



BCM®
BRAVO COMPANY MFG®

KMR
QRF
MCMR

Congratulations on your purchase of your BCM handguard system. The family of BCM handguards includes the KMR-A, QRF, and MCMR rail systems. These rail systems use a proprietary mounting system (US PATENT 8904691) that offers a highly advanced handguard solution for the most popular accessory attachment systems on the market today. All three offerings belong to the KMR series of handguards and utilize this same novel attachment system. BCM products have been developed, tested, and evaluated by some of the world's best gunfighters. To learn more about them and their training classes please visit: <http://www.bravocompamfg.com/gunfighters>

BCM KMR handguards are compatible ONLY with Mil-Spec direct impingement AR-15 platforms chambered in .223 Remington and/or 5.56x45mm NATO. Do not attempt to install a KMR series handguard on any other weapon platform. KMR series handguards (KMR, MCMR, QRF) are a free-floated design which mounts and aligns to the upper-receiver threads using a custom barrel nut. Use ONLY parts labeled as compatible with the mounting system of your particular handguard. Please visit BravoCompanyUSA.com for additional accessories, including those developed specifically for the BCM KMR series handguard system.

WARNING: The BCM KMR series handguards should be installed by a qualified gunsmith with an understanding of the weapon platform that the handguard is being installed on.

Warnings and Tips for the Installer/Gunsmith and the Owner of the Product:

- Temperature can affect the dimensions of the component parts. Keep in mind that parts are at their 'nominal' temperature for installation at 68° F. Warmer parts will install easier than cold parts.
- NEVER use an oven to bake or heat parts. It is not a precise way to apply heat, and the oils/solvents/chemicals present can contaminate an oven making it unusable. To warm up cold parts, we recommend use of a hair dryer or heat gun (on LOW). Extremely hot parts are difficult to handle without causing damage.
- Only use accessories built specifically for the attachment system of your particular KMR series handguard. It is your responsibility to ensure that every accessory assembled on the handguard is compatible and of adequate strength for the intended task.

ITEM NO.	PART NUMBER	QTY
1	KMR BARREL NUT	1
2	BCM HANDGUARD	1
3	KMR CLAMP BLOCK	2
4	KMR INDEX PLATE	1
5	KMR CROSS BOLT NOTCHED	1
6	KMR CROSS BOLT LOCKING	1
7	BCM-MCMR-10	1
8	BCM QRF	1

BCM KMR series handguard and Bill of Materials ("BOM").

INSTALLATION MANUAL FOR BCM KMR SERIES HANDGUARDS (KMR-A, MCMR, QRF)

The performance and safety of any weapon platform depends on correct assembly of all components. Regardless of your prior experience with installation of handguards on AR-15 platforms, please familiarize yourself with the following instructions prior to installing any BCM KMR series handguard. Not all weapon platforms are the same, and not all handguards are the same. Before installing the handguard ensure that it is compatible with the weapon platform that you intend to install it on. **REMINDER: KMR series handguards are compatible ONLY with Mil-Spec direct impingement AR-15 platforms chambered in .223 Remington and/or 5.56x45mm NATO.**

Ensure that all component parts are present and accounted for prior to beginning installation. Please refer to the BOM depicted above. If any parts are damaged or missing, please contact BCM customer support (info@bravocompanyusa.com), and **Do Not** proceed with installation.

Assembly Instructions for Qualified Gunsmith:

1. **WARNING: Make sure that the weapon is unloaded, the magazine has been removed, and the chamber is empty.**
2. The platform's barrel, barrel nut, gas block and gas tube must be disconnected and removed from the upper-receiver prior to installation of the handguard.
3. Apply white lithium grease or moly paste to the threaded area of the inside of the KMR barrel nut (Item No. 1).
4. **Note:** Take care to align the wrench properly and apply torque smoothly. Do not jerk the wrench. **NEVER raise any burrs on the barrel nut. If the barrel nut becomes burred lightly use a metal file to clean up any burrs.**
5. Position the KMR barrel nut over the barrel, threads positioned to the rear, and slowly tighten the KMR barrel nut by hand. (See KMR barrel nut pictured in **Figure 1** below.)
6. Using the included wrench and a ½" drive torque wrench (see **Figure 5** for proper alignment and direction), properly align wrench and torque the KMR barrel nut to 20-30 ft-lbs while applying pressure to the wrench in the direction shown. and then loosen the barrel nut. Repeat this process a minimum of 4 times for optimal thread engagement and fit. **NEVER use the torque wrench for loosening the barrel nut. Final installation of the KMR barrel nut should be 40-50 ft-lbs.**
7. Re-install the gas block onto the barrel and then re-install the gas tube. **Note:** Follow the platform manufacturer's instructions for assembly of the gas block and gas tube.
8. Position index plate onto upper receiver as shown in **Figure 1**.
9. **Note:** Application of oil to the exterior of the barrel nut may ease installation. **NEVER use grease of any type on the exterior of the barrel nut.**
10. **Note:** KMR series handguards are a precision system intended to fit tight on the barrel nut. This tight fit provides the best alignment and will remain clamped throughout the operating temperature range of the weapon. **It is recommended that the installer warm the barrel nut end of the handguard with a hair dryer for approximately 60 seconds to aid the installation of the handguard onto the barrel nut.**
11. Slide the handguard over the barrel nut by sliding it to the rear. This should be a tight fit. **Note:** If the fit still seems too tight, apply additional heat 15 seconds at a time until the handguard can be installed. Use of a lightweight soft-face hammer with **VERY** light taps can aid the installation. Take precaution not to install the handguard too far on at this time. **NEVER** strike the handguard with a metallic hammer. **NEVER** 'wiggle' the handguard into place. **NEVER** bake the upper-receiver or the handguard. **Doing so will make handling the parts difficult and increase the likelihood of damage during the installation process.**
12. Ensure that the index plate aligns with the upper-receiver as the gap closes. If the handguard and upper-receiver are not in proper alignment, apply torque by hand as the handguard progresses further onto the KMR barrel nut.
13. **NEVER engage the index plate with the handguard if mis-aligned.** Fine-tuning the alignment may be necessary once seated if the width of the upper-receiver is narrower.
14. **NEVER seat the handguard down firmly against the upper-receiver.** Because of the tolerances of the upper receiver, a small gap will likely remain between the upper receiver and the handguard. A minimum gap of .005" should exist to maintain the free-float of the barrel. **Note:** The gap should not exceed .040". The amount of gap will depend on the upper-receiver. **It is the responsibility of the installer to ensure proper alignment and spacing.**
15. The handguard is fully seated when both screw holes align with the groove of the barrel nut. The barrel nut should not occlude either cross bolt hole. (See **Figure 2** to for depiction of a fully seated handguard.)
16. Starting on either side, locate and place a clamp block as shown in **Figure 3**.
17. Degrease the threaded ends of the cross bolt. **Note:** Contact cleaner can aid in degreasing. Apply the supplied thread locker to the threaded ends of the cross bolts.
18. From the opposite side, install the notched head cross bolt through a clamp block and place it through the hole. Guide the cross bolt through both sides of the handguard and note the alignment of the clamp block.
19. Engage the threads, but **DO NOT** fully tighten. Leave 2-3 turns away from the fully tightened position. Locate the locking cross bolt and position it through the opposite side, through the clamp block.
20. Engage the threads of the opposing clamp block by 1-3 turns. **NEVER over tighten. Excessive tightening can damage the notched cross bolt.**
21. Continue to tighten the notched cross bolt to 30-40 in-lbs. so that the notch in the head aligns with the adjacent screw hole as shown in **Figure 4**.
22. Tighten the locking cross bolt (ensure it lines up with a notch in the notched cross bolt) to 30-40 in-lbs. **NEVER over tighten. Excessive tightening can damage the notched cross bolt. Note:** The tip of the locking cross bolt will lock the notched cross bolt. (See **Figure 4**.)
23. Check the alignment of the barrel and handguard. **Note:** Depending on the platform's manufacturer, some gas blocks may not perfectly align to the opening of the handguard.
24. **WARNING: Before firing a live cartridge, perform a complete function test of the weapon as recommended by the manufacturer of the platform.** It is the responsibility of the installer to ensure that the weapon is in proper working order before the weapon is fired.

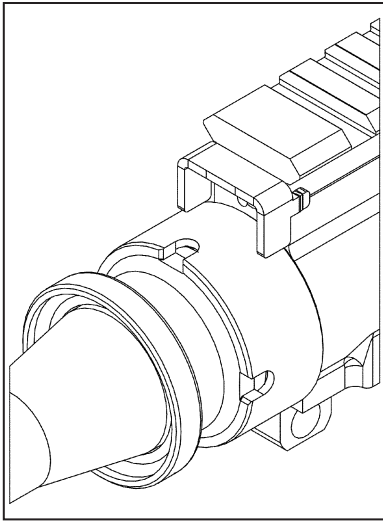


Figure 1

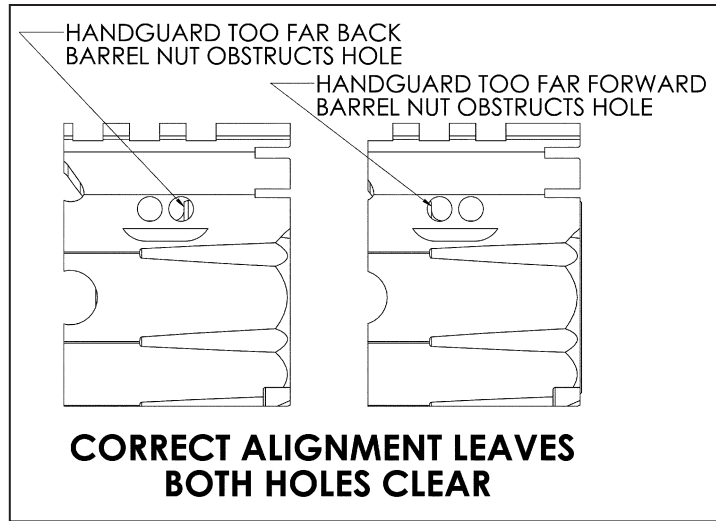


Figure 2

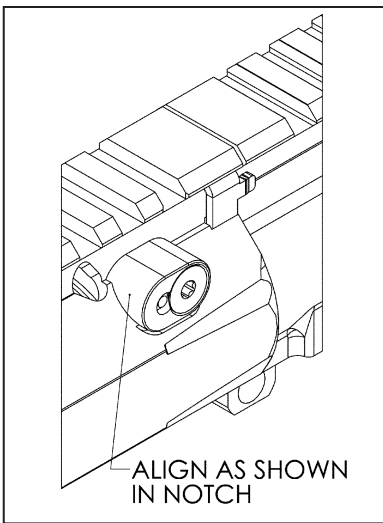


Figure 3

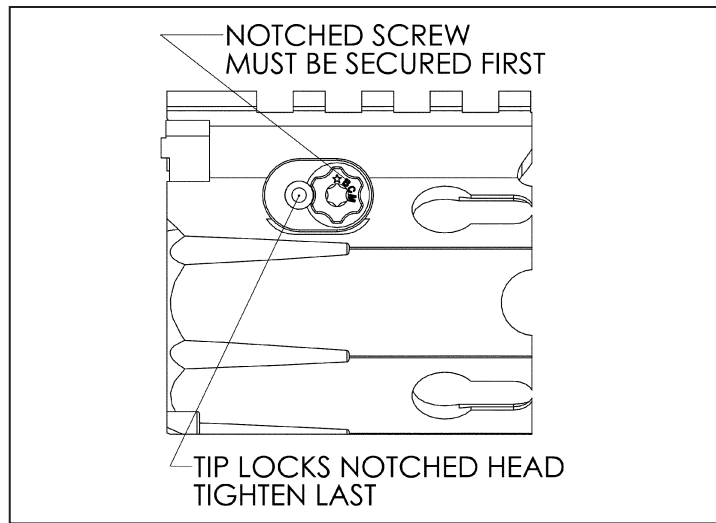


Figure 4

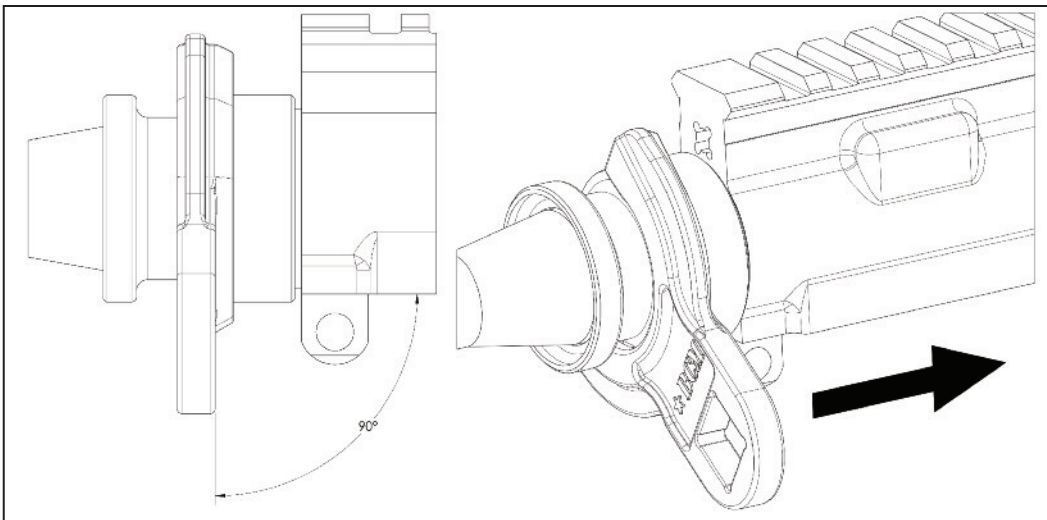


Figure 5

Caution: The handguard should be regularly inspected to ensure optimal performance and safety and to check for replacement of worn or damaged parts.

WARNING: NEVER alter or modify your handguard. DOING SO COULD CREATE RISK OF PROPERTY DAMAGE, BODILY INJURY, OR DEATH.