

Applying Hemp to the joints of the Great Highland Bagpipe

By William Thomas Bailie © 1999

Reprinted by Holbæk Pipe Band with kind permission of University of Calgary



Figure 1: The Great Highland Bagpipe

There are nine separate joints that must be maintained on the Great Highland Bagpipe: five joints connecting the pipes to the stocks, and four tuning slides. Waxed hemp cord is used on these joints to form an airtight, adjustable seal between the various components. The portion that is inserted into the stock or into the upper section of the drone is known as the pin. The pin is about 25 mm in length and is carved with small, parallel rings known as grooves.



Figure 2: Detail of the pin

The air used to operate the bagpipe comes from the mouth of the piper, and contains moisture. This causes the hemp, a natural fibre, to gradually break down over time, making occasional replacement necessary. Joints must be inspected if the pipes have not been played for more than one month, as the hemp will dry out and shrink. Any time the hemp becomes loose or shows signs of decay, it should be replaced.

The same procedure is used for each joint. Because the piper must be able to adjust the tuning slides with one hand, they should not be as tight as the joints between each stock and its drone, chanter or blowstick. The procedure takes between fifteen and thirty minutes to complete each joint. Each joint

is treated independently, so only one or two joints may be replaced, or the whole instrument, depending what is needed and on how much time is available to complete the task.

Procedure

1. Prepare a work area. A clean flat table is best.

CAUTION: this procedure can be messy. If the kitchen table is to be used, lay down some old newspapers first.

2. Gather all necessary materials. All of these supplies are available from your bagpipe supplier, but many can be obtained from other sources for less money.

a. Bagpipe

b. Hemp cord: this can be plain hemp cord or it can be purchased pre-waxed.

Note: pre-waxed hemp cord saves time, and has a uniform covering of wax already applied, but is not always available.

c. Lump of beeswax

d. Roofing pitch: pitch can often be obtained for free from a construction site.

e. Sharp knife

CAUTION: be careful using the knife near your bagpipe. A sharp knife will easily gouge or scratch grooves on pin or tuning slide.

f. Matches or lighter

3. Remove old hemp

a. Carefully cut through first few layers of hemp, using knife

b. Peel off hemp from pin

c. Remove any remaining hemp

d. Clean residue from grooves in pin

e. Dispose of waste hemp

4. Prepare hemp

a. Cut a 25 mm by 50 mm piece of leather from an old pipe bag and fold it in half. Keep the pitch in the fold. A disk of 20 mm diameter and 2 mm thickness will be enough for many years of bagpipe maintenance.

b. Heat pitch with matches or lighter

c. Slide first 2 m of hemp through pitch so that hemp is coated with pitch

d. Rub beeswax over subsequent 5 m of hemp.

Note: avoid breaking the hemp when applying the wax. If you do break the hemp, carry on and apply it to the joint (once it is coated with wax) as long as it is longer than 1 m. If it is shorter than 1 m, save it for later use in adjusting the fit of a joint. Using pieces that are too short leads to a poor fit on the joint.

Note: if you use pre-waxed hemp, then this step is unnecessary.

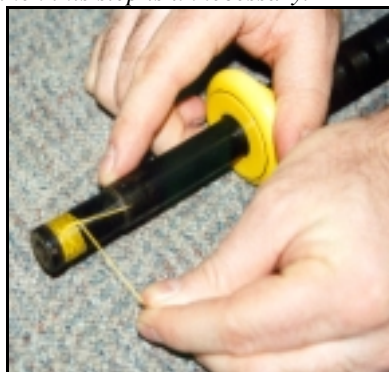


Figure 3: Applying hemp to pin

5. Apply hemp to pin

a. Lay 25 mm of hemp along pin perpendicular to grain of grooves

b. Carefully lay hemp into grooves.

- i. Start at top groove lay pitched hemp into groove
- ii. Wrap around pin
- iii. Once groove filled (one rotation), continue with next groove
- iv. Repeat until all grooves filled with hemp
- v. Apply a second layer of pitched hemp on top of first layer. Apply this layer between the wraps of hemp of the first layer.

Note: By the time there are two layers of hemp on the drone, all the pitch-covered hemp should be used up. If there is not enough pitch-covered hemp to complete two layers, cover enough more hemp with pitch to complete the second layer.

- c. Once all pitch-covered hemp is used, continue to wrap waxed hemp on joint.

Note: Use one length of hemp. It should have pitch on the first 2 m, and wax on the remaining hemp.

Note: Lay the hemp in tight rows. Each successive wrap should lie as tightly as possible to the previous wrap, giving a nearly smooth surface.

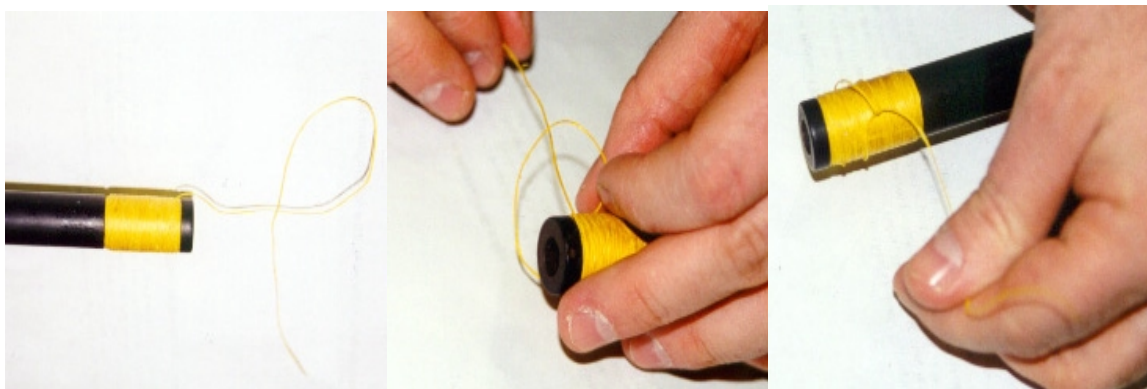


Figure 4: Tying off the hemp

6. After each layer of hemp is applied, test fit of joint.

- a. If fit is loose, apply another layer of hemp.
- b. If fit is good, tie off hemp with two half hitches (refer to diagram).

Note: if fit is too tight, the drone or stock may crack. If fit is too loose, the instrument may fall apart. Some experimentation will be necessary to find correct balance. A joint that seems to be a little bit too tight can often be worked into a good fit.

- c. Rub beeswax over surface of joint.

7. Repeat process for next joint.

8. Reassemble instrument.

CAUTION: when checking the fit, grip the stock in one hand and the drone, chanter or blowstick in the other hand, near the stock. Twist the two pieces in opposite directions. Do not force the instrument. You may break it.

CAUTION: hands should be kept close together when checking the fit to prevent breaking the piece as torque is applied.

9. Check fit of joints again. Check the fit by twisting the tuning slide or stock.

- a. If any joints are loose, add two or three wraps of hemp and check again.
- b. If any joints are too tight, use the knife to pick out the end of the hemp.
- c. Unravel two or three wraps of hemp, then check fit again.

Happy Piping!

Source: <http://www.ucalgary.ca/UofC/students/clubs/PBHD/bagpipehemp.html>

Copyright 1999 William Thomas Bailie

Reprinted by Holbæk Pipe Band in November 2001 with kind permission of the University of Calgary