20 Gauge, Low Pressure Recipes

By Tom Cerettos

I recently received an email from Vernon asking for some 20 gauge, low pressure, recipes in Remington STS cases using Winchester primers. Vernon did not inform me what powder he was loading, but most of us use Alliant Unique, Alliant 20/28 or Hodgdon Universal Clays. I guessed he was using one of those powders.

When powder companies develop small bore powders, it is a balancing act between obtaining a moderate pressure rise, moderate peak pressure and a clean powder burn. The powder must also have very consistent metering when dropped. This is by no means an easy task. While we have dozens of
adequate 12 gauge powders, you can count the number of premium small bore powders on one hand. The three I mentioned earlier are the best of the 20 gauge powders when loading 7/8 ounce 1,200 fps loads. There are other good powders, but they tend to be a bit higher pressure than the three I mentioned.

The choice of components is also critical. I often talk to skeet and sporting clays reloaders about what components they use in the small bores, and many of them are intractable about what primer, wad and hull they want to use. Sometimes the reason is cost, sometimes it is because someone told them a particular component is the best to use and some are, frankly, too stubborn to listen to any alternative. I can't do anything for them except to give them suggestions using the components they are adamant about using.

The use of small-bore tube inserts also influences what choice we make when loading 7/8 ounce of shot at 1,200 fps the 20 gauge. The chamber walls on 20 gauge sub-gauge tubes are thin, and using a powder like Green Dot or International Clays that reach peak pressure faster than Unique, 20/28 and Universal Clays could eventually cause cracks to develop in the area cut out for the ejectors. Both of those powders are fine if you use them in reduce velocity loads or loads with lighter shot charges, or if you use them in a 20 gauge shotgun. I have even used 12 gauge powders like Clays, American Select, 700X, PB and Red Dot in reduced loads with excellent results.

Some readers of SSR have asked me about using Longshot or Pro Reach in 1,200 fps 7/8 ounce loads. Longshot and Pro Reach are lower pressure powders. They are both excellent powders, but are best used in high velocity 20 and 28 gauge loads for sporting clays. They are too slow burning to use in 1,200 fps loads and will not perform well in light loads.

If you use any of the three powders I recommended in 1,200 fps 7/8 ounce loads, all you have to do is find the lowest pressure load in any reloading guide with the components you want to use and load it. The SAMMI limit for maximum average pressure in the 20 gauge is 12,000 psi.

Skeet is such a short range game that I feel 1,200 fps loads are unnecessary. I prefer reduced velocity loads at 1,100 or 1,130 fps with 7/8 ounce loads. They reduce fatigue from recoil, cost a bit less to load, are lower pressure, pattern beautifully, and are a pleasure to shoot. I have used them when shooting sporting clays with number 8 shot and they performed surprisingly well on some quite long-range targets. Here are a few loads using Winchester primers in Remington cases that will perform well for Vernon.

Case: 20 ga. Remington STS
Primer: Winchester 209
Powder: 15.5 gr. Alliant 20/28
Wad: CB101078-20
Shot: 7/8 oz. lead
1,200 fps @ 10,010 psi

Case: 20 ga. Remington STS
Primer: Winchester 209
Powder: 15.5 gr. Alliant 20/28
Wad: Remington RXP20
Shot: 7/8 oz. lead
1,200 fps @ 10,110 psi
Case: 20 ga. Remington STS
Primer: Winchester 209
Powder: 16.0 gr. Universal Clays

Wad: Remington RXP20
Shot: 7/8 oz. lead
1,200 fps @ 10,400 psi

I, too, went through a 20 gauge low pressure binge quite a few years ago and found the following load to be about as low pressure 1,200 fps load as I could come up with in an STS case for the 20 gauge at that time.

Case: 20 ga. Remington STS
Primer: Remington 209P
Powder: 17.5 gr. Alliant Unique
Wad: Orange Duster
Shot: 7/8 oz. lead
1,200 fps @ 8,100 psi

Some of the lowest pressure 20 gauge reloads you can find in reloading guides are for Federal plastic target hulls, but for some reason some people seem reluctant to load them. I load them all the time and like them very much. Federal Target hulls have an eight segment crimp and are easier to reload than the field hulls with a six segment crimp. They are not as durable as Remington and Winchester hulls, but make an excellent reload with several different component combinations.

In his email Vernon mentioned that he was having problems with seating primers in 28 gauge and .410 bore hulls in Remington cases, his hull of choice to reload. This seems to be a problem with some older MEC Grabber and model 9000G presses and can be a big pain in the backside. I have not run into the problem myself because I load 28 gauge hulls on a MEC Sizemaster. Vernon tinkered with his loader until he solved his problem. I forwarded Vernon's last email to Dave Kern, Manager of Reloader Sales and Customer Service Manager for MEC. Dave's reply reached me a few days ago.

Tom,

Thanks for sharing this information with us. In the case of the .410 primer seating tube for our progressive reloaders, we now have the tube hardened so that it holds up better at the bottom when trying to seat primers. We have it go through our e-coat line to give it a black color. For whatever reason it seems like more force is required to seat the primers in .410 and 28 gauge hulls. To prevent the tube from slipping upward, we have gone to a double clamp system for both of these gauges.

The Sizemaster is slower than progressive presses, but it loads 28 gauge hulls so nicely I never bothered to purchase a progressive loader for the 28 gauge. I load mostly Federal target hulls and they load so nicely and deliver such beautiful patterns that I load few Winchester and Remington cases now. I load mostly Federal cases in the .410 bore too. I wish Federal would start using plastic base wads instead of wound paper base wads. It would increase the number of reloads we could get out of what is otherwise an excellent loading shell.

If you want to update your Grabber or 9000 press to the new powder drop tube you can call MEC at 1-800-797-4632 and order one.