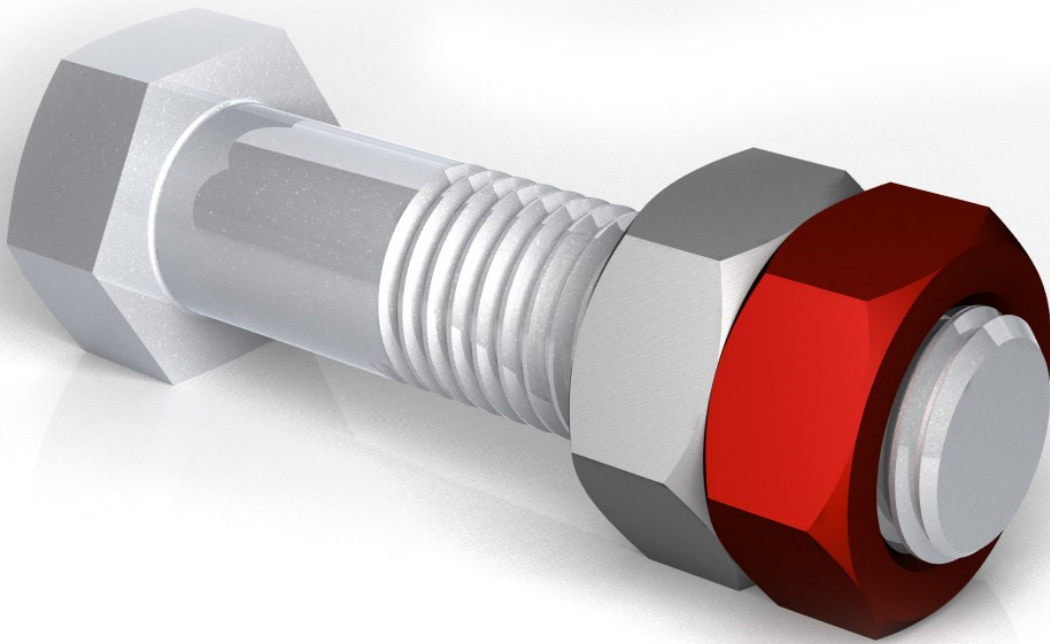


P E R F E C T
LOCK BOLT™



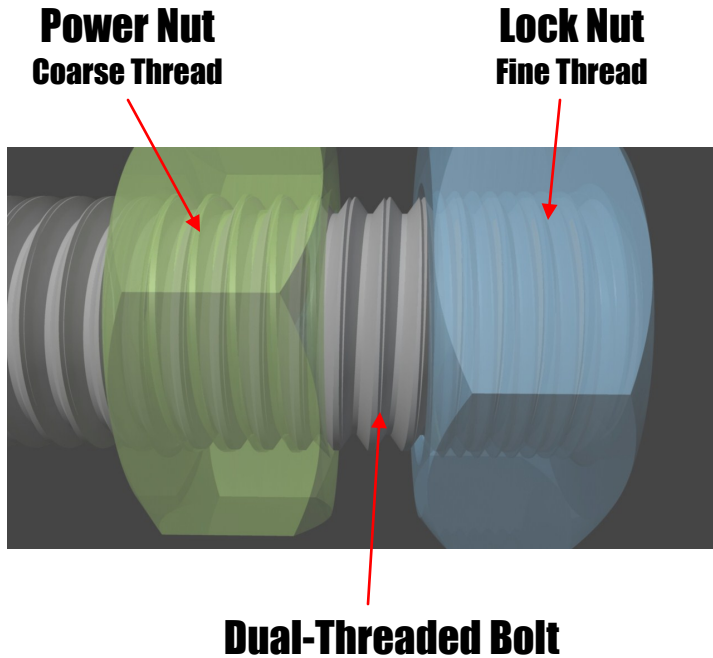
vibration resistant
dual threaded | mechanical lock | rolled threads
designed for repeated use | exceeds industry standards
built to specification

Perfect Lock Bolt™

Simply the best vibration-resistant
bolt on the market!

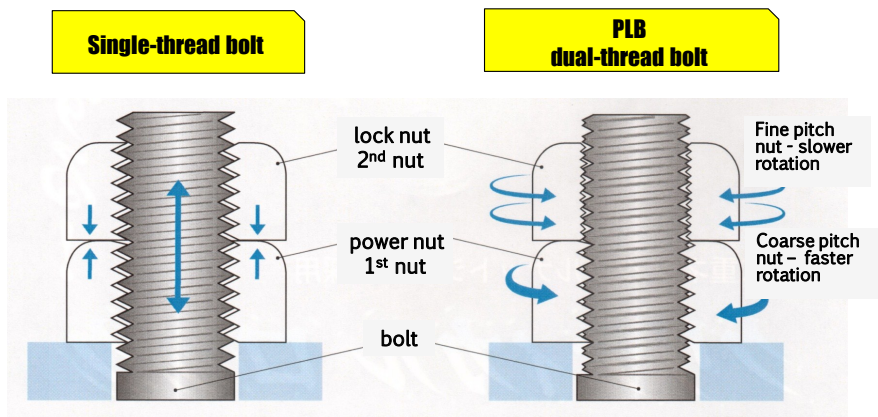
Dual-Threaded Bolt's Locking Mechanism

Two nuts with different pitch threads on a single bolt is the key to PLB not loosening
“even under severe vibration-shock.”



The Perfect Lock Bolt consists of a dual-threaded bolt shaft and two nuts of different thread pitches. The first nut on the shaft is a course threaded nut, or Power Nut. The outer nut on the shaft is a fine threaded nut, or Lock Nut. When the Perfect Lock Bolt is subjected to vibration in any form, the Power Nut travels twice as fast along the bolt shaft as the Lock Nut. Under this loosening force the Power Nut and the Lock Nut, having different pitches, move away from the preloaded pressure at different rates creating a mechanical lock.

Single vs. Dual-threaded bolt comparison



Unlike the friction method, the dual-threaded bolt's different pitch coarse & fine nuts are mechanically locked in place.

Stronger rolled threads

Different grades available

Stock sizes & lengths

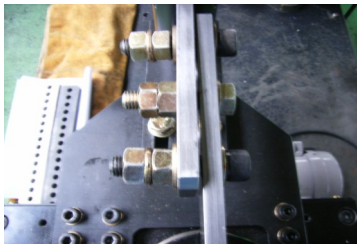
Custom sizes & lengths

Remarkably simple yet ingenious design

Engineered to last & be reusable

Mechanically Locked to Resist Loosening from Vibration

NISSEI Vibration Bolt Looseness Test Specs



Bolt-Looseness Vibration Tester

Test Specs

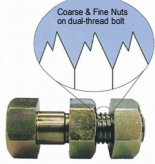
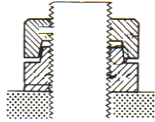
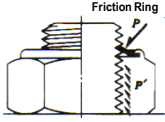
Vibration Time (sec)	30
Vibration frequency (Hz)	30
Static Load on Nut (kg)	15.5
Static Weight on Nut (kg)	8.02
# motion between ends	855

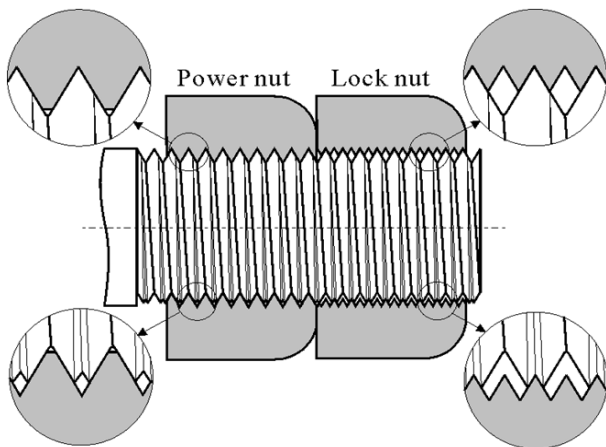
Exceeds NAS-3354
Vibration Tolerance
Specifications by 30X

Reduced Liability
Greater Safety

NISSEI-Original Vibration Tester – Looseness Test

Locking techniques being compared

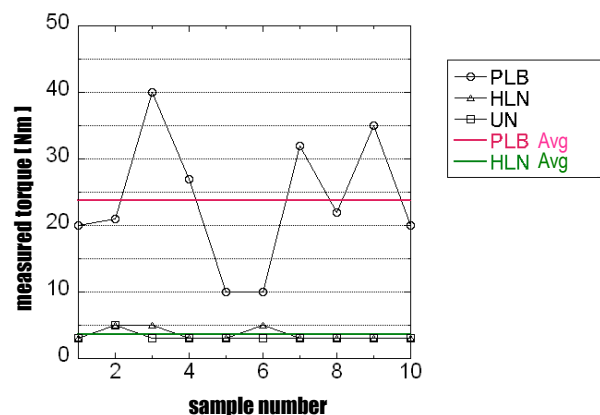
Product Name	PLB	HLN 2 Nut Solution	U-Nut
Structural Diagrams			
Tested Bolt Size	M12		



Dual-Threaded Bolt Cross Sectional Details

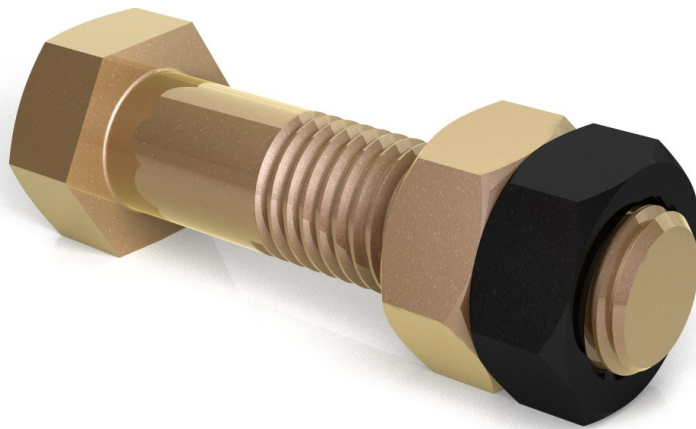
Laboratory tests have proven that vibration cannot shake the PLB loose. The PLB stays tight and completely intact under acceleration of up to 20Gs. Vibration loosening tests were performed by the Japan Quality Association (JQA) on single threaded bolts (both single and double nut) and the PLB. The test consisted of 30,000 oscillations, or about 17 continuous minutes of vibration, or when the fastener obviously loosened, whichever came first. Single threaded bolts shook loose in less than one minute while the PLB stayed fastened, even when the test was extended for an additional 10 hours. Not only did the fastening torque show no decrease in strength, but the PLB also performed flawlessly without any physical damage to the bolt.

Test Results – Measured Lock Torque



vibration resistant | dual threaded | mechanical lock | rolled threads

P E R F E C T
LOCK BOLT™



designed for repeated use | exceeds industry standards | build to spec

You'll have a nut loose without it!

Perfect Lock Bolt Applications

steel frame buildings | bridges | steel towers | crushers | construction machinery | wind driven electricity | generators | cranes | ships playground equipment | elevators | commercial vehicles | aviation aerospace | farm equipment | industrial machinery | engines | trucking | vibration conveyers | high-speed rail | amusement parks

Perfect Lock Bolt™

Simply the best vibration-resistant bolt on the market!

<http://www.perfectlockbolt.com>

Perfect Lock Bolt America, Inc.

269 Technology Way, Suite 6

Rocklin, CA 95765

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