



# SONORAN SCHOLASTIC

By: Jing Zheng

## KeyMod<sup>®</sup>, M-LOK<sup>™</sup>, or Picatinny<sup>™</sup>? Surveying the Future of Rail Accessories

### Prelude

Before we get started on the comparison of the three most popular accessories attachment standard, I think it is important to clarify a few points so we don't get confused on some similar technical terms.

1. By saying Picatinny, we are discussing the Picatinny rail standard, also called MIL-STD-1913, or STANAG 2324 rail, not the so-called "quad-rail" handguard that utilizes the Picatinny rail standard.
2. It is not a fair comparison between these three technologies, which I will elaborate later. The KeyMod and M-LOK are more neck-to-neck comparison rivals; for the Picatinny, maybe Dovetail or Weaver are more appropriate opponent options.
3. To make sense of comparing these three technologies, it is important to know a little bit of the history of how these three came into being.

### Brief History

#### ◆ Picatinny

After the Gulf War, the military elite in the United States as well as their counterparts in NATO countries saw the need for mounting scopes on regular foot soldiers' rifles to replace or to complement the long-standing aiming device, the iron sight. So, naturally they looked into the rifle scope industries for answers. There are many scope attachment methods that were widely used on the hunting rifle, as well as some that had been used on military rifles. Among them, Dovetail, Leupold, and Weaver were the most popular. Let's look a little bit in detail at what these three methods are and then we can see how Picatinny came into being.

- **Dovetail mount**

For centuries and up to modern day, the Dovetail mount had been a very popular scope-mounting

choice for hunting rifles, especially within Europe. It consists of a protrusion with both sides cut by a negative degree slope, which makes the manufacturing of the mount very easy. Usually, those dovetails are directly cut into rifle or pistol receivers, but can also be screwed on as attachments. The latter was quite commonly used in both World War I and World War II to convert regular standard-issue infantry rifles into sniper rifles.

The downside of the Dovetail mount, though, lies on the angle of the dovetail. Either the ring base has too much stress concentration, or the force it transfers distorts the ring base unevenly, causing the return to zero of the scope to suffer necessitating if it is removed and reinstalled.

- **Leupold<sup>®</sup> mount**

The Leupold<sup>®</sup> mount is very similar to any other direct-mounting device that attaches to a receiver through drilled holes in that it is either a one- or two-piece design. However, Leupold added windage adjustability into the mount, and with a shim it can adjust the elevation as well, such that the adjustability of the scope can be reserved for precise sight-in. However, the mount is rifle-specific, which makes interchangeability through different weapon systems difficult.

- **Weaver<sup>®</sup> mount**

As manufacturers started to notice the shortcomings of the Dovetail mount, it was natural for them to add a chamfer or a radius to the sharp edge of the dovetail tip and the corner of the base. The Weaver mount design went a step farther and made those tips or corners full surface—as large as



the surface of the bottom half of the mount. This effectively canceled or balanced the force that was usually exerted onto the Dovetail mount due to the wedge effect. Unlike Dovetail mounts, which can be fastened either from the top of the mount or the side of the mount, the Weaver mount can only fasten the object from the side. Furthermore, the Weaver mount has the cut-out channel on the top—transverse to the axial of the barrel—that allows the fastened bolt axial to sit as close to the folding line of the mount surface as possible. Some even use the fastened bolt to double as the recoil stop for the mount; however, a dedicated recoil stop lug is more reliable.

The Weaver mount showed quite some durability, repeatability, and interchangeable versatility for a scope mount, and it is the design that the Picatinny rail was based on.

The Picatinny mount took the Weaver mount design as the base line, while standardizing the spacing between the slots. The angular section of the Picatinny is also more pronounced than that of the Weaver mount.

#### ◆ KeyMod

As the Picatinny became the Armed Force's adopted method of attaching scopes and other accessories to the rifles, and as popular as it became in the civilian market for the same reason, its downside started to show. The main concern is the weight of Picatinny rails, especially on quad-rail configurations. Other complaints include the multiple slots on the rail, which are rough on the operator's hand, as well as the difficulty in manufacturing since there are so many surfaces that need to be milled and deburred. Some problems, such as being rough to the hand, can be alleviated by adding a plastic rail cover; however, it adds more weight and cost as well.

To tackle these problems, Eric Kincel of VLTOR® Weapon Systems, together with John Noveske of Noveske Rifleworks®, came up with a design for a mount system that allows the Picatinny rail to be installed to the rifle only as needed, allowing the weight and manufacturing effort to be reduced.

Per its technical specification, as cited on Wikipedia, it is claimed that the “KeyMod is an open-source design released for use and distribution in the public domain to standardize universal attachment systems in the firearm accessories market. The KeyMod system is intended to be used as a direct attachment method for firearm accessories such as flashlight mounts, laser modules, sights, scope mounts, vertical grips, rail panels, hand stops, barricade supports, and many others.” However, on his official release of information on [www.M4carbine.net](http://www.M4carbine.net), Eric Kincel also stated, “My goal is for the industry to make this system a standard; working in parallel with the Picatinny rail; not replacing it.”

The KeyMod system has, no doubt, lowered the weight of the rifle system in comparison to a full quad-rail system; however, its design with an undercut chamfer on each KeyMod slot makes its own manufacturing complicated and costly, especially for those manufacturers of injected-molding plastic accessories, such as Magpul. So, that led to the creation of the Magpul M-LOK.

#### ◆ M-LOK

Magpul® is a renowned polymer rifle accessories manufacturer. Long before VLTOR published their KeyMod standard, Magpul tried unsuccessfully to develop their own standard attachment design, dubbed the MOE slot system. However, that system was not widely accepted largely due to the fact that it needs access to the backside of the forearm, which makes it almost impossible to be used in a one-piece handguard design. So, when KeyMod hit the market, Magpul stepped up to the plate and finally came up with a competitive solution— the M-LOK.

Per Wikipedia, “M-LOK is a free-licensed accessory mounting system developed by Magpul Industries that allows for direct attachment to negative space-mounting points. It is a competing standard to KeyMod in regards to *replacing* the MIL-STD-1913 Picatinny rail in some applications. Compared to the Picatinny rail system, M-LOK and KeyMod enable the user to have a slimmer and smoother handguard with accessories mounted only where needed, whereas a Picatinny handguard typically will have Picatinny rail slots for its whole length, resulting in a larger handguard diameter with sharp corners.”

Does the M-LOK really live up to its claim that it can replace the Picatinny rail, or as humble as its creator sounds, that the KeyMod is only to supplement the Picatinny rail? Let's find out!

## Functionality

As all three technologies are created for one purpose only, that is, attaching accessories to the rifle, we look first and foremost at the main attribute of the three: the functionality. As mentioned previously, the main purpose of developing such technology is to attach optical sights to rifles; robustness, adjustability, as well as the return to zero capability once the optics are removed and reinstalled to the mount are the main concerns. Let's find out how the three technologies achieve these functionalities.

### ◆ Picatinny

#### • Robustness

The Picatinny base will be in contact with the mount at the diamond-shaped areas shown in red in Figure 1. The base usually has an integrated surface that is in contact with the left side of the rail, while the clamping bar on the other side goes through a transverse bolt (shown as a green circle on the right in Figure 1) that fastens the base onto the rail. With the correct size, the bolt can be doubly used as a recoil stop to the rail.

Due to the large contact surface and the long continuous surface of the rail, the robustness of the Picatinny rail design is superb.

#### • Adjustability

As shown on the right in Figure 1, the locking bolt can be moved back and forth every 0.394". This is very important because the early scope had very short eye relief, so the adjustability of the mount that allows soldiers to move the scope back and forth to accommodate their individual eye sight is crucial. However, modern rifle scopes are designed to have 3"-4" of eye relief. This close adjustability is no longer essential, but still is a cool feature to have.

#### • Return to Zero

The Picatinny rail, especially the one that integrates to the top of the receiver of the rifle, has excellent return to zero due to the large and continuous angular area. The red-lined edges shown in Figure 1 are orthogonal to each other so that when properly installed, the attaching base could be fixed on the barrel's axial direction, transversal direction, and the elevation. The rail is usually manufactured in one continuous operation so that the two orthogonal surfaces have identical point direction at any section of the rail. So as long as the rail and attaching base are kept clean, the return to zero is virtually guaranteed.

### ◆ KeyMod

#### • Robustness

The KeyMod base is attached to its rail through a half-circle chamfered area, marked by the red oval in Figure

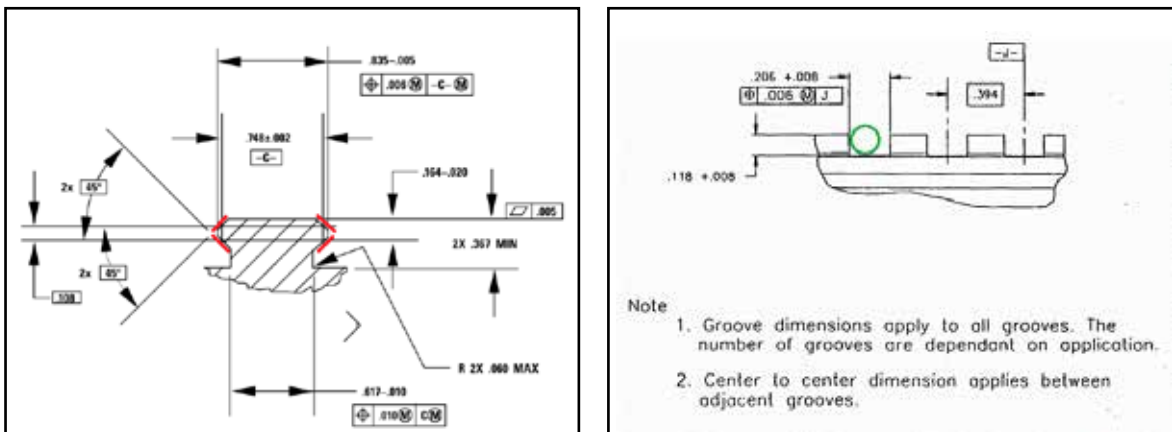


Figure 1: Picatinny rail spec.

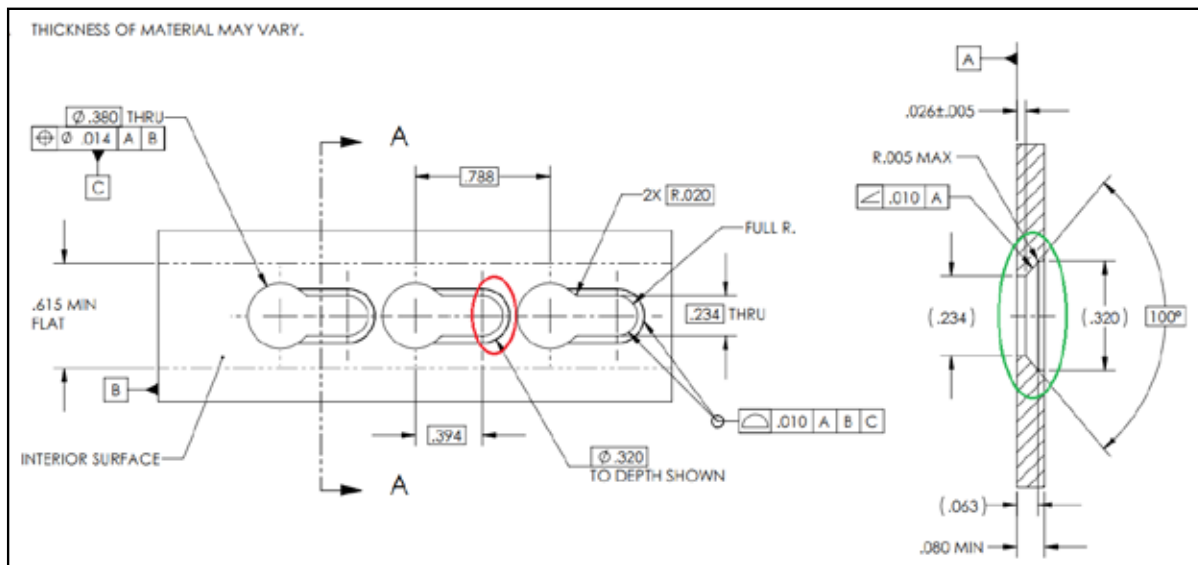


Figure 2: KeyMod spec.

2; the cross-section of this area is shown in a green oval in Figure 2, on the right side. As we can see, when the base is pulled, only the material at this place will be responsible to counter the force. With the minimal 0.08" thickness of the handguard, the real thickness of the rail could be only 0.063" at its thickest point. This is in sharp contrast to that of the Picatinny rail, in which the whole bottom half of the angulated area has at least .164" of thick material to counter the force. So the robustness against pull force is poor.

However, for compression force, the KeyMod rail has a flat surface with at least 0.615" width that is in contact with the whole bottom of the mounting base. So, the robustness against compression force is fair, though still inferior to that of the Picatinny rail: 0.08" vs. 0.367" in thickness, and 0.615" vs. 0.617" in width.

- **Adjustability**

The KeyMod's hole spacing is 0.788" apart. Compared to Picatinny's 0.394", it is exactly twice as much. Considering the high eye relief value of the modern scope, the difference of 0.394" is not significant. We would value the KeyMod adjustability to be fair.

- **Return to Zero**

The KeyMod rail uses a partial conical nut to fasten the base to the rail from the inside of the handguard. And by default, two KeyMod holes need to be used to

fasten one base so that the base will be centered to the imaginary line connecting the two centers of the two small half-circles toward the front. Hence, the return to zero can be achieved by the KeyMod system.

- ◆ **M-LOK**

- **Robustness**

As shown in Figure 3, the Magpul M-LOK has a locking nut that is beefier than that of the KeyMod's half-conical nut. And since the M-LOK slot does not have a chamfer on the back of the handguard surface—although its thickness is on par with that of the KeyMod 0.08" minimum—the robustness of the M-LOK is better than that of the KeyMod but is still inferior to Picatinny for the same reason.

Another fact is that the M-LOK rounded square hole is bigger compared to the small half-circle of the KeyMod where its half-conical nut makes the contact: .281" vs. .234". So, the two wings of the T-nut of the M-LOK would seat closer to the edge of the next surface of the handguard. This means that the T-nut is seated at a place closer to where the stronger point of the handguard is (the bending edge between two adjacent surfaces), making the M-LOK more robust than the KeyMod when pull force is applied to the base. The robustness of the M-LOK under compression force could be the same as that of the KeyMod, given the bottoms of their

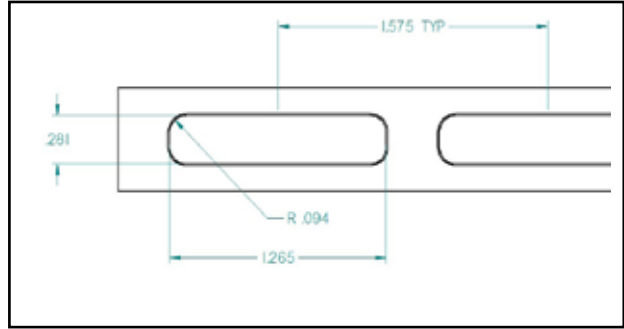
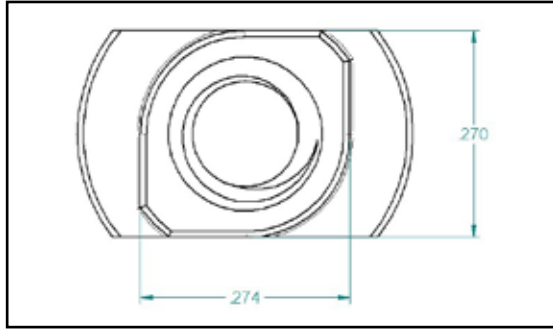


Figure 3: M-LOK T-nut and slot spec.

respective base are the same. The minimum height of the flat surface of the M-LOK is 0.6", which is smaller than that of the KeyMod, which is 0.615".

- **Adjustability**

The M-LOK device needs to occupy one and a half of the slot minimum. However, its spacing can be achieved every half of the slot, shown in Figure 4. It is in roughly 20mm increments, which is about 0.7875". It is on par with that of the KeyMod.

There is one advantage of the M-LOK over the KeyMod though: the M-LOK base can be mounted bi-directionally. Due to the use of a half-conical nut, the

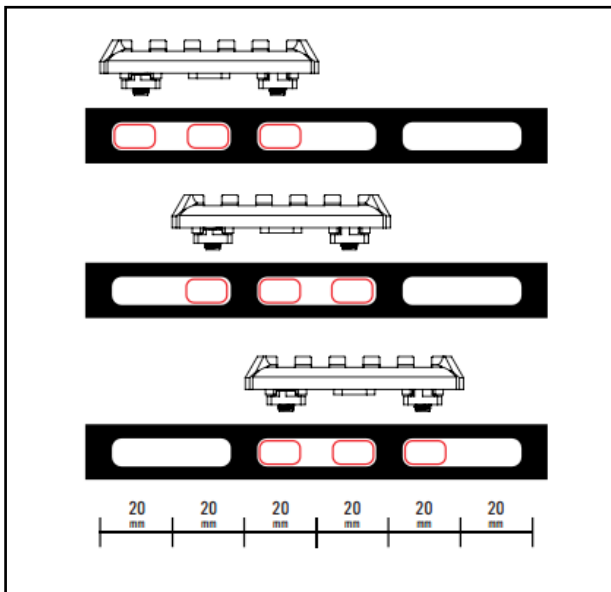


Figure 4: Positioning of M-LOK adaptor.

KeyMod base can only mount in one direction—forward—which is the direction the conical nut's conical part is pointing. The M-LOK device needs to occupy one and a half of the slot minimum. However, its spacing can be achieved every half of the slot, shown in Figure 4. It is in roughly 20mm increments, which is about 0.7875". It is on par with that of the KeyMod.

- **Return to Zero**

Although Magpul claims that “with biasing of the accessory, like biasing a Picatinny rail optic mount, M-LOK's return to zero is equivalent to Picatinny rail mounting interfaces,” many people believe that M-LOK does not possess the capability of holding zero. Why? Because the widest part of the cammed T-nut, 0.274", is smaller than the height of the slot, 0.281". This is also the part that puzzled this author at the beginning. Why wouldn't Magpul design it to be an interference locational fit or even force fit so that the T-nut would have positive contact with both sides of the slot? That way, theoretically, the zero can be held. Why would Magpul decide to have a clearance locational fit instead? Since Magpul did not answer this question directly, and M-LOK is a free source but not an open source standard, we can only guess the following.

While the positive contact would allow return to zero, the fastening and loosening of the nut would nevertheless wear the slot surface and over time the mount would lose the zero anyway. Another thing is that in Magpul's FAQs about M-LOK, it has an image that makes us

believe that when the cammed T-nut is in position, it would be in a perfectly vertical position, as shown in Figure 5, left. However, in reality, due to the existence of the gap between the cam surface of the T-nut and the slot, the cammed T-nut would continue turning under the friction force until it passed the upright position, as shown in Figure 5, right. The remote point on the T-nut would make contact with the slot side surface, shown at the two red circles in Figure 5. If the nut is machined precisely, the T-nut will be aligned at the center of the slot. With both T-nuts aligned at the center, zero can be returned. However, due to the fact that contact was made through friction, it is not as positive as the pushing force of the half-conical nut provided in the KeyMod system. So, it is this author's opinion that the M-LOK does have return to zero capability, though it is weak compared to that of the KeyMod.

However, the M-LOK cammed T-nut does not have the function of pushing the stop firmly against the slot back, like the half-conical nut the KeyMod has. So, it may allow the base to travel to the back of the slot under heavy recoil. This would theoretically affect zero, at least for a few shots at the beginning. Once the stop makes firm contact, it should stay there.

## SECTIONAL VERDICT

### Robustness:

- First place: Picatinny
- Second Place: M-LOK
- Third place: KeyMod

### Adjustability:

- First place: Picatinny
- Second Place: M-LOK and KeyMod (tie)

### Return to zero:

- First place: Picatinny
- Second Place: KeyMod
- Third place: M-LOK

## Problem Solved/Problem Generated

### ◆ Picatinny

The Picatinny rail successfully provides an optical mounting method for military rifles. It clearly shows that its functionality of robustness, adjustability, and return to zero are superb. However, due to the amount of material used, especially on the quad-rail handguard configuration, the whole system is heavy. And due to its slot construction, it is very abrasive to the operator's hand. It is so bad that

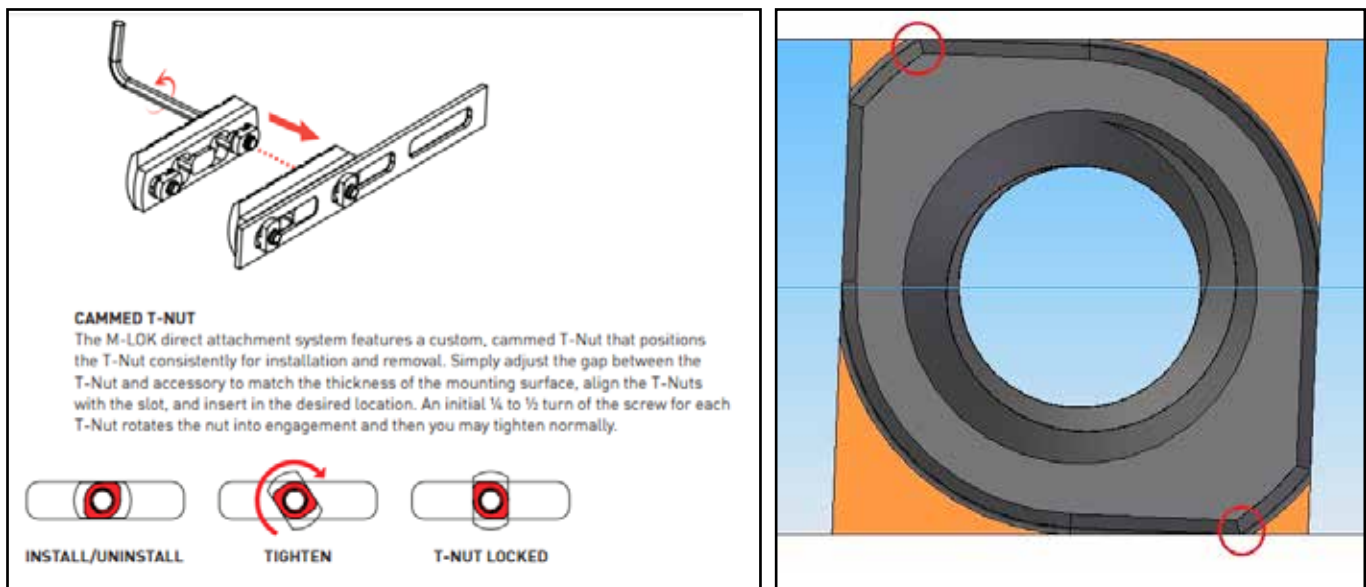


Figure 5: Cammed T-nut installation.

it earned the nickname “cheese grater.” Although a rail cover and slot cover have been developed to solve the latter problem, it adds further weight to the system. In many cases, soldiers prefer the rail exist only when it is needed, and can be removed when it is not.

#### ◆ KeyMod

The KeyMod came into being mainly because of the problem generated by the Picatinny. Although it accurately achieves the call of the Picatinny users, it has its own shortcomings. One such shortcoming is that it is very difficult to manufacture, especially if the handguard is to be made in polymer material (this will be elaborated on later). There are complaints that are due purely to personal taste, such as the fact that the KeyMod shape is directly copied from an industrial shelf design, making it less “belonging” to the firearms industry.

Due to the installation of the KeyMod base involving a forward sliding motion, the uninstallation would involve a backward sliding motion. If a handguard cover is installed behind the base, the operator would first have to remove all of the cover on the back before he/she could remove the base. This adds unnecessary work to the operator, especially when some rail covers on the market are very hard to be removed or installed.

#### ◆ M-LOK

The M-LOK is an answer to the KeyMod system. The chamfer on the interior side of the handguard made manufacturing difficult and time-consuming, resulting in a higher price; the mold design was even more complicated if the product were made from polymer. M-LOK solved this problem. However, no positive stop on installation is a concern for many, and many don't like the plain slot appearance. The cammed T-nuts are sometimes difficult to install correctly. And, sometimes during the uninstall, if a nut somehow gets stuck, the operator could easily loosen the screw too much so that the T-nut falls off the screw, making retrieving the screw troublesome. Another complaint of the M-LOK T-nut is that it protrudes into the handguard too much (compared to the KeyMod half-conical nut). As a result, with certain rifle configurations, such as with a heavy barrel installed, the T-nut interferes with other rifle parts.

Another common defect that both the KeyMod and the M-LOK created so far is that both systems need to fasten the base to the mount through the top. Unfortunately, that is where the accessories are usually located. So, either the accessory happens to have the clearance to allow inserting an Allen wrench to tighten the nuts, or it must be designed as a cantilever configuration, such as with the Magpul rail/light mount (Figure 6.). The Picatinny, on the other hand, fastens the base to the mount from the side, so there is no space conflict.



*Figure 6: Cantilever rail/light mount.*

### Manufacturing Method and Challenges

The majority of handguards are either made of metal or polymer. Most polymer handguards are made by injection molding, in which the holes are pre-formed by the mold, not by machining. There are some handguards that are made of carbon fiber reinforced plastic (CFRP), which is fabricated by a method different from the injection molding method and which does need machining after the handguard blanks are made. The metal handguards are either made of aluminum or the more expensive titanium. Bravo Company® once used magnesium and aluminum alloy to build their KMR handguard; however, due to the scarcity of material, they changed back to aluminum alloy shortly after their initial offering.

To make the blank for handguards using aluminum, the extrusion method is usually used to make the blank and then the holes and other features are machined. With titanium, the blank is usually forged and then machined. In general, the challenge of machining aluminum is that the material tends to be “sticky” on the cutting tool, so the proper speed setting of the cutting tool is very important. Meanwhile, machining on titanium can be tricky. Due to their high

strength, low thermal conductivity, and chemical reactivity with tool materials (at elevated temperatures), titanium alloys pose a hazard to the tool and significantly reduce tool life. In addition, a relatively low Young's modulus of titanium alloys leads to spring-back and chatter, leading to poor surface quality of the finished product. Finally, during turning and drilling, long continuous chips are produced, causing their entanglement with the cutting tool and making automated machining near impossible.

Since aluminum metal handguards and injection molding handguards dominate industry sales, we are focusing on these two types of materials as well as on the manufacturing methods for all three rail technologies.

## Aluminum

Handguards, especially one-piece free-float handguards, are usually machined on extruded blanks. Due to the size of handguards being small and with thin walls, 6061 aluminum alloy is usually used due to its good material flow during extrusion and the fact that it costs less than 7075 aluminum alloy. It can be tempered later to bring the blank to a T6 standard. However, for monolithic uppers, the handguard and the upper receiver are in one piece. Due to the fact that there are features on the receiver that are not suitable to be machined out of an extruded blank, the monolithic upper is usually machined out of a forged blank. This results in higher cost, but affords the use of stronger material like 7075 aluminum alloy.

Other than that, the difficulty of machining Picatinny, KeyMod, or M-LOK rails falls on how much machine time is needed to bring them into shape.

To make a fair comparison, we assume the machining speed used is identical and we use the length of one M-LOK slot across the board and compare the tooling travel distance to determine which mount is harder to be made.

### ◆ Picatinny

Per Figure 1, Picatinny has nine surfaces to be milled from blanks, in addition to how many transverse slots are needed to be machined. For a length of 1.265", we would have roughly three transverse slots needing to be machined. Not counting the tool change time, a quick estimation of

making a 1.265" long Picatinny rail would require a tooling travel distance of  $1.265" \times 9 + 3 \times 2 \times 0.835" = 16.395"$ .

### ◆ KeyMod

The surfaces of the extruded aluminum blanks are usually flat enough that they do not need further machining for flatness. Per Figure 2, two KeyMod holes need to be made within a distance of 1.265". If a  $\frac{3}{16}"$  mill bit is chosen, the tool travel distance would be  $(.394" \times 2 + (.38" - .1875") \times \pi / 2 + (.234" - .1875") \times \pi / 2) \times 2 = 2.327"$ . If adding the undercut chamfer on the back, it would be  $(.285" \times 2 + .085" \times \pi / 2) \times 2 = 1.4"$ . That would bring the total tool travel distance to 3.727".

### ◆ M-LOK

For one slot of M-LOK, if a  $\frac{3}{16}"$  mill bit is chosen, and not counting the optional chamfer on the exterior surface of the slot, the tool travel distance would be  $2 \times (.281" - .1875") + (1.265" - .1875") \times 2 = 2.342"$ .

### Sectional Verdict

Machine time (cost): The Picatinny takes far more time to machine than either the KeyMod or M-LOK. The time to make the KeyMod is about 1.5 times that of what is needed for the M-LOK.

### Polymer (Injection Molding)

Due to the different features and shapes of the Picatinny, KeyMod, and M-LOK rails, the cost and difficulty of making the molds varies dramatically. However, the single most important factor of designing the mold is how to extract the molded pieces out of the mold once the plastic is set. Both the Picatinny and M-LOK can have a simple core to form the cavity of the interior of the handguard, resulting in the core being able to be pulled out without obstacle after the parts are made. However, since the KeyMod has a chamfer on the interior side of the handguard, protrusions of the matching chamfer are necessary to be put on the core, which in turn would prevent the core from extraction once the plastic part is set. Shown in Figure 7 are the possible extractable core designs (left for Picatinny and M-LOK; right for KeyMod, with cam rod removed for clarity). So, a complicated core with a retractable protrusion of the matching chamfer must be designed.

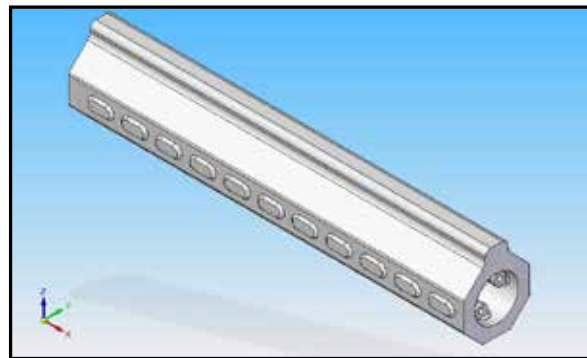
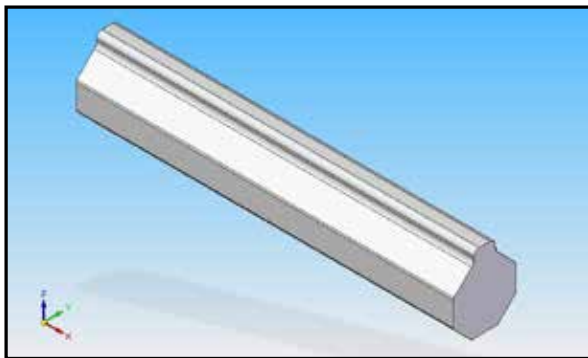


Figure 7: Injection mold core schematic.

### Sectional Verdict

Mold design complexity: The mold for the Picatinny and the M-LOK are on par with each other in terms of complexity, though the mold for the KeyMod is way more complicated. It may not just affect the cost; more moving parts of the mold imply more places prone to plastic contamination, which would create nightmares for maintenance and quality control.

### Market Acceptance

#### ◆ Picatinny

Before the birth of the KeyMod and M-LOK, the Picatinny enjoyed the market monopoly within the industry. Almost all rifle accessories have the Picatinny mount as their standard. Even after the birth of the KeyMod and M-LOK, other than some direct mount vertical grips, flashlight mounts, etc., the most popular KeyMod or M-LOK accessories are KeyMod to Picatinny or M-LOK to Picatinny adaptors. This comes as no surprise, since the Picatinny has been around for more than 20 years longer than the KeyMod or M-LOK. The sheer amount of existing rifle accessories on the market are too large for the KeyMod or M-LOK to replace, even if it were possible.

Another aspect that we tend to ignore is that the Picatinny is a standard that has been adopted by the United States Armed Forces and NATO. The upper receiver of the prominent military firearm, the M4, has the Picatinny rail integrated to replace the carry handle. So far there is no rumor on whether the Armed Forces of the United States have the desire to replace the Picatinny. Even if they do, to change

the upper receiver again to integrate either the KeyMod or M-LOK may compromise the close-system design of the AR-15 platform. This is because both the KeyMod and M-LOK need to have elongated holes on the attachment surface. If those hole are drilled on the top side of the upper receiver, debris and dirt can easily find their way into the receiver and impair the reliability of the rifle function. If a closed top is kept, and the KeyMod and/or M-LOK are added on top of that, then some kind of attachment must be designed to attach the KeyMod or M-LOK plate. Then the question would be, why not just keep the Picatinny? It is on the 12 o'clock position of the rifle, and the cheese grater effect would not bother the operator much since their hand usually handles the 3, 6, and 9 o'clock position of the rifle.

#### ◆ KeyMod

The KeyMod enjoyed its success since its debut in 2012. The weight reduction was obvious and well received by its customers. However, the 100° chamfer on the backside of the handguard did throw off some manufacturers. Unlike the 100° countersink drill, 100° undercut mill has to be specially made. Some manufacturers simply omit this feature from their product. Although the half-conical nut arguably still works with these kind of “simplified” KeyMod holes, there are excessive stresses introduced to the already-suffering robustness; such practice is not well received.

After the birth of the KeyMod, we saw the quad-railed Picatinny handguard phasing out of the market. With the hybrid system, with the Picatinny rail integrated and located on the top of the handguard, people would put the KeyMod on the 3, 6, and 9 o'clock position along with weight

reduction holes interlaced in between. Or, they would put seven KeyMod rails on each surface of the octagon-shaped handguard, except at the 12 o'clock position.

#### ◆ M-LOK

When the M-LOK came along on the 2014 Shot Show, people were skeptical at first. After all, the KeyMod was dominating the market and the main beneficiary of this standard were the polymer product manufacturers, of which Magpul is the leader. However, not having to mess with the underside of the handguard soon won over manufacturers' hearts. Early this year, [TheFirearmBlog.com](http://TheFirearmBlog.com) revealed that for some manufacturers who offered both KeyMod and M-LOK products, the M-LOK outsold KeyMod products three to one. However, for some manufacturers, they source both their KeyMods and M-LOKs from the same supplier, so their pricing for each system is virtually the same. And they do claim that both systems are selling equally well.

#### **Sectional Verdict**

Due to most of the manufacturers providing Picatinny mounts together with KeyMod or M-LOK mounts, some even with all three on the same product, it is hard to separate these three mounting methods in terms of market share.

However, it is perceivable that the Picatinny is still the leading technology on the market simply because almost all modern rifles have at least some of it attached to the rifle, while the KeyMod and M-LOK are about neck-to-neck.

#### **The Verdict**

So, looking back on all the pros and cons that we have discussed, neither of the three is a perfect product that would last forever. What we can say, though, is that neither the KeyMod nor M-LOK can replace the Picatinny without giving up some of the advantages that the Picatinny still has. The KeyMod did live up to its creator's goal that it would serve as a complimentary product to the Picatinny. We have yet to see the possibility of the M-LOK overtaking the Picatinny as its replacement. The only thing that could possibly change the status of all this would be the revealing of a new setup of the typical modern rifle: a continuous Picatinny rail that runs the entire length of the rifle on the top, with either the KeyMod or M-LOK rail on the side and at the bottom. Until there is another new standard to come along and really replace the Picatinny, the Picatinny is still king! ■