"Only accurate rifles are interesting"
- Col. Townsend Whelen

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This Month's Cover
The .375 H&H Magnum over-under double rifle on
the cover is based on a Blitz action composed of
automatic ejectors and a Kirsten-style lock. The
gun, which also has a scope and extra barrels for
20 gauge, was built by Gottfried Juch of Ferlach,
Austria; the deep relief engraving is by "Mr.
Mack." The rifle is resting on a Grezy zebra skin,
from Kenya. Ektachrome transparency by Rick
Jamison.

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Dear Editor

.416-378 Wildcat

I enjoyed Mr. Hagel's article about his .416-378 wildcat in the March-April Rifle. I am writing to tell you about my .416 wildcat. I used the .378 Weatherby case straightened out a bit and with a 35-degree shoulder. The action is a Brevex M-400; the barrel is of uncertain origin, though Fred Barnes, who had it in his possession since the dawn of the Christian Era, is of the opinion it was made by Mr. Douglas himself. This barrel is fitted with a sleeve arrangement with a monster recoil lug soldered to the barrel a few inches ahead of the receiver. This arrangement has performed perfectly and is not offensive to the eye. Barnes fitted, throated, and chambered the barrel with my reamer. The stock work was done by a local dentist, Dr. Al Darley. The completed rifle weighs 10½ pounds with Buehler mounts and Weaver K-6 scope.

This rifle has turned out to be the happiest accident of a considerable collection of monster wildcats. Shooting three shot groups at 100 yards, it has exceeded one inch only once in my recollection; Barnes witnessed a 1/2-inch group I fired, and I witnessed a three-shot group fired by Darley at 200 yards which measured 5/8-inch center to center. The only bullets used are a special run of 400-grain semi-spitzers made by Barnes. The best all-around load appears to be 120 grains of H-4831, which yields a muzzle velocity of 2,800 fps at moderate pressure. I have used 125 grains of 4831, but that load is a little harsh.

Jack Francis
Grand Junction, Colo.

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5.6 Vom Hoff Fan

In Rifle 29, reference was made to a previous article on the 5.6 Vom Hoff. Having only recently "discovered" your fine magazine, I had to ask friends to look through their back copies for me. The shooting fraternity is a fine bunch - in three days three copies of the January-February '71 issue showed up.

The Vom Hoff article has been read and reread. In my rack there is a particularly fine pre-war sporter in 5.6x51 by Martin Kroschitz, Ferlach-Weiin, carrying a 6X claw-mounted scope by Kahles.

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RIFLE Magazine
Experience with this rifle and the difficulties in obtaining components nearly prompted me to dispose of it on several occasions but the obvious fine workmanship kept it safe (if unshot) in my rack.

Then about a year ago while making some odd-ball metric cartridges I hit a dimension that rang a bell! It turns out the 9.3x62 Norma brass is only .003-inch smaller at the case head than the Vom Hoff factory stuff. From that point it was only the usual trim and ream to have usable cases. For the past year I've been using 54 grains of H-4831 and the 70-grain Speer .228 bullet — exactly the same pet load you arrived at a year earlier. However, the Norma cases I have must be some of their early runs — I have to discard them after four loadings because of loose primer pockets.

The article commented on the rapid twist in each of the test rifles (8½ and 9 inches). I've a pre-war factory round loaded with a 122-grain bullet that is 1.375 inches long. It would take a quick twist to stabilize such a slug.

The Vom Hoff has been used almost exclusively as a long-range fox and chuck rifle. It reaches considerably farther than my .22-250 and is much less affected by the wind. I'll not quote drop tests I've run out to 500 yards lest some of your readers think I've been popping something besides primers.

D. Bowker  
Batavia, N.Y.

Gerlich High Velocity Loads

Some years ago I recall reading of a German experimenter in ultra-high velocity rifle loads, before WWII, supposedly in the 12,000 fps category. I would very much like to learn more of these particular experiments. Maybe you, or someone on your staff will recall them.

Robert C. Johnston  
Castro Valley, Calif.

I believe you refer in your letter to high-velocity experiments conducted by Harold Gerlich in Germany. Gerlich did work for the German government and at one time was employed by the U.S. government in experimental work at Frankfort Arsenal. [See InSights, p. 10, May-June 1973 Rifle] While many of Gerlich's experiments were conducted with conventional rifled barrels, the unusually high velocities he claimed were obtained with tapered bores which squeezed the bullet down as it passed down the barrel and thus maintained high pressure levels for a much longer period of time.

You will find more detailed information on Gerlich's work in the book "Complete Guide to Handloading." by Philip B. Sharp. I think it unlikely that Gerlich's experiments produced velocities as high as 12,000 fps. Such velocities have been obtained in recent times, but not in rifled barrels, and not with conventional type ammunition.

George C. Noonte

Remington scores with two new target rifles.

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VARMINT HUNTING, with its requirements for delivering a projectile to a distant target with pinpoint accuracy and devastating explosiveness, has probably led to more experimentation and specialization in firearms than any other shooting sport, with the possible exception of competition bench shooting. Because of the stiff accuracy prerequisites, most of this experimentation has centered around .22 and .24 calibers. Riflemen seeking more spectacular and longer range hits on small pests are prone to rule out calibers larger than 6mm when building varmint rifles. Despite this, however, for ultra long range shooting a bigger bore varmint rifle has some definite advantages. Among these are more energy with greater killing power at long range, and a decreased sensitivity to wind which results in greater accuracy at extreme ranges.

An intense interest in extreme range varmint shooting prompted me, several months before this writing, to go to work on a real hell-bent-for-leather, super varminter. This was a project I had been considering for several years, but like...
most shooters, the gestation period for my projects would likely give pause to a cow elephant.

At any rate, I had in the gun rack a post-'64 M-70 in .270 which I had purchased new in 1966. This rifle had finally begun to show signs of accuracy fall-off (after 3,000-plus logged rounds), and I had replaced with a mint condition pre-'64 M-70 in the same caliber. Availability of this full-length M-70 action tended to simplify things regarding caliber selection. I already leaned toward the .25-06 for a number of reasons. First, I had half a dozen varmint rifles in assorted smaller calibers, and was looking for a larger bore, 500-yard chuck and coyote rifle. Secondly, the commercialization of the .25-06 insured that considerable experimentation/load development, etc., would be conducted with the cartridge. The .25-06 would also be flatter shooting than something like a .257 Roberts, and probably more accurate than a heavy-barreled .270 or .280 due partially to lighter recoil. I briefly considered the .264 and the .257 Weatherby, but abandoned these ideas for various reasons including the extra trouble and expense of converting my standard action for one of the belted magnums. Besides, both of these had capacity for more powder than could be efficiently used. The M-70 action was already set up to handle a full-length cartridge, and with a plentiful supply of "06 cases, something like a .25-284 did not make much sense. All the signs and portents pointed to the .25-06.

The first step in the actual building of a fine varmint rifle is selecting a good barrel to fit into the action. I'd had good success with Shilen barrels in the past, so I instructed gunsmith Cal Duke of Shreveport, Louisiana, to order a stainless steel .25 caliber Shilen barrel with a twist of one turn in ten inches. A barrel with a twist of 1-in-12 might seem more suited to a rifle to be used strictly for varmints, but much of my shooting is done in the windy western plains and mountains, and I planned to use bullets weighing up to 117-120 grains for optimum wind bucking and long range performance. Then too, it has been my experience that while under-stabilization can cause accuracy to suffer, the same cannot be said for light bullets being over-stabilized, if good bullets are used. And it seems that a high rate of spin definitely adds to bullet expansion and/or fragmentation. Hence the choice of a 1-in-10 twist for the .25-06.

Originally I had planned to leave the barrel length at a full 26 inches, but I ended up cutting 1½ inches from the muzzle to keep the piece from being too muzzle heavy. I also instructed Duke to leave the barrel at target weight, tapering to a one-inch muzzle. This is a good deal thicker than most factory varmint barrels, but I was striving for half-MOA accuracy, and felt the simplest way to achieve this was to leave the barrel a bit on the heavy side. Duke purposely cut the chamber so that it would just barely close on the "go" gauge, as snug headspace is often conducive to good accuracy. Incidentally, quality of workmanship is essential here, for he feels that for each .0001-inch that the chamber is out of alignment with the bore, the group size will increase by roughly .1-inch at 100 yards.

With the barrel installed and chambered, I decided to make some minor modifications on the action itself. I have for many years been a dedicated fan of the pre-'64 M-70. While I am willing to concede that the new M-70 action may offer some advantages over the old model, better looks isn't one of them. With a view to improving the looks of the post-'64 action, I decided to first replace the cast-aluminum floorplate, trigger guard and magazine follower with steel. These pre-'64 steel action components were ordered directly from Winchester, and decidedly improved the looks of the action.

While waiting for the steel floorplate-triger guard assembly to arrive, I decided to remove the gas shield from the cocking piece and to grind off the red cocking indicator. Theoretically this could reduce the safety factor of the M-70 action in the event of a ruptured case or a blown primer. However, the pre-'64 M-70, the M-670 and the M-70A do not
have this gas shield, and apparently do not suffer by the lack of one. This modification was simply a matter of personal taste.

The bolt handle of the 1966 version of the M-70 rifle, in my opinion, is not a thing of beauty, so to improve its looks I trimmed it up a bit, drilled a hole in the bolt knob, and then heated and bent the handle itself farther back and a bit downward, a la pre-'64 M-70. This accomplished, both the bolt handle and bolt sleeve were rebued in a high-polish, deep blue.

All too frequently the accuracy potential of an otherwise fine rifle is ruined by a sloppy, creeping trigger. The trigger on the Winchester Model 70 is one of the best ever put on a factory rifle, but in this case I attempted to wring every last bit of accuracy out of the .25-06 by replacing the factory trigger with one of Timney's target series triggers. Cal Duke installed it, and with a little tinkering we had it breaking like the snap of an icicle, at exactly 24 ounces. I've found from experience that a pull of about one and a half to two pounds is nearly ideal on a rifle to be used strictly for varmint shooting. Heavier pulls, even when fairly crisp, seem to be a decided handicap in precision shooting.

With the metal work completed, I set to work inletting the heavy barreled .25-06 into a nearly new pre-'64 M-70 stock I had on hand. This stock was of sporter weight, and I do wish it had been a bit heavier, but there seemed no sense in allowing the standard weight stock to continue collecting cobwebs in the corner when it would do a creditable job on the varmint weight .25-06.

Inletting the pre-'64 stock for the new action proved to be a simple procedure. I've heard more than one gunsmith say that this cannot be done, but having done it twice, I'm inclined to disagree. Naturally some modifications do have to be made. The problem arises because the later M-70 is a longer action and everything forward of the loading port is about 1/8-inch farther forward on the later model. The two rear guard holes of both models will line up, as will the bolt handle, but the front guard hole of the post-'64 M-70 is farther forward by a little more than 1/8-inch; the recoil lug is also farther forward. By using all pre-'64 components except for the action and floorplate, the feat is easily accomplished. The forward action screw hole has to be moved forward slightly and the recoil lug recess must be relieved somewhat. A slight amount of wood around the forward part of the action will also have to be removed. By relieving the wood in these areas, and with the judicious use of glass bedding compound, the conversion is relatively simple and leaves no bad gaps. The steel floor plate doesn't have to be sacrificed in the conversion; the recent (last two years) post-'64 Model 70 floorplates are made of steel and so by replacing the shorter old floorplate with one of the newer ones of steel, this aesthetic aspect can be retained on the conversion.

For long range shooting with a powerful cartridge like the .25-06, I feel that the flat-bottomed action of the Winchester M-70 has certain advantages over the round-bottomed actions. The flat-bottomed design can better resist twisting when heavy bullets that cause more torque are used. This is why most big-bore competitors either use the M-70 action or else "square-sleeve" the round actions for greater stiffness. Along with this, the flat-bottomed receiver of the M-70 action is probably easier to bed correctly than any other action type. In bedding the .25-06, Brownell's "Aeraglass" was used to glassbed the action and a portion of the barrel. The action
Inletting the post-'64 action into the pre-'64 stock proved not too difficult. The cast aluminum trigger guard, floor plate and magazine follower were replaced with a recent-manufacture steel floorplate and pre-'64 trigger guard, floorplate hinge and follower, all made of steel.

was glassed both fore and aft, with particular attention being paid to the recoil lug area. The barrel channel was glassed for the first 2 1/2 inches, and from that point the barrel was left free floating. With the action screws set up with Loctite and turned up snugly with a good fitting screwdriver, this free floating system will, day in and day out, afford a more stable zero, and probably give better accuracy from a heavy barrel, than any other system of bedding so far developed.

Except for scoping, the super varminter was about completed. My original plans had called for a 15X Unertl Ultra Varmint with calibrated head for getting all out of the rifle that there was in it, but the Unertl did not arrive for a couple of weeks. I was anxious to shoot it, however, so I mounted an old Weaver K10 I had kicking around and proceeded to a local range.

First groups with the control load — 87-grain factory loads with the Power-Lokt bullet — were downright disappointing. In fact, with this load the varmint-weight .25-06 did not shoot as well as my Remington M-700 sporter in the same caliber. I was somewhat surprised at this, as the 87-grain Remington factory loads usually give excellent results. However, the heavy rifle definitely did not care for them. Although this was a bit disconcerting, it did not cause me undue alarm. Many otherwise accurate rifles shoot poorly with certain loads, and besides, I planned ultimately on using no bullet weights lighter than 90 grains anyway.

Several sessions at the loading bench and on the range were required before I finally came up with the right combination of bullet/powder/primer. I tried four brands of bullets in several weights, commencing with 90 grains, and H-4831, IMR-4350, N-204 and N-205 (the "recommended" powders) with only mediocre results. I was about to case the rifle up and send it back to Duke when something, call it a hunch, made me try IMR-4064. This powder might seem to be too fast burning for the 100-grain bullet, but when teamed with CCI 200 primers and any good .25 caliber bullet, this powder gave outstanding results from the start. Powley's computer notwithstanding, this only serves to demonstrate once again that experimentation with different components is the only way to work up accuracy loads.

Of the bullets I had on hand, the 100-grain Sierra spitzer seemed to show a slight accuracy edge through the Shilen tube. I loaded 44, 45, 46, 47, and 48 grains of 4064 behind this bullet, and of all these my best groups were obtained with 45 grains. The first five-shot group I fired with this combination (which, through chronograph screens, turns up just shy of 3,200 fps from the 24 1/2-inch barrel) went into a scant .438-inch at 100 yards. This was followed by a five shotter of .563. A sample 10-shot string clustered into .550! (This group now resides in the display window in Duke's shop.) At 200 yards this load will shoot near one-inch five-shot groups, which is spectacular accuracy from a .25-06 varmint weight rifle.

When the Unertl 15X arrived it was mounted, as the accompanying photo-

(Continued on Page 61)