





FLIGHT
OF
THE

24 HOURS IN A VALKYRIE

EMBARKING ON A
DO-IT-YOURSELF
PROJECT WITH A
LONG-RANGE
MONSTER IN MIND

Story and Photos by Kevin Reese



Not long ago, I spent countless hours of research and trigger time putting the 6.5 Creedmoor to work and discovering its true long-range capabilities. Shortly after sharing my two cents on the trending round in other articles, the 6mm Creedmoor picked up its winning pace in the PRS match arena and began to garner some well-deserved accolades as well. Both rounds are worthy of their reputations in long-range shooting and hunting circles. Even the U.S. military is now considering 6.5 Creedmoor-chambered rifles for our elite marksmen, due to its solid performance out to 1,000 and even 1,500 yards. I haven't put either to the 1-mile test yet and was considering doing so, when another sexy round wandered into the room and turned every long-range shooter's head—the .224 Valkyrie.

The Valkyrie's landing early this year has taken the shooting world by storm and long-range precision enthusiasts took immediate notice. With a tagline like "Subsonic at 1,300 yards!" how could you not notice the .224 elephant in the room?

The bolt carrier group is made by WMD Guns and is made from nickel-boron and completely NIB-X coated to make it more resistant to damage.

"THE PURPOSE OF MY BUILD WAS PERFORMANCE."

Of course, my inquiring mind wanted to know: Is this media hype or truly a real-deal, smaller diameter, long-range performer? I was going to find out—and so the build began.

But first, let me expand on "why build?" AR-style rifles are incredibly modular; however, more goes into selecting and using suitable components than simply piling up parts. Caliber-specific parts are critical elements and various manufacturers—including handguard fabricators—often include proprietary barrel nuts, installation tools, etc. That said, once the appropriate parts are compiled, it's possible to build a specialized rifle that can deliver incredible performance. Setting out to build a top-shelf .224 Valkyrie for the first time, I managed to do just that—and doggone she's a looker, too!

Like most projects, I began with the end in mind. The purpose of my build was performance. I'm not happy with MOA grouping. As far as I'm concerned, considering today's technology, every rifle should be capable of hammering out a 1.047-inch (1 MOA) group or better. Maybe I've been

spoiled with many of the guns I've had an opportunity to shoot and own, but I don't think it's too much to ask. Of course, in addition to sub-MOA capability at 100 yards and MOA results at 1,000 yards, with this .224, I was also looking for a lightweight, jaw-dropping, ass-kicking AR-15, as well. And, hell yes, I used detachable magazines.

ONWARD AND UPWARD: THE BUILD

I was so impressed with Phoenix Weaponry's billet receiver and handguard work on a 6.5 Grendel project, I worked on, I had to go back for more. While I'm sure other manufacturers offer similar quality, performance and quite literally, artwork, Phoenix Weaponry is at the top of a short list when it comes to my recent custom projects. You want bad ass? PW is a solid bet. For this build, I tapped Phoenix Weaponry for a billet receiver set and ultra-lightweight, skeletonized, tubular 1.75-inch diameter handguard, complete with a gas tube guard near the upper receiver. With the slim internal handguard diameter, I also used a premium billet, ultra-low-pro-

file, adjustable gas block from Phoenix Weaponry as well. The adjustment screw faces forward for easy access. Worth noting: The lower receiver included several pre-installed parts while the upper receiver also featured an operational dust cover—nice touch.

On the subject of gassing, the tube itself came from White Oak Armament. Like the other components for this assignment, I went with a precision-machined product from a company with quality I could trust. White Oak has satisfied that need more than once and it's worth noting here that if you're ever in need of the nearly-impossible-to-find extended length rifle +2 gas tube, White Oak Armament has it ... and it won't break your bank.

Not long ago, I also built a premium 6.5 Creedmoor AR-10. I easily beat a sub-MOA group into steel at 1,000 yards and key-holed groups at 100 with a BSF carbon-fiber jacketed barrel (not wrapped; there is a difference). Since using a BSF barrel on that AR-10 project, I've become quite a fan and have spent considerable time on the phone with inventor and BSF Barrel company owner, Aaron Painter. The guy is an Einstein when it comes to barrel manufacturing, and his reasoning for vented jacketing (including air-foil type cooling), eliminating wrapped-carbon delaminating issues and loading under tension for barrel stiffness are incredibly progressive if not downright industry leading. The guy has zero tolerance for defects, and it shows. So, I went there again for a 20-inch .224 Valkyrie barrel.

Like the 6.5 AR-10 project, I went with a ZRO Delta Gen 2 CIB Muzzle Brake. While the Gen 1 I used on previous rifles does its job well, I loved what the Gen 2 delivered on the 6.5. During the 10 build, ZRO Delta's Clint Walker revealed the Gen 2's performance enhancements over the Gen 1. ZRO Delta's Gen 2 improvements include 12 percent recoil reduction and the precision machined ports are angled upward to truly mitigate barrel rise.

My objective with the Gen 2 and a lighter barrel was to better maintain sight picture and observe impact throughout the shot. While the .224 Valkyrie's recoil seems negligible, it's still worth mitigating and, using the lightweight BSF barrel, reducing barrel lift is achieved.

Not long ago, I shifted gears on stocks. I've run the gamut on them, from run-of-the-mill A2- and A4-style stocks to B5 Systems' Bravo SopMod, minimalist stocks and CAA's insanely cool Sniper Stock. Considering all of them, I was after a full-featured, lightweight stock and found the perfect fit in LUTH-AR's MBA-3 stock. Based on the recommendations of fellow writers, I also elected to run with LUTH-AR's carbine stock tube, buffer and buffer spring. Why the LUTH-AR MBA-3? Easy, I love their MBA-1 stocks and have them installed on several of my AR-platform rigs. The adjustable comb height and buttpad, including length-of-pull (LOP) are great features, but the MBA-3 also includes telescoping six-position LOP adjustability, while still offering buttpad adjustment. There is also a bottom rail section perfectly suited for a monopod.

While LUTH-AR offers stocks in black and FDE, I wanted something insane looking, something that challenged the norm. I knew Phoenix Weaponry was planning to show off their parts with what looked like a copperhead DuraCoat finish on the receivers and handguard so, of course, I sent the stock there. Sending the stock in at the same time I ordered my billet parts resulted in receiving all coated parts for the project in just a couple of weeks. It was an impressive turnaround for a premium-quality custom project.

In addition to the stock, I also chose LUTH-AR's lower parts enhancement kit and black Chubby Grip. The enhancement kit included an oversized paddle bolt-catch, extended selector switch and a wide trigger guard. I chose the impact-modified nylon Chubby Grip because of its comfort level. The Chubby boasts a full, slip-resistant palm swell,

The author employed a ZRO Delta Gen 2 CIB Muzzle Brake that boasts 12 percent recoil reduction, precision-machined ports, angled upward to truly mitigate barrel rise.



CONTACTS

Phoenix Weaponry (\$1,000)
PhoenixWeaponry.com

BSF Barrels (\$600)
BSFBarrels.com

LUTH-AR (\$283)
Luth-AR.com

WMD Guns (\$175)
WMDGuns.com

Timney (\$238)
TimneyTriggers.com

ZRO Delta (\$478)
ZRODelta.com

White Oak Armament (\$10)
WhiteOakArmament.com

Sightmark (\$1800)
Sightmark.com

Accu-Tac (\$276)
Accu-Tac.com

Radian Weapons (\$80)
RadianWeaponry.com

Real Avid (AR-15 Build Tools)
RealAvid.com



“THE GUY IS AN EINSTEIN WHEN IT COMES TO BARREL MANUFACTURING ...”

thumb shelf and exceptionally wide base, perfect for establishing a more stable upright rest.

Rounding out the small parts, I used a Radian Weapons FDE/Black Raptor Ambidextrous Charging Handle. The Raptor is mil-spec anodized and constructed of aircraft-grade 7075 aluminum. I've broken my share of charging handles, but never one from Radian Weapons. The ambi feature allows me to charge from either side, a benefit when I'm working with a new shooter. Again, I've used the Raptor on several projects, and they perform well.

My bolt carrier group (BCG) came from WMD guns. Not only have I used his BCGs in the last several projects, I've replaced at least another half-dozen BCGs with their nickel boron (NIB-X) offerings. I've fired several thousand rounds out of my 6.5 Grendel at this point and the BCG used in that rifle still looks brand new. As a side note, if you're interested, WMD Guns president, Wynn Atterbury, is as innovative as the rest of the elite AR guys pulling the industry weight with their outside-the-box ideas. His Beast AR-15 and

Big Beast AR-10 BCGs, which I've been testing in 6.5 Creedmoor, not only include nickel-boron, but they also are completely NIB-X coated—the only rifles I know of in the industry with this hardcore coating.

Last, but not least, the trigger is very much a centerpiece, along with the barrel, when it comes to precision shooting. A lightweight trigger-pull and consistently crisp break are paramount when it comes to accuracy and Timney always impresses me. To date, I've used a number of Timney AR-15 and AR-10 Competition Triggers averaging 2.4 pounds of pull, a Calvin Elite AR-15 trigger with a butterfly's-fart worth of 1.5-pound pull and Timney 510 triggers in all of my precision long-range bolt guns. For this project, I went with what I knew works flawlessly on the long-range scene, Timney's AR-15 Comp Trigger. While Timney's specs put it at 3 pounds of pull, my Wheeler Trigger gauge reported an incredibly comfortable average trigger weight of 2 pounds, 14 ounces after 15 pulls.

With the build complete, and plans to run this gun out to one mile, I mount-

The Timney Trigger, with just under 3 pounds of pull, broke clean and crisp during throughout testing of the rifle.

ed a Sightmark Pinnacle 5-30x50 First Focal Plane Riflescope with a ZRO Delta M4 DLOC single-piece scope mount. The setup is perfectly suited for extreme-distance shooting, and ZRO Delta's uber-cool mounting design helps me maintain zero, even after removing and installing the scope and mount assembly multiple times.

Because of the extreme-distance precision shooting results I was seeking, I headed straight for a billet Accu-Tac SR-5 bipod. You want a bipod that has an insane-looking design, but still delivers on performance? Accu-Tac is it.

Not only do these bipods turn heads, they lock-in for a solid, reliable, loaded platform, so I can concentrate on shooting and achieving ultimate accuracy. While the Accu-Tac SR-5 does come in a just over a pound, it's well worth the added weight. The base height range is 6.25 inches up to 9.95 inches, and the ratchet-extending legs provide five height options. The bipod is QD mounted to a Picatinny rail, pans and tilts exceptionally for minor adjustments like establishing your natural point of aim, and includes non-slip rubber feet (for tables) and dig-in spikes (for the ground).

FLIGHT OF THE VALKYRIE

So how does the rifle run? Let me just say this copperhead beauty has a serious bite—not recoil, mind you, but incredible precision. My initial testing came with a lot of heartache. For days, the wind howled, nearly up to my deadline. I gripped my steering wheel tightly when I drove into my favorite (now home) range, Triple C Shooting Range in Cresson, Texas. The place is a diamond nestled in the rough beauty of a 3,000-acre working ranch. Unlike a coyote wandering into the danger zone of Marine Corps shooting ranges back in my qualifying days, you are not allowed to shoot animals at Triple C—the staff enjoys hunting them too much. In all seriousness, it takes a good 15 minutes to wind through the Triple C's serpentine road from the front gate to the shooting bays. And



WHAT'S THE COST?

The total cost of the build without optic, mount and accessories = **\$2,386**

Optic, mount and accessories cost = **\$2,555**

Total final product = **\$4,941**

speaking of bays, the ranch includes long-range bays out to 1,000 and 2,000 yards! It's the perfect place for an aging jarhead to go long.

I was running out of time to test, and when I began on the zeroing range, the wind was still blowing at 20 mph. While I knew it wouldn't do much to bullet flight, the wind did everything it could to push me (and my muzzle) even on an unshakable bipod, squeeze bag and heavier-than-I'd-like-to-be shooter. The first shot is always hardest.

Even after numerous builds, I always wince just a hair as I begin the trigger pull. However, this particular shot was as comfortable as it could be. Using Federal Premium Gold Medal Sierra MatchKing 90-grain ammo, I settled in tightly to brace against the wind, breathed, relaxed, aimed, stopped, and then squeezed off the shot during my 6 to 8 second natural respiratory pause. After a few shots, I established zero, then set the Pinnacle's zero stop. Once it was set, I settled in for grouping and after fighting the wind for a bit, I managed a solid ½-MOA group. To say I was pleased was an understatement. The Timney trigger breaks like ice and that BSF barrel is a center-punching beast.

“... ZRO DELTA'S UBER-COOL MOUNTING DESIGN HELPS ME MAINTAIN ZERO ...”

After grouping, I used a chronograph to record muzzle velocity, calculate energy and determine my DOPE for long-range shooting clear out to 1,500 yards. Using Federal Gold Medal Sierra MatchKing 90-Grain ammo and BSF's 20-inch match-grade barrel produced a muzzle velocity of 2,623 fps, energy of 1,375 ft-lbs and, as it relates to production ammo, an impressive standard deviation of only 14 fps.

Going long was tricky, however. For weeks, every testing attempt was met with high winds. Unfortunately, deadlines don't wait, so eventually I had to knuckle down and shoot in varying 10 to 20 mph winds, predominately from my four o'clock, but shifting four and six. Hitting MOA or better at 1,000 yards turned out to be exceptionally routine; however, as I continued, wind (and gusts) picked up. After a while, I managed to put together reliable DOPE and hammered out a three-shot group just a tad more than a 1 MOA at 1,200 yards, using 15.1 mils of elevation and 4.7 mils on windage. After quite a bit of shooting, I developed decent DOPE at 1,500 yards, running over 24 mils in elevation and more than 6 mils for wind. While I did hit two consecutive times at that distance, running out of ammo did not allow me to shoot a

The author carefully selected each part of the rifle and assembled them in his shop—one of many builds he has performed through his years of long-range shooting.

group of any kind for reporting purposes. I can only report hitting the target at that distance. To be honest, shooting without a 20 MOA rail (and even with such a rail) extending my shots out to a mile in those conditions was not going to be productive where any reliable consistency was concerned.

While I had hoped to produce a precision 7-pound AR-15 .224 Valkyrie one-miler, in the end I was satisfied with consistent 1,500 and 1,200 yard accuracy; after all, how cool is it to throw lead accurately across 1,200-plus yards with an AR-15 platform? To say I'm happy with this rifle and this caliber is an understatement. Of course, having spent considerable time on this firearm now, I'll suggest it was over-hyped. Buying into the noise, I was sure I would be able to beat the paint off steel at extreme distances but, alas, I did not.

Maybe running a longer barrel would have landed me in a position to reconsider, but with this project, I was after a shorter rig suited for dual-purpose target shooting and hunting. All things considered, if you're looking for a lightweight precision rifle, gas or bolt, don't be afraid to let the .224 Valkyrie take flight. You may not experience the incomparable ballistic bliss some purport, but you sure can expect a jaw-dropping, long-range performer in a smaller, lightweight package.

AR-15