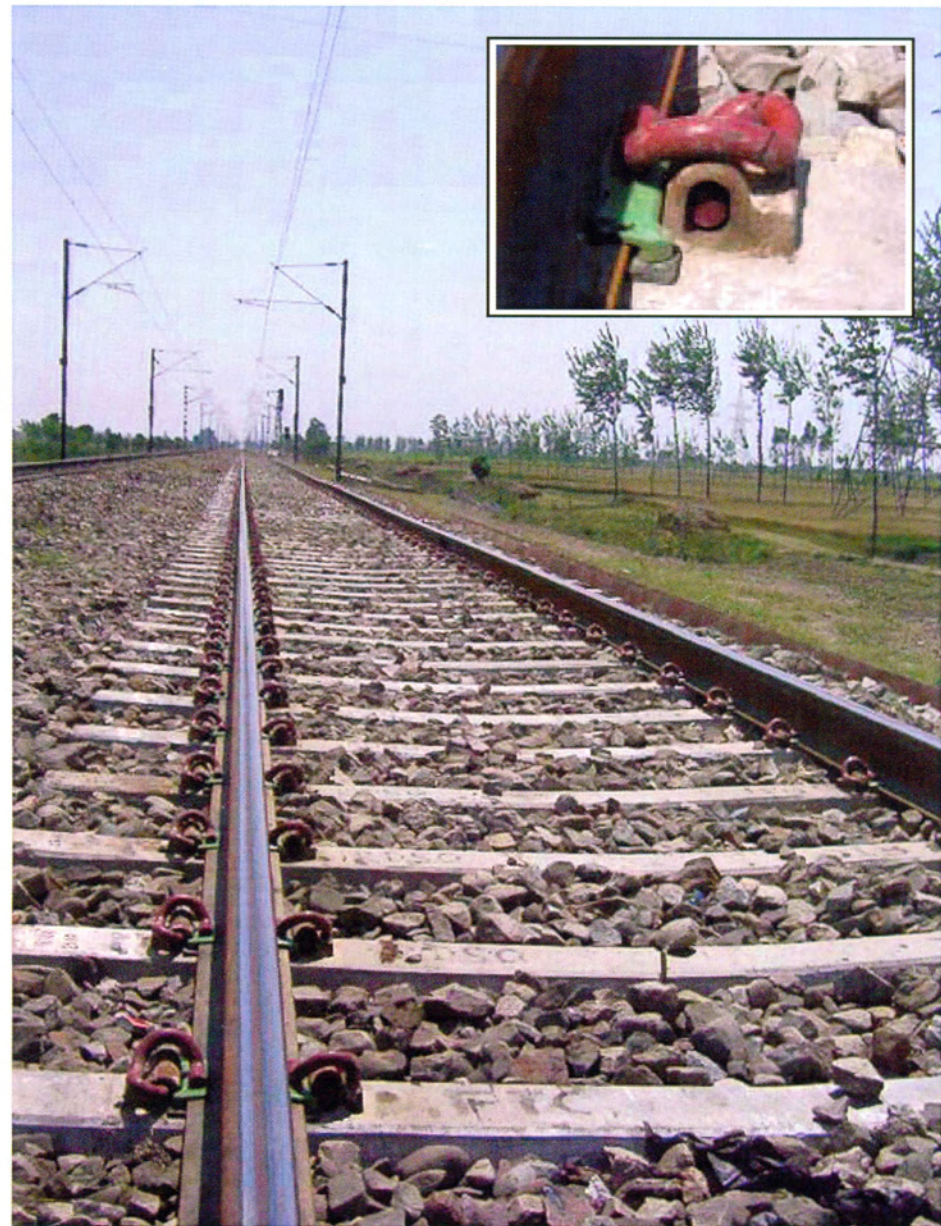


PANDROL Brand eAT2000 Series
Anti-Theft Rail Fastening System

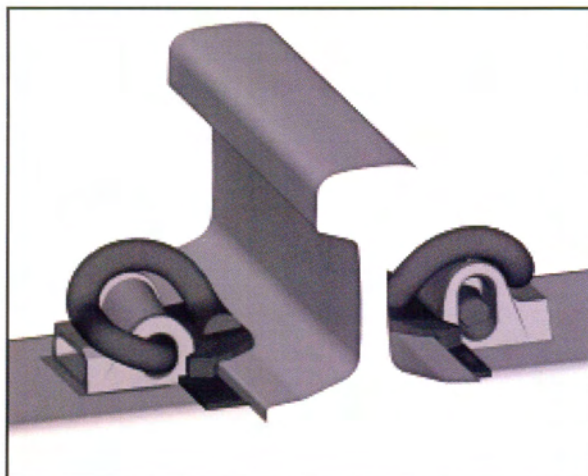
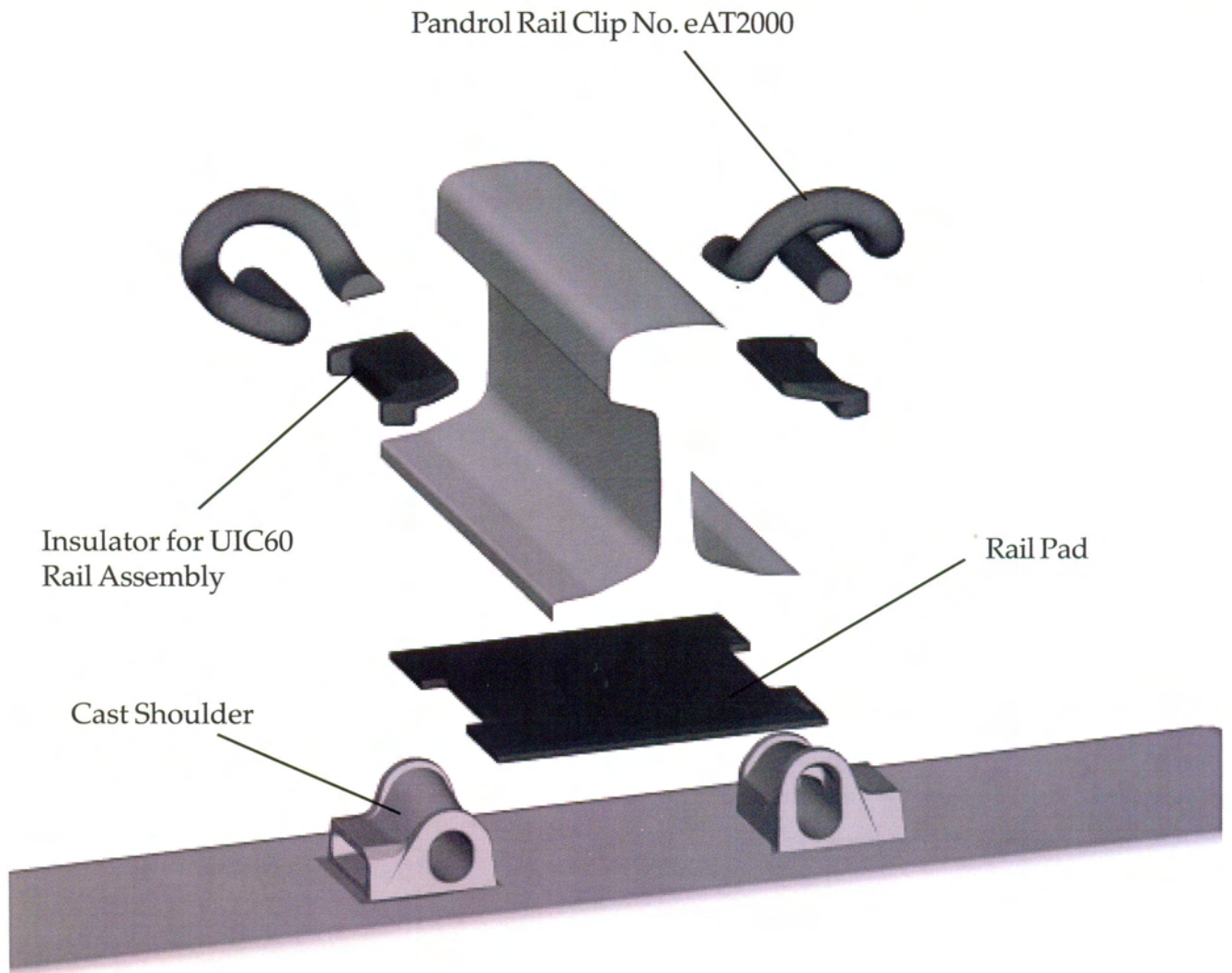
 **PANDROL**®

The Pandrol eAT 2000 Rail Fastening System

The Pandrol eAT2000 System combines heavy duty performance with long life durability. The 1250kg nominal toe load with hidden anti-theft device provides safety and a high level of creep resistance. Use of high-wear resistant materials in the insulating components specified to Pandrol standards ensure the longevity of the rail fastening system in track.

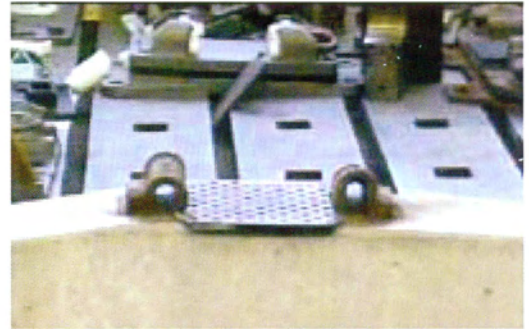


Pandrol eAT 2000 Rail Fastening System Component Identification

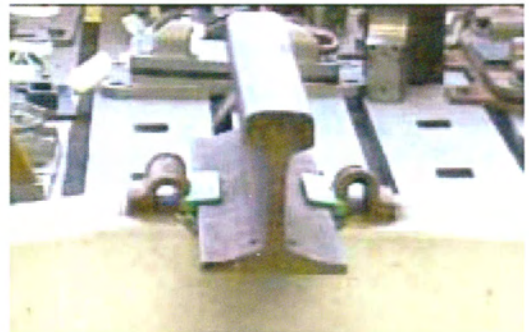


Pandrol eAT 2000 Rail Fastening System Assembly of Components

1. Place rail pad onto sleeper, ensuring surface is free of debris



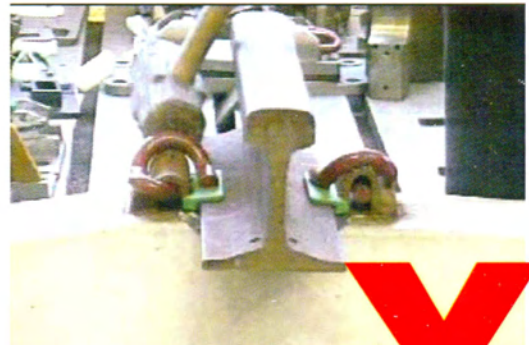
2. After installing rail, place insulators between shoulders and rail foot



3. Install clips using PANPULLER hand tool.



4. The assembly features an Anti-Theft feature to prevent unauthorised removal of the clip. Extraction of the clips is performed by the use of a special extraction tool which is available on request.



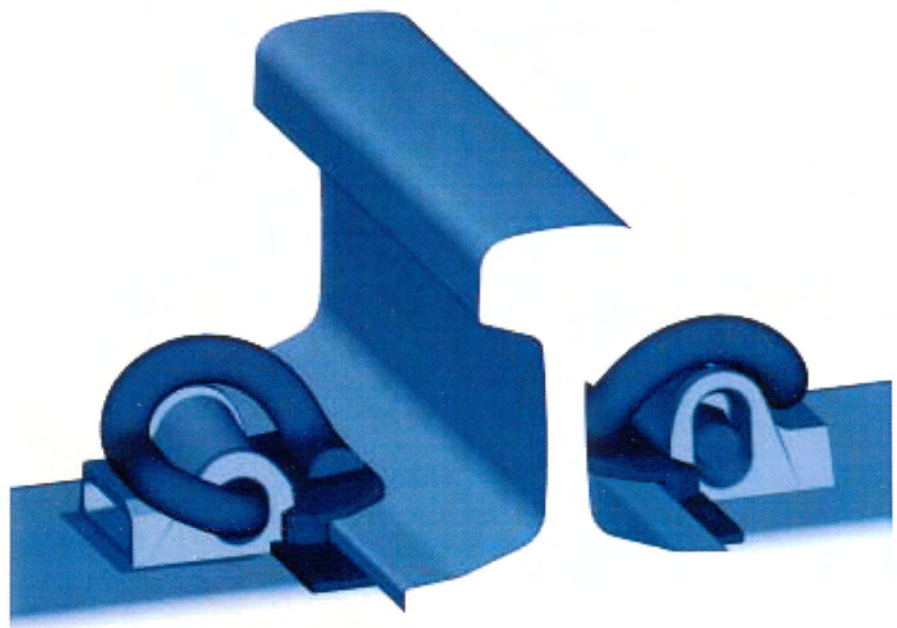
**Anti-Theft Deterrent
requires use of
special tools.**



Pandrol eAT 2000 Rail Fastening System

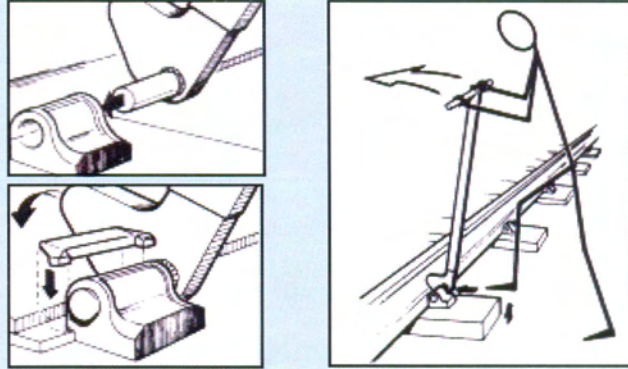
Advantages of the System

- High toe load - up to 1250kg per clip
- Hidden anti theft feature
- Requires special tool for extraction
- Very low maintenance system (fit and forget type)
- No clip jamming, by design
- Heavy duty system will not be damaged during handling
- Durable rail pad
- Resilient rail pad option
- Shoulder designed to last life of sleeper
- Self tensioning clip on installation
- Few, simple components
- High safety level and security of anti-theft feature
- Suitable for all locations: concrete, steel, timber, turnouts
- No threaded components to strip or corrode
- No plastic dowels in sleepers to creep
- No holes in sleepers to weaken sleeper
- Very long life components



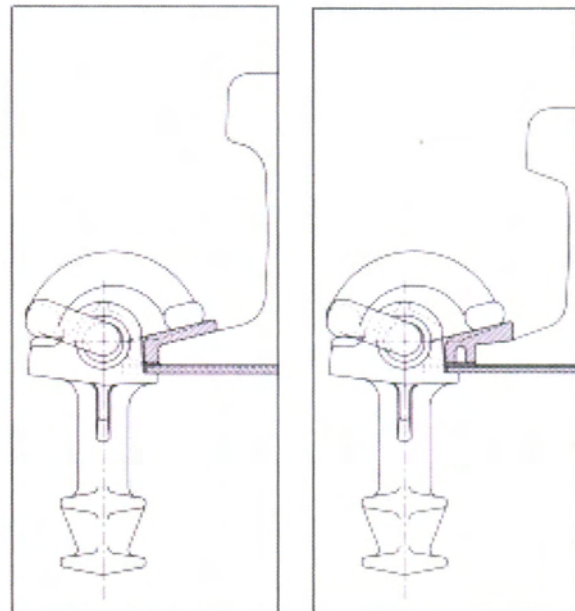
Installation of the Pandrol eAT 2000 Rail Fastening System

The PANSETTER is a simple hand tool to assist with the installation of insulators and PANDROL clips on concrete sleepers. Designed to operate on a lever principle when placed in the shoulder housing it will lift a low sleeper and move the rail to a central position allowing placement of the insulator. Whilst the sleeper is held in this position, a PANDROL clip can be installed on the other side of the rail with a PANPULLER.



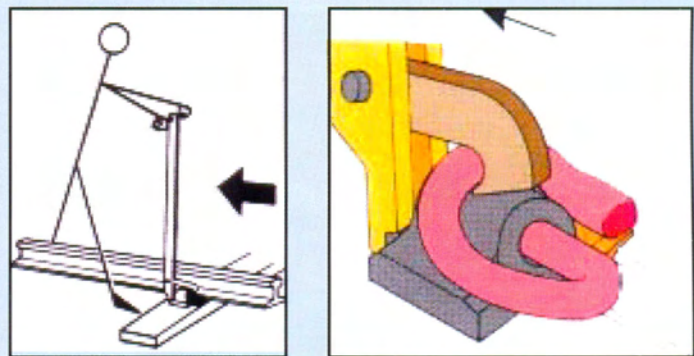
DUALRAILCAPABILITY

Change of rail section is possible by using easily identifiable, variable thickness insulators. All other components remain the same.



INSTALLING WITH A PANDROL PANPULLER

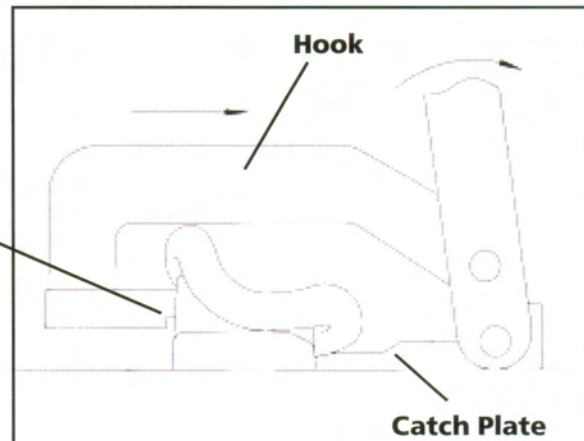
Insert centre leg of clip into shoulder. Place hook over the inside of the front arch of clip with foot of PANPULLER behind the shoulder and ensure lip of the hook is under front arch. Taking up a natural stance behind the PANPULLER, with both hands on tee handle at top of PANPULLER, pull strongly towards chest until refusal. The PANPULLER automatically pulls the clip to the correct position.



Extracting Pandrol Clips with Pandrol EXTRACTOR

1. Place hook in centre leg hole of shoulder

2. Position the catch plate at the base of the shoulder underneath the rear arch of the clip



3. Taking up a natural stance behind the Pandrol Extractor, pull strongly towards chest until the clip is removed from the shoulder.

4. Remove clip, then remove the Pandrol Extractor.

WORKING RANGE OF PANPULLER HOOK

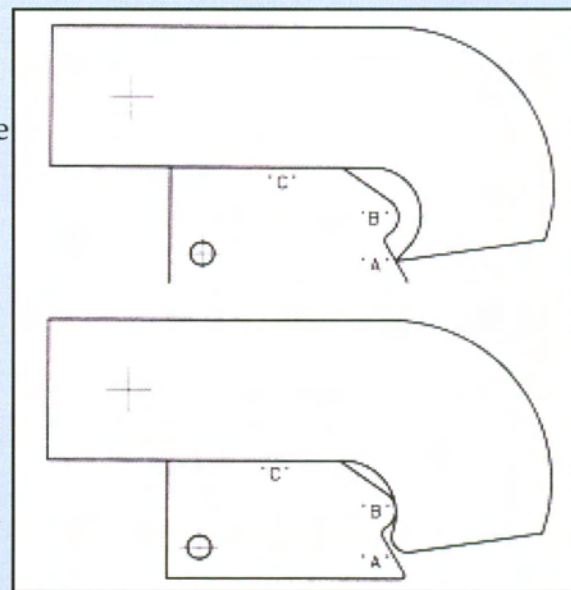
Use of PANPULLER Hook Gauge

Place curve of gauge into hook.
Gauge can be used with hook on or off PANPULLER.

Surfaces 'A' and 'C' in contact and gap at 'B' - Hook Suitable for use.

Surfaces 'B' and 'C' in contact and gap at 'A' - Hook Unsuitable for use.

Replacement Hooks and Bolts are available.



Pandrol Limited

PANDROL Limited has been in the business of elastic rail fastenings since 1937. Over the years, substantial design improvements have been made to all assembly components. Material specifications and production processes are also regularly reviewed and revised, to take account of technological advancement.

Designs can be made available for concrete, timber and steel sleepers to suit customer applications.

This commitment to continuing development has been a major contributing factor in the worldwide success of PANDROL Rail Fastening Systems.

By the end of 2004, PANDROL products had been installed on over 392 railway systems in 98 countries worldwide. They are now in service in climates ranging from the exceptionally hot and arid deserts of North West Australia and the Middle East, through the humid tropics of Africa, South America and South East Asia, to the extreme cold of Canada and Scandinavia. Track loadings vary from light mass transit systems to the heaviest mineral railways in the world, and track geometry from straight and level lines across open plains to the most severe curves and gradients of mountain railways.

There are some 1,225 million PANDROL Rail Fastenings in service today. This phenomenal record of performance and continued customer satisfaction is principally owing to the attention to detail, high quality standards, and the excellence of the products, coupled with the continued advancement in innovation to improve track standards through improved efficiency, greater durability and a confidence in the Fastening System to perform far beyond its design requirement.

The technical information given in this brochure was correct at the time of printing, but the company undertakes a continuing programme of research and development and improvements may have since been introduced.

Note: PANDROL, PANPULLER, and PANSETTER are registered Trade Marks of Pandrol Ltd.

Pandrol Limited
Gateford Road, Worksope
Notts S81 7AX, England
Telephone: +44 (0) 1909 476101
Telefax: +44 (0) 1909 500004

