EziTite Hydraulic Nut V's Superbolt

A comparison of the merits of using a hydraulic bolt tensioner (EziTite Hydraulic Nut) Rather than a mechanical bolt tensioner (Superbolt)

Given that both systems apply a straight line force to the bolt which induces the material to stretch resulting in a tensile or clamping load, it is really only the speed and efficiency of each of the systems that is being compared.

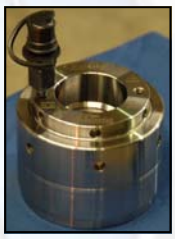
For installation Superbolts require 14 small cap screws to be tensioned in a predetermined sequence to achieve the desired tensile load on the bolt (refer to Superbolt users manual). Hydraulic tensioners require only one operation to accurately load a bolt by applying a known hydraulic pressure to the piston area and then completing the job by turning down the lock ring and releasing the hydraulic pressure leaving an extremely accurate residual bolt load.

The following example is for a quantity of 32 x 4" nuts tensioning a flange:

Superbolt

TASK	DESCRIPTION	TIME (MIN)
1	Wind the 32 nuts onto the job	30
2	Loosely tighten all Superbolts with air gun (448 small bolts)	35
3	Tension up each Superbolt in a pattern to 30% using torque	45
4	Tension up each Superbolt in a pattern to 60% using torque	45
5	Tension up each Superbolt in a pattern to 100% using a wrench	45
TOTAL		**200 (Over 3 Hours!)**

EziTite Hydraulic Nut



TASK	DESCRIPTION	TIME (MIN)
1	Wind the 32 nuts onto the job	30
2	Connect Hoses to all of the EziTite Hydraulic nuts in series	10
3	Using a pump, apply pressure to EziTite Hydraulic Nuts	3
4	Wind down Lock Rings	10
5	Disconnect Hoses	10
	TOTAL	**63**

NB: Superbolts times are based on favourable conditions and, maximum worker speed.
(For best results more than 1 worker would be required).

While installation of the Superbolt can be time consuming and tedious, removal can be fraught with danger.
The removal procedures described in the Superbolt include that the loosening of cap screws (by 1/8th of a turn at a time) must be strictly adhered to, to prevent the hardened steel washer from 'kicking' and jamming on to the stud.
Remembering that at some stage during both the installation and removal the maximum applied load is being carried by one cap screw this can make things difficult to control.

EziTite Hydraulic Nuts are definitely a Superior Product

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