

SMALL ARMS

DEFENSE

JOURNAL

SHOT SHOW SPECIAL

TORTURING THE MK19 MOD 3

BARRETT'S MRADEL R: REACHING 2 MILES AND BEYOND

INFANTRY WEAPONS OF CHINA'S PLA

ON THE RANGE WITH BRITAIN'S NEW L129A2 SHARPSHOOTER II

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Welcome

Welcome to the Small Arms Defense Journal Special Edition for SHOT Show 2024! Our company, Chipotle Publishing, is based in the Las Vegas metropolitan area so... Welcome to Fabulous Las Vegas, our hometown!

Our Vegas advice? Stay hydrated, tip well, wear comfortable shoes, and enjoy the people-watching. It's better than most of the "entertainment" Hollywood is making nowadays, and it's free!

Once you're done exploring Vegas, take a deep dive with us into **US Ord's** MK19 Mod 3, **Barrett's** MRAD ELR chambered in 416 Barrett, **KNS Precision's** upcoming Czech Valve for the CZ BREN 2, and much more! See page 6 for the table of contents.

We invite you to stop by and see us at booth 20060, where you can sign up for our weekly e-newsletters and find out about the books and magazines we publish.

What Is Small Arms Defense Journal?

Published since 2009, *Small Arms Defense Journal* provides a dependable global perspective for military, law enforcement and industry professionals on small arms, optics, accessories, suppressors, night vision, rangefinders, tactical gear, and more! You'll find us in print at select trade shows worldwide and online at sadefensejournal.com.

More Articles!

Our sister magazine, *Small Arms Review*, is a digital publication that sends out a weekly e-newsletter and we encourage you to go to smallarmsreview.com or stop by our booth (20060) and sign up!

New Books on the Way

Three new books are on our upcoming schedules! Frank Iannamico's book, *AK-47: The Grim Reaper*, is officially coming soon in its third edition. The long-anticipated fifth edition of the *Machine Gun Dealer's Bible* by Dan Shea is in the works. And there's a third mystery book that's about to print. So, sign up for our e-newsletters and follow us on Facebook for updates and announcements: [@smallarmsreview](https://www.facebook.com/smallarmsreview) and [@sadefensejournal](https://www.facebook.com/sadefensejournal).

We hope you enjoy this Special Edition of our magazine. Enjoy the show!



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MEET THE MAKER

HIGH GROUND DEFENSE AND ITS M134HGD GATLING GUN SYSTEM

BY DAN SHEA

HIGH GROUND DEFENSE IS A RELATIVELY NEW NAME TO THE DEFENSE AND SMALL ARMS INDUSTRY, but not the people

involved. The HGD engineers have many decades of experience with small arms, and in specific, successful M134 series designs and manufacturing. They have spent the last several years preparing a pallet of solutions in small arms.

Aside from the M134HGD Gatling Gun system, HGD offers some very innovative, lightweight, belt-fed machine guns that include evolved variants of the M249/Minimi in 5.56x45mm, 7.62x51mm, and 6.5 Creedmoor. Their company offers other services:

- Weapon System Design
- Land/Sea/Air Mounting Solutions
- Electrical/Avionics System Design/Integration
- Rapid Prototyping.

The M134 "Minigun" series of Gatling guns are electrically driven, mechanically operated automatic machine guns. The distinction in description is important. If there is a belt of ammunition and the barrel cluster is rotated, the ammunition will cycle through the mechanism and fire when presented to full lock up to the barrel. This can be a very dangerous situation around persons unfamiliar with this cycle of operation.

The M134 was a downsizing of the M61 20mm Vulcan six-barreled automatic cannon that was made in 7.62x51mm for use on rotary- and fixed-wing aircraft during the Vietnam War. General Electric (Yes, the "GE Brings Good Things to Life" Gen-



The front door leading to High Ground Defense on North 77th Street in Scottsdale, Arizona.

eral Electric) was the design and build contractor. GE in Vermont designed and built many weapon systems in that time period in its skunk works in Burlington. See our interview with Bob Chiabrandy, designer of the M134 among others, "The Man Who Designed the World's Fastest Gun" on smallarmsreview.com. The interview was done by George Kontis, small arms engineer extraordinaire, who worked with Bob at GE before George became FNMI's chief

engineer.

The M134 has gone through a number of upgrades by different manufactures, each trying to deal with some of the idiosyncrasies of the system. HGD's engineering staff have many decades of experience in this area, and prospective end users should discuss the new delinker-feeder systems, variable rate of fire FCU, lightweight battery packages, caliber changes, and many other seriously functional upgrades. **SADJ**



The High Ground Defense team, left to right: Leaning on the M134 HGD, Steve Estep, president; Joshua Alexander, mechanical engineer; Randy Myers; Dan Curtis, supply chain; Wade Schmidt, systems and electrical engineer; Nathen Johnsen, mechanical engineer; Jay Goodrich, mechanical engineer, manufacturing.



The M134HGD has numerous advantages over existing M134 type Gatling gun systems.



High Ground Defense's delinker-feeder loading system is unique and truly easy to use. Sliding the ammunition belt into the delinker-feeder is generally a three-handed job even with some of the newer open-door types. The HGD system allows the belt to quickly be held in position to start feeding, with one hand locking in place, then the doors can be closed. Clearing a link jam is also much easier with the amount of access provided.



High Ground Defense's machine shop features the DN Solutions (Doosan) DVF 4000 vertical 5-axis machining center (CNC). It has a 40-tool automatic tool changer which expands to 120 tools, allowing HGD to work with complex prototype designs and production. The DVF 4000 was chosen for its versatility. With linear scales on X, Y, and Z axis and rotary scales on the B and C axis, they can program extremely accurate positioning and repeatability. Manufacturing Engineer Jay Goodrich is intimately familiar with DN (Doosan) systems, having been involved in specifying, selling, and installing CNC machines in the past. The Lynx 2100LSY- horizontal lathe is another DN Solutions offering. A highly accurate CNC turning machine, it has wider support structures for the X and Z axis, as well as the tailstock traverse. It's very stable, allowing for very accurate prototyping and production of parts. Like many modern manufacturers, HGD is heavy on engineering and quality prototyping with these capabilities, while sub-contracting some parts and operations to trusted vendors.



The HGD 7.62mm SAW is a belt-fed 7.62x51mm NATO light machine gun. There is no magazine feed, just the M13 disintegrating links. HGD also offers this in 6.5 Creedmoor as well as with suppressors. The steel receiver has an ArmorLube finish and the quick-change barrel is hard chrome-lined. It uses a mono-block gas system.



The HGD 249 is standard size, (shown) and the HGD 249CQB (not shown, but we were enamored of it) has an ultra compact receiver. Born from the M249 Para-style machine guns, the CQB system in 5.56x45mm has an overall length of 32 inches (813mm), a barrel length of 9.75 inches (248mm), and a weight of under 14 pounds (less than 6.35kg). The shortened steel receiver has an ArmorLube finish and a hard chrome-lined quick-change barrel. There is an optional folding stock. The rate of fire is around 800rpm. With the short barrel, the effective range is claimed as 800m. The 249 variants can be ordered without the magazine well capability.



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