

The Soprano Ocarina

Ocarinas rank amongst the most ancient music instruments in human history. They have been played for over 10,000 years and are still being played in various forms all over world and in nearly all cultures, from South America to Europe and China. Ocarinas are what are known as vessel flutes because they are closed on the bottom and not open like, e.g. recorders. Sound is produced by blowing across a hole, causing the enclosed air to vibrate. Small additional finger holes change the tone pitch. Strictly speaking, the air current is channelled by a mouth piece and wind pipe to the sound hole which is why they are also described as a beak flutes.

Ocarinas are mainly made of fired clay but may also be produced from hollow pumpkins, nuts etc. The original ocarina was presumably formed from two cupped hands forming a round blowing instrument in which air was blown through the small hole created by two thumbs pressed against each other.

In 1853, the 17 year old potter's apprentice, Giuseppe Donato, from the Italian town of Budrio, began to perfect the then common small bird pipes and extend their tone range. He shaped his instruments in a longitudinal form and called them *ocarina* (little goose). The ocarina rapidly beat a triumphant path around the world. It was available in all registers, from sopranino to double bass and ocarina orchestras delighted audiences from Paris to New York.

Today the ocarina is one of the most popular amateur instruments and in England, David and Christa Liggins have even developed with their *Ocarina Workshop* an extremely successful form of early instrumental teaching based on the ocarina and which has proved its worth in many schools.



Tips for successful assembly

1. To assure that assembly is completed satisfactorily while remaining uncomplicated, the instructions were divided up into 14 small steps. Before starting please read through each step and leave yourself enough time. You will be rewarded with an exceptionally beautiful, clear toned instrument.

2. Before pushing out the parts cut through the small retaining webs with a sharp knife. Take special care with the finger holes as a change in the hole size may change the tone pitch. Always only detach the parts currently required. Each part is named and numbered. Within a module, the letters in the parts numbers are the same.

3. The cardboard is grooved along the folding lines. The groove lines are folded back or forward. "Fold back" means: I fold away from me when I look at the embossed groove. "Fold forward" means: I fold towards me. To assure that a fold is also completely smooth, you may also run over it again with the back of your thumbnail once folded.

4. Areas on which something is to be glued are colour coded in green. Please use a good adhesive. Solvent-based all-purpose glues are better suited than water-based solvent-free glues as they do not cause the cardboard to ripple and they dry much faster.

5. If small gluing areas are to dry more quickly: do not spread glue too thinly, press the parts together so that the glue is evenly distributed on both sides and then pull them apart again. Blow over the surfaces two to three times and then press the parts together exactly and firmly – the glue will adhere immediately.

6. For assembly purposes you will also require some adhesive tape and a rubber band. Protruding edges may be rounded off after drying using sandpaper or a fine file, e.g. AstroMediaU sanding-handicraft file (no. 400.SBF).

Assembly instructions

Step 1: Detach the three identical parts of the inner base [A1], [A2] and [A3] from the cardboard and also carefully the small discs from the finger holes. Then glue the three parts on top of one another to form a block. The edges and finger holes must match exactly. It is recommended to press the block slightly to assure that it is entirely flat.

The more exactly the finger holes are layered on top of each other and their openings kept free of any escaping glue, the clearer the pitch will be of the individual tones.

Step 2: Now glue the slightly larger part of the inner base [A4] with its unprinted side onto this block. Please ensure that the finger holes match exactly and the edges project equally at all sides. In this way, an all-round step is formed between the three smaller parts [A1+A2+A3] and the larger part [A4] of the inner base.

Step 3: Fold back the grooves of the inner side [B1] and join the ends edge to edge with a piece of adhesive tape on the back. A closed octagonal ring is formed.

Step 4: Lay the inner base [A1+A2+A3+A4] on your working surface so that the projecting part is underneath and the surrounding step is on top. First, as yet without glue, press the octagonal ring of the inner side wall [B1] so that it slides into the step of inner base. Then glue the ring of the inner side firmly in this position. In this way, an open-top enclosure is formed, the base of which projects out slightly from the side walls.

Should some glue escape here and smear this is not a problem as all surfaces will be glued over with further layers.

Step 5: Fold back the grooves of the outer side wall [B2] and glue it as the second layer on the inner side wall. Please ensure that place where the two edges of the outer side wall meet does not come to rest in the same place as the adhesive-taped join of the inner side wall.

Due to this second side wall layer the overlap

of the all-round base step is used up.

Step 6: Glue the three identical parts of the inner ceiling [C1], [C2] and [C3] on top of one another to form a block. Then glue the slightly larger part of the inner ceiling [C4] to this block by its unprinted side. Please also ensure here that the finger holes are matched exactly and again that an uniform step all round is created.

The overlap at the narrow side of part [C4] already indicates the position of the future mouth piece. The rectangular sound hole is slightly shorter here than on the three smaller parts of the inner ceiling whereby one corner is created by one layer of cardboard only. This air break lip, known as the labium, agitates the air current and thus creates the sound.

Step 7: First of all place the inner ceiling on the open enclosure, formed by the base and side wall, without glue. The edge of the side wall here again fits into the surrounding edge exactly and the overlap of the inner ceiling thus disappears. **Important: the sound hole in the ceiling must point to the side of the enclosure closest to the two holes on the base.** Glue the inner ceiling firmly in this position.

The ocarina enclosure is almost finished now. Only the wind pipe is still missing to allow it to produce sound.

Step 8: Fold back the 8 adhesive side tabs of the outer base [D1], only the small extension with hole, attached to one tab and which will subsequently become a cord holder, is folded to the front. First of all, lay the outer base without glue on the base of the ocarina enclosure. The finger holes of the outer base are a little larger than those of the housing, thus greatly facilitating accurate coverage by the fingertips later on. The holes of the outer and inner bases must be positioned exactly concentrically. Glue the outer base firmly in this position.

Step 9: Then glue the 8 adhesive taps of the outer base to the enclosure sides thus half-covering the latter. The small extension for the cord is not glued and projects out from the enclosure at right angles. A rubber band may

be placed around the tabs during drying.

Step 10: Fold back the 7 adhesive side tabs of the outer base [D2] and the small extension for the cord to the front. Place the outer ceiling on the inner ceiling of the enclosure. Here, also, the holes in the ceiling are slightly larger and must be centred exactly over the holes of the inner ceiling. The narrow rectangular cut-out on the mouth piece belongs to the wind pipe. Glue the ceiling firmly in this position but please note that the air break lip directly adjacent to the wind pipe is uncovered and does not require any glue on its base. No glue should penetrate the wind pipe. Then glue the 7 adhesive side tabs to the enclosure side wall. Their ends join edge to edge with the adhesive tabs of the outer base. The extension for the cord is not glued.

The base and ceiling of the ocarina now consist of 5 glued cardboard layers. Once completely dried this practically represents the rigidity of plywood.

Step 11: Fold forward the groove in the mouth piece support [D3] and glue the part folded into a bracket under the mouth piece. It thus also replaces the missing adhesive side tab of the outer ceiling.

Step 12: Glue the two reinforcement pieces for the cord holder, [D4] and [D5] first on top of one another and then between the two cord holder extensions.

The cord holder now consists of four cardboard layers and thus is extremely sturdy. The ocarina may thus be worn on a cord around one's neck.

Step 13: Glue two each of the wind pipe side walls [E1], [E2], [E3] and [E4] on top of one another on the narrow strip of cardboard to the right and left of the cut-out for the wind pipe of the outer ceiling. The wind pipe side walls are thus 3 cardboard layers thick, the equivalent of a good 1.2 mm.

If you wipe off the glue escaping from the inside of the wind pipe, you can apply it to the side wall edges to increase their resistance to humidity from one's breathe.

Step 14: Glue the two wind pipe covers [E5] and [E6] with unprinted sides together. The wind pipe cover is then glued to the wind pipe walls so that its rectangular cut-out points to the ocarina finger holes and its coloured printed side faces upwards.

Your ocarina is now ready for use.
Congratulations!

How to play the Soprano Ocarina:

Tonal range: The AstroMedia Soprano Ocarina features 8 holes, 6 on top and 2 underneath with a range of 9 tones. The entire C major scale may be played, plus one tone more, the high D.

Holding: Hold the ocarina with both hands so that the side with the 6 holes faces up and the mouth piece points towards you. Place your ring finger, middle finger and index finger of your right hand on holes no. 1, 2 and 3 and the ring finger, middle finger and index finger of your left hand on holes no. 4, 5 and 6 (fig. 1). The left thumb then automatically rests on hole 7, the right one on hole 8 (fig. 2, as seen from below).

Blowing: Close all holes and gently blow into the mouth piece. Channel the air current at the start and finish by moving your tongue as if to say "tyy". Lower tones are blown more softly, higher ones with greater force. In general it applies as with many wind instruments that a tone becomes higher or lower depending on how strongly or gently one blows into the mouth piece. In this way, so to speak, the tones of the ocarina may be retuned.

Playing scales: cover all holes as described above. This tone is the lowest, a c. Now open one hole after the other in the numbered sequence and the C major scale is played. If you open the last hole, the right thumb, you achieve a high D. (Fig. 3 and 4)

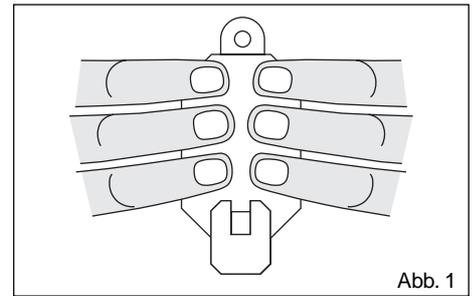


Abb. 1

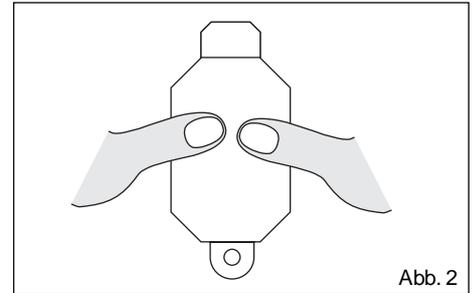


Abb. 2

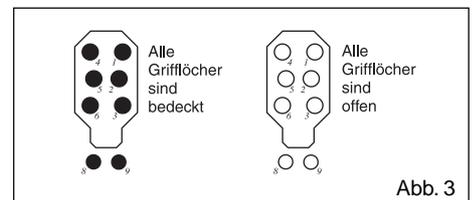


Abb. 3

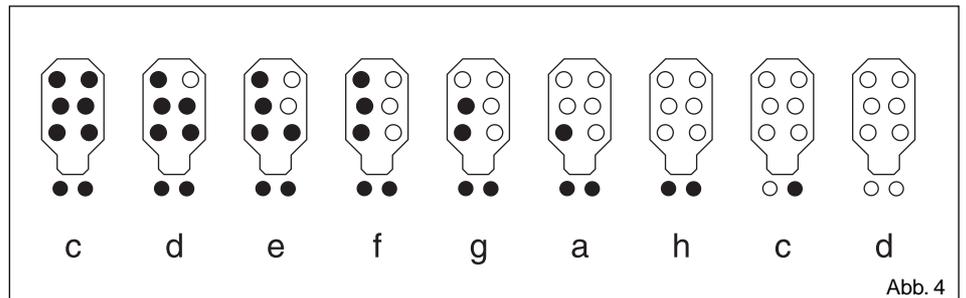


Abb. 4

Playing semitones: semitones are required in some songs, e.g. F sharp between the g and f, or b, between a and h. You can lower the h to a b or the g to a F sharp by covering a further hole (fig. 5). Other finger combinations are also possible to achieve the same effect. Experienced musicians may in this way work out fingering for all semitones.

You may however also increase an a to a b or a f to an F sharp by leaving the last hole half open (fig. 6). And, of course, you always have the option of changing the tone by altering the force of the air current. Try it out yourself!

Years of enjoyment with your ocarina: due to its multi-layer design, the cardboard Soprano Ocarina is exceptionally sturdy, not much can therefore go wrong. Its only natural enemy is an excess of humidity. As this is also contained in one's breathe and may condense on cooler surfaces, the cardboard of your ocarina is treated with a moisture-resistant surface finish. You should nevertheless always allow it a break to dry. By trial and error you will soon find out how long you can play on it without an interval.

Have fun with your first tunes!

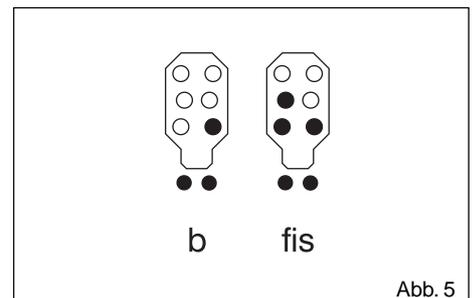


Abb. 5

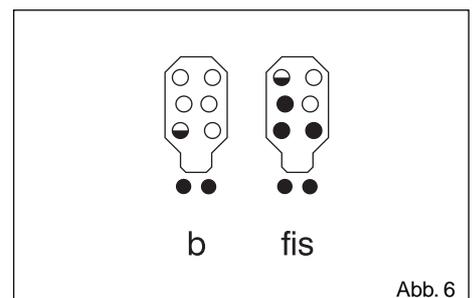


Abb. 6