

Care and Feeding of Your New Airgun

By Scott Pilkington

You just bought a new match airgun and are now wondering how you can best take care of it in order to maximize its life and ensure the most accuracy. I would like to share with you some of my thoughts on how to keep your investment in top condition and will focus primarily on compressed air rifles and pistols. Compressed air, as powered by SCUBA tanks or high pressure hand pumps is also known as CA or PCP, meaning Pre-Charged Pneumatic.

Transferring the air charge from the fill apparatus into the cylinder.

Threads and O-rings on cylinders

At this point on the match airgun market, I only know of one maker that uses a non-detachable cylinder and that is the Air Arms pistol. All other brands of 10m rifles and pistols use a removable cylinder that mounts under the barrel and should be easily removed with *hand pressure alone*. When installing your cylinder back on your gun, you should *never use tools to tighten* any CA cylinder onto the gun as you can easily over tighten it and damage the threads. Every time you install the cylinder on the gun, you should visually inspect the thread and make sure that there is no dirt or other debris adhering to the threads. If you see any foreign objects, you should thoroughly clean the thread with something that has hard plastic bristles like a toothbrush.

Grease

While you are looking at the threads on your cylinder, you should also notice if there is any grease visible on them. A very small smidgeon of synthetic grease should be applied to the threads every 20-30 times that you remove the cylinder. This smidgeon should only be about the size of a pinhead and no bigger. You can also apply a very small amount to the end of your finger and smear that around

the sealing o-ring or the surface that meets the sealing o-ring on the cylinder (some manufacturers have the o-ring on the cylinder, some inside the action). **IT IS VERY IMPORTANT that you do not get any grease or oil near the valve on the end.** This periodic lubing will ensure that no galling takes place between the cylinder threads and receiver mount. Some brands of 10m guns are known to get dry and gall badly, freezing the cylinder in place. When the cylinder is finally removed with great force, it will have stripped, leaving a major portion of the threads unusable. This will result in a trip to your airgun smith where he will give you the bad news that your cylinder and receiver block will have to be

replaced with a \$600-\$800 price tag.

Type of Grease to Use

I mentioned synthetic grease, so let's talk proper lubricants for modern CA guns. Never use a petroleum-based lubricant or cleaner with your airgun. If it gets in the high pressure line, it can diesel and cause a potential life threatening explosion. Also non-synthetic oils or cleaners can cause the rubber or plastic

seals to deteriorate. Most traditional firearm lubes and solvents will cause harm to your airgun. The good news is that you don't need to lube an airgun very often or very much. If you want to lubricate your gun, use only very little synthetic grease on the working parts of the levers or pins, a smidgeon of moly

grease on the sear, and the cylinder threads as mentioned above. Normally, the only user lubrication I would consider absolutely necessary is the grease on the cylinder threads. Other lubrication can take place when you have a professional check-up of your airgun. How often you should get your airgun checked depends on how often you use it. Top athletes who are shooting on a daily basis should have their guns checked once a year. Schools or programs that only shoot their guns half a year or so, can get by with service every third year. Individuals who shoot their airguns on an infrequent basis, can go six or seven years or more.

Full-service Check up

Typically a full-service check-up consists of all seals and springs being replaced and valves and valve surfaces being inspected and replaced if necessary. This necessitates disassembling the entire gun, so all moving parts will get inspected and re-lubed on re-assembly and any potential problems should be noticed. As I once heard one shooter say to another, "Getting your rifle rebuilt is a good idea, 'cause sometimes they just find stuff."

Unscrewing the Air Cylinder

One thing you can do to preserve the life of your airgun, is to unscrew the cylinder every time you finish shooting it for the day. Unscrew it enough that you hear the air whoosh out of the regulator, normally a “P-SHOUGHWWWWW” kind of sound. Leave the cylinder on at that point to prevent dirt or other foreign objects from getting on your threads. When you get ready to re-install the cylinder, unscrew it all the way out first, then start back in. If you start in right at the point the air is released, you can sometimes pinch the sealing o-ring and damage it to the point where it leaks. The reason for releasing the air is that it takes the pressure off the regulator springs and o-rings, which really is the heart of a modern CA match rifle. The regulator is what takes the 3000 psi air in the cylinder and drops to around 850 psi to give a consistent shot each time you pull the trigger. Another point about regulators on CA guns is to exercise them slightly before shooting after the gun has set for awhile. Shoot three or four shots without pellets before starting sighters to make sure that the internal rubber seals are moving as they should, as sometimes they can stick slightly when they have set for awhile.

Barrel Cleaning

Does your air rifle barrel require cleaning? There is some debate on this issue. There are those who say it should be cleaned every time, and those who say never to clean an airgun barrel. Airguns don't generate any real heat, nor do they have burned powder residue to dirty a bore like firearms. As long as you are using good quality match pellets from RWS, H&N, Vogel or JSB then cleaning is of little benefit. If you do decide to clean your airgun barrel, I recommend pushing some doubled-up monofilament fishing line up through the barrel and pulling a cleaning batch through the barrel. A barrel that has been cleaned should have 15-20 fouling shots put through it before the start of a match, as a totally clean barrel will shoot to a different point of impact than one with a normal amount of pellet wax on the lands and grooves.

Secure you pellets

Always make sure that pellet holders are securely closed in your travel case.

Clean CBI

For those that use CBIs, you can carry a sandwich bag or some other clear bag that you can place the CBI into when not being used. I cringe every time I see an athlete remove a CBI and throw it on the floor, then pick it up off the floor and stuff back into the barrel at the end of the shooting session. This can only cause long term damage to either the rifling or the crown of your precision airgun.

All these basic rules apply to air rifles using CO2 as well. For more information and specific tips on dealing with CO2 powered rifles, a great resource is to watch an online video at <http://odcmp.com/Videos/09/887fill2.wmv>