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Barrel Nut Indexing Shim Instructions

These shims are to solve the common problem we face when tightening the barrel nut on the AR-15 & M16 family of rifles. The standard barrel nut has 20 “Teeth”. You should try to align two of these teeth on the sides of the hole in the upper receiver for the gas tube to slide through. Often, when you reach proper torque, you will find a tooth well into the space that the gas tube would like to occupy.

The math:

You have 20 teeth around the barrel nut.

You have a 16 Tooth per Inch thread on the receiver and barrel nut.

One full rotation of the barrel nut tightens 0.062”

Rotating the barrel nut one complete tooth tightens 0.0031”

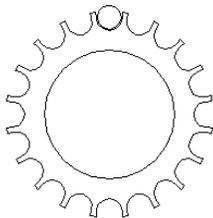
Barrel shims are 0.001” thick.

One barrel nut shim will cause the barrel nut to “Come to torque” 1/3 of a tooth counterclockwise from the position with no shim.

Two barrel nut shims will cause the barrel nut to “Come to torque” 2/3 of a tooth counterclockwise from the position with no shim. This will seem to move the tooth 1/3 of a tooth clockwise from the initial torque position in the gas tube hole when looking towards the receiver from the muzzle end of the barrel.

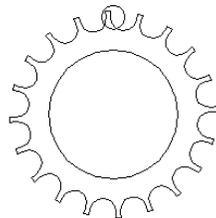
You should be able to use 0, 1 or 2 shims and get any barrel nut to proper torque while having proper index for the gas tube.

Correct
Index



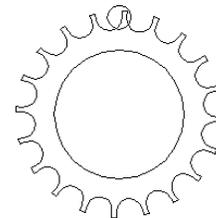
No Shim
Needed

If you
See:



Add 1
Shim

If you
See:



Add 2
Shims

The barrel nut shims are properly installed under the barrel nut against the barrel extension. When installing on a barrel with a pinned on front sight base, you must cut the shim to slip it onto the barrel. When cutting the shim, completely remove a 1/16” slice from the ring. This will prevent the shim from stretching and doubling up during tightening. Always take the barrel nut to proper torque and then tighten more as required to obtain proper index.