



The AR-15/M16 Barrel Nut Alignment Gauge facilitates the proper positioning of several components when installing the barrel onto the upper receiver. The barrel of the AR-15/M16 is secured to the upper receiver with a threaded barrel nut. As the barrel nut threads onto the upper receiver, it contacts a collar on the barrel and pulls the barrel into the receiver. While the installation is quite simple, it is essential that the barrel and barrel nut Assembly be properly aligned. The alignment pin on the barrel must enter the receiver alignment slot without deforming the slot walls. In addition, a notch on the barrel nut, an opening in the handguard slip ring, and the openings on the snap ring and slip ring spring must be properly aligned to permit installation of the gas tube.



WARNING



Never attempt to disassemble or reassemble a firearm unless you are absolutely certain that it is empty and unloaded. Visually inspect the chamber, the magazine and firing mechanism to be absolutely certain that no ammunition remains in the firearm. Disassembly and reassembly should follow the manufacturer's instructions. If such instructions are not immediately available, contact the manufacturer to see if they are available. If they are not available at all, then you should consult other reference sources such as reference books or persons with sufficient knowledge. If such alternative sources are not available and you have a need to disassemble or reassemble the firearm, you should proceed basing your procedures on common sense and experience with similarly constructed firearms.

With regard to the use of these tools, the advice of Brownells Incorporated is general. If there is any question as to a specific application it would be best to seek out specific advice from other sources and not solely rely on the general advice and warnings given.

HOW TO USE

Begin by carefully checking the threads of the upper receiver and the barrel nut to ensure they are clean and free of burrs or imperfections. If both parts are in good condition, apply a small amount of a high quality, Molybdenum Disulfide Grease (#083-050-100) to the threads. This will make attachment easier and prevent galling.

Prior to assembly, the barrel nut, handguard snap ring, handguard slip ring and spring must already be installed on the barrel if these parts are being used.

Clamp the barrel securely in an AR-15/M16 Barrel Vise (#852-015-000 or #795-015-100), or alternately clamp the upper receiver in the Peace River Arms Receiver Action Block (#702-003-015). Slide the barrel shank into the upper receiver. Make sure the alignment pin on the barrel shank engages the alignment slot on the upper receiver. Use EXTREME CARE to avoid any damage to the receiver alignment slot. DO NOT allow the sides of the slot to be deformed or bent.

Slide the upper receiver onto the barrel shank and thread the barrel nut assembly onto the upper receiver. These parts are threaded with a standard, right hand thread. Initially turn the nut on by hand. When the nut begins to seat, it will be necessary to use a Combination Wrench (#080-216-015) along with an appropriate torque wrench.

When using the combination wrench, hold it firmly in place against the barrel nut. DO NOT ALLOW THE COMBINATION WRENCH TO SLIP FROM THE BARREL NUT. THIS CAN RESULT IN DAMAGE TO THE NUT OR INJURY TO THE USER! The barrel nut should be torqued into position with 30 ft. pounds of pressure. Excessive Torque could damage the upper receiver or the barrel nut. Pressure of less than 30 ft. pounds may not secure the barrel properly.

After the barrel nut assembly is in place, position the Barrel Nut Alignment Gauge in the open end of the bolt carrier key as far as possible. DO NOT USE EXCESSIVE FORCE. It should slide into position easily. If there is resistance, there may be a carbon deposit inside the carrier key that should be removed.

Slowly insert the bolt carrier assembly into the upper receiver. Do not allow the Barrel Nut Alignment Gauge to fall from the carrier key. Slowly slide the bolt carrier forward into the receiver with minimal force. The align-

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AR-15/M16

BARREL NUT

ALIGNMENT

GAUGE

#080-216-014



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INSTRUCTIONS

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ment gauge should pass through the opening in the forward portion of the receiver.

In most instances, the alignment gauge will be stopped by contact with the handguard snap ring. Using a small punch or other suitable instrument, move the snap ring around the barrel nut until the opening between the ends of the snap ring is aligned with the alignment gauge and will permit it to pass through.

Repeat this procedure with the handguard slip ring and spring which may also need to be positioned to permit the passage of the alignment gauge.

Note the barrel nut has a series of "U" notches along its circumference. The barrel nut must be positioned so the alignment gauge will pass through one of these "U" cuts. If necessary, additional torque should be applied to position the barrel nut to create clearance for free entry of the alignment gauge.

When the Alignment Gauge can extend all the way through the barrel nut assembly without contacting any of the various components, the upper receiver, the barrel, the barrel nut assembly, and the carrier key are properly aligned. The Alignment Gauge can now be removed and reassembly of the rifle completed as per the manufacturer's instructions.

Reassemble the firearm according to the manufacturer's instructions. Check for proper functioning using ACTION PROVING DUMMIES. Make sure ALL SAFETY MECHANISMS are fully functional as designed and approved by the manufacturer. If these tests prove satisfactory, test-fire the firearm with live ammunition in a SAFE and APPROPRIATE manner. IMPORTANT! Start the live ammunition tests by first loading an ACTION PROVING DUMMY, then a live round, into the magazine. Only after several tests have been conducted in this manner should additional rounds be placed in the magazine and fired.