

## TECH STUFF

We test and select premium components for the rifles we build. That doesn't necessarily mean they are the most expensive on the market. Rather, we have selected components that provide premium performance for each price point. This is a continuous process, so over time we may drop some components and will certainly add new ones.

So, why different price points? Simple, every shooter deserves accuracy, but not everyone demands competition winning accuracy or features, and not everyone has the budget for a truly custom rifle.

Every rifle we build is guaranteed to give sub-MOA results with match ammo. However, some shooters want better than just sub-MOA, or they want to shoot at extreme distances, or want to reduce weight as much as possible. Our least expensive rifles deliver groups of less than 1" at 100 yards reliably in less expensive .223 Wylde and .308 chambering with 416R stainless steel barrels using 12X range optics. Moving up to premium optics, competition chambering, custom hand loads, longer barrels, or carbon fiber barrels will extend the effective range, reduce weight (or both) at a higher cost. You decide what's important to you, and we'll match a rifle package to your needs.

### **BARRELS and RECEIVERS**

Our standard series rifles use barrels machined from 416R Stainless Steel with a bead blasted finish such as Ballistic Advantage's Premium Series. They are a heavier contour than standard AR barrels and each is proof fired and MPI tested, ensuring the best in quality and accuracy. [BA Premium Barrels](#)

One step up from that is our fluted steel barrel. They offer the same construction, testing and accuracy, but the fluting reduces weight, adds surface area for improved heat radiation – and also looks great.

Our carbon fiber barrels from BSF really hit the sweet spot for accuracy, weight, and looks – at a price that is affordable to most everyone. They use 416R stainless barrel cores surrounded by a unique carbon fiber sleeve. We really like these barrels. [BSF Barrels](#)

However, BSF is relatively new in the market and some people prefer a barrel that they know others are shooting. That barrel is Proof Research's carbon fiber wrapped barrels. Proof barrels are definitely top of the line, but may be too expensive for anyone other than a really serious shooter. [Proof Research video](#)

Why stainless instead of the chrome-moly steel found on most AR rifles? The military specs chrome-moly for extended barrel life under extreme conditions. It's also cheaper than 416R stainless. 416R stainless is proven for accuracy. Sub-MOA performance requires stainless steel barrels. Each barrel has had the head spacing verified by the manufacturer and by us prior to assembly.

We use **billet receivers** machined from 7075-T6 aluminum in our premium rifles. Our standard series use 7075-T6 aluminum forgings, which are as strong as billet, but considerably less expensive. Our billet receivers offer ambidextrous controls. [Billet Receiver](#) All upper receivers include an integrated MIL-STD 1913 (Picatinny) rail. Handguards are machined from 6061-T6 aluminum are free-floating and accept M-LOK compatible attachments.

## **OTHER COMPONENTS**

We use **drop-in triggers** from multiple manufacturers because they offer reliable lighter pull weight (less than half of a typical AR fire control group) smooth feel and short reset at a reasonable cost. They are available in various pull weights, as both single-stage or two-stage designs. Most of our rifles are built with single-stage triggers in the 3-3.5 lb range. Adjustable triggers are available. [Trigger Test](#)

Buffer tubes and buttstocks by Magpul and Luth-AR all offer adjustable length-of-pull and collapse for storage and transport. Buttstocks that adjust for height and cast are available. [MBA-3](#) We offer grips by Ergo and Magpul.

Buffer weights and springs are selected based on caliber and barrel length. Most rifles will be assembled with the Tubb flatwire spring [Tubb spring](#) or the JP Silent Captured spring [JP SCS](#) We adjust gas blocks for reliable cycling while minimizing felt recoil. The adjustable gas block allows each shooter to tune the rifle for specific ammo or the addition of a silencer if desired. All of our rifles have adjustable gas blocks and threaded barrels.

Bolt Carrier Groups are machined from 8620 steel; available either QPQ nitride (melonite) or NiB (nickel-boron) coated to reduce operating friction and make cleaning quick and easy. All are shot peened and case hardened and gas keys are staked per Mil-Spec. Bolts are machined from 9310 steel and also NiB or nitride treated.

## **ASSEMBLY & TEST**

All rifles are assembled and tested by us. Receivers are lapped for optimum barrel fit, barrel and receiver axes aligned during barrel installation with barrel nut properly torqued. Barrel extensions may be shimmed to ensure an interference fit into the upper receiver. Airflow through the gas system is checked during gas block installation. Buffer springs and weights and initial gas block adjustments are set based on prior testing, then adjusted as necessary during break in and proof testing of each rifle. Proof testing will be done with various match-grade ammo based on prior test results, our hand loads, or ammo supplied by the customer.

We generally use heavier buffers than the typical AR. Buffer weights and gas block adjustments are selected to slow down the cycling time allowing the bolt to remain in battery longer. This ensures the bolt doesn't move until after the bullet has left the barrel and reduces felt recoil. We also install muzzle brakes on every rifle. The combination results in a softer shooting rifle with less muzzle rise which makes follow up shots quicker, generally improves accuracy and is easier on the weapon.

Every rifle goes through a barrel break in which generally consists of an initial bore cleaning, firing a few shots of lightly loaded ammo, cleaning, firing again, etc. as recommended by the barrel manufacturer. The gas block will be adjusted during this period and readjusted during firing with actual test ammo later. The rifle will be set up with one of our test scopes or one selected by the customer, then test fired to determine the optimum ammo for the particular rifle. The extent of the testing will vary based on The individual order (are we simply demonstrating sub-MOA with commercial ammo or determining an

optimum hand load). A proof target will be supplied for each rifle including the date and environmental conditions, ammo information such as measured average speed, brand name and bullet weight; or powder type & weight, primer & casing for hand loads.

### **OPTICS**

Almost anything is possible here. Premium optics can easily cost as much as the rifle. In fact, many serious shooters spend more on the optic. We prefer to offer the rifle and scope as a package, with a scope selected based on the rifle specs and input (such as MOA or MRAD reticle preference) from each customer. That way, you are guaranteed a sub-MOA rifle out of the box. We will sell rifles without optics, or if you have a scope you want to use, you can send it to us and we will set up your new rifle with your current scope. Again, when you take it out of the case, it will be ready to shoot. Check out the Precision Rifle Blog for an excellent review of top-tier rifle optics: [Precision Optics](#)

### **TRAINING**

We will be offering training classes tailored to the unique challenges on long range shooting under competition conditions. The instructors will be either active duty or retired military marksmen who are also PRS competitors. It will consist of both classroom and range sessions. Class sizes will be small and individual attention is guaranteed.