# *SPRING AIR RIFLE SERVICING*

As I am often asked by members my opinion on the servicing and maintenance of spring air rifles, I thought I would offer this as my method of doing it.

I will say at this time this is my opinion and not everyone will agree with it.

The first and best advice is to start by reading as much as you can about the rifle you are going to work on before you start. Go to websites like Chambers at Gunspares.co.uk from where you can download an exploded diagram of most, but not all, rifles and print of a copy for reference.

Now to start, using the correct size of screwdrivers or, to give them the gunsmith's name, turnkeys. Remove the stock and put it in a place where it will not get knocked over. If it is a break barrel, remove the pivot pin from the hinge; care must be taken as some times this pin also holds in the locking detent, such as in BSA rifles. In this case, apply pressure to the detent when the barrel is open but before the trigger has latched, and the pin can be removed easily. To prevent damage to the various sizes of pins you will encounter, a good set of pin punches is essential. With the barrel loose, the cocking lever can now be removed from its location in the piston and the assembly laid aside.

You now have the power assembly complete with trigger before you. There are too many trigger designs for me to list their methods of removal; this is where the lowndoad exploded diagram will help. On some models, HWs for example, remove 2 pins and the whole unit comes out. On Air Arms, when you remove the retaining bolt the complete trigger and end block comes away as one; while on others you have to dismantle the trigger in place before you can proceed.

We are now at the most dangerous part of the operation, removing the end block and spring. IT IS ESSENTIAL FOR SAFETY THAT SOME FORM OF SPRING COMPRESSOR IS USED. I know we have all done it, removed whatever retaining device the rifle has with it press against our bodies, but it is only a matter of time before you end up hurting yourself; I speak from experience.

With the compressor in place, apply a light tension to the end plug and remove the retaining device or devices. There is often more than one. Slowly remove the pressure on the compressor and the end block will come out with the main spring. WORD OF CAUTION: if the end block is not made of metal it can sometimes stick. In this case, when the tension is just off, tap the side of the action with a soft faced hammer. That should be enough to allow the end block to come free. Continue to unwind the compressor.

With the spring removed, using a suitable tool pull back the piston until you are able to take hold of it and completely remove it from the cylinder

With everything now on the bench it is time to clean and examine all the components.

The piston: The most important part here is the head seal. If it is not in perfect condition, free from  nicks, wear or cuts replace it. If it is from an older rifle and the head seal is made of leather, be sure to soak the seal for at least 24 hours in vegetable NOT MINERAL oil, to soften it. The piston itself should be lightly polished, taking care not use to rough paper, finishing off with 400 grit upward.

Now to lubrication. If the head seal is of modern material, a light smear of silicone based grease should be used. Remember, if you can see the grease there is too much. On the body, use a moly type grease.  You can buy this grease from several gun suppliers, but they are very expensive. If you are doing a lot of repairs, go to Halford's and purchase their grease for velocity joints. This is very much cheaper and I have had no complaints since I have used it.

Carefully wash all parts before assembly.

Before refitting the piston, ensure that you have removed all rags and high spots from the cocking lever cut out on the cylinder body and from any other area that could damage the piston seal when refitting. Should the seal foul against any of these areas when refitting, ease it past by gently pushing down with the flat edge of a screwdriver and push fully home.

The spring: Check for any obvious signs of damage and ensure it is not twisted or misshapen. If it has been in use for a long time, replace it. I am asked which springs I like, my personnel favourite TITAN XS. It is a thinner wire spring, therefore much longer than most originals. For this reason it gives a much smoother cocking action. . It is also finished in a baked on Teflon which requires a lot less grease, but as I said at the start this is my opinion others will disagree.

Grease the spring sparingly but before refitting grease the top of the inside of the cylinder, this is the thrust face the piston bears against when cocking. Lubricate the piston guide, and assemble everything in the reverse order to that of disassembly.

Apply lubricant to the all pivot pins on refitting, refit barrel and test.

Fire at least twenty pellets through the rifle before you have it chronographed. You MUST do this,  as it is very likely that the rifle will be over power, especially if a new spring and seal have been fitted.

It is impossible to go over all the different mechanisms there are but the general principles are the same.

Hope you find this of interest.

Stan