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	NETWORK RAIL - SIGNAL ENGINEERING M30 Hard-Lock Nuts for Adjustable Stretcher Bar Assemblies	
Relevant Standard	NR/L3/SIG/10179	

Purpose

This Technical Instruction is to inform staff about a problem with the installation of Hard-Lock nuts to adjustable stretcher bars which may result in the locking function being ineffective, and to instruct staff how to identify and overcome this.

Scope

This TI applies to all staff responsible for installation, maintenance and faulting of M30 Hard-Lock nuts that are used to secure Stretcher Bar Brackets to 35mm square Adjustable Stretcher Bars.

Background

A team recently undertaking the task of replacing conventional lock nuts on adjustable stretcher bars noted that when fitting replacement M30 Hard-Lock nuts the male and female nuts closed together when tightened by hand. The locking function of Hard-Lock nuts requires a gap between the male and female nuts to be present prior to tightening to the installation torque value.

Subsequent checks found that on some bars the diameter of the threaded portion of the bar is at the bottom of the acceptable diameter range (29.6 to 30mm). This results in too much play on the threads for the nuts to fully lock as designed.

Further guidance will be issued on how to check for sub-standard bar diameter.

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The picture below shows a M30 Hard-Lock male and female nut pair fitted to an adjustable stretcher bar. The nuts have been hand tightened but there is no visible gap between the nuts.



It is important that there is a gap of approximately 2mm present between the male and female nuts after they have been tightened by hand, before the installation torque value is applied. If the gap is not present, the lock nut may not provide its full intended locking effect.

The picture below shows a suitable gap between the male and female nuts



Action Required

When fitting M30 Hard-Lock Nuts to adjustable stretcher bars the following installation instruction shall apply:

1. Before tightening to the installation torque of 300 Nm, the interlocking cones of the male and female nuts are to be initially engaged to hand tightness -there shall be a visible gap (approximately 2mm) between the nuts. A 1.5mm gauge can be used to check the size of the gap.