

The Beginner's Shotgun And Ammo

What's the best shotgun and ammo for beginners?

BY TOM ROSTER

To settle on a serviceable beginner's gun/load combo, one needs to balance cost against recoil against the fact that a beginner might want to participate in both clay target and hunting activities. An additional problem, if the gun is to be for a youth, is that young people grow like weeds — so the gun's stock dimensions must change as the shooter grows. What to do?

The first and absolutely most important reality for a beginner is that the gun choice must not beat them with recoil.

I don't think the average large-bodied adult shooter appreciates how much felt recoil is intensified by shooting a light gun in a double-barrel or pump configuration. And as a result, I see a lot of wrong guns placed in the hands of beginners. Gun choice is serious business.

Shooting is like anything else for a beginner: It has to be fun. Unfortunately, shotgun shooting comes unavoidably with recoil — and recoil is not fun. It's not a

part of shooting that anyone likes. Recoil is not something that affects only wimps, and recoil is not something you suck up and pretend isn't bothering you to impress Dad. Plain and simple: Recoil is pain, and pain is never fun.

The lighter the weight of the shooter, the more recoil will negatively affect the shooter. Therefore, for young shooters or those under 140 pounds, recoil is a major consideration. So, the most important consideration in selecting shotgunning equipment for a beginning shooter is to be certain the gun/load



combination keeps recoil to a minimum.

Let's look at the role the load plays in recoil. First fact: All the recoil in shotgunning comes from the load. Therefore, the most important and beneficial means of keeping recoil to a comfortable level for beginning shooters is to be very selective about the shotshell load fired.

Second fact: The two main

avenues for attacking the recoil produced by the load are its shot charge weight and its velocity. No, gauge has nothing to do with it. It's all about the mass of the shot charge being propelled and how fast it exits the muzzle, regardless of gauge. In the March 2016 issue of *Clay Target Nation*, I referenced the accepted industry equation for computing free recoil generated by



▲ A gas-operated semi-auto will tame the punch of recoil for smaller or less experienced shooters.

CALCULATING RECOIL

After my feature *Reduce Recoil with the Right Gun and Load* in the March 2016 issue of CTN, I received several emails from shooters insisting that a shotshell load's velocity has more effect on recoil than the load's shot charge weight. They all cited the equation $E = \frac{1}{2} MV^2$ as the basis for their belief. This is a common misconception.

The $E = \frac{1}{2} MV^2$ equation cannot be directly used to calculate either gun recoil or downrange energy of shotshell pellets for several reasons. First, this equation involves mass, not weight. Second, the equation does not take into account the effect of the gun in transferring/mitigating the recoil force generated by the shotshell load traveling through the shotgun before it reaches the shooter. Third, the equation assumes a vacuum and does not take into account the effect of atmosphere on slowing the projectile. Fourth, in shotgunning, the equation would only be relevant so long as the shot charge remains together as one "solid" mass — which means no further than to the muzzle. But upon exiting the muzzle and encountering atmospheric resistance, shotshell pellets disperse into a multiplicity of highly individually behaved projectiles because of their great diversity of shapes. Fifth, those shapes at best approximate a ball, and sadly the physics of balls traveling through an atmosphere dictates that unlike much better aerodynamic shapes such as bullets, the faster a spheroid is started out, the faster it slows down.

So in terms of recoil, at best, the $E = \frac{1}{2} MV^2$ equation can only be used as a derivative for a recoil-calculating equation that takes into account all of the above. The industry-accepted equation for calculating free recoil can be found by Googling "SAAMI Gun Recoil Formulae" and then scrolling down to "Gun Report — Technical." Using the SAAMI equation, one can clearly see that the mass of the shotshell load and gun weight play more decisive roles in generating/transferring free recoil than does velocity. In terms of predicting downrange energy and velocity of ball-shaped shotshell pellets, the $E = \frac{1}{2} MV^2$ equation by itself is inadequate and invalid, and it fails as a predictor.

any shotgun/shotshell load combination. Without belaboring the examples I gave there, the proven reality is that most beginning shooters cannot handle the recoil levels generated by 1-ounce or heavier lead or steel loads in even 8- to 9-pound guns, especially if those loads are traveling at velocities faster than 1,200 fps.

Third fact: The shot charge weight has to be well below 7/8 of an ounce with a velocity level no higher than 1,200 fps to reduce recoil to the point where most light-bodied shooters find the load comfortable enough to shoot several boxes at a time. I have found the maximum amount of recoil most 140-pound-or-lighter shooters can comfortably handle is only about 12.0 foot/pounds.

If you push the recoil computation equation around, you will find that 3/4-ounce of lead or steel shot at 1,200 fps in a 6½-pound shotgun generates about 11.5 ft./lbs. of free recoil. So clearly, a 3/4-ounce, 1,200 fps loading becomes the benchmark for a comfortable beginner's load. These

days this load can be had in 12-, 20- or 28-gauge ammunition with a couple of caveats. The 3/4-ounce 1,200 fps loading is currently available in European-loaded 12-gauge factory ammunition only, but otherwise is available only in 28-gauge factory ammunition. It is a perfectly doable load in 20 gauge, but no shotshell manufacturer as yet sees fit to offer it. So to get such a load in 20 gauge, you will need to turn to reloading. Claybuster currently offers a highly popular one-piece plastic wad (designated CB1075-20) expressly designed to load 3/4-ounce lead shot charges in the 2¾-inch 20 gauge.

BEGINNER SHOTGUNS

A couple of basic gun-related recoil facts. First: The lighter the gun, the more it will recoil backwards and upwards. Second: The harder the butt of the shotgun, the more recoil force the shooter will feel in the shoulder. Third: The sharper the top of the comb on the stock, the more recoil the shooter will feel in

the face. And Fourth: Over-and-unders, side-by-sides and pumps will transfer more felt recoil to the shooter than a gas-operated autoloader. Ergo, the best beginner's shotgun is a gas-operated auto with a good recoil pad and fairly wide comb.

ments to allow stock lengthening as the shooter grows are wise investments. Generally, youth shotguns come with a length of pull starting at 12.5 inches or so.

Bottom line: A beginner's shotgunning equipment — which usually means equip-

ment for youth — requires a special gun and ammunition to allow small-bodied or inexperienced shooters to swing the gun effectively and deal with very modest levels of recoil. From long experience and testing, I have found the most successful combo for a beginner's shotgunning equipment to be a youth-model, gas-operated autoloader with a good recoil pad in 20 or 28 gauge weighing less than 7 pounds shooting no heavier than 3/4-ounce lead or steel loads at velocity levels no higher than 1,200 fps. Such equipment can be easily handled by most 140-pound or lighter shooters, with a recoil level so low that shooting becomes a joy rather than a chore. And trust me, all this will usually keep those beginning shotgunners shooting for a lifetime. **CTH**



▲ Proper fit — length of pull, most obviously — is vital for any shooter. Make sure the gun fits.

▼ Over-and-unders are usually heavier than semi-autos and will recoil more. Though they're simple to use, in many cases they might be best left to more experienced shooters.



THADDIUS BEDFORD

As to gun weight, heavy would be good, but light-bodied shooters can't hold and swing heavy guns effectively. My testing has found that gun weight must absolutely be kept under 7 pounds for light-bodied beginning shooters — it's a necessary evil as far as recoil is concerned, but vital to good gun handling. If you review the recoil computation above, remember that a 1,200 fps, 3/4-ounce load in a 6 3/4-pound gun generates slightly less than 12 ft./lbs. So we're there!

The last consideration is gun fit. Shooters less than 5 feet 10 inches tall, especially youth, can't handle the typical 14-inch or so length of pull on most adult guns, so factory-shortened youth stocks are usually necessary. And ones featuring adjust-

YOUTH SHOTGUNS

Considering all the variables for a satisfactory youth shotgun for a light-bodied shooter, I have learned from long experience that it should be a gas-operated autoloader under 7 pounds in weight with a shortened youth stock and fairly short barrel featuring a length of pull of about 12½ inches. This eliminates virtually all 12-gauge shotguns. Certain .410 bore shotguns meet the definition, but the tiny .410 lead or 3/8-ounce steel shot charge is so much more difficult to hit with than a true 3/4-ounce or larger shot charge, that the .410 is also eliminated. This leaves the 20 and 28 gauges. Autoloaders meeting the above criteria are available in both gauges. Of the two, the 20 gauge is the more practical choice, especially if the shotgun is chambered for 3-inch 20 gauge. This allows the shooting later of effective heavier lead and nontoxic 20-gauge loads for hunting purposes.

Perusing currently available 20-gauge autoloaders that meet these criteria, two caught

my eye. Consider the Benelli M2 Field Youth 20-gauge model. It is chambered for 3-inch with a 24-inch barrel, has screw-in chokes, and weighs a mere 5.6 pounds with synthetic stock. Benelli claims it delivers 48 percent felt recoil reduction. Another less expensive Benelli youth model is the Montefeltro Compact 20-gauge autoloader. Both Benellis feature 12.5-inch-length-of-pull stocks. Both the M2 and the Montefeltro are inertia-operated guns as opposed to gas-operated, but options like the ComforTech recoil reduction system or an aftermarket recoil reduction pad will keep recoil in the same range as a gas-operated gun.

A third even less expensive option (of which I have personal experience) is the Remington 11-87 Sportsman Compact Synthetic in 20 gauge with a 21-inch barrel, synthetic stock, screw-in chokes, 3-inch chambers, and weighing 6½ pounds. The stock is length-adjustable.

This list is not exhaustive, but should serve as a starting point.

► For answers to questions or for a list of any of Tom Roster's shotgunning books, instructional shooting DVDs or other shotgunning consulting services, contact him at 1190 Lynnewood Blvd., Klamath Falls, OR 97601; 541-884-2974, tomroster@charter.net.