How an airgun is lubed, where it is lubed and what it is lubed with is extremely important. I am going to show you here how I would lube a gun using the basic Gamo and Gamo clone airgun as a guide. I would lube many break barrel springer airguns that would come across my workbench using the below process and it will be a good basic lubrication guideline for just about any springer. It is important to keep in mind that if your gun is lubed properly internally, it can go for many years without having to be opened up again for maintenance. Your gun will thank you for it, you will have a greatly improved firing cycle and it will provide for you a whole new shooting experience.

NOTE: These basic principles would also apply to gas ram powered guns also.

Please do not ask me about alternative lubes because throughout my years of experimentation with various lubes and with all of my years of experience tuning guns, as far as I am concerned there are none. That said, it's your gun of course and you can use anything that you want to use.

We are going to break this down to individual sections and parts as we go. You can get a pretty good idea of what and where these various parts are located by referencing the tune guide by clicking the link below. (Keep in mind that I published this tune guide many years ago but they are still pretty much the same)

http://www.charliedatuna.com/airgun_docs/B19%20Super%20Tune.doc

But before we do start, let's take a look at the different lubes that we are going to use.

Most of the lubes as well as parts that I used were ordered from Jim Maccari at

http://www.airguns.citymax.com/page/page/251327.htm

**Heavy tar**: For use on spring OD. Light cover and string across the coils of spring. Lubing the entire length is not necessary. Lube the section of the spring that is in the piston when compressed, or about ¾ of the spring length.

**Clear Tar**: Triggers, pivot points etc. Best product for the OD of spring guides. Great for use on pistons and compression tubes on side levers or under levers like the TX, PS, and RWS etc. Being clear it does not create a mess. Remove excess. The best lube you can use on guide ID's- use very, very little.

**Gene Sundays Mystery Oil ….**

Take one tablespoon of Moly grease and mix it thoroughly with two ounces of 30wt non-detergent motor oil. Shake well. Serve as needed. Use sparingly on any metal to metal surfaces. Remember, a little of Moly goes a long way. Good for trigger assemblies and trigger pivots, also any externally lubed areas such as pivot points.

**Silicone Grease**
100% Dielectric Silicone Grease is available at almost any auto parts store. If they don’t know what you’re talking about, tell them it’s the stuff used on spark plug boots. Use it on seals, Co2 tubes and valves..many assembly applications. Not to be used as a piston or chamber lube.

100% Silicone Oil

Purchase from any Hobby Center that has Radio Controlled race cars. It comes in many weights just like motor oil but in small quantities. I use 30wt shock oil only. Used in many applications and as a mix for some of the home brews such as Gene Sundays Mystery Oil in place of 30wt non-detergent oil but expensive to use this way.

Moly Paste

Used as a lube for piston walls, spring guides pivots, spring ends and many other applications. It is also used in home brews. There are not a lot of known sources for a good Moly lube in small quantities with a minimum 60% ratio (preferably 65%) or higher. Don’t use the cheap low grade stuff from Wally World or parts stores as the moly content is quite low and a waste of money.

Maccari of course has it and Honda does have one with 60% content, although they may have to order it. Keep in mind though is not a “good” replacement for the Maccari molly.

Honda part number…..Moly 60 Paste.......Part Number 08734-0001 (this part number may have changed)

Super-Lube

SuperLube w/PTFE can be a good lubricant. Great for piston into tube assembly and it has a silicone base with PTFE to help fill imperfections in compression chambers in synthetic sealed guns and tubes. Must be used sparingly as it will cause detonation. Wipe out all excess before installing piston. Carried by many parts stores and I think Wal-Mart.

RemOil

RemOil is used on the stock and exterior metal as a cleaner/preservative and can be used in the barrel when stored for long periods of time, but in springer’s, needs to be cleaned out with patches before using the gun. It can be found in most sporting goods stores.

GooGone

Great for cleaning the barrel internally. It will break down most chemicals and deposits and at the same time, will not damage the breech seal and won’t harm most finishes but be careful around some plastics. GooGone can be found just about anywhere.

OK…. Let’s get started. We will start with the internal lubrication. **Before starting the lubing process you should have already prepared all of the parts and surfaces by cleaning and deburring (including cross hatching of the compression chamber) all of the essential areas.**

Seal

Before installing the seal on the piston, using silicone grease apply to the flat surface a thin coating and also on the inside beveled part of the seal. Now mount the piston on the seal. After the seal is mounted on the piston twisted back and forth to make sure that it is well seated. After you have seated the seal apply a thin film of the grease on the outer edges of the seal. You can also use Molly in this area.
**Piston**
The piston should be lubed using Molly paste from the rear of the seal where it is seated on the piston to about 1 inch back on the piston. The other end of the piston should be lubed using Molly paste for about 1 inch from the rear of the piston. The cocking slot can be lubed with either Molly or clear tar. The sear capture slot should have a little Molly applied to the capture surface. Set the piston aside to be installed later.

**Tube and Compression chamber**
I use SuperLube with PTFE from the top of the action to the bottom of the compression chamber. This should be a light film and I use a cotton 10 or 12gauge shotgun bore cleaning applicator in this area. It requires making an extension for the applicator. Be sure to remove any excessive lube using a piece of cloth on a dowel. The lubing of this area is important as it assists in installing the piston and seal assembly and prevents seal damage.

**Spring**
The spring is lubed using JM heavy tar. The JM heavy tar reduces the spring vibration as well as the harmonics of the spring. It also dampens the spring contact against the inside of the piston walls.

The spring should be lubed from the bottom of the spring where it sets in the bottom of the piston up about three quarters of the length of the spring or about the length of what the compressed spring would be in the piston. The spring should be lubed on the outside surface and the heavy tar should string from coil to coil in a light stringy fashion. It is important to not over lube this area. Less is better than too much.

The bottom of the spring that sets in the piston should have Molly applied to that surface. On the opposite end of the spring you should apply clear tar.

**Top Hat**
Apply Molly to the face of the top hat that sets against the bottom of the piston. Also apply Molly to the seat of the top at that the spring sets on as well as the surface of the top hat that sets inside of the spring.

**Spring Guide**
With the spring locator block removed (if not one piece), the outside surface of the spring guide whether it be steel or plastic should be lubed with clear tar. Also apply a film on the rear of the spring locator block where it comes in contact with the metal surface of the block.

**Trigger**
This does not resolve the long hard uncontrolled trigger pull that is a common complaint in the Gamo/Theoben triggers. That can only be resolved by upgrading the trigger blade itself.

Care needs to be taken here to not use heavy lubes. They have a tendency to hold dirt and grit and can eventually cause problems.

At this point lubing the trigger can be very simple. You can simply saturate it with Gene Sundays mystery oil and then let the excess drip dry. The alternative here is to wash it out thoroughly using mineral spirits or something equivalent and then using a toothpick apply Molly to the contact surfaces. I would then use a syringe, lube all of the pivots and springs with Genes Mystery Oil.
However there are some things that you can do to really improve your trigger. If you polish your trigger sear and intermediate lever contact areas you can improve it even more by burnishing Molly into these surfaces. You can do this with both the intermediate lever as well as the sear surface.

I use a tool that I made just for this purpose out of a 1/2 inch diameter dowel rod about 6 inches long and on one end shaped a flat surface about 2 inches long on each side. Then I took a piece of leather shoe tongue and cut to pieces to fit and glued on one side of the tool the smooth side of leather facing out and on the other side the rough side of the leather facing out. Now rub some Molly into the leather and then burnish in the Molly into the polished metal surfaces first using the rough side of the leather and then finishing with the smooth side of the leather.

This pretty much covers the internal lubrication of the Springer airguns. It can be applied to just about any of the break barrel springers.

Now let's discuss the lubricating of the outside of the action.

Cocking slot and cocking shoe
Using Molly, lube both sides of the cocking slot as well as a dab of Molly on the cocking shoe.

Beartrap link
Lube the length lightly on both sides of the bear trap link slot using clear tar. Also lightly lube the small slotted area with clear tar the area that is held in place by the e-clip on the trigger.

Glide Roller
If the roller on the side of your cocking linkage is removable then put a dab of clear tar on the roller post. If it is not removable then put a drop of Genes Mystery Oil on the rivet post and spend the roller a few times.

U-Glide contact area
On the surface of the action where the plastic U-Glide that sets on the cocking linkage between the link and the action slides across the surface of the action between the yoke and the cocking slot, place a liberal film of Clear Tar along that surface.

Cocking linkage pivots
Put a drop of Genes Mystery Oil on the rivet posts and pivots as well as where it connects to the barrel block. Work it back and forth to work the lube into the contact areas.

Yoke and pivot

If you are able to separate your yoke from the action.
It is almost impossible to do with the Gamo guns without causing damage because of the chemical weld that they use but is very doable almost others.

Thoroughly clean the pivot bolt as well as the compression washers or shams and the hole in the bushing that the bolt passes through. Using clear tar, coat the shoulder surface of the bolt with either clear tar or heavy tar. Try to take care not to get lube on the threads of the bolt.

The spring loaded lockup chisel is removed by depressing the chisel and pushing out the bushing that the yoke passes through. This will release the spring and chisel. After removing and cleaning the spring loaded lockup chisel surface and spring and the hole that it sets in, lube with clear tar and reinstall. Now lightly lube the surface on the face of the chisel with clear lube.
If you cannot separate your yoke from the action
If you cannot separate the yolk from the action simply apply a liberal amount of Genes Mystery Oil to the yoke pivot points and shims and also to the spring loaded chisel lockup area. Using a small block of wood push the spring loaded in and out several times while lubing to distribute lube into that area. The spring is very heavy and you will find it pretty difficult to push it in and out. Dry off any excess lube. Again, lube the chisel afterwards with clear tar.

Barrel
And finally the barrel. Other than occasionally cleaning the barrel using a pull through and GooGone there is no reason to lube the barrel unless it's going to be setting for a long period of time. If that were the case I would pull through a patch using RemOil but be sure to pull some cleaning patches through it before using the gun again.

The overall surface of the gun
Before shipping any gun out after being serviced, I would spray and wipe it down the entire surface of the gun using RemOil. Another good alternative to RemOil is Ballistol.

Again, do not ask me about alternative lubes because with all of my years of experience tuning guns, as far as I am concerned there are none and I will not respond to questions about them.

I hope that this will be beneficial and answer the questions that many of you have regarding lubing a springer. And… again, this isn’t cut in stone, just my way of doing things.

Thanks all

CDT