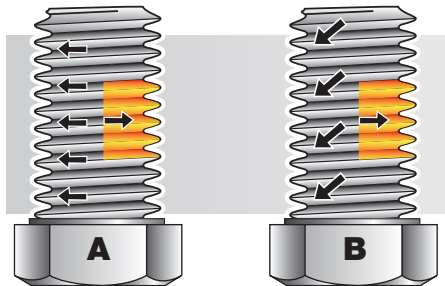


HOW ND PATCH® WORKS

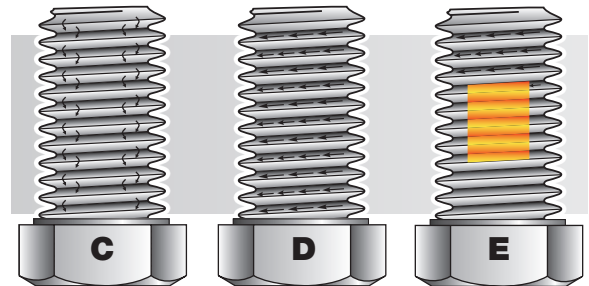
LOCKING & ADJUSTING

ND's compressed patch (A) exerts a springlike wedging pressure on one side of the bolt which creates strong metal-to-metal contact on the opposite side. This provides a strong, yet fully adjustable lock whenever wrenching action stops. When a bolt is seated (B) the patch forms a positive lock and seal that will not weaken, even under extreme vibration.

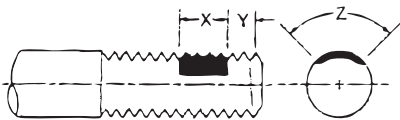


SEALING

When an ordinary bolt (C) is unseated, leakage follows a zig-zag path parallel to the bolt's axis. Even when seated (D), the bolt will leak along the spiral gap on the unloaded side of the thread. ND's compressed patch (E) acts as a "dam" to prevent leakage beyond that point.



ND PATCH STANDARDS



- PATCH MATERIAL**
Nylon, Type 11
- X MINIMUM**
Patch length of at least four thread pitches (effective locking area). May extend beyond.
- Y MINIMUM**
For ease of starting, 1½ to 2 thread pitches left free of effective locking element.
- Z MINIMUM**
Locking element coverage equal to at least 90° of the total circumference of the part.
- MATING PART**
Leading edge of the internal thread must be radius chamfered to provide proper entry of the Patch part.

IFI-124: 2002 (R2007) TORQUE SPECIFICATIONS

| SCREW SIZE (UNC or UNF) | MAXIMUM INSTALLATION TORQUE | MINIMUM BREAK AWAY TORQUE | |
|----------------------------|-----------------------------------|---------------------------|----------------|
| | | First Removal | Fifth Removal |
| #0 - 80 | 0.75 in./lbs. | 1.5 in./ozs. | 0.5 in./ozs. |
| #2 - 56 | 2.0 in./lbs. | 3.0 in./ozs. | 1.5 in./ozs. |
| #4 - 40 | 5.0 in./lbs. | 1.0 in./lbs. | 0.5 in./lbs. |
| #6 - 32 | 8.0 in./lbs. | 2.0 in./lbs. | 1.0 in./lbs. |
| #8 - 32 | 12.0 in./lbs. | 2.5 in./lbs. | 1.5 in./lbs. |
| #10 - 24 | 18.0 in./lbs. | 3.0 in./lbs. | 2.0 in./lbs. |
| 1/4 - 20 | 40.0 in./lbs. | 5.0 in./lbs. | 3.0 in./lbs. |
| 5/16 - 18 | 85.0 in./lbs. | 8.0 in./lbs. | 5.0 in./lbs. |
| 3/8 - 16 | 110.0 in./lbs. | 14.0 in./lbs. | 9.0 in./lbs. |
| 7/16 - 14 | 150.0 in./lbs. | 20.0 in./lbs. | 12.0 in./lbs. |
| 1/2 - 13 | 220.0 in./lbs. | 26.0 in./lbs. | 16.0 in./lbs. |
| 9/16 - 12 | 270.0 in./lbs. | 35.0 in./lbs. | 22.0 in./lbs. |
| 5/8 - 11 | 350.0 in./lbs. | 45.0 in./lbs. | 30.0 in./lbs. |
| 3/4 - 10 | 460.0 in./lbs. | 60.0 in./lbs. | 45.0 in./lbs. |
| 7/8 - 9 | 700.0 in./lbs. | 95.0 in./lbs. | 65.0 in./lbs. |
| 1 - 8 | 900.0 in./lbs. | 130.0 in./lbs. | 85.0 in./lbs. |
| 1 1/8 - 7 | 1050.0 in./lbs. | 150.0 in./lbs. | 110.0 in./lbs. |

HOW TO OBTAIN AND RECORD TORQUE VALUES

- Maximum Installation Torque:** Install test nut by hand (chamfered end first) on bolt or screw until leading thread contacts locking device. Using a torque wrench, rotate the test nut "on" five full turns. Record maximum torque obtained during the first turns.
- First Removal Torque:** Apply steady pressure to torque wrench in opposite direction from installation. Record the torque needed to start the test nut rotating with relation to the bolt or screw.
- Remove test nut five full turns, then reverse direction and install test nut five turns. This is the second installation. Repeat procedure 3 more times – until the test nut has been installed a total of 5 times.
- Fifth Removal Torque:** Apply pressure to torque wrench as in First Removal. Record the torque needed to start the test nut rotating.
- After the 5th Removal, change in minimum breakaway torque is very slight, indicating the reusability of the fastener.