

INSTALLING & TUNING WURLITZER REEDS

The reed is the only tone element of the Wurlitzer Electric Piano. It's tuning, position in the instrument, and how this position relates to the pick-ups are essential to the tonal quality of the piano.

The reed's retaining hole is slightly larger than the diameter of the reed screw. When putting a new reed in place for tuning, be sure that the reed is as far back as the reed will go. Additionally, before beginning to tune, insure that the reed screw is tight (not just snug). Tightening the screw after the reed has brought up to pitch will cause it to go sharp (and lead will need to be added to the tip and the reed retuned).

Tuning is accomplished by removing lead from the reed tip by filing or scraping a small amount off at a time. Continue to remove the excess lead until arriving at the proper pitch. While removing the excess lead, it is very important to maintain a pyramid shape on the tip.

When tuning a new reed, removing too much lead will cause the pitch to be sharp (too high). Moving the reed to the front will drop the pitch from 2 - 5 cents and permit fine tuning without having to add additional lead to the tip. Pitch tolerance should be kept to within 5 cents (- 2 to +3). The tuning process is often made easier with the use of a strobe-type tuner.

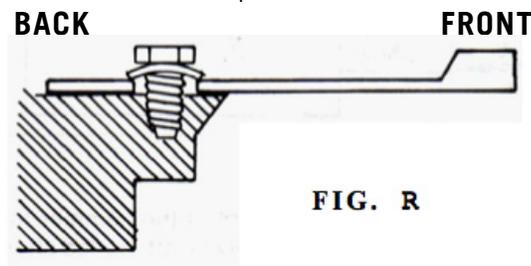
If moving the reed to the front does not sufficiently lower the pitch, remove the reed, add lead to the tip and begin the tuning process again.

TUNING THE ELECTRONIC PIANO REED

The reed is the tone element of the Wurlitzer Electronic Piano. Its tuning position in the instrument and how this position relates to the pick-ups are essential to the tonal quality of the piano.

INSTALLING NEW REEDS

The reed's retaining hole is slightly larger than the diameter of the reed screw. When putting a new reed in place for tuning, be sure that the reed is as far "BACK" as it will go. (SEE FIG. R). Additionally, before beginning to tune, insure that the reed screw is tight. NOTE: the reed screw washer is dish shaped. This washer should not be flattened. Tightening the screw after the reed has been brought up to pitch will cause it to go sharp (and lead will need to be added to the tip and the reed retuned).

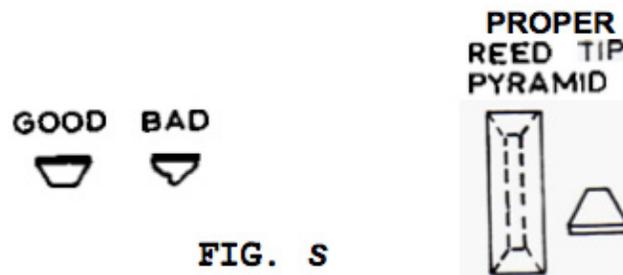


Tuning is accomplished by removing the lead from the reed tip (by filing or scraping a small amount at a time). Continue to remove the excess lead until arriving at the proper pitch. If the reed is flat, the pitch can be raised by removing lead from the tip. If the reed is sharp, the pitch can be lowered by adding lead to the tip or moving the reed as far forward as possible.

While removing the excess lead, it is very important to maintain the PYRAMID shape of the tip. (SEE FIG. S.) Remove lead from the tip by filing or scraping a small amount at a time. Try to remove the lead evenly so the weight remaining on the tip will be evenly distributed. (SEE FIG. S.) A lop-sided tip can affect the motion of the reed as it vibrates.

When tuning a new reed, removing too much lead will cause the pitch to be sharp (too high). Moving the reed to the "FRONT" will drop the pitch (from 2 to 5 cents) and permit fine tuning without having to add additional lead to the tip.

If moving the reed to the "FRONT" does not sufficiently lower the pitch, remove the reed, add lead to the tip by using a soldering iron and rosin core solder. A low heat is best, so a small drop of solder can be added without melting the lead to make it flat, and then fine tune the reed by filing it to remove the excess. When tuning new reeds, pitch tolerances should be kept to within 5 cents (-2 to +3). The tuning process is often made easier with the use of a strobe-type tuner.



REMOVING ACTION PARTS

It is not necessary to remove the action from the piano to replace a butt assembly or a damper lever. It is necessary to remove the action to replace a whip assembly.

A. BUTT ASSEMBLY: Disconnect the damper regulating screw from the related damper lever and one on each side of it by pulling the grommets out of the wire clips. Remove the butt flange screw with a slim screwdriver between the backs of the damper levers (or remove the related damper lever for better accessibility), rotate the back side of the butt between the main rail and the damper rail and pull out.

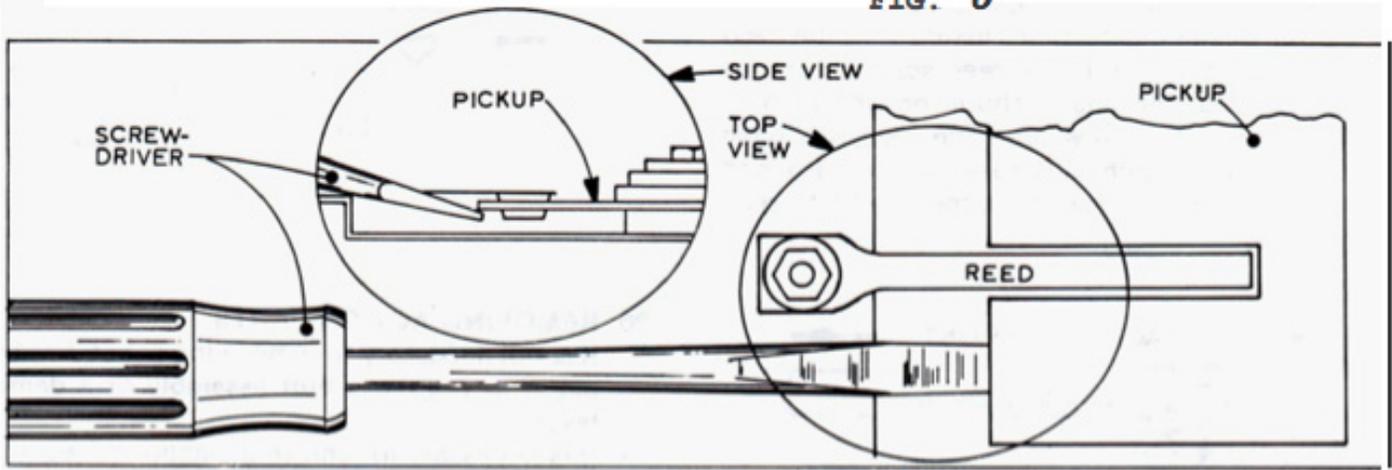
B. DAMPER ASSEMBLY: Disconnect the damper regulating screw from the damper lever by pulling the grommet out of the wire clip. Remove the damper flange screw and lift the damper lever up and out of the action.

C. ACTION REMOVAL

1. Unplug the 2 or 3 wire A.C. plug located at the bass end.
2. Remove the metal shield over the reed bars.
3. Remove the four screws that secure the extreme bass and treble ends of the entire metal amplifier chassis assembly to the mounting blocks.
4. Remove ground screws on chassis.
5. Unplug the input cable from the printed circuit board on 200 only. For 200A, use a 1/4" nut driver and two screws that hold the Pre Amp assembly board located between the reed bars.
6. Lift the chassis and pull it forward approximately one inch and remove.

When a reed at rest is positioned inside the pickup, a very strong undesirable harmonic will be generated. Reeds should be positioned as close to the center as possible-(SEE FtG. N). An automotive feeler gauge makes a good tool for checking the clearance on each side of the reed to be sure it is centered in the pickup. Unequal spacing makes a reed too close to one side of the pickup and will give an undesirable loud tone.

FIG. O



For notes that have a short ringtime, remove the reed (SEE FIG. P) to check a note with a short ring time. The base of the reed or the part under the reed screw should be inspected on both sides of the reed for any foreign material. The reed can be cleaned by holding a very fine grit emory paper on a flat surface and polishing both sides of the head until metal shows through. This is also an electrical ground. If you lose the ground, you will lose the volume. Any foreign material on the head of the reed will dampen the oscillation. If this does not cure the ring time, the reed should be replaced.

Voicing

Voicing can be accomplished, in part, by changing the relative position of the pickup to the reed (SEE FIG. O). Moving the pickup up or down adjacent to the reed will change tone characteristics of each note. Be careful not to bend the pickups up or down excessively or frequently since this will weaken it.

Changing the strike point of the hammer to get a better sound should only be attempted after the preceding steps have been undertaken. It is possible to improve the tone and sustain of a reed by being certain that the strike point is correct. First, loosen the reed bar screws. This will allow the reed bar to be moved backward and forward. From this you can determine which way the hammer needs to be moved. To move the hammer, take a soldering iron and heat at the base of the hammer stem where it meets the butt assembly. (SEE FIG. Q). Thermal glue is used here. After glue is soft, the hammer stem can be moved forward or backward to the appropriate location.

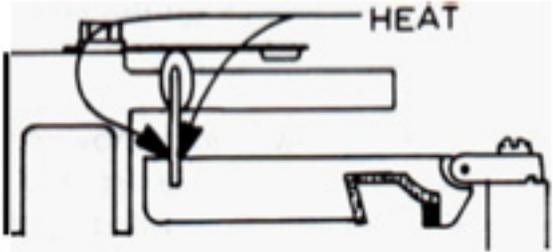


FIG. Q

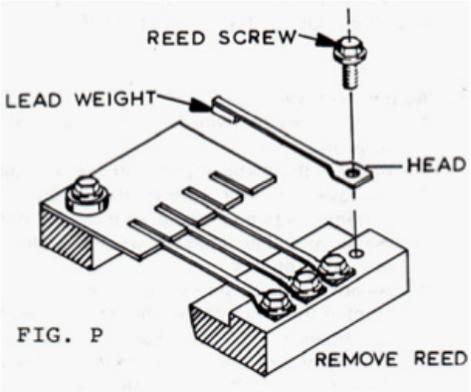


FIG. P