# GUN TESTS®

THE CONSUMER RESOURCE FOR THE SERIOUS SHOOTER

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## GO-BAG RIMFIRE RIFLES

**All three of these handy 22 LRs can be comfortably stuck in a go-bag or backpack. Tested: Ruger's 10/22 Takedown, the Savage 64 Takedown, and the KelTec SU22CA.** ● Page 6



## 10MM AUTO STOMPERS

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## 9MM AMMO TEST

**To find an all-round self-defense load that would do its job in four different barrel lengths, we loaded up and shot 2000 rounds in short-barrel compacts, full-size pistols, and a handy carbine. To see the surprising results, turn to...** ● Page 28


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# DOWNRANGE

## MAKING CHANGES SLOWLY



*Todd Woodard*

**B**ecause GUN TESTS magazine is subscriber driven (no ads), we make changes in our reporting on a rolling basis when enough readers ask for certain things. Two changes I've made in how we present information have been in place for a couple of issues now.

Over the years, readers have mentioned how they had to turn back and forth between pages to compare data in the modules — which are the boxed items that contain the gun name, grade, recommendation, images, and specifications. So, a few months ago, I started putting all the modules on a spread, that is, two facing magazine pages. That works for up to four guns for most gun types. If there are more than five firearms in a test, which is rare, I put the modules on two consecutive spreads, so at most you have to turn only one page to compare the specs.

That change in how to present the data in the modules also allowed me to enact a second reader-driven request: to put similar detail images for all the guns together, so readers can inspect them side by side. You know, triggers with triggers, disassembly with disassembly, buttstocks with buttstocks, and so on. Now that I've looked at a couple of issues' worth of those changes, I've begun to like them, in particular the "ganging" of detail images. Placing like images near each other does help show functional differences in the firearms, which I think helps you make a decision about buying a gun or not.

I was pretty sure those two changes would meet wide acceptance from our eagle-eyed readers, and the email I've received from readers who've noticed those changes has been completely positive. I say "completely positive" as a qualifier because when we went to four-color images many years ago, I heard some grumbling. Then, when we switched to coated paper rather than matte, there was grumbling then, too. Seems the coated paper was not as effective as an eliminatory aid, a use which really makes me proud professionally.

We're considering making another change, and this one I want to announce and explain. We've had some readers say they prefer to know what to buy, and they don't really care about detailed information on what *not* to buy. Generally, that means they want to know every detail about a gun that gets a grade of **A-** or above, and they don't really care that much about any product that scores a B or below. By shortening the reporting on so-so guns, we create space to add more guns in each issue. And everybody would like to see more gun reviewed.

So in this issue, I began that process by reducing the total amount of words and pictures on a **B** product, the Browning 9mm load on page 30. There will be more occurrences of this going forward, so send me an email about whether you like the shorter treatments for the second-level guns, or not.

**GT**

**GUN TESTS CREDO**

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# Don't Penalize the Gun

*Reader Steven talks about the unfairness of downgrading a handgun for the round it's chambered in being in short supply. Reader Carl wonders how mini-shells would have functioned in his Tac-13.*



**Re "Big-Bore Striker-Fire Pistols: Lone Wolf, S&W, and Glock," August 2020**

I am disappointed with your decision to downgrade the Glock G37 in your most recent handgun-comparison test. By your own published standards, the availability of ammunition is not a criterion for assigning a grade to a gun. Even cost is listed as being excluded from consideration, with function, accuracy, and ease of use being the main standards for assessing a gun's merit. And while a lack of available ammunition could conceivably be included under "ease of use," I feel that is disingenuous.

If a new pistol were released that is comfortable, reliable, and accurate, I don't care if it's chambered in 8mm Lebel — mention the lack of available ammo by all means, but don't penalize the gun for the ammunition it fires.

One of the reasons your publication is held in high regard is the objectivity you display in your assessments. Applying the standards fairly across the board is what allows the reader to judge whether or not a given firearm is appropriate for their needs. By suddenly using ammunition availability as a criterion for grading, you diminish the value of your reviews.

I enjoy your publication, and find it to be one of the very few places to find honest appraisals of firearms I might consider purchasing; please do not lessen the value of your product by bringing in things like ammunition availability to rate the firearm itself. **— Steven**

*Steven: Thank you for your email. It was a hard call on the G37 because it is obviously an excellent pistol. I hope that came through in the writing. My dealer doesn't stock 45 GAP and ordering online for the GAP is more difficult than for 10mm Auto or 45 Auto cartridges, so it's a factor shooters need to consider. But I understand why you disagree with the availability being included in the grade.*

*In my opinion, if the 45 GAP debuted prior to the 40 Auto, the 45 GAP would have eclipsed the 40 Auto. — Robert Sadowski*

**Re "12-Gauge Mini Shells from Federal, Aguila, and Nobel," August 2020**

I just got this issue and went right to the "Ammo Comparison" article regarding the short home-defense shotgun shells. I observed you didn't use a device I found that all but guarantees correct feeding of the shorter shells. OPSol, of Texas, makes a Mini-Clip for Mossberg shotguns that's push in-




**GUN TESTS REPORT CARD GRADING**

**Gun Tests Grade: A**
A gun with this rating functions perfectly, shoots accurately, and exhibits comfortable, easy use for its owner. We may prefer one gun over others based on its unusual accuracy, superior performance, unusual features, or nice cosmetics. We recognize such a gun for these traits without regard to its cost.

**Gun Tests Grade: B**
We give this ranking to a gun that functions appropriately for its category, but which might not do as well in major areas as an **A**-ranked gun.

**Gun Tests Grade: C**
We may have reservations about some aspect of a gun's performance or pricing. We express those reservations so the reader can balance our concerns with his or her needs.

**Gun Tests Grade: D**
Some aspect of a gun's performance — in particular, safety, function, or accuracy — doesn't meet our standards and isn't easily resolved.

**Gun Tests Grade: F**
Some aspect of a gun's performance is dangerous, inappropriate for the category, or is likely to fail.

pry out and ensures feeding. I put one in my Shockwave, also a full-size Mossberg M500 with extended mag tube. The Aguilas have worked 100% for me. I contacted the company, got a couple more remodeled ones, and gave one to a friend who teaches police tactics to try out. He also reported later that he was 100% reliable with that little device. You might want to look into them, under $20. — **Mark**

*Hey Mark: Yes, we've talked about the OPSol and covered it extensively in reviews of shotguns, especially Shockwave-style shotshell firearms (What a mouthful). We wanted to look at just the shotshells themselves to alert self-defense shotgunners about the problems these shorties can cause. — Todd Woodard*

Just received and read the article on page 28 of the August issue, and while you talk about the Remington V3 Tac-13, nothing was said in the article about whether it was tested or how it functioned. The reason I asked is because I have a Tac-13. Also, while the Tac-13 only has a 13-inch barrel, the magazine holds five rounds of 2.75-inch shells. — **Carl**

*Hey Carl: You're right, we didn't test a V3 Tac-13 this round. We just mentioned that "Shotshell-capable firearms that created the need for mini-shells are items such as Remington's 12-gauge V3 Tac-13 Autoloader 83392 and Mossberg's 590 Shockwave SPX 50648 pumpgun. The shortened barrels and magazine tubes put a higher value on having more shots, and controllability is improved with the lighter minishell payloads." Our test guns for the shotshell-function evaluation were a Remington 870 and Advantage Tactical stock with the original four-shot magazine. After initial testing we also attempted to use the shells in a Winchester SXP and a Mossberg 590A, with the same results. We also ran some shells through a Benelli Super*



*90. Our idea was to illuminate problems the shorter shells caused in standard shotguns, of which there are millions out there, and the notion of gaining round count or lessening recoil would be tempting for gunowners to consider. Our last evaluation of shotshell-firing firearms was in the March 2019 issue, with a Remington Model 870 Tac-14 Model 81145 20 Gauge fired with standard-length shells. No issues with the full-size rounds. — tw*

What a surprise to read the results of your ammo tests with short shells in the August 2020 issue. With the adapter in the loading port, I have fired hundreds of rounds through my Shockwave 590 without a single failure to feed with Aguila shotshells. At the range, I use slugs rather than buckshot, but I figure the gun doesn't know the difference. I'm fully satisfied with these rounds as a defensive load. — **Stan**

### Re "A Supreme Disappointment," Aug. 2020

Why is it that we gun-owning people are not demanding, and perhaps suing, to force our elected officials to defend, not try to tear down, the Constitution of the United States? Playing a defensive game is a losing battle; we need to go on the offense and demand that our elected officials either support the Constitution or remove them from office. To me it sounds like it would be easier to demand their accountability than to always be on the defensive.

As a naturalized American citizen, previously of Cuba, I'm very proud to be a U.S. citizen, and I get tired of people thinking that their views on any particular subject are more important than mine simply because they happen to be in a majority, or at least sounding like a majority, since most of the media is in support of restricting law-abiding citizens' rights. — **Julio**

*It is a vexing problem. Folks say we have to amend the Constitution, which is a very difficult process, in order to get our rights sustained. But the Supremes, and the lesser courts, effectively amend the Constitution nearly every day by "interpreting" it. Wrongly, much of the time. Sadly, it is next to impossible for elected officials or appointed officials to be sued successfully for their lack of adherence to their oaths. I would imagine most officials just guffaw at the very notion. As a naturalized American citizen formerly of Cuba, you have an important view of things that many long-time citizens should heed. — tw*

### Sale of Test Guns

Hello GT Editors. I have heard that after testing, you sell the firearms. If this is true, I would be interested in the Taurus 1911 Commander in 9mm, tested in the May 2020 edition. If the above is not true, please disregard this request, I received faulty information. Thank you. — **Dale**

*Hey Dale: Once upon a time we did list our test guns for sale on GunBroker.com, or sold them locally near where a given test is conducted. The truth is, we haven't had any to list in several years, and I don't expect to resume test-gun sales. — tw*

### Magnum Shotshells in Older Gun

Hi Todd, I need your help, please. My good friend has an old 12-gauge pump shotgun. Not "old as in ancient." Probably made in the 1950s, here in the USA. He has it

only for self defense in his home. It takes 2¾-inch ammo. My question: Is his shotgun safe to use with 2¾-inch magnum 00 buck ammo? Or, to be safe, should he try to find non-magnum 2¾ inch 00 buck (if it is even still sold)? I don't know if this question has ever come up to you before. But I know you will know! Thanks in advance, Todd. GUN TESTS is the best! I've been a subscriber for years, and I eagerly read every issue. I especially enjoy and appreciate your editorials.

**— Phil**

*Phil, you are indeed a man of thoughtfulness and culture. Your parents must be praised for the quality of your upbringing. I wouldn't want to shoot 2¾-inch magnum 00 buck ammo in an older gun before I had a quality gunsmith inspect it. It's better to be sure. Moreover, there are many more 2¾-inch 00 buck standard loads that will do the job for self defense. So why take the risk on the higher magnum pressures? I checked MidwayUSA.com and found several loads that fit the bill. He might also find that reduced-recoil loads, such as those made by Hornady and Federal, are qualified for the job of self defense but don't dish out as much punishment. The image below, courtesy of MidwayUSA.com, is a Federal Premium Personal Defense 2¾-inch Reduced Recoil load (#1002097846) that would likely be fine in the gun. I'd still have the older shotgun checked out before I shot it. — tw*




### Plans for a Colt Python Review?

Hi GUN TESTS. Just curious as to whether (and when?) you might be reviewing the new Colt Python revolvers? Thanks, and thanks for your outstanding publication.

**— George**

*Hey George: Both barrel lengths are currently being tested. However, I can't commit to a delivery date until I have the article and images in my hands.*





### Re "Shoulder Holsters Compared," April 2020

Bob, your article several months ago and follow-ups on shoulder holsters are the best on the subject that I have ever read. I did a lot of research after reading your article. I am 74 years old and 5 feet 7 inches tall. I found drawing a full-size 1911 from a "vertical" shoulder holster to be a challenge. Stoner Holsters of Middletown, Ohio, (513) 424-3800, makes a vertical shoulder holster that has a breakaway snap that allows you to draw the pistol at about a 30-degree angle, as opposed



to a 90-degree draw [photo above]. I have the shoulder-holster rig plus holsters for a S&W Performance Center 1911 9mm, a Kimber 1911 45 ACP, and an S&W Performance Center 380 EZ. Plus, I have separate double mag pouches, for all three pistols. Please, check Stoner's out. Contact: Andrea Stoner.

**— Dr. Donald**

*Doctor, thank you for that holster recommendation. For those interested, the website address is StonerHolsters.com. — tw*

### Re "Pricier 1911 Handguns: We Test Five from $1.1K to $3.6K," July 2020

I really enjoy the more extensive reviews, such as "Pricier 1911 Handguns" in the July edition. It that test, the Springfield Armory Loaded Operator had an arched mainspring housing, a feature far less common today than in years past when Colt introduced it on the 1911A1 to provide better grip purchase. Could you tell any difference in the feel of the 1911 grip with or without the arch? Why has the arch fallen out of favor?

**— Larry**

*Fashions in firearms come and go. Some folks feel the arched housing and like it. That's it. — tw*

*We welcome mail from our readers. To send us comments or questions about previous articles in the magazine, email us at:* **GunTestsEditor@icloud.com.** *If you'll include the month and year of the article you're writing about, it's a big help. Also, please include your name, address, and phone number. We won't publish your personal information other than your first name, but we may need to contact you about material in your letter.* **GT**

# Go-Bag Rimfire Rifles from Savage, Ruger, and KelTec

*All three of these handy 22 LRs can be comfortably stuck in a go-bag or backpack, but our team would bug out with the Savage 64 Takedown over the Ruger 10/22 Takedown and the KelTec SU22CA.*

A 22 LR rifle makes a lot of sense in a bug-out bag, camping-gear duffle bag, or backpack. These rifles offer light weight, and they also allow the user to easily carry a lot of ammo compared to centerfire. We also like the 22 rimfire's ability to hunt as well as protect. What's particularly nice about these rimfire rifles is the user-friendly recoil. Because a user may or not be firearms trained, minimal recoil and low muzzle blast can make a shooter better and not create bad shooting habits.

With both doomsday or a family camping trip in mind, we procured three suitable candidates: a Ruger 10/22 Takedown, $372; a Savage 64 Takedown, $212; and KelTec's SU22CA, $373, with a folding stock. All are recent prices at ImpactGuns.com. All of these rifles offer the ability to be easily stowed in a bag, and the Ruger actually comes with its own discreet black bag. They are all lightweight — from 4 to 4.6 pounds — and accuracy at 25 yards ranged from really good to one ragged hole. These rifles performed without exception. The Savage did have one failure to feed with the first magazine, but thereafter it had no hitches. The cost of the rifles ranged from about $212 up to $372.

What is really important with these rifles is their agility and adaptability. They can go from a discreet carry-bag state to performing in a hunting or self-defense scenario and then back in the bag. The faster and simpler they do that the better. The Ruger shined in this criteria. The folding stock on the KelTec could pinch fingers if you weren't paying attention. And the Savage required quite a few turns to attach the barrel. Quickly assembling a rifle in a hunting situation is not really a need, but if a wolf is looking into your camp, we'd like the process to be as swift and easy as possible. The sights remain with the barrel on the Savage and Ruger, and they were both drilled and tapped on the receiver for use with a scope.

### How We Tested

We looked at ease of disassembling or collapsing the rifle, ease of use, ease of loading




*The Ruger (top) offered the most typical 22 rimfire shooting experience and included a case and scope mount. It was hard to tell it was a takedown rifle. The Savage (middle) was minimalist, basically a barrel, abbreviated stock, and magazine. The KelTec (bottom), while not a true takedown, still can be stowed in small bag. It also has some non-intuitive controls we called mystery buttons.*

the magazine, weight, ease in field stripping for cleaning, loss of zero with scope, and accuracy. We chose to collect test data for the rifles using the iron or plastic sights they were equipped with. We also mounted a red-dot sight and, as we expected, groups tightened up. We mainly wanted to see if the scope would lose zero with the Ruger and Savage after taking down the rifle multiple times. The Ruger and Savage required a mount, while the KelTec had a Picatinny-style rail built in. We did need to zero in the KelTec, which was shooting to the right. It is equipped with a unique and simple rear sight. The Savage shot low out of the box. The Ruger was dead on at 25 yards.

It's a plinker's nature to buy inexpensive 22 LR ammo in bulk, so we did just that; big cartons of 525 rounds of 38-grain CCI Blazer ($21), 500 rounds of 40-grain Remington Thunderbolt ($15), 500 rounds of 36-grain Winchester Xpert HV ($19), and 325 rounds of 40-grain Federal AutoMatch Target ($19).

Though we collected range data using iron sights, we did look for any shift in impact with the Ruger and Savage when using an optic. We mounted a Crimson Trace CTS-1300 reflex red dot ($199 from Brownells.com) with a red 3.5-minute-of-angle single dot. It comes with a Picatinny rail mount and was a good pairing with the rifles. The red dot had eight brightness settings and an auto turn off to prolong battery life. There are two buttons on the left side of the sight that powers on the dot and allows brightness adjustment. It is powered by a single CR2032 battery. We liked the easy way of replacing the battery; it fits in a tray and slides into the side of the sight. No need to remove the sight to replace the battery.

We tested accuracy at 25 yards and used our range bag as a rest. We checked our work with a Styrka spotting scope and did a double take with the Savage. Yes, it was really accurate. We also fired the rifles offhand at whole




*Here are the three rifles in their shortened states. From* ***top,*** *the Ruger has a serrated adjustable lock-up adjusting knob. The knob clicks when snug from finger pressure, so you can't accidentally over tighten it.* ***Center,*** *the Savage's barrel uses simple threading and a serrated nut. It is held in place with a spring-loaded detent to keep the barrel and receiver together. To attach the barrel, crank it on hand-tight, and you are ready to go shoot.* ***Bottom:*** *The KelTec's skeleton stock looked flimsy, but in fact was fairly ridged and stiff. A button under and behind the pistol grip is pressed to fold the stock downward. The stock will fold and click into place. Folding the stock is not intuitive, and users who did not read the manual pinched their fingers the first time.*

and pieces of clay pigeons placed on a dirt embankment at 30 to 35 yards. Did we say we had fun? The plastic aperture sights on the KelTec were the fastest to get on target, compared to the U-notch steel sights on either the Ruger or Savage.

These are very shooter-friendly rifles. They are, however, not without some quirks. We had a difficult time choosing which one we would bug out with, but the Savage pulled ahead when the dust settled. Here's why.

### KelTec Model SU22CA 22 LR, $373

The SU22CA is a typical KelTec rifle design that sandwiches the action between two halves of a polymer receiver. The SU22CA design holds everything together with 12 screws. It looks a bit Frankensteined, but we found what this mini-monster lacked in beauty it made up for in performance. It was the lightest rifle, weighing 4 pounds unloaded. It also had mystery controls, meaning the safety and bolt lock were not readily apparent with the first look.

The SU22CA has a similar design as the KelTec SU-16C, which is chambered in 5.56 NATO, and we suspect KelTec uses some parts interchangeably between the two platforms, such as the stock, trigger group, and receiver. The SU22CA is a simple blowback action; the SU-16C uses a gas-piston system. They are very different mechanisms. A recoil spring tube is positioned above the barrel and brings the bolt

into battery after a shot is fired and the empty case ejected.

The SU22CA does not have an automatic bolt stop, so the bolt will not lock back after the last round in the magazine is fired. We missed the bolt-hold-open feature. You can lock the bolt back manually by pulling the operating handle back and holding it, then press the mystery button and hold up on the bolt stop and slowly release the bolt handle. At first glance, the button looked like smooth steel and that it was part of the receiver. Little did we know that we needed to read the manual to discover it was a button, hence the mystery button nickname. The bolt stop does not look like a button; instead it is located between the forward part of the trigger guard and behind the mag well. The charging handle is a knurled metal tube that offers plenty of leverage and texture.

In the cardboard box was a smoke-colored polymer 26-round magazine X-Form manufactured by Black Dog Machine. It is the size of an AR-15 magazine. You could see inside the magazine, so it was easy to tell when you needed to fill up. Also in the box was a pin that required the new owner to insert it into the pistol grip to keep the trigger group secure to the receiver. We gorilla-ed the trigger group and the receiver together, and with the polymer being flexible, we were able to insert the pin. The assembly pin is removed when field stripping and cleaning the gun. We dropped it on the shop floor. Needless to say, we lost the assembly pin as easily as a week's pay in Vegas.

There was also a stumpy winged Phillips screwdriver in the box to adjust the rear sight. The front sight is attached to the recoil spring tube and is an adjustable post similar to an AR-15 A2 sight post.

The molding seam on the polymer was very pronounced and almost afforded as much gripping texture as the serrations molded into the pistol grip. The skeleton stock looked flimsy, but in fact was fairly rigid and stiff. The butt was serrated. A button under and behind the pistol grip is pressed to fold the stock downward. The stock will fold and click into place, so there is no fear it will become loose and swing out on its own. When in the folded position, you can insert the 26-round magazine and fire the rifle. You need to remove the 26-round magazine, however, to extend the stock. Folding the stock is not intuitive, and users who did not read the manual pinched their fingers the first time. Still, the process of folding and unfolding the stock becomes rote and quick with practice. The rifle measured

## KELTEC MODEL SU-22CA 22 LR, $373

### GUN TESTS GRADE: A-

While not a true takedown rifle, the folding stock on the SU-22CA makes it easy to stow and go. It performed flawlessly. There were mystery controls on the KelTec that were not intuitive. Fit and finish were not stellar, nor was the trigger, but we did get good accuracy. We felt it was a bit too pricey for the quality, but we did like this rifle.



| | |
|---|---|
| **Action** | Semi-auto, blowback |
| **Overall Length** | 34.0 in. |
| **Disassembled Length** | 24.5 in. |
| **Overall Height (w/o optic)** | 10.0 in. |
| **Weight Unloaded** | 4.0 lbs. |
| **Weight Loaded** | 4.2 lbs. |
| **Barrel Length** | 16.1 in. |
| **Barrel** | Blued steel |
| **Receiver** | Matte-black polymer |
| **Buttstock** | Textured black synthetic, serrated buttpad, sling studs |
| **Buttstock Length of Pull** | 13.5 in. |
| **Magazine** | (1) 26-round detachable |
| **Front Sight** | Steel post |
| **Rear Sight** | Adjustable aperture |
| **Trigger-Pull Weight** | 7.6 lbs. |
| **Safety** | Manual hammer block |
| **Warranty** | Lifetime limited |
| **Telephone** | (321) 631-0068 |
| **Website** | KeltecWeapons.com |
| **Made In** | U.S.A. |

## RUGER 10/22 TAKEDOWN MODEL 11100 22 LR, $372

### GUN TESTS GRADE: A (OUR PICK)

This has all the performance the iconic 10/22 is known for in a compact package. It is easy to clean and transport, and it does not suffer loss of scope zero when disassembling and reassembling. With the case and scope mount, you get more and pay more with the Ruger.



**Action** ..... Semi-auto, blowback
**Overall Length** ..... 37.0 in.
**Disassembled Length** ..... 20.0 in.
**Overall Height (w/o optic)** ..... 7.1 in.
**Weight Unloaded** ..... 4.6 lbs.
**Weight Loaded** ..... 4.7 lbs.
**Barrel Length** ..... 18.5 in.
**Barrel** ..... Matte stainless steel
**Receiver** ..... Matte stainless steel
**Buttstock** ..... Checkered black polymer; checkered buttpad
**Buttstock Length of Pull** ..... 13.0 in.
**Magazine** ..... (1) 10-round detachable rotary
**Front Sight** ..... Post, brass bead
**Rear Sight** ..... Adjustable notch
**Trigger Pull Weight** ..... 5.5 lbs.
**Safety** ..... Manual hammer block
**Warranty** ..... None stated
**Telephone** ..... (336) 949-5200
**Website** ..... Ruger.com
**Made In** ..... U.S.A.

## SAVAGE MODEL 64 TAKEDOWN 40207 22 LR, $212

### GUN TESTS GRADE: A (BEST BUY)

The Model 64 is a minimalist takedown rifle with excellent accuracy and simple disassembly/reassembly that will not lose zero when using a scope. Cleaning is a breeze. The price is reasonable.




**Action** ..... Semi-auto, blowback
**Overall Length** ..... 36.25 in.
**Disassembled Length** ..... 20.2 in.
**Overall Height (w/o optic)** ..... 8.0 in.
**Weight Unloaded** ..... 4.5 lbs.
**Weight Loaded** ..... 4.6 lbs.
**Barrel Length** ..... 16.5 in.
**Barrel** ..... Blued steel
**Receiver** ..... Blued steel
**Buttstock** ..... Textured black synthetic; serrated buttpad, sling studs
**Buttstock Length of Pull** ..... 13.5 in.
**Magazine** ..... (1) 10-round detachable rotary
**Front Sight** ..... Steel post
**Rear Sight** ..... Adjustable notch rear
**Trigger Pull Weight** ..... 5.4 lbs.
**Safety** ..... Manual hammer block
**Warranty** ..... 1-year limited
**Telephone** ..... (800) 370-0708
**Website** ..... SavageArms.com
**Made In** ..... Canada

## 22 LR RANGE DATA

| Winchester Xpert HV 36-grain HP | KelTec SU22CA | Ruger 10/22 Takedown | Savage 64 Takedown |
|---|---|---|---|
| Average Velocity | 1236 fps | 1250 fps | 1277 fps |
| Muzzle Energy | 122 ft.-lbs. | 125 ft.-lbs. | 130 ft.-lbs. |
| Smallest Group | 1.06 in. | 0.74 in. | 0.74 in. |
| Average Group | 1.09 in. | 0.82 in. | 0.76 in. |
| **Federal Auto Match 40-grain LRN** | **KelTec SU22CA** | **Ruger 10/22 Takedown** | **Savage 64 Takedown** |
| Average Velocity | 1133 fps | 1143 fps | 1103 fps |
| Muzzle Energy | 114 ft.-lbs. | 116 ft.-lbs. | 108 ft.-lbs. |
| Smallest Group | 1.26 in. | 0.68 in. | 0.69 in. |
| Average Group | 1.38 in. | 0.71 in. | 0.73 in. |
| **CCI Blazer 38-grain LRN** | **KelTec SU22CA** | **Ruger 10/22 Takedown** | **Savage 64 Takedown** |
| Average Velocity | 1218 fps | 1229 fps | 1224 fps |
| Muzzle Energy | 125 ft.-lbs. | 127 ft.-lbs. | 126 ft.-lbs. |
| Smallest Group | 1.34 in. | 1.12 in. | 0.37 in. |
| Average Group | 1.40 in. | 1.22 in. | 0.39 in. |
| **Remington Thunderbolt 40-grain LRN** | **KelTec SU22CA** | **Ruger 10/22 Takedown** | **Savage 64 Takedown** |
| Average Velocity | 1163 fps | 1197 fps | 1183 fps |
| Muzzle Energy | 120 ft.-lbs. | 127 ft.-lbs. | 124 ft.-lbs. |
| Smallest Group | 1.48 in. | 0.76 in. | 0.43 in. |
| Average Group | 1.50 in. | 0.81 in. | 0.50 in. |

*To collect accuracy data, we fired five-shot groups from a bench using a rest. Distance: 25 yards with open sights. We recorded velocities using a ProChrono digital chronograph set 15 feet from the muzzle.*

24.6 inches in overall length with the stock folded.

The forend is held in place by a large nut encased in polymer. Remove the nut and the forehand slides toward the muzzle and off the rifle. While the forend looks like a quad rail, it is smooth with ridges, so it offers a good grasp. There are plenty of holes and square cutouts to allow the barrel to cool. Another rail is molded into the bottom of the forend to mount a foregrip, light, or laser.

The receiver's magazine well is similar to an AR-15's, and the magazine release is in nearly the same place as an AR-15. It is a small square button that is easy to operate with a right-handed shooter's trigger finger. We would have liked a bit of texture on it for a no-slip press. The plastic magazine inserted with ease and dropped free when the button was pressed. The magazine fell on the concrete deck a few times and survived with no cracks.




*When cheap ammo kicks butt, it is a wonderful thing. The Winchester Xpert HV with 36-grain hollow points averaged 0.89-inch groups across all three rifles. The Remington Thunderbolt 40-grain lead roundnose bullets averaged 0.93 inches, the Federal Auto Match 40-grain LRNs 0.94 inches, and CCI Blazer 38-grain LRNs 1 inch.*

A crossbolt safety is located behind the trigger, and it blocks the trigger. We found it easy enough to operate, though from the right side the button looks like a short tube (another mystery button), and from the left side it looks like a traditional crossbolt safety button.

The trigger is serrated and made





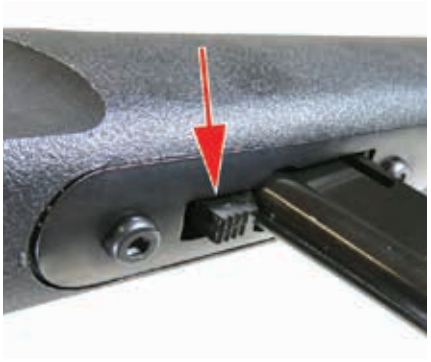
*Left: This is an average-size group from the KelTec SU22CA using Remington Thunderbolt 40-grain LRNs. Center: This group is from the Ruger 10/22 Takedown with Winchester Xpert HV 36-grain HPs. Right: There were two fliers in this otherwise great group from the Savage Model 64 Takedown using cheap CCI Blazer 38-grain ammo.*





*Left, on the KelTec, the muzzle was threaded and wore a thread protector. We liked the option of attaching a muzzle device. Center, the Ruger's muzzle didn't show much of a rifling-protective crown. The front sight was dovetailed into a band. Right, the Savage's muzzle wore a crown, and the front sight was dovetailed in place.*





*Left: The KelTec magazine release is located in a similar spot as on an AR-15, so it could be manipulated with a right-handed shooter's trigger finger. Center: The Ruger's bolt can be locked back. Note the extended magazine release lever, which makes changing magazines easier and more user friendly. Right: On the Savage, we found we needed to depress the magazine-release button with the front edge of the magazine to insert the magazine into the magazine well.*

of polymer. Pull weight was a creepy 7.6 pounds. There was a bit of take up, and in fact, the trigger clicks after take-up and then releases the hammer. Not the best trigger for precision work, but serviceable for the rifle's intended purpose. The topside of the receiver has a molded Picatinny-style rail. A rear aperture sight is held in place by a two small plastic C-clamps held in place by Phillips-head screws, hence the need for the stubby screwdriver that was in the box. The barrel is threaded and covered with a knurled thread protector, which could easily be removed with your fingers.

Going hot, we found the magazine had polymer feed lips and was possibly the easiest 22 rimfire magazine we have ever loaded. We found it was easy to run the SU22CA like an AK, grasping the bolt from the underside of the rifle with our support hand while our shooting hand grasped the pistol grip. The sights are by no means precision, but they give a good sight picture. We found the sights needed









*Left: The KelTec stock folds under the rifle. Center: Note the X ribs in the stock. These provide rigidity. That button (arrow) on the underside on the KelTec's grip is pressed to fold the stock. Right: We found if we pressed the button while the stock was still shouldered, we could fold it fast and easy without pinching our fingers.*

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*Left: That silver lever needs to be depressed to disengage the lock so the Ruger's barrel can be removed. Pull back on the silver latch, twist, then pull apart. It is that easy. Center: The Ruger's serrated adjustable lock-up adjusting knob tightens up the receiver to the barrel so there is no shift of impact when disassembling and reassembling the rifle. Right: The barrel assembly slid into the receiver.*

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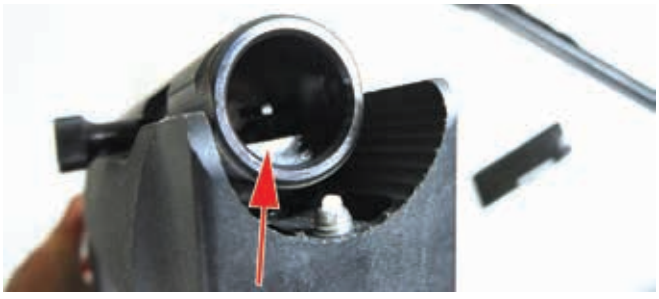


*Left: Note the flat in the Savage receiver that accepts the flat on the barrel. The white detent post in the stock is spring loaded and keeps the barrel nut from loosening during live fire.*



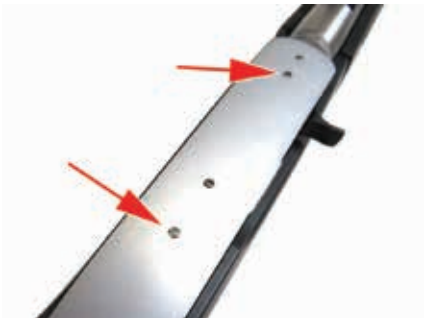
*Left: We liked the milled flat in the barrel because it was rugged and mated the same way to the receiver each time. The Savage is slower to break down, but the process is very simple to learn and use.*





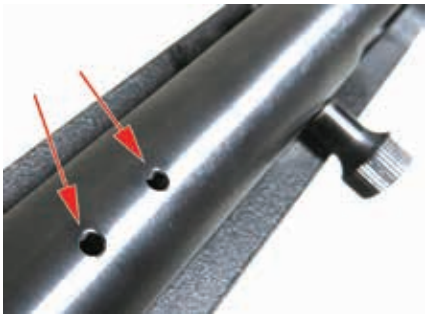
*Top: With the Crimson Trace Red Dot mounted, our KelTec groups were more surgical. Bottom: The Crimson Trace used a battery tray to replace the battery, which we liked. We did not need to remove the red dot to replace the battery.*





*Top: These are typical rimfire sights on the Ruger, but they are easy to use and rugged. Bottom: The receiver was drilled and tapped and included plug screws so debris could not get inside the action. It also came with a scope mount.*





*Top: The Savage has an old-school U-notch rear sight with a ladder to adjust elevation. You need a hammer to tap the sight left or right to adjust windage. Bottom: The Savage Model 64 was drilled and tapped, but there were no plug screws, so debris could work its way into the action. Because this is a takedown, you could remove the barrel and dunk the receiver in a bucket of water to clean out debris.*

adjustment and used the supplied Phillips screwdriver to adjust the windage. With the two screws on the sides of the rear sight, you need tighten the screw on the same side of the rear sight that you want to move the point of impact to and loosen the screw on the opposite side. We thought this was crude but effective.

At the range, we had no issues. The KelTec ran well, and our best group was with 36-grain Winchester Xpert HV ammo, which measured 1.06 inches for five shots at 25 yards. Federal Auto Match ammo had the next-best group that measured 1.26 inches. The rest of the ammo groups of five shots came in at 1.5 inches, on average. Muzzle report was mild, as was recoil. We did notice you could make the stock flex if you gorilla-ed the rifle, but the polymer sprung back to shape.

**Our Team Said: The SU22CA is a nice but ugly rifle that performed well. We know a red or green dot sight helps shrink groups. We weren't in love with the trigger, but we were able to squeeze out fairly decent accuracy. We liked the ability to fire the rifle with the stock folded. We also felt the utilitarian design was well suited for a camp/canoe/truck gun or bug-out bag. It was the longest when collapsed, but weighed the least even when fully loaded.**

### Ruger 10/22 Takedown 11100 22 LR, $372

The Ruger 10/22 is iconic due to its excellent reliability and good accuracy. We felt the 10/22 Takedown maintained the reputation and improved upon it with a new twist, so to speak.

One improvement with the Takedown is the ease in cleaning the rifle. Taken apart, it is a snap to run a wire brush jag on a cleaning rod from the chamber to the muzzle with the barrel assembly separated from the receiver assembly. There is also no compromise in size, feel, and handling because the stock has typical 10/22 dimensions.

As a refresher, the 10/22 has a simple blowback action that feeds off a 10-round rotary flush-mounted magazine. Controls consist of a large lever magazine release that provides smooth removal of the magazine. There is also a push-button crossbolt manual safety just forward of the trigger. The bolt does not remain open after the last shot has been fired, but a bolt lock allows the user to lock back the bolt. Press up on the bolt lock to close the bolt and chamber a round.

Our sample looked like a typical 10/22 carbine except for a noticeable gap in the stock between the receiver and forend. There is also a serrated adjustable lock-up adjusting knob. According the manual, this lock-up mechanism only needs to be adjusted the first time you attach the barrel. This connection keeps the barrel aligned with the receiver in the







*On the KelTec, left, the butt was serrated for a sure grip in the shoulder.*

*Center: The Ruger buttplate had molded checkering that wasn't an aggressive texture.*

*Right: The Savage's butt had a less aggressive texture. Note the screws have begun to rust. We'd clean and clear coat them to stop that from worsening.*



*The Savage magazine (left) easily pinched our fingers when reloading. The Ruger (middle) was easy, but the KelTec (right) was by far the easiest-loading 22 LR magazine we have encountered. All the magazines worked exceptionally well.*

same position and ensures the firearm returns to zero, even when receiver-mounted optics are used. We can say this system works well. We backed off on the adjusting knob when re-inserting the barrel assembly a number of times to see if we could cajole some play in the assemblies, but couldn't. The knob clicks when snug from finger pressure, so you can't accidentally overtighten it. If we thought the zero would shift when using the Crimson Trace after repeated takedowns, we were mistaken. We saw no shift in impact as long as we followed the instructions in the manual.

The synthetic stock and matte stainless metal looks like they could take a lot of abuse, and we thought that was appropriate for a bug-out bag or camping rifle. The stock is black injection-molded polymer with molded-in checkering and carbine-style buttplate. The rest of the stock had a smooth finish. Ruger did a better job than KelTec in removing the molding seam in the stock. The barrel is equipped with a dovetailed brass bead front sight and dovetailed fully adjustable folding leaf rear.

The carbine separates into two components — receiver assembly and barrel assembly — without the use of tools. Just press forward the spring-loaded cocking lever located forward of the magazine well in a recess in the underside of the forend, rotate the barrel assembly counterclockwise, and pull it away from the receiver. It takes longer to read how to break it down than actually doing it. We found takedown to be fast, simple, and precise every time. To reassemble, align a machined flat section on the barrel shoulder with the top surface of the clamp, press the two assemblies together, then twist or rotate the barrel clockwise. The takedown mechanism uses a tapered, spring-loaded locking plunger in the barrel assembly that mates to the face of the receiver. Since all takedown style rifles inherently have some play in them, Ruger added the adjusting knob that protrudes from the receiver and uses a floating spacer to button up the barrel shoulder and receiver.

The receiver part measures 20 inches in length, and the barrel part measures 18.5 inches. Both assemblies fit into a padded nylon carry case with a shoulder strap. A scope-mount base was also included in the bag, which we appreciated.

We have experience with a variety of 10/22 rifles, and accuracy can run from okay to excellent, and the Takedown is definitely in the excellent range. The smallest five-shot group at 25 yards measured 0.68 inches. This was with open sights and using Federal Auto Match with a 40-grain LRN. Winchester Xpert HV with a 36-grain HP and Remington Thunderbolt with

a 40-grain LRN also proved to cluster holes measuring 0.74 and 0.76 inches, respectively. Again, this is with open sights. With the attached optic, we shrank those groups. Accuracy was surprisingly good, even with bargain-grade ammunition. The 5.5-pound trigger had a bit of take up but broke consistently.

**Our Team Said: If you are a diehard 10/22 fan or would like to be, this is your rifle. We thought accuracy was excellent, and the ease of takedown simple and fast. It also had the smallest length when broken down.**

### Savage Model 64 Takedown 40207 22 LR, $212

The Model 64 Takedown has a minimalist approach. This rifle is basically a Model 64 barrel and action attached to an abbreviated polymer stock. It breaks down into two components: a receiver assembly and a barrel assembly.

The Model 64 action is a simple blowback style. The receiver is drilled and tapped to mount a base, and there were no screw plugs in the tapped holes, so you can see into the action. Debris could easily get into the action if the rifle is dropped in mud, sand, or water. The serrated bolt handle was a roller-style, meaning it rolled as it is retracted to cock and load the chamber. You can push the handle in to lock the bolt back. The bolt does not lock back after the last shot fired. The safety lever was located on the right-hand side of the receiver above the trigger and directly behind the bolt lever. A hole indicates the safety is in the forward position and the rifle is ready to fire. You can see the bolt through the hole into the action. An "S" is stamped into the steel indicating the safety lever is in the Safe position.

The trigger was smooth and narrow. Unlike on the KelTec and Ruger, we needed to break our shooting grip to manipulate the safety. The bottom metal with the magazine well is screwed into the stock, and a ridged metal magazine release is forward of the well. You need to press it forward to remove the magazine. To insert the mag, you use the front edge of the magazine to push the magazine-release lever forward and then insert the magazine. It was a bit tricky at first, but soon became rote.




*The Ruger comes with a padded nylon case with a shoulder strap.*

We busted our thumbs on the steel magazine. We found the easiest way to load was to press down and to the rear of the cartridge while inserting it. The steel-body magazine held 10 rounds, and the tenth was hard to load.

The stock is the full-size Model 64 stock cut off just forward of the receiver. Sling studs were installed, and we like the ease of installing a sling. The polymer stock had a textured finish and molded checkering at the pistol grip. We liked the texture of the stock. Though there was no forend to grasp, we found we could grasp the front edge on the stock and pull it into our shoulders.

The round barrel sported a dovetailed front blade and an adjustable rear sight. A ladder adjusted elevation, and a hammer would be needed to tap it for windage correction. These sights were basic.

The barrel has simple threading, and a serrated nut is held in place with a spring-loaded detent to keep the barrel and receiver together. To attach the barrel, just crank it on hand-tight, and you are ready to go hot. This procedure was not as fast as the Ruger's, but it was super simple. The bottom section of the barrel assembly is milled flat so it fits in the receiver the same way every time. The muzzle was nicely crowned. Like the Ruger, the Savage was super easy to clean with the rifle broken down.

Going hot, we were surprised at the accuracy of the Model 64. In some instances we were able to shoot one ragged hole, and this is with iron sights. With a red dot mounted, we were even more surgical. Our best five-shot group measured 0.37 inches with the CCI Blazer 38-grain LRN ammo. The Remington Thunderbolt 40-grain LRN was close behind with a 0.43-inch group. Suffice it to say, the Savage averaged 0.5- to 0.7-inch groups with all the bargain ammo. We were smitten. After extended shooting, the barrel did become hot, so you need to take care. The trigger-pull weight averaged 5.4 pounds — the best out of the three rifles tested. It had a lot of take up but broke very consistently.

We purchased a set of Weaver #12 bases ($10) to mount the Crimson Trace red dot and continued to shoot one ragged hole in the target per magazine if we concentrated.

**Our Team Said: The Model 64 Takedown had excellent accuracy. It was in between weight and breakdown length compared to the KelTec and Ruger. The deciding factor was the price. At $150 dollars less, it is very affordable and offered the best accuracy, but with no frills.**

**Special thanks to Eastern Outfitters (EasternOutfitter.com) of Hampstead, NC, for their assistance.**

*Written and photographed by Robert Sadowski, using evaluations from* Gun Tests *team testers.* **GT**

# 10mm Stompers: SIG, Colt, S&W, and Springfield Armory

*Well, these handguns don't stomp the shooter with every load, but some of them are quite peppy with certain recipes. But if you want to see if you enjoy taming the round, we recommend the XD-M.*

The relative stopping power of handguns has been discussed by shooters and gunwriters for ages. Current bullet-placement theory agrees with many business theories in espousing "Location, location, location," and GUN TESTS tends to agree. *Where* something is shot is just as, if not more, important than *what it is shot with*, within limits. That being said, the projectile itself has a say in this discussion.

Dr. Martin Fackler, M.D., Col USA (ret) is considered by many to be the father of modern wound ballistics. While he did not champion a particular caliber or manufacturer, he was of the opinion that characteristics which do affect bullet wounding potential are:

1. Mass
2. Cross-sectional area
3. Shape
4. Velocity
5. Deformation (increased cross-sectional area).

His observations came after his participation in the study of the 1986 FBI Shootout in Miami. This was a 4½-minute nightmare during which two FBI agents were killed and five more wounded, most of that after Platt, the primary shooter for the bank robbers, sustained a mortal wound but before he succumbed to that wound and others. This has been one of the most studied police shootings of all time. What went right? What went wrong? What could have been done better? What equipment worked and what didn't? One of the primary discoveries was the limitations of the LE firearms and, especially, the ammunition used. Testing, initiated after the event and formulated to discover or design a new pistol round with more penetration and better performance, eventually led to the adoption by the FBI, for a limited



*Our full-sized 10mms included, clockwise from top left, the Smith & Wesson Model 610, Colt Delta Elite, a 1911 announced in 2020, the SIG Tacops, and the polymer-framed Springfield Armory XD-M 5.25.*

period of time, of the 10mm cartridge and handguns that would shoot it.

The 10mm had been around for a while prior to acceptance by the FBI. Introduced in 1983, it was the brainchild of Jeff Cooper and several others. The good colonel was a strong proponent of the 1911 platform chambered in 45 ACP. He was also enamored with the Czech CZ75. Eventually, a variant of the CZ75 in a new chambering was agreed upon, and a very rocky series of events was initiated. Michael Dixon and Thomas Dornaus helped design and produce the pistols in the new 10mm cartridge. The ultimate goal was a round that would fit in a semi-auto and exceed the power available from a 45 ACP or a 357 Magnum. With a 180-grain bullet at 1000 feet per second plus, the 10mm fit the bill well. There were design problems inherent in the so-called Bren Ten as they tried to contain the more powerful cartridge. There were also issues with the magazines and many of the early pistols shipped without a working mag!

The Bren Ten went away, but the 10mm was still alive, even though its future was in some doubt. Responsive to the findings after the FBI review, many decided that the 10mm could be the perfect answer to the FBI's needs. S&W designed and supplied a fairly large semi-auto chambered in 10mm, and it was adopted for their agents. And the FBI had their power. Maybe a bit too much power. They now had a cartridge with a power level somewhere between that of a 357 Magnum and a 41 Magnum, chambered in a largish handgun. They found that the combination could be too big for smaller agents' hands and too powerful for others. A concept they called a 10mm Lite was proposed, using the time-honored method of decreasing the powder charge, thus creating less recoil along with less energy. Still, they thought they had enough energy for their purposes. Smith & Wesson then figured out that they could take this new loading and fit it into a case approximately 3mm shorter while retaining the energy levels, thus allowing a pistol so chambered to be built with a smaller grip frame. The world now knows that cartridge as the 40 S&W.

The 10mm languished for a couple of decades after the FBI experiment. Colt designed a 1911 around the cartridge called the Delta Elite, which they introduced in 1987 but then dropped in 1996. The upgraded version was announced at the SHOT Show in 2008 and has been in the lineup ever since. Glock threw its hat in the 10mm ring in 1991 and has since added small-frame models along with sub-compact pieces.

The last few years have seen a substantial resurgence in the 10mm. Close to two-dozen manufacturers now build and sell 10mm pistols. Most of the pistols chambered for this fairly stout round are somewhat large and do not necessarily lend themselves to concealed carry in the city. America, however, is a big country with lots of space where openly carrying a serious self-defense weapon is not only allowed, it is advisable. The modern 10mm pistol, stoked with proper ammunition, produces very good energy which, when teamed with an incredible amount of penetration, makes it a great choice for hunting up through deer-sized game. It is also an outstanding



*Colt Delta Elite 02020RG, $1134*



*SIG Sauer Tacops 1911R-10-TACOPS, $1050*



*Springfield Armory XDM 5.25 XDM952510BHCE, $681*



*Smith & Wesson Model 610 12462, $859*

## COLT DELTA ELITE 02020RG 10MM AUTO, $1134

### GUN TESTS GRADE: A-

The Delta Elite did not have all the bells and whistles that the SIG Tacops did, but when we were firing the Buffalo Bore stompers, we were just fine with the Colt's smooth front strap.



**Action Type**.....Single action, hammer fired
**Overall Length**.....8.7 in.
**Overall Height**.....5.5 in.
**Maximum Width**.....1.28 in.
**Weight Unloaded**.....35.7 oz.
**Weight Loaded**.....44.3 oz. with 9 rounds 180 grain
**Slide Material**.....Stainless steel
**Slide Retraction Effort**.....28.4 lbs.
**Receiver Material**.....Stainless steel
**Finish**.....Brushed or glass-beaded
**Front Strap Height**.....2.75 in.
**Back Strap Height**.....3.25 in.
**Barrel Length**.....5.0 in.
**Grip Thickness (Maximum)**.....1.28 in.
**Grip Circumference**.....5.3 in.
**Magazine**.....One 8-round
**Rear Sight**.....2-dot Novak low mount
**Front Sight**.....1-dot Novak low mount
**Sight Radius**.....6.4 in.
**Trigger-Pull Weight**.....4.6 lbs.
**Trigger Span**.....3.1 in.
**Safety**.....Thumb, grip, and 80 Series firing pin
**Warranty**.....Non-transferable limited lifetime service
**Telephone**.....(800) 962-2658
**Website**.....Colt.com
**Made In**.....U.S.A., Connecticut

## SIG SAUER TACOPS 1911R-10-TACOPS 10MM AUTO, $1050

### GUN TESTS GRADE: B-/A

This pistol comes with an impressive list of features and was very accurate, but it had extraction issues initially. SIG fixed the problem fast, so we upgraded its marks to include customer service.



**Action Type**.....Single action, hammer fired
**Overall Length**.....8.7 in.
**Overall Height**.....5.6 in.
**Maximum Width**.....1.33 in.
**Weight Unloaded**.....39.8 oz.
**Weight Loaded**.....47.7 oz. with nine 180-grain FMJs
**Slide Material**.....Stainless steel
**Slide Retraction Effort**.....20.5 lbs.
**Receiver Material**.....Stainless steel
**Finish**.....Nitron
**Front Strap Height**.....2.75 in.
**Back Strap Height**.....3.5 in. with factory extended magwell
**Barrel Length**.....5.0 in.
**Grip Thickness (Maximum)**.....1.33 in.
**Grip Circumference**.....5.4 in.
**Magazine**.....Four 8-round steel
**Rear Sight**.....Novak pattern Siglite
**Front Sight**.....Novak pattern Siglite
**Sight Radius**.....6.5 in.
**Trigger-Pull Weight**.....4.0 lbs.
**Trigger Span**.....3.0 in.
**Safety**.....Firing pin, grip, manual thumb
**Warranty**.....Limited lifetime, non-transferrable
**Telephone**.....(603) 610-3000
**Website**.....SigSauer.com
**Made In**.....U.S.A., New Hampshire

## SMITH & WESSON MODEL 610 12462 10MM AUTO, $859

### GUN TESTS GRADE: A

The Smith & Wesson 610 was very accurate and did a great job of taming the recoil from the heavier loads.



**Action Type**..... DA/SA revolver, hammer fired
**Overall Length**.....12.1 in.
**Overall Height**.....6.1 in.
**Maximum Width**.....1.71 in.
**Weight Unloaded**..... 49.6 oz.
**Weight Loaded**..... 54.5 oz.
with six 180-grain FMJs and moon clip
**Cylinder Material**.....Stainless steel
**Slide Retraction Effort**..... N/A
**Receiver Material**.....Stainless steel

**Finish**..... Matte stainless
**Front Strap Height**.....2.5 in.
**Back Strap Height**.....4.4 in.
**Barrel**.....Stainless steel
**Barrel Length**.....6.5 in.
**Grip Thickness (Maximum)**.....1.25 in.
**Grip Circumference**.....5.4 in.
**Magazine**.....6-round cylinder
**Rear Sight**.....Adjustable white outline
**Front Sight**..... Black replaceable
**Sight Radius**.....8.3 in.
**Trigger Pull Weight Double Action**..... 11.6 lbs.
**Trigger Pull Weight Single Action**..... 4.6 lbs.
**Trigger Span Double Action**.....4.0 in.
**Trigger Span Single Action**.....3.5 in.
**Safety**..... Hammer bar and action lock
**Warranty**.....1-year limited warranty, non-transferrable
**Telephone**.....(800) 331-0852
**Website**..... Smith-Wesson.com
**Made In**.....U.S.A., Massachusetts

## SPRINGFIELD ARMORY XD-M 5.25 XDM952510BHCE 10MM AUTO, $681

### GUN TESTS GRADE: A- (BEST BUY)

If we were only going to have one of these firearms to take with us backpacking in the boonies, the XD-M and its 16-round payload might well be our choice.



**Action Type**.....Semi auto, striker fired
**Overall Length**.....8.3 in.
**Overall Height**.....5.8 in.
**Maximum Width**.....1.2 in.
**Weight Unloaded**..... 28.9 oz.
**Weight Loaded**.....41.6 oz. with 16 rounds 180-grain FMJs
**Slide Material**.....Forged steel
**Slide Retraction Effort**..... 15.6 lbs.

**Receiver Material**..... Black polymer
**Finish**..... Melonite
**Front Strap Height**.....2.5 in.
**Back Strap Height**.....4 in.
**Barrel Length**.....5.25 in.
**Grip Thickness (Maximum)**.....1.2 in.
**Grip Circumference**.....5.7 in.
**Magazine**..... Three 15 round
**Rear Sight**.....Low-mount adjustable
**Front Sight**..... Red fiber optic in dovetail
**Sight Radius**.....7.25 in.
**Trigger Pull Weight**..... 5.6 lbs.
**Trigger Span**.....2.8 in.
**Safety**.....Grip, trigger, and firing-pin block
**Warranty**.....Limited lifetime warranty, non-transferrable
**Telephone**.....(800) 860-6866
**Website**.....Springfield-Armory.com
**Made In**..... Croatia



*The Colt barrel was well fitted and displays no movement when we pressed on the hood of the barrel. The bushing is tight enough that a bushing wrench comes in very handy. The slide returns to battery using a pair of heavy, nested recoil springs.*



*The XD-M is a polymer-framed striker-fired pistol with a Melonite-finished stainless-steel slide. The 5.25-inch barrel sits inside a longer slide that puts more weight out front to help with recoil control and sight radius. A slot milled out of the top of the slide has a lighter reciprocating mass that also lessens muzzle movement as the slide cycles. The frame has a three-groove Picatinny rail molded in, along with the older-style grip surface. Our XD-M came with the older style, big-bump texturing. The trigger guard is large with plenty of room for a gloved hand.*

choice for self-defense, whether for two-legged critters or the four-legged kind. It won't ever be the equal of a 44 Mag or a 454 Casull for pure power, but it is, in our humble opinion, one of the best heavy-use semi-autos extant.

With the goal of getting the most accuracy and power we could get out of our 10mm panel, we chose full-sized weapons in a variety of platforms. We started with the *Colt Delta Elite 02020RG, $1134*. We settled on another, somewhat newer 1911, having been just announced at the 2020 SHOT Show — the *SIG Tacops, 1911R-10-TACOPS, $1050*. Often overlooked in the 10mm mix are revolvers, which have some design advantages in handling this round, so wanted to put a wheelgun in the mix and picked the *Smith & Wesson Model 610 12462, $859*. Last, but not in any way least, we added the polymer-framed *Springfield Armory XDM 5.25 XDM952510BHCE, $681*.

We wanted to be able to test a variety of loads for the 10mm. Our first selection was the Remington 155-grain Hog Hammer 27695, followed by MagTech's 180-grain round (Magtech10a). Next was the PMC 200-grain FMJ (PMC10A). Then to really bump things up, we got some of Buffalo Bore's 220-grain Hard Cast cartridges (21C).

### How We Tested

As normal for this crew, all testing was done at American Shooting Centers (amshootcenters.com) on the west side of Houston. Muzzle velocities were obtained using LabRadar. All shooting was done from a well-sandbagged Caldwell Pistol Rest from MidwayUSA as well as a support bag from Wiebad.com. We shot each pistol for accuracy using five-shot groups at 15 yards. Those results also follow. Then we did speed drills at 5 and 7 yards that were, perhaps, more suited to a lighter recoiling 9mm, but hey, we had to know.

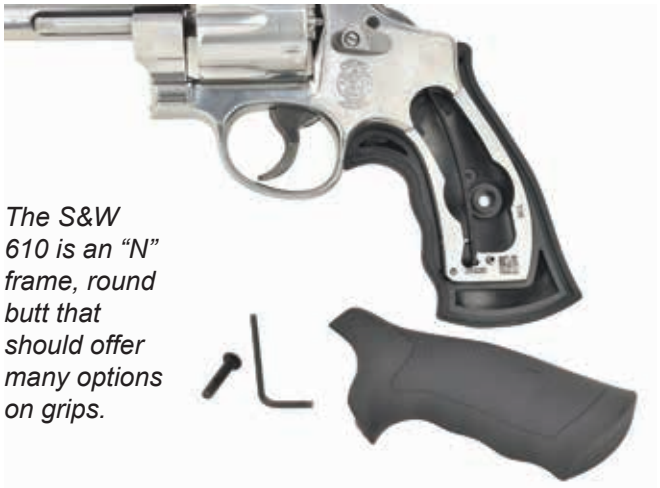
### Colt Delta Elite 02020RG
### 10mm Auto, $1134

We won't call the look two-tone, but the Colt Delta Elite 10mm is a beautiful contrast of finishes. Flat surfaces on the pistol are a smooth, brushed finish with all curved or cast parts showing a bead-blasted look. The lines on the frame and slide delineating the two are sharp and just about perfect.

The slide is the standard Government Model profile and should fit just about any normal holster. Sights are black three-dot Novaks, mounted in dovetails. The front sight on our sample measured 0.125 inch wide. That is just a bit narrower than some we have



*The radiused edge on the top of the SIG's slide is flared out, then the top half of the sides of the slide is dished out. The dust cover on the Tacops is reinforced and then milled out as a Picatinny rail. The barrel is a 5-inch fully-ramped match-quality unit with a well-recessed crown. As with the Colt Delta Elite, slide-to-barrel fit was very tight.*



*The S&W 610 is an "N" frame, round butt that should offer many options on grips.*



*The recoil shield does not get in the way of the moon clips when loading or unloading the S&W 610.*

seen lately. We liked the extra light visible around the sight. Seven slanted grooves have been milled into the rear of the slide as cocking serrations. They appear to be angled at about the same 11 degrees John Moses Browning decided on for his grip. The ejection port has been opened and lowered (as compared to earlier models) with a teardrop cut near the extractor, all of which is done to assist in the ejection of loaded rounds and empty brass.

This is an 80-Series 1911, so the firing-pin safety and all the levers that go with that are present. Those parts tend to heavy up the trigger pull and make the movement feel a bit less crisp. They are easy to remove, but we absolutely do not recommend removing or disabling safeties on a firearm. The parts also tend to mate in with usage and the trigger improves. We call it a "1000-round trigger job."

The barrel has been well fitted and displays no movement when we pressed on the hood of the barrel. The bushing is tight enough that a bushing wrench comes in very handy. The feed ramp on the barrel sports an interesting profile in that it is not symmetric. The ramp is actually relieved a bit higher on the left side than the right. The edge of the chamber throat is a bit sharp but has been opened just a hair at the 6 o'clock position to help ease in the nose of the bullet. The slide returns to battery using a pair of heavy, nested recoil springs. The recoil-spring guide rod was unique to us in that it appeared to be two metal pieces sandwiching a polymer buffer. The interior of the slide was very clean with no visible tool marks. Slide-to-frame fit was excellent with very little lateral movement possible. The extractor hook is internal, as per the original design.

The frame is an example of enough without too much. The beavertail grip safety sits high, is well-rounded and is built up with a good memory pad. The thumb safety is big enough to operate well without being obtrusive. The grip frame was cut up high behind the trigger guard to allow the shooter's hand to grip as high as possible. The magazine well shows a nice bevel job to help with magazine changes. The front strap is smooth. The mainspring housing is a vertically-serrated polymer unit. The trigger is matte black and made of aluminum. Take up and overtravel were only about 0.125 inch, and required compression averaged 4.6 pounds, with about 0.3-pound standard deviation. The black composite grip panels displayed the black, silver and red Delta medallion. As with the slide, machine work on the frame was very good.

The Delta Elite shot everything we tried to feed it and did so pretty consistently, with all groups

## RANGE DATA

| Remington 155-grain Hog Hunter | Colt Delta Elite | SIG Sauer Tacops | S&W Model 610 | Springfield XD-M 10 |
|---|---|---|---|---|
| Average Velocity | 1212 fps | 1200 fps | 1250 fps | 1228 fps |
| Muzzle Energy | 506 ft.-lbs. | 495 ft.-lbs. | 538 ft.-lbs. | 519 ft.-lbs. |
| Best Group | 1.68 in. | 1.36 in. | 1.65 in. | 1.33 in. |
| Average Group | 1.94 in. | 1.75 in. | 1.85 in. | 2.03 in. |
| **MagTech 180-grain FMJ** | **Colt Delta Elite** | **SIG Sauer Tacops** | **S&W Model 610** | **Springfield XD-M 10** |
| Average Velocity | 1214 fps | 1193 fps | 1231 fps | 1210 fps |
| Muzzle Energy | 589 ft.-lbs. | 569 ft.-lbs. | 606 ft.-lbs. | 585 ft.-lbs. |
| Best Group | 1.61 in. | 1.49 in. | 1.07 in. | 1.49 in. |
| Average Group | 1.93 in. | 1.80 in. | 1.49 in. | 1.78 in. |
| **PMC 200-grain FMJ** | **Colt Delta Elite** | **SIG Sauer Tacops** | **S&W Model 610** | **Springfield XD-M 10** |
| Average Velocity | 1011 fps | 997 fps | 1019 fps | 1017 fps |
| Muzzle Energy | 454 ft.-lbs. | 441 ft.-lbs. | 461 ft.-lbs. | 459 ft.-lbs. |
| Best Group | 1.37 in. | 0.95 in. | 0.57 in. | 0.97 in. |
| Average Group | 1.83 in. | 1.30 in. | 0.77 in. | 1.17 in. |
| **Buffalo Bore 220-grain Hard Cast** | **Colt Delta Elite** | **SIG Sauer Tacops** | **S&W Model 610** | **Springfield XD-M 10** |
| Average Velocity | 1189 fps | 1166 fps | 1236 fps | 1200 fps |
| Muzzle Energy | 691 ft.-lbs. | 664 ft.-lbs. | 747 ft.-lbs. | 704 ft.-lbs. |
| Best Group | 1.80 in. | 0.95 in. | 0.77 in. | 1.27 in. |
| Average Group | 1.94 in. | 1.19 in. | 1.25 in. | 1.85 in. |

*All our range shooting was done from a well-sandbagged Caldwell Pistol Rest and a support bag from Wiebad.com. We shot each pistol for accuracy using five-shot groups at 15 yards. Muzzle velocity was determined using a LabRadar chronograph ($559 at BuyMyLabradar.com). Test location for this comparison was American Shooting Centers (AMShootCenters.com) in Houston.*

averaging less than 2 inches at 15 yards. We think this would be a great handgun to carry on a hunt into the mountains or the brush.

**Our Team Said: The Delta Elite did not have all the bells and whistles that the SIG Tacops did. But when we were firing several hundreds of rounds in a day and then finishing with the Buffalo Bore stompers, we were just fine with the Elite's smooth front strap.**




*Our test rounds for the 10mm included the Remington 155-grain Hog Hammer, Buffalo Bore's 220-grain Hard Cast cartridges, and MagTech's 180-grain round.*

### SIG Sauer Tacops 1911R-10-TACOPS 10mm Auto, $1050

Recent SIG Sauer 1911s tend to be a bit different. The slide is not mil-spec nor is the muzzle. When you order a holster for a SIG 1911, make sure you tell them it is a SIG, because they don't fit in tight standard rigs. Our Tacops sample is no different. Easily visible when viewed from the muzzle, the radiused edge on the top of the slide is flared out a bit more than just about everyone else's. Then the top half of the sides of the slide is dished out. All of this makes for a very distinctive look. The dust cover on the Tacops model is reinforced and then milled out as a Picatinny rail. Three slots give room to mount just about anything desired. Add in an external extractor, and you could tell who made this pistol with your eyes closed.

Our sample came with a 5-inch fully-ramped match-quality barrel showing a well-recessed crown. For use with a higher intensity cartridge like the 10mm, we like the extra support the ramp provides. As





*Far left: The Colt Delta Elite's three-dot sights helped us shoot it consistently, with all groups averaging under 2 inches at 15 yards.*

*Near left: The Tacops has excellent Novak-style Siglite night sights both front and rear.*







*The XD-M has two very visible low-profile sights, a fully-adjustable rear and fiber optic front.*

*The Smith & Wesson's sight picture was clean and easy to read. Right, the front sight on the S&W can be changed out.*



*With the SIG, we had frequent failures to extract with the Magtech rounds and reloads. The Remington and Buffalo Bore ammo also had a couple of problems in the gun. Then SIG replaced the extractor, and the pistol ran flawlessly. We were very impressed with the prompt response of SIG's customer service.*



*On the left is the muzzle of the Colt. On the right, the SIG 1911 has a very distinctive profile, but that can affect what holster choices will work for the pistol.*

with the Colt Delta Elite, slide-to-barrel fit was very tight. The slide and frame on the Tacops are both stainless steel with a matte-black nitride finish. The slide mounts excellent Novak-style Siglite night sights both front and rear. Diagonal grasping grooves are located at the rear of the slide only, but there is plenty of space at the front of the slide available to be used for press checks. The frame is undercut to allow the shooter's hand to sit as high as possible in the grip and reduce recoil a bit. The front strap and the mainspring housing are checkered at what appears to be 30 lines per inch. We remember when all of this kind of checkering was done by hand. We remember when we were pretty good at it. We don't remember our checkering ever being this precise. The lines and the edges are just about perfect. As on the earlier 45, our 10mm Tacops ships with an extended magazine well. This creates a bit more length and more of a funnel effect to the mag well, allowing faster reloads. A big of extra recoil does not disqualify a firearm for use as a high-speed fighting pistol, and the SIG is certainly set up for it.

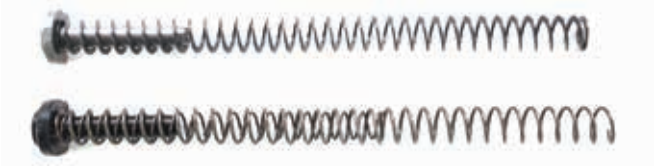
While everything else on the pistol except the barrel and the trigger are a matte black, the controls are more of a polished black, making a nice contrast in colors. The manual thumb safety is ambidextrous and a little larger than mil-spec, but operating surfaces



*Both 1911s had very functional magwells. The SIG Tacops is on the left, the Colt Delta on the right.*



*The smooth Colt frame was easy on the hands with powerful loads.*



*The difference in the power of the recoil springs (SIG, top; Colt, bottom) is readily apparent.*

are not all that large. That being said, we did not have any trouble operating the safety properly. The high-rise beavertail safety has a larger-than-average "Memory Pad" on it that can perhaps forgive some less than perfect grips. The trigger is skeletonized aluminum and very crisp within the slight limitations of an 80-series type firing-pin safety. Initial take-up and overtravel during trigger compression were both only about 0.125 inch. Trigger movement required was right at 4 pounds pressure.

The pistol ships with four highly polished eight-round magazines. We could get nine rounds in the mag, but then it would not seat with the slide forward, so we settled for eight. All loaded and fed well. We also tried out some Wilson Combat nine-round magazines we had on both the SIG and the Colt. All worked well. At first glimpse, we thought that the grip panels might be G10 laminate but, upon removal, we confirmed they were plastic with a nice SIG logo centered therein. Diagonal grooves are molded into the panels that seemed a bit sharp to us for use in an extended shooting, but then didn't actually pose any problems during the shooting session.

The SIG Tacops was the most accurate of the semi-autos we tested in this group, but function was spotty early on. We had fairly consistent extraction issues in which the empty case would stay in the chamber as the slide cycled to the rear. This happened primarily with Magtech ammo and good reloaded ammunition. The Remington and Buffalo Bore ammo worked almost all the time, but we wouldn't settle for that. We contacted SIG. Within 10 days of reaching out to them, our Tacops had been repaired and returned to us. We then put more than 200 rounds through it where it worked perfectly. Turned out to be a simple extractor issue. Our hats are off to SIG for their energy and interest in making this problem right. As we always say, test any and all new firearms before you bet your life or the hunt of a lifetime on them.

**Our Team Said: This pistol comes with an impressive list of features and was very accurate, but it had extraction issues — which SIG Sauer then did an incredible job of fixing, so we added another half grade to the marks for the repaired pistol for their customer service.**

### Smith & Wesson Model 610 12462 10mm Auto, $859

We wonder if, perhaps, the most commonly carried revolver of all time hasn't been one of the small, J-Frame Smith & Wesson revolvers. Frequently chambered in 38 Special, with 1.875- to 3-inch barrels, these little pistols make a great self-defense or backup pistol. But we wouldn't want to have to rely on one for bear defense. We wholeheartedly admit that a 38 Special beats a sharp stick, but we would prefer something a bit more substantial in that case. We sometimes see folks trying to shoehorn bear-capable cartridges into a little bitty revolver, which would also not be our first choice.

We understand the utility for this kind of concept for those who are going to "carry it a lot and shoot it a little." We, however, like to practice with things. People tend to not practice with things that cause them considerable pain. Recoil can certainly do that, and weight is one of the best mitigators of recoil. We like weight in our big bores. The 10mm may not epitomize the term "big bore" in most eyes, but the Buffalo Bore 220-grain bullets at more than 1200 fps can get your attention. We like the weight out front on this revolver.

Our Smith & Wesson decoder ring confirms that the "6" prefix, as in Model 610, means that the handgun is made from stainless steel and there is most of 3 pounds of it in this revolver. Everything is in a satin finish that makes the 610 look like it is ready to head for the wet of Alaska right now. The barrel on our sample is 6.5 inches long and has the full underlug. This moves the balance more forward toward the muzzle and reduces muzzle flip. In the scheme of things, that means the 610 will recoil less, allowing for more comfortable shooting and faster follow up shots. The 6.5-inch barrel also creates a long sight radius, further aiding with accuracy. The top strap is already tapped and drilled in case the shooter wants to go all the way and mount some kind of optic.

The S&W 610 wheelgun ships with an adjustable







*Left: The Colt Delta had a standard barrel with an asymmetric feed-ramp profile. Center: The SIG provides a little more support for the 10mm cartridge with a fully ramped barrel. Right: The brightly polished feed ramp of the XD-M is just one of the match features added to this pistol.*

rear sight mounted along with a plain-black ramped front sight. The front blade is held in its slot via a lateral roll pin. We found a number of replacement sights available at Brownells.com if plain old black is not your thing.

This is a round-butt N-frame revolver, which means the frame and the cylinder are both big. That also means lots of meat in the cylinder walls to handle those buffalo-stomper loads. The front edge of that big cylinder is chamfered for easy holstering. In fact, almost every forward-facing surface is rounded off in some way to ease handling. Because the Model 610 is designed for a semi-auto-type rimless cartridge that headspaces on the case mouth, moon clips must be used. Three are included in the box. If you are going to make the most use of your 610, do yourself a favor and buy the setup to load your moon clips and remove the empties after firing. Shooting sessions will be a lot more fun. We secured some extra moon clips made by Ranch Products (RanchProducts.com) as well as a moon-clip extractor tool through MidwayUSA.com. The moon clips require a bit more effort to set up, but finding your empties is sure a lot easier.

The hammer and the trigger are both wide, with the trigger having a smooth face and the hammer spur being checkered. Required trigger compression was a bit more than 11 pounds for double action and 5 pounds for single action. Both DA and SA pulls were smooth and crisp, just a bit heavy.

The longer barrel of the S&W 610 provided some extra velocity as well as more sight radius, which helped make this firearm the most accurate in our test, even if just by a small amount. It beat out the SIG Tacops by an average of 0.17 inch per group. One of the important things to remember about revolvers is that, while their ammo capacity may be smaller than most semi-autos, they don't care what kind of ammo you put in them. You can put six different kinds of ammo in this revolver and it won't matter. If something does go wrong, just pull the trigger again. But nothing went wrong with our sample. Function was flawless. With the 6.5-inch barrel, muzzle velocity and, therefore, muzzle energy was the highest of the firearms in this test. This would be a very interesting piece on which to mount a scope and then to use as a primary hunting arm. It really liked the 200-grain PMC ammo, averaging just 0.77 inch for the three five-shot groups.

**Our Team Said: The Smith & Wesson 610 was very accurate and did a great job of taming the recoil from the heavier loads. We would love to wring this pistol out with a nice scope mounted on it.**

### Springfield Armory XD-M 5.25 XDM952510BHCE 10mm Auto, $681

The XD-M is made in Karlovac, Croatia by HS Product and has been imported by Springfield Armory since 2002. The match version (the reason for the "M" suffix) was introduced in 2009. Various XD iterations have been tested by Gun Tests over the years to very good reviews. The 10mm chambering was added in late 2018 and was no exception. Check out the Springfield video at TheArmoryLife.com that documents a 10,000-round torture test the pistol went through before introduction.

The XD-M is a polymer-framed, striker-fired pistol with a Melonite-finished stainless-steel slide. We secured a sample with the 5.25-inch barrel. It employs






*Left: The Colt comes with only one lonely magazine. Right: The SIG pistol ships with four highly polished eight-round magazines. We could get nine rounds in the mag, but then it would not seat with the slide forward, so we settled for eight. All loaded and fed well. We also tried out some Wilson Combat nine-round magazines we had on both the SIG and the Colt. All worked well.*



*The checkering on the SIG was first class. All in all, the fit and finish of this pistol was very good. Production pistols keep getting tighter.*

the same concepts on slide design that the 9mm and 40 S&W versions designed for USDPSA/IDPA use. The slide is longer to put more weight out front to help with recoil control and improve sight radius. But because Springfield doesn't really want to add too much weight out there, there is a slot milled out of the top of the slide *a la* the Glocks 34 and 35. The lighter reciprocating mass also lessens muzzle movement as the slide cycles. Two very visible sights, in the form of a low-profile fully-adjustable rear and fiber optic front, are mounted on the pistol. As is normal with XDs, the pistol also mounts a striker-status indicator on the rear of the slide, which protrudes if the striker is cocked. There is also a loaded-chamber indicator, which is a small lever that angles up from the slide at the rear of the barrel hood when a cartridge is present in the chamber. The design provides three safeties; grip, trigger, and firing-pin block. The trigger requires fairly little movement in compression, especially for a polymer-framed pistol. While not the equal of a tuned 1911 trigger, the XD-M trigger was very usable, only requiring an average of 5.6 pounds for compression.

The slide has cocking serrations fore and aft. The frame has a three-groove Picatinny rail molded in along with the older-style grip surface. Our XD-M came with the older style big-bump texturing. We've remarked in the past on how we like the new XD Mod 2.0 grip. It would be interesting to test this pistol with the new style and see how the most recent grip feels in our hands during recoil.

The trigger guard is large with plenty of room for a gloved hand. The XD-M offers a truly ambidextrous mag release with buttons on both sides. The magazine well is beveled for easy reloading.

Takedown on the XD-M is simple. Remove the magazine. Make sure the pistol is unloaded. Lock the slide open and rotate the takedown lever 90-degrees clockwise. The upper part of the assembly will slide forward where the recoil spring (mounted on a full-length guide rod) and the barrel can be removed. The grip safety must be depressed before the slide can be locked to the rear, but it does not matter whether the striker is cocked or not. You do not have to press the trigger to drop the striker before disassembly.

Our sample arrived in a box that could easily double as a very secure carrying case. It contained all the required paperwork and safety lock along with a total of three 15-round magazines and two additional sizes of grip inserts.

We wish we had the test-ammo budget that Springfield has, but that is not the case. So, we didn't get to run 10,000 rounds through the XD-M as shown in their video, but everything we did try cycled perfectly. Recoil was a little snappier than the heavier pistols, though not as much as we thought might happen. As is usual, the polymer frame itself flexes and helps soak up some of that movement. Interestingly, the



*The XD-M comes out of the box with the most opportunity for firepower. Three double-stack 15-round stainless-steel magazines is impressive. We would like to see three magazines as the baseline amount provided with any handgun. One is not enough.*



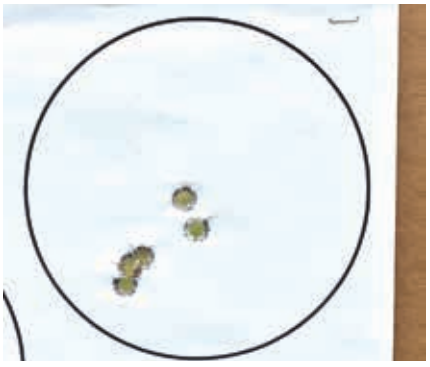
*Do yourself a favor — order some extra moon clips and the extractor tool when you buy the pistol. Good gear like these from RanchProducts.com are a small, worthwhile investment.*



*The XD-M comes with grip inserts that allow shooters to customize the fit for their own hands.*



*This is the slot milled out of the top of the Springfield's slide, a la the Glocks 34 and 35.*



*How's this for a double-action speed drill out of a revolver? The big gun could really move, we found. And the weight and length dampened recoil.*

XD-M had higher muzzle velocity with three of the four ammo selections than the Colt and with all four vs. the SIG.

Picking a favorite is tough when we have four quality firearms. The Colt won the first speed test and the SIG won the second. Results for each particular test of the three semi-auto pistols were within about 0.6 seconds. We didn't think that was statistically significant. Double-action shooting with the Smith & Wesson was a bit slower, but that was no surprise or problem.

**Our Team Said: To come up with recommendations, we had to think situationally, such as if "X" were the situation, we would prefer "Y" gun for "reasons." For example, if we were looking for a duty pistol where firepower was a huge factor, or if we were backpacking where we were going to carry one firearm and weight was really a consideration, we would pick the XD-M.**

**For pure hunting, the Smith & Wesson gets the nod, especially if a scope is mounted.**

**If we preferred the 1911 platform, we would probably give a slight advantage to the SIG Tacops over the Colt because of the list of features, a bit better accuracy and the price.**

**But then, if you don't like a bunch of sharp checkering, the Colt Delta Elite is your baby.**

**If we were only going to have one of these firearms, the XD-M and its 16-round payload might well be our choice. We think it is a Best Buy.**

*Written and photographed by Joe Woolley, using evaluations from* GUN TESTS *team testers.* **GT**

# 9mm Barrel Lengths Compared In Range Performance Testing

*To find an all-round self-defense load that would do its job in four vastly different barrel lengths, we loaded up and shot 2000 rounds in short-barrel compacts and full-size pistols and a handy carbine.*

**Recently,** a GT reader commented favorably on our ongoing ammunition testing. He liked the testing and found it informative. He wondered if we would be willing to conduct an extensive test of 9mm Luger ammunition.

The suggested test would involve subcompact, compact, and service-length-barrel handguns. This could mean barrel lengths of about 3.5 to 4.9 inches. The editor suggested we add a carbine-length 9mm as well because the 9mm is popular in both handguns and carbines.

But choosing the right handgun load is important. As an example, a load that expands readily in the shortest-barrel 9mm might expand too quickly for optimum performance at higher velocity from a service-grade handgun.

By the same token, a load that expands well from the 4.9-inch barrel might not expand at all or poorly from a short-barrel handgun. The problem is magnified when a 9mm carbine is part of the firearms battery.

So we set out on an extensive test. We fired more than 2,000 cartridges over a period of 14 months. Our goal was to find an all-round load that performed well in all the platforms but that didn't beat up the shooter or the guns.

The 9mm is everyman's caliber these days, and it isn't unusual for shooters to carry different-size 9mm handguns, depending on the weather. The same shooter may keep a 9mm carbine for home defense. We think it is better for the multi-gun 9mm shooter to have one or two loads on hand for optimal performance in different firearms and situations.



*The Glock 48, left, features a slightly longer barrel than the Glock 43X and might be a better choice based on this ammunition test.*



*The Glock 45 9mm, left, and the Glock 17, right, have measurably different performance as a result of the different barrel lengths.*



*Below: We know of a couple of* GUN TESTS *readers who are lawyers who carry a KelTec Sub-2000 in the trunks of their cars. Small, accurate, and suitably powerful with the right ammo.*

We do want to note that the primary advantage of the 9mm carbine will be in accuracy and shot placement. The 9mm doesn't gain as much velocity from a 16-inch carbine as some might think. As a comparison, the 357 Magnum often gains several hundred feet per second in a carbine. In 9mm, a difference of 100 fps is considered a big plus. It was interesting that the heavy 147-grain loads gained the most in the carbine, up to 169 fps with the Speer Gold Dot bullet.

In the test, we used three handguns, a Glock 43X with 3.39-inch barrel, the Glock 45 with a 4.02-inch barrel, and the Glock 17 with 4.49-inch barrel. The carbine was a KelTec Sub 2000 with a 16-inch barrel.

We fired into water jugs to test expansion and penetration. While only one load was a truly poor performer, some were better than others. In the end, the middle of the road in weight and velocity isn't a bad place to be. Here are the round-by-round summaries.

### Fiocchi 115-Grain XTP

The Fiocchi load is more affordable in 50-round boxes, and those are what you should seek. Velocity ran 1130 to 1240 fps, picking up quite a bit in the carbine. Expansion was very consistent at 0.52 to 0.55 inch. Penetration in water was 16 to 18 inches. We liked this load based on expansion, penetration, and low recoil.

**GUN TESTS GRADE: A-**

### Fiocchi 124-Grain XTP

The 124-grain Fiocchi load

demonstrated more penetration, 17 to 20 inches, than the 115-grain load. Expansion was slightly less at 0.50 to 0.54 inch, but very consistent. It isn't as fast as some other loads, but we like the balance of expansion and penetration, and it doesn't introduce heavy recoil into even lightweight handguns. In the carbine, it hits like a +P from a pistol, but with light recoil and modest pressure.

**GUN TESTS GRADE: A**

### Hornady 124-Grain +P

We wanted to test +P loads as well as standard loads and we are glad we did. Expansion and penetration in the pistols was just a bit over the standard-velocity Fiocchi load. Velocity in the pistols began at 1214 fps. In the carbine, velocity jumped to a solid 1301 fps. Penetration ran from 20 to 24 inches and expansion 0.55 to 0.62 inch. This is a load that maximizes the carbine length barrel and offers two feet of penetration. Yet, it is controllable. You have to decide if you wish to run +P loads in your handguns.

**GUN TESTS GRADE: A-**

### Speer Gold Dot 124-Grain +P

The Speer Gold Dot +P offers similar performance to the American Gunner +P with velocity of 1198 to 1305 fps, slightly slower in the handgun compared to the Hornady +P and slightly faster in the carbine. This bullet showed the greatest increase in expansion when fired in a carbine, from 0.64 in the pistol to a startling 0.75 from the carbine. Penetration is 17 to 20 inches. We feel that it would make an excellent home-defense load in both short arms and long arms.

**GUN TESTS GRADE: A-**

### Remington 124-Grain Golden Saber

The Remington Golden Saber +P offered a clean powder burn and reliable feeding. Velocity ran from 1090 to 1180 fps. Penetration was very consistent at 18 inches, with little to no deviation between the different firearms. Expansion ranged from 0.58 to 0.78 inch, with the higher number the result of a consistent outcropping of the Golden Saber jacket. The Golden Saber offers reasonable performance from the handgun and very good performance from the carbine at standard pressure.

**GUN TESTS GRADE: A-**

### Hornady 124-Grain FlexLock +P

This is among the most consistent loads we have tested. The standard deviation, which is the difference in velocity between shots, was as low as 10 fps. Penetration was also consistent at 18 to 24 inches. Expanded bullets were between 0.54 to 0.58 inch. Velocity ranged from 1129 to 1201 fps.

**GUN TESTS GRADE: A-**

### SIG Elite 147-Grain V-Crown

The 147-grain V-Crown exhibited velocity of 940 to 1090 fps, the fastest overall of the heavyweight bullets. You have to look hard at the performance. Some purchase a 147-grain loading for increased penetration. In the handguns, average penetration was 14 inches. In the carbine, 17 inches, with expansion picking up from 0.59 to 0.64 inch. So the load did not blow up at higher velocity. This looks good for home defense in both handguns and carbines.

**GUN TESTS GRADE: A-**

### Speer Gold Dot 147-Grain

The Speer Gold Dot features a bonded bullet that is manufactured literally by punching a hole in the original jacketed core. The Gold Dot has been in use a considerable time, and in previous tests, it has given good results in most scenarios. The Gold Dot is at its best at higher velocity, but it expanded even at the lowest velocity in the Glock 43 9mm. Penetration remained remarkably consistent at 15 to 16 inches, despite a difference in muzzle velocity from 911 to 1080 fps. Expansion was 0.55 to 0.62 inch. There was more disruption of the water jugs at higher velocity. If



*Left to right are the expanded bullets from the 115-grain Fiocchi, 124-grain Fiocchi XTP, and the Hornady American Gunner 124-grain +P load.*



*Left to right are expanded bullets from the Fiocchi 115-grain XTP, Fiocchi's 124-grain XTP, and the Hornady American Gunner 124-grain +P. High velocity shows its effect even on the XTP.*



*The Gold Dot offers deep penetration and good expansion for those preferring a 147-grain bullet.*



*The 124-grain Fiocchi is a viable choice operating at low pressure.*



*Here's Remington's 124-grain Golden Saber. The bullet on the left, fired from the carbine, shows the consistent opening of the jacket.*



*Above, left to right are the mushroomed samples of the SIG V-Crown, Speer Gold Dot, and Browning X bullet 147-grain pills.*

## 9MM LUGER LOAD PERFORMANCE DATA

| Cartridge | Firearms | Average Velocity (fps) | Standard Deviation (fps) | Muzzle Energy (ft.-lbs.) | IPSC Power Factor | Average Accuracy (in.) |
|---|---|---|---|---|---|---|
| **115-grain** | Glock 43X | 1130 | 9 | 326 | 130 | 1.3 |
| **Fiocchi XTP** | Glock 45 | 1166 | 12 | 347 | 134 | 1.3 |
| | Glock 17 | 1174 | 10 | 352 | 136 | 1.3 |
| | KelTec Sub-2000 | 1240 | 11 | 393 | 143 | 0.75 |
| **124-grain** | Glock 43X | 1115 | 14 | 342 | 138 | 2.0 |
| **Fiocch XTP** | Glock 45 | 1119 | 7 | 345 | 139 | 2.1 |
| | Glock 17 | 1140 | 16 | 358 | 141 | 1.5 |
| | KelTec Sub-2000 | 1190 | 14 | 390 | 148 | 1.1 |
| **124-grain** | Glock 43X | 1214 | 14 | 406 | 150 | 3.0 |
| **Hornady American** | Glock 45 | 1222 | 12 | 411 | 151 | 2.3 |
| **Gunner +P** | Glock 17 | 1246 | 12 | 427 | 154 | 2.5 |
| | KelTec Sub-2000 | 1301 | 19 | 466 | 161 | 1.8 |
| **124-grain** | Glock 43X | 1198 | 16 | 395 | 148 | 4.0 |
| **Speer Gold Dot +P** | Glock 45 | 1222 | 22 | 411 | 151 | 2.5 |
| | Glock 17 | 1258 | 12 | 436 | 156 | 2.0 |
| | KelTec Sub-2000 | 1305 | 24 | 469 | 162 | 1.2 |
| **124-grain** | Glock 43X | 1090 | 21 | 327 | 135 | 4.2 |
| **Remington Golden Saber** | Glock45 | 1111 | 17 | 340 | 138 | 2.0 |
| | Glock 17 | 1130 | 13 | 351 | 140 | 2.5 |
| | KelTec Sub-2000 | 1180 | 30 | 383 | 146 | 1.7 |
| **124-grain** | Glock 43X | 1129 | 10 | 351 | 140 | 2.9 |
| **Hornady FlexLock +P** | Glock 45 | 1150 | 12 | 364 | 143 | 2.4 |
| | Glock 17 | 1163 | 11 | 372 | 144 | 1.7 |
| | KelTec Sub-2000 | 1201 | 19 | 397 | 149 | 1.2 |
| **147-grain** | Glock 43X | 940 | 13 | 288 | 138 | 4.0 |
| **SIG Sauer V-Crown** | Glock 45 | 954 | 14 | 297 | 140 | 3.0 |
| | Glock 17 | 969 | 17 | 306 | 142 | 2.9 |
| | KelTec Sub-2000 | 1090 | 24 | 388 | 160 | 0.9 |
| **147-grain** | Glock 43X | 911 | 18 | 271 | 134 | 4.2 |
| **Speer Gold Dot** | Glock 45 | 955 | 33 | 298 | 140 | 3.0 |
| | Glock 17 | 951 | 16 | 295 | 139 | 2.0 |
| | KelTec Sub-2000 | 1080 | 22 | 381 | 159 | 1.0 |
| **147-grain** | Glock 43X | 913 | 10 | 272 | 134 | 3.8 |
| **Browning X Bullet** | Glock 45 | 918 | 11 | 275 | 135 | 2.5 |
| | Glock 17 | 941 | 14 | 289 | 138 | 2.8 |
| | KelTec Sub-2000 | 1060 | 11 | 367 | 156 | 1.8 |

***Notes:*** Average Velocity and standard deviation readings were obtained by firing four five-shot strings over a Competition Electronics Pro Chrono. Ambient temperature: 86 degrees. Elevation: 815 feet above sea level. ● The accuracy figures are the average of two five-shot groups. For accuracy, we fired the test gun from a benchrest at a 15-yard target. ● To calculate IPSC power factor, multiply bullet weight in



*Hornady's FlexLock load is very consistent, with every bullet measuring nearly the same diameter.*

you like the 147-grain weight and deep penetration, this is a viable loading. Performance is little affected by velocity. We prefer the performance of other loads in the shorter-barrel handguns.

**GUN TESTS GRADE: A-**

### Browning 147-Grain X Bullet Hollow Point

This round's expansion was poor, running from 0.46 to 0.50 inch. One bullet failed to expand at all. There were so many other choices, we'd pass on this one.

**GUN TESTS GRADE: B**

### Our Team Said

**During the testing, we took notes and compared expanded bullets and worked to eliminate some choices. To our surprise, we found the sweet spot of performance and shootability in the middle.**

**✗ The Browning 147-grain X bullet and the Fiocchi 115-grain JHP were first to go — the Fiocchi 115 simply because we liked the Fiocchi 124-grain load better.**

**● If you prefer a 147-grain load, the Speer Gold Dot and the SIG Sauer V-Crown are viable choices.**

| Expanded Width (in.) | Retained Weight (gr.) | Retained Weight % | Penetration In Water (in.) | Gun Tests Grade |
|---|---|---|---|---|
| 0.52 | 115 | 100 | 16 | A |
| 0.52 | 115 | 100 | 16 | A |
| 0.53 | 115 | 100 | 16 | A |
| 0.55 | 115 | 100 | 18 | A |
| 0.50 | 124 | 100 | 17 | A |
| 0.50 | 124 | 100 | 18 | A |
| 0.52 | 124 | 100 | 18 | A |
| 0.54 | 122 | 99 | 20 | A |
| 0.54 | 122 | 99 | 20 | A |
| 0.54 | 124 | 100 | 20 | A |
| 0.55 | 123 | 99.5 | 22 | A |
| 0.62 | 122 | 99 | 24 | A |
| 0.64 | 124 | 100 | 17 | A |
| 0.64 | 124 | 100 | 18 | A |
| 0.69 | 124 | 100 | 18 | A |
| 0.75 | 124 | 100 | 20 | A |
| 0.58 | 124 | 100 | 18 | A |
| 0.58 | 124 | 100 | 18 | A |
| 0.59 | 124 | 100 | 18 | A |
| 0.78 | 120 | 95 | 18 | A |
| 0.54 | 124 | 100 | 19 | A |
| 0.55 | 124 | 100 | 18 | A |
| 0.56 | 124 | 100 | 18 | A |
| 0.58 | 124 | 100 | 20 | A |
| 0.59 | 147 | 100 | 14 | A |
| 0.60 | 147 | 100 | 14 | A |
| 0.61 | 147 | 100 | 15 | A |
| 0.69 | 147 | 100 | 17 | A |
| 0.55 | 147 | 100 | 15 | A |
| 0.58 | 147 | 100 | 15 | A |
| 0.58 | 147 | 100 | 15 | A |
| 0.62 | 147 | 100 | 16 | A |
| 0.46 | 147 | 100 | 18 | B |
| 0.47 | 147 | 100 | 18 | B |
| 0.44 | 147 | 100 | 18 | B |
| 0.45 | 147 | 100 | 20 | B |

grains by the velocity in fps, then divide by 1000. ● The retained-weight column shows the recovered bullet weight as a percentage of the actual bullet weight.

● All handguns are not as suitable for +P loads as the Glocks. The three 124-grain +P loads included the Hornady American Gunner and Hornady FlexLock as well as the Speer Gold Dot. Total expansion favors the American Gunner, just slightly, over the FlexLock. The Gold Dot 124-grain +P exhibits the best expansion in the carbine. If you feel like you and your firearm are up to +P use, take your pick of the 124-grain choices from the table above.

✔ Overall, we preferred the 124-grain loads for multi-gun use. The Fiocchi 124-grain XTP and the Remington 124-grain Golden Saber, operating at standard pressure, would be acceptable loads for pistol and carbine use. While there are individual reasons for choosing a load over the other, we feel that the performance of the standard-pressure 124-grain loads is ideal for long-term use, so we'd start here by looking at function in our guns.

*Written and photographed by* GUN TESTS *Staff, using evaluations from* GUN TESTS *team testers.* **GT**

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# COMING UP IN GUN TESTS

- Duffle-bag guns: Poland's Radom Vis 35 9mm Pistol, a German Luger, a Walther P-38, and a Browning High Power.

- One-piece scope mounts with QD or quick-detachable systems offer a number of advantages over employing two separate rings. The first is strength. The second is alignment. Quick-detachable systems that do not require tools to remove or replace the scope make the process more convenient. Tested: the $169 Lucid Optics Pro, Larue's $232 SPR-E LT139, and SightMark's $120 Tactical LQD Cantilever Mount.

- Tactical Shotgun Shoot Out: We test four modern self-loading shotguns: the Rock Island Armory VR 80, Beretta 1201 FP, Benelli MK4 H20, and Remington V3.

- The competition world has embraced the 9mm and is literally running and gunning with it in some disciplines. Adding to a previous test list, we found there are a lot of 9mm pistols that fit the competition/target category, so we assembled three more models: a striker fired Lone Wolf custom TWF-F, a single-action Colt Gold Cup Trophy, and a DA/SA CZ Shadow 2. Even if you are not a competition shooter, these pistols offer reliability, accuracy, and ease of use. As well as fun guns to shoot.

- A Bolt-Action Handy Rifle: Savage 110 Hog Hunter 223 Remington. We tested a Savage Arms 110 Hog Hunter in the new 350 Winchester Legend cartridge, and we've also shot one chambered for 223 Remington. Shooters who don't need a straight-wall cartridge might appreciate it.

- Bargain Hunter: Used scatterguns for home defense. Tested were the Winchester 1200 Defender, $225; Winchester SXP Marine Defender, $255; Iver Johnson Champion, $50; and the Remington 870 Magnum, $275.

- More Single-Action Rimfires: Tested are the Chiappa 1873, Heritage Rough Rider, and Traditions Rawhide Rancher.

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