

Load Development

Winchester's 1885 Traditional Hunter Cast Bullets for the .32-40

By Mike Thomas

While the .32-40 cartridge was actually a mid-1880s Ballard black-powder development, it is often referred to as the .32-40 Winchester. The Winchester firm eventually posted its name behind the cartridge designation and chambered it in both the 1894 lever action and 1885 single shot.

Even considering its heritage as a target round, original .32-40 ballistics seem a bit feeble in comparison with today's cartridges. A 165-grain lead bullet at just under 1,400 fps when fired in a rifle is not much different than a .357 Magnum round fired from a revolver.

When I found a dealer with several reintroduced Winchester 1885 Traditional Hunters in .32-40 for sale, the opportunity to work with the cartridge could not be over-



These .32-40 Winchester cartridges were loaded for use in Winchester's 1885 reintroduction single shot. Most of the overall lengths of cartridges shown are too long for use in lever-action rifle magazines; bullets are uncrimped.



Cast bullets discussed include (from left): Lyman 319247, 157 grains; Accurate Molds 32-170B, 172 grains; Lee C324-175-1R, 173 grains; RCBS 32-170-FN, 178 grains; and Redding/SAECO 732, 200 grains.

looked. The Traditional Hunter is basically a "high-wall" single shot with a tang sight, 28-inch octagonal barrel, straight-grip stock and a steel crescent buttplate. The barrel is drilled and tapped for scope use. Weight is around 9 pounds. What I was unaware of at the time of purchase was that the rifles were in far greater supply than the ammunition (and unprimed brass) for which they were chambered.

Winchester makes the brass and ammunition but not on a regular basis, as the demand for anything .32-40 is less than overwhelming. Back orders from two suppliers went unfilled for a year or more, but I finally located 200 new, unprimed cases. Before receiving the brass, however, I re-formed 60 Winchester .30-30 WCF cases by running them through a .32-40 sizing die. This was easily done using two steps. A lubricated case was forced about

halfway into the die and removed. Additional sizing lube was applied, and the case was forced into the die once more for complete forming. Such cases are shorter than .32-40 brass by .091 inch. The only disadvantage in using .30-30 cases is that with some cast bullets, one or more lube grooves are left exposed when bullets are seated. I've since learned that many handloaders use re-formed .30-30 WCF brass in .32-40 rifles; .38-55 brass is longer than .30-30 but still a little short, so some might prefer that route. While I have not used any, Starline makes a .38-55 "long" case that reportedly takes care of the length problem when forming the .32-40.

Several hundred rounds were chronographed using both re-formed .30-30 WCF and Winchester .32-40 brass. Save one exception, velocity figures indicated that if there is a difference in case



Mike fired almost 1,000 rounds from a benchrest in developing the .32-40 cast bullet loads.

capacity with a seated bullet, it is of no consequence. There were some discrepancies in seating depth between the two cases, but that means little to most handloaders, who would tailor bullet seating depth for individual rifles anyway, particularly for use in single-shot rifles. The time-tried rule for cast bullet seating prevails here: Seat a bullet as far out as practical so that a loaded round may be extracted without leaving a bullet stuck in the rifling origin. Some of the overall lengths listed in Table II are far too long for lever-action rifles and would require deeper seated bullets. Since a single-shot rifle was used for load development, no case crimp was used. Crimping would be a must for use in the magazines of lever-action rifles.

Internal barrel dimensions of the newly produced Winchester 1885s are in compliance with .32-40 SAAMI specifications. Twist rate is one in 16 inches, and the bore has

a nominal groove diameter of .320 inch. Research indicates this .320-inch figure may have deviated somewhat over the last 125 years. Most .32-40 cast bullet shooters load bullets that measure somewhere in the vicinity of .321 to .323 inch.

Many bullets that measured between .320 and .323 inch were shot with identical powder charges using both the short, re-formed .30-30 brass and the regular .32-40 brass. After a total approaching 1,000 rounds, quite surprisingly, there was very little difference in accuracy. Even with the .323-inch bullets having the overall edge, the variance was slight enough that their use was discontinued.

When developing cast bullet loads, many handloaders begin with the largest diameter bullet (within reason) that will chamber. I'm an advocate of this practice simply because it is usually the best choice from an accuracy perspective. In this

project, .32-40 rounds loaded with .323-inch bullets chambered very snugly in the Winchester's chamber, perhaps too snugly from a safety standpoint. Loads using .321-inch bullets chambered much more easily, though not loosely like a factory round.

Bullets were cast of wheelweight alloy with an average Brinell hardness number (BHN) of 13. Leading was a minor problem with some of the faster loads, and bullet diameter had no apparent effect on it. I tried two lubricants. NRA-type half-and-half was used initially. Despite being messy to work with, its performance is fine in most instances until velocities exceed about 1,800 fps. Farther along in the task, I experimented with a lubricant that I was unfamiliar with, Voodoo Red. This lube is firmer and easier to work with than half-and-half but is softer than "hard" lubes.

In terms of accuracy and the reduction of bore leading, there was no discernible difference between Voodoo and half-and-half. That's praise for Voodoo, not criticism.



The tang sight on the 1885 is adjustable for both windage and elevation. Groups using this sight were only slightly larger than those obtained with a scope sight.

The two can be used interchangeably. Voodoo might outperform a half-and-half lube at higher velocities, but there is little opportunity for high velocity with the .32-40 cartridge. For anyone interested in trying Voodoo Red – *follow directions!* The maker mentions “seasoning the bore,” a phrase that makes many think of snake oil treatment. The procedure is simple and the recommendations are to shoot with a fouled bore, never cleaning completely as most shooters do. I tried it both ways, as suggested by the manufacturer and with a completely clean bore. With a perfectly clean bore, the 1885 produced noticeably larger groups.

For the sake of uniformity, all the loads listed in Table II used bullets sized in a Lyman die marked .321 inch. (Actual diameter of sized bullets was .3216 inch, except for the Lyman and SAECO plain-base bullets that were too small for actual sizing.) Federal 210 Match primers were used in developing loads. All groups were fired using a 20-year-old Leupold 6x Compact scope. As much of the shooting was done in warm weather, four-shot groups were fired primarily, but many five-shot groups were also fired. As anticipated, once the 1885’s barrel got hot, accuracy deteriorated.

Factory .32-40 Fodder

A friend provided a partial box of older Winchester .32-40 ammunition loaded with 165-grain jacketed softpoint flatnose bullets. Ballistics are listed on the back of the box: muzzle velocity, 1,440 fps; muzzle energy, 760 foot-pounds. One three-round group measured one inch at 100 yards. Chronographed muzzle velocity was 1,384 fps. Pretty puny figures for a hunting cartridge, but .32-40 factory (or factory equivalent) ammunition would be fine for Texas whitetails at close range. Jacketed bullet handloads in a rifle with a strong action can come close to approximating .30-30 WCF velocities and energy levels.



Seven popular cast bullet powders were used in developing the .32-40 loads listed in Table II. Federal Large Rifle Match (210M) primers were used for load development.

Seven powders were selected, all quite suitable and popular for use with cast bullets. From fastest to slowest in order of burning rate, the list included Unique, Universal, SR-4759, Accurate 5744, IMR-4198, Reloder 7 and H-4895. Having never been much of an advocate of fast burning handgun cartridge powders in rifle cartridges, I made an exception and did some limited work using Unique and Universal with the Lyman plain-base bullets. I’ve used quite a bit of Accurate 5744 powder for cast bullet loads in many rifle cartridges and have developed some accurate loads. However, when compared with other popular cast bullet powders, I often find another that contributes to a more accurate load than A-5744. I realize this is contrary to the experience of other cast bullet enthusiasts. Nevertheless, and in defense of A-5744, the heaviest bullet used in this article displayed its best accuracy with this powder.

To adequately cover the field, five moulds casting bullets from 157 to 200 grains were selected. The lightest and the heaviest are plain-base bullets, while those in the middle were gas-check designs. The mould list (see Table I) includes as-cast bul-

let diameters and weights with gas checks where applicable.

Bullets cast from the Lyman mould were accurate (groups under 2 inches at 100 yards) with several loads, as long as muzzle velocities did not exceed about 1,450 fps. Beyond that, leading became significant and accuracy suffered.

Accurate Molds, LLC (PO Box 315, Salt Lake City UT 84110; www accuratemolds.com) is a relative newcomer in the bullet mould business. The mould used here was a single-cavity brass version. Very well made, it’s a large mould for such a small bullet and required casting at a fast clip to keep the temperature high enough to get good bullets that were well filled out. This mould would be hard to overheat, but if I were to purchase another, it would likely be a two-cavity model. With the best loads, several groups were fired that were one inch or less. Thanks to the gas check, the relatively soft bullets produced good accuracy up to 1,700 fps.

While the Lee mould was used to produce an “adaptable” .32-40 bullet, it looks to have been designed as an 8mm bullet, hence the large, as-cast diameter of .3265 inch. The nose is also large, requiring deep seating of the bullet. It was with this bullet that I noticed velocity differences when alternating between the

Table I
Cast Bullet Moulds Used

| mould | diameter (inch) | weight (grains) |
|-----------------------------|-----------------|-----------------|
| Lyman 319247 (DC) | .320 | 157 |
| Accurate Molds 32-170B (SC) | .324 | 172 |
| Lee C324-175-1R (DC) | .3265 | 173 |
| RCBS 32-170-FN (DC) | .3225 | 178 |
| Redding-SAECO 732 (SC) | .3215 | 200 |

Table II

.32-40 Winchester Loads for a New Winchester 1885

| bullet (grains) | powder | charge (grains) | velocity (fps) | OAL (inches) | comments | |
|-------------------------------|----------|--------------------|-------------------|-----------------|----------|---------------|
| 157 Lyman 319247 PB | Unique | 7.5 | 1,337 | 2.57 | accurate | |
| | Unique | 8.5 | 1,440 | | | |
| | | 7.5 | 1,340 | | | |
| | | 8.5 | 1,445 | | | |
| | SR-4759 | 13.5 | 1,387 | | | |
| | A-5744 | 15.0 | 1,474 | | | accurate |
| | | 16.0 | 1,582 | | | poor accuracy |
| | IMR-4198 | 16.0 | 1,465 | | | accurate |
| | RL-7 | 16.0 | 1,409 | | | |
| | | 17.0 | 1,490 | | | |
| | H-4895 | 21.0 | 1,370 | | | accurate |
| | | 22.0 | 1,466 | | | |
| 172 Accurate Molds 32-170B GC | SR-4759 | 13.5 | 1,412 | 2.52 | accurate | |
| | | 15.0 | 1,604 | | accurate | |
| | IMR-4198 | 16.0 | 1,435 | | accurate | |
| | | 18.0 | 1,592 | | | |
| | RL-7 | 17.0 | 1,479 | | accurate | |
| | | 18.0 | 1,592 | | accurate | |
| | H-4895 | 20.0 | 1,361 | | | |
| | | 22.0 | 1,467 | | | |
| | 24.0 | 1,659 | accurate | | | |
| | 26.0 | 1,862 | poor accuracy | | | |
| 173 Lee C324-175-1R GC | SR-4759 | 14.0 | 1,460 | 2.51 | accurate | |
| | A-5744 | 15.0 | 1,435 | | | |
| | | 16.0 | 1,523 | | | |
| | RL-7 | 17.0 | 1,457 | | | |
| | | 18.0 | 1,538 | | accurate | |
| | H-4895 | 22.0 | 1,472 | | accurate | |
| | | 26.0 | 1,833 | | accurate | |
| 178 RCBS 32-170-FN GC | SR-4759 | 13.5 | 1,400 | 2.64 | accurate | |
| | A-5744 | 16.0 | 1,452 | | accurate | |
| | RL-7 | 17.0 | 1,390 | | | |
| | | 18.0 | 1,466 | | | |
| | H-4895 | 20.0 | 1,272 | | accurate | |
| | | 22.0 | 1,341 | | accurate | |
| | 24.0 | 1,583 | accurate | | | |
| 200 Redding/SAECO 732 PB | SR-4759 | 14.0 | 1,442 | 2.83 | | |
| | A-5744 | 15.0 | 1,423 | | accurate | |
| | | 16.0 | 1,484 | | accurate | |
| | IMR-4198 | 16.0 | 1,375 | | accurate | |
| | | 17.0 | 1,464 | | | |
| | RL-7 | 17.0 | 1,390 | | accurate | |
| | | 18.0 | 1,495 | | accurate | |

Notes: "Accurate" loads were those grouping less than 2 inches as fired from a 100-yard benchrest. Bullets were cast from wheelweight alloy with a BHN of 13 and sized in a Lyman .321-inch die. Data was safe in the test rifle and is intended for use only by competent persons experienced in proper and safe handloading practices.

Be Alert – Publisher cannot accept responsibility for errors in published load data.



The box and ammunition go back a few years, but after well over a century, Winchester continues to produce and market .32-40 ammunition and unprimed brass, though not on a regular basis.

From all appearances, the RCBS mould was probably designed for the .32 Winchester Special. The dimensions of bullets cast with this mould work for the .32-40 as well, though the crimp groove may not be in the right place for use in .32-40 lever rifles. From the accuracy angle, it shoots *almost* as well as the Accurate Molds' bullet. When fired unsized at .3225 inch, it equals the accuracy of the Accurate Molds' bullet. Here again, that's not a recommendation unless a rifle's throat is large enough to safely handle the increased overall neck diameter of a loaded cartridge.

Bullets cast from the Redding/SAECO mould are intended to be used unsized. A long bullet at over one inch, it carries plenty of lubricant with six lube grooves (or five and a crimp groove) and is of tapered design. The top band measures .3186 inch. Bullets were seated way out to give an exceedingly long overall loaded length of 2.83 inches. I did not attempt seating to a more conventional length, i.e., something suitable for a lever-action rifle. One would assume that accuracy would suffer if this bullet was seated deeply. Best accuracy, just under one inch, was achieved with 15 grains of Accurate 5744. Muzzle velocity was just above 1,400 fps. Groups with other powders were mostly in the 1.75-inch range with velocities between 1,400 and 1,500 fps.

short .30-30 brass and full-length .32-40 cases. Variations were as much as 85 fps higher with some loads using .32-40 brass. The difference might be attributed to a pressure increase caused by the greater

brass surface area surrounding the already deep-seated bullet. Nevertheless, there was no indication that any load was unsafe. The Lee is an accurate bullet, fully capable of 1.5-inch groups at velocities of 1,800 fps.