

AK MODS BY EX-POLSOF

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THE LEGENDARY AK ASSAULT RIFLE WAS DESIGNED IN THE 1940'S AND NOW IT DOES NOT MEET THE REQUIREMENTS OF MODERN BATTLEFIELDS. TO MAKE IT AT LEAST SOMEHOW COMPARABLE WITH MOST OF THE CURRENT WEAPON SYSTEMS, IT HAS TO BE SLIGHTLY MODIFIED TO IMPROVE ITS ERGONOMICS AND ACCURACY.



Id and proven AK rifle was designed to combat enemy personnel at around 300 meters distance. The tactics of its era were essentially run and shoot burst during the assault or in the trench warfare. Mikhail Kalashnikov did not focus on quick and accurate single fire – that was the role of sharpshooters with the 7.62 Dragunov SVD semi-automatic sniper (DMR) rifle. If you want to find out more about the shooting techniques for

AK as they were, please familiarize yourself with... current Polish Land Forces shooting training techniques where still threats should be eliminated with short bursts and the accurate single fire shooting will result in bad scores.

The most common competitor of the AK is the US M16 rifle designed a couple years later. It is totally different from its Soviet counterpart – different operation, different round, but the time it was developed was

similar. Over the years, the M16 and its derivatives were modified and upgraded for improved performance. Nowadays, the M16 and its variants and clones are most common SOF rifles and shooting competition rifles. Of course, the AK platform was also modified (first there were AKM, then complete 5.45x39 AK74 family and now improved AK100-series, etc.), but the common rifle available in the Western World is a clone of AK/AKM in 7.62x39.



My story with an AK began when I was just a couple years old. As a son of the company's 1st sergeant I had almost unlimited access to the weapon storage and I loved to play with different guns. Of course, Kalash was my favorite toy, I knew all its versions and I mastered its assembly and disassembly. At the very beginning, I was even too weak to charge it – I put the stock against the floor and used my leg to move the bolt. Yeah, my daddy took good care of his sons. From other soldiers I heard those urban legends about AK rounds being capable of penetrating railroad tracks or that you could put half a kilo of sand straight into the chamber and after reloading it will be running perfectly.

That was my childhood. But I started to gain real experience with the AK platform when I was conscript soldier of the 1.PSK (1st Special Commando Regiment) – at that time, most of the Polish special forces units were semi-professional. During the basic training, for my outstanding achievements in shooting I was even prized with 5-days pass! Honestly, that 48/50 score wasn't something impossible to achieve. During my service, I notoriously heard rumors and stories about the superiority of the AK over the AR-15 family, mostly about the reliability. Same time, first groups of US Special Forces started to make visits in 1.PSK and launched the first common training. During one of the classes, we had to crawl a lot in sand and then we headed to the shooting range. When I was on the lane, I was unable to charge my rifle. Huge pile of sand inside the chamber made it impossible. Myth about the impressive reliability of AK was just debunked. Of course, it was my fault, so I had to return to the barracks running all the way.

Then I decided to become a professional soldier of the 1.PSK and my next lessons were learned on the Polish 5.56 Beryl wz.96 assault rifle which I received after passing the selection course. I really loved it. It was 100% solid black and some say it was super-accurate. Naturally, after some time of use, we changed our mind, especially after my first deployment in Iraq, where we were working side by side with US special forces units. We envied them for their gear and guns – the M4 rifles with their almost unlimited capabilities for accessorizing. I made three deployments with the Beryl rifle, I mastered my manual skills of it and some limited capabilities of sights or grips attachments appeared in meatine. US partners considered us as masters of the AK platform and that was the reason why we were in-

structors for Iraqi forces equipped with old AK rifles. During the Iraqi deployments we could witness what're the real terminal ballistics of the old 7.62x39 rounds. Believe me, no one would ever want to be hit with this bullet as the wounds were really serious.

In the meantime our unit was brought under the umbrella of Polish Special Forces Command (POL-SOCOM) and the Beryl rifles were ultimately replaced with brand new Heckler & Koch 416 assault rifles. But during another deployment, Afghanistan, we were training and cooperating with the local forces which were using the AK platform. We conducted multiple shooting and tactical training for them, all based on our experiences gained earlier.

When I was on one training course in the United States, we were presented effects and terminal ballistics of multiple types of small arms ammunition. The recently unveiled (at that time of course) .300 Blackout rounds immediately reminded me of the 7.62x39 rounds. The .300 AAC/Blackout (7.62 x 35 mm) rounds, has excellent ballistics and great performance and it is very easy to suppress. It is recommended for use in counter terrorist operations where the instant threat elimination is a priority. Side note – currently, Polish armed forces are not using other types of 5.56 rounds than standard SS109 with 62 gr rounds. There are no AP rounds or even heavier 75 gr (for improved stability and performance) in service. Lessons learned in Iraq and Afghanistan confirmed that the standard round was not capable of piercing the vehicle windows... The 300 BLK has similar performance to 7.62 AK rounds, which are overperforming the 5.56NATO SS109 rounds in the distances of up to 200 meters. And, what's important, Poland still has some stocks of 7.62 rounds, so it is

readily available and relatively cheap.

With that knowledge, I came up with an idea, that all the AK rifles in our unit inventory (which name was ultimately changed from 1.PSK to Commando Military Unit or JWK in short) should be modified to improve their performance to make them comparable to HK416s. Tuned up for the highest maximum level. My idea received positive feedback from Unit CO and I started to experiment with different solutions. The final outcome was purchase of tested and proven accessories, and some slight armorers works for fine tuning. That way, the JWK was able to obtain a cheap but versatile weapon platform for use during military support operations or other tasks.

"The Golden AK" here is a custom rifle for use in our Targets Creators training company, based on my experiences in JWK. The main focus of that build was enhanced performance and accuracy. Now, it is capable of hitting a Torso-type target 500 meters away with 60% probability (depending on the ammo).

To increase the speed and performance of the AK you have to modify the gun. Deeply modify. How many mods are necessary? It depends only on you, but overall it is not so simple nor cheap.



MODIFICATIONS

PARTS REQUIRING REPLACEMENT OR UPGRADE

SAFETY SWITCH – Because the legacy safety switch is very long it is difficult to operate it with a strong hand index finger. It was designed for thumb operation which significantly increases time required to open fire and decreases accuracy. Also, usually, it is very tight fitting and force is required to push it down. The simplest way to improve this part is to remove the top cover, turning the safety switch vertically and then slightly bending to the outside. This usually solves the problem. Another way is to replace the legacy safety switch with the commercial made ones which are usually designed for easier operation with index finger. The switch visible in the photos is a custom project of Targets Creators and Warsaw Gun Works company with index finger rest (paddle shaped) that makes its operation way easier. There is also a slight extension in the rear part allowing for support hand use (or left hand shooters). There is a notch to hold charging handle in the rear position, which improves handling with jams and might be used as visual



marker of unloaded weapon on the shooting range.

MUZZLE DEVICES In the early runs of AK, there was a cover on the business end, threaded on 14x1 LH thread. Later it was replaced with a muzzle brake or flash hider, depending on the series. In AK74, with 24x1.5RH thread, there is a multi-functional device combining the muzzle brake, compensator and flash hider. Currently, there are four basic types of muzzle devices available: compensators, muzzle breaks, flash hiders and blast diffusers. Each of these has pros and cons.



COMPENSATORS.

This type of muzzle device will decrease the muzzle rise. Usually, there are top and side venting holes that mitigate the energy during the shot. Well designed compensator will improve the speed of single shots, increase stability during burst or rapid fire and will decrease the move of the iron sights. The strong blows of gases are directed to the sides of the device and there is also a huge flash. These are great for competition shooting on the outdoor ranges but definitely not suited for tactical use.

MUZZLE BRAKES.

This type of device will decrease the force of recoil acting on the shooter. The main role is dampening of the recoil forces to improve the overall stability. The venting holes are usually directing the blast to the rear and sides, so the shooters (and people nearby) will be affected with the back/side pressure of the gas. Again, venting holes are usually large and huge flash accompany each shot which will unveil the position of the shooter. Not recommended for tactical use, but effective for competition shooting.

FLASH HIDERS.

Their main purpose is to minimize the visual signature of the shot. Mandatory for military/tactical use. Flash hiders do not compensate for the recoil or muzzle rise as effectively as other devices. Perfect for duty use, not recommended for sport.

BLAST DIFFUSERS.

Engineered to direct the concussive blast of the fired round forward of the weapon system without venting gas to the side, as seen with standard muzzle brakes. This aids in reducing the overpressure felt by others immediately to the left and/or right of the shooter's firing position. Increases safety of the others nearby. Usually heavier weight and increased flash are the cost. Recommended for indoor ranges or urban warfare.

MULTIFUNCTIONAL

muzzle devices. This group of devices combines functions of above mentioned products in a single product. Following can be recommended;

KRINKOV/BULGAR-STYLE

– very effective flash hider (90% reduction of flash) which directs blast and sound forward of the gun. Krinkov muzzle devices work well as a flash hider in the open terrain but also in DA/CQB scenarios (as blast diffuser). It significantly reduces the sound of shot. Main disadvantage is increased recoil (due the increased back pressure on the bolt) and heavier weight. Another problem is barrel overheating.

FSC-47 FLASH SUPPRESSING COMPENSATOR

– very effective compensator which decreases recoil and muzzle rise for faster and more accurate shots, even fully automatic. The FSC is also a flash hider which moves the flash out of the line of sight. It is one of the most universal muzzle devices, for both duty and competition use. Lightweight and reasonably priced.

ELECTRO OPTICS MOUNTS

These are required for attachment of red dots, holo sights, optical sights and more. Every shooter knows that optics are key accessories to effectively increase range of weapon systems. Most of the modern rifles are designed for optics attachment. Well, not the AK. The M16 platform was modified multiple times and most of its current variants have flat-top upper receivers for optics mounting. The AK and AK74 never had integrated optic mounts. The AK was born in times when optics were expensive, complicated and only available for snipers, so the only iron sights were the only way to go. Later, some specialized variants, like AMKL/AKMN with dovetail mounts on the side of the receiver were introduced – these were dedicated for use with night vision devices.



TYPES OF MOUNTS:

DOVETAIL SIDE MOUNT

PROS:

- ★ Simple legacy mount
- ★ Mount close to shooters' eye, great for telescopic sight
- ★ Does not change the balance of the gun
- ★ Ready for Soviet/Russian/Eastern Block optical sights

CONS:

- ★ Definitely too high for EOTEC HWS, what decreases the field of view and decrease accuracy
- ★ The center of the mount is usually off the point of aiming, so the zeroing and POI on the short and long distances are shifted
- ★ The stock can't be folded to the left side of the gun
- ★ Weight
- ★ Rear sight mounted rail

REAR SIGHT MOUNTED RAIL

PROS:

- ★ Small dimensions does not affect the use of the weapon and does not add weight
- ★ Perfect for MRDS. Wide choice of mounts available
- ★ Allows proper aiming
- ★ Works with foldable stocks

CONS:

- ★ Height of the mount is not comfortable for full sized optics
- ★ Difficult to install in place of legacy rear sight bracket
- ★ Dimensions allow to install only small sights

TOP COVER RAIL

PROS:

- ★ Lightweight mount, which moves center of gravity towards pistol grip increasing the proper balance
- ★ Easy to install
- ★ Real estate for optics attachment

CONS:

- ★ The top cover with rail is held in place by the rear part of the recoil spring assembly. It will lose zero after a few rounds
- ★ Railed top covers are usually made from thin steel, aluminum alloy or even polymer. They are fragile and prone to damage even in controlled environments
- ★ Poor quality, usually require some individual tailoring

DOG RAIL

(TOP COVER RAIL ATTACHED IN PLACE OF REAR SIGHT ASSEMBLY)

PROS:

- ★ Lowest possible attachment for the optics (almost the same level as top cover)
- ★ Space for optics
- ★ Optics in the axis of the rifle
- ★ Folded stocks compatible

CONS:

- ★ Price
- ★ Difficult to install
- ★ Optics mounted on the rear of the mount decreases field of view

GAS TUBE MOUNT

PROS:

- ★ Easy to install or detach
- ★ Sight mounted forward improves the speed of aiming and increases field of view

CONS:

- ★ Sight installed forward to the gun changes the balance
- ★ Some mounts are attached directly to the barrel (decreasing accuracy)
- ★ Cheap mounts lose zero quickly
- ★ Temperature and vibration might damage the sights

UPPER HANDGUARD MOUNT

PROS:

- ★ Sight mounted forward improves the speed of aiming and increases field of view
- ★ Compatible with bigger number of sights than the gas tube mount
- ★ Usually comes in pairs with lower handguard with additional rails/attachment points

CONS:

- ★ Heavier weight has negative effect on the balance of the gun
- ★ Some mounts are attached directly to the barrel (decreasing accuracy)
- ★ Picatinny rails on lower handguard may change the grip of supporting hand

The main reason for the choice of the mounting solution is our optic. The choice of optics depends on the mission and environment. For urban warfare, I would recommend EOTEC HWS with Dog Leg mount. For use in a CQB environment, the MRDS on the gas tube or instead of rear sight would be my sight to go.

For mid and long range, I would go with dovetail mounted rail or something like Sabrewerks KOP System. The choice should be informed. Do not buy cheap stuff. Buy once, cry once.





STOCK

Legacy stock is usually wooden, plastic or, in the case of AKMS with folded stocks, stamped steel. Main problem is lack of length adjustment, weight and lack of comfort. There are multiple commercial solutions available, with length adjustment features. This will increase speed of aiming, accuracy and comfort. Most popular products are usually AR ones, bad fixed and adapted to use with the AK with buffer-tube adapters or foldable ones, such as Magpul Zhukov. All of them have pros and cons. Usually, the final choice will be based on individual preferences, including aesthetics. AR stocks are fast in use, available in multiple versions but folded ones are usually more comfortable for transport and use in confined spaces or vehicles. When choosing the stock, make sure to check not only the quality of stock itself but also a stock mount/adapter. There should be no play or wobbling.

TRIGGER GROUP

The AK's legacy trigger is usually called one of the world's worst ones. Long travel required for the first shot and huge trigger pull are main cons. The third, usually confirmed by most of the shooters, is a lack of consistency between shots. All these factors are limiting the speed of the first shot and its accuracy. Multiple commercial solutions are now available, vastly improving the performance of the AK. One of the examples is the Geissele Automatics AKT trigger with short travel and 1.4 kg trigger pull. That one might be recommended for both tactical and competition use.

CHARGING HANDLE KNOB

Standard AK charging handle has a spiked shape and is a common reason for hand abrasions during intensive use (pro tip: use gloves whenever possible). It is small and smooth so the contact surface between palm and handle is limited.

The enlarged charging handle knob changes the shape, increases the grip and improves the function.

MAGWELL

This accessory improves the speed of magazine loading. The expanded shape helps in reloads and makes this operation more consistent. Fast reloads, limited visibility,

performance and functionality over the non-accessorized firearm. As with other things, each of the attachment systems has its pros and cons. The M-LOK or KeyMod "negative space" slots are flat and lightweight and the Picatinny has definitely far more accessories available and since it is the oldest system, it is most widespread. To



shooting on the move – it will be a perfect problem solver. Usually it is a very lightweight piece of gear almost unnoticeable when on the gun.

RECOIL BUFFER

Rubber part assembled on the recoil spring rod. It will dampen the recoil forces. It is basically a shock absorber that decreases the impact force of the returning slide. It is usually very cheap but since it's made of rubber, it will wear down after time. I would recommend checking it up after every visit to the shooting range. If any damage occurs, throw it away and replace it with the new one.

HANDGUARD WITH ATTACHMENT SYSTEM

This part will allow the additional accessories such as laser pointers, flashlights, vertical front grip, etc to be attached to the rifle. All of them will definitely improve the

attach Picatinny accessories to MLOK/KeyMod you are going to need additional adapters. Picatinny rails are way heavier and more bulky.

We can divide handguards due to their length. Short ones are lighter (better balance of the gun) but number of accessories attached

is limited, grip front forward to the gun might not be possible to install too. Usually, short handguards will not keep your hand out of a hot barrel. The longer handguards will eliminate such flaws, but they are definitely heavier. There is also another thing – more rail estate encourages placing more and more



accessories. Always keep the configuration of your rifle reasonable and tailored to mission and operational environment. Grams equals kilograms, kilograms equals pain. Unnecessary accessories will have a negative impact on mobility, stability and balance – shooting fundamentals.

ADJUSTABLE GAS PISTON

It is no secret that the legendary reliability of AK is caused by “over-gassing”. It means that the amount of gas required to push the slide back is way higher than necessary. AK was designed to work in every possible and extreme conditions.

Unfortunately, this heavily increases the recoil and lowers the accuracy. One of methods to overcome this problem is use of an adjustable gas piston which enables it to adjust the amount of gas necessary for operation. It might be different due to the powder load of rounds. Adjustable piston will enable to increase the pressure of the gas in extreme conditions – in mud or dense dust. It will also decrease the pressure when shooting suppressed. The suppressor itself increases the backflow of the gasses toward the face of the shooter and the gas block will enable it to avoid such an effect. Adjustable gas

piston is definitely recommended for tactical use, but competition shooters looking to dampen the recoil force for increased stability. Recently, adjustable gas blocks for AKs became available too.

PISTOL GRIP AND FRONT GRIP

Grips improve control and stability of the gun when shooting. The factory AK grip is wooden or polymer, but its ergonomics are questionable. Except Hungarian and Romanian rifles, AK never had the front grip. Front grip, as another touch point, increases the stability and improves control over the recoil forces and muzzle rise. It



can be also deployed as a support when shooting behind barricades. There are plethora of front grips available, developed for different methods of weapon handling. It should be carefully chosen to meet individual requirements.

WEAPON SLING

Legacy AK sling was never a fancy one. It was made for shouldering the weapon when on static duties and wasn't ever considered

as a tactical sling. Modern weapon slings are usually more functional due to their design. Basically, there are single point and multi-point slings. Single points are recommended for use in dynamically changing environments, when transitioning from one side to the another or when elevation is constantly changing. But single point sling lacks stability, changes the balance and does not keep the gun close to the shooter, so it can bang around.

Multi-point sling is more universal. Rifles can be worn comfortably, remain stable when shooting or when transitioning from primary to secondary weapon. Some slings can be quickly converted from 1-point to 2-/3-point and vice versa. Choose whatever sling you prefer, just remember about its quality, durable fabrics are a must.

MAGAZINE

Basic AK magazines are made from stamped steel sheets. Because the material is almost indestructible but also tremendously heavy. Later generations of AKs had polymer (bakelite) magazines but they were never popular (these were common for AK74 and later ones). Now, there are a number of polymer magazines available offered by multiple manufacturers. They are durable, lightweight and... definitely better looking.

Thanks to Mateusz Kurmanow for his support during the customization of my AK and to Michał Bartosiewicz for professional photos.

THE AUTHOR IS AN INSTRUCTOR IN COMPANY **TARGET'S CREATORS**

One product I could definitely recommend is the magazine follower which will hold the bolt in the rear position (like WeaponTech one). After last rounds fired, the slide stops on the bump of the follower making it very clear to the shooter that the magazine is empty. With standard AK, you will never know what was the reason for lack of shot, was it a failure or empty magazine. Sure, you can try to count the rounds... Side note – even with a custom follower, when you will drop the magazine, the slide will move forward anyway.

LOOSE ROUNDS

As you can see, there are multiple ways to customize and “civilize” the old and rusty Kalashnikov rifle. All the mentioned above are based on my personal experience but I am fully aware that there are many other methods to improve and modify an AK. After implementing my solutions you are going to rediscover the AK. hell I know, the number of mods depends on your budget and sometimes “pimping my AK” will cost more than a basic rifle, but there is absolutely no reason to change all the parts at once. When modding your gun, focus on the key components and factors and start with them first. And definitely do not follow “tactical fashion trends”.