

# Speed restrictions, the Vortok way

## Lightweight magnets and signboard supports

Setting out a speed restriction, either planned or emergency, can be a time-consuming, laborious task. A typical set of equipment comprises two temporary AWS magnets, emergency warning indicator, and warning, commencement and termination boards along with the board supports. Ballast shovels and baskets, or CAT scanning equipment with spikes, traditionally accompany the load. This equipment often has to be carried long distances to site.

Setting up the TSR or ESR correctly under possessions, therefore, takes a long time.

Five years ago, Vortok International developed a system for erecting temporary signs. Fixed to the foot of the rail by a strong over-centre clamp and secured by a padlock it meant that, for the first time, signs could be erected by one person within a matter of minutes, without either ballast penetration or tools. Once attached, the rail clamp is so strong that the support will neither blow over nor become detached from the rail.

Manufactured from strong GRP, this lightweight and easy to install signboard support has proved invaluable to many maintenance companies by reducing the time and manpower required to set up speed restrictions.

The risk of further delays, and penalty payments caused by speed restriction boards falling over, has been dramatically reduced by the unique method of attachment.

This fully approved system is available direct from Vortok International or off the shelf from NRS. It has become the standard for correct and safe setting up of speed restrictions with over 3,000 units supplied in the last five years.

- Standard signboard support (up to 2m from rail): 57/072735.
- Short signboard support (up to 1.2m from rail): 57/072736.
- Optional stabiliser spar: 57/072738.

## Reducing the load still further...

To further reduce the amount of work setting up these systems, Vortok is now launching its lightweight temporary AWS magnet. During development, Vortok recognised three main issues with the existing system:

- The overall weight and mass of the yellow and green specification magnets.
- The bulky and cumbersome method of attaching to the rail.
- Storage and deterioration of the magnets when not in use.

Often, especially with the green specification unit, two or three men are required to carry an AWS magnet to site, dig out ballast and install within the four-foot. As there are two magnets required per site, this often has to be carried out under possession.

The Vortok lightweight AWS magnet, which uses rare earth magnet technology, weighs just 20kg and can be carried by a single person. The magnet itself is the size of a small book. Mounted on strong GRP, it is installed using the already proven and approved rail-clamping system from the signboard supports.

Installation takes about a minute with little or no ballast needing to be cleared away. Once in place, the clamp is again secured by a padlock and the magnet rotated from its carrying position to its working position, allowing the built-in trailing chain deflectors to become effective. As the bulk of the product is GRP, it is fully insulated to protect track circuits.

There are many other issues with traditional ferrite magnets. Every time a ferrite magnet sticks to another object, is knocked or even placed next to another ferrite magnet, it loses a percentage of its strength. This causes obvious problems when AWS magnets are in



stores. The varying strengths of the magnets can lead to failure and could result in not activating the warning within the train cab.

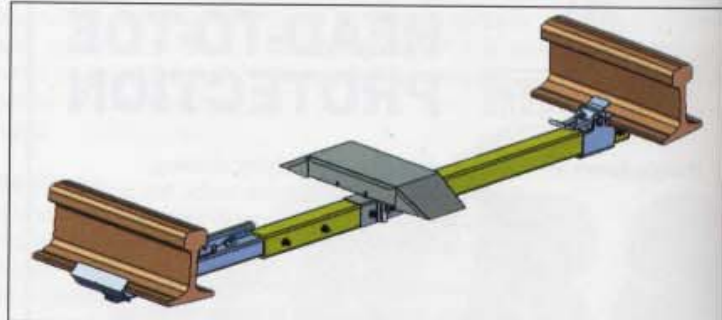
The rare earth technology used in the Vortok lightweight magnet does not lose its magnetic strength. There are no such associated problems with storage.

## Long awaited improvement

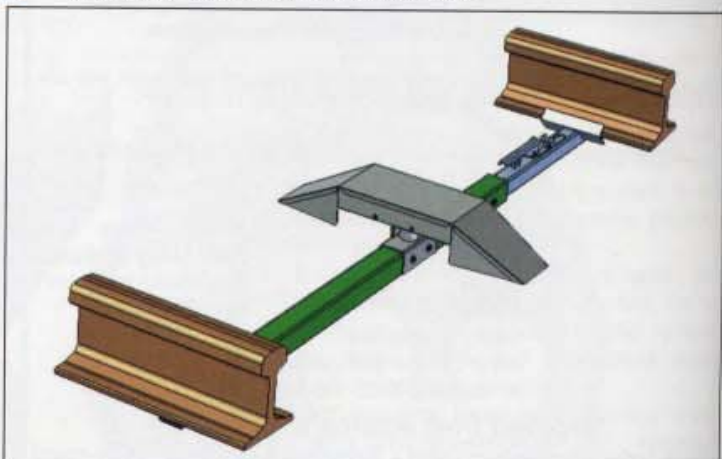
Feedback from maintenance companies is very positive. Without exception, all have commented that the industry has been waiting a very long time for an improvement to the traditionally awkward task of installing AWS magnets.

Vortok has two types available. Both are identical in size and weight, but are coloured yellow for standard applications and green for DC/third rail areas. They are available direct from Vortok or NRS in Crewe. Their stock numbers are:

- Vortok yellow AWS magnet: 62/006790.



- Vortok green AWS magnet: 62/006791.



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