



DESCRIPTION

Self-Locking Fasteners

PAGE

10-1 to 10-3



SELF-LOCKING FASTENERS

Features

Locking Pellet

The nylon pellet projects slightly beyond the crest of the thread – it must be compressed when the mating parts are engaged. When compressed, the resilient nylon pellet sets up a counter-force and creates a strong metal-to-metal engagement of the threads opposite the nylon pellet. This locking action takes place whether or not the fastener is seated. Moreover, the locking action is sustained; because nylon attempts to regain its original shape when deformed, it actually "grows" into the threads, providing still greater resistance to loosening.

Sealing

When an ordinary bolt is torqued down and seated properly, it is impossible for fluids to trickle down a zig-zag path parallel to the axis of the bolt because the load-bearing thread flanks are tightly engaged. But there is no way of preventing the fluid from entering the gap

between the nonload-bearing thread flanks and following this gap in a spiral path around the bolt until leakage occurs.

With a self-locking bolt, however, the nylon pellet acts as a dam along the threads and stops all leakage. In all tests, even at elevated temperatures and pressures, the self-locking bolt has proved an effective seal against leakage.

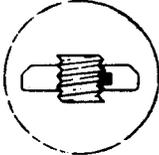
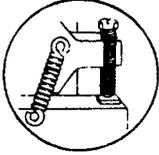
Adjusting

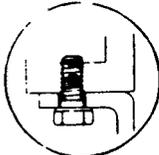
Since the nylon pellet that locks self-locking fasteners is effective regardless of whether the fastener is seated or not, self-locking fasteners make excellent adjustment screws. Fasteners stay just where you want them....cannot back off or be shaken out of position. In addition, the nature of self-locking fasteners makes it possible to change adjustments with ease and accuracy.

Locking Patch

The Locking Patch may be permanently bonded to any threaded fastener. Resilient patch provides you with superior locking torque on any threaded fastener, regardless of rockwell hardness.

Fasteners with the Patch meet or exceed the requirements of Mil-F-18240 C and the Industrial Fastener Institute (IFI) requirements for 240°F self-locking fasteners.

How They Lock	How They Adjust
 <p>A tough, resilient nylon pellet is permanently embedded in the threads, projecting slightly. When mating threads are engaged, the captive pellet is compressed. Its plastic memory creates a counterforce resulting in strong metal-to-metal contact of the threads. Locking action is sustained; fasteners may be used repeatedly.</p>	 <p>Self-locking fasteners lock whether seated or not. This positive locking action plus the natural resiliency of nylon prevents them from shaking loose or backing off. They can be adjusted easily, accurately, and repeatedly without altering their locking effectiveness.</p>

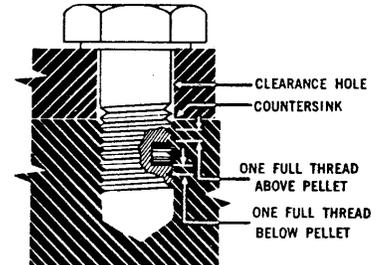
How They Seal	Any Threaded Part Can Be Made Self-Locking	
 <p>The nylon pellet covers the crests of at least two full threads and acts as a jam between the load bearing and nonload-bearing flanks of the mating threads. Properly seated, the screw seats both liquids and gases, even at elevated temperatures and pressures.</p>	<p>Self-locking fasteners lock whether seated or not. This positive locking action plus the natural resiliency of nylon prevents them from shaking loose or backing off. They can be adjusted easily, accurately, and repeatedly without altering their locking effectiveness.</p>	



SELF-LOCKING FASTENERS

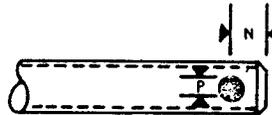
Application Data

1. For best locking torque it is recommended that the mating thread be countersunk 90° or 100° by 1/32" larger than the major thread diameter.
2. The clearance hole for average commercial applications should be a minimum of .015" larger than the major thread diameter in order to provide adequate clearance for the nylon pellet protrusion – for sizes No. 6 and smaller, .010" clearance will suffice.
3. Tensile strength equal to that of a comparable standard bolt or screw is developed when the self-locking bolt is engaged in a mating part two threads beyond the point at which the nylon pellet is completely covered.
4. Designed to have at least one full starting thread available even under the most extreme tolerance conditions. This gives sufficient thread engagement to withstand the axial load imposed by the engagement of the nylon pellet in most mating threads without distorting the first thread in the mating part.

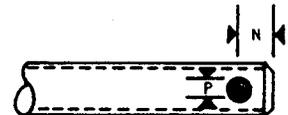


Pellet Data

Machine Screws,
Cap Screws, Bolts



Set Screws



Thread Size	Diameter P	Location Nominal
6-32	5/64	1/8
6-40		
8-32	3/32	1/8
8-36		
10-24	3/32	5/32
10-32		
1/4-20	7/64	3/16
1/4-28		
5/16-18	9/64	13/64
5/16-24		
3/8-16	5/32	7/32
3/8-24		
7/16-14	5/32	15/64
7/16-20		
1/2-13	5/32	1/4
1/2-20		
9/16-12	3/16	9/32
9/16-18		
5/8-11	3/16	5/16
5/8-18		
3/4-10	7/32	23/64
3/4-16		
7/8-9	7/32	13/32
7/8-14		
1-8	7/32	13/32

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10-24	3/32	5/32
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1/4-20	7/64	3/16
1/4-28		
5/16-18	9-64	7/32
5/16-24		
3/8-16	5/32	1/4
3/8-24		
7/16-14	5/32	9/32
7/16-20		
1/2-13	5/32	19/64
1/2-20		
5/8-11	3/16	11/32
5/8-18		
3/4-10	7/32	3/8
3/4-16		
7/8-9	7/32	27/64
7/8-14		
1-8	7/32	29/64
1-14		



1-14		
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