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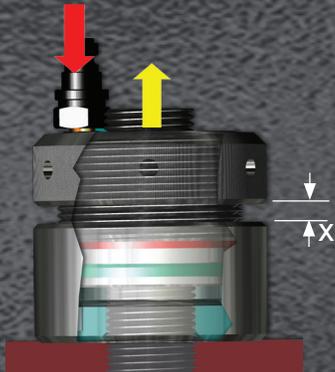
## Hydraulic Nuts Series: Top Collar Type



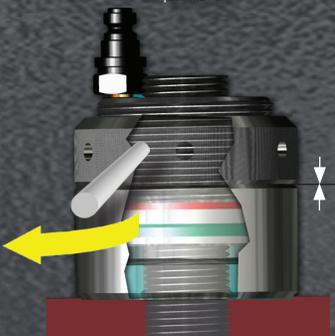
Simplified procedure.  
Note: for clarity the pressure hydraulic hose is not shown on the following diagrams.



Assemble the Hydraulic Nut onto the bolt to be tensioned.



Pressurise the hydraulic nut to the target pressure. The bolt will stretch and a gap will appear at X. Hold the pressure.



Using a tommy bar, rotate the load retaining collar up against the main body of the nut. Release the pressure. The bolt is loaded.

TorcUP Nuts replace existing hexagon nuts to give a rapid, accurate and uniform bolt load to any bolted joint. The TorcUP Nut offers a method of bolt tensioning multi-bolt applications which greatly improves the integrity of the joint. The speed in which joints can be tensioned and detensioned shows an extraordinary time savings over conventional detachable bolt tensioning systems. An existing oil company has recently reported a massive time saving of 1750% over their old bolt tensioning system, through the use of TorcUP hydraulic nuts.

### The Principle

Hydraulic pressure is applied simultaneously to each TorcUP Nut. All frictional factors connected with conventional bolt tightening methods are alleviated since TorcUP Nuts apply a direct axial force to the bolt which generates bolt elongation. This elongation/tension is permanently retained by means of the load retaining collar. TorcUP Nuts have been designed to be as compact as possible, allowing more nuts to fit on an application. In most cases they produce a residual bolt stress of 45000 lbs/in<sup>2</sup> (310N/mm<sup>2</sup>), which is more than adequate for most bolted joint applications. As pressure is applied to the TorcUP Nuts not only does the bolt elongate but also joint compression occurs. Since many applications incorporate some form of gasket, this joint compression can be substantial. In order to withstand this, all TorcUP Nuts are capable of considerable piston movement. This allows the TorcUP Nuts the ability to tension a complete joint in only one pressurization sequence, which can result in significant high time savings.

### Main Features and Benefits

- Standard TorcUP Hydraulic Nuts are suitable for use in temperatures up to 100°C. For temperatures above this level special seals are available, contact TorcUP for further details
- The use of machine cut polyurethane seals, ensures a reliable leak free Tensioning system
- TorcUP Nuts can be used with spherical washers where joint members are badly out of square
- Where the standard TorcUP Nuts are not suitable, special designs are available on request

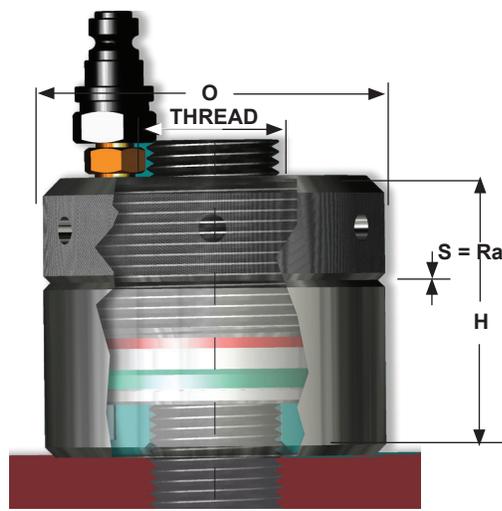
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Use either a TorcUP air driven pump unit or a TorcUP hand operated pump unit to apply pressure to TorcUP Hydraulic Nuts.

**Notes**

Maximum working pressure = 33000 psi : 2275 bar

If the standard Hydraulic Nuts are not suitable TorcUP offer special designs on request.

**General Tool Specifications**



Part No	Thread	Thread	Part No	Load	O	H	S	
Inch	Inches	Metric	Metric	kn	Tons	Inches	Inches	Inches
TCHN:0875	7/8	M22	TCHN:0022	190	19.1	2.13	1.57	0.20
TCHN:1000	1	M24	TCHN:0024	205	20.6	2.24	1.73	0.20
TCHN:1125	1 1/8	M27	TCHN:0027	220	22.1	2.36	1.81	0.20
TCHN:1250	1 1/4	M33	TCHN:0033	265	26.6	2.64	1.89	0.20
TCHN:1375	1 3/8	M36	TCHN:0036	325	32.6	2.87	2.05	0.24
TCHN:1500	1 1/2	M39	TCHN:0039	373	37.5	3.07	2.20	0.24
TCHN:1625	1 5/8	M42	TCHN:0042	424	42.6	3.27	2.28	0.24
TCHN:1750	1 3/4	M45	TCHN:0045	445	44.6	3.39	2.36	0.24
TCHN:1875	1 7/8	M48	TCHN:0048	523	52.5	3.66	2.52	0.31
TCHN:2000	2	M52	TCHN:0052	629	63.1	4.02	2.83	0.31
TCHN:2250	2 1/4	M56	TCHN:0056	781	78.3	4.41	2.95	0.31
TCHN:2500	2 1/2	M64	TCHN:0064	941	94.4	4.88	3.19	0.31
TCHN:2750	2 3/4	M68	TCHN:0068	1042	105	5.16	3.50	0.31
TCHN:3000	3	M72	TCHN:0072	1246	125	5.67	3.78	0.39
TCHN:3250	3 1/4	M80	TCHN:0080	1607	161	6.26	4.09	0.39
TCHN:3500	3 1/2	M90	TCHN:0090	2027	203	6.93	4.49	0.39
TCHN:3750	3 3/4	M95	TCHN:0095	2160	217	7.17	4.61	0.39
TCHN:4000	4	M100	TCHN:0100	2466	248	7.87	4.96	0.59
TCHN:4500	4 1/2	M110	TCHN:0110	2814	282	8.46	5.43	0.59
TCHN:5000	5	M125	TCHN:0125	3820	383	9.61	5.91	0.59
TCHN:5500	5 1/2	M140	TCHN:0140	4954	497	10.71	6.61	0.59
TCHN:6000	6	M150	TCHN:0150	5655	568	11.42	6.85	0.59

**Associated Equipment**



**High pressure flexible hose**



**High pressure Hand Pumps**



**High pressure Air Pumps**

Refer to associated technical datasheet