



**SWAT'S EDITOR CREATES THE  
RIFLE FOR ALL SEASONS . . . MAYBE!**

# THE UNIVERSAL RIFLE

Perennially, it seems, the subject of what constitutes the "best" rifle — or shotgun — or handgun — arises. In fact, among certain "inner" circles, any mention of the topic assumes the stature of being an "in-house" joke. To insult the intelligence of the reader not being the intent of this writing, an explanation of this recurrent happening is, I feel, required. Realistically, regardless of the topic, there cannot be a single "best" piece of any kind of equipment, although fervent discussion of the subject occupies recurrent volumes of space in the trade journals, particularly the "outdoor" type. The term "best" connotes a very nebulous classification, for it assumes that the criteria of all concerned are identical. Naturally, this simply cannot be, thus, to even attempt to determine which piece of equipment is "best"

is akin to determining which kind of woman is most beautiful. As the saying goes: "Beauty is in the eye of the beholder . . ." and, in much the same way, what item of gear is "best" depends not only on its design and/or quality of manufacture, but also upon the needs of its potential user.

Since the topic of discussion here is rifles, let's now apply the philosophy more specifically. Are we talking about *hunting* rifles, *target* rifles, *sniping* rifles, *survival* rifles, or *fighting* rifles? Each category of arm contains certain inherent criteria, some of which may overlap into another category, but many more which do not. As a result, the question, "what is the *best* rifle?" delivered without the appropriate category of discussion is so outlandish that it could only come from the eager novice who does not yet



realize the vast categorical differences involved. Hence, the reaction from the professional of subdued amusement. This amusement is derived from the surprisingly large number of times which the question is posed (for example, I hear it an average of four times per week). On the other hand, anyone who calls himself a professional must also *answer* the question in the spirit of education because the question itself was asked in good faith. Add to the preceeding situation the weariness of continually being asked this question over a sustained period of time and the picture is complete. That some authorities become overtly derisive towards anyone who asks "the question", as it's called, without realizing that it was asked with genuine sincerity and respect often aggravates the matter to the degree that bad feelings result. Fortunately this is not the norm and, among the few real "professionals" in the business, is frowned upon and considered indicative of the level of competence of the person committing the act.

I have for many years avoided even attempting to recommend a rifle to anyone for more or less universal applications, believing that, indeed, "there is no such thing as a free lunch." But, at the same time, I have also harbored a latent curiosity as to whether or not a particular type of gun could actually enjoy a *reasonable* degree of universality. After all, all progress is the result of those who took unpopular positions! And, as one who takes his profession very seriously, I feel that progress in all professions require objectivity.

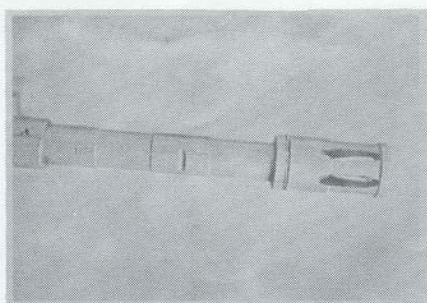
After the 999th time "the question" was posed to me, I decided to delve into the subject in depth. Maybe there *is* a rifle that fulfills the dream . . . again, *within reason!* Some of the requirements for such an arm are:

1). **Caliber:** It must be powerful enough to allow satisfactory performance against the majority of potential targets, be they animal or human.

2). **Overall Size:** The weapon must be small enough to store adequately for survival purposes and airborne operations, as well as be small enough for personnel of smaller physical statures to efficiently operate.

3). **Overall Weight:** The rifle must be light enough to carry in sustained field activities where other personal equipment is also involved, such as web gear, rucksacks, et al. It must also be light enough for smaller personnel to carry and shoot.

4). **Accuracy:** The gun must be capable of placing its shots well within the 10-ring of a standard 200 meter bullseye target without also experiencing a loss in functional reliability or requiring expensive custom modifications to achieve this goal.



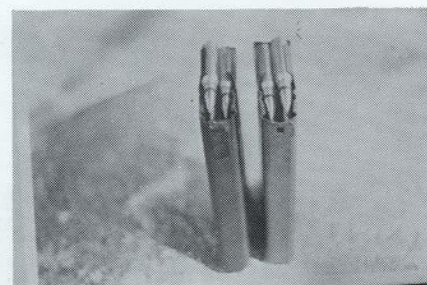
Flash suppressor was remounted after 21.0-inch barrel was shortened by 16.2 inches. Minimum legal overall length of 26.0-inches was unaffected. Bayonet lug was also removed, although this is not required per se.



For those who opt for it, Alpha Armaments Co. can produce an AK-74 type muzzle brake. Of all such devices, this one is the only one worth even considering. Remember, however, that muzzle flash will be greatly increased, whereas the standard flash-suppressor handles the flash well even from a shorter barrel.



Protective ring around front sight was altered into a set of wings and the front sight post itself was reduced .010" for more precise sight picture without loss of sight acquisition speed. It was then "dehorned" to preclude abrasion with skin and equipment.



7.62 Galil magazines bear a striking resemblance to M-14 types. In fact, with a small bit of alteration, M-14 mags could be used in the Galil.

5). **Reliability:** It must possess the highest degree of functional reliability known to exist in a mechanism of its type. Contributory sub-categories of this are design simplicity and a high quality consummation of same.

6). **Low-Light Firing Capability:** For obvious reasons, the weapon must be capable of satisfactory, if not spectacular, low-light performance without the addition of optical (fragile and expensive) devices.

7). **Flash Suppression:** The gun must possess adequate suppression of muzzle flash for anti-personnel use.

8). **Human Engineering:** That almost intangible trait that makes the tactical application and mechanical engineering of the weapon "come together" to allow maximum performance under both environmental and operator stress conditions.

9). **Maximum Tactical/Field Application Potential:** It must be capable of effective employment at both long and short range, and under the widest possible spectrum of natural conditions (vegetation, light and heavy cover, etc.).

10). **Minimum Accessory Requirement:** Preferably no more than spare magazines, if required.

A tall order isn't it? You bet it is, but let's consider some of the ramifications:

A). **Caliber:** Since the potential applications of the arm are not limited to a specific type (multiple use), the selection of a military caliber is indicated for reasons of ammunition availability and the best possible degree of loading standardization. For the same basic reason, it must be capable of *reliably* stopping at least medium game as well as the vast majority of human assailants with minimum shots fired.

B). **Overall Size/Weight:** Typically, rifles that are potent enough to satisfy "A" above, are also excessively cumbersome and heavy for personnel of smaller physical statures to satisfactorily handle. On the other hand, the rifles of small size and lighter weight characteristically offer substandard cartridge performance when employed in a multi-purpose role.

C). **Accuracy vs. Reliability:** Rarely, if ever, is a gun capable of target accuracy while retaining supreme functional reliability. The usual close tolerances of critical parts have always reduced excessively the capacity for foreign matter accumulation required of a serious field weapon, particularly one intended for multi-use.

D). **Low-Light Capability/Flash Suppression:** While this is not required for target, survival, or hunting purposes per se, it *is* a critical requirement for military/para-military needs to avoid placing the weapon's operator in the unnecessarily hazardous position of receiving



return fire because the flash of his own rifle during discharge disclosed his position.

E). **Human Engineering:** The "feel" of the weapon . . . its fit to the majority of potential operators — how it handles, how the controls manipulate, especially under extreme environmental and mental stress.

The order is even *taller* now, isn't it? In fact, are these criteria severe enough to make the fulfillment of the dream impossible?

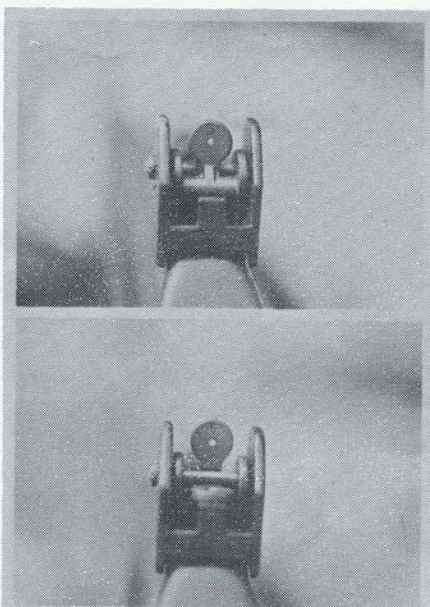
Up until recently, I would have said without much hesitation, "yes", but after months of consideration and testing *this is no longer the case*. I now believe that a reasonable degree of universality is entirely possible.

Let's continue our discussion of the issue. Clearly, the 5.56x45 and 7.62x51 cartridges are the predominant contenders for caliber. Of the two, the 7.62 alone is capable of a wide enough range of missions. So, the gun must fire the 7.62 NATO (.308) cartridge. The 7.62 is, without question, completely capable of "taking care of business" against anything from jackrabbits to, if used with care, even moose and bear — not to mention its splendid record against humans. *And* it is the closest thing to a universally-available cartridge now in existence. Overall-size criteria dictate that the arm have a folding stock, which in turn, brings up a sub-topic within itself: What *kind* of folding stock? Well, we have the Heckler & Koch style *retractable* type and the Armalite AR-18/180 *folding* type to consider. The latter is inundated with different hinge designs that determine the degree of *rigidity* of the stock when locked into the extended (firing) position. Also of importance is how the stock locks when folded.

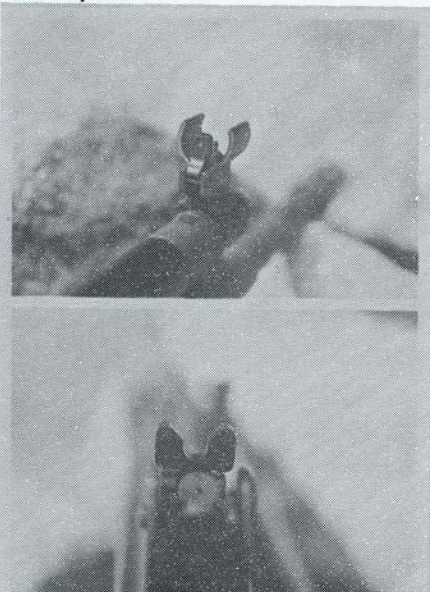
The Armalite folding stock is certainly serviceable, as is the Valmet, BM-59 Alpine/Paracadusti, and airborne version of the FN-FAL. Too, the sliding retractable stocks of the H&K arms and the little Colt Commando (XM-177E2) work well and have proven to be highly serviceable. Of these designs, the FN-FAL is the most rugged, with the Galil rifle series featuring a simplified adaptation of the basic design that allows faster manipulation of the stock with no loss in robustness.

All of these rifles, be they battle or assault types, are capable of *field* accuracy far beyond that of which anyone is capable, but which ones are capable of *target* accuracy with little or no alteration and/or loss of functional reliability? Things are getting more difficult all the time.

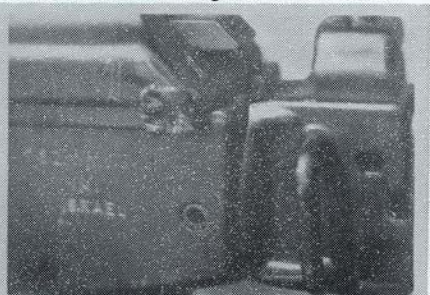
How many have low-light capability? Hmmm . . . let's see. With the Promethium front sight and special 7mm rear aperture, the M-16/AR-15 and Colt Commando types can be used reasonably well, as can



Galil rear sight is already one of the best now in existence, with 300 and 500 meter apertures. No modifications on rear sight are required.



Night sights of Galil series are the best in the world. Flip up front and rear units insure excellent results under low-light conditions. Even the Valmet rifle cannot produce results as good as the Galil.



A small modification not discussed in the text was to reduce the length of the recoil spring guide by 3/8-inch, thereby allowing far better and faster field stripping of the rifle.

the Valmet M-76 and 5.56mm Galil, but these are all .223's! We have already decided upon the 7.62 cartridge. What 7.62 rifle has low-light capability? Flash-suppression is no real problem, for it should be obvious that some type of military or pseudo-military rifle is the only kind which satisfies all or most of the requirements and all of them have flash suppressors.

The H&K series can quickly be eliminated from the human engineering category because they are clumsy and possess a number of very serious human engineering flaws. The Garand family (M-1, M-14/M-1A, BM-59) handle very well, but, except for the fiberglass stocked M-14, they all have wooden furniture, not the best for prolonged (abusive) field conditions. The FAL's human engineering is superb, better even than the Garand family, and it now exclusively utilizes phenolic materials in place of wood. Much the same can be said of the Armalite AR-10, but it is not available with a folding stock! Neither is the M-14, except in a highly modified version.

All of the 5.56 rifles are also eliminated as far as maximum tactical/field applications are concerned for already-stated reasons. The 5.56's record indicates its inability to satisfy the stated criteria, even discounting the controversy surrounding its "manstopping" capabilities. On the other hand, all of the 7.62's are too heavy and/or bulky for smaller personnel to use well. Whew . . .!

Is there any rifle that even comes close to satisfying our needs as it comes from the box? *No, there is not!* Well then, is there a rifle that comes close and can be economically altered to fulfill the criteria? *Yes, there is!*

Of all of the myriad of rifles we have pondered thus far, the 7.62mm Galil rifle has more of the required characteristics than any other rifle. Its only real problem is that it is too long to be easily stored.

Consider the following. The ".308 Galil AR" already possesses:

- 1). Proper caliber — 7.62x51mm NATO.
- 2). Light weight — 8.7 lbs. (3.96 kg.).
- 3). Super accuracy — it is perfectly capable of printing minute-of-angle groups with handloads and near-minute groups with military ball. No other battle or assault rifle can make this claim.

- 4). Reliability — the Galil is a highly refined Kalashnikov, the ruggedest fighting rifle ever made.

- 5). Low-light capability — the Galil comes from the factory complete with the best set of low-light sights in the world: A Tritium-filled front vertical bar and dual-dot rear. Hits can be made with ease on targets as far as one can see the target itself.



The only thing better is a Starlight or Infrared unit, both of which are excluded from consideration.

6). Flash suppression — being a military arm, the Galil comes with a satisfactory flash suppressor right from the factory.

7). Human engineering — the Galil 7.62, with the exception of being too long (21-inch/535mm barrel) and having an excessively loud (typical AK) safety, handles like a dream and is rivaled only by the paratroop FN-FAL.

8). Maximum tactical/field employment — the rifle is fast, even with its long barrel. The trigger is quite decent, the sights excellent, the caliber appropriate and its reliability and accuracy both astonishingly good.

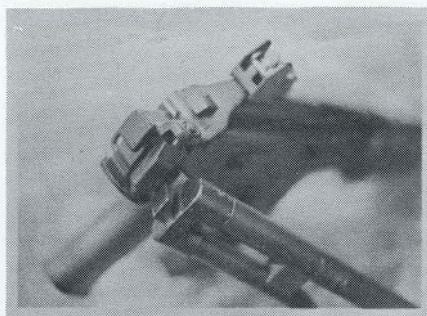
9). Minimum accessory requirements — all you need is whatever number of spare magazines you deem necessary, nothing more.

This leaves us with only one negative factor: Excess length. If we can solve this problem with no significant reduction in the other categories we might just have the answer.

After a great deal of consideration of all the above facts, I obtained a 7.62 Galil "AR" (plastic fore end/no bipod) and endeavored to convert it into the "Universal Rifle". The first problem to be solved was that of excessive length, particularly of the barrel. This is easily rectified by taking the gun to a machine shop or gunsmith and having the barrel reduced to the minimum allowed by United States' law — 16.0 inches. If this were not a consideration, I would remove an additional two inches from this figure (14 inches). The barrel was then re-threaded as appropriate and the factory-supplied flash suppressor reinstalled. Overall length with a 16.2-inch (just to be safe!) barrel remained well above the U.S. Government-required figure of 26.0 inches.

Next, I removed the bayonet lug from the rifle, it having no further reason to exist after the barrel had been shortened. Functioning of the rifle was unaffected by shortening the barrel. Obviously the time/pressure curve for reliable operation remained well within the proper parameters, another excellent feature of the Kalashnikov design and one that is not shared by any other 7.62 rifle but the FAL with its adjustable gas system.

I then altered the protective ring surrounding the front sight into a more viable set of "wings" and removed the front sight and had the post turned down .010 to allow a more finite sight picture with no loss of acquisition speed. The wings were then "dehorned" (edges removed) for easier handling around equipment and web gear.



Folding stock of Galil is as good as the FAL, but simpler and faster to operate.



Rifle grenade launching capabilities of rifle are left intact for those who feel the need.



Full-length photo of finished rifle. Gun is fast, accurate, powerful, compact and reliable, but is easy to shoot and carry. Even personnel of small physical stature can use it with ease.

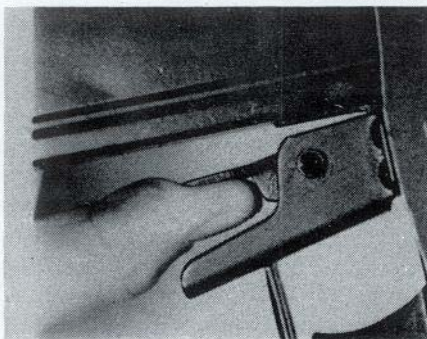
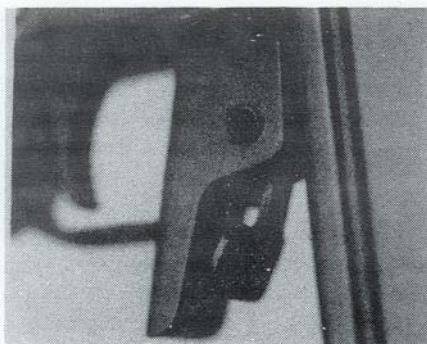


With stock folded, "Taylor-Made" 7.62 Galil fits handily into storage compartment of any aircraft, boat or automobile.

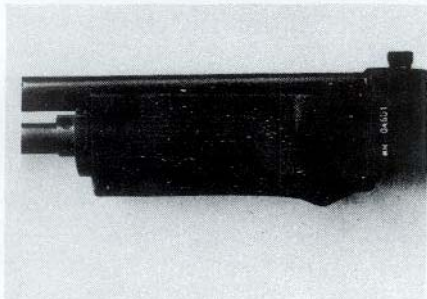
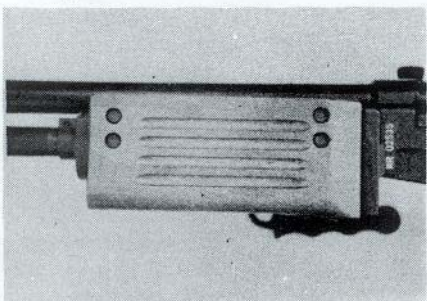


Photo of Galil ARM in 7.62 NATO. Currently being tested by the Israeli Army for Squad Automatic Weapon duties, author has modified AR version (no bipod, plastic fore end) into the closest thing to a "Universal Rifle".





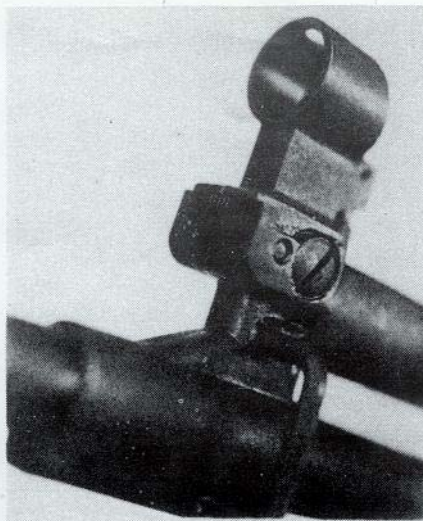
Magazine release tab was bent forward about 1/4-inch to allow better purchase of weak hand thumb during fast magazine changes.



Plastic fore end of AR model Galil was selected over wooden stock of ARM version. Author felt that field service life of the plastic hardware was superior.



Demonstrating poor technique, Israeli soldier displays 7.62 Galil ARM as employed from the bipod in the squad automatic role.



Protective ring around front sight is a distraction and should be altered into "wings" instead. Note also that windage adjustments as well as elevation are made by moving the front sight assembly.

#### SPECIFICATIONS: Taylor-Modified Galil "Universal Rifle"

**Weight, without magazine:** 3.65 kg./8.6 lbs.

**Weight, magazine, empty:** 290 grams/10.2 oz.

**Weight, magazine, loaded:** 902 grams/31.8 oz.

**Length, overall:** 930mm/36.5 in.

**Length, w/stock folded:** 690mm/27.1 in.

**Length, barrel:** 415mm/16.2 in.

#### MECHANICAL FEATURES

**Rifling:** Right-hand, 4-grooves, 1 turn in 305mm/12 in.

**Method of Operation:** Gas.

**Breech Mechanism:** Rotating bolt.

**Feed:** Detachable box magazine.

#### FIRING CHARACTERISTICS

**Muzzle Velocity:** 842 sec/2620 fps.

**Maximum Effective Range:** 500 meters/550 yds.

#### AMMUNITION:

**Caliber:** 7.62x51mm NATO/.308 Winchester.

**Type:** Ball, M-80.

**Bullet Weight:** 147.5 grs. nominal/9.4 grams.

#### SIGHTS:

**Front:** Post, adjustable for elevation, daylight use; Vertical blade, luminescent, low-light use.

**Rear:** L-type flip apertures for 300 and 500m/330 & 550 yds.; dual dot, low-light use.

A number of spare magazines were obtained from Magnum Research, the Israel Military Industries importer for the U.S. (who also, by the way, kindly contributed the basic rifle to our project when we explained our intentions to them). These were examined and any burrs detected were removed via light strokes with a fine stone. The magazine well was also inspected and the same remedial action taken. These two acts greatly improved magazine manipulation, particularly under stress.

The trigger of the test rifle was fine as it came from the box, but to determine the cost factor of a trigger job should it be required, I took the gun to Richard Aldis of J&G Sales (440 Miller Valley Road, Prescott, AZ 86301) and asked him for his opinion. His response was that if a trigger job was required, one should need to pay no more than \$35-\$50 for it.

I wrapped up the project by "blacking out" the white "safe/fire" markings on both sides of the receiver of the rifle and "silencing" the infamous "AK Clack" inherent in all basic Kalashnikov rifles. I did this by gently prying up the selector switch bar, located on the right side of the receiver, and sliding it downward until it rested on top of the "fire" position stop. I then delivered about a dozen sharp blows to it with a brass mallet, at a point just forward of the cross-pin that holds the safety assembly together. After a couple of runs through this procedure, the safety was more quiet to manipulate than either an M-1 or M-14. That'll do just fine!

Proof of the success or failure of my project was realized in stress-fire drills and the initial zeroing of the gun on the rifle range. The superb inherent accuracy of the basic (unaltered) Galil was unaffected by shortening its barrel, with 100 meter groups hovering (with ball ammunition) around 1 1/2-inches. Two-hundred meter groups amazed even a couple of die-hard Camp Perry types, one of whom was a champion. The included photograph of same substantiates my claims.

During the stress drills, I noticed that although the "Taylor-Made" rifle flatly outperformed even the marvelous FAL paratroop rifle (sorry about the pun, but I just couldn't resist!), the magazine release was a bit on the tough side to operate. So, I bent the release tab itself forward about a quarter-inch to allow better clearance of the weak-hand thumb during magazine changes and the problem was cured.

The verdict?

*I think we did it*, at least within reason. We now have a rifle that is perfectly capable of not just satisfactory, but generally excellent fulfillment of the role of being a survival rifle, a fighting rifle, a hunting rifle, and even a target rifle, if the





## SURVIVAL WEAPONS AND TACTICS

For Those Who Take Life Seriously

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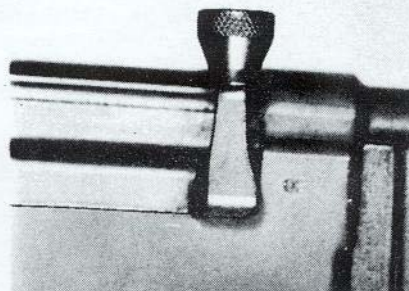
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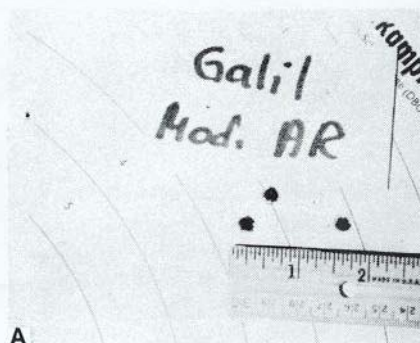
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user so desires. Other than the initial cost of the rifle, all modifications cost less than \$75.00.

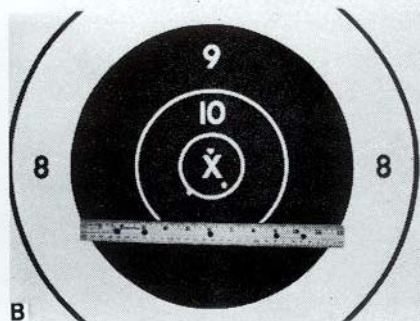
There are those who will point out that the Galil is not an inexpensive arm in the first place. This is true. However, it should also be realized that the worth of a rifle of this type should not be measured only in terms of dollars, but also in efficiency. The cost of a "Taylor-Made" 7.62 Galil is a hell of a lot less than the four weapons it can replace. In short, we have built a Galil "Super-SAR", chambered for an adequate cartridge and, at the same time, further refined the basic AK concept. We have done so without entangling ourselves with Federal Regulations involving automatic fire and short-barrelled rifles, etc.



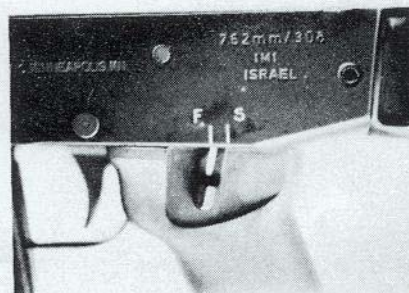
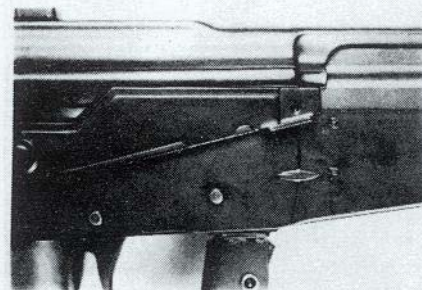
Galil already has many of the best human engineering features of any fighting rifle in the world. Shown is upward-turned cocking actuator. This allows fast, efficient manipulation of mechanism without releasing the trigger group with the firing hand.



A



Accuracy of the "universal rifle" was nothing short of superb, as these photos of test targets will confirm. "A" was shot from 100 meters while "B" was from 200 meters. What more can we ask?



White "safe" and "fire" markings were "blacked out" to improve low profile of weapon.

Take a long, hard look at what we have here. It is no secret that I am not easily impressed, the opposite being closer to the norm. Other than the fact that you will void your warranty on the gun by completing my modifications (big deal), you can only enhance greatly the performance of the rifle and increase its utility three-fold.

By golly, I guarantee you'll like it. This project is an unqualified success as far as I am concerned. If my enthusiasm is obvious, I apologize, but one thing is startlingly clear: This rifle is really something.