GUN TESTS®

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9MM SLIMLINES

Tested: The Glock 43X, Glock 48, and Mossberg's MC1sc, all designed for concealed carry. Which is most easily concealed, reliable, and accurate? We liked one in particular. ● Page 6

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'SCOUT'-ISH RIFLES

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MEDICAL KITS

Need portable safety supplies? Of course you do. Compared: The Rescue Essentials Tactical Ankle Medical Holster and Galco's GunLeather Ankle Trauma Medical Kit. ● Page 28

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DOWNRANGE

DON'T BUY GLOCK FULL-AUTO SWITCHES



Todd Woodard

CNN has reported that federal authorities are searching for thousands of conversion devices that render semi-automatic Glock pistols into fully automatic weapons that are considered to be machine guns.

According to CCN, "Brad Engelbert, an ATF spokesman, described the nationwide recovery effort as a 'high priority' for the agency, focused on those devices in the possession of 'people who may be a danger to the community.'"

Engelbert told CNN that while the devices are specifically designed to modify Glock pistols, he stressed that they are not manufactured by Glock. The agency believes the illegally imported devices came from China, in some cases ending up in the hands of convicted felons, CNN reported.

ATF and customs officials in Chicago identified more than 2,900 packages containing conversion devices that are believed to have been shipped into the United States under false customs declarations, according to an affidavit filed in federal court in Rhode Island, CNN reported. PayPal accounts linked to the suspected Chinese exporter revealed more than 3,800 sales transactions by U.S. customers who are believed to have illegally purchased and obtained the devices, according to court records.

CNN reported that agents with the ATF's Internet Investigations Center recently purchased "multiple" conversion devices from a website "believed to be operated out of China" by one or more suspects, according to the affidavit. The conversion devices were sold for $19.99 each and advertised as "Glock Pistols Select of Switch Full Auto For All Models Glock All Generations. [*sic*]"

As CNN noted, "It is illegal for civilians in the United States to possess machine guns manufactured after 1986. Ownership of a machine gun made before then requires a federal permit and registration. The small amount of automatic weapons available for purchase has created a niche market in which they can sell for big money."

The takeaways from this story are many, but the big one for me was, "What?" I had no idea that Glocks were so easily modified to become full auto, so I chased down a few links on the internet to see how it's done. Basically, it seems, the switches change the sear engagement inside the pistol by using an arm attached to the rear plate. I don't want to go into it any further than that.

Second, who would be so stupid as to buy one of these things? From China, no less? Seems like a short ride from your PayPal account to the hoosegow. Electronic payment trail, delivery address, and all that. *Knock, knock.* Who's there? BATF, that's who. **GT**

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Speedloader Enthusiasm

Readers have had a lot of challenges finding good wheelgun reloading devices. We were happy to help. Also, Reader Gail wonders about the 6.5 PRC, but not so much that a change is in the cards.

Re "Revolver Speedloaders: Proven Designs and New Innovations," May 2019

With anticipation I started reading the revolver speedloader review with the hope I could find a more affordable solution for my Kimber K6 revolver. I was disappointed — not in the GUN TESTS review, but in the lack of options available for the Kimber. I've purchased the Kimber-branded aluminum speedloader (not tested, shown adjacent) that sells for $28. It loads rounds easily, but the rounds really rattle when you gently shake the speedloader, and the device doesn't lend itself to concealed carry. I haven't tried the drop test because I only have one! The Kimber model looks like the 5-Star brand, but they are different enough that I don't believe they are the same. I tried a 25-year-old 6-round HKS speedloader I had on hand. It works, but takes some wiggling to get all of the rounds loaded because it rubs against the K6's grips. I checked the websites of the brands you tested and found only the even-more-expensive Speedbeez brand has a speedloader that's rated for the Kimber K6. The size of the Speedbeez, as well as the poor drop-test ratings, doesn't make it an option for concealed carry for me. Speedstrips seem to be the best option for me for now — they're concealable and quiet, they hold rounds in place, and they're relatively inexpensive.

— Ken

Ken: Thanks for sharing your experience with other GUN TESTS *readers. — Todd Woodard*

Todd, here are some comments I have pertaining to the revolver speedloader article. I am always pleased to see articles pertaining to revolvers, and very much enjoyed your article on speedloaders. I have a few comments to add to the discussion of the 5-Star brand (and no, I'm not a factory representative):

1. You indicated the relatively high cost of these speedloaders, but you should add to this the fact that they have a lifetime warranty, regardless of cause. Drive over it with your car? No problem, in fact aside from some abrasions, it will probably still work. In contrast, I have had to replace numerous HKS speedloaders when, during advanced training classes at Front Sight, they invariably got stepped on by someone after they are dropped on the ground following discharge of the cartridges into the cylinder. The partitions between the chambers are simply not strong (thick) enough to withstand this impact. Disclaimer: I use a Smith & Wesson 686-Plus with a 7-round cylinder, so the partitions are even thinner than those in a 6-round cylinder. After replacing a number of broken HKS loaders (including one where the center pin came undone), I switched to the 5-Star, thus far with no problems. I did have a few where the knob seemed to turn a bit harder than others; these also were replaced by the factory at no charge.

2. It is important to note that the 5-Star speedloaders drop the cartridges with a counterclockwise motion of the control knob, in contrast to an HKS, which is rotated clockwise. The CCW rotation was

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.

designed so the loader (hence cylinder) is torqued away from the frame, and not into it. Accordingly, it would be ill-advised to use both types of loader concurrently, especially under stress, which is where you would need a quick emergency reload the most. Thanks for an informative and entertaining magazine. **— Daniel**

Editor: I have bought HKS, Safariland, Maxfire, and 5-Star speedloaders for my 357 Magnum revolvers. I came to the same conclusion you did, preferring Safariland, but for different reasons. I didn't like the Maxfire because I felt it put undue stress on the crane and cylinder axle. The 5-Star, HKS, and Safariland all hold the cartridges the same way; the knob connects to a star-shaped gizmo that is raised and rotated until the points of the star pull down on the rims of the cartridges. This one-point hold prevents each cartridge from moving side to side or pivot away from the axis of the speedloader, but it allows the cartridge to pivot toward the center of the speedloader. Only the Safariland speedloader has a extended shaft with another star device which presses against the cartridge body. This holds the bullet in alignment with the cylinder and allows no wobble. I believe this makes the reload faster. Second, the Safariland only needs a push to release the cartridges. With the others, the cylinder needs to be held while the knob is turned, a two-handed operation.

The height of the speedloader was mentioned. The Safariland tested was a Comp II, which is perfect for a belt pouch. There is also a Comp I, with a low profile for concealed carry. Sadly, Safariland does not make speedloaders for 7- or 8-shot revolvers. I have a 5-Star for my 8-shot handgun and I am happy with it.

— A Gun Tests Reader

Hello, Gun Tests. Thanks for another great issue. I really enjoyed reading it, especially the section on speedloaders. Years ago, I was searching for a speedloader for my 10-shot S&W 22 revolver. After all that searching, I found one, saved my money, and bought two. When they arrived, I went to work trying them out. And to my surprise they would not work. After loading and unloading the speedloaders, I decided to contact the maker. The reply I got back was lousy to say the least. I was told that to make them function properly, if at all, I had to purchase a "loading block" and use that along with them. Nowhere in any of the literature or on their website or the catalog where I purchased them from was any of that mentioned. So now I have to save up and buy that expensive tool to make them work. When I go to buy more speedloaders, I will refer back to the May issue.

Also the 44 Magnum rifles was a great article, too. Living here in Louisiana, a 44 Magnum is the perfect rifle for me. I used to have a Winchester Trapper carbine that I had to sell due to hard times. But all the game animals that I shot with it were taken cleanly. Not one of them took a step after I fired it. Fast forward a couple of years, and I found myself back in the market for a 44 Mag. I purchased several different makes of rifles, about six in all, and the rifling twist was all wrong on all of them. I used 11 different commercial loads, four or five of my handloads, and I could not make any of the six rifles group. It was sad. I also bought the Ruger 77 in 44 Mag. with a synthetic stock, and I really wanted it to work. It wasn't much better. After reading the May issue, I will try the wood-stock rifle. I also am buying the Henry single shot in 44 Mag. for a primitive rifle here at home. Lord knows I got plenty of 44 Mag. ammo to shoot. That's the silver lining to my 44 Magnum rifle experience, I guess. Keep up all the great articles.

— M.

Sounds like you need a faster twist, maybe 1:20 or 1:18. But why not go back to the Trapper? I saw plenty for sale (used) online. — tw

Re "45 ACP 1911s: We Test Five From Les Baer, SIG Sauer, Colt," May 2019

In this issue you tested five higher-priced 1911s. I especially like your results since I own a Gold Cup. In the June 2019 issue, you tested three affordable 1911s. What would have made these tests even better was if you tested the three affordable 1911s at the same range and using the same ammo as in the May test. That way I can directly determine if it's worthwhile to spend the extra money, or if a low-price compact is comparable to the full-size accuracy.

I also read with interest your take on the 6.5 PRC. What you say is more than likely correct, but you are not taking into consideration your audience. Many of us just went out and dropped significant $s on a 6.5 Creedmoor, dies, and reloading components. I am spending my time finding and testing optimum loads for it. Now along comes a "better" cartridge. But I'm not made of money and can't justify spending the money or the time on another cartridge. There is always a better cartridge (or a bigger and faster computer). So I'll just keep going along with the 6.5 Creedmoor, which makes me smile when I shoot it. **— Gail**

No, I get it. The 6.5 Creedmoor is a great round and very well mannered. No wonder you smile when you shoot it. The Mauser M18 was a great rifle, but we expressed reluctance about buying it because of the new 6.5 PRC chambering. What will really cook your noodle is an upcoming test of 6mm Creedmoor rifles. — tw

Re "Twenty 22 Rimfire Loads Go Head to Head at the Range," June 2019

Nice review. I would like to add one more loading, the CCI Segmented Subsonic HP rated at 1050 fps, CCI #0074. This is a magic

round. So far I've nailed three large groundhogs ranging from 62 to 76 yards, and all have been humane, instant one-shot kills. Until I found this round, groundhogs shot with a 22 LR anywhere except the head would crawl back under the barn then die, with the attendant lingering odor. No good. With a suppressor and the Segmented Subsonic hollow point, all you hear is the smack of the bullet impact. Even without the suppressor, it's very quiet from a rifle, thus incurring neither spousal nor neighborly wrath. In fact, from a 40-X, it's quieter than a pellet gun. Plus, I've fired this from several 22 rifles. In each one it is extremely accurate, shooting like match ammo. Finally, when I retrieve a carcass to dispose of it, there's no mess like from a 223 Rem. or 357 Mag. (from a Marlin 1894) makes.

For everything from squirrel hunting to varmint control (numerous possums and raccoons have also been eliminated using this round), this is the only load I use. It outperforms all the other subsonic/suppressor-friendly rounds I've tested from accuracy to effectiveness.

One last note. The CCI standard-velocity lead round-nose round is indeed very accurate. Many of us use it for club-level Bullseye competition, and I'm a Master-class shooter. While expensive foreign-sourced ammunition is generally used for major matches and Camp Perry, I wouldn't feel particularly disadvantaged using the CCI subsonic at these venues. **— Russ**

Dear Todd, the most recent edition of GUN TESTS arrived in my mail box this afternoon. I was excited to see on the cover "22 Rimfire Ammo Test." I quickly flipped to the page indicated to see what you guys had unearthed, as I am very respectful of your unbiased opinions. I was pleased to see the article, but disappointed, too, as I was hoping to find an update to an article that was done some years ago (2010) on a website, comparing 22 ammunition shot from a benchrest rifle to determine the most accurate ammunition then available. I realize you may have to postpone this sort of a study as you just finished one using a pistol, but I would find this a very useful tool in helping to determine what ammunition to purchase for precision 22 shooting. Thank you in advance for considering this as a future article. **— Larry**

Thank you for the link to the comparison. But as you likely know, rimfire ammo has to be lot-tested in individual rifles to get precision performance. Results from a single rifle, like the one you cite, can give you a starting point, but you still have to buy X different boxes of ammo, and shoot them in your rifle to find the one (or more) it likes. Then buy as much as you can afford. Our test of 22 ammo in a handgun was more for the penetration and expansion aspects, which we had never done before. We don't recommend people use 22 LR for self-defense, but we wouldn't like to get shot with a round of it, either.

For more on the stopping-power topic, trainer Greg Ellifritz at ActiveResponseTraining.net has done a comprehensive study of handgun, rifle, and shotgun rounds' performance in 1800 actual shootings, and the work includes data on how 22 LR cartridges perform. It's worth searching for and reading. — tw

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There are two ways to find guns we've reviewed. The Compare Guns feature (top left corner of the page under the logo) allows you to input several descriptors and narrow the search results. Or you can use the Search function. If you search for a common item, such as "22 LR," you'll get tons of references. Basically, the search function finds every instance of the searched-for topic and lists the accompanying articles the topic appeared in. The more specific and unique the reference, the better the search. We do our best to list the catalog numbers for guns we've tested, so that's usually a good place to start. There's also an "Advanced Search" area to help you narrow the results.

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9mm Slimline Pistol Shootout: New Glocks & Mossberg Vie

Tested: The Glock 43X, Glock 48, and Mossberg's MC1sc, all designed for concealed carry. Which is most easily concealed, reliable, accurate, and hard-hitting? We liked one in particular.

The growth of the concealable 9mm Luger handgun market continues to grow apace, with seemingly dozens of new models being introduced every year from makers all over the world. This suggests a vital and interested market because manufacturers wouldn't be building guns for people who wouldn't buy them. That includes GUN TESTS readers, of course, who are always on the lookout for a better mousetrap. Here, we look at three new models from two manufacturers, Glock and Mossberg. Yep, you read that right. The well-known shotgun and rifle maker is dipping a toe into the sidearm market as well — and why not? Perhaps Mossberg has studied the pistol market long and hard and found holes in the function and form of the existing selections. Our range testing would find out.

Mossberg's new-for-2019 MC1sc has those the "sc" trailing letters, which mean "subcompact," the first pistol introduced by Mossberg in nearly 90 years. The Mossberg is small, light enough, and midway between the two Glock pistols mentioned below in weight. The grip frame is shorter than the Glock pistols tested and holds fewer cartridges in its magazines as a result. The grip frame is pebbled, but the texture isn't aggressive. The texture style differs from the Glocks but accomplishes the same thing, offering a good grip without abrasion. The pistol uses the familiar striker-fired action. The MC1sc is supplied with two clear plastic magazines, one holding six cartridges and one holding seven. This makes the pistol competitive in capacity with the Glock 43 and Smith & Wesson Shield.

Next up was the Glock 43X PX435SL301AB, which comes with Ameriglo night sights. A standard Glock-night-sight-equipped pistol is $488. The pistol is similar



Top is Mossberg's new MC1sc subcompact, the first pistol introduced by Mossberg in nearly 90 years. The Mossberg is midway between the two Glock pistols mentioned below in weight. The grip frame is shorter than the Glock pistols tested and holds fewer cartridges in its magazines as a result. Middle: The Glock 48 isn't a slim-line version of the Glock 19, but is instead a redesigned pistol that is only roughly the same dimensions. In length and height, it is similar to the Glock 19 9mm. But the Glock 48 is much thinner in both the slide and the grip frame. This results in a package that is considerably easier to conceal than the Glock 19. Bottom is the Glock 43X, whose grip and hand fit area are identical to the Glock 48. The Glock 43X is 2 ounces lighter than the Glock 48, 0.8 inch shorter and measures out at the same height, trigger span, and other elements.

9MM LUGER RANGE DATA

Blacks Hills 115-grain JHP EXP	**Glock 48**	**Glock 43X**	**Mossberg MC1sc**
Average Velocity	1201 fps	1168 fps	1159 fps
Muzzle Energy	368 ft.-lbs.	348 ft.-lbs.	343 ft.-lbs.
Smallest Group	1.8 in.	2.2 in.	2.4 in.
Average Group	2.0 in.	2.6 in.	2.8 in.
Speer Gold Dot 115-grain JHP	**Glock 48**	**Glock 43X**	**Mossberg MC1sc**
Average Velocity	1160 fps	1144 fps	1166 fps
Muzzle Energy	344 ft.-lbs.	344 ft.-lbs.	347 ft.-lbs.
Smallest Group	2.0 in	2.8 in.	2.7 in.
Average Group	2.4 in.	3.0 in,	3.2 in.
SIG Sauer Match Elite 147-grain V-Crown JHP	**Glock 48**	**Glock 43X**	**Mossberg MC1sc**
Average Velocity	909 fps	880 fps	894 fps
Muzzle Energy	247 ft.-lbs.	253 ft.-lbs.	261 ft.-lbs.
Smallest Group	1.5 in.	2.4 in.	2.3 in.
Average Group	2.4 in.	3.0 in.	2.6 in.

We used a Bullshooters pistol rest to fire groups at 25 yards. We used a Competition Electronics Pro Chrony to measure muzzle velocity. ***Ammo sources:*** *Blacks Hills Ammunition EXP 115-grain JHP ($15/20 rounds LuckyGunner.com), SIG Sauer Match Elite 147-grain ($29/50 from SIGSauerStore.com), and Speer Gold Dot 115-grain jacketed hollow point 23614GD ($25/50 from TargetSportsUSA.com).*

in concept to the Glock 48. The Glock 43X is a Glock 43 with a longer grip that holds a 10-round magazine. The grip and hand fit area are identical to the Glock 48. However, each frame will not accept the other's slide. Each slide features a nicely beveled edge that makes for easier re-holstering. Each also features the 0.75-inch longer grip compared to the Glock 43, and gets the capacity up past revolver-like numbers. The Glock 43X is 2 ounces lighter than the Glock 48, 0.8 inch shorter and measures out at the same height, trigger span, and other elements. The sight radius is almost 0.8 shorter.

The Glock 48 has been the subject of some misconception. The pistol isn't a slim-line version of the Glock 19, but is instead a redesigned pistol that is only roughly the same dimensions, in a one-dimensional sense, as the Glock 19. In length and height, it is similar to the Glock 19 9mm. But the Glock 48 is much thinner in both the slide and the grip frame. This results in a package that is considerably easier to conceal than the Glock 19. The Glock 48 is based on the Glock 43 9mm, with the Glock 48 featuring a longer slide and higher grip frame. Our test model is the PA485SL301 variant.

On the firing range, we used the Black Hills Ammunition 115-grain full-metal-jacket loading for combat-course testing. We fired 60 rounds of this load in each handgun. We also fired 20 rounds of the



We fired a good array of 9mm ammunition to compare velocities and to see if the trio fed, chambered, fired, and ejected normally. Velocity results favored the Glock 48 and its longer barrel.

Black Hills Ammunition 125-grain Honey Badger in each 9mm pistol to check for function on the combat range. Moving to the benchrest for accuracy at 15 yards, we used three loads. These included the Black Hills Ammunition EXP 115-grain jacketed hollow point, the Speer Gold Dot 115-grain JHP, and the SIG Sauer Match Elite 147-grain. The SIG Elite isn't a full-power 147-grain load. It is designed to provide match-grade accuracy in 9mm pistols. As far as reliability,

all these loads fed, chambered, fired, and ejected normally in all three pistols. None of the three pistols has interchangeable grip panels. They do not have light rails. There were no malfunctions of any type, save for shooter-induced slide-lock malfunctions and a few shooters who did not slap the Mossberg magazine home properly. Acclimation to the pistols and eliminating these errors was rapid. The three handguns were comfortable to fire. If one was most comfortable, and it was a close thing, it was the Mossberg. We like the superior grip and magazine capacity of the Glock 43X and Glock 48. While we like the Ameriglo sights of the Glock 43X best, night sights are optional on all three handguns. When firing off the benchrest, the pistols were accurate enough for personal defense and performed in a narrow spectrum. All were more accurate than expected. These new introductions are each viable choices for personal defense, but which one might suit you best? Here are details about each contestant.

Mossberg MC1sc 89001 9mm Luger, $365

This was a recent price from ImpactGuns.com. The pistol is supplied with two clear-plastic magazines, one holding six cartridges and one holding seven. This makes the pistol competitive in capacity with the Glock 43 and Smith & Wesson Shield. Mossberg chose to make the pistol compatible with Glock 43 magazines. This allowed Mossberg to introduce a handgun with a readily available supply of magazines

MOSSBERG MC1SC 89001 9MM LUGER, $365
GUN TESTS GRADE: A- (BEST BUY)

We liked the Mossberg MC1 pistol. The Mossberg 9mm gave up little to the Glock designs in most regards. Reliability was never a question. While some of us did not like the takedown, as the senior rater noted, it was as safe as it gets. The sights were a bit tight and could have been wider for faster work on the targets, but in the combat-firing tests, the pistol turned in acceptable to good results. For those on a budget wishing to obtain quality, reliable protection, the Mossberg gets a high rating.



Action ..... Double action only
Overall Length ..... 6.25 in.
Overall Height ..... 4.2 in. with flush fit magazine
Maximum Width ..... 1.03 in.
Weight Unloaded ..... 19.0 oz.
Weight Loaded ..... 23.0 oz
Barrel ..... 3.4 in. long 416 stainless steel; 1:16 RH twist; Diamond-Like Carbon (DLC) Coating
Magazine ..... 6- and 7-round Clear-Count polymer; accepts Glock 43 magazines
Slide ..... Stainless steel w/ DLC Coating forward and rear serrations
Slide Retraction Effort ..... 15.5 lbs.
Frame ..... Glass-reinforced polymer; reversible mag release
Frame Front Strap Height ..... 1.75 in.
Frame Back Strap Height ..... 2.7 in.
Grips ..... Surface pebbled and checkered; palm swell
Grip Thickness (max) ..... 0.9 in.
Grip Circumference (max) ..... 5.3 in.
Front Sight ..... Dovetail, single white dot
Rear Sight ..... Dovetail, snag-free profile; two white dots; windage drift adjustable
Trigger Pull Weight ..... 5.6 lbs., flat-profile style w/blade safety
Trigger Span ..... 2.8 in.
Safety ..... Hinged trigger; firing pin block
Warranty ..... 1-year warranty
Website ..... Mossberg.com
Telephone ..... (203) 230-5300



On the combat course, the majority of our shooters said the Mossberg MC1sc was the most comfortable to fire. We also saw rapid accurate fire was possible with the MC1 design. The gun ran cleanly, but we had some shooter errors, mainly a number of failures to fully seat the larger magazine when the slide was closed. This is a familiarity issue that can be resolved with proper training.

in the supply chain. Smart. Trigger compression is 5.5 pounds and is easy enough to manage. One of the raters tested a handgun of the same type on his own and that trigger measured 5.1 pounds.

As a new introduction, it is important to test the MC1sc against others similarly configured, but it suffers from less capacity than the two Glock pistols. Perhaps it would be more fair to compare it to the Glock 43. Just the same, the Mossberg was tested on its own merits against the Glock introductions and held its own in most particulars.

The pistol is available with a crossbolt safety (89002) as well as the standard version (89001) with no manual safety tested here. We cannot comment on the manual-safety version because we have not seen one. Here, the MC1sc uses the same safety lever in the trigger as the Glocks, to secure the action against lateral discharge and to prevent trigger movement if the pistol is dropped. The takedown is not very complicated and seems designed to address complaints concerning the Glock takedown. When field-stripping the Glock, the trigger is pressed during the takedown to release the striker. There have been accidental discharges with the Glock, true, as there have been with most handgun types. Making certain the handgun is unloaded and the hand isn't in front of the muzzle at any time will prevent accidents.

The Mossberg MC1sc uses a more complicated breakdown procedure, in our opinion. The pistol is unloaded and the slide locked to the rear. The



Right and below: The Mossberg's sights are OK, but they are not our favorite. We felt the Mossberg sights were a bit tight for all-round combat shooting. They can be replaced with SIG units.





Above: Grip pebbling on the MC1sc is well done and helped get a firm grasp on the handle. The Mossberg had the shortest grip, but it felt good in the hand. This is the seven-round magazine, which has a larger basepad on it. The six-rounder is shown on the opposite page.



The Mossberg is supplied with clear-plastic Clear-Count magazines with 6- and 7-round capacities.



Takedown involves removing the rear dust cover by pressing it in and then removing the striker.

GLOCK 48 PA485SL301AB 9MM LUGER, $488

GUN TESTS GRADE: A

Best-shooting pistol in the test and the most powerful. More difficult to conceal than the others, though "difficult" is relative.



Action	Double action only
Overall Length	7.28 in.
Overall Height	5.04 in.
Maximum Width	1.1 in.
Weight Unloaded	18.5 in.
Weight Loaded	22.9 oz.
Barrel Length	4.17 in.
Barrel	Steel
Magazine	10-round detachable box
Slide	Silver-color-finished steel
Slide Retraction Effort	13.8 lbs.
Frame	Polymer
Frame Front Strap Height	2.5 in.
Frame Back Strap Height	3.0 in.
Grips	Pebbled
Grip Thickness (max)	0.88 in.
Grip Circumference (max)	5.5 in.
Sights	White outline
Trigger Pull Weight	5.5 lbs.
Trigger Span Double Action	2.64 in.
Safety	Hinged trigger; firing pin block
Warranty	Limited 1-year warranty
Website	US.Glock.com
Telephone	(770) 433-8719



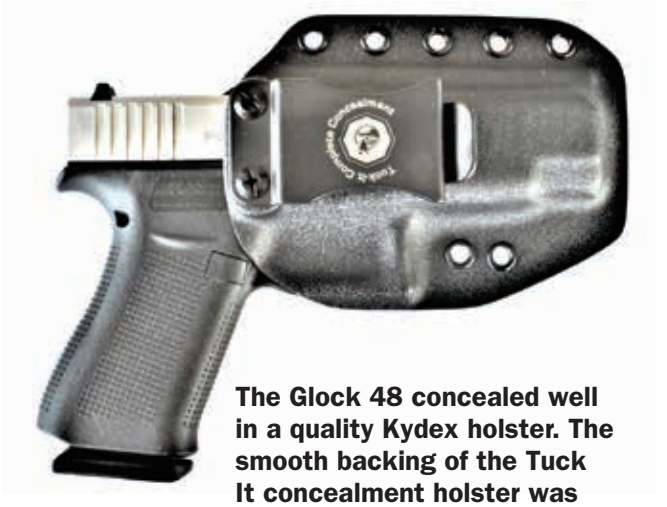
Left: Combat shooting included firing from speed rock and retention firing positions. The size and weight of the Glock 48 are practically ideal for concealed carry. Below: Ten rounds is plenty for most battles, we feel.



striker plate is removed by pressing it in and down, then the striker is simply pulled out. Be cautious as the striker is under spring pressure. After the rear plate and the striker are removed, the slide lock is released and the slide removed. The trigger must be forward to reassemble the piece. While some will like this takedown, we do not like it on several points.

First, all parts remain captive when the Glock is field stripped. With the MC1 system the back plate is removed and so is the striker. There is a chance of losing the parts in such an operation. We don't like that. While the Glock system has been criticized, it presents no danger to the conscientious shooter. The MC1 will appeal to civilian shooters, while the Glock is a service pistol was one observation, which may not be completely fair, but then there is no full-size Mossberg 9mm pistol. We did not rate the pistol down based on the takedown, but we feel the MC1 take down isn't superior to the Glock.

On the firing range, the MC1 proved reliable without any malfunctions. The pistol fed, chambered, fired, and ejected without any complaint. The dual wound recoil spring system clearly was doing its job as felt recoil was surprisingly light. Our shooters said the Mossberg 9mm is more comfortable to fire than either Glock, although with the 9mm this is a close thing. Such 19-ounce 9mm pistols do not kick much, but just the same, the MC1 was rated the most comfortable



The Glock 48 concealed well in a quality Kydex holster. The smooth backing of the Tuck It concealment holster was comfortable during the test.



We liked the forward cocking serrations on the Glocks.

The Glock 48 field strips as easily as any other Glock.



The Glock 48 and its standard Glock white-outline sights did well during the firing test. We prefer the Ameriglo sights on the 43X.



The Glock 45 9mm, top, has more aggressive pebbling compared to the thinner Glock 48 on bottom (and the Glock 43X, not shown).

pistol to fire by three of four of the raters. The fourth could not discern any difference in the three handguns.

On the combat range, the pistol gave good results. We felt that the rear sight was a bit tight in relation to the front sight, but it worked well enough. During speed drills, the pistol was fast enough to reload. The pistol is supplied with two clear magazines, one six round and one seven round. The seven-round magazine demands more effort to properly seat when the slide is forward. A slap to the base pad did the job. The pistol did a good job in the combat course without complaint. The primary impression compared to the other pistols was that the Mossberg MC1 was comfortable to fire. Rapid accurate fire was possible with the MC1 design. There were no shooter errors or missteps, save for a number of failures to fully seat the larger magazine when the slide is closed. We addressed this by training. Glock 43 magazines fit the pistol without any type of problem or malfunction. We confirmed their reliability. The sights are also a smart move. Glock aftermarket sights are readily available. So are SIG types. The Mossberg accepts SIG-type sights, allowing the use of dovetailed front sights rather than screw on front sights.

In firing from a solid benchrest position using a Bullshooters rest, the Mossberg MC1 proved accurate enough for any personal-defense chore. The sights are reasonably good for most chores, but in most

areas, the Glock offers superior sights. The Mossberg pistol's average groups were larger than the Glock 48 or the Glock 43X, but not by a large margin.

Our Team Said: While the Mossberg MC1sc is accurate enough and reliable, we did not like the takedown. We feel that modern handguns should have captive parts during disassembly. The sights were less than ideal and we rated the pistol down a half grade on this count. Even with this demerit, we think the low price of the MC1sc makes it a Best Buy for many shooters.

Glock 48 PA485SL301AB 9mm Luger, $488

This was a recent price at BudsGunShop.com. The pistol is supplied with a silver-finish slide in the trademark Glock nPVD protective coating. The sights

GLOCK 43X AMERIGLO NIGHT SIGHTS PX435SL301AB 9MM LUGER, $542

GUN TESTS GRADE: A (OUR PICK)

We really liked the 43X. The firing grip is superior to the Glock 43 and allows better shooting with a minimum of compromise in concealment. The pistol offers 10 rounds in the magazine. While the Glock 48 was more accurate off the bench, the Glock 43X gives up little in this regard. We liked the night sights on this pistol, and we would prefer them as options on other handguns. We liked this pistol the best of the test.



Action	Double action only
Overall Length	6.5 in.
Overall Height	5.04 in.
Maximum Width	1.1 in.
Weight Unloaded	16.4 oz.
Weight Loaded	21.0 oz.
Barrel Length	3.41 in.
Barrel	Steel
Magazine	10-round detachable box
Slide	Silver-color-finished steel
Slide Retraction Effort	14.5 lbs.
Frame	Polymer
Frame Front Strap Height	2.5 in.
Frame Back Strap Height	3.0 in.
Grips	Pebbled
Grip Thickness (max)	0.88 in.
Grip Circumference (max)	5.5 in.
Sights	Ameriglo Night Sights
Trigger Pull Weight	5.6 lbs., Safe Action
Trigger Span	2.64 in.
Safety	Hinged trigger; firing pin block
Warranty	Limited 1-year warranty
Website	US.Glock.com
Telephone	(770) 433-8719



While the Glock 48, left, is a slightly better shooter, the Glock 43X at right conceals better, in our view. Either pistol can be a good self-defense shooter, depending on your situation.





Above and right: The Glock 43X was delivered with Ameriglo night sights. These are high visibility sights worth their price. We kept the steel plates ringing with Ameriglo's orange front dot, which offered a contrast on both white and black surfaces.

are standard Glock plastic white-outline sights. The grip frame isn't pebbled as aggressively as some other Glock pistols, which makes sense for a concealed-carry handgun. The Glock 48 doesn't feature grip inserts, and neither do the other two pistols tested. This handgun is a personal-defense handgun, not a service pistol, joining the Glock 43 9mm. While the Glock 19 is well balanced and is a very good all-round 9mm, the Glock 48 is much easier to conceal. By the same token, the G19 is easier to fire accurately than the G43. The barrel length, however, will get maximum performance out of the 9mm Luger cartridge. The pistol might be called a Glock 43 Long Slide version, but then the grip is lengthened as well. The trigger



Ten rounds and 21 ounces are good numbers for a personal-defense handgun.



The Glock 43X fits perfectly in Glock 43 holsters such as this IWB from 1791Gunleather.com.



The Glock 43X, bottom, is much thinner than the Glock 45 9mm, top, and holds 10 rounds of ammunition compared to 17 in the G45's magazine.





Top: Field-stripping and maintenance are simple with the Glock 43X. Bottom: The dual recoil spring aided in controlling recoil.



The Glock 48, top, was the best shooter from a rest. The Glock 43X, bottom, is fast from leather and also a good shooter. Speed to a first-shot hit is equal to the G48. Fast follow up and control is a bit different due to the 43X's shorter slide, sight radius, and lighter weight.

VALUE GUIDE: RECENT 9MM HANDGUN RANKINGS

GUN NAME	ISSUE	GRADE	COMMENTS
Springfield XD(M) 4.5 XDM-T9459FDEHCE TB 9mm, $505	Apr. 2019	A	Our Pick as a personal-defense, home-defense, and tactical pistol.
Glock G34 Gen5 MOS PA3430103MOS 9mm, $710	Apr. 2019	A	The Gen5 guns are the best yet, with superior accuracy and features over earlier Glocks.
CZ-USA CZ P0-9 91620 9mm Luger, $402	Apr. 2019	B	Best Buy. CZ has managed to pack a lot of value into the P0-9. 19-round magazine.
FNH FNS-9L Longslide 66725 9mm Luger, $570	Apr. 2019	B	Heavier trigger than the other pistols. Accuracy wasn't as good.
Glock 45 9mm Luger, $546	Jan. 2019	A	Fast from concealed carry. The action allows a trained shooter to make fast hits. Reliable.
Beretta APX Compact JAXC921 9mm Luger, $449	Jan. 2019	B	Magazines were difficult to load. Slide was difficult to rack. Takedown button too tight.
SIG P320-M17 320F-9-M17-MS 9mm Luger, $770	Jan. 2019	B	The grip fits most hands well and the sights are excellent. The DAO trigger was too heavy.
Beretta 92 FS JS92F300M 9mm Luger, $562	Jan. 2019	B	Shows the age of its design with a slide-mounted decocker and long DA trigger pull.
Taurus G2S 1-G2S931 9mm Luger, $204	Nov. 2018	A	Best Buy. The Taurus pistol was reliable and controllable in rapid fire.
Smith & Wesson M&P9 Shield SW180021BW 9mm Luger, $400	Nov. 2018	A	The Battleworn Shield is reliable, accurate enough, and compact enough for EDC.
Bersa BP9MCC 9mm Luger, $295	Nov. 2018	A-	Reliable, feels good in the hand, and offers excellent handling in fast-paced drills.
Honor Defense Honor Guard HG9SCF FIST 9mm Luger, $400	Nov. 2018	A-	The FIST option is viable. We tested it against barricades with excellent results.
Ruger EC9s 3283 9mm Luger, $231	Nov. 2018	B-	Most accurate handgun of the test, despite its light weight.
Smith & Wesson M&P9 M2.0 Compact 11686 9mm Luger, $476	June 2018	A	Pleasing trigger action, good gripping surface, a rail, and grip inserts.
Glock G19X G5 PX1950703 9mm Luger, $594	June 2018	A-	Has many of the good features of the Gen5s. Fast from leather, fast on target, reliable.
Ruger SR1911 L'wt Commander 6722 9mm Luger, $739	June 2018	B	For those who like the single-action 1911 cocked-and-locked, this is a good choice.
SIG Sauer P225-A1 Nitron 225A-9-BSS-C 9mm Luger, $880	June 2018	B-	Slim grip appeals to shooters with small hands. No rail and low magazine capacity.

Log on to **Gun-Tests.com** to read complete reviews of these products in the designated months. Highly-ranked products from older reviews are often available used at substantial discounts.

VALUE GUIDE: RECENT 9MM HANDGUN RANKINGS

GUN NAME	ISSUE	GRADE	COMMENTS
Glock 17 Gen5 9mm Luger, $545	Mar. 2018	B-	A credible firearm, but the sum of its parts is not a great leap forward.
CZ-USA CZ P-10 C 91520 9mm Luger, $480	Feb. 2018	A-	Best Buy. Well-designed sights, decent trigger, ambi slide lock and magazine catch.
Lipsey's Glock 17RTF2 Vickers FDE 9mm Luger, $630	Feb. 2018	A-	Our Pick. Includes Vickers Tactical sights, a mag guide, and mag basepads.
Beretta 92FS w/Wilson Combat Upgrades 9mm Luger, $550	Feb. 2018	B	Smooth, well finished, and the most accurate handgun tested. Grip did not fit all shooters.
Arex Rex Zero 1 Standard FDE 9mm Luger, $634	Feb. 2018	B	Fit, finish, and an absence of internal tool marks show high build standards.
Smith & Wesson M&P9 M2.0 11537 9mm Luger, $599	Dec. 2017	A	A refined striker-fire pistol with a crisp trigger, excellent grips, and good accuracy.
Springfield Armory XD MOD.2 4-In. Service 9mm Luger, $565	Dec. 2017	A-	Easy to shoot due to the fiber-optic front sight, textured grip, and consistent trigger.
Ruger American Pro Duty 8605 9mm Luger, $579	Dec. 2017	B+	The American is capable and ran well with good accuracy. Grip inserts gave trouble.
Kimber Micro 9 Desert Tan (LG) 3300168 9mm Luger, $659	Oct. 2017	A	The laser grip complements the large sights on this micro pistol.
SIG Sauer P938 Emperor Scorpion 9mm Luger, $639	Oct. 2017	A	With large sights, a crisp trigger and toothy grips, this was easy to shoot and control.
Springfield Armory XD-E 3.3 XDE9339BE 9mm Luger, $519	Oct. 2017	B	Trigger geometry took some getting used to. Decocker was hard to manipulate.
Walther PPS M2 2805961 9mm Luger, $451	Sept. 2017	A	The Walther PPS M2 is a class act. It was the most expensive pistol tested this month.
Smith & Wesson M&P9 Shield 180021 9mm Luger, $394	Sept. 2017	A	Best Buy. Well designed grip checkering, good sights, and a decent trigger action.
Glock 43 Subcompact Slimline G43 PI4350201 9mm Luger, $445	Sept. 2017	B	Accurate enough for personal defense, reliable, and fast handling.
Honor Defense Honor Guard Sub-Comp. HG9SC 9mm Luger, $449	Sept. 2017	B	The only defect was the problematic slide lock, which was too heavy to operate quickly.
Taurus 709 Slim 1-709031FS 9mm Luger, $198	Aug. 2017	A	Best Buy. We would buy this gun, and we would carry it for personal defense.
Kel-Tec PF-9 9mm Luger, $257	Aug. 2017	A-	The Taurus outshot the Kel-Tec, but that doesn't mean the PF-9 is out of the running.

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action is typical Glock, with a 5.6-pound trigger compression.

The Glock 48 features a lengthened grip (compared to the Glock 43 9mm) that holds a 10-round magazine. Ten rounds is a significant number of cartridges for personal defense, even compared to the generous 17-round capacity of the much larger Glock 17. The Glock 48 offers a good ammunition reserve compared to commonly carried 9mm slim-line pistols, such as the Smith & Wesson Shield and Glock 43 9mm. There is no penalty in a fat grip. The grip is the same width as the Glock 43, but longer. This grip fits small hands well and also accommodates taller hands with its longer vertical area.

Firing offhand at targets at 5, 7, and 10 yards, the Glock 48 came on target quickly. The sights are well suited to fast, reactive shooting. Control is good. The 9mm isn't a hard kicker, but lightweight pistols often kick more than larger handguns. The Glock 48 isn't as comfortable as the Glock 19 as an example, but it is more pleasing to use than the Glock 43. Anyone who handles a Smith & Wesson Shield or Springfield XD-S 9mm well will have no problem with the Glock 48.

Groups were tightly centered on the target with good control and practical accuracy. We fired with a combination of speed and accuracy firing and then recovering the sights as the trigger resets and then firing again. The Glock 48 responds well to a trained shooter. We rated it the best performer in combat shooting that included engaging a string of steel plates at 15 yards. The best group was a tight 1.5 inches, excellent for a compact handgun, and in fact was the best of the test for the three handguns. As for velocity and energy, the Glock 48 led the way with more than 1200 fps in velocity from the Black Hills EXP load in the 48's 4-inch barrel.

Our Team Said: The Glock 48 is the best-shooting pistol of the test. The pistol is accurate, easy to use well, and its barrel, at just over 4 inches long, develops the most velocity and energy of any of the handguns tested here. The G48 is a thin pistol that's easily concealed, but it is not as svelte as the others.

Glock 43X Ameriglo Night Sights PX435SL301AB 9mm Luger, $542

This was a recent price from DKFirearms.com. In offhand fire, we ran the same 60 rounds of full-metal-jacketed ammunition through the 43X, loading our four magazines up for each firing string. Spare magazines are not available as of 2/28/19, but of course they will be soon. The Glock 43X is fast from a concealed carry holster. While such things are difficult to measure objectively, with four different raters it was agreed that the Glock 43X is faster from concealed carry than the other handguns. Our lone female rater preferred the 43X for draw from a high-riding holster. Getting on target is fast. The Glock 43X offers excellent hit ability. Speed to a first shot hit is equal to the Glock 48. Fast follow up and control is a bit different due to the shorter slide and sight radius and lighter weight.





Among the loads tested was the Black Hills 125-grain Honey Badger, which has an unusual bullet profile that produced ragged holes in paper targets.

During the firing test two raters experienced an odd malfunction due to shooter error. The slide did not hold open on the last shot. This happened four times. The culprit, we believe, was the small Glock 43X frame and the raters riding the slide lock down with the thumb. Once we realized what the problem was, we fired an additional 40 cartridges to be certain we solved the problem by moving our grip. The problem was solved. For some reason even though the controls are identical, the Glock 48 exhibited this problem only once, and it was the first pistol we fired, not the second. If you decide to buy this pistol, be aware of this characteristic and check it for yourself.

After the combat drill, the raters felt the Glock 43X was a good combat shooter with better results than the Glock 43 pistol previously tested. Compared to the Glock 48, we felt the larger Glock allowed greater speed in firing but the difference takes a skilled shooter to notice. And after all, the pistols are concealed carry designs. The Ameriglo night sights we paid a surcharge for are good for 24-hour use, but the standard Glock 48 sights were just as good for daylight shooting and perhaps had an edge in absolute accuracy in bright sunlight.

In firing for accuracy from the Bullshooter's pistol rest, the Glock 43X gave good results. The best group was 2.2 inches with the Black Hills 115-grain EXP load. Statistically, the average accuracy was fine, but accuracy results favored the Glock 48 overall.

Our Team Said: The Glock 43X is a viable handgun that stands on its own merits. This version is an improvement over the Glock 43, we believe. After the comparisons were done and the rate cards tallied up, the Glock 43X would be Our Pick of the three pistols tested.

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

Interpretations of 'Scouts' from Ruger, Savage, Mossberg

Here, we take a look at three manifestations of Cooper's 'Scout Rifle' concept, which emphasizes utility and ease of use in a short, handy firearm. One of these could easily find a place in your safe.

In past issues, we have reviewed numerous Scout Rifle contenders — Ruger Gunsite Scout, Savage Model 10 Scout, to name two — as well as tested the benchmark in Scout Rifles, the Steyr Scout. In our experience, most Scout contenders do not stack up to the Steyr. So what was the late Jeff Cooper's definition of a Scout Rifle? Cooper, a well-known and highly regarded handgun and rifle trainer, defined a general-purpose rifle or Scout Rifle as "a conveniently portable, individually operated firearm, capable of striking a single decisive blow on a live target of up to about 200 kilos in weight, at any distance at which the operator can shoot with the precision necessary to place a shot in a vital area of the target." Cooper provided more detail by stating a maximum weight for the rifle to be 6.6 pounds including sling and optic, and an overall length of 39 inches. Other criteria included a scope of 1x to 3x magnification mounted forward of the magazine, a synthetic stock, a two-lug 90-degree controlled-feed bolt, a smooth and round bolt knob, a barrel of about 19 inches in length, detachable magazine, aperture sights, a magazine cutoff to permit shoot-one, load-one operation, a three-pound trigger, flush sling sockets, rounded



These Scout Rifles are a contemporary take on the iconic Steyr Scout Rifle as defined by the late Jeff Cooper. In our opinion, the Savage 110 Scout (top) and the Ruger Scout (middle) stuck the closest to Cooper's specifications, while the Mossberg (bottom) took some license with the interpretation.

450 BUSHMASTER RANGE DATA

Savage Arms 110 Scout	Federal PowerShok 300-grain JSP	Hornady Black 250-grain FTX	Winchester Deer Season XP 250-grain Polymer Tip
Average Velocity	1898 fps	2200 fps	2200 fps
Muzzle Energy	2400 ft.-lbs.	2687 ft.-lbs.	2687 ft.-lbs.
Smallest Group	1.75 in.	1.28 in.	1.30 in.
Average Group	1.89 in.	1.41 in.	1.45 in.

308 WINCHESTER RANGE DATA

Mossberg MVP Scout Rifle	Federal Fusion 165-grain SP	Black Hills Match 168-grain BTHP	Norma USA TAC-308 150-grain FMJ
Average Velocity	2593 fps	2496 fps	2498 fps
Muzzle Energy	2464 ft.-lbs.	2324 ft.-lbs.	2079 ft.-lbs.
Smallest Group	0.80 in.	0.97 in.	0.76 in.
Average Group	0.95 in.	1.11 in.	0.81 in.

Ruger Scout Rifle	Federal Fusion 165-grain SP	Black Hills Match 168-grain BTHP	Norma USA TAC-308 150-grain FMJ
Average Velocity	2600 fps	2550 fps	2507 fps
Muzzle Energy	2477 ft.-lbs.	2464 ft.-lbs.	2090 ft.-lbs.
Smallest Group	0.80 in.	0.50 in.	0.81 in.
Average Group	0.95 in.	0.92 in.	0.93 in.

To collect accuracy data, we fired three-shot groups from a bench using a rest. Distance: 100 yards with optics. We recorded velocities using a ProChrono digital chronograph set 15 feet from the muzzle.

buttpad to ease mounting, a second magazine located on the rifle, and a built-in bipod. Finally, the caliber was to be easily attainable, and for most of us that means 308 Winchester, but the Scout wasn't limited to just that round. (The colonel wasn't a fan of the 5.56 NATO, however.) The Ching sling was also the carry-strap preferred by Cooper.

Truth be told, the Steyr Scout is not an exact fit for Cooper's specifications, but as far as Cooper was concerned, it filled his requirements well enough. Over the years, a number of long-gun manufacturers have produced their interpretations of the Scout Rifle. Using Cooper's definition as a base, we procured three rifles that purport to fill the bill: a Ruger Scout Rifle, Mossberg's MVP Scout Rifle, and a Savage 110 Scout. The Ruger and Savage come close to the definition — more so than the Mossberg — and we will get into those details. More important, even if these three rifles are not true "Scout Rifles" by definition, are they good rifles nonetheless?

All proved to be accurate shooters, short in length,



Top and bottom: Magazine types for these bolt actions varied. The Mossberg used a polymer Magpul Mag 10 LR/SR Gen M3 double stack (left), the Savage a polymer Magpul AICS-style single stack (center), and the Ruger used a steel Accurate Mag single stack (right).

MOSSBERG MVP SCOUT RIFLE COMBO 27793 7.62MM NATO (308 WIN.), $780

GUN TESTS GRADE: B

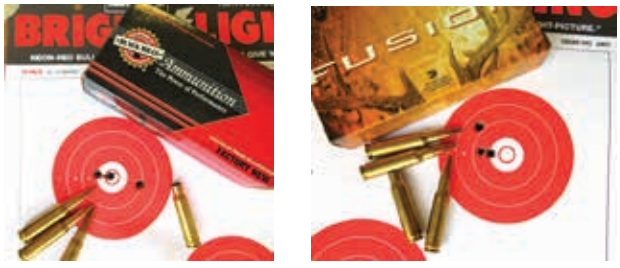
The MVP Scout doesn't hold to the true interpretation of the Scout Rifle concept, but we don't fault it for that since it proved to be an accurate, well-handling short rifle at a competitive price.



Action Type	Bolt, push feed
Overall Length	37.5 in.
Height Unboxed	6.0 in.
Height As Tested	7.5 in.
Width	1.75 in.
Weight Unboxed/Unloaded	6.75 lbs.
Weight As Tested	8.8 lbs.
Weight As Tested/Loaded	9.4 lbs.
Barrel Length/Twist	16.25 in.; 1:10
Barrel Finish	Matte black
Barrel Muzzle Device	A2-style muzzle brake
Stock	Polymer, black
Stock Buttpad	Rubber
Stock Length of Pull	13.25 in.
Stock Comb	Straight
Stock Sling Attachments	Two studs
Trigger Pull Weight	Adj., 3.0 lbs. factory set
Trigger Style	Single stage
Trigger Guard Material	Aluminum
Safety	2-position slider, side mounted
Magazine	(1) 10-round detachable box, polymer Magpul Mag 10 LR/SR Gen M3, double stack
Magazine Release	Paddle, front of trigger guard
Bolt	Two-lug bolt, 90-degree lift
Front Sight	Red fiber optic,
Rear Sight	Peep, Picatinny rail included
Warranty	2-year limited
Telephone	(203) 230-5300
Website	Mossberg.com
Made In	U.S.A.



A small piece of Picatinny rail was located on each side of the Mossberg. We would have liked one on the bottom so we could have more easily mounted a bipod, per the Scout Rifle ideal.



Left: The Mossberg showed nice accuracy for a short rifle. This group was fired with Black Hills Match ammo. Right: With Fusion hunting ammo, the Mossberg printed three-shot groups that averaged about an inch. The MVP Scout averaged about 1 moa with all ammo.

fairly lightweight, with detachable magazines, peep sights, and chambered in potent calibers. The Ruger and Mossberg are chambered in 308 Win. and the Savage was chambered in 450 Bushmaster, the last a thumper of a round that Cooper liked.

While these three rifles did check off some of the boxes for the Scout specs, they all fell short of being a true Scout Rifle, at least going by Cooper's definition. But would we want to carry these rifles for long periods of time, and could we easily hit a target out to 100 yards? Yes, most definitely.

How We Tested

The most unusual feature of the Scout Rifle is a forward-mounted low-power scope. The German Army experimented with this concept during WWII, fitting Mauser 98 rifles with low-power scopes. The Mossberg came with a factory-mounted Vortex Crossfire II 2-7x32mm extended-eye-relief scope. It weighs 12 ounces and has a 1-inch tube, 9.45-



Notice the access to action the Ruger (left) provides compared to the Savage (middle) and Mossberg (right). Access to the action was a key feature in Cooper's Scout Rifle formulation.

inch eye relief, capped turrets, and a thin, plain crosshair reticle.

For the Ruger we mounted a Hi-Lux LER (Long Eye Relief) 2-7x32mm ($160; Brownells.com) with Weaver See-Thru scope mounts ($23; Brownells.com). The LER weighs 10 ounces and has 1-inch tube, 8 to 14 inches of eye relief, capped turrets, an extended magnification lever for easy and fast magnification adjustments, flip-up lens covers, and a Three Post BDC reticle. This reticle is similar to a German-style military design but includes extra aiming points on the vertical crosshair calibrated to the ballistics of a 168-grain 308 Win. With a 200-yard zero, there would be aiming points for 300, 400, 500, and 600 yards.

On the Savage we mounted a UTG Accushot 1-4x28mm long eye relief unit ($142) that comes with quick-release rings. The UTG weighs 19.8 ounces and offers 8 to 14 inches of eye relief, a 30mm tube, exposed turrets, flip-up lens covers, and an illuminated Mil-dot reticle. Two buttons on the top of the eyepiece illuminate the reticle in either red or green, plus you can adjust the color to 36 different choices. Brightness can also be adjusted. UTG packs a small card that provides Mil-dot range estimating. We liked this small cheat sheet. All the scopes have the parallax set at 100 yards, which we felt was fine for a Scout Rifle scope, and turrets adjust ¼ minute-of-angle per click for the Hi-Lux and Vortex and ½ MOA per click for the UTG. Extended-eye-relief scopes allow the shooter to keep both eyes open to aim while maintaining awareness of targets. With a traditional scope mounted closer to the shooter's eye, the awareness of targets in front of the shooter can be limited to the scope's field of view. The Leupold FX-II Scout IER 2.5x28mm is the benchmark scope for a Scout Rifle, mostly because this scope is simple and lightweight. It weighs about 7.5 ounces.

The forward-mounted scope is the most noticeable feature of a Scout Rifle. Most modern interpretations of a Scout Rifle have this feature, but they also are typically heavier than what Cooper wanted, and there are usually add-ons, such as muzzle devices and Picatinny rails. Otherwise, we looked at how well the rifles performed, regardless of the definition.

For 450 Bushmaster ammo, we used Winchester Deer Season XP 250-grain polymer tips, Federal PowerShok 300-grain jacketed soft points, and Hornady's Black 250-grain FTX. The 450 Bushmaster round is becoming more popular partly due to the fact it is a straight-wall cartridge and is legal in some states for deer hunting as a result. It was originally designed for the AR-15 platform, and Cooper approved the round when it was first introduced as the .45 Professional. Bushmaster licensed the cartridge and renamed it the 450 Bushmaster. Currently, many gun manufacturers are chambering bolt-action rifles in this cartridge. This is a hunting round that is quite capable out to 200 yards for even big-bodied game,



Cooper specified a controlled-feed bolt like the Ruger (left). The Mossberg MVP's bolt (middle) is a push-feed designed to work with double-stack magazines. The Savage (right) is also a push-feed design, and it is what Cooper settled for on the Steyr Scout Rifle.

RUGER SCOUT RIFLE 6830 7.62MM NATO (308 WIN.), $1139

GUN TESTS GRADE: B+

The Ruger Scout comes closest to the original Scout rifle concept, but it falls short due to weight. We still feel this a great rifle, and it offered excellent accuracy.



Action Type	Bolt, control-feed Mauser style, two lugs, 90-degree lift
Overall Length	38.5 in.
Height Unboxed	6.5 in.
Height As Tested	8.5 in.
Width	1.75 in.
Weight Unboxed/Unloaded	6.2 lbs.
Weight As Tested	7.7 lbs.
Weight As Tested/Loaded	8.3 lbs.
Barrel Length/Twist	16.1 in.; 1:10
Barrel Finish	Matte black
Barrel Muzzle Device	Multi-port muzzle brake
Stock	Polymer, black
Stock Buttpad	Rubber
Stock Length of Pull	Adj., 12.75 to 14.25 in.
Stock Comb	Straight
Stock Sling Attachments	Two studs
Trigger Pull Weight	Non-adj., 5.1 lbs. factory set
Trigger Style	Single stage
Trigger Guard Material	Polymer
Safety	3-position lever
Magazine	(1) 10-round detachable box, Accurate Mag steel single stack
Magazine Release	Paddle, front of trigger guard
Front Sight	Blade
Rear Sight	Adj. ghost ring, forward Picatinny rail included
Warranty	None written
Telephone	(888) 220-1173
Website	Ruger.com
Made In	U.S.A.







Left: We added non-Cooper-approved see-through scope rings, which allowed us to use either the iron sights or the scope. We could do this with the other set ups as well. Middle: With inexpensive training ammo from NormaUSA, the Ruger showed excellent accuracy, averaging under 1 inch for three-shot groups. Right: Groups like this is what endeared us to the Ruger. We found we could shoot this short rifle very well with Black Hills ammo.

though its sweet spot is up to 150 yards of range.

For 308 Winchester ammo, we used NormaUSA TAC-308 150-grain full metal jackets, Federal Fusion 165-grain soft points, and Black Hills Match 168-grain boat-tail hollow points. This assortment of 308 ammo offered a broad spectrum from hunting and precision shooting and training. The 450 Bushmaster does not have the range or accuracy of the 308 Win., but in rifles designed for general-purpose hunting and defense out to 100-150 yards, they are well matched.

We used Bright Lightning targets from Thompson Targets, which feature 4-inch red bull's-eyes on a white background. These targets make it easy to see a black reticle. We also used Storm Sight all-weather 100 yard sight-in targets to zero the Ruger and Savage rifles. The Mossberg, we found, was perfectly zeroed at the factory. We tested for accuracy at 100 yards, resting the rifles on our range bag and using our homemade toe bag: an old gym sock filled with sand. We could have just as easily taken the

bench rig into the field to work on live targets. We checked our work with a Styrka S7 15-45x65mm spotting scope. Then, at 50 yards we tested for speed by cycling the bolt as fast as we could while maintaining our accuracy. Which one of these rifles deserves to be called a Scout Rifle? Which ones are good, handy rifles? Read on to find out.

Mossberg MVP Scout Rifle Combo 27793 7.62mm NATO (308 Win.), $780

The MVP Scout Rifle is the "Scout" variant from Mossberg's MVP line of bolt-action rifles. The Scout is similar to the Patrol model except for a few key Scout Rifle features like the extended Picatinny rail, mounted so a scope can be placed in either the traditional location over the action or forward of the action. It also has a front fiber-optic sight paired with a rail-mounted ghost-ring rear sight.

Out of the box, the MVP Scout looked nice but felt a bit chunky compared to the other rifles. Heavy for a scout rifle. The black polymer stock is flat on the bottom so it is steadier when shooting from a rest. The rubber recoil pad is beefy and helps absorb recoil. It is not rounded on the edges. The gripping areas are textured, and two short lengths of Picatinny rail are placed at 9 and 3 o'clock positions at the end of the forend to attach a light or laser pointer. We would have preferred one short rail at the bottom so we could have attached a bipod. There are sling swivel studs, so we could have attached a bipod via the stud.

It uses standard AR-10-style and M1A/M14-style magazines and comes with one Magpul Mag 10 LR/SR Gen M3 polymer mag that holds 10 rounds. These magazines are easy to load and inexpensive ($19; Magpul.com). The MVP Scout uses Mossberg's patented 7.62 Dual Push bolt that is designed to feed cartridges from a double stack magazine. The magazine latch is located in front and to the side of the magazine well in hole in the stock. No accidentally dumping the magazine from this rifle. Reloading the Mossberg was slower than the Savage and Ruger. We found the easiest and smoothest way to extract the magazine was to use our support hand to grasp the magazine and use our first finger to press the magazine latch and pull the magazine free.



Muzzle devices were not part of Cooper's specifications, but they seem useful to us. The Mossberg used an A2-style flash suppressor (top), the Savage used a huge muzzle brake (middle) to help tame the 450 Bushmaster, and the Ruger used a multi-ported device (bottom) to suppress flash and help control recoil.







Above: The Mossberg bolt knob was flat on the circumference, tapered, and textured, as was the Savage's, above right. We liked the larger Mossberg and Savage knobs. Cooper would have preferred the smooth round knob of the Ruger, right.

The metal wore a well-executed matte black finish. The barrel has a medium bull profile, which added weight to the Mossberg. The muzzle device is an A2-style flash suppressor. The bolt knob was round and textured along the circumference. A long Picatinny rail extends from the rear of the action to where the rear sight is located on the Patrol model. The rail allows the user to mount a scope in the traditional location or forward of the action. Mossberg decided to mount the Vortex scope partially forward. We would prefer quick-release mounts rather than the mounts Mossberg provided. In the field, if the scope failed, we could more easily remove the scope with quick-release lever-style mounts and use the iron sights. In the field, we might not have tools to remove the mounts otherwise. At the very rear of the rail is a ghost ring rear sight. The front post is red fiber optic and is unprotected. While we appreciate the option of mounting the scope in a variety of locations, the extended rail makes access to the action more difficult. Part of the reason the scope is mounted forward is to give the user more access to the action to clear a jam or load a single round.

The two-position safety is located at the right rear of the action just behind the bolt handle. A red dot shows when the rifle is ready to fire. The bolt

SAVAGE 110 SCOUT 57139 450 BUSHMASTER, $829

GUN TESTS GRADE: B+

The 110 Scout is good interpretation of the Scout rifle concept and would make a great deer-hunting rifle, especially in states with straight-wall cartridge restrictions.



Action Type	Bolt, push feed, two lugs, 90-degree lift
Overall Length	38.5 in.
Height Unboxed	6.0 in.
Height As Tested	8.0 in.
Width	1.87 in.
Weight Unboxed/Unloaded	7.72 lbs.
Weight As Tested	8.8 lbs.
Weight As Tested/Loaded	9.0 lbs.
Barrel Length/Twist	16.5 in.; 1:24
Barrel Finish	Matte black
Barrel Muzzle Device	4-port brake
Stock	AccuStock polymer, tan
Stock Buttpad	Rubber
Stock Length of Pull	Adj., 12.75 in. to 13.75 in.
Stock Comb	Straight, adj. for height
Stock Sling Attachments	Two studs
Trigger Pull Weight	Adj., 3.4 lbs. factory set
Trigger Style	Single stage
Trigger Guard	Aluminum, enlarged
Safety	2-position slider, tang mounted
Magazine	(1) 5-round detachable box, polymer, Magpul AICS-style single stack
Magazine Release	Paddle, front of trigger guard
Front Sight	Ramp
Rear Sight	Williams peep, forward Picatinny rail included
Warranty	1 year limited
Telephone	(800) 370-0708
Website	SavageArms.com
Made In	U.S.A.





Left: We liked the adjustable comb on the Savage. It offered a nice, soft cheek weld and did not transfer recoil to the face. LOP was adjustable as well. Right: The Savage using Federal PowerShok hunting ammo offered acceptable accuracy, what we call minute of deer.

release is on the left side, rear of the action. The bolt operated smoothly with a bit of wiggle, which was okay with us since this isn't a precision rifle.

The trigger is Mossberg's LBA trigger, which can be adjusted. From the factory the trigger measured 3.0 pounds. It was crisp with no take up and broke cleanly and consistently. The trigger guard and magazine well are polymer.

Running the MVP Scout, we found if we babied the bolt, feeding and ejection were a bit rough. As we cycled through a few magazines and manipulated the bolt with purpose, cycling became smoother. We found the magazine extremely easy to load. Inserting the magazine in the magazine well was smooth. Since a Scout Rifle is designed for hunting and defense situations, we would have liked a magazine release that was easier to manipulate and allowed the magazine to drop free.

Accuracy testing proved the Mossberg had game with the Federal Fusion hunting ammo. The smallest three-shot group measured 0.95 inches. With the NormaUSA training ammo, we shot a smallest group that measured 0.81 inches. For our speed-shooting test, we were able to shoot fast follow-up shots. With the scope well forward of the bolt handle, manipulating the bolt was easy. The added weight helped absorb recoil. Loading a single round was easy, though there wasn't a lot of room due to the

Picatinny rail. The Vortex scope is a good mate for the Mossberg. It was clear and the crosshair thick so it was easy to pick up on the target.

Our Team Said: Yes, the Mossberg is not a true Scout Rifle, but it is a handy, short rifle capable of some nice accuracy for not a whole lot of currency. In our opinion, the MVP Scout is a fast-handling, easy-to-shoot rifle with moderate recoil. If you don't like the forward-mount scope, you can always change it to the traditional mounting location.

Ruger Scout Rifle 6830 7.62mm NATO (308 Win.), $1139

We reviewed the Ruger Gunsite Scout back in 2011 and found it heavy, rough feeding, and the magazine tough to load. We gave it a **B-** rating. This new Scout Rifle tested shed a pound due to the polymer stock, making it 6.2 pounds sans scope and ammo, which is still heavy by Cooper's standards. It was the lightest of all rifles tested, and it felt thin.

The black polymer stock has an adjustable length of pull with three half-inch spacers. We liked this set up. It also has an aluminum bed, so it is very stiff, which is important for accuracy. It is textured in gripping areas, and we found this helpful because we tested these rifles on a humid day in North Carolina. The recoil pad is soft rubber with ridges for texture and rounded edges. Cooper would have approved this recoil pad. There are two sling swivel studs. The trigger guard and magazine well is molded into the stock, which helps with weight.

The bottom metal uses a paddle-style magazine release, which we liked. We felt it was the right size and would be less likely to accidentally dump a magazine when pushing through thick brush. The 10-round single stack magazine is made of steel and requires some finesse to load. To load the magazine, you need to depress the magazine follower or the last cartridge loaded as you insert a cartridge from the front and slide it back to the rear of the magazine. It was time consuming compared to loading the Mossberg's Magpul magazine. The magazine is manufactured by AM Products. The design feeds rounds from the center for more reliable operation.

Cooper would have approved the control feed and ejection of the Ruger, even if the benchmark Steyr is a push feed. Cooper preferred a control-feed bolt action. The bolt knob is smooth and round and easy to palm for fast follow-up shots. Initially, we found feeding from the magazine to be rough, but it soon smoothed up after a few magazines.

The barrel has a stepped profile and is thinner than the Mossberg barrel. A multi-port muzzle device helps hide muzzle flash. A length of Picatinny rail forward of the action allows the user to mount a scope. Iron sights feature an adjustable ghost ring rear aperture sight and a non-glare, protected blade front sight. We liked these sights, even though the black blade could get lost on a dark-colored target. We felt they were rugged and well regulated. Great backup sights.

Going hot with the Ruger, we soon forgot it was a Scout Rifle wannabe since our groups were







Above: The Mossberg had flush-fitting bottom metal (actually plastic) and a magazine release (arrow) that was difficult to manipulate. Above right: The Ruger molded the trigger guard and magwell into the stock. The mag-release lever (arrow) was small, yet easy to manipulate. Right: The Savage used a polymer bottom metal assembly with an extended ridge. The magazine release (arrow) was long and easy to manipulate.





Left: The front sight on the Mossberg was not protected, which we thought was a miss, but it did use a red fiber-optic tube, making it easy to aim. Both the Ruger (center) and the Savage (right) used protected blades, which we thought were rugged but could get lost on a dark target.





Left: Mossberg attached a ghost ring rear sight on the Picatinny rail. Center: The Ruger used a proprietary rear sight that was fully adjustable and had protective wings. We liked this set up best. Right: The rear sight on the Savage was a fully adjustable Williams sight, which we liked as well.

constantly sub MOA. We were impressed. With the Black Hills Match 168-grain ammo, our best three-shot group measured 0.5 inches. With the Fusion 165-grain SP hunting ammo, our best measured 0.8 inches. With the NormaUSA's 150-grain FMJs, its best measured 0.81 inches. On average with all ammo used, the Ruger was a sub-MOA shooter. With this kind of performance, who cares if it is a strict example of a Scout Rifle?

Elsewhere, the trigger is smooth and crisp and helped contribute to our accuracy. In fast shooting, we found the smooth bolt knob was fast to manipulate. When we babied the bolt, it was a bit rough, so we treated it roughly, manipulating it fast and furious. Magazine reloads were fast and smooth.

We liked the Hi-Lux LER scope and the reticle. The 3 Post BDC reticle has thick strata that transitions to a thin crosshair at the 9, 6, and 3 o'clock positions. Target acquisition was fast. The calibrated reticle worked for the most part. We fired using them at 100 yards and measured the groups and compared that to factory trajectory data. We didn't have a 600-yard range available. The magnification lever made adjusting the magnification fast and easy. The see-through scope mount, while not true to Scout Rifle definition, allowed testers to use the iron sights without removing the scope.

Our Team Said: Though the Ruger checks off a lot of boxes in the Scout Rifle specs, it is not a true Scout Rifle. However, we feel it is a rugged, accurate rifle in the spirit of a Scout Rifle. Downside: The price is a lot more than the Mossberg, plus you need to equip it with a scope. If you prefer a control-feed bolt action, then this is your choice.

Savage Arms 110 Scout 57139
450 Bushmaster, $829

We realize this match-up is not a head-to-head fit with the two 308s, but Cooper's fondness for the big-bore Bushmaster in a short-action rifle combines neatly with this Scout concept. Also, we haven't tested firearms chambered in this cartridge in the past, so when we got a chance to shoot it in a Scout configuration, we decided not to pass it up.

In the January 2002 issue, we recommended buying an earlier model of the Savage Scout, a Model 10 in 308 Winchester. In the September 2011 issue, we gave a Savage 308 Model 10 FCM Scout 18138 in 308 Winchester a **B** grade because "We think Savage needs to offer 10-round magazines, and then we'd say this rifle is a good deal better than the Ruger. As it is, if you can live with a four-round magazine, the Savage costs less than the Ruger, has way better accuracy, and has that wonderful trigger. No, its stock length is not readily adjustable, but in truth, you generally do that only once, and then let it alone. We gave the Savage a **B** grade, but with a

VALUE GUIDE: SHORT-ACTION RIFLES (MULTIPLE CHAMBERINGS)

GUN NAME	ISSUE	GRADE	COMMENTS
Savage 110 Apex Storm XP 57344 6.5 Creedmoor, $605	June 2019	A-	Best Buy. Accurate, reliable, and fast handling. The Vortex scope is a credible optic.
Mauser M18 M18065P 6.5 PRC, $628	June 2019	A-	Accurate and reliable. The rifle is expensive compared to the others.
Savage Axis II XP Rifle 57289 6.5 Creedmoor, $400	June 2019	B+	A credible choice. We would save a few more weeks to buy the Apex.
Ruger 77/44 Model 7401 44 Remington Magnum, $754	May 2019	A-	The 77/44 offers accuracy and power in a lightweight rifle. We disliked the magazine.
Ruger American Rifle Standard 6903 308 Winchester, $382	Dec. 2018	A	Light enough, accurate enough, and inexpensive enough for us to want to keep it.
Savage Axis II XP 57095 308 Winchester, $411	Dec. 2018	A-	Best Buy. It works well, is accurate enough for hunting, and it is affordable.
Savage Model 12FV 18393 308 Winchester, $420	Dec. 2018	A-	Most accurate rifle tested. Modest recoil. The rifle never failed to impress us.
Mossberg Trophy Hunter 308 Winchester, $240	Dec. 2018	C	Overall, the rifle was worth the modest price, but there are better choices.
Uintah Precision UPR-10 Bolt AR-10 Upper 6.5 CM, $1295	June 2018	B+	Capable of very good accuracy, this was a dream upper in need of a little refinement.
Ruger American Rifle Ranch 06968 300 Blackout, $420	May 2018	A-	Shot well both suppressed and unsuppressed. Short length would make it handy.
Remington Model 700 SPS-T 84205 300 Blackout, $680	May 2018	A-	Shot well in 300 BLK supersonic and subsonic.
Savage Arms 10PT-SR 22356 308 Winchester, $550	May 2018	B+	Good build. It did shoot sub-MOA with one round. We loved the handle and AccuTrigger.
CZ-USA CZ 527 Youth Carbine 03050 7.62x39mm, $650	March 2018	A-, B+	Grade A- for adults; Grade B+ for youths. We would trust it to work for a lifetime.
Browning A-Bolt Micro Hunter 035020216 7mm-08 Rem., $578	March 2018	A-, C+	Grade A- for adults; Grade C+ for youths. Too much rifle and recoil for younger shooters.
Savage Axis II Compact Muddy Girl 22230 243 Winchester, $490	March 2018	B, A	Grade B for adults; Grade A for youths. Clear winner as a youth rifle.
Desert Tech SRS-A1 6.5 Creedmoor, $4495	Nov. 2017	A	Test results proved the SRS-A1 is at the top of the rifle-quality pyramid.
Ruger Hawkeye Mark IV VT 17980 6.5 Creedmoor, $1139	Nov. 2017	B+	Rough bolt action, but in terms of accuracy, the Hawkeye deserved an A.

Log on to **Gun-Tests.com** to read complete reviews of these products in the designated months. Highly-ranked products from older reviews are often available used at substantial discounts.

10-round magazine it would be an A." If you want this Savage 110 in a 308 Win. chambering, the model number is 57026, and the magazine capacity is 10, which solves our major complaint about the previous Scout design. Other chamberings include the 223 Remington and 338 Federal, the latter a blown-out 308 Win. case with a mild shoulder.

The 110 Scout tested here is another example of a rifle checking off a lot of the Scout Rifle requirements, but it, too, falls short of being a true Scout Rifle. As we started shooting it, however, we found it is quite capable.

The 110 Scout features Savage's modern-looking AccuStock, which allows the user to customize the LOP and comb riser to suit his stature and the clothes he is wearing — heavy coat in winter, T-shirt in summer. Like the Ruger, the Savage uses two screws in the soft rubbery recoil pad, and you can choose between four spacers to change the LOP from 12.75 to 13.75 inches and change the comb with five different risers. The polymer stock has a permanently embedded aluminum chassis. This is a stiff setup. At the gripping areas, there is rubbery checkering that makes gripping the rifle sure. The stock is tan with gray grip areas and black AccuStock inserts. We really like the ergonomics of these stocks. It was not as chunky as the Mossberg nor as thin as the Ruger's.

The trigger guard is a bit over sized and compatible with gloved hands. The magazine paddle release is rather long and that is partly due to the oversized trigger guard. In our estimation, pulling the 110 Scout through thick brush should not pose an accidental magazine dump danger.

The Savage feeds from a 10-round Magpul AICS-style detachable box magazine, but only five rounds of the thick 450 Bushmaster can be loaded. The magazine was easy to load and inserted in the magazine well. We found loading rounds singly was easy since there was more access to the ejection port.

The heart of the Savage Scout is the 110 action mated to a medium-taper barrel. The Savage is not in the Scout Rifle's weight range. At the muzzle is a ginormous muzzle brake with four large ports. We found this muzzle device helped during fast shooting exercises. The iron sights consist of a Williams rear peep sight, which we liked, and a protected blade front. The front blade was black, so it could get lost on a dark target. A length of Picatinny rail is mounted forward of the action.

We mounted a UTG Accushot scope, which added nearly 2 pounds to the rifle with rings and optic. We liked the fine Mil-dot reticle and the ability to change the reticle colors to make the reticle stand out on any color target.

The three-position safety falls under the thumb of a right- or left-handed shooter and slides forward and rearward. We liked the simplicity of this safety. Fully forward, and the rifle is ready to fire. Fully rear, the trigger is blocked and the bolt cannot be opened. In the middle position, the trigger is blocked but the bolt can be manipulated. This Scout also used Savage's excellent user-adjustable AccuTrigger.

Going hot with the hefty 450 Bushmaster cartridges, we found the Savage produced some recoil, though the AccuStock greatly helped manage the recoil. It was very tolerable and in fact enjoyable. Not MOA accuracy, more like MOD (minute of deer). We shot a best three-shot group with Hornady's Black round with a 250-grain FTX bullet, 1.28 inches, and the Winchester Deer Season XP was close behind with a group that measured 1.30 inches. The smallest for the Federal PowerShok measured 1.75 inches. All accuracy was very acceptable for hunting. Moving to the fast stage of live-fire testing, we found the weight of the Savage helped mitigate recoil and keep us on target. The bolt work was smoother than the Mossberg, even though they used similar magazines. This we attribute to the 450 Bushmaster loading single stack due to the cartridge's diameter. We liked the ease of loading a round one at a time by dropping the round on top of the magazine and chambering it with the bolt. The trigger was excellent and contributed to our shooting good groups.

Our Team Said: The Savage is an overweight Scout Rifle and not an exact interpretation of Cooper's ideal rifle. Still, that's okay with us. In our opinion, the Savage could be well utilized as a deer rifle in places were shots are taken out to 150 yards. The 450 Bushmaster offers a lot of thump, and we like this short, handy bolt-action rifle.



Recoil pads, according to Cooper, were to be rounded on the edges for smoother shouldering. He also like the idea of spacers to adjust the length of pull. Left: The Mossberg pad is not rounded nor is it adjustable. The Ruger (center) and Savage (right) recoil pads are rounded and adjustable for LOP.

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

Tested: Ankle-Worn Medical Kits from Galco and Rescue E

At the range or in the field, the risk of an accidental gunshot trauma is real, and the effects potentially deadly and immediate. Taking along a simple first-aid package can save your life or a friend's.

When it comes to mainline sports and recreation, safety precautions are as common as the activities themselves. Visit any sporting-goods store, and you'll see helmets being sold in the bicycle department, life preservers in the boating department, and first aid in the camping aisles.

However, that's not always true for the shooting sports. Recently, we attended the grand opening of a new shooting range. The pro shop had display cabinets filled with guns, shelves full of holsters and ammunition, but not a med-kit in sight. This is not uncommon. Maybe reminding customers of the inherent danger of operating firearms is considered bad for business. But if you're willing to accept wearing a seatbelt in an automobile or if you know CPR, why not be able to render life-saving aid around guns with just a few simple tools?

In terms of injuries related to firearms, the most threatening is gunshot trauma. If there is one device that has done more to save lives by stopping blood loss it is the tourniquet. It has been said that the number-one factor in the reduction of fatalities on the battlefield is the rapid application of tourniquets. In many cases the victims can apply the tourniquets themselves. This is referred to as "self-aid." Care applied with the help of others is referred to as "buddy-aid." The goal of applying a tourniquet is to preserve life long enough to be transported to a hospital or trauma center for "advanced aid."



A SOFTT-Wide in each pocket with hemostatic supplies such as Celox and packing gauze was a natural fit for the Tactical Ankle Medical Kit from Rescue Essentials.



The $30 Rescue Essentials Tactical Ankle Medical Holster featured Velcro closure, MOLLE loops, two pockets and a voluminous nylon and elastic pouch. There was also a velour liner for added comfort. This was a sturdy, hard-use piece of equipment that proved to be a secure kit, providing easy access for emergency trauma gear.

Certainly, there are other medical emergencies that arise other than uncontrolled bleeding. Diabetic shock might be addressed by ingesting high-fructose gelatins, a stroke can be short-circuited or a heart attack minimized by taking an emergency dose of aspirin. Cardiac patients regularly carry tiny nitro-glycerin pills. But how can these items be carried so that the victim is able to perform self-aid? Or, how would a buddy be able to find these tools if they had to look for them?

For example, about 15 years ago one GUN TESTS writer began taking a series of gunshot-trauma classes. From then on he carried a tourniquet, nitrile gloves, wound-packing material, and bandages in his range bag. A couple years ago, he became a cardiac patient, which necessitated carrying nitro pills and aspirin in his wallet. In a recent incident, he was forced to lie down to combat sudden chest pain. He needed to take aspirin right away, but found it physically draining to reach for his wallet, making his condition

life threatening. What if he had needed to access a tourniquet? That's when he decided to experiment with ankle-worn medical kits leading to the following field evaluation.

Much like the array of ankle holsters we have reviewed in the past (July 2009), ankle-worn medical kits are categorized according to the material used, either cloth or neoprene construction. The Rescue Essentials Ankle Medical Holster sells for $30 from Rescue-Essentials.com. This is a one-piece nylon-cloth construction featuring two open top pockets, one closed pocket, a patch of MOLLE loops, and Velcro closure. The $70 Ankle Trauma Medical Kit from GalcoGunLeather.com features neoprene construction. This unit offers five pockets, each with Velcro strap closure. The Ankle Trauma Medical Kit is held in place by bridging the two ends with a separate panel of loop Velcro. Each of these kits was worn for two days at a time in a rotating format for a period of two months. Along the way, we learned these units could also serve as an organizer that was more versatile than the typical first-aid zipper pack.

Our evaluation graded each kit on storage capacity, comfort, concealability, and a projection of our ability to access supplies under stress. Regarding concealability, we found hiding the kit was more a function of what size pants cuff we chose to wear. Nevertheless, "invisibility" was compared with the tourniquet placed on the inner side of the leg so that it was available to either hand.



With only about 30% of the radius of the Rescue Essentials Tactical Ankle Medical Holster being dedicated to pockets, it was easy to position gear on the inner side of the wrap. This reduced printing on the exterior seam and kept its contents in reach of either hand.

Rescue Essentials Ankle Medical Holster, $30

The Rescue Essentials Ankle Medical Holster was constructed of a nylon weave consisting of two layers joined by a trim that encircles the unit, including rounded corners. The layers are further bonded where the pockets are sewn in. The interior side offered a velour strip for comfort. The Ankle Medical Holster measured 5 inches top to bottom and overall length was 18.4 inches. The minimum inner circumference when closed measured 13.75 inches. This was determined by mating the loop-and-hook fabric (Velcro) so that they were directly on top of one another. Expanding the unit beyond this length meant exposing the hook-side Velcro to the leg, which we thought would prove uncomfortable, but did not. Leaving 1 inch of Velcro for contact, the maximum inner circumference measured about 17 inches. This became relevant when we realized these units could be wrapped around objects other than our ankles. Examples include a stanchion on an ATV, the arm of a chair, someplace that could serve as a workstation, or provide a readily available point of storage. In this regard the three pair of MOLLE loops that back on to the loop Velcro end can be used to attach the Ankle Medical Holster to a backpack.

Storage space consisted of two 4-inch-tall vertical pockets located side by side next to a larger pouch. Measured seam to seam, the smaller pockets were about 2 inches wide with open tops, and they backed directly on to the wrapping portion of the unit. This limited how much they could stretch. The pouch measured about 3.8 inches seam to seam and was topped with a flap sporting a red pull-tab. We describe it as a pouch because it hung from the backing, and the nylon and elastic material allowed it to expand. The bottoms of each compartment were tethered but not completely closed.

A stocked version filled with recommended items was also available from Rescue Essentials listed for $65. The Tactical Ankle Medical Kit includes two pairs of Nitrile gloves, one Israeli T3 Bandage (4 inch), and a SOFTT-W (wide) Gen 4 Tourniquet. We packed our kit with a SOFTT-W tourniquet in one pocket, a C-A-T (Combat Application Tourniquet) tourniquet in the next pocket, gloves, gauze and hemostatic supplies such as Celox or Celox-impregnated gauze. We found that the C-A-T rode higher than we'd like, plus the capture for the windlass (the rod that is wound to apply pressure) was too bulky for concealment. We decided the more compact SOFTT-style tourniquet was the way to go, and carrying two of them side by side in the vertical pockets, plus the aforementioned supplies in the covered pouch, provided a very good level of preparation.

We also found that medication such as aspirin

and nitroglycerin pills could be bagged and stashed within the folds of the tourniquet.

A third style of tourniquet we tried is the RATS Gen 2 tourniquet. Short for Rapid Action Tourniquet for Survival ($18 from RATSmedical.com), the RATS system relies on a flat cable consisting of a proprietary solid elastic core inside an elastic sheath that is wound around the limb then secured by a cleat. The RATS can be wound in any shape for storage. Empty, the unit weighed 2.9 ounces on our scale. When filled with our SOFTT-W tourniquet, pills, Celox-impregnated bandage, three Nitrile gloves, and a RATS tourniquet, the unit weighed 10.1 ounces.

Our Team Said: The Tactical Ankle Medical Holster provided secure storage and seemed to be indestructible. Access was quick and easy and kept its contents close to the leg for excellent concealability. We felt some pressure from the upper edge of the holster, primarily while seated, specifically when riding in a car. This did abate over the course of our test period, so comfort will improve with wear. The MOLLE loops offered the potential for additional utility.

GUN TEST GRADE: A

Galco GunLeather Ankle Trauma Medical Kit, $70

Galco's Ankle Trauma Medical Kit consisted of two sections of 4.4-inch-tall neoprene sewn together. In addition to the master seams at each end, four additional seams were added to produce a total of five pockets. The widths of each pocket measured seam to seam was about 3.5 inches, 3.1 inches, 1.6 inches, 3.5 inches, and 2.3 inches respectively. The outer surface of each pocket offered a facing of loop Velcro so a corresponding strap could fold over and hook into place. Some of the straps were long enough to wrap around to the underside of the kit. The inner surface of the wrap was bare neoprene, yet was still capable of securing the straps. Nevertheless, we tried cutting the straps to length and found they would not fray. The outer surface of the straps consisted



The $70 Galco Ankle Trauma Medical Kit may have been pricier than we'd like (is neoprene really that valuable?), but it did stow a lot of gear comfortably. It didn't bind on the leg and felt like a gentle hug. We thought cutting the Velcro straps to length would help avoid the relentless "tentacle" effect that was annoying at times, but it was also very secure. The floating panel that connected the ends of the wrap allowed it to conform to the leg, contributing to a comfortable fit.



The Galco Ankle Trauma Medical Kit provided almost limitless storage capacity. Here, it's filled with wound-packing material, nitrile gloves, aspirin, nitroglycerin pills, a Celox-impregnated bandage, a RATS tourniquet, a small serrated folding knife, and a SOFTT-Wide tourniquet.



The Galco Ankle Trauma Medical Kit had 5 pockets that completely lined its perimeter. Filled to capacity the neoprene construction remained comfortable. Note how evenly it fills out the cuff.



Stemming the loss of blood by applying a tourniquet can be the difference between life for death. Left, the C-A-T Combat Application Tourniquet is the most recent design to feature an integrated windlass and retainer. It was designed to be easier to apply with one hand, making the C-A-T ideal for self-care. Right, the SOFTT-W tourniquet works much like the C-A-T but was more compact, making it a better choice for our ankle-worn medical kits. The RATS, Rapid Application Tourniquet, middle, was designed to be wound multiple times around the limb, then secured to the cleat. Easy to carry, it makes a great secondary control device and is well suited for children and K9s.

of a lighter-gauge loop Velcro so not to grab on to clothing. Overall length measured 14.25 inches but could be stretched an additional 0.3 inch. The kit was closed by applying a 4-inch-by-5-inch panel of Velcro that was a separate piece and not connected to either end. Minimum interior circumference was about 14.3 inches. When allowing for 1 inch of contact between the unit and the closure panel, the maximum inner circumference measured about 17 inches.

Within the five pockets we loaded a SOFTT tourniquet with aspirin pills hidden in its folds, a half-inch thick 2.5-inch square of gauze, three nitrile gloves, a Celox-impregnated bandage with a package of nitroglycerin taped to its packaging, a RATS tourniquet, and a small serrated folding knife. Empty, the Galco unit weighed 3.6 ounces. Filled with the above, the unit weighed 13.4 ounces.

Whereas the Rescue Essentials unit consisted of pockets seated against a flat unyielding surface, the Galco kit could expand inward against the leg. But some of the pressure of the bulging pocket was dissipated because the neoprene allowed it to stretch in terms of circumference as well as spread out against the skin.

Our Team Said: The "floating" Velcro closure panel allowed the kit to more easily conform to the leg. But the Velcro straps can be frustrating, as they tend to grab on to the nearest surface and get in the way. This became critical when it was necessary to access multiple pockets. Cutting the straps to the minimal length can minimize the problem, but a loss of versatility may result. Despite these characteristics and being overpriced in our view, the Galco kit allowed us to carry a lot of gear with the weight evenly and comfortably distributed.

GUN TEST GRADE: A-

Written and photographed by Roger Eckstine. **GT**

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COMING UP IN GUN TESTS

● In the January 2016 issue, we tested the Ruger Precision Rifle chambered for 6.5mm Creedmoor. The "RPR" made long-distance shooting easy, but was it the rifle or was it the cartridge? Just about every 6.5mm CM rifle we tested thereafter, no matter how traditional or space age the design, outshot the traditional benchmark of sub-minute-of-angle with room to spare. Now comes the 6.5 CM's little brother, the 6mm Creedmoor, chambered in three bolt-actions: The $1929 Barrett Fieldcraft, Browning's $2400 X-Bolt Hell's Canyon Long Range McMillan, and the $1220 Howa H-S Precision-stocked rifle. Perhaps these rifles will show us why there is now such interest in the 6mm Creedmoor.

● The 12-gauge shotgun continues to be the most respected shoulder-fired firearm for personal defense. Simple to use, effective, reliable, and available in economy versions to fit every budget, the 12-gauge pump is a superior firearm for home defense, for use as a truck gun, and even for area defense on the ranch or farm. We recently tested several special versions of standard shotguns with features that set them apart from the usual matte-finished shotgun with inexpensive wood furniture. Tested: Mossberg 500 Retrograde, the Iver Johnson PSA 12 Copperhead, and the Rock Island Armory M5 shotgun.

● How many times have you heard someone say, "Shooting a pistol is simple, it is just not easy"? Shooting a pistol should be easy — align the sights and press the trigger, right? Hitting a golf ball *should* be easy. You have a big stick and the ball is sitting still — should be easy. Doing either well, however, is not easy. We talk about some things you can do to simplify the process of shooting a pistol well.

● Many shooters have a deep interest in military history. And, almost everyone likes to go "plinking." So we arranged a test to combine the two. We have tested eight different military replica firearms that fire the 22 Long Rifle cartridge. Our test group included two sets of firearms, the first of which included the GSG StG44, Chiappa Arms M1 Carbine, HK/Carl Walther MP5 A5, and the Carl Walther Colt M4.

● Three 357 Magnum Revolvers shoot it out: The N-frame Smith & Wesson Classic Model 27 six-shooter, the K-frame Taurus 66, a seven-shooter, and the Taurus big-frame stainless 608, an eight-shooter.

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