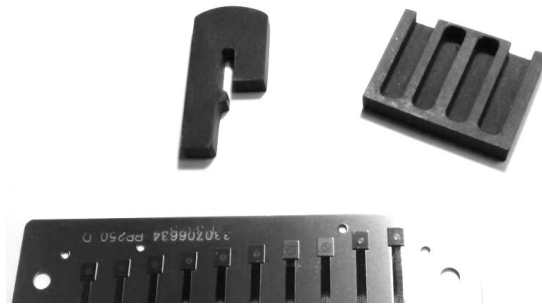


# The “F” tool by Andrew Zajac

2015/06/05 - harp.andrewzajac.ca



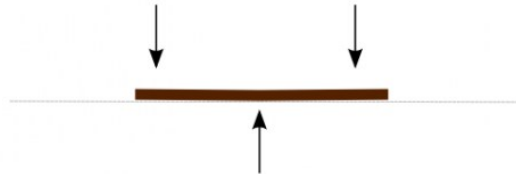
The “F” tool used in conjunction with the French Tuner can find and correct air leaks caused by a reed plate that is not perfectly flat. In this example, correcting the shape of the blow plate will be described.

A front-to-back curve (or bow) in the reed plate can be of various shapes. Each slot may have a different curve.



The presence of these curves are often related to the manufacturing process. It can be useful to examine every slot sequentially to try to find a pattern to best predict how to correct the curve.

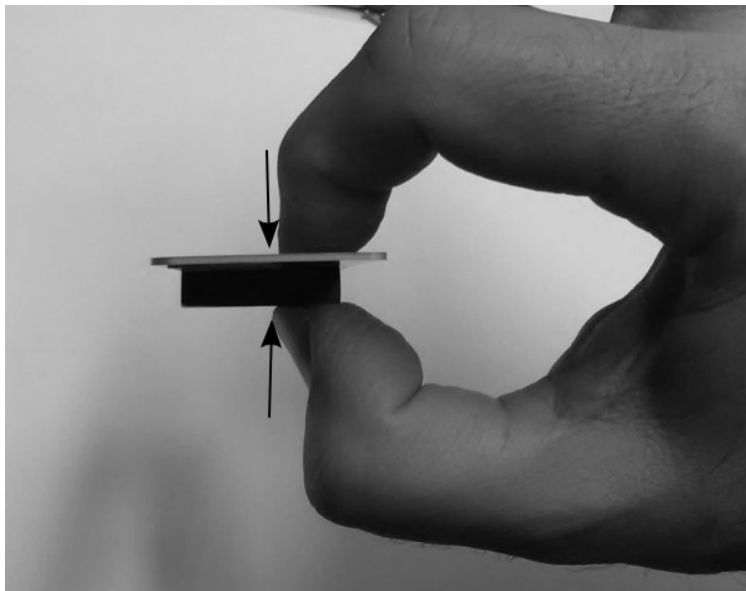
To straighten these curves, you can carefully apply pressure and counterpressure in strategic areas with the F Tool.



Use a bright light above your workspace. Place a white sheet of paper in front of you. Place the French Tuner over the first reed of the reed plate and hold it with your right hand.

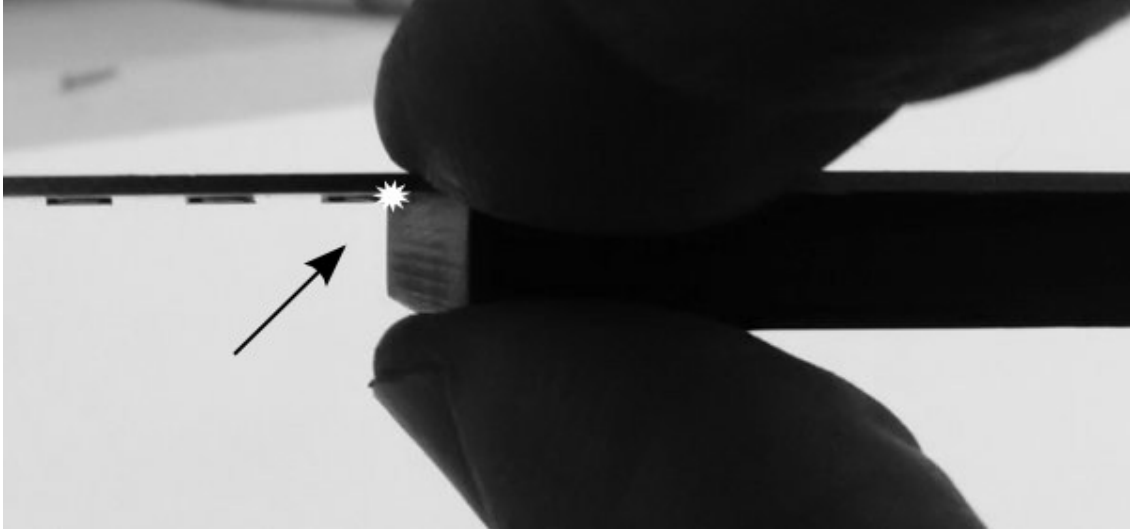
Instead of holding it to your lips, turn the reed plate so that the mouth holes are facing away from you. (Point the mouth holes at the piece of paper.)

Ensure you are only applying pressure at the base of the French Tuner. If you apply pressure across the full length of the French Tuner, you may temporarily flatten the reed plate with your finger and you will not see a leak.

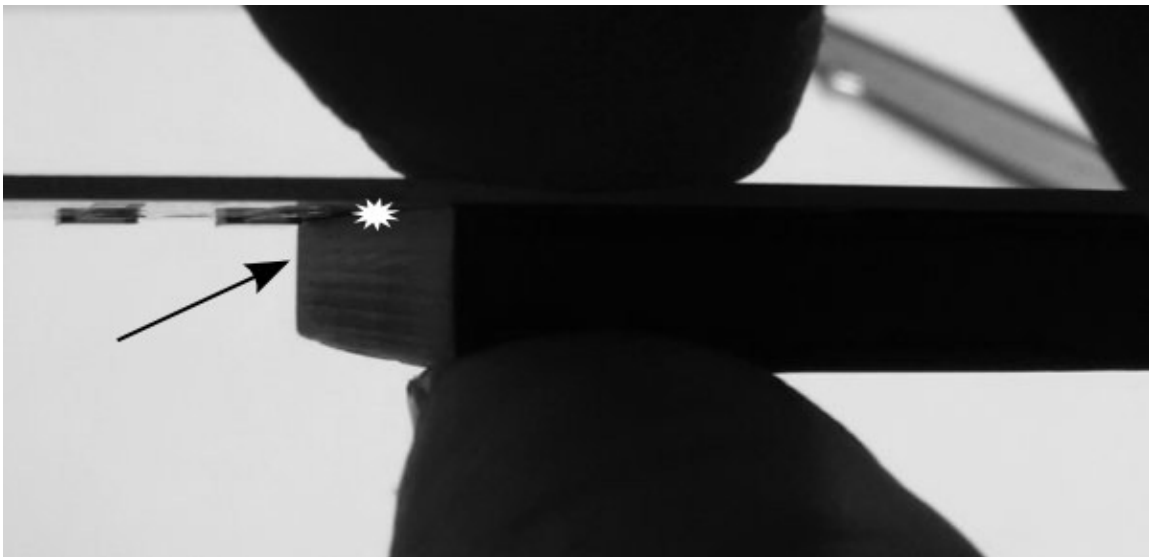


Ambient light can reflect off the reed plate and make seeing light shining through the cracks impossible. Shade the reed plate from the ambient light with your left hand as needed.

Angle with reed plate with your right hand to look for light shining between the reed plate and the tip of the French tuner. Light shining through the cracks means there is an air leak!

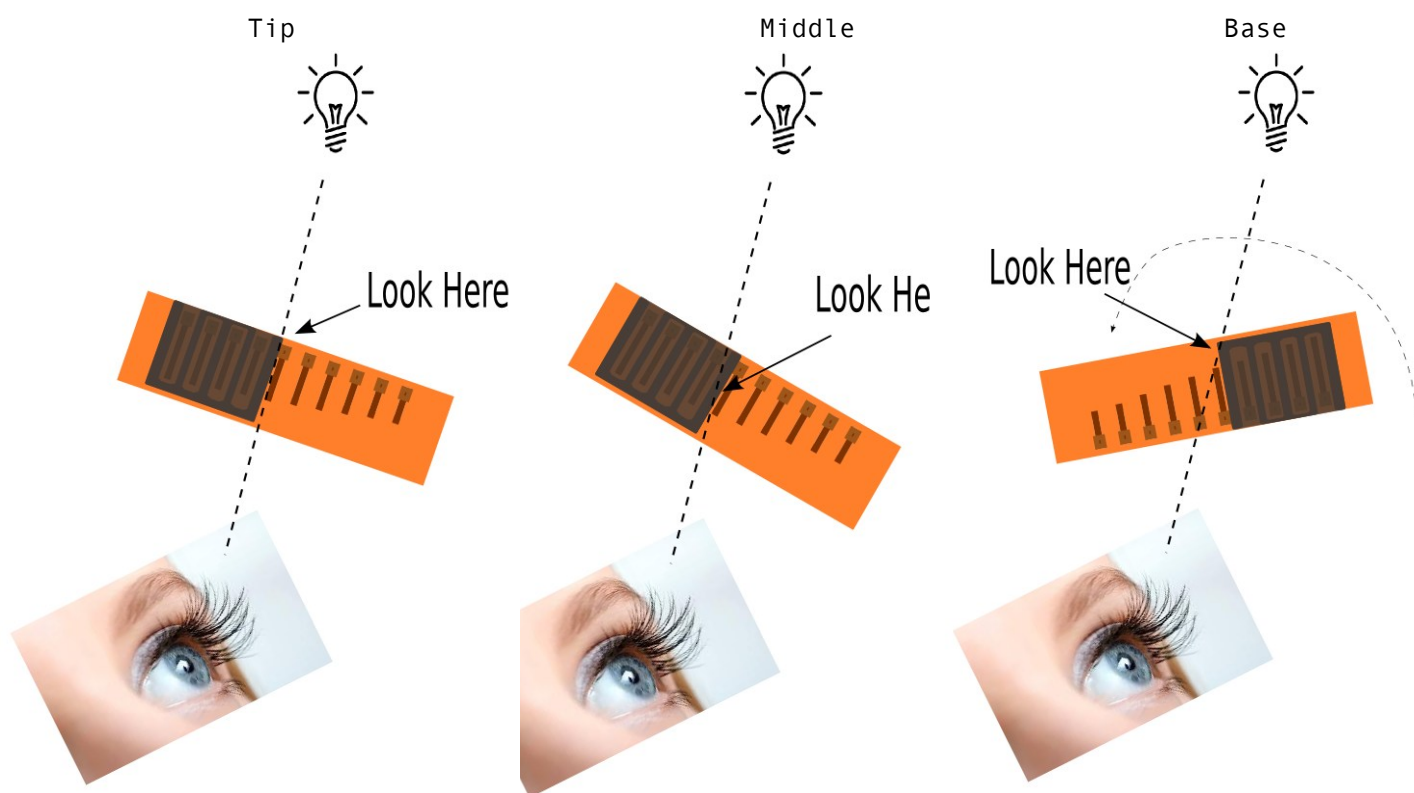


Next, angle the reed plate further to align the middle of the reed plate with the mouth hole. The reed is occupying the slot and you may only see very small cracks of light from this angle, but they will effectively reveal an unflat blow plate.



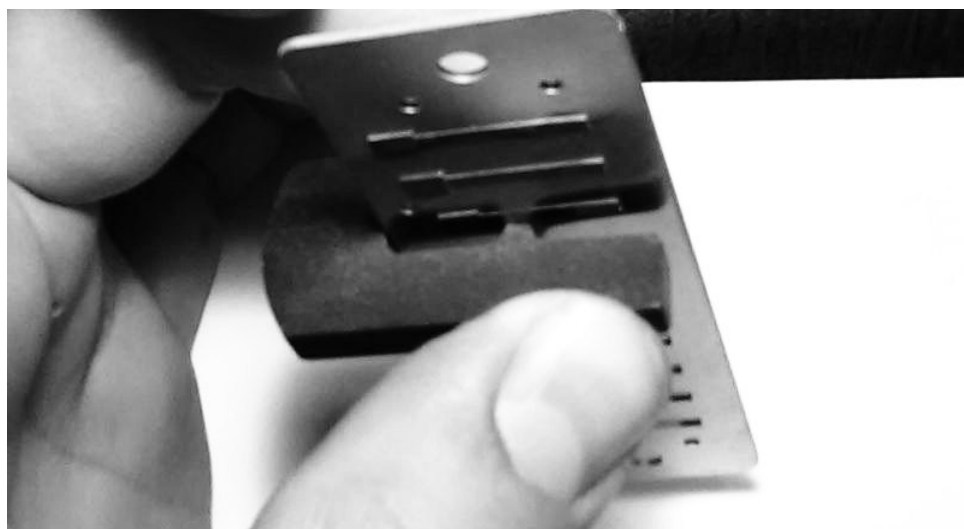
Switch hands and angle the reed plate 180 degrees to view the base of the slot in the same way you viewed the front of the slot..

### Illustration (Where do I look?)



At first, it will feel difficult to get a good view of the airleaks. Pay attention to how you hold the French Tuner. To ensure you are accurately measuring flatness, find a leak, reposition the French Tuner and look for the same leak again. It should still be there!

If you can't find it again, you may not have been properly positioned. You need to ensure that the the light you are seeing is from a curved reed plate and not improper measuring. Remember the carpenter's mantra: *"Measure twice, cut once."*



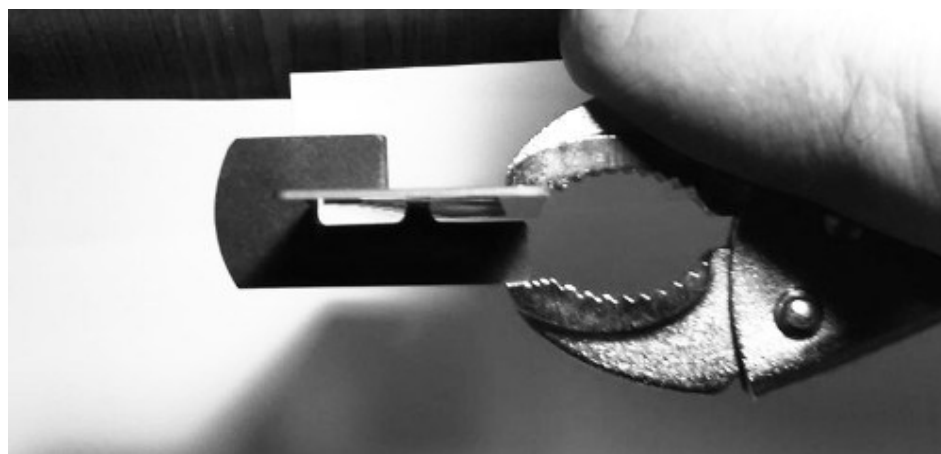
Once you have a good idea of the shape of the curve in the reed plate, you can use the F tool to straighten it.

Position the bump in the F-tool over the spot where you want to apply pressure. Be careful to avoid the reeds as you position the tool. The tool should be able to sit between two reeds without touching them.

It's okay if part of the F tool touches the rivet pads of the reeds. In that case, ensure

that the load is balanced equally between both reeds' pads. If you are only touching one reed pad, the tool's position and alignment should be adjusted.

Squeeze the free end of the F tool against the free end of the reed plate using very light pulses. This applies pressure and counterpressure. You can use pliers or any other tool you feel comfortable with. It's better to

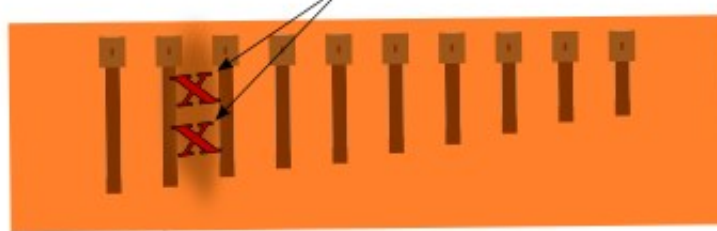


“bounce” 3-5 times rather than apply a great amount of force all at once. Check again with the French Tuner to assess the air leak. Apply pressure with the F tool according to your progress. To exert less bending force, only apply 1 or 2 bounces instead of 3-5.

Keep checking with the French Tuner for leaks - if you overshoot the mark, you can expect an airleak to develop in the part of the reed plate to which you applied counterpressure. Correct “overshoots” in the same way - apply light pressure/counterpressure with the F tool.

If a curve is deep, you may have more success if you apply pressure in two or three different spots along the curve rather than right in the middle.

To correct this bow, apply F-Tool pressure in these areas.



Depending on the make and model of the reed plate, the bump in the F tool may not reach the middle of the reed plate. This is a safety feature. If the tool had a wider reach, it would exert too much leverage which would make it easy to accidentally damage a reed plate.

If you need to apply pressure in the very center of the reed plate, apply light pressure on either side of the very middle.

#### **Guidelines:**

It's a good idea to practice on scrap harps. Remember to always apply light pressure.

If you have trouble seeing air leaks, try adjusting the light in your work area.

It's very important to have a clear view of the leak you are fixing before you use the F tool.

There is a learning curve to straightening reed plates. Try not to overshoot the mark.

**Exercise:** Use the F tool to create a bow in a scrap reed plate and then practice correcting it.

Here are some common ways a reed plate can be curved front-to-back:

