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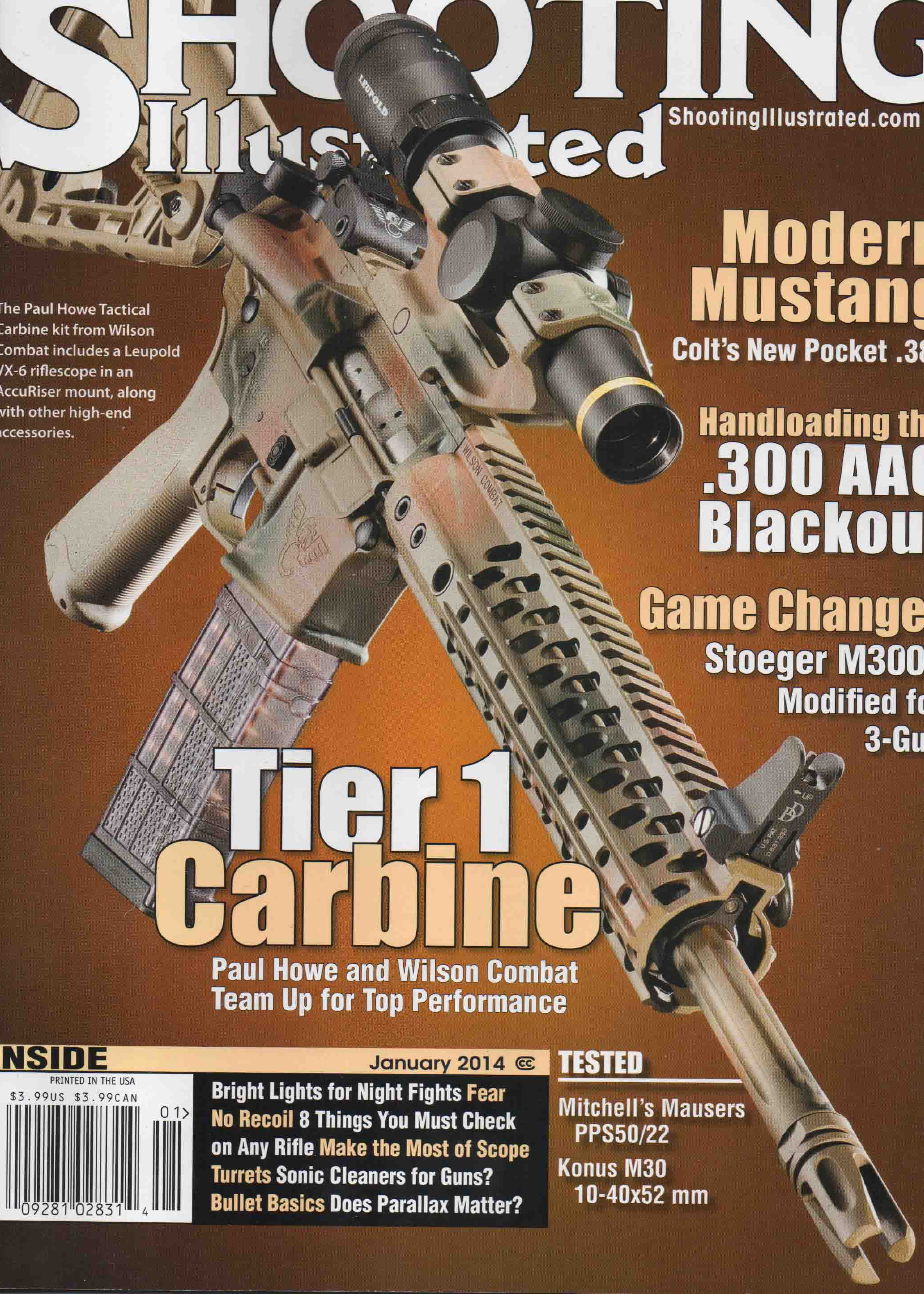

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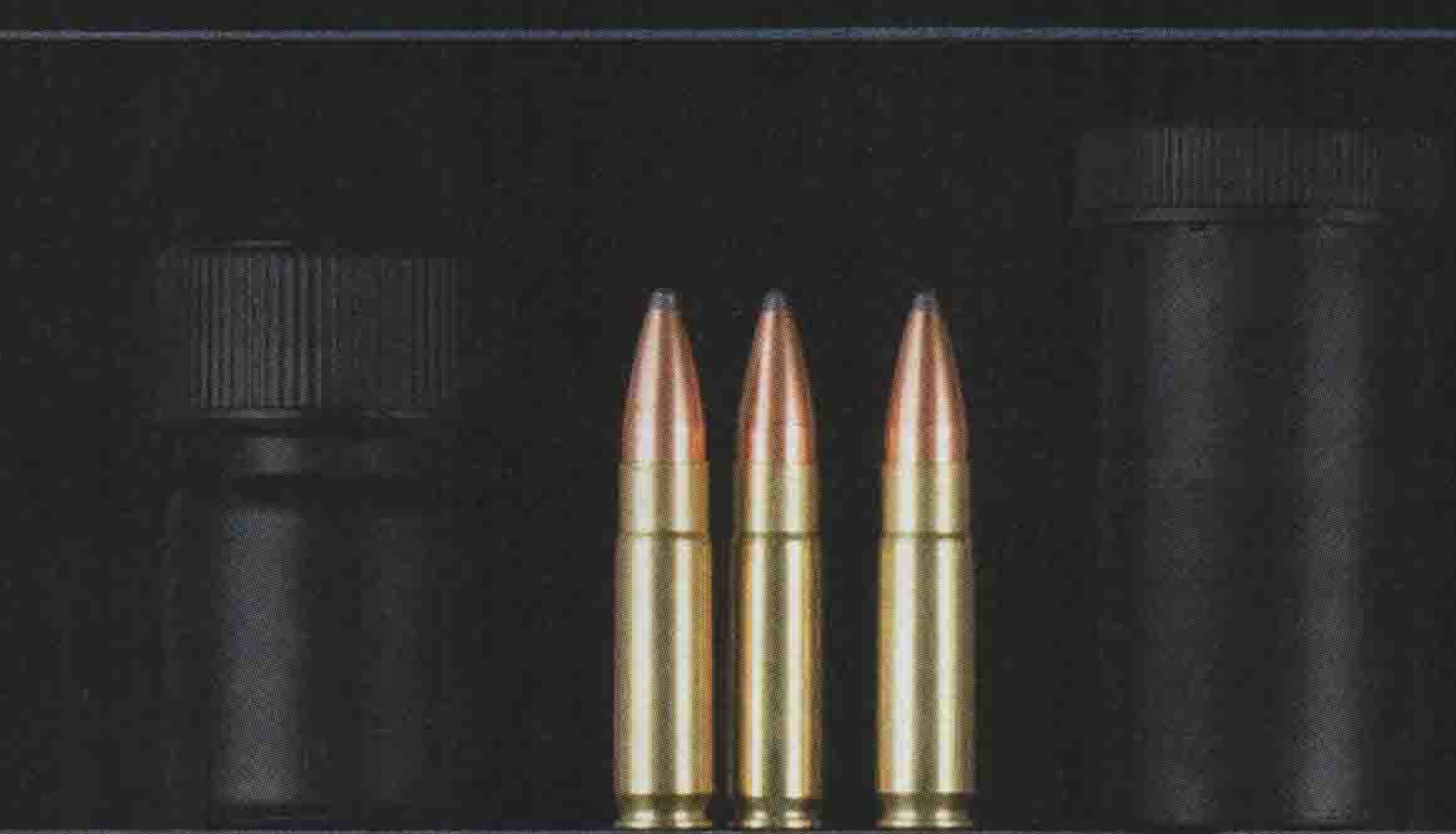

Follow these prescriptions to get the most out of the .300 AAC Blackout.

By Richard Mann

After testing 11 currently available .300 AAC Blackout factory loads, I came to a couple conclusions. I could see no real advantage offered by the .300 Blackout in supersonic form over the .223 Rem. However, I found the .300 Blackout clearly has a subsonic advantage and, in turn, offers more versatility—as long as the AR chambered for the round is equipped with an adjustable gas block to

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maximize reliability. (For details on the test and full results, visit ShootingIllustrated.com.)

Later, I wondered if it was possible to do something with supersonic handloads that would change the game. I rounded up a variety of bullets I suspected would offer terminal performance not available from factory supersonic ammo, and then went to work at the loading press. Just for kicks, I also assembled subsonic loads with two heavyweight bullets.

PRESCRIPTION 1

Bullet: 110-grain Sierra HP
Powder/Charge: Hodgdon Lil'Gun 20.0 grains
Primer: Federal Small Rifle
Cartridge Overall Length: 1.89 inches
Muzzle Velocity: 2,402 fps

Designed as a varmint bullet for .30-caliber rifles, the 110-grain HP from Sierra offers massive internal damage over a short distance. The bullet almost exploded inside the gel block, shredding the first 8 inches. Its base, capped with a bit of lead core, penetrated to approximately 15 inches but was only about the size of an aspirin.

This load should also work well in a self-defense role where over-penetration is a concern. It was the fastest handload I tested. In fact, it was faster than any factory load I tested. There was, however, a concern: The load would only feed about 50 percent of the time. An adjustment in overall length might correct this problem.

PRESCRIPTION 2

Bullet: 110-grain Speer Deep Curl RN
Powder/Charge: Hodgdon Lil'Gun 19.3 grains
Primer: Federal Small Rifle
Cartridge Overall Length: 1.77 inches
Muzzle Velocity: 2,401 fps

Though I had used the 110-grain Speer Deep Curl for plinking quite a bit, I had never tested its terminal performance before this project. I was shocked. The bullet expanded the widest of any I tested and pushed to 15 inches, where it exited the bottom of the block. In the gel, it acted like a high-velocity pistol bullet, which it is—Speer designed it for the .30 Carbine cartridge.

This load was very accurate, besting the most accurate factory load I fired from the AAC MPW carbine by more than .50 inch. It would work well for defense and tactical applications; the bullet's bonded construction would help it hold together when encountering a barrier. Because velocity is critical to performance, this load should be a great match for an SBR.

PRESCRIPTION 3

Bullet: 125-grain Nosler AccuBond
Powder/Charge: Accurate 5744/20.8 grains (compressed)
Primer: Federal Small Rifle
Overall Length: 2.13 inches
Muzzle Velocity: 2,203 fps

This bullet was purpose-built by Nosler for the .300 Blackout and the .30 Rem. AR. Terminal performance was excellent. Accuracy was not. Either the bullet was slipping forward in the case when the cartridge was chambered, or the carbine just did not like the AccuBond. I loaded an additional 10 rounds using the original data and fired them through a CVA Scout with a 16-inch barrel. Maximum velocity deviation dropped from 139 fps to 35 fps, and the group shrank to 2.96 inches.

After speaking with Nosler, I think we found the cause. The AccuBond's jacket is thicker than most conventional bullets, and the core is not pure, soft lead, making it harder for a taper crimp to take hold. My conclusion is the 125-grain AccuBond needs a crimping groove.

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Tools like the RCBS Primer Pocket Swager are available to assist in reloading applications like removing crimped primers.

I subjected these .300 Blackout handloads to a testing protocol similar to the one I used to evaluate the factory ammo. To establish accuracy potential and velocity boundaries, I fired one, 10-shot group at 100 yards with each load. Next, I tested terminal performance by firing each load into blocks of 10-percent ordnance gelatin. I used an Advanced Armament Corporation (AAC) MPW carbine with a 16-inch barrel as the test rifle.

Terminal-performance testing yielded some interesting results, which are detailed in the accompanying sidebars, and so did the handloading exercise. You can get terminal performance beyond the reach of currently offered factory ammo from .300 Blackout handloads. In addition, my testing revealed it is relatively easy to assemble .300 AAC Blackout handloads—both subsonic and supersonic—that are more accurate than factory loads.

I took no special pains putting these loads together. The only prep work I did before loading was sizing the cases, tumbling them and chamfering their necks. That's it. Fired from the MPW carbine, the six supersonic handloads produced an average 10-shot group size of 3.30 inches at 100 yards. That's including two dismal groups caused by the inability to taper-crimp

Nosler bullets. Take those two groups out of the mix, and the average group size falls to 2.42 inches—more than .70 inch better than the average for the six supersonic factory loads I tested in the MPW carbine. The most accurate handload beat out the best factory load by .60 inch when both were fired from the same gun.

There's a narrow band of powders that work well with the .300 Blackout. If you're trying to create supersonic loads with long, 150-grain or heavier bullets, you'll find powder space is limited. Best results are found with bullets between 110 and 125 grains.

CVA Scout

Expect to spend between $700 and $1,000 for an AR upper in .300 AAC Blackout. If you don't have that much cash lying around, there is another, much less expensive option. The unique little CVA Scout single-shot rifle retails for less than $300.

The Scout has a 16.5-inch barrel with a 1:8-inch twist and a threaded muzzle. With a 1-4X Leupold scope on board, it weighs less than 7 pounds. Having an overall length of just 33.5 inches, it's every bit as compact as most M4-style carbines.

I used the simple, break-action Scout a good bit while working up .300 Blackout handloads and did some accuracy testing with it, too. Are you ready for this? The Scout shot every load I tested better than an AR. When I did my part, sub-MOA, three-shot groups were not a problem. I could shoot any load—supersonic or subsonic—without having to worry about bullet set-out or cycling problems. Could the single-shot rifle be the best platform for the .300 Blackout? That's another story altogether, but I'm keeping the CVA Scout. MSRP: $484.95; (770) 449-4687, cva.com

—RM

You will have to tweak subsonic handloads based on your rifle and the ambient conditions in order to get consistent subsonic performance. The speed of sound is not a constant. You may discover published data will generate supersonic loads, and you may need to reduce powder charges to ensure each bullet remains subsonic.

The only problem I ran into while handloading the .300 Blackout was with bullet set-out when the cartridge was chambered. With some loads—particularly those using the 125-grain Nosler AccuBond and 150-grain Nosler Ballistic Tip—the bullet would migrate forward in the case when the cartridge entered the chamber. This had a horrible effect on accuracy. Set-out was a noticeable problem only with the Nosler bullets, but it could have been occurring with other bullets, too, and just not showing up as glaringly on target. I spent several hours chambering dummy cartridges with a variety of bullets and measuring set-out, and in fact, I found it occurred to some extent with every bullet tested.

The set-out problem is caused by inadequate neck tension and trying to taper-crimp cases that are not all exactly the same length. If you're going to taper-crimp, trimming cases to the same length will take care of half the problem. Neck tension can vary between pieces of brass. The best way I've


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The short case length of the .300 AAC Blackout means available space for propellant is at a premium, especially with heavy bullets.

PRESCRIPTION 4

Bullet: 130-grain Barnes TTSX
Powder/Charge: Accurate 1680/18.8 grains
Primer: Federal Small Rifle
Overall Length: 2.18 inches
Muzzle Velocity: 1,919 fps

Bullets in the Barnes Triple-Shock family typically need more velocity than traditional cup-and-core bullets to expand, and the .300 Blackout just does not generate a lot of velocity. In previous testing, the special-built 110-grain Barnes TTSX bullet loaded in the Barnes Vor-Tx and DoubleTap Tactical offerings delivered the usual, outstanding Triple-Shock terminal performance. However, the 130-grain TTSX did not, mainly because the heavier bullet could not achieve as much velocity. With an impact velocity of 1,920 fps, this bullet did not expand at all and begin tumbling when the polymer tip came off after about 12 inches of penetration.

The 110-grain Barnes TTSX bullet is a better choice for the .300 Blackout than its 130-grain cousin, but there is another lesson: If you're loading this bullet for a faster-shooting .30 caliber, when impact velocities drop below 2,000 fps, do not expect expansion.

PRESCRIPTION 5

Bullet: 130-grain Hornady SP
Powder/Charge: Hodgdon Lil'Gun/19.0 grains
Primer: Federal Small Rifle
Overall Length: 2.02 inches
Muzzle Velocity: 2,259 fps

If you're looking for a multi-purpose load for the .300 AAC Blackout, this may be the best bullet. With an impact velocity of more than 2,200 fps, the Hornady SP bullet achieved a frontal diameter of more than .50 inch when shot into gelatin. It penetrated as deep as any of the lead-core bullets loaded in the factory loads I tested.

This load was also the most accurate tested among both supersonic factory offerings and handloads. In the AAC MPW carbine, the 10-shot, 100-yard group measured 1.81 inches.

PRESCRIPITON 6

Bullet: 150-grain Nosler Ballistic Tip
Powder/Charge: Hodgdon Lil'Gun/17.0 grains
Primer: Federal Small Rifle
Overall Length: 2.18 inches
Muzzle Velocity: 2,058 fps

In supersonic loads, 150-grain bullets are on the heavy side for the .300 Blackout. The cartridge simply cannot push them fast enough to ensure expansion. This was the case with the Nosler Ballistic Tip, which showed almost no expansion through the first 8 inches of penetration. When the tip came off, the bullet slightly opened up and began tumbling, which caused the core to separate from the jacket. Penetration was deep due to lack of expansion, but the wound cavity was narrow.

Like the 125-grain Nosler AccuBond, this bullet delivered sub-par accuracy in the AAC carbine. I immediately assumed the same bullet set-out problem was to blame, so I also tested it in the CVA Scout. Group size was halved to a respectable measurement of around 2 inches.

found to solve this problem is to size brass without the expander ball in the die. You can substitute a smaller-caliber expander ball, or you can de-prime in a different step with a universal de-primer.

This process provides substantially more neck tension, and when employing the technique with the .30 Rem. AR, I did not have to taper-crimp bullets weighing less than 150 grains. Although .30 Rem. AR brass has thicker neck walls than .300 AAC Blackout brass, sizing without the expander ball will still increase the neck tension in loads of the latter. For what it's worth, sizing brass without the expander ball also goes a long way toward keeping case necks straight, which generally results in solid accuracy.

Finally, some .300 AAC Blackout brass has crimped primers, and there seems to be no rhyme or reason for this occurrence. I found some—but not all—Hornady and Remington brass had crimped primers. None of the primers in Lehigh Defense brass were crimped, but all of them in the Federal brass were crimped. The RCBS Primer Pocket Swaging tool will correct this, but taking care of the issue is a time-consuming affair. However, you'll only have to do it once.

Even after handloading, I still believe subsonic shooting is the forte of the .300 AAC Blackout—just as J.D. Jones envisioned with the cartridge's predecessor, the .300 Whisper. If your first priority is subsonic performance from a .30-caliber AR, go with the .300 AAC Blackout and heavy bullets. On the other hand, if you are looking for a high-performance, supersonic cartridge that will run in an AR, there are better options in a variety of calibers. Should you want performance at both ends of the velocity spectrum, then the .300 AAC Blackout is a good choice, and you can make it even better by using a variety of bullets and recipies through handloading.

PRESCRIPTION 7

Bullet: Berger 190-grain VLD Hunting
Powder/Charge: Accurate 1680/12.2 grains
Primer: Federal Small Rifle
Overall Length: 2.22 inches
Muzzle Velocity: 1,187 fps

Since I was deep into this handloading project and had a lot of brass left over from testing the factory ammo, I figured I might as well assemble some subsonic loads. I chose two Berger VLD bullets, the first of which was the company's 190-grain Hunting version. I used load data from Hodgdon and Accurate, but my first attempt yielded supersonic velocities. (At my location the speed of sound was about 1,143 fps on the test date.) After reducing the powder charge, eight of the next 10 rounds were subsonic.

Even with vertical stringing apparent—a result of the supersonic/subsonic velocity mix—the 190-grain VLD load was more accurate than any of the subsonic factory loads I tested. The VLD Hunting bullet is designed to expand, but not at subsonic velocities. It penetrated more than 32 inches in gelatin and showed no expansion. Two of these loads failed to fully cycle the action of the AAC MPW carbine.

PRESCRIPTION 8

Bullet: Berger 210-grain VLD Target
Powder/Charge: Accurate 1680 11.8 grains
Primer: Federal Small Rifle
Overall Length: 2.22 inches
Muzzle Velocity: 1,137 fps

With the 210-grain Berger VLD Target handload, four of the 10 rounds were above the speed of sound even after reducing the powder charge. Although the velocity variation did nothing for accuracy, this load was still more accurate than every factory subsonic offering except one.

Just like with the 190-grain VLD handload and most factory subsonic loads, bullet expansion was nonexistent and penetration was excessive. None of the 210-grain VLD handloads cycled the carbine's action.

Terminal Performance Testing

Bullet	Impact Velocity	Penetration	RD	RW	Notes
110-grain Sierra HP	2,391	14.25	.33	25.0	Fragmentation
110-grain Deep Curl	2,411	16.00	.60	95.6	
125-grain Nosler AccuBond	2,222	23.00	.50	102.0	
130-grain Barnes TTSX	1,920	23.50	.30	129.0	No Expansion
130-grain Hornady SP	2,241	20.00	.54	95.6	
150-grain Nosler Ballistic Tip	2,060	21.8	.42	118.0	66.0 (jacket) 52.0 (core)
190-grain Berger VLD (H)	1,141	32+	.30	190.0	No expansion
210-grain Berger VLD	1,137	32+	.30	210.0	No Expansion

Each load was fired into blocks of 10-percent ordnance gelatin positioned 15 feet from the muzzle. Impact velocity was obtained with a Shooting Chrony positioned in front of the gel block. Temperature: 68 to 87 degrees Fahrenheit. Penetration indicates the point in the gel block where the largest piece of the bullet came to rest in inches. The recovered diameter (RD) was measured in inches across the face of the bullet in two spots and represents the average of those two measurements. The recovered weight (RW) is the weight in grains of the largest portion of the bullet. Testing was conducted at an elevation of 2,200 feet above sea level.