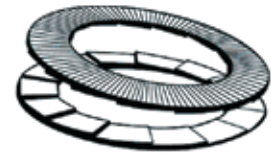


## Make Your Bolts Self-Locking Using Tension Instead of Friction

# NORD-LOCK®

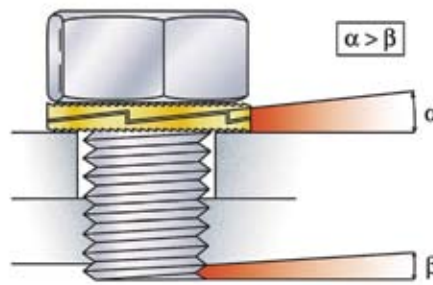
## Bolt securing system



With the invention of bolts came the problem of how to prevent them from self loosening, most often a result of the vibration generated by the source to which the bolt is attached. If fasteners allow the joint to move or fail, expensive warranty claims or high maintenance costs can result. This is especially true when the joints are subject to vibration or dynamic loads, where fatigue can cause the bolts to loosen or break.

The NORD-LOCK® Bolt Securing System is based on a pair of

washers that provide a wedge-locking action – a unique method of locking fasteners which uses tension instead of friction. On one side the washers have cams with angle " $\alpha$ " greater than the rise of the bolt thread " $\beta$ ", while on



the other side radial teeth grip the fasteners to lock them into place.

NORD-LOCK®, together with a standard nut, achieves a locking that is superior to other locking hardware such as nylon-inserted nuts. Bolts that are locked by friction in the thread lose most of their preload through vibrations, while those locked with NORD-LOCK® present a minor loss of preload caused by normal settlements in the thread. However, even with just moderate tightening, the bolt is safely locked with NORD-LOCK®.

### Advantages of NORD-LOCK® washers

- Resists loosening caused by vibration and dynamic loads
- Provides positive locking at low and high pre-load levels
- Achieves maximum safety when locking fasteners
- Ease of assembly and disassembly
- Locking function is not lost by lubrication
- Reusable

### Junker Vibration Test Diagram

