

A full-page photograph of a soldier in camouflage gear aiming a NoDak Spud 'Retro' AR-15 rifle. The soldier is wearing a green and brown camouflage helmet and jacket. The rifle is black and has a distinctive design. The background is a blurred green field.

Everything Old is New Again

# Retro AR-15

Text and photos by Peter G. Kokalis

**Weighing only 6 pounds with a fully loaded 20-round magazine, the NoDak Spud "Retro" AR-15 is less than half the weight of today's loaded-up "tactical" rifles.**

**Remember that sleek 6-pound rifle our boys carried in Vietnam? If you've had enough of lasers, lights and foregrips, an old-school AR might be right down your alley.**

If there ever was a child born of controversy, it's the M16. More than half a century after its inception, it still is. The M16 is a child of the late Eugene Stoner, then-chief engineer for ArmaLite, a division of Fairchild Aircraft. At this point it's appropriate to point out the somewhat confusing nomenclature associated with this weapon series.

Prior to its type classification by the U.S. military, it was known as the AR-15, and, as it was designed for military applications, it was a selective-fire weapon, meaning that it had the capacity to fire in the full-auto mode. This designation was used because it was part of ArmaLite's product line and all of their firearms designations used an "AR" prefix followed by a number, usually indicating their chronological order of development in ArmaLite's catalog. After adoption by the U.S. military, Colt decided to market a civilian version that was semiautomatic-only and designated it as the Colt AR-15. So today, the term "M16" refers to a selective-fire rifle, while an "AR-15" is the semiautomatic-only version.

It has often been stated that the original selective-fire AR-15 was essentially a scaled-down version of Stoner's AR-10. In truth, Stoner saw little military potential for the original .222 Rem. cartridge and his primary interest always remained with the 7.62x51mm round.

As a consequence, the really complex job of "scaling-down" the AR-10 was given to two engineers in ArmaLite's employ at the time, Robert Fremont, Stoner's chief design assistant, and the brilliant designer in his own right, Jim Sullivan, who had first prepared the detailed production drawing for the AR-10 when its gas system was re-located on top of the barrel.

The term "scaled down" is truly incorrect in this instance, as most importantly; all the design parameters did not fit the same "scale". For instance, based only upon comparative weights and sizes of the two cartridges, the AR-15 would have been dramatically lighter and smaller than the AR-10. Other factors in the equation were much closer to being equal, although the chamber pressure of the M193 5.56x45mm cartridge was actually 2,000 psi higher than the 50,000 psi average for 7.62x51mm M80 ball ammunition.

When the prototype AR-15 was demonstrated to General Wyman of CONARC, using commercial .222 Rem. ammunition, the in-line stock, heavier recoiling components, plus a slightly lower cyclic rate, produced really impressive accuracy.

This led, almost immediately, to CONARC's request to the Army Adjutant General for 10 rifles for Infantry Board trial.

This request was dated just five days after the announcement that the M14 had been type-classified. Thus, with the AR-10 knocked out, ArmaLite found itself back in the running with a new rifle quickly dubbed the "AR-15". The request was approved and it appears that ArmaLite actually built up a total of 17 of these rifles.

Fremont and Sullivan made further modifications to the original prototype. Because the .222 Rem. cartridge was considerably more "flat shooting" than the 7.62x51mm round, a cheaper two-position "L"-type peep aperture rear sight was installed into the rear end of the integral carrying handle. It was still adjustable for windage zero, but without the click-adjust elevation wheel of the AR-10, as elevation zero was by means of the front sight post only.

The new rifle was 37.5 inches in overall length, with a 20-inch steel barrel, fluted under the handguard. It weighed exactly 6 pounds with a magazine loaded with 20 rounds. No plastic foam was used to fill the in-line stock, and it and the original, one-piece, cylindrical handguard were hollow, fiberglass-reinforced plastic shells. The handguard was lined with a thin aluminum heat shield.

Finally, because of the Infantry Board's penetration and trajectory specifications at 300 to 500 yards, ArmaLite was





**NoDak Spud's "Retro" AR-15 looks much like the early M16A1 rifles first fielded in Vietnam and will appeal both to the nostalgic and those who like a light rifle.**



**Lower receiver markings indicate this is an early Colt's Type 601-style receiver made by NoDak Spud LLC with serial number "C00085" and a semiautomatic-only firearm.**

forced to modify the .222 Rem. cartridge. Eugene Stoner was not, and never claimed to be, an authority on cartridge design or ballistics. Nevertheless, in 1957 Stoner, after a trip to Fort Benning to obtain the required military characteristics, calculated the necessary bullet weight and muzzle velocity.

He then designed the bullet and had it manufactured by the Sierra Bullet Co. The bullet was a boattail type, weighing 55 grains. The ArmaLite cartridges were assembled by Remington and designated the ".222 Special". Taking advantage of research conducted at Aberdeen Proving Ground, Stoner's bullet had a 7-caliber ogive and 9° boattail configuration, which was identical to the earlier D&PS 68-grain M1 "homologue" bullet, the last legacy of Aberdeen's informal Small Caliber High Velocity (SCHV) program.

Ten AR-15 rifles together with 100 magazines were delivered to Ft. Benning for test and evaluation against some brand new T44E4 rifles from Springfield Armory on 31 March 1958. In a simulation of combat environments, the AR-15 proved to be three times as reliable as the M14.

But Gen. Maxwell Taylor, the Army Chief of Staff, vetoed any further CONARC development of the AR-15 in favor of continued procurement of the M14. Fairchild, disenchanted with the AR-15 program, sold the entire AR-15 package to Colt's in December 1959.

However, after the March, 1958 tests at Fort Benning, during which some minor "bugs" were identified, Stoner made a number of changes to several of the original 17 rifles. The modifications included the following: the trigger pull weight

was reduced to approximately 7 pounds; the trigger's return action was improved; the single, conical fiberglass handguard was replaced with a two-piece, removable type; the rear sight mask was increased in size; the selector lever positions were changed; the charging handle was re-located from under the carrying handle in the manner of the AR-10 to the rear of the receiver and changed in shape to a serrated triangle, which eventually became a distinctive characteristic of the entire M16/AR-15 series; the magazine well was increased in size; a molded rubber buttplate was added to the stock; the hole for the buffer was opened up; the receiver's contact surfaces on the bolt carrier were reduced; the feed ramp was altered; the magazine capacity was reduced from 25 to 20 rounds; the weight of the barrel was increased by 2 ounces and a flash suppressor was added to the muzzle.

Of all these changes, re-location of the charging handle altered the rifle's appearance more than any other modification. In its original location under the carrying handle, which placed it directly over the bolt carrier key, it became too hot to touch during sustained fire bursts. In addition, it could not be manipulated while wearing Arctic gloves.

Advocates for the M14 went into high anxiety when the Infantry Board found the AR-15 "superior" to M14 control rifles in several important areas. In sand-and-mud simulated combat trials at Kyle range, the AR-15 test rifles fired 3,578 semiautomatic shots with an overall malfunction rate of 6.1 per 1,000 rounds. The specially selected Springfield Armory T44E4 rifles fired only 2,337 rounds with an overall malfunction rate of 16 per 1,000 rounds, nearly three times that of the experimental AR-15 rifles.

The AR-15 was tested in Vietnam by the Defense Department in the summer of 1962, under the code-name Project AGILE. The AGILE report was more than enthusiastic, as great claims were made for the caliber .223 cartridge's killing power, and the

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**NoDak Spud also made a front retaining pin copying the early Colt's design—a non-captive clevis pin with a spring-loaded ball detent that's crimped into its side.**

improved handling, reliability, durability and ease of maintenance over the M14. A favorable cost-effectiveness report followed from the DOD Comptroller's Office.

The anti-M14 group now had an alternative to rally around. A number of Pentagon agencies entered the fray and began comparing the AR-15 and M14. A comparative evaluation between the two rifles was held at Aberdeen Proving Ground late in 1962. The results were ambivalent.

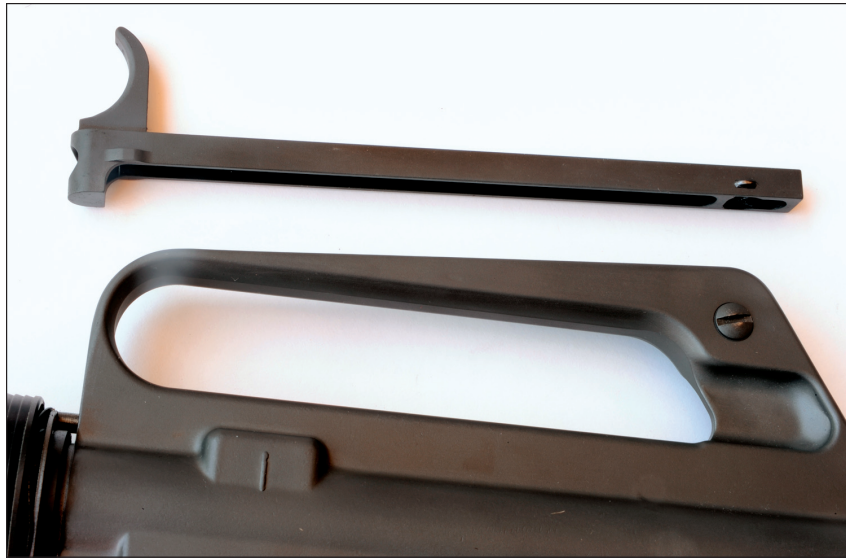
A comparative lethality and wound ballistics test at Edgewood Arsenal stated that the earlier Project AGILE report of the .223's killing power was a gross exaggeration. The official Army reply to Secretary of Defense McNamara's order for the comparative examination of the two rifle systems flatly concluded that "... only the M14 is acceptable for general use in the U.S. Army ..."

But too much evidence pointed to an opposite conclusion. An Army Inspector-General's investigation decided that the Army had rigged some of the tests against the AR-15. As a consequence, McNamara terminated procurement of the M14 rifle on 23 January 1963 and announced a "one-time buy" of 85,000 AR-15 rifles for the Army and 19,000 for

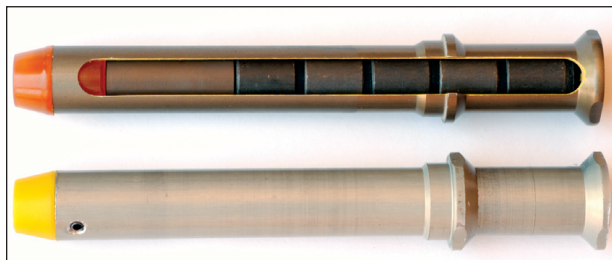


**As the AR-10-type charging handle was directly above the bolt carrier key, it got too hot to touch during sustained fire and was relocated to the rear of the receiver.**





**While the cocking handle is easily removed, its locking spring should not be removed during disassembly for cleaning, as the charging handle could be easily damaged.**



**The M16 buffer (top) was modified by Colt's to diminish bolt bounce and reduce the potential for firing out of battery with catastrophic damage to gun and operator.**

the Air Force. An entirely new weapon system called SPIW (Special Purpose Infantry Weapon), firing small-caliber cartridges using steel-flechette, multiple projectiles imbedded in plastic sabots, was believed to be at hand.

SPIW never materialized, and intensification of the war by 1965 caused Gen. Westmoreland to request the M16A1 rifle for all ground combat elements in Vietnam. Procurement was accomplished by August 1966. In December of that year, the U.S. Army type-classified the M16A1 rifle and it replaced all .30 cal. rifles in its inventory, except those eventually retained for use as sniper rifles.

By the spring of 1967, Colt's bed of roses started to rot as reports of widespread malfunctions in combat began to appear in a mainstream media hungry for every tainted tidbit about the war in Vietnam. The press gleefully printed melodramatic letters supposedly written by GIs whose comrades had fallen dead next to their jammed M16s.

And, there were real problems. Foremost was the change in midstream from a cartridge using an IMR propellant to a ball powder. Innuendos of intrigue were leveled against the powder manufacturer, Olin Winchester. In truth, ball propellants generally burn cooler than extruded IMR-type powders, extending barrel life. This no small consideration for modern, lightweight assault rifles with selective-fire capability.

The M16 upper and lower receiver bodies are fabricated from T6 aluminum, not steel, which is a far superior heat reservoir. The tradeoff, and there always is one, is that ball propellants generate more carbon residue which, of course, accelerates fouling of the gas system. And, "there's the rub," as Shakespeare's Hamlet would say, since the M16's gas system has been subjected to unending criticism from day one.

Today, the hysteria, screaming and rage continues, often promoted by those who are little more than advanced gun

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hobbyists, with no real background in physics, chemistry or firearms technology. The system's detractors usually focus on two areas of criticism: the supposed ineffectiveness of the caliber 5.56x45mm NATO cartridge for which the M16/AR-15 is chambered and its gas system.

In fact, the wound ballistics performance can be improved, especially at longer ranges, by the use of heavier projectiles. Those who rant about the gas system favor a short-stroke, gas piston method of operation. While this is indeed a reliable means of operating the M16 system, the original method of operation also works well if maintained properly, as do all small arms systems.

#### **NoDak Spud and the "Retro" AR-15**

Interest in the early AR-15 configuration has grown steadily, as the M16/AR-15 series has become both collectible and popular to shoot in what has evolved into a fascinating array of variations. Many collector/shooters, some Vietnam War veterans, have sought, mostly in vain up to now, to build up a semiautomatic-only rifle that approximates the appearance of the M16A1 and stretches back even further in time to the original 17 ArmaLite AR-15 rifles described above. This latter goal has been totally impossible until now.

In the fall of 2006, a small company with the exceptionally odd name of NoDak Spud (aka NDS) LLC (Dept. SGN, 7683 Washington Avenue South, Edina, Minn. 55439; phone: 952-942-1909; fax: 952-942-1912; e-mail: info@nodakspud.com; website: www.nodakspud.com), decided to manufacture a product line of AR-15-type lower receivers in the original M16A1-style.

I must digress for a moment and explain the more than peculiar name of this company. It seems that one of the partners to this enterprise was a potato farmer in North Dakota, and hence the devilishly clever, but totally bizarre name.

At the time, those wishing to assemble what has now come to be called a "Retro" AR-15 only had access to older PWA, Sendra and SGW lower receivers. The price of these lower receivers soon skyrocketed. Others took more modern "A2" lower receivers and machined, dremeled and filed them into "A1" configuration. This was exceedingly difficult for most and, in addition, it required anodizing or the application of Norrell's moly resin to the correct early gray color.

As a consequence, NoDak Spud decided to fill this void in the marketplace and provide "Retro" AR-15 lower receivers to the public. Initially, they started with 500 off-the-shelf 7075 T6 aluminum alloy forgings from Anchor Harvey Components in Illinois.

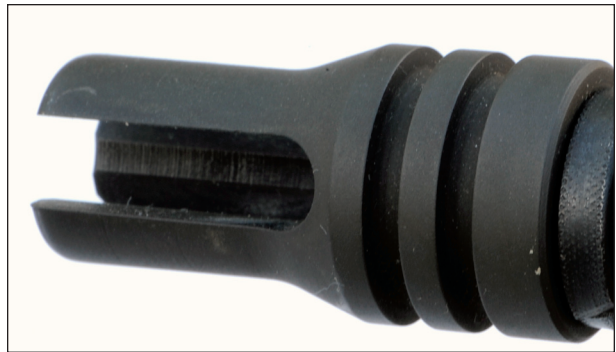
Of these, 340 lower receivers were cut into M16A1, XM16E1 and Colt 601 configurations. The

remaining 160 forgings were machined into M16A2 lower receivers. As there are a substantial number of manufacturers producing M16A2-type receivers, NoDak Spud soon abandoned this aspect of the project.

To create the appearance of an M16A1 lower receiver, the potato guys machined off the reinforcements common to the M16A2 variant, i.e., the web under the front takedown pin's boss, and the web and ring of material that was added to the rear of the receiver during the PIP (Product Improvement Program) of the mid 1980s.



**This "waffle" magazine was part of the initial testing lot and marked, "ARMALITE AR-15 PATENTS PENDING CAL. .223 COLT'S PT.F.A. MFG. CO. INC HARTFORD, CONN. U.S.A".**



**This reproduction of the original "duckbill" three-prong flash hider actually diminishes the flash signature more effectively than the subsequent "bird cage"-type.**



**The original 17 AR-15s had hand-shaped buttstocks that gave a homemade appearance. The NoDak Spud rifle has a perfectly conventional M16A1-style buttstock.**





**The grunt in the field found the triangular, two-piece forearm difficult to remove. Most times, soldiers were forced to use the “buddy system” to disassemble.**

As forgings typically vary between .020" to .030", machining an area might result in it being high in one area and low in another. This required a great deal of hand work to blend and smooth surface areas in order to achieve the cosmetic standards desired. Response to these lower receivers was overwhelming. As the demand for their M16A1-style lower receivers increased, the amount of hand work involved became a considerable burden.

As a result, in 2007, NoDak Spud LLC invested in a dedicated M16A1-style forging die and the second run of lower receivers was made from forgings manufactured with this die. They still had to machine the receivers into XM16E1 (single rib) and Colt 601 configurations, but the process was considerably simplified because the rear ring details were already present.

On this second batch of lower receivers, NoDak Spud decided to try 6061 T6 aluminum alloy, principally because it was the material used by Colt in the early production of M16 series rifles until 1967. This was done for purposes of authenticity, not as a cost savings measure. The 601-type rifle sent to SHOTGUN NEWS for test and evaluation has a lower receiver fabricated from 6061 T6. At the present time, all NoDak Spud AR-15 lower receivers are made from 7075 T6 aluminum alloy.

All of NoDak Spud's “Retro” AR-15 components are anodized by USAnodizing.com. This is a type 3 hard-coat anodizing in a color shade that closely matches the appearance of the early 1960s-era Colt M16s. This anodizing provides a surface hardness in the 60 range on the Rockwell C scale.



**Given the .223 Rem. cartridge's flat trajectory, it was thought that a simple flip-up two-aperture rear sight, adjustable only for windage, would be quite adequate.**

When NoDak Spud introduced their 601-type lower receiver they made a front retaining pin to go with it. The early Colt's design was a clevis-style pin with a spring-loaded ball detent crimped into the side of the pin. The NoDak Spud front retaining pin is made from 4130 steel, with a stainless steel ball. The pin is finished with zinc phosphate (“Parkerizing”).

Colt's changed the front retaining pin's design after service in the field demonstrated that this non-captive pin was too easily lost. Colt's “slick sided” 601 lower receiver was replaced with the XM16E1-type lower receiver that incorporated a rib added to the right side to provide a location for housing a spring and detent.

This modification held the new style front pin captive in the same manner as the rear takedown pin. This modification also strengthened the lower receiver. NoDak Spud's use of the original non-captive front retaining pin demonstrates exceptional dedication to the recreation of a true “Retro” AR-15 in even the smallest regards.

All of this is fascinating and illuminates NoDak Spud's commitment to creating an authentic early AR-15. But, to me, the most exciting part of the NoDak Spud “Retro” AR-15 system is their NDS-32 top-cocking upper receiver, which takes us back to the original 17 rifles Fremont and Sullivan assembled for demonstration to CONARC. Nothing else even approaching this is available anywhere else and it's what immediately attracted me to this rifle and resulted in my determination to present it to SHOTGUN NEWS readers.

NoDak Spud's engineering team started with a surplus 604 “slick side” upper receiver (keep in mind that on the M16/AR-15 series, the BATFE has determined that the lower receiver is the firearm and thus carries the serial number), a standard charging handle, a bar of scrap aluminum alloy, and a photograph of one of Fremont and Sullivan's original 17 prototypes. After several hours of machining and measuring they had their first NDS-32 top-cocking upper receiver prototype.

It was quickly discovered that the original plunger-and-spring-type locking mechanism on the charging handle would not be strong enough to hold the retracting handle fully forward during the firing cycle. As a consequence, the engineers at the “potato factory” improved the design using a locking spring made of music wire. This was subsequently modified even further.

I have been informed that the charging handle's locking spring should not be removed during disassembly for cleaning, as the charging handle could be easily damaged attempting to so. In addition, it's advisable to apply a small amount of grease to the sides of the charging handle in the area where the locking spring protrudes.

The NDS-32 upper receiver has been fabricated from a standard 604-style “slick-side” 7075 T6 aluminum alloy forging from Anchor Harvey Components and anodized in exactly the exactly the same manner as the lower receiver described above. The NDS-32 charging handle is machined from 6061 T6 aluminum ally bar stock and also anodized by the same process. The NDS-32 upper receiver accepts all



**The post front sight with protective ears, is adjustable for elevation only. The post must be moved in the opposite direction to the desired change in point of impact.**

standard M16A1-type rear sight and ejection port dust cover components. It also uses standard AR-15 bolt and bolt carrier assemblies.

All NoDak Spud AR-15 receivers are machined in-house from raw forgings. They will shortly be able to provide not only the M16A1 upper receiver, but the rare 605-type upper receiver, which has the forward assist milled off.

Most of NoDak Spud's clientele assemble their own rifles using NoDak Spud upper and lower receivers and their non-captive receiver front retaining pin. I was not in a position to do this, so they assembled a rifle for the SHOTGUN NEWS test and evaluation. The following components were obtained from the suppliers noted, at the price noted. I personally believe that this interesting project will reach its full potential only when NoDak Spud LLC markets complete rifles and I urge you to contact them and request that they do so.

Three NoDak Spud parts were used to assemble the “Retro” AR-15: NDS-601 lower receiver (\$180), NDS-32 top cocking upper receiver (\$250) and NDS-31 Colt's 601-type front takedown pin (\$15). From my friend, Charlie Steen, at Sarco, Inc. came the M16A1-type (#AR285) barrel assembly, which includes a new manufacture, six-groove barrel with a 1:12 right-hand twist, non-chrome-lined barrel nut, triangular handguards, flat slip ring assembly, gas tube with pin, lock washer, sling swivel with pin and front sight post/plunger/spring, all for a total of \$189.95. Sarco's early M16 stock set (#AR255) cost \$49.95.

The lower receiver parts kit came from Bushmaster at a cost of \$69.50. From Fulton Armory came the following two items: chromed slick-side bolt carrier assembly (\$169.95) and the upper receiver parts kit (\$22.95), which includes the rear sight and ejection port dust cover. Sherluk Marketing provided the buffer tube (\$14.95), buffer (\$12.95), buffer spring (\$2.95) and M16A1 upper receiver stock screw (\$1.45).

Finally, from Pat Medders (MPFive07M3@aol.com) came the reproduction “duckbill” three-prong flash hider (\$40). As no one is marketing the handguards and stock originally used on the first 17 AR-15 rifles, this is as close as we are likely to ever get to these almost mystical rifles. The total cost was \$1,464.60 and the final result is more than a little “cool,” to use terminology of the 1950s.

To this I added only two other things. I installed a black web Colt M16A1 sling that I had been rat holing for over 40 years and a very early “waffle” pattern 20-round magazine that is exactly like the 100 magazines delivered to Fort Benning, together with 10 AR-15 rifles on 31 March 1958.



# I like the NoDak Spud “Retro” AR-15 a great deal and have purchased the one sent to SHOT-GUN NEWS for test and evaluation.

The floorplate of this incredibly rare magazine is marked as follows: “ARMALITE AR-15 PATENTS PENDING CAL. .223 COLT’S PT.F.A. MFG. CO. INC HARTFORD, CONN. U.S.A.”.

Our test and evaluation of the NoDak Spud, LLC “Retro” AR-15 was conducted using ammunition provided by Hornady Mfg. Co. (Dept. SGN, P.O. Box 1848, Grand Island, Nebr. 68802-1848; phone: 800-338-3220; website: [www.hornady.com](http://www.hornady.com)). We used their highly regarded TAP (Tactical Application Police) ammunition with a 55-grain bullet, as this is the projectile weight fielded with M193 ball ammunition from the time of the 1958 tests through the Vietnam War.

In the beginning, it was never intended that the M16 would be used with optical sights of any kind and since the carrying handle was integral with the upper receiver, there was no provision to do so. Sometime during the Vietnam War, a small hole was placed on top of the carrying handle and a 3x20mm optical sight was marketed by Colt and distributed in substantial quantity to infantry personnel in Vietnam.

When attached to the carrying handle by means of a rather odd flat-spring-loaded threaded bolt that passed through the hole and was tightened by a levered locking nut, the scope was far too high above the bore’s axis for the operator to obtain a consistent cheek weld. It was, however, superior to the iron sights in many scenarios. In keeping with NoDak Spud’s attempt to create a very early AR-15 upper receiver that is as authentic as possible, there is no hole in the carrying handle.

As a consequence, our accuracy tests with the NoDak Spud “Retro” AR-15 rifle were conducted using only the rifle’s integral iron sights. The results were just about what I expected, as there is very little play between the upper and lower receiver interfaces. No matter what some writer from the popular gun press might allege, an iron-sighted rifle in the M16/AR-15 series is not capable of much better than 2 moa at 100 yards without the use of an optical sight

of significant magnification. And that’s just what we achieved, groups only slightly larger than 2 moa. And, that was obtained from a much younger member of my staff, certainly not me. Nevertheless this is more than satisfactory enough.

I like the NoDak Spud “Retro” AR-15 a great deal and have purchased the one sent to SHOTGUN NEWS for test and evaluation. And, by the way, NoDak Spud is justifiably highly regarded for the wide range of Avtomat Kalashnikova semiautomatic-only receivers that they manufacture, featuring the selector markings of a substantial number of former ComBloc countries. These AK receivers are utilized by a substantial number of AK devotees, who combine these receivers with parts kits to create very authentic-looking semiautomatic-only AKs.

### Method of Operation

The M16/AR-15 rifle series operates as follows. After firing a round, the projectile passes the gas port permitting gas to flow back through a stainless steel tube and a so-called bolt carrier key into the hollow interior of the bolt carrier. As the carrier moves rearward, a cam slot cut into the carrier turns the bolt’s cam pin, which causes the bolt to rotate clockwise, freeing the eight locking lugs from their abutments in the barrel extension. The carrier’s momentum draws the bolt rearward at a slightly reduced velocity.

There is no primary extraction and the extractor withdraws the empty cartridge case from the chamber. The spring-loaded, bump-type ejector emerges from the left side of the breech face and rotates the empty case, after it has cleared the chamber, around the extractor claw and out the ejection port of the upper receiver body. The bolt carrier assembly continues rearward, compressing the recoil spring and rotating the hammer back to the cocked position.

The buffer and recoil spring return the carrier and a fresh round is stripped from the magazine. All forward bolt motion, except for an almost imperceptible amount of “bolt bounce,” stops after the round has been chambered. The

carrier continues forward to contact the rear face of the barrel extension and its cam slot turns the cam pin, which rotates the bolt and its lugs anticlockwise into the locked position.

Direct gas action without a piston was used on the Swedish Ljungman AG42 rifle and subsequently on the French M49 and M49/56 rifles. It worked then and it continues to work now after more than 10 million M16s. Like that of the Kalashnikov series, the M16’s trigger mechanism is based upon that of the .30 M1 Garand.

Reference cited: **The Black Rifle M16 Retrospective**. By R. Blake Stevens and Edward C. Ezell. Enhanced Second Edition, 1992. ISBN 0-88935-115-5. Collector Grade Publications, Inc., P.O. Box 1046, Cobourg, Ontario, Canada K9A 4W5; [www.collectorgrade.com](http://www.collectorgrade.com) . 416 pages, 441 illustrations. \$59.95, postpaid. ©

NoDak Spud “Retro” AR-15 Specifications	
Caliber:	5.56x45mm NATO (.223 Rem.).
Method of operation:	Direct gas, no piston; eight-lug rotary bolt; fires from the closed-bolt position; semiautomatic-only.
Feed:	20- and 30-round staggered-column, two-position-feed, detachable box-type magazines.
Weight, with loaded 20-round magazine:	Approximately 6 pounds.
Overall length:	37.5 inches (952.5mm).
Barrel length:	20 inches (508mm).
Barrel:	Six grooves with a 1:12 right hand twist (optimized for M193 ball ammunition with a 55-grain bullet)—chamber and bore are not chrome-lined.
Sights:	Round post front sight with protective ears, adjustable for elevation zero only; flip-type, two-aperture rear sight, adjustable for windage zero and elevation in 100-yard increments from 100 to 500 yards.
Finish:	Type 3 hard-coat anodizing by USAnodizing.com.
Cost:	\$1,464.60, as assembled.
Manufacturer:	Upper and lower receivers by NoDak Spud (aka NDS) LLC, Dept. SGN, 7683 Washington Avenue South, Edina, Minn. 55439; phone: 952-942-1909; fax: 952-942-1912; e-mail: <a href="mailto:info@nodakspud.com">info@nodakspud.com</a> ; website: <a href="http://www.nodakspud.com">www.nodakspud.com</a> ; other components from Sarco, Inc., Bushmaster, Fulton Armory, Sherluk Marketing and Pat Medders.
Ammunition:	Hornady Mfg. Co., Dept. SGN, P.O. Box 1848, Grand Island, Nebr. 68802-1848; phone: 800-338-3220; website: <a href="http://www.hornady.com">www.hornady.com</a> .
T&E summary:	Except for the furniture, this is as close as anyone will ever come to the original 17 ArmaLite AR-15 rifles tested by CONARC on 31 March 1958. Accuracy of 2 moa at 100 yards as expected with only iron sights. The ultimate “cool” AR-15.



**Disassembly procedures for the entire M16/AR-15 series have not changed in the 50 years of its existence, though the forearm system of the M16A2 is a lot friendlier.**