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GETS TECHNICAL

ALL THAT IS NEEDED IS TO REMEMBER WHAT CAN CAUSE THE RUST AND MAKE SURE TO NEUTRALIZE IT. NEGLECT IT AND YOU BETTER START SAVING FOR THE REPAIR BILL!



WHEN IT COMES TO RUST

PREVENTION IS BETTER THAN THE CURE

OVER THE COURSE OF A YEAR I RECEIVE A GOOD NUMBER OF ENQUIRIES RELATED TO RUST ON BARRELS.

It seems that as soon as a shooter sees even a spot of rust there is an automatic assumption that the gun is faulty in some way. The enquiries I receive are always accompanied by assertions that the shooter cleans his gun thoroughly, followed by a detailed description of that shooter's cleaning regime. In truth, if the shooter actually does what he claims to do then he would probably

spend more time cleaning the gun than shooting it!

Let me say up front that it is possible that some defect in material can be responsible for a rust problem. Note I say 'possible', this is not the same as probable. In almost every case I see, the rust can be traced back to some aspect of the owner's use of the gun.

It might be helpful to shooters in general to go through some of the more common errors and show how they can be avoided. Firstly, rust falls into two categories, external surface rust and internal pitting of the bores.

External rust is always due to incorrect storage – either long or short term.

The first point

that has to be accepted is that steel rusts in damp conditions. Surface treatments such as blacking provide some protection but they do not render the barrels rustproof.

Surface Rust

If the barrel surface is in contact with moisture it will rust. The only way to prevent this is to keep the barrel surface dry and oiled as protection against airborne dampness. Blacking wears with use and just pulling the gun out of the sleeve will remove the blacking from sharp edges and the rib surface in short order. Gun cases can have a similar effect at contact points, especially if the barrels are a snug fit in the case.

The most common rust problem I see is due to storing a gun in its case. Cases are for transporting a gun and not for storing it. There are times when we all do this, staying away



from home when attending tournaments being probably the most common, but it is not good for the barrels and should be avoided where possible. Changes in temperature cause condensation and bringing a cold gun inside a warm hotel will cause water vapor in the air to condense on the outside surface of the steel parts. This in turn is transferred to the lining of the gun case, leaving your gun stored lying against a damp surface. This problem is worst in winter but can manifest itself to a lesser extent at any time of year, especially in high humidity climates.

When shooting in wet conditions you must dry the gun thoroughly before putting it back in the case otherwise you will transfer water to the case lining. It's pretty much impossible to do this at the trunk of your vehicle and some water is sure to remain along the rib and other crevices. I know the difficulty and you have to transport the gun somehow, wet or not, but if you simply drop your gun in the case until next required, surface rust will develop.

This will take the form of small pin points over the whole barrel surface, most concentrated where the barrels have been in contact with the case lining. The only way around this is to remove the gun from the case at the first possible moment. Leave the case open in a warm place so that it can dry out. A closed case lid traps the moisture inside. If you are a shooter who uses a gun slip for convenience, make sure it is thoroughly dried at regular intervals as the lining will absorb moisture from the atmosphere and a gun stored even for a few hours in a damp slip will show signs of rust.

On hot humid days we perspire. Perspiration contains salt and in handling the gun we leave a salty residue over the surface. Left

unattended this will rust the barrels.

There is only one right way to do this. After shooting, wipe over the outside of the barrels to remove any salt residue left by handling and make sure the surface is protected by an anti rust oil. Spray oil is just fine, but wipe off any excess and make sure the entire surface of the barrel has a protective film of oil. If shooting on a wet day, be sure to get the water out of the gun. Personally I use a spray oil of the type that repels water as it does the job better than I can. Make sure you don't miss the rib surface as it is often overlooked. Most ribs will have some kind of matting surface and this traps the moisture and the rib will rust overnight. Place the gun in its case or slip for transport only.

As soon as you reach your destination remove the gun from case or cover. I realize that we sometimes have to compromise on this when traveling, but keep in mind that the longer the gun remains in the case the more likely it is that rust will form. If it simply has to be left in the case overnight, do take it out and wipe over again once you get to the hotel. I am aware that some shooters store their gun permanently in the case and I can only say that if you do this you are going to see rust appear sooner or later. Being thorough with keeping everything dry, removing handling salts and leaving a protective oil film on the surface will delay rust but don't store the gun long term in a case.

Pitting

Rust in the inside of the barrel bore, commonly known as pitting, is another thing entirely. In past times the salts contained in the priming compound caused this. Modern cartridge primers are non-corrosive but there are other

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Running a cleaning rod or bore snake through the barrel will remove the fouling but it will not remove plastic. Plastic wads are pushed against the bores, sandwiched between the expanding gases and the shot charge. During passage up the bore, the plastic is held in contact with the barrel walls and the heat

and abrasion cause small amounts of plastic to be deposited. Over time, this can build up to become a significant layer and in most cases it will be invisible to the eye. Some wads are more prone to this than others and no doubt this is due to the type of plastic used in the wad as well as the wad design. Normal cleaning does not remove this plastic layer and a cursory glance up the barrel does not detect it.

The only way to remove it is to use a bore cleaner that also acts as a plastic solvent. Fortunately,

many of the bore cleaners available have this property and their use on a badly plastic fouled barrel can be a revelation. To remove the plastic, the solvent has to be left in place and not wiped out of the barrel. My preferred method is to push a cleaning patch through the bore to remove powder residue and follow that with either a solvent soaked patch or spray the solvent down the bore. The barrel is then left standing, muzzle down, on an absorbent pad for at least 24 hours. When next inspected a badly fouled barrel will have the plastic film hanging off the inside of the

barrel like a snake shedding its skin. This is wiped out and the barrel treated again with solvent to remove any remaining plastic.

If there are stubborn patches I attend to those with a stiff brush dipped in the solvent. Most times this is unnecessary. This is how I have cleaned the bores of my shotguns for many years and have never had the slightest rust problem. I have also noted that the solvent seems to build up a protective film that prevents the plastic from adhering in the future.

Why is it important to remove the plastic? I can't say exactly what happens chemically, but I can say with certainty that barrels that have been badly fouled long term with plastic, frequently show light frosting or the beginning of pitting once the plastic is removed.

Whether this is due to moisture

that becomes trapped under the plastic film or some other reason I cannot say, but I can be sure that plastic deposited on the bore wall is not good. It is not necessary to spend hours cleaning your gun after every event, but it is good practice to always wipe over the outside surfaces to remove salt from the hands and to put in place a thin film of protective oil. Internally, wiping out fouling and spraying with a good bore cleaner will neutralize any potential problems.

And if you find Rust?

If you find the beginnings of rust on your barrels, what should you do? Externally you should immediately wipe the rust area over with a good quality anti rust oil. If the rusted areas feel rough to

touch and are slightly raised, more work is needed. Before trying anything too drastic, try wrapping the barrel in a cloth soaked with a rust removing oil. This may be enough to remove without any more aggressive treatment. If it does not, then try the finest grade of steel wool you can lay hands on, 0000 cabinet-makers grade is ideal. Soak well in oil and gently rub the affected area. If you are careful and the wool is fine enough you may get away without removing the barrel blacking – although there is sure to be a local color difference where the rust was previously. If the blacking comes off with the rust you can try touching up with cold blue but you will be lucky and skilled if it works out to be invisible. Professional re-blackening is the only permanent solution.

Fine boring or polishing is the

only way to remove internal pitting as the pitting is actually in the surface of the steel. A barrel expert should do this and he will only remove the minimum amount of material. If the pitting is deep, he may recommend that there is a limit beyond which the safety of the barrel will be compromised and that no more can be done. After this, a new barrel is the only option.

As in most things, a little prevention is better than the cure. You don't need to spend hours cleaning the gun – your free time is for shooting not cleaning. All that is needed is to remember what can cause the rust and make sure to neutralize it. Neglect it and you had better start saving for the repair bill! ■

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