

Technical Advisory

No. TRI – 003

Brake Rod Clevis Spring Clips

Date: 21-08-2014

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Drafted By	Les Allen	Scheduled Review Date	1 December 2014
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Background

Recently we have begun to see the re-emergence of the use of brake rod clevis spring clips such as those pictured below. We have seen the situation of a kart that was presented for technical inspection following an off track excursion - the kart suffered minor damage, being a slight twist in the frame, and a slight bend in the rear axle. Both capable of rectification at the track.

However, the cause of the accident was evident to the Technical Inspectors. One **BRAKE ROD CLEVIS SPRING CLIP** was not attached to the brake rod. The driver arrived at a sharp corner at the end of a long straight at close to maximum speed, **WITH NO BRAKES**.

A typical Brake Rod Clevis Spring Clip of the style in use is shown in **Photo 1**. These Brake Rod Clevis Spring Clips were common about 10-15 years ago, but seemed to have gone out of favour until now.

An inspection across several classes would suggest that they are being fitted to several brands of new karts, and that about 10% of karts examined are fitted with them. **Photo 2** shows how many of them appear after a year or so of use.



Photo 1



Photo 2

Two problems were evident some years ago with this style of Brake Rod Clevis Spring Clip.

1. In some cases, the clip would work loose, resulting in the Brake Rod Clevis Spring Clip falling out.
2. The most common fault was that the clip would break, as is evident in **Photo 2**, which absolutely resulted in the Brake Rod Clevis Spring Clip falling out.



The solution adopted at the time was to secure the Brake Rod Clevis Spring Clip with a zip tie, as shown in **Photos 3 & 4**. It appears that many of the karts examined recently where this style of Brake Rod Clevis Spring Clip was fitted had done just that.

Photo 4 shows a broken Brake Rod Clevis Spring Clip secured with a zip tie that is still operational and in tact providing the driver with working brakes.

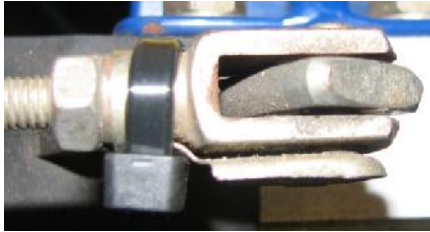


Photo 3



Photo 4

Recommended Procedure To Be Followed:

Minimum Standard

As a failsafe device, where this style of brake rod clevis spring clip is used on your kart a zip tie (minimum of 3mm wide) or wire tie should be affixed around the clip and the brake rod so to ensure that the clip is securely attached at all times. This is the minimum standard for the fixing and securing this style of Brake Rod Clevis Spring Clip. Failure to be adequately secured should not pass scrutineering.

Preferred Standard

The preferred method of securing the Brake Rod Clevis is shown in **Photos 5 & 6**.

- A high tensile cap screw and nyloc nut are used at each brake rod clevis.
- The bolt should be a long bolt with 10-12mm of parallel unthreaded shank, cut short and radiused off so that there are 2 threads only exposed through the nyloc nut thereby permanently holding the brake rod together.



Photo 5



Photo 6

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