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SHORT

Maxim's Miniscule PDX SD

By Dave Merrill and Iain Harrison

& DESSSESSED



Back in 2019, Maxim Defense won RECOIL's Best of SHOT award and also graced the cover of RECOIL Issue 41 when they released the PDX, a short 5.5-inch barreled PDW with an overall length of 18.75 inches and offered in 5.56mm, .300BLK, and — our favorite in this form — 7.62x39mm. Systems this small have been attempted before, but, importantly, the Maxim Defense PDX actually worked. They cracked the code.

When it comes to a gun that's stubby and stashable while also chambered in a rifle caliber, the clandestine capability also comes with an awful lot of bang. Maxim Defense spent the following years developing a fix for this next part of the problem — making it more stealthy to mitigate all the blast and gas.

With lessons learned from the development of their MSX-240 suppressor that withstands the rigors of a full-auto 7.62x51mm belt-fed, along with further design insights stemming from their DSX silencer line, at CANCON 2022 Maxim Defense finally showed off their latest: the PDX SD.

At a mere 23.75 inches tail-to-tip, the PDX SD is only 5 inches longer than a traditional unsuppressed Maxim Defense PDX, yet still sits below the length threshold of any rifle you can buy off-the-shelf at Cabela's. It's seriously small, and the next thing you'll notice is exactly how fat the silencer section is. Jokingly dubbed "the soup can," the silencer that sits on the SD has an outer diameter of 2.25 inches.



Maxim fully embraced the 50 shades of FDE concept on this one, rather than trying to get every component to match.



DESIGN PHILOSOPHY

We've reported in the past that the U.S. Military is taking steps toward an all-suppressed army, and they're starting with SOCOM. While other companies are working on retrofits (and Maxim is doing some of that themselves), Maxim took a different approach here.

President and CEO of Maxim Defense, Michael Windfeldt, says, "The standard way of doing business is picking the rifle, then adding the suppressor — adding to the gas pressure problem. So, then they [DoD] ask for a lower-flow suppressor.

We take the systematic approach; we're designing our weapons to always be suppressed. The suppressor is the muzzle device to those systems, and designed and tuned for the rifle. The PDX SD is a special-purpose rifle, required to be very small and hearing safe."

UNCONVENTIONALLY INTEGRAL

One major difference between the PDX SD and what we'd normally call an "integral" is that the silencer unit itself can be removed. What makes us still classify the Maxim Defense PDX SD as an integral is that the silencer was specifically designed for the gun, and the gun specifically for the silencer — they're a system and need to work together, in order to work at all.

Designing the suppressor module to be removable not only makes basic maintenance like cleaning more traditional than with other integrals, importantly it means that parts can be easily and readily upgraded and replaced with



newer technology down the line.

This is much harder than it looks, especially when everything from the barrel to the bolt carrier to the buttstock add additional variables to contend with.

Since the launch of the PDX back in 2019 and the setup you see here now, we've shot multiple prototype iterations of the PDX SD. We started with Mk1, then Mk2, and *Mk-god-only-knows* before you see what's here today.

Maxim's Director of Engineering, Patrick Tramble, ran off a laundry list of both major and minor challenges they had to overcome to produce the PDX SD. Needless to say, the PDX SD has even more custom work than the original PDX, with the heaviest lifting taking place in the balance of size, sound, and reliability. With its own custom-length gas system, handguard, and proprietary sealing mechanism, you won't be doing much parts-swapping or building a PDX SD 1:1 in your garage, at least not if you want it to work.

The PDX SD was designed as a



Every component on the PDX SD is top tier, even the ones not made in house.

straight-out-of-the-box solution. As a special-purpose system, if it doesn't make sense to you, then it wasn't made for you.

LIVING WITH THE PDX SD

The AR-15 was first designed as a 20-inch barreled rifle, with what would come to be known as a rifle-length gas system. At the time, it was just a gas system because other



MAXIM DEFENSE PDX SD

CALIBER: 5.56 NATO (300BLK AND 7.62X39 AVAILABLE)

CAPACITY: 30 ROUNDS

BARREL LENGTH: 5.5 INCHES

OVERALL LENGTH: 23.75 INCHES

WEIGHT (AS SHOWN): 7.5 POUNDS

MSRP: \$3300

URL: MAXIMDEFENSE.COM



variants hadn't yet been conceived, but its combination of gas port size and dwell time proved to be both soft-shooting and reliable. Fast-forward a few years and carbine versions started popping up, and people noticed that as you decreased barrel length, reliability dropped off and the system had to work a lot harder. With just 5.5 inches of barrel, 1.75 inches of which

pletely invisible to anyone who glances inside, yet remains ready to party at a moment's notice.

Due to design constraints imposed by its size, field stripping deviates from what you'd expect. Instead of shotgunning the action open like in a regular AR, both takedown pins are punched, and the two halves separate, spilling the abbreviated buffer and spring. There's no buffer retainer, and the bolt carrier's tail is chopped down to accommodate an abbreviated buffer which is all steel, in order to maintain the necessary mass.

Both the upper and lower receivers are meticulously machined from bar stock. The upper retains the forward assist feature and has a notch cut into the forward Pic rail slot in order to accept an anti-rotation tab located on the handguard, but apart from its flawless tool paths and excellent surface finish is otherwise pretty standard. Handguard-wise, the PDX looks like it's sized to tuck the can inside, and while a small portion of the suppressor does indeed fit underneath, its 2¼-inch diameter matches the OD of the chunky exposed portion. Anti-rotation QD sling sockets are on both sides, and our test subject came fitted with a hand stop — essential if you're planning on retaining your epidermis.

The billet lower receiver comes with

The bolt carrier has been chopped down to accept a stubby buffer, reducing the length of the buffer tube while maintaining stroke length.

is chamber, it's a testament to the engineers behind the PDX that it runs at all, let alone runs like a champ.

We've been putting the PDX SD to good use over the past few weeks, playing to its strengths as a truck gun, a role in which it really shines. Due to its compact size, it fits inconspicuously between the seat and door, and if you angle your leg just so, it's com-





An Aimpoint Micro on a Unity riser and a SureFire Scout light round out the defensive package.

Blending into the back of the lower is Maxim's PDW stock system, which almost a decade after its introduction is a proven unit. Despite its lack of a folding mechanism, it manages to shorten overall length considerably through use of a chopped-down buffer tube, adding just 3.75 inches to the rear of the receiver versus 6.25 for a regular carbine. You're forced into accepting a less than comfortable cheek weld as a trade-off for a shorter OAL, but as a specialized tool for specific jobs, it's worth it.

ROUNDS DOWNRANGE

We'd be the first to admit, the thought of shooting a 5-inch barreled 5.56 carbine doesn't immediately fill us with eager anticipation. Mk18's are not exactly pleasant to train with, and that's with twice the tube that the PDX brings to the table. We were expecting violent cycling, with cases being kicked out to the 2 o'clock position and a good chance of the magazine spring being outrun, causing failures to feed. Which

a generously flared magazine well and integrated trigger guard. Ambi controls include a two-sided safety and magazine release, but no bolt hold open or release. If it's important to you, you should be aware that the FCG pocket is low shelf, but for those of us happy with semi-auto fire, the PDX ships with an improved, NiB-coated GI trigger, hammer, and disconnect, producing a sweet 4.5-pound trigger pull.

Should you wish to run a sling, there are rotation-limited QD sockets right where you need them.



The abbreviated buffer tube is torqued into the receiver by means of a 1/4-inch drive socket. Neat.

just shows how wrong you can be, sometimes.

The PDX SD turned out to be very soft-shooting, and the soup can tames blast down to hearing-safe levels — we were expecting flinch-inducing levels of commotion from the loud end, but got a real pussycat, which made ripping off double and triple taps a smile-inducing affair, with the muzzle barely moving on target. Which is not to say the barrel length on this carbine makes a lot of sense for most folks. It doesn't.

Remember, this was the result of a government solicitation for a very specific set of circumstances, using the ammunition most prevalent in the supply chain. Those of us having a choice in the matter would probably have opted for a 300blk version or at the very least a 7.62x39 in order to gain a bit more terminal effect. Just how much performance do you lose from 5.56 from a 5-inch barrel? M193 clocks in right around 2,000 feet per second, while 77-grain OTM rounds struggle to hit 1,600. 480 foot-pounds of energy would definitely cause a welt on the receiving end, but a 7.62 would almost double this, and provide superior performance on intermediate barrier such as autosheet metal.

That said, the PDX SD is a work of art, a masterpiece of firearms engineering in steel and aluminum, superbly executed. We had doubts whether a gas system this short would run at all, let alone run reliably, but run it does, and in the course of about 500 rounds, we had no hiccups whatsoever. If you have a requirement for a gun that fits neatly into a backpack, or under a vehicle seat, then Maxim have the tool for you, assuming price is no object. And in this case, you get what you pay for. ■

SD handguards are usually fat in order to slip over a can. In this case, they're fat to match the bulbous suppressor necessary to tame muzzle blast on a 5.5-inch barrel.

