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THE CARE AND FEEDING OF GAME GUNS

Old British game guns suit me not because they are old but because they are good. They combine form and function as well as any objects ever made by man. I choose to believe that they were built as a tribute to hunting -- a sort of offering to Diana -- and besides, they have helped me to shoot better. I wince to think of collectors buying up such guns while there is still life in them. They deserve a better fate than porcelain figurines, early editions of Batman Comics, and dumb blond bird dogs.

My two game guns are, in order of purchase, a Woodward and a Westley Richards. Both are 12 gauge, side-by-side doubles, and each is almost a century old. I bought the Woodward in London back when prices were reasonable. More recently, I had to send it off for work that is going to take time. This brings up the

leading problem with hand-made guns: They demand specialized gunsmiths, all of whom are overworked. A back-up gun therefore comes in very handy. And that's how I persuaded myself that I needed the Westley Richards.

The Woodward sidelock is perfection, as far as I can see, and I have stripped it down often enough to know it intimately. The Westley Richards comes close in quality, and its design fits my purposes. The outside of the action is solid steel, without pins. The locks on the inside stay dry, at least by comparison to those on the Woodward. The Westley Richards' action is known as a droplock -- meaning an Anson & Deeley action with most of its mechanism mounted on two separate plates. When they do need to be checked after a Montana blizzard, they can be removed by hand within seconds. The rounded bottom of the action makes it pleasant to carry, too.

There is another thing. The Westley Richards' lines are simple and smooth, the finish resolutely austere. It tickles me to think of those polished locks hiding like jewels in a modest vault. I could wish, however, that the locks had intercepting sears like those on sidelocks.

Both of the old guns have double triggers, thank goodness. Both also have low, unobtrusive ribs, plain forends, and simple stocks. I do not know of any cars or houses as well designed as these game guns. Their lines make my eyes happy.

The weight and balance keep my body content, too. I happen to need both light weight and length in a gun: light weight

because there are miles between shots; length because I am long myself, and precipitate. 29" barrels slow me down and remind me to aim. Aim? But somebody has written that a shotgun must not be aimed. My dictionary, on the other hand, says that to aim is "To direct (a weapon...) at someone or something." I am here to testify that my guns do not hit unless I direct them at the target.

It is not easy to find long, light guns. My Remington 1100 autoloader is long, but it weighs 8 pounds, 7 ounces. I use it for ducks with 12-gauge, 2 3/4" steel-shot loads, and it makes their recoil tolerable -- barely. But only an artilleryman would describe this weapon as a field piece. At the other extreme, light modern doubles run to short barrels. They are pleasant to carry, and they fit some hunters. Once upon a time, all of us assumed that short barrels were ideal for upland shooting. The game of sporting clays has raised questions about that.

Old guns -- and certainly old British guns -- do require special care and feeding. My remedies may be of help to a few other eccentrics with similar enthusiasms. I shall provide specifics, because generalities are risky in dealing with guns filed out by hand a long time ago.

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Both of my guns had problems with Winchester and Remington primers. The Woodward's firing pins (strikers) stuck in the primers, making the gun difficult to open. The Westley Richards had misfires. I tried various complicated cures before finding

the easy one: Federal 209 primers. With them, the firing pins no longer hang up, perhaps because the rear face of the primers is slightly convex. At the same time, Federal primers are much less prone to misfire.

If you handload, please note that Federal primers may require less powder than others. For that matter, it is dangerous to substitute any component of a load -- including the wad -- without knowing the effects on pressure. My source on this subject is the Handloader's Guide published by the IMR Powder Company, Plattsburgh, NY 12901. This guide, formerly published by Du Pont, has been updated frequently in the years I have used it. It gives precise pressures and velocities for hundreds of loads. There is not much chance of misinterpretation, because every component is listed.

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Most British game guns have 2½" chambers. This is ¼" shorter than the American standard. Over the years, therefore, some Americans have had British chambers lengthened to 2 3/4". It is a simple, common-sense change, and it works as well as most of the simple, common-sense changes proposed by politicians before elections. Don't bite. If you do, you will invalidate the gun's British proof, lower its value, and do nothing to make it suitable for American factory ammunition.

The problem, as it turns out, lies not in the shell's length but its pressure. British game guns are generally designed and proofed for a pressure of 3 long tons per square inch. The

equivalent in American terms is not obvious, because British methods for reading pressure differ from those in America. British writer Gough Thomas, in a book titled Shotgun Shooting Facts, provides an interpretation. The British "3 tons," he says, is equivalent to about 8,500 pounds per square inch for pressures taken by American methods.

There is still a little translating to be done -- because chamber pressures can be taken by more than one method, even in America. Thomas's reference is clearly to the old standard: lead unit pressure (LUP), as used in my IMR Handloader's Guide.

American loads often produce pressures above 10,000 LUP, which greatly exceeds the British 3-ton level. I roamed London and asked gun makers whether American ammunition would really be a problem for my Woodward. The helpful gentleman at Purdey's, to take one example, warned me to avoid pressures above those for which my gun was designed. The action would be stressed, he said. The gun might shoot loose. He had seen instances.

On the other hand, British authorities were not concerned about an extra ¼" in the length of a shell, so long as (a) pressures were mild and (b) the shell was pie-crimped, with no overshot wad. Please excuse me for getting technical here. This is an issue that has been causing confusion for a couple of generations, and its resolution is not obvious.

If you want a simple way out, order shells designed for 2½" chambers and low pressure. Several firms stock them. But don't be astonished if you get British shells that are 2 3/4" long after

you fire them. I lived in Ireland from 1971 to 1975 and shot Eley shells. They were all 2 3/4" in length after firing, though their box was marked "2½" chambers". In America, I try to duplicate these loads with our components -- which are even better. This country is a good place to live for people who like to fiddle with guns.

Another book by Gough Thomas (Shotguns & Cartridges) carries a handloading guide by Eley. It recommends a case length of 2 3/4" for star-crimped ammunition intended for 2½" chambers. Eley is the British equivalent of Winchester or Remington, so the recommendation carries weight. It is supported by a series of tests in yet another reference (Gough Thomas's gun book). Identical 2 3/4" loads were fired in both 2½" and 2 3/4" chambers and found to give virtually identical pressures.

I handload to pressure levels that I know to be mild. My normal combination is: empty 12-gauge 2 3/4" Winchester AA shells, Federal 209 primers, wads specified in the IMR guide, and SR 7625 powder. (This slow-burning powder makes it easy to produce good velocities with low pressures.) Early in the season, for most birds, I use 1 ounce or 1 1/16 ounces of shot at muzzle velocities between 1150 and 1200 feet per second. Late in the season, when pheasants flush wild in cold temperatures, I load 1 1/8 ounces of nickel-plated shot for a nominal velocity of about 1,250 feet per second. In all cases, I keep pressures below 8,000 LUP by the IMR guide. The old Woodward has been using such ammunition for fifteen years with no problems.

It is only human to believe that hard-kicking shells labeled "maximum" or "magnum" are appropriate for tough old pheasants. If that has been your assumption, try these low-pressure handloads. You may be in for a nice surprise.

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I do not want to leave the impression that I am an antiquarian. I bought turn-of-the-century guns because they were cheaper than those made between World Wars, let alone new best-grade guns. I am a hunter, first. I would welcome a modern, light side-by-side with the qualities of the old game guns. I could learn to live with low prices, interchangeable parts, and wide-slotted screws. The threat of liability suits will probably keep American firms from designing light modern successors to the game gun, unfortunately. Perhaps someone in Britain will give it a try.

Or maybe the Italians will take on the job. They could build a gun the way they build Campagnolo bicycle components, but they would have to get the lines right first, and the balance. They should not start by designing a gun that is easy to manufacture. They should insist on perfect line, balance, and function, then find a way to make it happen. They might begin with an old game gun and try to make something as good a hundred years later.

The good news is that patterning is more fun to read about than to do.

(Article on using shot & wads in place of extra barrels.)

For some of those years, I wished that I had an extra set of barrels for the Woodward -- but best-grade chopper-lump barrels, new, would have cost as much as another gun. Fortunately, I got the Westley Richards instead. In the end, I found that neither gun needed even choke-tubes, much less extra barrels. I can produce a shot-pattern for anything I want -- from woodcock at 15 yards to partridges at 45 -- by simple changes of components. What I learned applies to any gun with a fairly open choke.

Consider, for example, the results of different loads fired from the Westley Richards' left barrel. Choke-constriction is .016", which ought to produce roughly quarter-choke patterns -- and did, but only for the first pattern. I fired three rounds, one after the other, into sheets of paper tacked up at 40 yards. I then counted the percentage of shot-pellets that fit within the standard 30" circle.

1st pattern: 54% (quarter choke). Shot: standard American "chilled" lead in size 8. Distribution of pellets was patchy, but suitable for bobwhites and Mearns quail at the usual short ranges.

2nd pattern: 75% (full choke). Shot: hard Italian nickel-plated lead in size 7½. Pellets well distributed throughout the 30" circle. Excellent for partridges, sharptails, and desert quail.

3rd pattern: 88% (extra-full). Shot: extra-hard American "magnum" lead in size 7. Pellets were excessively concentrated in the inner part of the 30" circle, almost like steel shot. A

pheasant centered in the pattern would have been mangled, even at 40 yards. And this, mind you, was a 1-ounce field load fired from an open-choked gun

There was a fourth pattern, too. It was made with standard chilled lead shot, but with an X-shaped cardboard scatter-wad inside the shot-column. I did not bother to count the pellets in this pattern because it was useless, at 40 yards -- just the occasional pellet scattered here and there. From 15 to 25 yards, however, this is a good load for woodcock.

1/st 4202

Shell: Winchester AA compression-formed

Primer: Federal 209

Powder: SR 7625, 26.5 grains

Wad: Winchester WAA12F114

Shot: 1 1/8 oz. (I use hard nickel-plated lead.)

Chamber Pressure (LUP): 7700

Moreover, two old British game guns have made me a better shot. That's not saying much. My days afield are still long hikes punctuated by inexcusable misses, but there are some respectable shots in between, and when I miss now, at least I know why. Its because I rush my shots.

With conventional plastic cup-wads, I can make a good guess at the pattern handloads will produce by testing their shot for hardness. For that purpose, I made up a gadget that drops a ½-pound weight from 3", crushing a shot-pellet on a tiny anvil. The pellet's compression is than measured by a micrometer and expressed as a percentage.

The nature of the problem, however, is not obvious. Many American writers and gunsmiths have assumed, over the years, that the issue is chamber-length. British sources insist that the problem is pressure.