FASTUPDATES

Installation of nuts solves bridge noise problem

The village of Bray stands to the west of London on the banks of the Thames. Access can be gained across a small steel Bailey-type bridge that is in constant and heavy use. The road bed of the Jesus Hospital Bridge, which is owned by the Royal Borough of Windsor and Maidenhead, is made up of a number of steel plates all of which are anchored in place with nuts and bolts.

"We have had problems with the fixings on this bridge but these have not been specifically related to safety", Gordon Owen, a consultant bridge engineer with the Council's maintenance contractor, Jacobs, based in Reading, Berkshire, pointed out to **FAST**. "Any slight misalignment of metal plates and/or loosening of bolts means that metal-to-metal contact can cause rattling and the noise disturbs and irritates local residents."

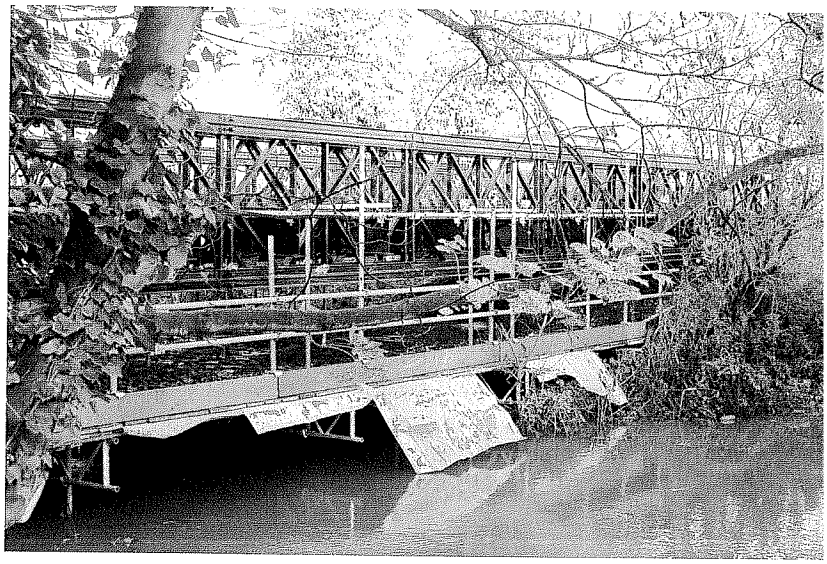
Mr Owen has specified the Hard-Lock range of fixings from **Staytite** and these were installed in girders, deck panels, etc. towards the end of last year. "Hard-Lock is an all-metal locking nut that is consistent in its ability to withstand loosening forces", Michael Moore, Staytite's sales director told FAST.

"The normal method used in order to delay the onset of loosening is to seat the nut and steadily increase the torque on the nut up to its material's maximum capability - ultimate tensile strength. In time, vibration, flexing, and creep may loosen the fitting", reports Mr Moore. "To lengthen the time taken to loosening self-locking nuts were developed but these also lose their thread-locking ability over time.

"However, repeated use does not reduce the locking ability of Hard-Lock nuts."

In use, the upper nut of the Hard-Lock fastener is threaded down the screw until the machined recess comes into contact with the tapered cone (which is offset) of the lower nut. This lower nut is held stationary and a locking torque is induced between the two nuts. This is not only a vertical force up and down the thread - installation torque - but also a horizontal force, induced by the offset cone of the lower nut. The lower nut is pulled in to the screw threads in one direction, while the upper nut is pulled in the opposite direction. "Thus", says Michael Moore, " the Hard-Lock is held stationary by three locking forces."

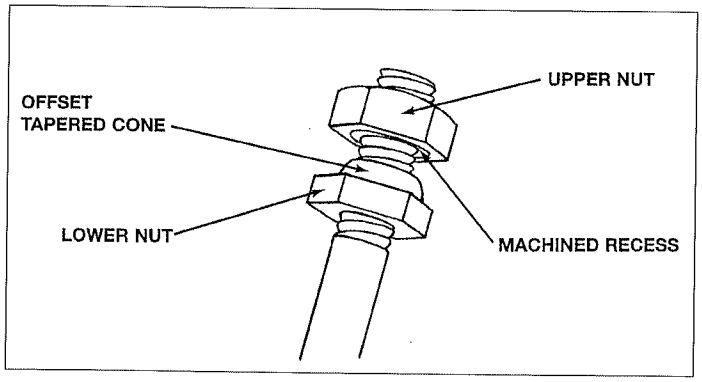
The Council believes that the use of the Hard-Lock M16 and M20 mild steel galvanised products has enabled the contractor, Grenson Construction, Reading, to solve the noise problem. "Quieter days and nights are ahead", said an optimistic Council spokesman.

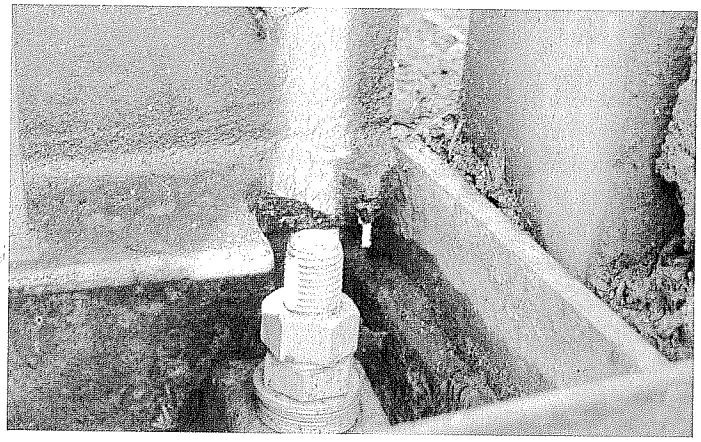


The metal roadway across the bridge at Bray.

- On the BBC1 television programme, 'Potters Bar - The Truth', screened on 14 December, it was revealed that the HSE investigation into this rail accident concluded that vibration loosening of fasteners had been a "serious problem". The recommendation was that Hardlock nuts be fitted on similar points systems. They now are.

STAYTITE 01494 462322





Installed Hard-Lock.

New factory producing fasteners

A purpose-built factory in Brierley Hill, West Midlands, has been up and running for about six months. It is the site of the new manufacturing facilities of **Savigny Oddie** and is producing the Oddie quarter-turn, quick-release fasteners and the Savigny brand of toggle latches, handles, and hinges. The company also sells cam and compression locks, sealing strips, and associated hardware.

Investments have been made in CNC lathes which, states the company's Chris Healey, will "complement the automatic power press work to 150 tonnes with CNC servo-roll feeds, multi-slide and single-action press-work, spindle lathes, etc".

SAVIGNY ODDIE 01384 481598