



Compact rifles like the AKS-74U are intended for specialists who must attend to other weapons like this RPG-7v rocket launcher. Compact size has its ballistic cost.

# Bulgarian “Krinkov?” Arsenal SLR-106 Rifles

Text and photos by Peter G. Kokalis

Kokalis debunks the common name and points out the ballistic shortcomings of the type, but that won't stop those who just find these shorties irresistible.

I have asked this question before, as the term simply won't go away. What exactly is a “Krinkov?” AK (Avtomat Kalashnikova) enthusiasts in the United States will emphatically tell you that it's the Russian soldier's nickname for the AKS-74U, the extremely compact, caliber 5.45x39mm AK74 assault rifle with a barrel length of only 7.9 inches (200mm).

My close friend and colleague, Mikhail E. Dragunov, a senior designer at the Izhevsk Mechanical Plant (a.k.a. Baikal) in Russia, a highly respected Russian small arms authority, and the son of the late Evgeniy F. Dragunov (1920-1991) who developed the SVD sniper rifle, has informed me that the word “Krinkov” has no meaning in Russian and that it's a term apparently conjured up in the United States, for reasons and by whom completely unknown. Don't forget that to this day, many

Americans continue to refer to the German World-War-II-era MP40 submachine gun as the “Schmeisser,” although Hugo Schmeisser had nothing whatsoever to do with its design or development.

Dragunov says that Russian soldiers' jargon for the AKS-74U includes the following: “Ksyukha,” which is derived from AKS-74U and sounds like a girl's name (the nickname for Xenya); “Suchok,” which comes from AKS-74U and in Russian means “little bough;” “Suchka,” which in Russian means “little bitch;” and “Okurok,” the Russian word for “cigarette butt.”

As just stated, in the Russian language “Krinkov” is a nonsense word, devoid of any meaning. In the 19th century (from 1869 to the late 1970s) the Russian Imperial Army was armed with Krnka rifles. Sylvester Krnka was an Austrian gunsmith of

Czech origin who developed the conversion of the Russian Model 1856 muzzle-loading percussion rifle to a breechloader. But, there can be no connection between the 19th century Krnka breechloader and the AKS-74U assault rifle.

The term “Krinkov” first appeared in print during the 1980s when the Soviet Union was engaged in its debacle in Afghanistan. It was also during that time frame that the AKS-74U was first fielded by the Soviet armed forces. It appears to have been designed for more or less the same MENS (Mission Essential Need Statement) as the short-barreled M16A2 known as the M4. It was originally intended that these would be principally fielded by rear echelon troops, such as cooks or drivers, armored vehicle crews, and possibly infantry squad and platoon commanders in lieu of a handgun. Both the AKS-74U and M4



**Arsenal's SLR-106U is in 5.56mm, while the SLR-107UR (bottom) uses the 7.62x39mm round. Both of them have the short gas system associated with the AKS-74U series.**

quickly became highly prized by SPETsNAZ and U.S. Army Special Forces personnel, respectively—in both instances, for the wrong reasons in my opinion.

Chopping the Kalashnikov's barrel length to 200mm (7.9 inches) reduced the muzzle velocity of the 5.45x39mm ball projectile to 800 meters per second (2625 fps) from the 900 mps (2953 fps) of the standard AK-74. Correspondingly, the penetration in soft tissue is also significantly reduced. Neither the AKS-74U nor the M16A2 M4 are really effective at contact distances much beyond 100 meters. However, most infantry fighting, especially in urban environments, is at distances well under 100 meters. And, the greatest appeal of these weapons remains their compact envelopes. Infantry soldiers invariably want the greatest possible firepower (hence the desire for large-capacity magazines) in the smallest possible envelope. That they would in almost all instances be better served by rifles of greater barrel length appears to be of no consequence.

Eventually, almost all of the Eastern Bloc nations fielded Kalashnikovs of the AKS-74U type in both calibers 5.45x39mm and 7.62x39mm. The Hungarian attempt at an exceptionally compact Kalashnikov envelope was called the AMD-65M. In recent years Poland developed the caliber 7.62x39mm Onyx, which is very similar in packaging to the AKS-74U. The Romanian Model 90 has a somewhat longer barrel at 302mm.

Yugoslavia's "Krinkov," called the Model 92, is chambered for the 7.62x39mm cartridge and has a "down-folder" stock. In Russia the entire Kalashnikov series evolved into the AK100 series and within that group the AKS-74U configurations are the

AK102 in 5.56x45mm NATO, the AK104 in caliber 7.62x39mm and the AK105-1 chambered for the 5.45x39mm round. Bulgaria manufactured the AKS-74U and a cal. 7.62x39mm version referred to as the AKS-47S (or AKS-47UF and AR-SF).

Arsenal, Inc. (Dept. SGN, 5015 West Sahara Avenue, Suite #125, Las Vegas, Nev. 89146; phone: 1-888-539-2220; fax: 1-702-643-2088; website: www.arsenalinc.com) has just introduced a semiautomatic-only rifle in a so-called "Krinkov" configuration. All of Arsenal's Model SLR-107 series rifles are chambered for the cal. 7.62x39mm cartridge. The Model SLR-106 series are all cal. 5.56x45mm NATO.

SHOTGUN NEWS was sent a Model SLR-106U with a 16.25-inch barrel and a Model SLR 107UR in short-barrel-rifle (SBR) configuration (with a barrel length of 8.5 inches), although I have been advised that the SBR is not available directly from the Arsenal, Inc. manufacturing facility. The letter "U" following the model number indicates that the rifle is equipped with a short gas system and the letter "R" indicates that the rifle has a Warsaw Pact side rail scope mount.

There are five different models in both the SLR-106 and SLR-107 series. The SBR is especially interesting as it duplicates an AKS-74U, except for the lack of selective-fire capability. Be advised that a short-barrel-rifle is a Title II firearm, as it's a rifle with a barrel length less than 16 inches (more about that elsewhere). In addition, the 7.62x39mm cartridge is easily available in the United States and has exhibited renewed favor by Russian SPETsNAZ personnel.

The overall length of the Model SLR-106U is 34.5 inches (877mm), with the stock extended. With the stock folded, this dimension is reduced to 25 inches (636mm). Overall length of the Model SLR-107UR with the stock extended, which has an 8.5-inch barrel and a "HOBO" muzzle device, is 28.875 inches (733mm). When its stock is folded this becomes only 19.375 inches (492mm).

The weight of the SLR-106U and SLR-107UR with a HOBO muzzle device are, respectively 6.15 pounds (2.79kg) and 6.25 pounds (2.84kg). The cal. 5.56x45mm NATO barrel has six rifling grooves with a 1:7 right-hand twist. This fast rate of twist means that the system is optimized for projectile weights of 60 grains and more.

These are AKM-type derivatives (using a Bulgarian Mil-Spec receiver and barrel assembly) and thus the pinned and riveted sheet-metal receiver has a wall thickness of 1mm, which is standard for the AKM series. The exterior finish is excellent. The steel is phosphate-treated (often referred to as "Parkerizing") first and then finished with satin black baked enamel.

This outstanding and extremely rugged finish is exactly that used on all Bulgarian military-issue small arms. The manufacturer's suggested retail price for the SLR-106U, complete with

sling, buttstock cleaning kit, oil bottle and one 30-round magazine, is \$1,125. I have examined and fielded literally hundreds of Kalashnikovs on the battlefield in Bosnia-Herzegovina, Angola, Afghanistan and El Salvador. Among the very best are those manufactured by Arsenal in Bulgaria.

While it has not been without criticism in several areas, in numbers produced, no infantry rifle in the history of modern warfare even comes close to Mikhail T. Kalashnikov's famous assault rifle. It has been estimated that almost 100 million have been produced by more than a dozen countries, including Albania, Bulgaria, China, East Germany, Egypt, Finland,



**Although the rifle will operate without the Bulgarian "HOBO" muzzle device, the unit helps insure reliable operation under the most adverse battlefield conditions.**



**Both the upper and lower handguards are made from black polymer moldings of great durability. The lower handguard has the very essential aluminum heat shield.**



**Muzzle devices on the Yugoslav Model 92 (top) and Bulgarian AKS-74U reflect gas rearward toward the barrel's port, driving through enough gas for reliable operation.**



**The pistol grip found on SLR-106 and SLR-107 series rifles is somewhat shallower than the old style and is designed to fit flush with the grip reinforcement plate.**

**An “R” in the model designation indicates a Warsaw Pact side rail. Riveted to the left receiver wall, a wide variety of optical sights can be mounted on this rail.**



**Kokalis prefers the folding polymer stock to the steel folder; it’s a modification of the Russian AK100 stock that combines stability and a compact envelope.**

M1 Garand rifle, is all too often plagued with an objectionable, and sometimes quite painful “trigger slap” and a creepy and unpredictable trigger pull. A rifle’s fire control system and how the operator reacts to it contributes in no small measure to its accuracy potential.

The trigger system on both of the two rifles sent to us is composed of the hammer, trigger/sear and disconnector, together with the associated springs. The fire control system used on the SLR-106/107 series has a two-stage trigger similar to that found on the Romanian PSL sniper rifle. After a smooth initial take-up, the final “break,” or pull weight on each of SGN’s test specimens was a very crisp 5.5 pounds.

In addition, the disconnector has a special feature to eliminate the irritating “trigger slap” so common on AK-type rifles. There is a “tail” on the end of the disconnector (much like that of a full-auto disconnector, but not long enough to be used as a full-auto part) that impinges against the trigger guard rivet inside the receiver shell and prevents trigger slap. The full-auto disconnector also functions in this manner, which is why “trigger slap” is rarely encountered on selective-fire AKs.

The standard Kalashnikov-type round front sight post, with the usual protective ears, is adjustable for windage and elevation zero providing the proper tools are used. Remember, you must turn the front sight down to raise the point of impact and up to lower the point of impact. There is no bayonet lug on either of the

two “Krinkov”-type rifles sent to us for test and evaluation. Who cares? There is no under-barrel cleaning rod either.

The rear sight is quite different from those usually encountered on the AK series. It rests at the rear end of a base that is attached to the hinged sheet-metal receiver top cover, with its hinge pin fixed to the top block on the receiver that usually holds the rear sight. There are two open U-notch, flip-type, rear sight blades, one is a battle sight setting (marked with a Cyrillic “P”). In elevation, it is the equivalent of 300 meters.

The other U-notch is marked “4-5” for ranges from 400 to 500 meters, which is still well beyond the effective range for the cartridge with only a 7.9- to 8.5-inch barrel. Together with the short barrel and corresponding muzzle devices, the hinged receiver top cover is a salient feature of AKS-74U-type weapons. In all other regards these are very much part of the Kalashnikov series.

Both rifles have Steyr-technology hammer-forged, chrome-lined barrels, which moderately increase barrel life and, in theory at least, somewhat enhance the system’s accuracy potential. In this barrel forming process, the billet is fixed on a mandrel with the rifling raised in relief. A series of hammers force the rifling onto the bore and simultaneously form the barrel’s exterior contours, work-hardening both the bore and exterior surface. The oval-shaped hammer marks on the exterior surface have been removed.

The 90° gas plug has been chrome-lined to extend the durability of an area of the system that receives a considerable amount of heat. However, don’t think for a moment that chrome-lined barrel, chamber and gas plug minimizes the requirement for proper maintenance. I have examined World-War-II-era Soviet PPSH41 chrome-lined submachine gun barrels that looked like rotted out sewer pipes because they were not cleaned on a regular basis.

Both the upper and lower handguards are made from black polymer moldings of great durability. The lower handguard has an aluminum heat shield. Heat shields are of far greater significance than you might realize. I have personally witnessed the unprotected wooden handguards of a Chinese RPD light machine gun and the plastic handguards of a Taiwanese T65 assault rifle, protected only by a coat of aluminum paint, literally burst in flames at seriously inappropriate times. The SLR-106U/107U series heat shield also incorporates a notch and bump to guide the cleaning rod under the front trunnion.

The bolt carrier, bolt group and gas piston were manufactured in Bulgaria. The bolt carrier has a slot designed to clear the magazine lips on the cal. 5.56x45mm magazines.

It’s important to note that a spring-loaded firing pin has been employed on both the Model SLR-106 and SLR-107 rifles. Most AK-type rifles use inertia firing pins. When the AKM was introduced, the bolt’s bounce characteristics were changed by the lighter sheet-metal receiver.

As a consequence, to prevent firing out of battery, which can destroy both the rifle and the operator, a five-component mechanical drag device was installed in the trigger mechanism to delay the hammer’s fall until bolt bounce had settled down to a safe degree. This device, erroneously called a rate reducer by many self-styled authorities, is usually found on selective-fire AKs only and is not present on the SLR-106 or SLR-107 series. U.S.-made commercial 5.56x45mm ammunition often has much softer primers than Mil-Spec cartridges and thus the danger of firing out of battery is even greater. Installation of a spring-

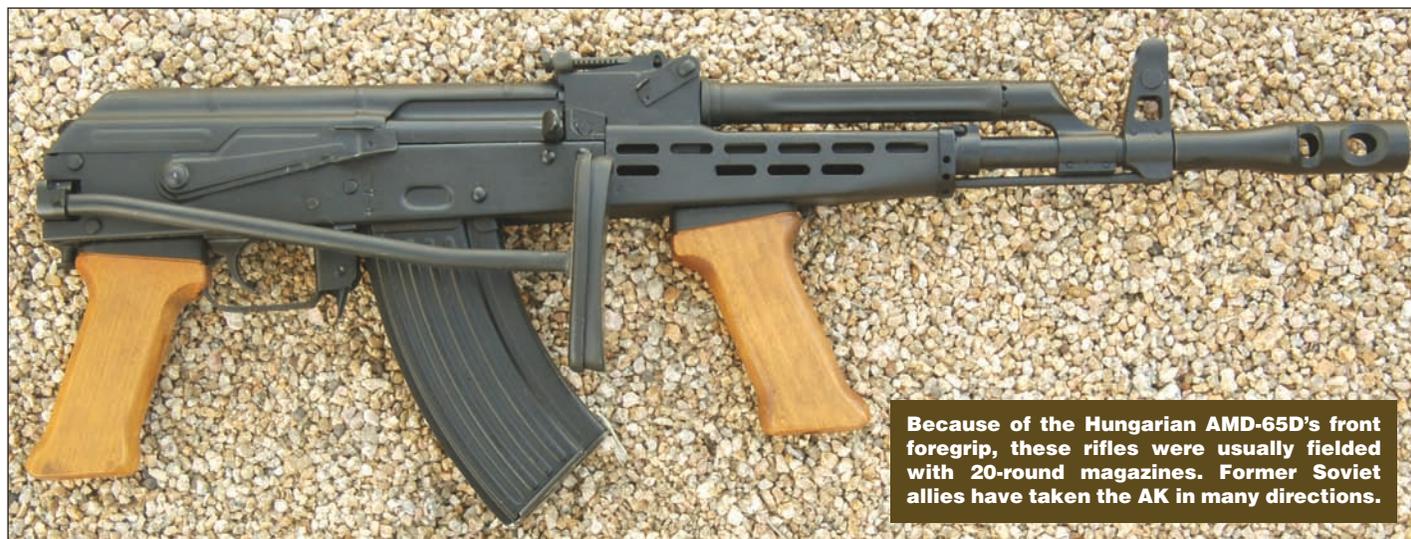
Hungary, Iraq, Israel (the Galil derivative), North Korea, Poland, Romania, Russia, South Africa (the R4 series) and the former Yugoslavia.

Chambered originally for the caliber 7.62x39mm intermediate-size cartridge, the Kalashnikov assault rifle was adopted by the Red Army in 1949 after more than four years of development. Between 1948 and 1950, the AK47 (Avtomat Kalashnikova obrazets 1947g— Kalashnikov assault rifle model 1947) was manufactured with a sheet-metal receiver.

By 1951, this type had been replaced by the far more common variant with a machined, drop-forged receiver (there were two models of this variant and they differed principally in the method by which the buttstock was attached to the receiver). The AKM (Modernizirovanniy Avtomat sistemi Kalashnikova) version, again with a pinned and riveted sheet-metal receiver, was introduced in 1959.

One hundred million rifles and yet it has one of the worst triggers ever devised, the accuracy was often no better than mediocre and in a number of other less significant areas there never seemed to be any improvement. If there was ever an example of a battle rifle resting on its well-deserved laurels, this was certainly it.

However, the Arsenal designers have recently addressed the AK’s most frequently criticized feature. The Kalashnikov trigger system, conceptually derived from that of the US .30



**Because of the Hungarian AMD-65D’s front foregrip, these rifles were usually fielded with 20-round magazines. Former Soviet allies have taken the AK in many directions.**



**There are two open U-notch, flip-type, rear sight blades: a 300-meter battle sight (Cyrillic "P") and a U-notch marked "4-5" for ranges from 400 to 500 meters.**



**Both of the available stocks fold to the left and are retained by a spring-loaded locking latch protruding from a rectangular slot in the left side receiver wall.**



**The SLR-107UR measures just 19.375 inches when folded. You could fire it with the stock folded, although the hit probability would be significantly compromised.**

loaded firing pin on the SLR-106 and SLR-107 rifles is an important safety feature.

The pistol grip found on SLR-106 and SLR-107 series rifles is a new design intended for use on AK rifles with a grip reinforcement plate. Matte black in color, with deep checkering on each side, it's somewhat shallower in depth than the old style and designed to fit flush with the grip reinforcement plate without any overhang. It cannot be installed on AK47 milled receiver rifles. It's available separately and carry a manufacturer's suggested retail price of only \$19.99.

The buttstock found on the Model SLR-106 or SLR-107 rifles is the best I have ever seen installed on a Kalashnikov-type rifle and is basically that of the Russian AK100 series. It combines the enhanced stability of a fixed stock with the compact envelope provided by a folding stock. This black polymer buttstock folds to the left and is retained by a spring-loaded locking latch protruding from a rectangular slot in the left side receiver wall.

The 4.5mm pivot pin is identical to that of the skeleton stock, and thus they are easily interchangeable. When locked in the open position, the new polymer folding stock provides the same stable firing platform as a fixed stock. The sheet metal buttplate has horizontal ribs to improve its gripping qualities when the stock is placed firmly into the shoulder pocket. The wire rear sling swivel, mounted to the right side of the stock, swivels a full 360°.

The usual butt trap, with a spring-loaded cover plate, holds a standard AK buttstock cleaning kit. When locked in the folded position, the stock can be opened by pressing a spring-loaded polymer button in the buttplate.

The left side of this stock has a stepped cutout to accommodate a Warsaw Pact side rail, riveted to the left receiver wall of the SLR-107UR short barreled rifle. The SLR-106U was not equipped with this side rail. A substantial number of optical sights can be mounted on this rail.

The right side of the SLR-106U buttstock sent to us for test and evaluation has the same longitudinal, almost 4-inch groove found on both sides of the original AK74's laminated wood butt-

stock and carried over onto the black polymer buttstocks of the Russian AK100 series rifles.

Very few know its real function. Speculation about the reason for these grooves has been rampant ever since photographs of the AK74 first appeared in the West. Most suggestions for their real purpose have bordered on the ridiculous. It has been proposed that they were to identify 5.45x39mm caliber AKs from those of 7.62x39mm caliber when they were placed together in rifle racks in a barracks. It's not likely that members of the same combat unit

would be armed with Kalashnikovs in two different calibers. It has also been said that the grooves were designed so the rifle could more easily be grasped by the buttstock when shooting through the firing port of an armored fighting vehicle. That's also nonsense.

Mikhail Kalashnikov himself told me what they signified in 1994 on the occasion of his 75th birthday celebration. When the first prototypes of the AK74 were assembled they were little more than re-barreled AKMs. To fit everything onto the barrel, the outer diameter of the AKM barrel was retained. As the 5.45mm bores were smaller than the 7.62mm bores, the end result was a heavier rifle, the very reverse of what the Soviet Army was seeking. As a consequence, the AK74 prototype was rejected with instructions to lighten the package.

Kalashnikov's design bureau tried every possible means to drop weight off the rifle including, as incredible as it sounds, placing lightening grooves on each side of the buttstock. Thus the mystery of the AK74 stock grooves is solved, although some, always looking for a more sinister explanation, will not believe it.

The Model SLR-107UR has been fitted with a buttstock taken directly from the Russian AKS-74U. It's fabricated from stamped sheet metal struts, bent into a U-shape and assembled by punch welding. It folds to the left, and is held open by a spring-loaded button latch located at the rear of the receiver on the left side. The stock is held closed by the same spring-loaded locking latch found on the SLR-106U.

There are horizontal ribs on the buttplate that help secure a strong shoulder mount. Robust and rigid, the AKS-74U folding stock is a vast improvement over the "down folder" buttstock found on the AK47 and AKM, which was clearly copied from the German World-War-II-era MP40 submachine gun. While substantial enough for pistol-caliber weapons, it cannot withstand the recoil impulse of rifle-caliber firearms over extended periods.

Bulgarian cal. 5.56x45mm NATO magazines for the SLR-106 series rifles are available in 5-, 10-, 20-, or 30-round capacities. No tool is required to load these two-position-feed, staggered-column, detachable box-type magazines. Kalashnikov magazines, among the most reliable ever fielded, have undergone an interesting evolution.

The very first Soviet AK magazines had plain slab-sided steel bodies. Subsequent steel-bodied magazines had lighter stamped sheet-metal bodies with prominent reinforcing ribs. When the AKM was introduced, a magazine with a lightweight aluminum body was fielded. It proved to be insubstantial and was quickly withdrawn from service. This aluminum magazine was replaced by the well-known magazine featuring a body made of glass-reinforced, rust-colored, AG-4S cellulose resin.

This was followed in turn by a magazine with a body of dark-brown butyrate plastic (also called ABS) of the type commonly used in appliance manufacture in the United States. The body was injection-molded.

Bulgarian AK magazines, usually, but not always, marked with a "10" in a double circle, are made from black, green or translucent, fiberglass-reinforced, thermoplastic (this indicates that it can be injection-molded) polyamide (epoxy-based resin) with a "waffle" pattern to add further structural rigidity in the 20- and 30-round sizes.

Injection-molded polyamides are super industrial-strength synthetics well known for their resistance to high temperatures, corrosion, wear, chemicals and radiation. Lighter than steel, they have a higher tensile strength than aluminum. The 30-round caliber 7.62x39mm magazine supplied with the Model SLR-107UR is of this type. While soldiers will grab the largest capacity magazine they can stuff in a rifle, I personally feel that 20-round magazines in both the AK and M16 rifles offer the most compact envelope and best handling characteristics for either shooting off the bench or addressing targets in the field that shoot back.

With one exception, Kalashnikovs do not have a hold-open device, and thus after the last round has been fired, the bolt group will travel forward into battery without chambering a round. There has been some criticism of this, but in the field many operators first load two or three rounds of tracer, if available, to indicate that the magazine is running dry. Yugoslavian AK magazines have a projection on the follower that will hold the bolt group rearward. However, when the empty magazine is removed, the bolt will immediately fly forward.

AK magazines must be rocked into and out of the magazine well during insertion and removal and tactical reloading suffers slightly as a consequence. In this area, the M16 clearly wins, although M16 magazines are distinctly inferior to those of the Kalashnikov. The AK's magazine catch/release is a spring-loaded, paddle-type in a housing at the front end of, and integral with, the stamped sheet-metal trigger guard.

### The Mysterious Krinkov Muzzle Devices

Very few know exactly what function is served by the prominent muzzle devices found on most AKS-74U variants. *Jane's Infantry Weapons* surely doesn't. It has stated that the cylindrical muzzle device, which ends in a bell-mouthed flash suppressor serves two purposes.

First, it will supposedly give a sudden pressure drop before the bullet exits the muzzle, thus reducing the otherwise high pressure in the gas cylinder and on the piston caused by tapping off propellant gas very close to the chamber. Secondly, the cylinder is supposed to reduce flash and blast, which would be considerable as a result of firing a full-charge rifle cartridge from an extremely short barrel.



**The standard Kalashnikov-type front sight post, with the usual protective ears, is adjustable for windage and elevation zero providing the proper tools are used.**



**The standard AK buttstock cleaning kit has a tubular container that serves as a handle and tool, nylon bore brush, combination tool, drift and cleaning rod jag tip.**

While the latter explanation has some merit, the former reason is utter nonsense and actually the reverse of the real purpose, written by an individual with no knowledge whatsoever of even the most basic concepts of Newtonian physics.

To understand the real function of these devices, we must understand the relationship between a gas-operated firearm and the length of its barrel. As the fired projectile moves down the barrel it holds behind it the expanding propellant gas created by the burning powder granules. When the gas reaches a port, or vent, in the barrel—usually close to the muzzle end—a portion of the gas is diverted through the port and into the gas cylinder, which contains the piston that is attached to, or impinges against, the rifle's bolt group, driving the bolt assembly rearward and unlocking the action.

The amount of gas required to drive the piston reliably rearward is referred to as the "port pressure" (which will obviously be different if the method of operation is, for example, retarded blowback rather than gas-driven piston operation).

The length of the weapon's barrel is a major factor in determining how much gas is available for diversion through the barrel's port to impinge against the head of the piston. Obviously, the shorter the barrel, the sooner the bullet will leave the muzzle and, as a consequence, the greater will be the amount of gas that will exit the muzzle and thus the amount of gas available for diversion through the gas port will be correspondingly decreased. Let's examine briefly a few examples of this phenomenon.

A fluted, so-called "commando" barrel with a length of 15.7 inches was sometimes employed by the U.S. Navy SEALs on the legendary Stoner 63A system. However, the gas port was almost at the muzzle and since port pressure drops to zero as soon as the bullet leaves the barrel, very little of the potential energy reserve was retained. Even though the port diameter was increased, this merely resulted in faster initial acceleration of the piston and operation was never totally reliable. Eventually, this "commando" barrel concept was totally abandoned.

Another example of this situation was encountered by Fabrique Nationale in Belgium when they developed the first short-barreled "Para" model of the famous FAL rifle. When fielded by Belgian troops in the Belgian Congo, the rifles operated in an erratic, unreliable manner. They were eventually forced to lengthen the barrel.

About a decade ago, when I first went to Russia for the 75th birthday celebration of Mikhail Kalashnikov, I spent a day at the range with Victor Kalashnikov and Alexi Dragunov, the sons of two famous designers and both engineers at IZHMAH in Izhevsk, Russia where the Kalashnikov "Hundred Series" assault rifles were designed and are manufactured.

One of the rifles we fired that day was an AK100 variant of the AKS-74U. It had the cylindrical muzzle device and although I had already determined to my satisfaction its function (based upon my personal experience with the Stoner 63A "commando" barrel), I politely asked them what its function was. In the Russian manner, they lied and said it was solely designed to reduce the muzzle blast. Embarrassed, the next day they sent an emissary to the hostel to explain what its real function was. Before he could do so, I informed him that I already knew.

The front end of the cylinder serves to reflect forward moving gas rearward toward the barrel's port, thus driving enough gas through the port for reliable operation. The Arsenal Model SLR 107UR sent to us for test and evaluation has been fitted with a "HOBO" four-piece muzzle attachment that performs the same function.

The HOBO muzzle device consists of a housing; a hard-chromed, cone-shaped component that rests inside the housing; a threaded front cap; and a spring-wire retainer on the device's body that locks into notches on the front cap.

In addition, Arsenal has informed me that the Model SLR 107UR has an enlarged barrel port to increase the amount of gas entering the gas cylinder. I was also told that the Model SLR 107UR will operate without the HOBO in place. I remain skeptical that reliability would not be compromised to some extent, especially with increased fouling. The Model SLR 106U, also sent to us for test and evaluation and which is equipped with a 16.25-inch barrel but is otherwise similar to the Model SLR 107UR, has an easily removable bushing in the gas plug that reduces the port diameter for reliable operation with a longer barrel.

The cal. 5.56x45mm NATO and 7.62x39mm ball ammunition used in the test and evaluation of the SLR-106U and SLR-107UR rifles was provided by Wolf Performance Ammunition (Dept. SGN, P.O. Box 757, Placentia, Calif. 92871; phone: 888-757-WOLF; fax: 714-632-9232; e-mail: info@wolfammo.com; website: www.wolfammo.com).

Because of its fast 1:7 twist rate, we were able to use the much more desirable heavy bullets in our test and evaluation of the Arsenal cal. 5.56x45mm NATO Model SLR-106U carbine. Wolf has two cartridges in this caliber that are ideal. The 62-grain FMJ load duplicates the weight of the M855 projectile used by the US Armed Forces and developed for the M16A2 series. Made in Russia, it features a steel case that is Boxer primed and non-corrosive.

Better yet in my opinion is Wolf's Gold label 5.56x45mm ammunition with a 75-grain, copper hollow-point boattail bullet, that although proscribed for military use will perform well in law enforcement and civilian self-defense scenarios. This ammunition is made in Serbia to SAAMI specifications and features Boxer-primed brass cases.

For the Arsenal Model SLR-107UR short barreled rifle we selected Wolf's 7.62x39mm load with a 122-grain FMJ bullet and a lacquered steel case. Made at Tula Arsenal in Russia this ammunition is non-corrosive and closely duplicates the Russian military cartridge in this caliber.

The average velocity from the 16.34-inch barrel of a standard AKM is about 2330 fps. There is serious degradation in muzzle velocity as a consequence of the Model SLR-107UR SBR's 8.5-inch barrel, which generates an average velocity of only about 1800 fps. It can be expected that this latter velocity would have a significantly adverse affect on the wound ballistics potential of this cartridge.

There were no malfunctions of any kind during our test firing of the SLR-106U and SLR-107UR. With about a 100 million in service, it is nothing if not obvious that the Avtomat Kalashnikova is the most reliable infantry weapon ever fielded. Using the criteria of RAM-D (Reliability, Availability, Maintainability and Dependability), which the U.S. Armed Forces apply to weapons systems; the AK in all its many variants grades out at the highest possible level.

Reliability is the tendency for a weapon to operate when called upon to do so at a random point in time and to remain in operation (with normal maintenance). It's expressed as either a fraction of total time, a probability of operation (a flashbulb for instance) or as a Mean Time Between Failures (MTBF), although the latter can be somewhat vague.

Maintainability is the relative ease with which maintenance operations can be carried out. Availability is a function of both Reliability and Maintainability, plus the efficiency of the supply system (for example: a truck without fuel or a gun without ammo is out of operation). Dependability rates the overall readiness of a system based on all RAM data and things like testability, safety and some others. (Thanks to SGN field editor Tom Gaylord, who used to teach RAM-D at the Armor School at Fort Knox, for this precise definition of RAM-D terminology.) The Arsenal SLR-106 and SLR-107 series are, without doubt, the finest production series, semiautomatic-only Kalashnikov-type rifles I have ever evaluated.

#### **AKS-74U-type Disassembly Procedures**

With the exception of the hinged receiver top cover, disassembly procedures duplicate those of the entire Kalashnikov series. First remove the magazine and then retract the bolt group to clear



**The HOBO muzzle device's housing has a hard-chromed cone inside; a threaded front cap and a spring-wire retainer on its body that locks into notches on the front cap.**

**With the exception of the hinged receiver top cover and gas system pin, disassembly procedures for the AKS-74U duplicate those of the entire Kalashnikov series.**





**Other Eastern Bloc nations have fielded short-barreled AKs, to include (top) Yugoslavia's Model 92 and the early Bulgarian AKS-74U for the 5.45x39mm cartridge.**

the rifle of any live rounds and release it to travel forward under control. Push inward on the serrated catch—the rear end of the recoil spring guide rod—protruding from the rear of the sheet-metal receiver cover.

At the same time, lift up the receiver cover and rotate it upward as far as possible on its hinge pin. Push the recoil spring and guide rod forward and lift this group up and out of the receiver. Pull the piston, bolt and bolt carrier rearward to the cutout in the receiver track and lift this group upward and out of the receiver.

To separate the bolt from the bolt carrier, push the bolt rearward as far as possible, then rotate the bolt body so that its guide lug leaves the camway of the carrier. Lifting the top cover and rotating it forward retracts the spring-loaded pin that holds the gas cylinder and top handguard in place. Lift up the rear end of that assembly and pull it rearward and out.

No further disassembly is recommended. After cleaning and lubrication, reassemble in the reverse order. Never lubricate the piston or gas cylinder.

### Bulgarian Small Arms

The history of small arms design and manufacture in Bulgaria dates back to the 19th century. In 1878 a factory was established in Rousse to supply the needs of Bulgaria's new army. Called the Artillery Arsenal, it was originally managed by officers of the Russian Czarist army. In 1884 General Simeon Nikolov Vankov was appointed as the first Bulgarian managing director.

In 1891 the plant facility was moved to Sofia and was named the Sofia Artillery Arsenal. In Russia, small arms development

to this day has been traditionally the domain of the artillery ministry. In 1924 this manufacturing plant was moved to Kazanlak and renamed the "State Military Factory." Its prime directive was to "produce and repair all military equipment necessary for the army, the police, the border troops and all state security organs, as well as the testing of new models." During this time frame, rifles, pistols and small arms ammunition were produced at Kazanlak.

After World War II, the manufacturing base of the plant was diversified and they commenced production of agricultural equipment, diesel engines, electric motors, batteries and other products. In 1948 the State Military Factory was transferred from the Defense Ministry to the Ministry of Industry and Crafts and designated as Factory 10.

Between 1956 and 1958, Factory 10 commenced manufacture of a recoilless cannon (B10) and the AK47 assault rifle under Soviet license. The first AK47 came off the assembly line in 1958. The 1 millionth Bulgarian AK47 was assembled in 1982. Several of its derivatives are still fielded by the Bulgarian military.

In 1964 the plant was renamed again as the United Industrial Plant Friedrich Engels. Production facilities were expanded to include facilities to produce springs, CNC machinery, a computer center and the ability to manufacture propellants, primers and pyrotechnic material. Between 1977 and 1989, the factory added the licensed production of the following military products: Makarov pistol and 9x18mm ammunition, PK, PKM and PKT (tank version) caliber 7.62x54R General Purpose Machine Guns, Zu23-2 23mm antiaircraft cannon, 5.45x39mm ammunition and the AK74 series of rifles and the 122mm howitzer.

Today the company is known the Arsenal Corporation (Dept. SGN, 58 Simeonovsko Shosse Boulevard, BL-1700, Sofia, Bulgaria). The Bulgarian defense-marketing agency, Kintex (Dept. SGN, 66 James Boucher Street, Sofia 1407, Bulgaria), offers the largest variety of AK47, AKM and AK74 rifles and squad automatics in the world. Available calibers include 7.62x39mm, 5.45x39mm, 5.56x45mm NATO and .22 LR. The Bulgarian armed forces issue a substantial number of the variants available.

In December 1999, Arsenal, Inc. opened a facility in the United States. Many of the personnel at this facility were trained at Tula Arsenal in Russia. The quality of semiautomatic Kalashnikov-type rifles manufactured here duplicates at every level the products produced in Russia and in many instances exceeds them.

### Buying a Short Barrel Rifle

You cannot just go to your local gun store, pay for a short barrel rifle and walk out with it. As a result of the National Firearms

Act (NFA) of 1934, any rifle with a barrel length of less than 16 inches is a prohibited weapon and must be registered in the same manner as a machine gun. The only practical difference is that the inventory of registered, non-restricted-transfer machine guns became frozen with the passage of the Firearms Owners Protection Act of 1986 (a.k.a. the McClure-Volkmer Act) as of May 19, 1986.

Short barrel rifles, however can be added to the NFA log book at any time by filing an ATF Form 4 with the NFA Branch of the BATFE (P.O. Box 530298, Atlanta, Ga. 30353-0298). An ATF Form 4 requires local law enforcement certification (not easy to obtain in some areas), two sets of fingerprint cards, two passport photos, a Certification of Compliance with 18 U.S.C. 922(g)(5)(B) [merely certifying to U.S. citizenship], and payment of a one-time \$200 transfer tax.

Return of an approved ATF Form 4 usually takes less than 30 days. SBR versions of semiautomatic-only assault rifles, such as the AK "Krinkov" and Vector Arms V53, are becoming popular. Not the least because they range in price from \$1,000 to \$1,500, while non-restricted-transfer, selective-fire examples of the same models sell for 10 to 15 times as much, if they can even be located for sale. ©

## Arsenal SLR-106U / SLR-107UR Specifications

### Caliber:

**SLR-106 series:** 5.56x45mm NATO (.223 Rem.)

**SLR-107 series:** 7.62x39mm

### Operation:

Gas-operated without a regulator, locked-breech with a rotary bolt, fires from the closed-bolt position. Semiautomatic-only.

### Feed:

5-, 10-, 20- and 30-round staggered-column, two-position-feed, detachable box-type magazines. Made from black, green or translucent, fiberglass-reinforced, thermoplastic polyamide (epoxy-based resin) with a "waffle" pattern to add further structural rigidity in the 20- and 30-round sizes.

### Weight, without magazine:

**SLR-106U:** 6.15 pounds (2.79kg)

**SLR-107UR:** 6.25 pounds (2.84kg)

### Length, overall:

**Model SLR-106U:** 34.5 inches (877mm), with the stock extended; 25 inches (636mm) with the stock folded

**Model SLR-107UR:** 28.875 inches (733mm) with the stock extended and a "HOBO" muzzle device; 19.375 inches (492mm) with the stock folded

### Sights:

**Front sight:** round-post-type with protective ears that is adjustable for both elevation and windage zero. **Rear sight:** two open U-notch, flip-type, rear sight blades, one is a battle sight setting (marked with a Cyrillic "P"). In elevation, it is the equivalent of 300 meters. The other U-notch is marked "4-5" for ranges from 400 to 500 meters

### Finish:

Black satin baked enamel over phosphate ("Parkerizing").

### Manufacturer's suggested retail price:

**SLR-106U**—\$1,125 complete with sling, butt-stock cleaning kit, oil bottle and one 10-round magazine.

### Manufacturer:

Arsenal, Inc., Dept. SGN, 5015 West Sahara Avenue, Suite #125, Las Vegas, Nev. 89146; phone: 1-888-539-2220; fax: 1-702-643-2088; website: www.arsenalinc.com

### T&E summary:

The finest AKM-type, semiautomatic-only rifles ever manufactured—from the muzzle device to the buttplate. Total reliability, yet manufactured to closer tolerances than any selective-fire Kalashnikov.



**Bulgarian AK magazines, usually marked with a "10" in a double circle, are made from black, green or translucent, fiberglass-reinforced, thermoplastic polyamide.**