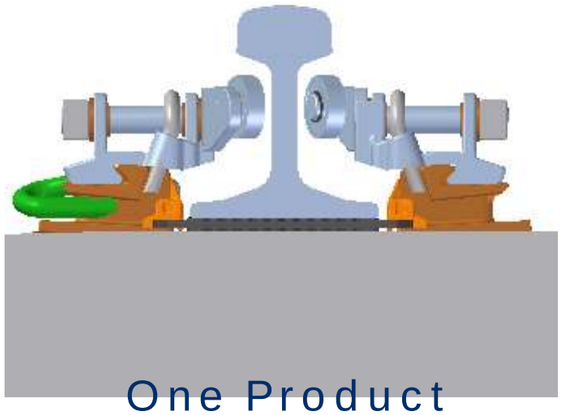
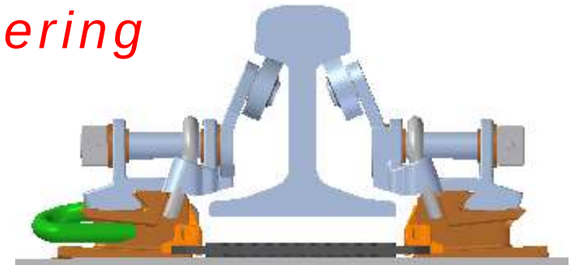


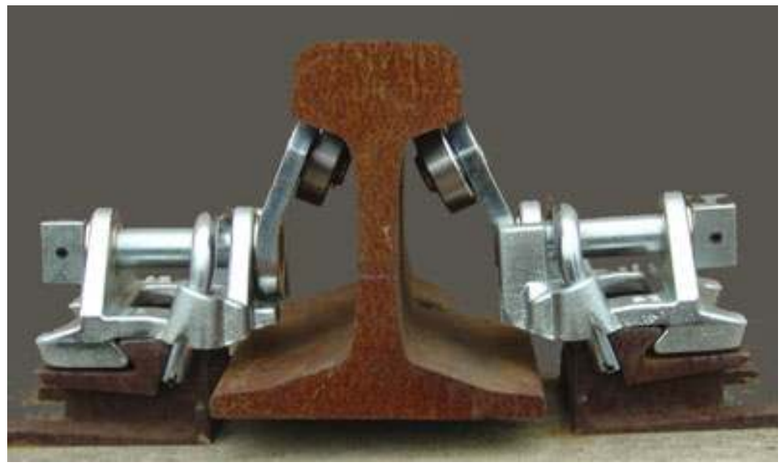
One Product

Clever
Engineering



Three Operations

Vortok Rail Stressing Roller System



Bringing new levels of performance, safety and efficiency to the re-stressing process

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Improving the rail stressing process.

Vortok Stressing Rollers have been designed to improve the accuracy and efficiency of the rail stressing operation. Until now a rail jack, under rollers and side rollers have been necessary when stressing the rail. The Vortok concept integrates all these into one product offering significant improvements.

- **Even Distribution of Stress**
- **Significant Cost Reduction**
- **Quicker Operation**
- **Improved Safety**

Improving the Process

In a stressing procedure, an operator will use a jack to lift the rail from an unclipped sleeper. A second operator will insert the under rollers before the rail is allowed to drop back down.

This whole procedure is fraught with risks; Has the rail pad adhered to the underside of the rail? Is the second operators hand clear? Is the roller damaged? Has the rail come to rest on an insulator?

The action of dropping the rail onto the under rollers causes them to fail very quickly, indeed the average operational life of a roller is typically less than 5 operations. The volume of under rollers required as a result of this short life expectancy has led to price pressures that have cheapened these rollers to the point of poor performance.

Vortok's Stressing Roller Remove all of these issues from the process.

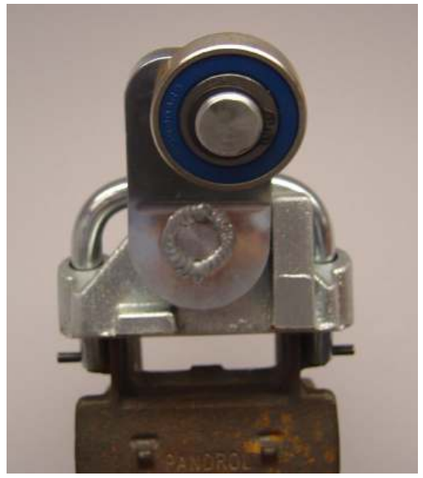
The Vortok Stressing Roller simply drops into place and self locks itself to the rail clip housing. The operator will then put the roller into the raised position, all within a maximum of 15 seconds!

Pictured here is the Vortok Stressing Roller on a Pandrol Fastclip type housing. An e-clip version will also be available in the future.

The removal process is just as quick as the rollers literally just lift off the housing, all aiding the general speed of the operation.

The rollers are contained within a purpose built racking system on a trolley for ease of use.

Significant Increase in Stress Performance



The function of the rollers during a stressing operation is to minimise the friction and allow the stress distribution to be even along the whole length of the rail.

Any drag will stop the full tension reaching the anchor points and the current rollers still create unacceptable friction.

The Vortok Stressing Roller combines a lift function with a **very low friction contact** bearing under the head of the rail. Each unit also acts as, and therefore replaces, the side roller.

This very low friction system vastly improves the quality of the stressing operation with even distribution of tension along the length of rail.

Cost Reduction

The life expectancy of the Vortok Stressing Roller is at least ten times that of conventional under rollers.

Over the lifetime of the equipment, at least 50 operations, a significant saving in the region of 75% can be achieved.

Attaching a cost to the improved quality is almost impossible, however the number of rail breaks at the weld will reduce as a result of the reduction in localised tension.

Safety

Common to all Vortok products is the emphasis on safety in the design process and an effort to remove as much risk as possible from rail operations.

The current use of under rollers requires that hands often go under the rail, to place the under rollers and check the rail pads etc. There is no need for an operators hand to go beneath the rail at any point when using the SRJs.

The fact that the rail is supported over the entire length and is self locking also adds to the overall safety of the system. It is also worth noting that the lifting process is very easy and requires very little exertion on the part of the operator