

FABQ: Frequently Asked Bolting Questions

“ We currently use other methods of achieving a high preload on our bolts; most notably, hydraulic tensioners. What are the advantages of MJTs over other methods? ”

Thanks for the great question! There are many advantages to Superbolt® multi-jackbolt tensioners compared to other methods of tightening bolted joints. Most notably, MJTs are fast and easy to use, but they have many other advantages:

- Tremendous clamping force available
- Low torque requirement - only hand tools needed
- Safe method for installation personnel. No high energy tooling required
- Reduces installation time over common methods
- Studs/Bolts tightened in pure tension
 - No thread galling
 - No need for tight tolerance threads which can seize
 - Bolts/Studs do not seize into housing
- Tensioner flexibility adds elasticity to studs/bolts to create a better bolted joint.
- Fits in restricted areas
- Provides even tension from stud to stud
- Accurate to within 10% of specified bolt tension
- Ease of removal

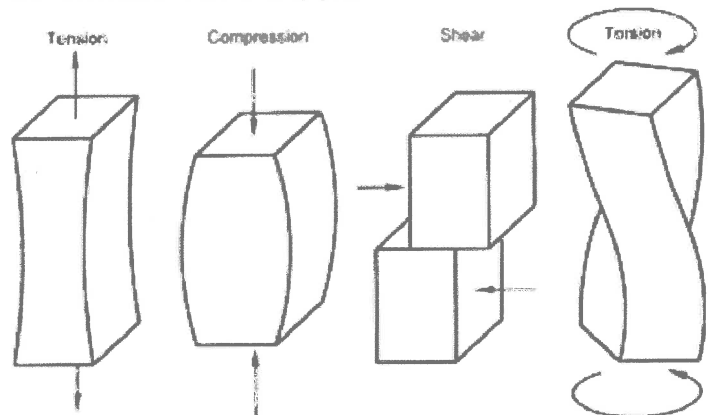
To further answer your question, all of the listed advantages translate into saved time and saved money in the long-run.

Compared to hydraulic tensioners, MJTs are much more accurate, faster, and safer. MJTs also eliminate the possibility of thread galling because they transfer the force from the jackbolts evenly across the engaged threads of the main stud or bolt.

FABQ is powered by your questions! Send us an email to us at info@precisionbolting.com and your question might be featured in our monthly newsletter!

BOLT FACTS: Tension vs. Torsion

When it comes to bolting, friction is a major factor contributing to inaccurate bolt loads. When tightening a typical bolted joint using a wrench, ratchet, torque wrench, impact, or hydraulic torque wrench, most of the force applied to the fastener goes towards overcoming the force of friction under the head, nut, and between the mating threads. Approximately 90% of the input energy is lost to friction. Bolt stresses are also highly concentrated in the first two engaged threads. This friction, along with the twisting motion traditionally used in tightening bolted joints, puts a tremendous amount of concentrated **torsional stress** onto the bolt which can lead to thread galling or deformation of the bolt.



As shown on the previous page, Superbolt® MJTs use jackbolts to apply force to the bolt in pure tension eliminating many of the problems associated with traditional methods, as well as saving time, while also increasing both accuracy, safety.

In the Next Issue: We discuss the principles behind Nord-Lock® wedge-locking washers and how they can be the optimal solution to secure your critical bolting application. For more information, please visit our website at www.precisionbolting.com.