

# The Practical Shotgun and The Need For Speed

BY PATRICK E. KELLEY A 14401

Photo courtesy of Winchester

**On the move.** Jim Wall stuffs rounds into the new Winchester SX2 Practical model. The gun is a direct descendant of the Browning Gold used by Bennie Cooley to win the USPSA 3-Gun nationals.

**I**n our world of action shooting, the 3-gun format is taking hold. With the improved success of the 3-Gun Nationals (thanks USPSA) and the well-established Mystery Mountain 3-Gun, your opportunities to get in some quality long gun time are growing. Outside USPSA you will find other venues to scratch your long gun itch, such as the SOF and World Championship Tactical 3-gun competitions.

Becoming a USPSA member in 1990 after having spent some time in the slow pursuit of Metallic Handgun Silhouettes and NRA bull's-eyes, I was immediately hooked on our game of speed, power and accuracy. With some exposure to high-speed shotgunning via bowling pin shooting, my fascination with ever-faster shotguns has become deep-seated. In the years between

then and now I have used most of the popular (and one unpopular) self-loading shotguns. I've used them with barrels from 19.75 to 28 inches, capacities from 8 to 15 rounds, rigged as tactical or open, with optics, ports, side saddles, Tec loaders, trigger jobs, tuning, and mercury recoil reduction.

### Remington 1100/11-87

Early on my list of tools was the 1100 Remington. Most of you are probably familiar with this arm. It possesses the attributes of low recoil (due to gas operation), good ergonomics, high cyclic rate, easy maintenance, and reasonable affordability. With many aftermarket parts available, it is the top choice of many 3-gunners. Except for one thing, we could conclude the article right here.

Unfortunately, the shotgun that seems perfect is not, as RELIABILITY, (especially long-term reliability), is a problem. Practical shooters tend to shoot more than the average wing-shooter, and they shoot long strings of heavy loads. This is the downfall of the 1100/11-87 platform.

The 1100's problems relate to the interceptor latch and magazine tube.

We cause the problems with the magazine tube. For capacity purposes, we hang extension tubes on the end of the factory tube. If this transition isn't smooth, you have problems. Consider that the shells, follower, and spring must pass by it in two directions. On my 1100's, I use the factory steel follower or one of my own spun out on the lathe to help glide over any such problems. If you must use a plastic follower, keep it clean and smooth.

The larger problems surround the magazine spring. We pay close attention to our pistol recoil and magazine springs (sometimes too much), but we neglect our shotguns. In the 1100, this is a serious mistake. As a rule of thumb the spring should be 8" to 10" longer than the assembled length of your shotgun and extension.

The 1100 trigger group contains a part called the carrier release. The car-

rier release is operated solely by the force of the shell leaving the magazine tube. Really! The thing that allows your shotgun to close and feed a live round is dependent upon the force of the shell leaving the magazine tube! How often have you seen 1100's lock open, with a round sitting in the action? Nothing looks wrong, but the bolt has stuck back? Any trouble with feeding rounds out of the magazine tube can cause the carrier release to "stick" on the carrier stud.

When all goes well, dropping the hammer, activating the disconnect and interceptor latch, feeding the next round, tripping the carrier release, plus loading the round and re-setting the trigger takes about 14 hundredths of a second. Yes, this is the cyclic rate of the 1100 Remington. Shot-to-shot speed stops at 14 hundredths. While it is possible to pull the trigger faster, the disconnect will not reset until the bolt is fully closed.

This tidbit of information came to me via my 1100's, and the aforementioned quest for speed. While not



Photo by Mike Sirchuck

**HowFastCanYouGo? Author Pat Kelley pours rounds through the new Browning. He reports the gun is capable of .11 splits. Other guns choke at this speed.**

known in the big circles, I was, for a period of time, (here in my little neck of the woods) referred to as "Machine gun Kelley." During a bowling pin shoot I noticed I was either trigger-freezing or somehow stutter-stepping around pins. With the attendant five second penalty per pin left on the table,

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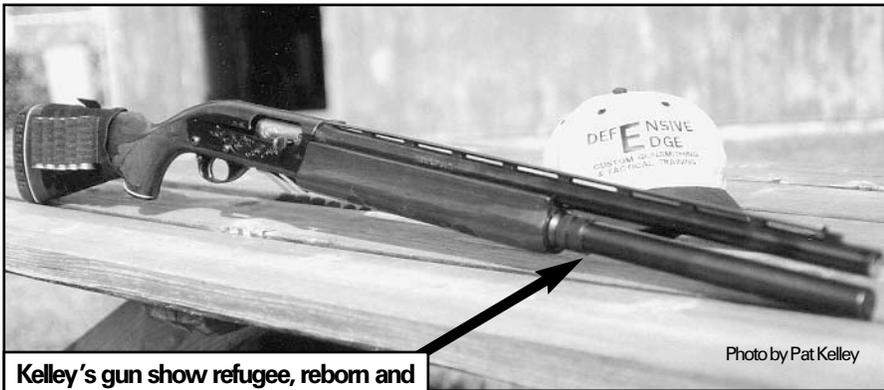
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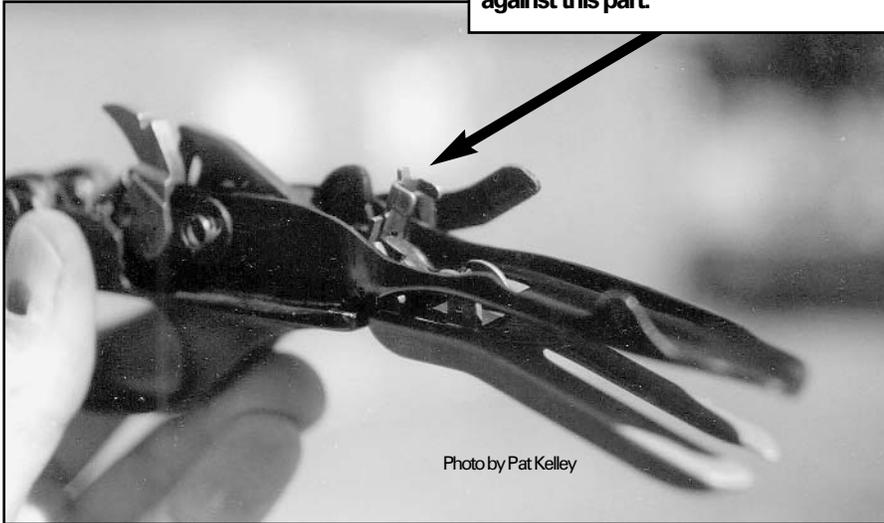
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Kelley's gun show refugee, reborn and ready to race. If you can keep it working, the soft-shooting 1100 wins matches.

The 1100's speed-limiting carrier release. In order for the bolt to close, the mag spring must throw a shotshell against this part.



## Understanding the Remington 1100 "Interceptor Latch"

Still having trouble with your 1100? If all is well with your magazine tube, spring, carrier release, and follower, you may want a good smith to look at the interceptor latch. There are a number of gunsmiths that work on 1100's available but Shawn Carlock of [defensiveedge.net](http://defensiveedge.net) heads my list.

The interceptor latch, its locating stud, and retainer, are critical to proper timing. Located within the receiver, the interceptor latch is activated by the disconnect tail. When you drop the hammer the disconnect rotates as does its tail. This in turn depresses and rotates the interceptor latch. The interceptor latch "intercepts" the next round in the magazine tube. When the bolt is cycled to the rear the disconnect resets and releases the interceptor latch. Once the interceptor latch clears, the round that was being held is free to travel rearward with only the momentum generated by the mag tube spring to push the carrier release off the carrier stud. Again we see the importance of a strong magazine tube spring!

this would never do. Only a poor sportsman blames his equipment, but I had to know whether I suffered from trigger freeze or if the gun was at fault. Having multiple 1100's on hand, a video camera, and an operator, I soon found out more than I wanted. A cool November afternoon found my buddy Hunter and me out testing one of my 1100's. Hunter was picked because he did not immediately suggest it was pure folly to think I could outrun a self-loading gun. Careful examination of slow motion footage clearly showed my trigger finger pulling the trigger a second time before the action closed. Now what?

More testing with more 1100's with a wider selection of ammunition brought the same results. Thoughts of cutting, grinding, lightening and springing came and went. There was nothing actually wrong with any of the

1100's tested, only a built-in finite cyclic rate. What next? I know, I'll just sell a couple of 1100's and buy the "world's fastest shotgun." A few weeks passed and one of our local gun shops (in this case [davesguns.com](http://davesguns.com)) called me with the good news. My new no-excuses, super-duper, wham-bam, special-operations-team-approved Benelli M1 Super 90 was waiting for me, yee haw!

## Benelli M1 Super 90

To many, the Benelli is the be-all and end-all of shotguns. Known for its reliability, durability and speed, I purchased the "world's fastest cycling shotgun" after a years-long affair with the 1100. Finally, I had found MY shotgun and for a time the Benelli and I got along very well. This particular Benelli was the M1 Super 90 slug model, complete with eight-shot tube

extension, side saddle shell carrier, and barrel-mounted rifle sights. This set-up served me well for nearly two years. In 1997, the quest for speed again lifted its ugly head.

This time the challenge was steel.

The American Handgunner World Shoot-off Championships set the stage for the Benelli's downfall: more precisely, the man vs. man auto shotgun side shoot. Here I am, trying to qualify for the final four with Jerry Miculek and Bill Vance setting the pace. Both were averaging about two seconds for five poppers.

In this format, if memory serves, we made four passes on five poppers with the best three runs totaled for score. My first run came in at two seconds and change. I'd better speed up if I want to play with the big boys! On the second pass, the buzzer sounds and the

Benelli snaps to my shoulder. The first shell is out the ejection port, and we are cooking now! As the second target is acquired, disaster strikes. My Benelli fails to fire. Yes, I remembered to load the thing and to both release and pull the trigger! As you know, in the heat of competition you don't take time to figure out much. Just get the thing running! So I apply the Benelli equivalent of "tap rack bang."

Needless to say, I didn't make the cut on that run.

Going into run three I thought: "I am not out of this yet; I just need two more good runs." This same scenario played out again on my third and fourth runs. Since I was out of the running, I took a little time to see what was happening on the fourth run. It looked like the hammer was following the bolt down on a live round. Must be something wrong with the fire control components, I thought, so I'll just borrow another M1 Super 90 from my buddy Jim Wall. Jim warns me not to "put any stupid in his gun" and with that I plunk down my re-entry fee for another chance at Jerry and Bill. I am ready now; I have in my hands a veteran shotgun that has seen the ranges of Gunsite and top finishes at SOF. If any gun can make the difference, I now possess it. Victory is mine (or at least I will make the cut). Not so fast, powderhead! Again the hammer follows the bolt down on a live round. Sorry Jim, I guess I did "put some stupid" into your gun.

Back home, I was determined to find out why. Can I be the cause of THIS malfunction? Other types of malfunctions, sure, but THIS one? With the help of a half a dozen M1 Super 90 owners and hundreds of rounds of shot shells I set to work finding out. Could it be the cyclic rate? Benelli's trick shooter had set a record shooting more hand-thrown clays than anyone else, so their gun had to be fast, right?

Over a year's time, using any M1 S90 that I could borrow (usually at matches), I learned that the Benelli was indeed faster than the 1100, but that I could out-run the Benelli's cyclic rate

on demand.

Using the same videographic techniques that we applied to the 1100, we found the limit for the Benelli: 13 hundredths of a second. That's it. Any faster, and the hammer follows the bolt. Some of the testing I have on video tape documents 11 of the aforementioned hammer follows in 50 rounds fired. For all that fanfare, "the world's fastest shotgun" is one lousy hundredth faster than the Remington 1100.

If the 13/14 hundredths cyclic rate is virtually the same for both Benelli and Remington, why the difference in the malfunction? Simple, the Benelli disconnect resets before the bolt is closed. The Remington does not. At speeds below .13 second, the hammer follows the bolt down without firing on the Benelli. The Remington just makes you pull the trigger again when the disconnect resets.

(Editor's note: I asked Jim Wall about his experiences with the Benelli. His ideas reflect Kelley's, but he adds a warning about cocking handles. "I've got timers that will show the minimum cyclic rate as high as .14, especially if you have one of those big cocking handles on. I had one of those, and that's about the time I started having trouble with the cyclic rate. . . Now I'm back to using the little pin that Benelli supplies.")

The initial reaction of many shooters to this information is, "Who cares? Who really goes that fast?" or "Where would I use that speed?" Practical shooters (and some tactical shooters) are different. This is why I penned my "on the range" experiences. If you KNEW that your pistol stopped working at .13 seconds and your ability exceeded that, you would be at the gunsmith getting it fixed. Why should you expect less from your shotgun? If you worked on a SWAT team, and the Benelli was your main shotgun, wouldn't knowing that you were carrying a gun guaranteed to fail at under .13 second splits give you pause?

So now what? How do I fix the



Photo by Robin Taylor

**The Benelli M1 Super 90 shoots and loads like a dream for practical 3-gunners like Mark Anglin (above). However, the Super 90 will not shoot faster than .13 second splits. If the shooter tries to shoot faster, the hammer follows the bolt.**

"world's fastest cycling shotgun?" After much thought, I chose not to. If I were to try, I would start with weight reduction in the reciprocating parts. Springs work in both directions, so changes there don't really help (if a strong spring makes the action close faster, it also makes it open slower). A company called SRM makes an improved cycling kit that may be worth a try.

So what now? Do I settle for less? How about Browning? What do they have to offer?

### **Browning Auto 5**

Way back when, everybody had a Browning Auto 5 for their waterfowl gun. Does it meet the criteria for our games? Let's see: Reliability is job one. This gun is VERY reliable. Much of its reputation came from waterfowl hunting. Stories of freezing cold wet guns being dropped in the muck still coming up shooting are told to this day. Does it possess the attributes of low recoil, good ergonomics, ease of maintenance

**SPEED SHOTGUN continued on page 42.**



Photo by Robin Taylor.

**Accessories for the Auto-5 aren't easy to find. Kelly Beale made this double-decker side-saddle using an old scope mount and a pair of side-saddle racks from other guns. Although not popular among 3-gunners, the Auto-5 has advantages over many other shotguns.**

and reasonable affordability? How about after-market accessories? The Auto 5 scores three out of six. It is reliable, ergonomics are okay, and maintenance? What maintenance? Oil and shoot. Nothing breaks; nearly every part is cut from cast, billet or forged steel. Like the Benelli, it is recoil operated (although the Auto 5 is a long recoil action unlike the Benelli) and does not mitigate recoil as well as a gas-operated gun. With the discontinuance of the Auto 5, prices have gone way up, and accessories are next to non-existent. Nada, zip. Even Choate is discontinuing their magazine extension tube for the Auto 5. Why even talk about it? Because even with the obstacles in-

involved, Auto-5's are faster than and at LEAST as reliable as the Benelli – particularly at top speed.

The Auto 5 positively re-sets the first half of the trigger return stroke using a pair of opposing hooks – one on the hammer, one on the trigger. Instead of waiting for the fairly passive action of a re-set spring, that hook on the hammer claws the trigger ahead as the hammer re-sets, slapping your finger out of the way if you're too slow letting go. You still need to let go of the trigger for it to fully re-set, but the first half of the process is done mechanically. (Think of it like using solid lifters instead of spring lifters on a car engine.)

Until I ran across the next shotgun on my list, the Browning Auto 5 proved itself to be faster than the "world's fastest cycling shotgun," leaving the Benelli buried in its empty hulls.

### ***The New Brownings***

Okay, drum roll please. Will the real world's fastest cycling shotgun please stand up? What? We have two guns standing? How can this be? We can thank the people at Winchester and Browning for this situation. They have unwittingly given us a choice between two "world's fastest cycling shotguns." The Browning Gold and the Winchester Super X2 are both built on the same basic platform, and these guns haul!

Okay, they go fast, WAY FAST. Do they meet the criteria we have established? Low recoil? Oh yeah! They're gas operated. Good ergonomics? Yes, they feel quick in the hands. Ease of maintenance? So far so good. I have no long-term data, but the gas system was designed with this very thing in mind. As far as gas guns go, these are as simple as you could hope for, at least in terms of number of parts. This goes for the

fire control system too. Reasonable affordability? Costs no more than a Benelli. Aftermarket parts? 3gungear.com will make you a slick side saddle for them. Mag extensions are a little harder to come by. Check the websites of Briley.com or Defensiveedge.net.

Did I mention RELIABILITY???. In addition to my own limited testing, reports from Bennie Cooley indicate that this platform IS reliable. Cooley has won one 3-Gun nationals with it, plus a couple of wins at the North Carolina tactical 3 gun, and the MGM 3 gun.

### ***Browning Gold***

The Browning Gold is the only "new" self-loader available with speed loading. Here is what that means as described in Browning literature — "with the action open, any load inserted into the magazine is sent directly to the chamber, ready to be fired."

Like some kind of mechanical magic trick, the moment you let go of the first round stuffed into the magazine tube, the Browning Gold feeds it all the way to the chamber. No messing around loading the chamber, pushing a button, and then flipping the gun to load the mag tube – just load the magazine tube and the gun loads itself! This feature was originally designed for the Browning "Double Automatic" and was quickly applied to the Auto 5; it has been on nearly all Browning self-loaders since.

### ***Winchester Super X2***

Unbeknownst to many, Browning and Winchester are owned by the same holding company (Giat of France). As a result, the two firms are sharing a lot of information with each other and with Giat-owned FN.



**Speed Demon. The Browning Gold and the Winchester SX2 (above) are quickly building a reputation for speed and reliability. Accessories are still a problem, however.**

Photo by Pat Kelley



**Long recoil Auto-5's shoot faster than you think. Pat Kelley's race-5 appears barrel-forward (above) and barrel-back (in recoil, below). Note the position of the muzzle relative to the end of the mag tube.**



Photo by Pat Kelley

Winchester's Super X2 is essentially the same gun as the Browning Gold, only with a different set of features. The Winchester does not have the speed-loading feature of the Browning, otherwise the price point would be substantially higher.

What the Winchester does offer is a ready-to-rock "Practical" configuration! Somebody at Winchester must be a 3 gunner, as this gun is built with us in mind. Sporting a 22" barrel for good handling (complete with Invector chokes) and a factory-installed magazine extension bringing capacity to 8 and 1, this gun is good to go. Standard features also include a synthetic stock and cantilever scope mount. Not leaving the Limited division gunners out, Winchester has fitted an excellent set of rifle sights. The rear one folds down and is dovetailed to the scope mount. The front sight is dovetailed into a nice-looking serrated ramp and has the very popular fiber optic tube or "light pipe" nestled inside. The only thing I would add is a side saddle, and again, 3gungear.com can handle that for you.

I got a chance to spend a little time (very little) with the Winchester Super X2 and found what may pull me away

from my beloved Auto 5. After a few speed drills on three pepper poppers, I was already well pleased with this self-loader's performance. Using 00 Buck loads (does this thing smooth out recoil or what?) I ran a three-popper course with each popper a yard apart and 12 yards down range. From the port arms position I was able to "draw" and knock down all three in just under one second. Considering a reaction and first engagement time of .68, split times between the next two poppers were 12 and 13 hundredths respectively. This is as fast as my Auto 5! At this speed, the Benelli's hammer follows the bolt!

Idaho state police officer David Neth was kind enough to let me perform this test with his personal Winchester SX2 Practical. He also demonstrated this shotgun's true capability by pulling off some 11 hundredths splits along with a handful of 12's. To top that, he beat my personal record for the fastest five shots. This is a little thing I have been doing since the speed bug hit me. With the timer running you let loose of five rounds as fast as you can, counting the first shot as zero and totaling the remaining four split intervals. My best to date has been 56 hundredths. David amazed the small gathering at a 3 gun match in Winchester, Idaho by firing those five shots in 51 hundredths! The splits were three .13's and one .12. This gun is full auto fast! By the way, this was with Federal 00 buck. No, not the low recoil stuff, this was Federal MAX 2 3/4 Classic.

So there you have it, a quick overview of a short list of practical self-loading shotguns. All will do the job nicely. Some may fit your needs better than others. Each has its high points and all have their problems. As much as I thought I would not draw any conclusions for you I would like to leave you with this;

sions for you I would like to leave you with this;



My quest for speed grew out of a desire for reliability. While speed is not everything, you can have that and a reliable shotgun to boot. No matter what gun you use, our game will uncover its weaknesses and shine its attributes. So get out there and see how fast you can go. Go 3 gunning!



Photo courtesy of Browning/Winchester.

**Warp Speed popper-blasting puts a heavy toll on autoloading shotguns. Here Jim Wall lays into a set of three with the new Winchester SX2.**