

How to make a waldteufel

(Also known as La Cigale or Toulouhou)

Tools

- Carpentry saw
- Scissors or a craft knife (box cutter)
- Sharp knife or file
- Needle for threading the thread through the membrane
- Sandpaper (medium grain)
- Ruler

Materials

- A 30-40mm length of hollow bamboo with a 30mm outer diameter (or a small tin with the lid and base removed)
- A round, 100mm-long dowel rod (or a bamboo chopstick) approximately 10mm thick
- Thick paper approximately 30 - 40g/sqm
- A piece of card (or balsa wood) to act as a stopper for the knot under the paper membrane
- A 300mm length of fine, braided cord, 1 - 2mm thick
- White wood glue
- Paper glue
- Water
- Rosin or saliva

If you're fancy:

- Nitrocellulose lacquer to strengthen the paper and make it a taut membrane

Directions:

1. Cut a 30-40mm length of bamboo and sand the ends.
2. Trace the end of the bamboo onto the paper and cut it out.
3. Mark the centre of the paper.
4. Brush one end of the bamboo tube with wood glue and press it onto the paper. Let it dry.
5. After drying, trim any paper overhang and moisten the paper with a few drops of water. When dried, the paper membrane should be taut. The paper will become more taut each time the wetting process is repeated. To increase the tension of the paper membrane even more, you can brush it with nitrocellulose lacquer (which is often used to varnish balsa wood models). This has the added benefit of making your waldteufel water resistant.
6. Cut a 100mm length of dowel (or chopstick) for the handle.
7. Cut a circular groove right around the handle approximately 15mm from one end. The depth of the groove should be the same as the thickness of the braided cord.
8. Cut out a 6 - 8mm disc of card (or balsa wood) and make a hole in its centre with a needle.
9. Cut a 300mm length of braided cord. Thread it through the card disc and knot it to hold it in place.
10. Use a needle to pierce a hole in the centre of the paper membrane. Thread the free end of the cord through the hole from the inside of the resonating chamber.
11. Glue the card disc to the paper membrane.
12. Tie a loop in the loose end of the cord. It should be just large enough to sit in the circular groove on the handle.
13. Apply saliva or rosin to the groove.
14. Finally, slip the cord loop into the groove on the handle. Spin the resonating chamber around to make your waldteufel chirp!