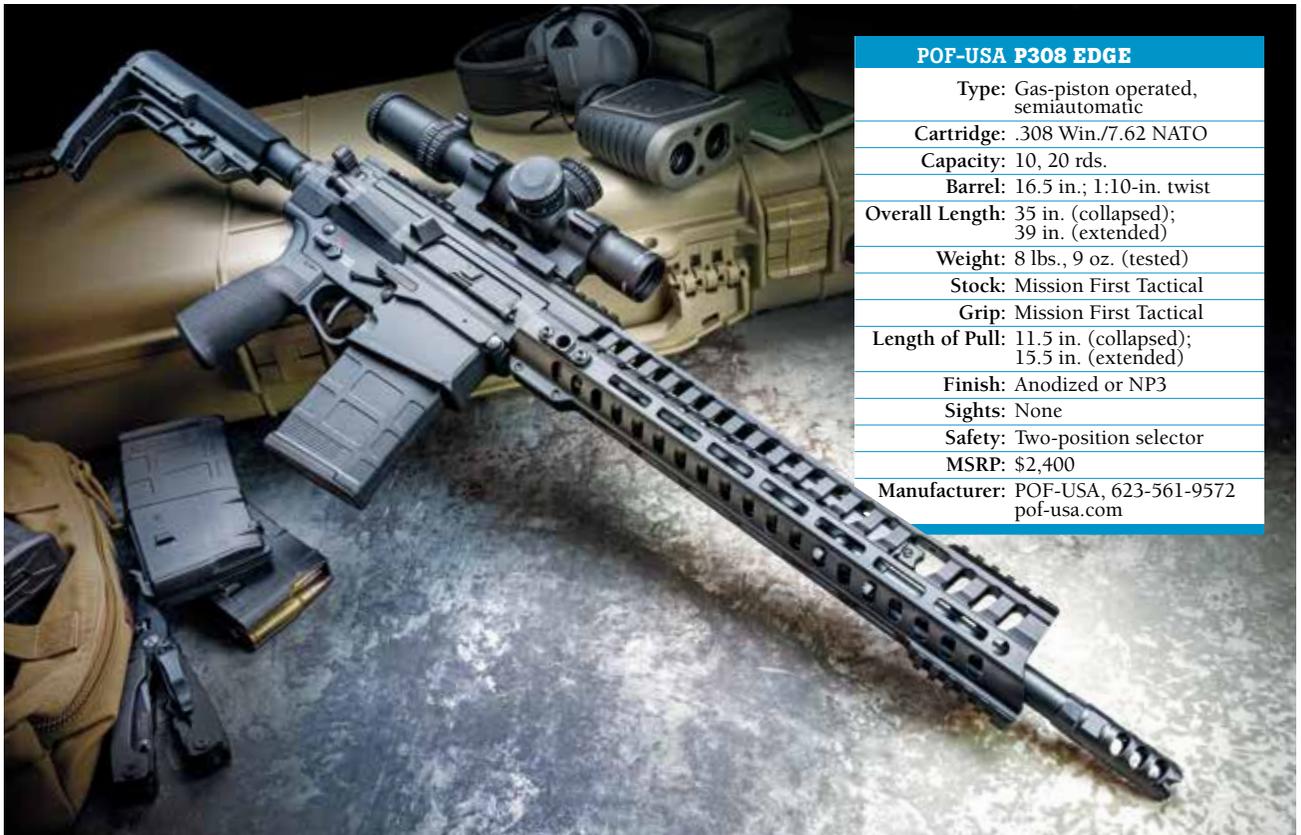




LEAN & MEAN

THE NEW POF P308 EDGE
FLOATS LIKE A BUTTERFLY
AND STINGS LIKE A
HIVE OF KILLER BEES.

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ANYONE WHO has served in the infantry or Special Operations community is probably familiar with the statement, “Ounces equal pounds and pounds equal pain.” Weight isn’t a big deal until you’re carrying something for hours or days at a time. Under those conditions, every last ounce needs justification to stick around.

There is currently a wave of lightweight AR-pattern rifles floating around the market. Although few people carry a rifle for more than a few minutes at a time, the push for lighter and smaller is a natural extension of rifle development. No one wants to carry heavy weight unless it’s absolutely necessary.

Patriot Ordnance Factory (POF) has always been at the forefront of AR development. I first heard of the company over a decade ago from one of my Special Forces teammates that was as much of a rifle enthusiast as I am, if not more. He spoke highly of POF, and in the subsequent decade, I’ve learned why.

Innovate and Test I can think of no other AR manufacturer that steps outside of the Mil-Spec design bubble the way POF does. As much as I like the AR-pattern rifle, it was designed in the late 1950s, and not much has changed since. The rifle has seen some incremental improvements, but few seem willing to take advan-



The P308 Edge bolt face is bigger than a .223 Remington bolt face to accommodate the larger case head size of the .308 Win.

tage of manufacturing, technology and coating advances to improve the basic rifle.

POF is not only willing, they seem to thoroughly enjoy coloring outside the Mil-Spec lines. This is not done for amusement. The owner of POF, Frank DeSomma, believes in pushing the design envelope and then exhaustively testing his new designs to see what will fail and when. No one greets failure with as much resolve as DeSomma. “Failure is how we learn,” he said.

The latest POF endeavor is the P308 Edge. The Edge is an original AR-10-style rifle that’s light and chambered in .308 Win. Compared to POF’s older rails, the Edge has a rail that’s nearly 20 percent leaner and gives it an edgier, slim profile.

The P308 Edge weighs 8 pounds, 9 ounces and uses the same monolithic bolt carrier, cam pin, charging handle, roller cam pin, gas-piston system and buffer as earlier P308 models. It uses any standard AR-15 trigger, selector, grip and stock. The Edge rail now includes an M-LOK system that makes this rifle so slim.

There are a few key areas where POF needed to focus some serious engineering horsepower to get the rifle from concept to reality. The bolt/barrel extension combination is one of those areas. No matter how you slice it, the .308 Win. cartridge has a substantially bigger diameter than a .223 Rem. round. The .308



A unique, bilateral bolt catch is available for access inside the triggerguard, where it is both out of the way and easily engaged.



The Gen 4 lower receiver of the P308 Edge has an ambidextrous magazine release and anti-walk pins for the trigger.

Win. magazines are wider, the bolt face is bigger to fit around the case head, and the cartridge itself occupies more real estate than one for a rifle chambered in .223 Rem.

If you look at the bolt dimensions of the P308 Edge, you'll see that the outside diameter isn't much different than an AR-10 pattern. This one is based on a regulated, short-stroke gas piston-operated platform. In fact, you could use standard AR-10 bolts and rings (or *no* rings) without affecting this system because gas doesn't enter the bolt carrier group.

The material for the bolt and barrel extension meets and exceeds the Edge's Mil-Spec counterparts. DeSomma wouldn't say what either was made of, only that he spent a lot of time and effort on third-party destructive testing with metallurgists and was confident in the finished product.

I once had a conversation with the owner and lead designer of a different AR manufacturer that had been in the AR game since

the 1980s. I was pressing this gentleman for details on bolt durability, and he said that he could make an AR bolt that he could guarantee would never break. He also said it would cost more than the rest of the rifle.

The material that POF uses in the Edge's bolt is made from a more ductile and stronger (and readily available) material than Carpenter 158, but DeSomma was very specific that the challenges presented couldn't be solved with material selection alone.

To prove the concept, POF did exhaustive destructive testing that makes military tests look pedestrian. POF tested the rifle for functioning and durability at 110-plus degree Fahrenheit in the desert at automatic — around 700 rounds per minute (rpm). The POF bolt and barrel extension did just fine in G&A's evaluation.

POF is not new to destructive testing and does more of it than any other manufacturer that G&A's staff knows of. They also use Wolf steel-cased ammunition, which is hard on chambers and

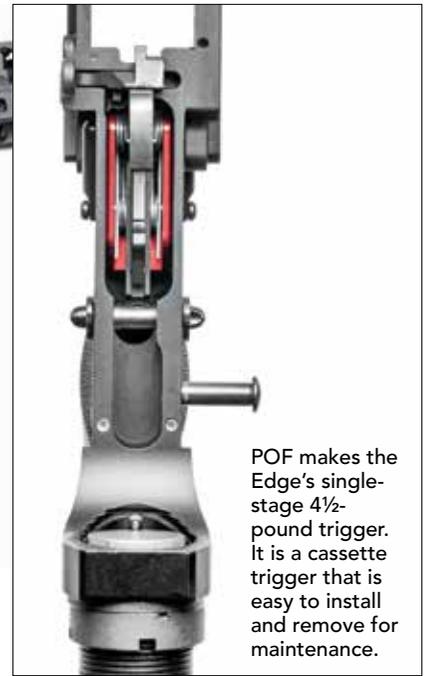
The upper receiver slides into the handguard and forms one of the most stable unions of any AR-pattern rifle.



The massive magazine well is beveled to help speed reloads.



The barrel nut is another design unique to POF. It is large and finned to serve as a heat sink for the chamber area.



POF makes the Edge's single-stage 4½-pound trigger. It is a cassette trigger that is easy to install and remove for maintenance.

burns dirty. In DeSomma's mind, there is no better way to test than with the hard-metal-cased ammunition available.

Probably the most decisive testing you could ever hope to see on any rifle is automatic fire. It hardly ever happens outside the military because it's expensive and tests almost always end with a busted rifle. However, POF does automatic testing with not just their .223 Rem. rifles, but also with their .308 Win. models. The Edge's development was no different.

The reason automatic tests are so difficult is that they generate an enormous amount of heat in a very short time, and heat destroys guns. Parts get hot, swell, lose the heat treat, get brittle and then beat themselves to pieces. A handful of AR manufacturers build 5.56mm rifles that survive the military's auto firing schedule. There is no military standard for 7.62mm rifles, but POF is the *only* manufacturer that we've seen successfully test auto to any degree.

The Patriot's Rifle While there are some unique features going on with the bolt and barrel extension, the rest of the rifle is classic POF. DeSomma wanted to keep as much of the Edge an AR-pattern as possible, so all the dimensions of the lower receiver are common with the classic ArmaLite AR-10. Any AR trigger, selector switch or grip will fit on the Edge.

The P308 Edge upper receiver is a two-piece design. The Edge rail is part of the upper receiver once it's coupled together, which



The one-piece handguard ensures alignment between the Picatinny top rail at the front and the section that sits over the upper receiver.

is how POF can offer a continuous rail at 12 o'clock. This upper houses the bolt carrier group, and the other portion bolts to the top of it and grows into the handguard. Think of the handguard with a portion that extends over the top of the upper receiver and attaches to it. POF doesn't simply screw the continuous top rail to the upper receiver; they clamp, screw and lug it in place.

Small screws pass through the top rail and into the upper receiver, but a lug from the top rail also protrudes down into the barrel nut and gets clamped in place. This system makes for an incredibly tight lockup between the handguard and upper receiver.

POF emphasized the attachment so thoroughly to keep anything from moving, even when heavy night vision or thermal sights are attached to the forend. These devices tend to be hefty and can cause the entire handguard to shift under recoil. This means accessories such as visible and infrared lasers lose zero and become useless.

POF uses a large, fluted aluminum barrel nut of their own design on the Edge, just as they do on all their other rifles. The major advantage of the large barrel nut is that it mitigates the effects of heat. Aluminum radiates heat seven times faster than steel. This means that any heat from the chamber will get sucked into the massive fluted barrel nut where it can dissipate into the air. Since the area of the barrel just forward of the chamber — aka the throat — is the most vulnerable to the effects of heat, the POF



The muzzlebrake was not overly obnoxious, yet did an excellent job taming recoil. A .308 this light benefits from a muzzlebrake.

barrel nut is well-placed and utilized. The heat sink created by the nut greatly reduces throat temperatures and prolongs barrel life.

While the Edge's barrel nut isn't quite as big as the barrel nuts found on the original P308 rifles, it still offers 29 square inches of surface area. For comparison, a typical Mil-Spec barrel nut has a

PERFORMANCE

LOAD	VELOCITY (FPS)	ES	SD	BEST GROUP (IN.)	AVERAGE GROUP (IN.)
Gorilla MatchKing 175-gr. BTHP	2,425	43	17	.71	.9
SIG Sauer Match 168-gr. BTHP	2,553	40	19	.97	1.22
Federal GMM 168-gr. BTHP	2,543	39	15	1.06	1.28

Notes: Accuracy is the average of five, five-shot groups at 100 yards. Velocity is the average of five shots across a LabRadar chronograph positioned at 15 feet.

The adjustable gas block allows the shooter to tailor the preferred load to the rifle. The gas block and barrel are serialized to one another.

paltry 9 square inches. That's a lot of material pulling heat away from the most vulnerable part of the barrel and a big

reason POF's barrels last so long.

The P308 Edge also benefits from POF's E² extraction technology that directs some of the gas from a fired cartridge back along the case neck to push against the case shoulder.

The E² extraction system cuts four small grooves into the chamber area where the case neck rests against the chamber wall. The grooves are shallow and run parallel to the bore.

When the rifle fires, the grooves become pressurized and push the case back toward the bolt face. The positive pressure in this area helps ensure the brass case doesn't stick to the chamber wall and greatly facilitates extraction. This process ensures minimal extractor wear on a semiautomatic rifle and makes for easy extraction with all platforms POF puts it in.

Range Time I expected the P308 Edge to recoil more than the usual 7.62x51mm AR because it is a piston-operated rifle. Piston-operated guns typically recoil more sharply than their direct impingement (DI) counterparts. I was pleasantly surprised. The rifle feels lighter on recoil than it should be because POF put a mid-length gas system on their 16½-inch barrel. The advantage of using the mid-length gas system is the delayed pressure inside the bore when the piston pressurizes to operate the bolt carrier. The lower pressure



Left to right: The P308 Edge bolt carrier group (BCG), standard AR-15 BCG, standard AR-10 BCG. The P308 Edge is a piston carrier while the traditional AR-15 and AR-10 BCG are direct impingement.

makes it easier for the rifle to extract, so fast bolt velocity is unnecessary.

The other reason the rifle shoots like a pussycat is due to the muzzlebrake POF engineered. It is a three-port brake with holes up top to help minimize muzzle rise. It is effective without being obnoxious.

With less recoil than I expected and a muzzlebrake that doesn't audibly punish the shooter, I enjoyed time at the range with the new P308 Edge. I especially appreciated the five-position gas regulator that allows the shooter to appropriately tune the gas flow to their preferred load while also accommodating suppressor use.

The barrel POF uses for the Edge is a match-grade chrome-vanadium steel — aka machine-gun grade — that has button rifling and a nitride finish. These are very durable barrels that the San Bernardino County Sheriff's Department recently ran well beyond 66,000 rounds in testing with minimal velocity loss. For a barrel with no break-in, the Edge performed very well. It would be equally at home in the hunting camp as on the battlefield, and this .308 handles better than an original AR-10. **GA**