Making pipes with David Burleigh's wood

The wood is all African blackwood (*Dalbergia melanoxylon*) and is mature – mostly purchased in the 1980s and 90s. It is of a high quality, and is designed to produce pipes in the Hedworth system, where the drone slide is of all brass construction rather than brass on a wood lining.

Useful diagrams and instructions may be found via the downloads and links at: www.northumbrianpipers.org.uk under pipemaking information. Inspecting other sets for ideas is also a highly recommended process.

The dimensions of the wood as supplied are:

Part	**Bore in ins**	**Length x diam in mm**	**Notes and comments**
Chanters	11/64	280 x 28	*7-key length pieces. Some unbored cylinders.*
g drone standing part	1/8th	110 x 20	*Bored*
g drone slide	1/8th	75 x 20	*Bored*
d drone standing part	1/8th	130 x 22	*Some unbored cylinders*
d drone slide	1/8th	85 x 20	*Bored*
G drone standing part	5/32n	180 x 22	*Bored*
G drone slide	5/32n	130 x 22	*Bored*
D drone standing part	5/32"	225 x 22	*Some unbored cylinders*
D drone slide	5/32n	140 x 22	*Bored*
Blowpipe	5/16th	130 x 22	*Some turned to fit stock and connector.*
Blowpipe stock	9/16th	60 x 28	*Bored and some slotted for tie-in*
Bellows stock	9/16th	50 x 28	*Bored, plain cylinder*
Chanter stock	9/16th	90 x 28	*Some square, others turned with shallow slot for tie-in thread.*

There are no drone stock pieces – these may be made of fruitwood or hardwood as available: the size required is a 4" length of 2" x 2" section, which is then turned to round.

None of the turned cylinders have been trued on the bores: some are considerably off-centre and will need careful handling to make best use of them.

Bellows

Patterns for bellows cheeks and leather are available from the links above: designs for inlet and outlets may be copied from existing sets or from plans. The extra parts needed are made up of brass tube and sundries available from hardware stores or online.

The bellows cheeks wood is sufficient to make a 9" bellows – but not the larger sizes often associated with Border and Uilleann pipes. Use of a mill or router considerably eases the task of cutting the stitching groove and holes.

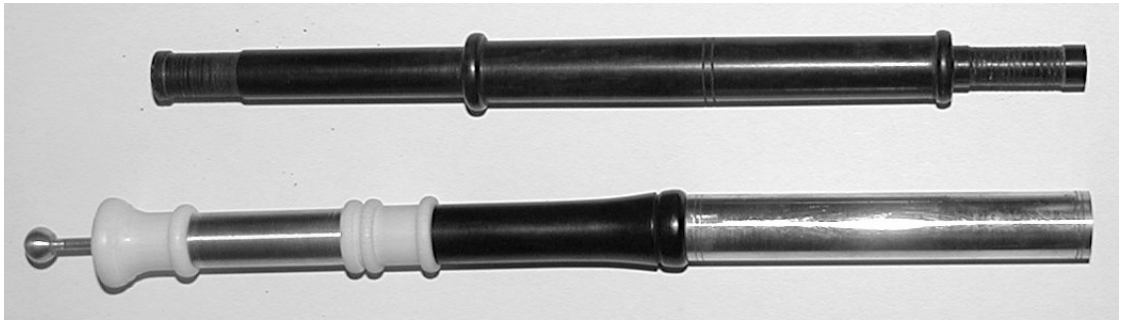
Drones

The bore dimensions of the drone pieces are larger than some other makes of pipes: this is partly to accommodate the all-cane drone reeds customarily used by Burleigh, but should not be an issue.

The two pieces of each drone as supplied are of unequal length: the shorter piece is the sliding part. The drone slide ferrule makes up the remaining length and must be cut appropriately.

The required finished lengths for each drone piece are:

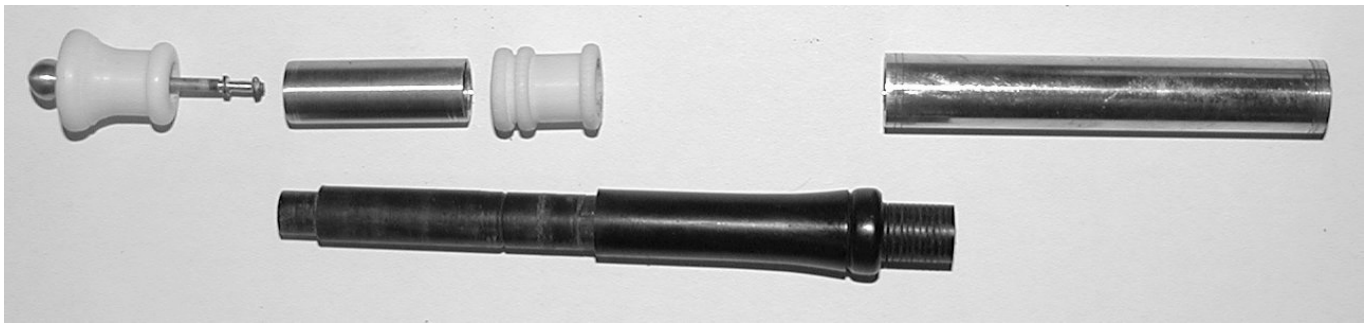
Drone	**Length**
Large D	9” (225mm)
Large G	7.5” (185mm)
Small d	5.5” (140mm)
Small g	4” (110mm)



The standing part can be made entirely of wood similar to the above, or fully mounted.

The slide ferrules should be made from ½” OD brass for the two large drones, and 7/16” OD for the small – thicker wall tube than the other ferrules is desirable but not essential.

One end of the sliding part wood should be turned to make a tenon (a “peg”) to fit into the end of the ferrule. Precise dimensions are a matter of taste and experience, but ½” peg length for the larger drones and 3/8” for the smaller seems like a good starting suggestion.



The sliding part may be turned and finished almost to completion using the tenon to grip in the lathe. The ferrule may then be glued on using heavy duty epoxy.

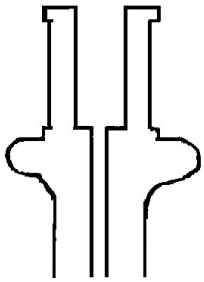
Tuning beads may be omitted, or added to some or all of the drones. Several designs are possible, using either metal, horn or plastic (artificial ivory as above). Inspection of other sets or plans is the best method to assist choice. Wood is not recommended.

The end plunger may be omitted or a peg used instead.

Chanter.

The chanter stick as supplied is long enough to make a 7 key chanter, and to add intermediate keys such as G#s. An extended chanter could be made by jointing the wood: this process is outside the scope of this brief description.

The 11/64” bore is fairly standard for a trad. pitch or concert F chanter. Plans etc may be found at the links on the website. After trueing the wood on the bore, the first decision to make is the shape of the reed seating. There are two principal options – parallel or conical. This choice may affect the optimal reed design for the chanter.

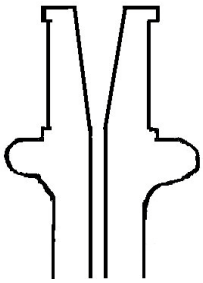


Reed seatings in cross section

(not to scale).

Left – parallel

Right – conical



Hole positions - for the purposes of this leaflet a comparison was made between a wide range of historical and modern pipes, and it appears that there is an acceptable consensus.

Suggested dimensions for a 7 key chanter are:

Chanter stock tenon length: 16mm

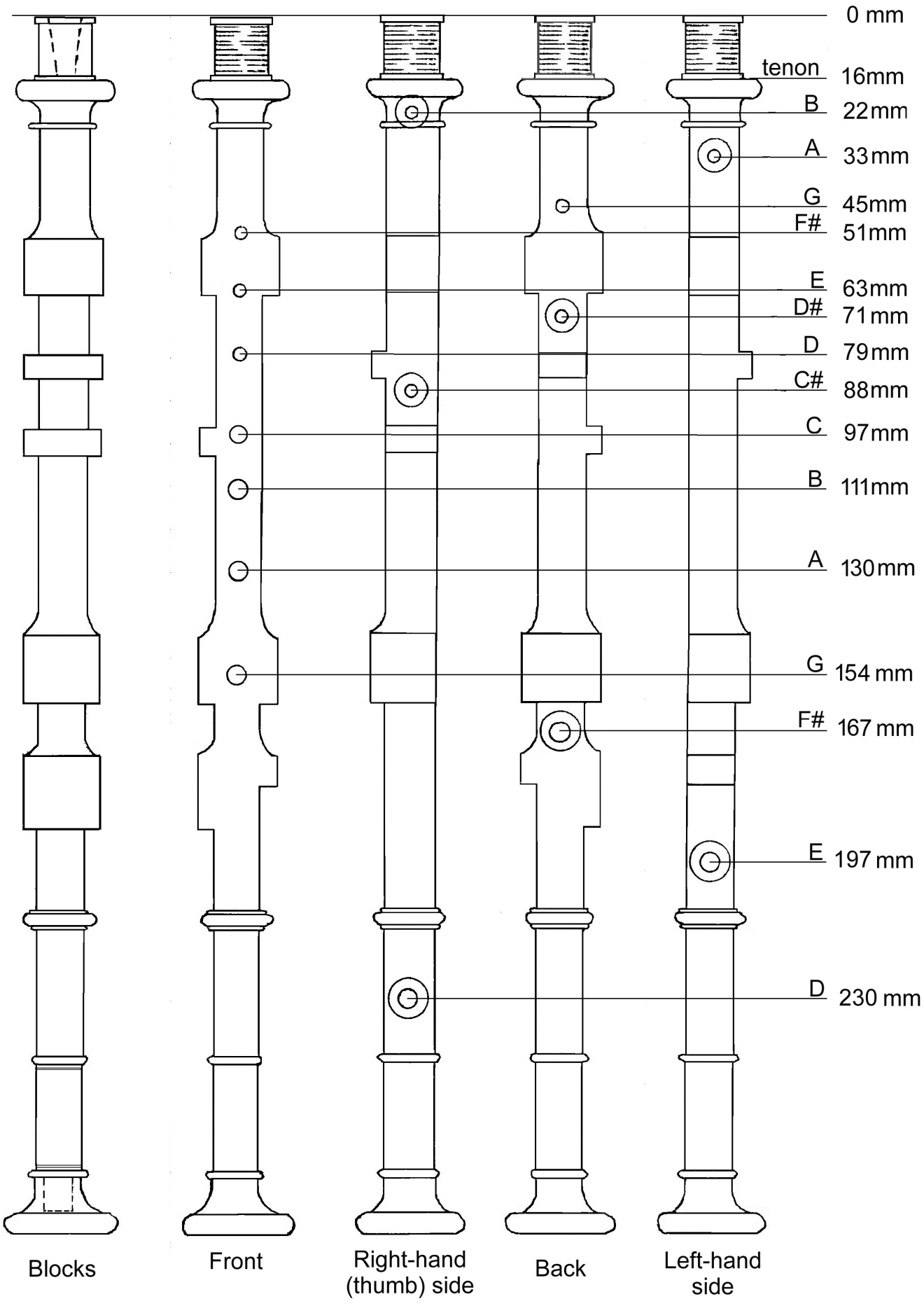
The hole positions below are measured from the top of the tenon, not the shoulder, so include the above 16mm

High B: 22mm
High A: 33mm
Back G: 45 mm
F#: 51 mm
E: 63 mm
D#: 71 mm
D: 79 mm
C#: 88 mm
C: 97 mm
B: 111 mm
A: 130 mm
G: 154 mm
Low F#: 167 mm
Low E: 197 mm
Low D: 230 mm

Keys.

The brass keys are cast, and are of a softer alloy than the forging brass used by most other makers. They are a one-piece construction, and need springing etc. They are designed to work with traditional pitch pipes – F to F#, although it might be possible for a competent maker to adapt them to other pitches.

They were originally used without slot linings but there is no intrinsic reason why they should not work with them if so desired.


0 mm
tenon 16mm
B 22mm
A 33mm
G 45mm
F# 51mm
E 63mm
D# 71mm
D 79mm
C# 88mm
C 97mm
B 111mm
A 130mm
G 154 mm
F# 167 mm
E 197 mm
D 230 mm
Blocks
Front
Right-hand (thumb) side
Back
Left-hand side