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THE ANTIQUATED .300 H&H ACKLEY IMPROVED

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The big .300 H&H Ackley Improved case holds lots of powder. Slow-burning powders provide the optimum velocities with 180-grain and heavier bullets.

To retire a useful rifle is a crying shame, but the rifle in my hands would take considerable work to get it back into the field. The rifle was originally a Winchester Model 70 .300 H&H Magnum, but sometime during its life its chamber had been reamed out to “.300 H&H Ackley Imp.” As was stamped on the barrel.

The Ackley Improved cartridge – with its body enlarged to remove most of the taper and a sharp

shoulder formed – is based on the .300 H&H case. P.O. Ackley did not say when he came up for the idea for his cartridge in his *Handbook for Shooters & Reloaders*, copyrighted in 1962, but it was most likely about the same time as when the .300 Weatherby Magnum was introduced in 1944. About the only difference between the two cartridges is that the Weatherby has a double-radius shoulder, while the Ackley has a more conventional straight shoulder.

A lack of .300 AI cases was the major obstacle to getting the rifle ready to return to the field. Fortunately, a few cartridges came with the rifle to help determine the correct dimensions of the case and that it had, what I thought was, a 40-degree angle on the shoulder.

AI cases are most commonly created by fireforming .300 H&H Magnum cases to remove most of the taper to the case body and form a relatively sharp shoulder. I worried about cases stretching excessively during fireforming, though, because of the large expansion H&H cases would require. Instead, I used a box of once-fired Federal .375 H&H Magnum cases to start the process. I necked them down in steps by first partially running them into a .338 Winchester Magnum sizing die and then a .300 Winchester Magnum sizing die. The bottom of the necks were left a bit wide so cases entered the rifle's chamber only with some downward pressure on the bolt handle. This false shoulder keeps the cases from stretching during firing.

I tried 72.0 grains of H-4831 with Speer 180-grain spitzers as a fireforming load, but the shoulders were short of fully formed after firing. Increasing the H-4831 charge to 77.0 grains produced fully formed cases.

I realized I started this project a bit backward. Now I had a batch of nicely formed cases but no sizing die to full-length size them. RCBS makes special order dies, so I called RCBS's Product Marketing Manager Kent Sakamoto and said I needed a two-die set for the .300 Ackley.

“Your rifle could be chambered for the .300 H&H Magnum Improved with a 30- or 40-degree shoulder angle,” he said.

“It should be the 40 degree,” I replied “I think.”

Kent suggested pulling the bullets and dumping the powder from three of the loaded cartridges that came with the rifle and sending those cases to him along with three fired cases. “I can get them measured up and get you the correct set,” he said.



IMR-7828 boosted Nosler 220-grain Partitions at nearly 2,700 fps from the Ackley magnum. Accuracy was plenty good enough at 100 yards.

I surfed the Internet while I waited and found several .300 Ackley shooters who posted it was easy to form Ackley cases from .300 Weatherby Magnum cases, because the only difference between the two was the shoulder. One even said he shot Weatherby factory ammunition in his Ackley. So I ordered 50 new Hornady .300 Weatherby Magnum cases.

Sakamoto got back to me a couple of weeks later and said my cases had a 30-degree shoulder angle, not the 40 degree I had thought. “According to our technician,” he continued, “they are not standard 30-degree Ackley Improved either. Headspace on your cases is short by about .019 inch, and the sizer will be produced accordingly.”

When the RCBS dies arrived, the sizing die was a perfect fit. I turned the die into the press a little bit at a time until the shoulders of the fired cases had been set back .002 inch. The shiny new Hornady .300 Weatherby Magnum cases were about .01 inch shorter at the shoulder than Ackley cases. So all the Hornady .300 brass required was fireforming to convert its double-radius shoulder to the Ackley's straight shoulder. For that I used 77.0 grains of H-4831 with the Speer 180-grain bullet.

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