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Reviewing Black Hills' MK 262 Mod 1 Ammo

by J. Guthrie | March 21st, 2012

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More often than not, when the military comes up with something worth having, civilians have to wait 20 or 30 years before it hits the surplus pipeline and ends up in their hands. All those wonderful CMP M1 Garands, M1 carbines, and 1903 rifles come immediately to mind, as do the Korea-era packs and canteens I hunted and camped with as a kid. Occasionally, a unique or utilitarian product ends up on shelves and in catalogs at the same time it rolls out of supply depots.

And that is the case with some of the best 5.56x45mm NATO ammo ever to come in a battle pack. Black Hills Ammunition worked for years, with first the U.S. Army Marksmanship Unit (AMU) and later the U.S. Navy, on a long-term project that resulted in MK 262 Mod 1. The project started out to develop ammo for competitors initially and

morphed its way into the magazines of operators. Civilian shooters can buy that exact same round—it just comes in a much prettier box—for improved downrange performance, accuracy, and lethality.

Black Hills President Jeff Hoffman has long described the company as either “a big little company or a little big company” that started with and specializes in .223 and 5.56x45mm NATO ammunition. At last count Black Hills cataloged 15 different new-manufacture .223 loads, three new-manufacture 5.56mm loads, 12 remanufactured loads, and several military-only 5.56 loads. The round count is in the tens of millions annually and includes everything from very frangible varmint ammo to heavy-for-caliber, long-range ammo.

In 1996 a retired Army officer approached Hoffman about pursuing a newly announced AMU ammo contract.

“I told him we didn’t know a thing about Army contracts,” Hoffman said. However, the colonel did, and combined with the company’s extensive .223 experience, Black Hills won the contract to produce 80-grain .223 ammo for 600-yard target work. The AMU wanted a certain velocity at a pressure that was within SAAMI specifications.

“I told them it was impossible, and it was, but we saved them 10,000 psi over what they were doing,” Hoffman said. “We won the bid.”

Because they have the best budget for ammunition development, and because it is their job to shoot really well, the rest of the military closely watches the AMU and what they shoot. In short order, Black

Hills had secured ammo contracts for most of the other military service competition teams. Everyone knew war-fighters would soon follow in their tracks.

In 1999 Hoffman was approached by engineers from Naval Surface Warfare Center, Crane Division (NSWC Crane) about developing a load for an accurized, suppressed M-16 that was eventually called the MK 12 Special Purpose Rifle (SPR). The Crane SPRs were built from mothballed M-16A1 lowers and had 18-inch barrels.

Over the next decade, name and configuration changes were as rampant as the rifle was successful, and other services were quick to employ similar guns. The Marine Corps Squad Advanced Marksman Rifle (SAM-R) and the Army Squad Designated Marksman Rifle (SDM-R), not to be confused with the M-14-based Designated Marksman Rifle (DMR) and Enhanced Battle Rifle (EBR), are good examples of either straight copying of a great idea or dual evolution depending on whom you ask.

Despite the name, fore-end and stock configuration, optic choice, and camo pattern worn by the guy toting it, this new class of rifle needed new ammo that was both accurate and lethal out to 600 yards. Black Hills sent NSWC Crane a couple thousand AMU rounds as a starting point.

“We initially made a couple of changes to harden and militarize the round,” Hoffman said. “We started with .223 brass and then went to

mil-spec 5.56mm brass. We added a flash suppressant, and the velocity was bumped up 150 fps, too, so we were getting 2,700 to 2,750 fps at the muzzle.”

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Several bullets were used during the development process, including the 73-grain Berger, 77-grain Sierra MatchKing, and 77-grain Nosler HPBT. Black Hills finally settled on the MatchKing when Sierra agreed to put a cannelure on the bullet. Hoffman said there was no perceivable difference in accuracy between the different bullets in real-world rifles, but in test fixtures Sierra's bullet proved slightly more accurate.

"It was tough convincing Sierra to put a cannelure on that bullet," Hoffman said. "They were really concerned about destroying accuracy, but we didn't want a bullet stuffed back into a case to render a rifle inoperable. We are big believers in Murphy. If he can get involved, it won't happen in training; it will happen when some SF guy kicks down a door in Afghanistan."

Accuracy was exceptional, certainly an improvement over M855, though Crane's spec is still considered sensitive and Hoffman would not reveal the details. He said the accuracy spec is tighter than any other small arms round in the U.S. military's inventory. Some research revealed that the ammo had to hold MOA groups, or 3.5 inches at 300 yards, over five 10-shot groups.

“The max effective range [of the M-16A1] with the original M193 ammo was 460 yards,” Hoffman said. “We’ve come a long way from that and have reports of successful engagements past 800 yards. I’ve shot out to 1,100 yards with it.”

For the idly curious, with a 100-yard zero, MK 262 Mod 1 requires 37.25 minutes of come-up at 1,000 yards (elevation 2,500 feet), at least in Hoffman’s rifle.

The name changed with each modification. MK 262 Mod 0 was adopted in 2002, Mod 1 came along in 2003 with the cannellure, and an improvement to temperature sensitivity came along in 2005. Hoffman said the last change came after Black Hills technicians noticed some failures to extract (FTX) in their test M4 and short-barreled rifles, and that it was the most difficult problem to solve.

“We initially thought the FTXs were possibly related to higher port pressures,” Hoffman said. “The M4’s port pressure is around 25,000 psi, much higher than the SPR due to the location of the gas port on the respective guns. We looked at brass, powder, everything.”

It finally came down to chamber temperature. The test specification called for the ammo to be baked at 125 degrees for two hours and not exceed pressure limits when then chambered and fired. When Black Hills engineers started firing test guns far beyond the specified rate of fire, the chamber temperatures got much hotter than 125 degrees. In an extended firefight, soldiers could heat up their rifles with a few

mags, and then during a lull in fighting, a chambered round would sit in a 200- or even 300-degree environment. That significantly increased chamber pressures and induced failures to extract.

“After we figured it out, I was surprised that it hadn’t come up before,” Hoffman said. “We’ve gone from bolt rifles to eight-round Garand clips to closed-bolt, select-fire rifles. SF guys never had an issue because they are trained to fire two or three rounds per target and very rarely go full auto.”

It only took Black Hills 75,000 rounds to sort out the problem—a chunk of the 250,000 rounds Hoffman figures the company fired developing and lot-testing the load. Finally, the round was issued. Interestingly, the ammo always did meet specs, even the ammo that Black Hills engineers felt needed improvement—they just found a way to make it better. The Navy began changing test specifications based on what Black Hills learned—and shared—during development and testing. The improved round was a hit, no pun intended, with operators in-theatre, and usage went through the roof. Not only did the ammo perform well for its intended purpose—long-range shooting—but did equally well in short-barreled rifles like the M4 (14.5-inch barrel) and MK 18 (10.3-inch barrel), which leads to a discussion of lethality.

“The assaulters were stealing it from the snipers, so we had to make more,” Hoffman said.

The MK 262 Mod 1 projectile is an open-tipped match (OTM) bullet, though it does not expand in the manner of a conventional hollowpoint. In fact, the hollow cavity is not there to induce expansion; it's there to put the majority of weight towards the projectile's rear so that it is more stable in flight and increase accuracy. Because it is not designed to expand and cause “undue suffering,” that critical phrase in the Hague Conventions regarding ammunition, the Navy's Judge Advocate General Corps approved the round for use in combat. The same reasoning was applied to the Marine Corps 62-grain SOST round (MK 318), also an OTM design.

When the bullet strikes soft tissue, the heavier base comes around and causes the bullet to yaw, or tumble. The hollow nose cone breaks off and often the bullet fragments at the cannelure. This happens across a wide range of the velocity spectrum, which is why MK 262 Mod 1 proved effective in SBRs in addition to the longer-barreled SPRs. M855—or “Green Tip”—ammo was designed for battles with a body-armor-equipped army, hence the name “Penetrator.” On unarmored targets, it just zips through like it was designed to do. MK 262 was a better option for the enemy the military was fighting in Iraq and Afghanistan, though the round obviously does not penetrate as much as M855.

I spoke with a good friend with multiple combat tours in both Iraq and Afghanistan. His experiences as both a Special Forces sniper team leader and assaulter offered a unique perspective on ammo

performance. As a sniper, MK 262 was his preferred round (when he was not using 7.62x51mm NATO), and he said simply, “It’s the best, most accurate round the Army has ever issued.” When carrying the shorter SBR, he ranked Hornady’s 75-grain TAP as the most lethal, followed by MK 318 and with MK 262 riding herd at third. Anything was better than M855 in a CQB environment.

“All 5.56 rounds suck out of SBRs, but MK 262 is way better than M855,” he said. “The only time M855 shines is when you are shooting through intermediate barriers like car doors.”

The public was first able to get its hands on MK 262 in the form of cosmetic blemishes, sold in bulk by Cabela’s and other select Black Hills dealers. Every round is inspected, and, well, Black Hills had to do something with scratched and dented cartridges, though the imperfections are generally so minor that the untrained eye cannot see why they were pulled from military runs.

“The round developed a cult following, even packed as cosmetic seconds,” Hoffman said. “So last year we started offering it to the public. The only difference is the packaging—it is the exact same ammunition as is delivered to the U.S. military—loaded to the exact same specs. The guy shooting iron sights at beer cans at 100 yards probably has no reason to shoot this, but a man that has the skill and firearm to extend the range, this is his round.”

Sold in 50-count boxes for around \$1 per round, with a rather

mundane “5.56mm 77-Gr. OTM” printed on the label, there is little to separate it from other Black Hills offerings. But in the right rifle at longer ranges, shooters can really see a difference in accuracy, wind drift, and terminal performance. On the battlefield the same stuff in plain, 20-round cardboard boxes printed with “5.56mm SPECIAL BALL, LR MK 262 MOD 1” can be found in the packs of any soldier, sailor, or Marine looking to extend the range of his optically sighted precision rifle or increase the lethality of an SBR.



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Harpo • 2 years ago

Question.....Is the Hornady's 75 grain TAP, mentioned above as the most lethal for short barrels, the BTHPT2 TAP 75 #8126N ?

7 ^ | ▾ • Reply • Share ›



Hobie • 2 years ago

I hand-loaded the 77 gr. MK and fired it in my 16-1/4" 1:9 twist barrel and the bullets impacted point first all the way to 150 yards. Accuracy was no worse than any other load and I think it was better but I don't have a record of that as we're now many months down the road from that test.

1 ^ | ▾ • Reply • Share ›



Dave B • 2 years ago

Don't know about short barrels, but I can tell you that it works extremely well in my Savage 110FP with a 1-in-9 twist rate.

1 ^ | ▾ • Reply • Share ›

**Chase** • 2 years ago

I heard that HPR Ammo is cooking up something in the ballpark of this MK but different. I'm loving how we now are seeing options on the market. Great article.

^ • Reply • Share ›

**David R Ball** • 2 years ago

Buy a box and find out if you have questions if it works in a Mini 14 if the chamber is for 5.56 your good if not I do not know. By the way this ammo will work in short barrel M4's that's why Black Hills had to make more. Everyone was using it not just the snipers... I was just concerned about the rate of twist required of which I have on my Double Star lower and BCM upper system I built with a 1/7 barrel. What makes this load work is the 77 grain Match King and the way it moves through the target on impact, IE not just punching a small hole in and out but on which tumbles on it way through.. This ammo is the real deal, and out ranges the 7.62X39 MM by far.

^ • Reply • Share ›

**Shawn** • 2 years ago

Jim the Ruger Mini-14 Ranch Rifle has a 1 in 9 twist rate and only an 18" barrell! So no i dont beleive this ammo would work out for you! Who knows try it for yourself and tell us your results!

^ • Reply • Share ›

**James** • 2 years ago

Howdy.

i have a Ruger mini 14 Ranch Rifle wonder if this ammo will work in it?

Semper Fi.

Jim.

^ • Reply • Share ›

**lshoot48"groups@100yds-suckit!** → **James** • 4 months ago

It really is weapon dependent, ive seen 1-9 twist AR's shoot 77gr rounds no problem and then ive seen other 1-9 twist AR's keyhole them at 100yds.

Also the standard "only use ammunition chambered for your rifle" blah blah blah should be said but i wouldnt worry about running 5.56 in a .223 rifle, yeah nato specs are higher tha SAMMI specs on paper but

they are measured differently so I dont worry.

^ [v] • Reply • Share ›



Ron C. • 2 years ago

I was able to maintain a 1.2 MOA at 200 meters with a hand built M-4 based on a Doublestar chassis w/ 1-8 twist rate. a full 1" better than M855. Black Hills is, without question, the ammo company for operators out on the pointy end of the spear!

^ [v] • Reply • Share ›



geo1 • 2 years ago

Probably not a 1:9. and barrel shorter than 20in.have read many articles saying anything greater than about 68 grn becomes somewhat unstable with the 1:9 twist and shorter barrels??

Kindest Regards...

In God We Trust...

^ [v] • Reply • Share ›



David R Ball • 2 years ago

So any info on what rate of twist that the ammo likes ?

^ [v] • Reply • Share ›



flashback ➔ **David R Ball** • 2 years ago

1in7 or1in8

^ [v] • Reply • Share ›



Glenn • 2 years ago

Great info! Going to have to get some and try it in my LWRC.

^ [v] • Reply • Share ›

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