

.257 DART

by Lee Martin
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Try to think of a cartridge that hasn't been attempted in the Thompson Center Contender. Short of those that can't fit the frame or safely be housed by the receiver, I can't think of many. To that end, a lot of chamberings have enjoyed immense popularity while others are not widely accepted. Some cartridges that I think are perfectly suited for the TC include the 7x30 Waters, any Supermag round (.357, .375, .414, & .445), 6.5mm and 7mm TCUs, the Herrett offerings, etc. As Thompson Center upgrades to the new G2 Contender, I am glad to see that many of these can still be acquired through their custom shop. One cartridge that has been attempted in the Contender, but never caught on is the .250 Savage. Wildcatters have had great success with improved .25-35 Winchester in the TC, as has SSK Industries with the excellent .257 JDJ. My dad has an original .25-35 barrel that was great for silhouette work; I on the otherhand liked the more modern and efficient design of the .250 Savage/.257 JDJ and decided to have one built.

I believe that my dad started manufacturing Contender barrels in the early 1980s. Over the past 20+ years we've chambered many in .225 Winchester, .256 Win Mag, .38-55 Win, .30 & .357 Herrett, .218 Bee, .219 Zipper, etc. Most of the time, we had done rifles in these cartridges and elected to make the pistol-companion. Back in 1999 we finally decided to pursue a .25 caliber Contender that was more potent than the .25-35 Win and settled on the .250 Savage. Unfortunately, we didn't have the chambering reamer, so we chose the next best thing.....the .257 Dart.

We didn't design the Dart, but had been shooting it in a benchrest rifle for a couple of years. The history on this wildcat is somewhat vague, but as far as I know, the round was developed in the 1960s by the late Homer L. Culver

of Arlington, Virginia. He and my dad had been friends for years and actually built his benchrest powder measures together in the early 1990s. Essentially, the Dart is a .220 Swift which is expanded to handle a .25 caliber bullet. The case is shortened and the overall design uses minimal taper and an improved shoulder. Ironically, I wanted the Dart to be close to the .250 Savage; dimensionally speaking, I had no idea how close they really were to one another. Consider the following:

	<u>.257 Dart</u>	<u>.250 Savage</u>
Overall Length	1.899"	1.912"
Neck Length	0.264"	0.274"
Neck Diameter	0.283"	0.285"
Rim Diameter	0.473"	0.473"
Rim Thickness	0.049"	0.049"
Shoulder Diameter	0.436"	0.414"
Base Diameter	0.447"	0.469"
Shoulder Angle	30 deg	26 deg
Case Volume	0.177	0.179
(cubic inches)		

With this in mind, if you're interested in building a .257 Dart Contender, go the easy route and opt for a .250 Savage. In doing so, you won't have to buy custom reamers and mess with case forming. Again, I simply did the Dart because we already had the reamers, formed cases, and reloading dies.

Is the .257 Dart/.250 Savage suited for the TC frame? Well, numerous studies have indicated that cartridges with a web diameter of 0.473" should not be pushed to pressures higher than 45,000 psi in the Contender. Unquestionably, brass thickness is another variable that must be assessed. For instance, .225 Winchester brass is stronger than standard .30-30 Winchester, though both have the same web diameter. Swift brass and .250 Savage cases would be of similar strength, so again there is no discernable difference between the two (at least in terms of using either in a Contender). The .300 Savage had been shot quite a bit in the TC with an excellent performance review in Wildcat Cartridges Volume II. In spite of this, no current custom shop that I know of chambers the .250 or .300 Savage on a Contender (though it is extensively offered for the Encore). Personally, I find the Dart to be functionally safe in the TC when loads are held to 45,000 or less. Tight chambers and a surface finish to which the brass can expand and grip, helps reduce case thrust (ensuring that the chamber is void of oil and lubricant is of benefit as well). Another consideration is the

cartridge design & shape. With the Dart, minimal body taper and a sharp shoulder angle both contribute to better case grip upon expansion.

Cases are again made off of the .220 Swift, with the first step being neck expansion using a home-built form die. From there, the brass is run through a second forming tool that pushes the shoulder back to the desired position. Necks are then cut to the length of 0.264" and outside turned to an o.d. of 0.283". The latter is a required step, at least with the reloading dies that we're using. Since we originally shot the Dart as a benchrest round, the dies were cut to a dimension that necessitates that the necks be trued. Over the years, we've primarily used either Winchester or Norma brass as the starting point; case life with both has been outstanding.

We built the Dart barrel in the spring of 1999 using a 1-10" Douglas cut to 12.5" (if I was to do it all over again, I would have elected an overall length of 14-15"). Unlike Thompson Center and many of the custom Contenders, the barrel is not mated to the bolt-housing through electron beam welding. Instead, we've always used a TIG weld that's proven to be more than adequate. As for internal parts, the bolt assembly, extractor, and pins have been purchased directly from Thompson Center Arms (.30-30 Win extractor was used and required only slight modification for the Swift rim). The barrel was also drilled and tapped for a Weaver scope base to which a 4x Simmons scope was affixed. As for the frame, I've shot this conversion exclusively in a stainless steel Contender.

I haven't worked with many different powder/bullet combinations in the .257 Dart (in large part due to the performance I had with early reloads). My dad had always used 85-87 grain bullets and IMR 3031 in the round for benchrest shooting. In doing so, he could easily get ¼" groups at 100 yards with some dipping under 0.20". Though my Contender was not intended to be a precision shooter, IMR 3031 seemed like a logical starting point. With 34.0 grains of powder and an 87 gr Sierra bullet, the Dart shot groups around 1.5 - 1.75" at 100 yards. Moving up a 100 grain Nosler Ballistic Tip and 32 grains of 3031 tightened group size to 1.0 - 1.25". I liked this reload so much that I've never moved on to try the other powders that would be ideal for the round. These would certainly include IMR 4895, Reloader 7, AA2520, W748, etc. It's interesting that many articles I've read claim that accuracy in the .250 Savage is not as good when using 3031 as the propellant. To that end, W748 seems to be a proverbial favorite for both velocity and precision shooting. I do plan of trying this powder in the Dart to see if there is a reduction in group size (undoubtedly, it should provide higher velocities). Nonetheless, average speed with the 87 and 100 grain bullets is 2,440 and 2,395 fps respectively using 3031. These velocities are decent, but are still not on par with those of the .257 JDJ. For example, the

JDJ can push 100 grain bullets close to 2,600 fps using WW748 and a 15" tube. I believe that the Dart would be capable of this performance in a similar sized Contender. Obviously, when dropping the barrel from 15" to 12.5", there is going to be a significant decrease in muzzle velocity. Based on estimates of similar loads in the .257 JDJ, the reduction could be as much as 150 – 200 fps with a 100 grain bullet. Again, this is a suspected, not proven variance.

Why I like .25 caliber Contenders in the Dart, Savage, and JDJ configuration is tied to their versatility. In regards to game, these rounds are all well suited for the classes of varmit, predator, and deer. Though I've never had the chance, I'd love to do long distance varmitting with a Dart Contender and possibly even a bobcat/coyote hunt. As for deer, the round is certainly more than capable of clean kills with a 100 - 117 grain slug. Now, ground hogs should be easy prey for one of these cartridges out to the 250 – 300 yard range, assuming optics greater than 4x are used. Other factors that make this a desirable Contender round are its combination of low recoil, flat trajectory, and large selection of .25 caliber bullets. In spite of these attributes, I doubt we'll ever see a factory Contender offered in .250 Savage. One reason is that Thompson Center does chamber the 7-30 Waters, which is equally as good in a 14" barrel.

My reason for writing this article isn't to promote the .250 Savage as the ultimate .25 Contender. Currently we have a number of outstanding proprietary cartridges to fill this space, which include the .257 JDJ and .25 Bullberry Improved. Instead, I simply want to illustrate that the .250 Savage can safely operate on the Contender frame and offer an impressive level of performance. If it does have any advantage over its wildcat counterparts though, it's that it doesn't require case forming and custom reloading dies. Conversely, if one does opt for a Contender in .250 Savage, they'll have the luxury of commercial brass, dies, and even loaded ammunition. It's also ironic that in the development of the .257 Dart, the end result was a wildcat that is nearly identical to the decades old .250 Savage. So often in the interest of developing something "new", we revert back to an already established idea. I would submit that in terms of wildcatting the Thompson Center Contender, many seem to have overlooked an old favorite that was born in 1915.

If you have answer questions or comments, I can be contacted at sc429@yahoo.com.

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.257 Dart Cartridge



.257 Dart Contender