



RNZPBA  
EDUCATION  
GROUP

# MAINTENANCE AND MOISTURE CONTROL

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## Maintenance and Moisture Control

### Introduction

**W**ell, this is the topic I have been looking forward to in this series! I would be the first to acknowledge that it is not an exactly inspiring subject, however it is one of the most important aspects of achieving and maintaining a consistently good bagpipe sound that is comfortable to play. So, ignore maintenance and moisture control issues at your peril!

This tutorial will cover the broad maintenance and moisture control areas including the bag, drones, reeds, and blowpipe – nothing new here. What I would ask readers to bear in mind during this tutorial is the output or end result that we are trying to achieve. You may disagree with some of my methods (and that is fine), but you must ensure that your own methods achieve the desired end results.

It is also worth remembering that an investment of time and money is required for the proper maintenance of your bagpipe. A little time and money invested on a regular basis will save you a big outlay all at once when your bagpipe is falling apart!

### The Bag – What Type?

What type of bag should I play? This is a question I get asked quite often by pipers of all levels. The short answer is play whatever suits you and that you are comfortable with. When you consider the range of bags being played by top bands and soloists worldwide, it is easy to see there is no one size fits all. Top pipers are playing sheepskin, cow hide, Canmore gautex, Ross bag, goat skin, elk hide and more besides. Some things to consider when choosing a bag should include:

1. **Climate.** Am I in a wet or dry area of the country/world? If I am in a wetter area, then I probably need to have a bag that breathes (sheepskin, goat skin, Canmore gautex) or if I choose a bag that doesn't breathe (elk hide, cow hide, Ross bag) then I will definitely have to invest in a moisture control system. Conversely, if I live in a drier area, I may well be able to get away with minimal moisture control and an elk hide, cow hide etc.
2. **Comfort.** Before choosing a bag, you should try other pipes that have different bags on them to see what you find most comfortable. Naturally, if you belong to a band that stipulates a specific type of bag that all the pipers must play, then the choice is made for you! You may wish to get another set of stocks made so that you can tie on the bag of your own choice for your solo piping efforts. Be wary of getting a bag that is too big. A big bag does not equal a big sound. The size of bag will depend on the length of your arm. For me, with an inside armpit to wrist length of 46cm (a vital statistic!), a medium bag suits best. In terms of the depth of the bag (for sheepskin, goatskin, and hide bags that can be made to measure), 10.5 - 11 inches will be sufficient for a medium size.
3. **Reliability/life of the bag.** Most bags are of very good quality and some even come with a guarantee. Canmore bags, for example, come with a 2 year guarantee. If you are doing a lot of playing, then I would change a sheepskin or goat skin bag every 12 – 18 months. You may get slightly longer with an elk hide or cow hide bag as these are non-porous. Regardless, I would be very tempted to change a bag of this type after a maximum of 2 years. For a Canmore or Ross bag, you need to regularly check the condition of the bag and if it is starting to look worn, and is older than 2 years, change it or risk a disaster happening when you least want it! The message here is do not wait for something to go wrong before you change the bag.
4. **Cost.** This is a relevant factor for all of us. Pipe bags are quite expensive – anything from NZ\$200 – NZ\$500. Once you have considered the first three criteria above and have a pecking order for the bags of your choice, look at how much they are going to cost and how long they are probably going to last – a basic cost/benefit analysis that will tell you what value you will be getting for your money.

## The Bag – Maintenance

Because bags are made from different materials, they naturally have some specific maintenance requirements. We will deal with each generic type of bag in turn:

1. **Sheep skin/Goat skin.** These materials are porous and require an approved bag dressing/seasoning to make them airtight. The seasoning should also have moisture absorbing capability. For a new bag, follow the directions on the seasoning bottle or tin. After this, the best form of maintenance is regular playing. This will help force the seasoning well in to the pores of the bag and make it more airtight. If the pipes are not played for a few days, you may find that the bag has gone hard as the seasoning has solidified. A tablespoon full of warm water poured through the middle stock and worked into the bag should melt the seasoning again and, with some playing, the bag will be back to a good airtight standard.

It is common practice to have a tube water trap with a sheep/goat skin bag. This prevents warm moist air from the piper being blown directly on to the pipe chanter reed. If this happens, the chanter reed absorbs the moisture rapidly and the chanter intonation becomes unstable; the F sharpens up and it becomes difficult to tune the drones to Low A as the pitch of various notes is shifting. These bags do not have zips on them, so the tube water trap must be tied in when the bag is first put on. An alternative is to buy a false stock with a tube water trap attachment the can be taken out of the stock to be cleaned without having to take the whole stock off the bag.

When storing the pipes in the pipe case, try to ensure there is something more than just the bag cover between the bag and the ivory on the pipes. I have seen many old sets of pipes that have distinctive stains on the ivory caused by long periods in contact with a seasoning soaked bag/bag cover! Change the bag every 12-18 months.

2. **Cow hide/Elk hide.** These bags are non-porous – the animals they come from sweat through the mouth (panting). Given this, the bags do not necessarily require seasoning, especially if they are glued. Some manufacturers recommend seasoning the bag to swell the leather and make the bag more airtight around any stitching that is present. Unless a moisture control system using some form of kitty litter is used (some of these bags come with a zip, so this is possible), then I would recommend seasoning the bag to absorb moisture that is blown into the bag. Without this, or a kitty litter moisture control system, any moisture in the bag will inevitably end up on the reeds, and very quickly. Notwithstanding this, if you

live in a very dry climate, this may actually be welcome!

Again, regular playing is the best form of maintenance for these types of bags. Consider changing the bag every 2-3 years.

3. **Canmore Gautex.** No maintenance at all is required with these bags. They come with or without a zip so you have the full range of options when considering a moisture control system. If you have a bag without a zip, I would recommend a tube water trap type system. The bag comes with a 2 year guarantee and I would seriously look at changing the bag at the 3 year mark, if not before. Better to spend a few dollars and avoid a disaster than to spend the same dollars after the disaster!



Once you have finished playing, the pipes should be left lying in an open pipe case with the bag cover pulled back to expose the gautex bag. This will allow the bag to dry out more quickly.

4. **Ross and other similar bags.** Again, no maintenance is required for these bags. If the bag is made from a nylon type or other non-porous material, it will be particularly important to open the zip on the bag to let it dry out. Moisture left in the bag will only stay there and get on to the reeds if left. Storage in the pipe case should be without the kitty litter container attached.

## Drones

The two major areas requiring maintenance on the drones are the tuning slides and pulling the drones through to remove moisture.

**Tuning slides and stocks.** Hemping in these areas should be with the yellow unwaxed hemp. It is perfectly acceptable to have a few layers of the black waxed hemp as a base for the yellow hemp to grip on to, however it should not be the final layer that the wood is being turned against. The main reason is that once the wax wears off, the linen thread under it is very abrasive and will wear away on the inside of the top sections of the drones and on the mid section of the bass drone. Some pipers have also used other waxed threads like dental floss.

However, the same problem of abrasiveness exists. The tuning slides should be easy to turn with one hand. They do not need to be tight – and it is far better that they are not. Firm is all that is required. The stock joints need to be slightly tighter than the tuning slides, but again not too tight. The ferrules are there to help prevent stocks and drone tops splitting, however joints that are consistently too tight will make this inevitable.



Properly hemped joints (no pun intended!) should last a long time. At least 5 years in my experience and probably even longer. The blow pipe joint will need to be re-hemped more frequently as this is the joint that gets by far the most moisture. The yellow hemp on this joint should be waxed with a bees wax prior to winding on to ensure a fairly moisture resistant joint is achieved.

**Moisture.** After playing, it is important to take the time to remove any moisture that has beaded on the inside of the drones. There are drone mops/pull throughs commercially available specifically for this purpose. If this is not done, then the pipes will wet up very quickly the next time they are played.

## The Blowpipe

I thought this part of the pipes deserved a section of its own. It is a very neglected part of the bagpipe and yet so fundamental in helping us achieved a good, consistent sound. The specifics that need to be addressed are:

**Bore.** The bore of the blowpipe and mouthpiece are critical. A small bore will make it very hard to get the required amount of air into the bag in order to make the pipes function correctly. The pipes will feel very hard to blow. A bore diameter of not less than 8 mm is required, and if possible, 9 mm would be even better. The achievement of this will depend on the outside diameter of the blowpipe you have. It is a relatively simple operation and there is at least one skilled person in the North and South Islands that can do this work – John Park of Raglan, and Brendon Fairbairn of Matura.

It is also important to keep an eye on the ‘gunk’ build-up in the blow pipe bore. A rod-type pull through from a gun shop should be used to clean out the blow pipe bore on at least a monthly basis. This will help keep the bore at the desired 8-9mm and also remove a health risk to the piper!

**Non-return Valve.** The sole purpose of the non-return valve on the end of the blowpipe is to prevent air escaping from the bag when we take a breath. A simple and durable valve like that pictured is quite suitable. There are other types that can be inserted into the bottom of the blowpipe. I am not a fan of these. They can restrict the amount of air you can get into the bag simply by having a smaller diameter than the blow pipe bore. Other types combine a water trap type system with a non return valve and are inserted into the blowpipe stock. These are very effective, but it may be a challenge to have a tube water trap fitted as well.



## Chanter Reed Maintenance

The best form of maintenance for the chanter reed is **care**. This is care when taking it out and putting back into the stock/chanter reed protector that the reed is not damaged in any way. After playing, the reed will have absorbed an amount of moisture. If the reed is left in the stock like this or put straight away into its chanter reed protector/hood, then the inevitable mould/culture will start growing. Warm, moist and dark conditions are ideal for this.

What works for me is to leave the pipe chanter out in a safe place for 10-15 minutes to let it dry naturally. When I am happy that it is dry to the touch, I will put it away in a reed protector. My reed protector does not have a hole in the end of it as I want to keep a little moisture in the reed. You will need to work out a system that works for you and the climate you are in. In a very dry climate or during the summer, you may well find that the reed is better left in the stock in the pipes or that you can put it away in the reed protector straight away after playing.

The basic idea is to keep a consistent amount of moisture in the chanter reed without running the risk of mould growing. Reed protectors made of a light wood or with holes in the end of them may let the reed dry out too much. Experiment, and see what works best for your particular situation.

## Chanter Maintenance

This is another very neglected area of maintenance. The tape on the pipe chanter should be renewed regularly. It should not be allowed to curl up and start peeling off. If you are using the thin black electricians tape, make sure it is replaced as soon as you think the tape has become susceptible to slipping/sliding on the chanter. I use this tape and I always make sure that I have the tape going over the hole twice. This is to help prevent slipping and to make the part of the tape that is over the hole stronger so that it does not dip into the hole under pressure from the fingers.

Holes on the chanter should be checked regularly and any gunk build-up from the fingers needs to be removed with something like a cotton bud. Without going overboard, pipers should try to have clean hands when playing the pipes. This will help reduce the amount of gunk that comes off the hands and embeds itself in the holes of the chanter. What a charming topic!

## Drone Reeds

The advent of synthetic material drone reeds means that maintenance is greatly simplified. For most synthetic reeds (non-porous ones), it is simply a matter of blowing through the back end of the reed to remove any moisture and then replace it in the drone. Some synthetic drone reeds are made from a compressed cardboard compound that is relatively impervious to moisture but does soak up some during the course of a year. These should be replaced annually.

Cane drone reed maintenance is really not too different. The key here is to make sure the reeds are not allowed to soak up too much moisture. This will swell the reed up, potentially make the bridle tighter and possibly hampering the proper functioning of the reed. Cane drone reeds that are carrying too much moisture will not vibrate as readily as drier reeds. Personally, I leave my cane reeds out for about the same length of time as the chanter reed to allow them to dry a little, naturally, then put them back into the drones and into the stocks. As for the chanter reed, we do want to have some moisture in the drone reeds, and we need to try and keep this moisture content at a relatively consistent level.

**Tying Bridles.** Bridle tying may well become a lost art given the preference of most pipers for synthetic reeds. I have created a link to the video on YouTube (<http://www.youtube.com/watch?v=fdknmWi47Rk>) one method of tying a bridle.

## Moisture Control

**Why control moisture?** The short answer is because too much and too little moisture are both detrimental to producing a good, stable sound. We all have around the same percentage of moisture in our breath, however the particular bag, moisture control system, temperature of the wood on our drones and the humidity will affect the amount of moisture we see in the pipe. We need to have the ability to control the moisture that gets into the pipe – this does not mean that we need an impervious moisture barrier that will prevent any at all getting into the system. Some moisture is our friend. Too much moisture is our enemy.

### Moisture Control Systems

There are essentially three generic moisture control systems:

1. **The ubiquitous water trap.** This, in its simplest form, is a cork with a piece of tubing through it (diameter not less than the blow pipe diameter). The idea here is that a smaller aperture in the blowpipe stock will let less moisture through into the bag. This is perhaps the case, but we will still have moist air from a piper being blown more or less directly on to the pipe chanter reed.
2. **The tube water trap.** A far more common and effective system. This system comprises a clear piece of plastic tubing of about 16mm internal diameter attached to the bottom of the blow pipe stock. It runs from the blow pipe stock, down to the bottom of the bag and curves round until it just about meets the top rear of the bag. The opening of the tubing at the end of the bag is closed off with a rubber cork (to mitigate any effects of rubbing on the inside of the bag) and two rectangular slots are cut in the tube just below the cork. The picture below shows this. Moisture from our breath condenses and collects in the bottom of the tube and it is a simple matter of taking the blow pipe out and tipping the moisture out.



3. *Kitty Litter systems.* Equally common these days are the kitty litter type systems. These will be familiar to most of you. Essentially they comprise a box or container of kitty litter, with tubes running from this container to the drone and chanter stocks. The amount of moisture that gets to the drones and chanter can be ‘controlled’ to an extent by altering the amount of kitty litter or providing a small path, clear of any kitty litter for the air to travel.

An alternative version of this is to have the container of kitty litter connected to the end or the middle of the tube water trap which is attached to the bottom of the blow pipe stock.

In both cases, the kitty litter container should be detachable in order to dry the contents either naturally or in a microwave oven.

There will be other systems that have been invented, but they will largely be a variation on one or more of the themes above. It would pay to ask well-known pipers in your area to see what system they play and how they find it works for them. Then you can at least make an informed decision as to what system you would like to try. The tube water trap is a pretty cost effective system for most pipers – it is what I use myself. If you view yourself as a particularly wet blower or live in a damp part of the world, then a kitty litter system may well be a necessity if your pipe is going to be able to last the distance at band practice or for the duration of a decent length piobaireachd.

## Summary

Maintenance and moisture control are not the most exciting subjects to discuss. However, good maintenance and effective control of the amount of moisture that gets in to your bagpipe are two of the most fundamental aspects of getting a consistently good sound from your pipe. A regular maintenance regime will save you a lot of frustration and embarrassment. It really is a case of forecasting what could go wrong with the pipe and actually doing something to prevent its occurrence. Pipe Majors the length and breadth of the piping world have a vested interest in the state of their pipers’ instrument – hopefully this tutorial will prompt NZ Pipe Majors to ensure their band has a maintenance inspection schedule, and that each piper understands what the standard is and meets it. Poor maintenance will equal a poor or at least unreliable sound and that is not going to improve the standard of bands in this country.

*Greg Wilson*

**Notes:**
