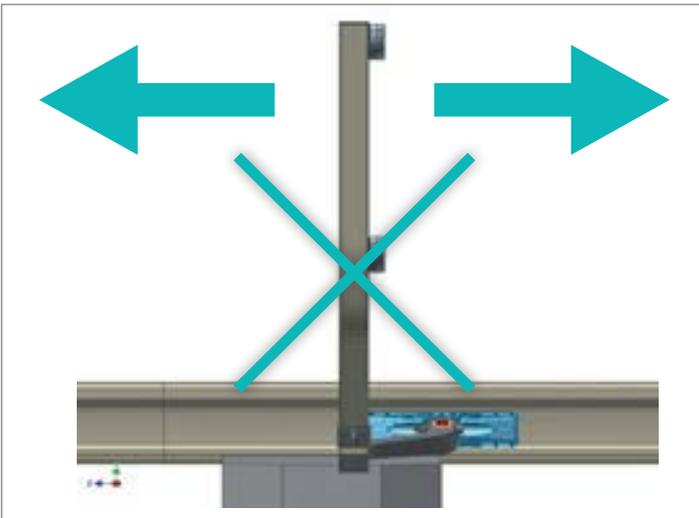
## Dismantling



### Dismantling system

3. Dismantling takes place in the reverse order. Remove tie-wraps, then lift and turn the tubes to remove them from the clamping blocks.

To dismantle the stanchion, lift it vertically towards the rail, until the magnet releases from the rail and then pull it away.



### Prohibited

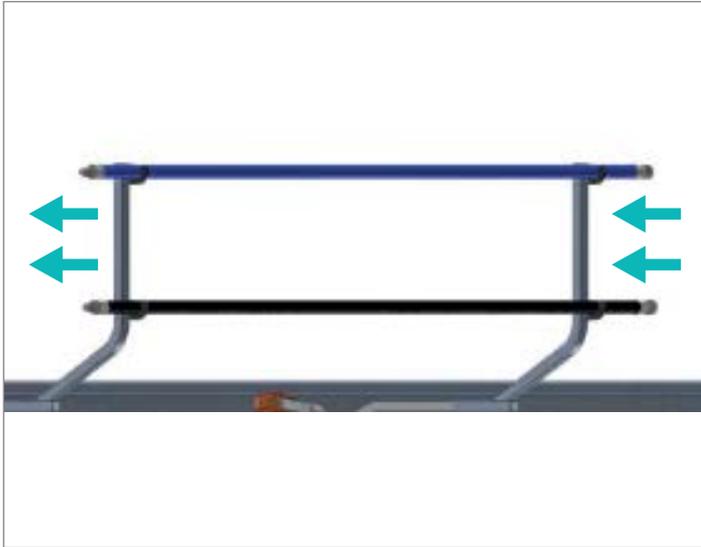
4. Trying to pull the stanchion away from the rail sideways is not possible or recommended.

This action will only result in you damaging the equipment.



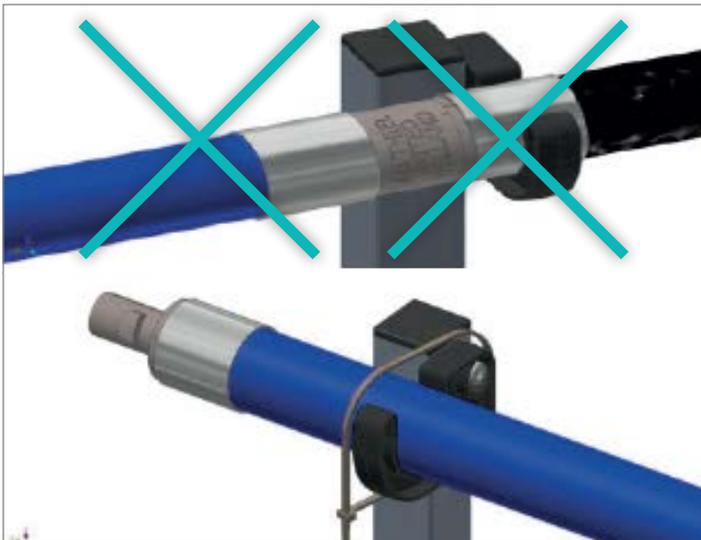
### Prohibited

5. Do **NOT** carry the handrail in a vertical position when operating in situations where there is an Overhead Line with 25kva as you are likely to come within the recommended 3m contact zone.



### Placing tubes

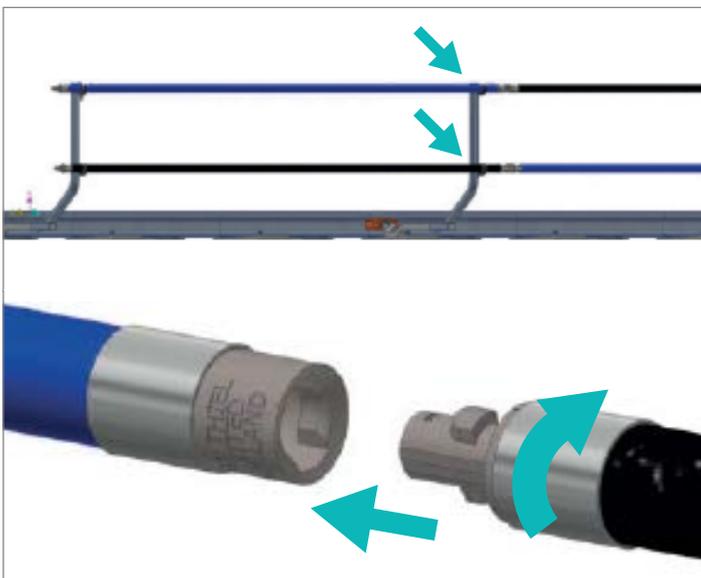
6. Place the tubes and clamp them into the clamping blocks.



7. Placing the insulator (including the indentations on the tubes) in the clamping block is NOT permitted.

The clamping blocks are sufficiently robust to hold the handrail tubes under normal circumstances.

However, if the barrier is intended for 'long-term' use, then it is advisable to secure them in the clamping block with a tie-wrap, which can easily be cut off when dismantling the barrier.



### Extending system

8. Place the next stanchion within 3 metres, connect the tubes to one another using the bayonet and clamp the tube into the clamping blocks.
9. Repeat steps 2, 3 and 5 to lengthen the system.

### Mounting tubes

10. After pressing in, turn a quarter rotation clockwise.

### Dismantling tubes

11. First turn a quarter rotation anticlockwise and then pull out.