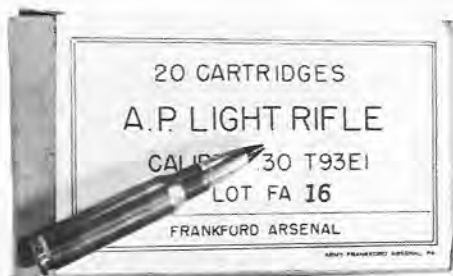


Questions & Answers

From the tens of thousands of questions and letters on guns, ammunition and their use that the *American Rifleman* receives every year, it publishes here the most interesting. Receiving answers to technical questions is a privilege reserved to NRA Members. Questions must be in the form of letters addressed to Dope Bag, c/o NRA, 1600 Rhode Island Ave., N.W., Washington, D.C. 20036; must contain the member's "code line" from an *American Rifleman* or *American Hunter* mailing label or membership card; must be accompanied by a stamped, self-addressed, legal-size envelope and must be limited to one specific question per letter. Non-members may submit a question with membership application and dues. We regret that no technical question can be answered by telephone and that we cannot place even an approximate dollar value on firearms of any description.

Cal. .30 Light Rifle

I recently purchased a box of collector cartridges marked "Cal. .30 Light Rifle," which are headstamped FA 51, and otherwise look like .308 Winchester. The primers are not brass colored, as are the usual military primers, but are nickel plated like commercial primers. However, the primers are crimped and the mouth anneal colors are correct, and it doesn't appear this can be a reload of a cut-off .30-'06 case. I thought the 7.62 mm NATO round wasn't adopted until 1957. The box I have is Armor Piercing T93E1, but this number isn't listed in any of the TMs I have.



Cal. .30 Light Rifle rounds are of collector interest, as they are experimental loads leading to adoption of the 7.62 NATO.

Answer: There was indeed a military cartridge of the type you describe, and it was being manufactured at Frankford Arsenal in 1951, so I assume your box is genuine and original. Your description of it is correct in all respects.

The cartridge finally adopted as the "7.62 mm NATO" about 1957 had been under development as the "Caliber .30 Light Rifle" cartridge since about 1946. The T93E1 AP you have is an early type using a flat-based bullet similar in appearance to that of the cal. .30 AP M2, except for its identifying knurl. A later development, the T93E2, was of boattail shape and later standardized in the 7.62 mm NATO cartridge as the AP M61.

The plated primer cups are not very unusual in military ammunition made about 1950. When the corrosive primer was still standard in cal. .30, some noncorrosive primers of various types were being loaded experimentally, and they often had nickel-plated or tin-plated cups for identification.—W. C. D., Jr.



on the professional advice that your audiologist has given you on hearing protection. The combination of good-fitting ear plugs and externally worn muffs gives the best attenuation of anything that I know. You could reduce the report from your own guns by using calibers that employ moderate powder charges, the longest practicable barrels, and avoiding muzzle devices such as "brakes" and "compensators" that direct some of the gases upward or sideways.—W. C. D., Jr.

Test Corrected

I read with interest the Q&A on Unique powder in reduced loads, (Dec., 1981, p. 63) but noticed the square root radical was omitted from the equation for "t." This changes the overall result of the test from that presented. Can you confirm this?

Answer: Your observation is correct. The omission of the square root radical in the general mathematical expression for the "t" statistic was inadvertent.

When the expression for "t" is properly simplified for equal shot strings of 10, the result is as follows:

$$t = \frac{3.16 (avg_1 - avg_2)}{\sqrt{(Sd_1)^2 + (Sd_2)^2}}$$

Using the values from the Q&A, we obtain

$$t = \frac{3.16 (1219 - 1190)}{\sqrt{10^2 + 9^2}} = 6.82$$

Since the calculated value exceeds the critical value of 2.10, we must conclude that an extreme variation in powder position did have an effect upon velocity at the 95% confidence level.

While this reverses the original conclusion about the effect of powder position upon velocity variation, it does not alter or invalidate earlier findings on the utility of Unique powder for reduced loads. Whatever velocity variations which occurred due to random powder position were not sufficient to influence shot dispersion to a significant degree. Note for example, that the extreme spread of the 75-shot Unique group from the original research on p. 12, *American Rifleman*, June, 1981, is less than 2". — D. L. M.

Winchester Model Names

Everyone refers to Winchester's classic hammerless pump gun as the Model 12, but mine is designated Model 1912. When did Winchester change the name?

Answer: Winchester was still referring to its guns as Model 1912, Model 1895, Model 1907, etc., in its catalog No. 80 dated 1916. Catalog No. 81 dated 1918 discloses that all of the guns had been redesignated Model 12, Model 95, etc. This is not to say that the actual markings on the guns were changed to reflect the new model names at that time, as it is likely that guns carrying the old designation were shipped from the factory subsequent to 1918.—R.D.K.

Hearing Protection

I have sustained some noise-induced hearing loss from shooting. My audiologist made some custom molded ear plugs for me, and I also wear some good quality muff protectors over them when shooting. Is there anything which will give absolute protection against the blast of heavy-caliber magnum rifles?

Answer: I'm sure I could not improve