GUN DAMA

HOW TO Check For

▶ Problems like this are rare, but dangerous. You can lower your chances of gun damage and injury by following some precautions and safety measures.

AGE: It AND Prevent It


MIKE HESSONG

Think a blown receiver or bulged barrel can't happen to you? Think again.

BY TOM ROSTER

Look carefully at Photo 1 on the next page. Has this ever happened to one of your shotguns, or do you know of a similar incident with a fellow shooter? How about Photo 2? And as far as Photo 3 is concerned, have you ever experienced problems post-installation with after-market choke tubes exhibiting crooked or faulty installation that distorted the muzzle?

All are examples of some of the damage that can happen to the shotguns of clay target shooters and hunters. Don't think it can happen to you? Think again. While such damage incidents are comparatively rare given the millions if not billions of shotshells fired annually around the world, these incidents can and do occur. My files alone contain over a hundred such examples. And the rate at which they are occurring — or at least the rate at which they are being brought to my attention — seems to be increasing.

If you think such barrel damage incidents just damage the gun, please also think again. In Photo 1 the receiver is blown out. Always keep in mind that with a receiver or chamber rupture, both occur just below or a few inches in front of your face. More to the point, they are within inches of your master eye. Facial disfiguration and eye injury frequently accompany such incidents. Now look at the shattered forend in Photo 1 and the location of the barrel burst in Photo 2. Both are in very close proximity to the shooter's hand gripping the forend. Both examples commonly also result in injury — often permanent injury — to the shooter's forehand. Worse yet, such incidents have been known to permanently damage or even sever the thumb on the shooter's forehand. Obviously that's a huge problem, because after all, the opposable thumb is a big part of what makes a human a human.

Without one's thumb, gripping anything becomes difficult. Same for an eye: You can't get it back once lost. Only in Photo 3 does the damage depicted usually not result in bodily injury.

▼ Photo 1: A blown-out receiver and a shattered forend.

▲ Photo 2: A burst barrel.

So here's the point. Every shooter needs to develop a healthy respect and disciplined avoidance behavior to avoid damage to their expensive shotguns and to themselves. All too common (especially among hunters) is the frequently blasé attitude of "this won't happen to me" and the unsafe gun handling that results from such overconfidence.

But, hey, we're all shooters here, and most of us like to shoot a lot. We're likely to load and shoot thousands of rounds of ammunition in our shotguns, and none of us want to ever experience what is depicted in Photos 1 and 2. So now what?

STEP ONE

Shoot only factory or reloaded ammunition of the correct gauge and shell length in your shotgun. Never shoot shotshell ammunition longer than the chamber length indicated in your owner's manual or stamped on the barrel. Never shoot reloads *that have deviated in any way whatsoever* from the published recipe. Never shoot reloads assembled from a recipe gleaned from an internet forum or chat room (these are never fact-checked or edited for technical correctness or safety). Beware of who does any choke installation work for you. Have only the manufacturer of a screw-in choke device do any installation work on your barrel.

STEP TWO

When shooting multiple gauges, be absolutely certain you purge your shooting vest or pouch of any smaller-gauge ammunition before shooting a larger gauge. Better yet (though it's more expensive) is to devote a separate vest to each gauge you intend to shoot. Keep in mind that one of the greatest risks which usually results in an obstruction barrel burst is the accidental loading of a 20-gauge shell into a 12-gauge chamber. A 20-gauge shell can slide all the way forward through a 12-gauge chamber and can then lodge in the forcing cone, where it goes undetected. On subsequently loading a 12-gauge round, the action will generally close completely, giving no evidence of the obstruction in place. Then upon firing, the 12-gauge shell with the massive 20-gauge obstruction generally causes the barrel to burst, usually just forward of the chamber.

STEP THREE

Examine your shotgun frequently. Be certain to examine the outside of the barrel, giving extra attention to the chamber and muzzle end. Are there any telltale bulges or cracks appearing in the receiver, action or barrel, such as the bulges depicted in Photos 3 and 4? If so, you are

IF YOU FIND METAL STRESS

If you find a metal stress bulge (Photo 3) or crack, cease firing shotshell ammunition of any kind in that firearm. Remember: The very next round fired could well be the round that brings the gun to catastrophic damage such as depicted in Photos 1 and 2. And if your barrel's muzzle looks anything like Photo 4, also cease firing.

Then identify the predominant brand and load of ammunition or reloading recipe you've been shooting in that firearm. Gather together all the rounds you still have in your possession, set them aside, and don't lend or sell them to anyone nor shoot them yourself in any other shotgun. If they were factory loads, be sure to save at least one empty box (to preserve the lot number) from which they came.

Don't let your shooting buddies, the local club's so-called expert or even the local gunsmith tell you there's nothing to worry about relative to any crack or bulges you find, or with the ammunition you've been shooting. Remember this: None of them — and that includes gunsmiths — are experts on gun damage, metal fatigue and failure, structural flaws, metallurgical flaws, design flaws or ammunition loading flaws. And don't assume the gun's dealer has any special credentials that qualify them to correctly analyze the problem, either.

To repeat: If you find any suspicious bulges or cracks in the receiver or action of your shotgun or anywhere in the barrel, *don't continue to shoot that shotgun or that ammunition.* Your very next step is to take your problem *directly* to the gun, screw-in choke, and/or ammunition manufacturer(s).

"You should be checking the inside of your barrel after each five to 10 shots fired, and do so *immediately* if you hear any off-sounding report."

looking at the beginnings of metal failure in those areas. Right now the metal is just stretching and/or cracking. But with more rounds the metal in those stressed areas could catastrophically fail. And then the result could be what you see in Photos 1 and 2.

The problem is I'd be willing to bet 90 percent or better of shotgun owners never — on a *frequent* basis, anyway — carefully examine the receiver, action or barrel of their guns for signs of stress fatigue. They trust none of this will ever happen to their shotgun because they've never heard of it happening to other shooters' guns of the same make or model. This is a mistake. Early detection can prevent a serious accident.

STEP FOUR

Frequently check the *inside* of your barrels after firing. Many shotgun owners' manuals — Beretta is a good example — direct the shooter to check the inside of their barrels after *every* shot. For sure you should be doing this after each five to 10 shells fired, and do so *immediately* if you hear any off-sounding report. Off sounds can signal blooper or squib loads, which can leave wads or portions of the hull itself lodged in your barrel. Such foreign matter can constitute a serious enough blockage to cause an obstruction bulge, crack or burst on the subsequent firing of a normal round. If you find *anything* other than powder residue in your barrel, *do not fire another round until the obstruction is removed*.

▲ Photo 3: A bad choke tube install job left this barrel bulged.

Checking the inside of barrels is easy and safe to do with over-and-unders and side-by-sides by simply looking from the chamber end down the barrels pointed at the sky. Autoloaders and pumps are much more difficult to safely check (*never look down the muzzle end*), necessitating removal of the barrel to look down it from the receiver end. What we need is the proliferation of little mirrors that can be inserted into the open actions of such guns to check the barrel interior from the receiver end. I don't know of any such thing on the market.

If adopted as part of a shooter's regimen, all of the above will go a long way to preventing gun damage. Failure to enact any of these steps can come back to bite you. Be wise and spend the little bit of extra time to make them a regular part of your safe gun-handling habits. CTN

▼ Photo 4: This "minor" barrel bulge indicates metal failure. If you continue to shoot a gun with this kind of bulge, you risk the kind of injury-causing failures depicted in Photos 1 and 2.

▶ Tom Roster is an independent ballistics consultant and author specializing in the design and testing of shotshell loads for U.S. shotshell and reloading components manufacturers. He is a court-recognized shotshell/shotgun expert witness and was formerly the Ballistics Research Director at Oregon Institute of Technology and then served as the Ballistics Specialist for the Dept. of the Interior. In these capacities he conducted empirical shotshell/shotgun performance research including barrel damage and trained thousands of law enforcement, wildlife and shotshell industry personnel worldwide in shotshell exterior and terminal ballistics phenomena. Contact him in Oregon at (541) 884-2974, *tomroster@charter.net*.