

Track Work Instruction 2P017

How to carry out unclipping & clipping up of flat bottom rail

Introduction

This Track Work Instruction covers how to clip and unclip flat bottom rail. It covers most of the commonly found types of rail fasteners but excludes any screw type fastening such as AD's, BJB's, KT's etc.

See also separate instructions:

TWI 2C003 Flat bottom screw fastenings

TWI 2C004 Flat bottom spike fastenings

TWI 2C010 Bullhead (BH) fastenings

Competence

You must be competent to carry out this work.
See TWI 2G086 - Competence requirements.



Risks

Note! If you do not use the correct type of rail fastening, or unfastening, tool you can cause serious injury to either yourself or those around you. You may also damage the fastening or the housing.

When using a Panpuller or similar device, stand with one foot forward and one foot back to aid stability (see photo)



Tools and Equipment

Specialist tools for the clips involved. Bars.
Hand and eye protection (gloves and goggles)

Materials and Spares

Spare clips, insulators, pads, baseplates and chairscrews.

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Just in case

Mills clips have a habit of breaking inside the baseplate. If this happens, it may be necessary to remove the baseplate, in order to remove the broken piece. Take T-spanners, spare ferrules and chairscrews.

Method

General

This is one of the P. Way operations, which is best learned by “hands on” experience.

The accompanying photos give a general guide to operations.

In all cases, the operations should be carried out firmly but smoothly. Jerking the operation can result in equipment breakage or injury to yourself or those around you.

If sleepers and rail do not match up properly to permit insertion of the fastening get someone with a correct tool to assist you.

Note! Never try to force the fastening in order to lift the sleeper or square it up - something will get damaged - it may be you.

REMOVAL (unclipping)

Pandrol clips

These should be extracted from the baseplate or housing using a “Panpuller”. Take care with fastenings which are tight – they can sometimes release suddenly causing the individual to be off balance.

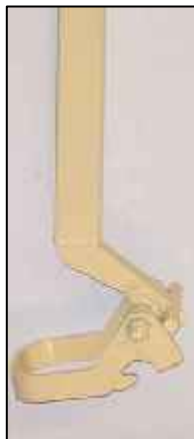
Note! The clips can fly out of the housings uncontrollably and may cause injury if you use hammers or bars.



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Method continued



Fastclips

These are removed at right angles to the rail using a special extractor tool.

Mills clips

Use the special extractor tool, but expect some of the clips to break in the housing.



Heyback fastenings

These should be knocked out of their housings using the broad end of a keying hammer. These fastenings can spring uncontrollably out of the housing if struck forcibly resulting in personal injury – use great care.

Several light blows rather than a few heavy ones will limit the possibility of flying metal chips.

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Method continued



SHC (fishtail)

Use the special extractor tool.

INSERTION (clipping up)

In all cases make sure that the sleeper and rail are in contact and square to each other. If not, get assistance to set them correctly. Use the correct sleeper lifting tools for this operation.

Fastclips

The clip is installed at right angles to the rail using a special installation tool or clipping machine.



Mills clips and SHC clips (fishtails)

These should be inserted as far as possible by hand, and then driven home using the broad end of a keying hammer. The baseplate housing will stop the Mills clip when it is correctly driven. The outer end of the SHC clip will sit exactly on the outer hoop when it is correctly driven.

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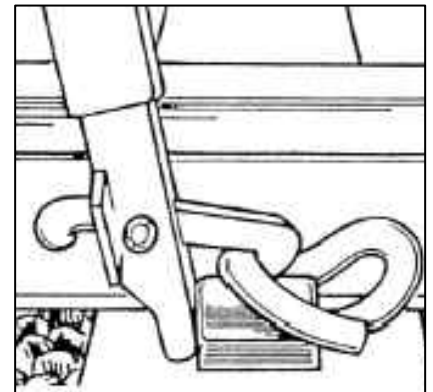
Method continued

Pandrol clips

These should be inserted in the baseplate or housing and then levered into place using a “Panpuller” which ensures that the clip is correctly fitted and not overstressed. It is essential that the rail and sleeper/baseplate be in correct contact. If you are uncertain, use a “Pansetter” to lever them together before pulling the clip into place.

Note! Do not try to hammer Pandrols into place - baseplates and housings can break and flying splinters can cause personal injury, especially to eyes.

The Pandrol clip is correctly driven when its end just appears level with the end of the housings. Modern housings have a built in stop to prevent overdriving.



Heyback fastenings

Insert the clip into the baseplate by hand then drive it carefully home using a keying hammer.

Problem solving

What if the fastening is seized?

Penetrating oil can be put on the clips at sites with known problems prior to the work taking place.

Pan-drivers may be used.