

Emilio Lyons

Repairing Your Saxophone



Fixing Pads & Using A Leak Light

Dear Emilio

I have just discovered your column in "Saxophone Journal" and think it is great. How long have you been in the Journal and can I get the old issues? Now, my real question is, how can I find leaks on my saxophone and fix them or do I need a repairman to do this?

Dee Macaуда
Shelton, CT

Dear Dee,

Thank you for your kind words. I have been in the *Saxophone Journal* since 1988 and for the availability of back issues you would have to contact the editor of the magazine, Mr. David Gibson.

Certainly you can locate the leaks on the saxophone yourself and with a little practice and a lot of patience you can fix them yourself. The first thing you should do is inspect all the pads. The pads are made of leather and they should be soft and supple to the touch. Check the low Bb pad. Although this pad seldom gets water damage due to its location, notice the texture, the color and the feel of the pads. This is the way all of the pads should look and feel. You will have to make allowances for the smaller pads as they are not as flexible as the large Bb pad is.

Water damage and age are the two main enemies of pads. Age makes the leather brittle, which prevents the pad from creating a tight seal with the tone hole. Water damage can make the pads swell but will eventually cause the leather to discolor, dry, and crack. If the leather on the pad is cracked or ripped it can create a vibrating sound. The keys especially susceptible to these problems are the left hand palm keys,

the G# key, the Eb key and the low C# key. Notice that all of these pads remain closed when the horn is not in use.

Any of your pads that need replacing, should be replaced. You might, for the time being, just write down the offending pads on a piece of paper, and monitor them as you continue to play.

ADVICE ON LEAK LIGHTS

The next step is to check all of the pads for leaks. The easiest way to do this is with a leak light. A leak light is nothing more than a small light bulb attached to very long piece of wire and hooked up to a matching transformer. They plug into a standard household wall outlet. The transformer is there to reduce the power. Why reduce the power? Because it is a safety issue. By sticking a light into your metal horn, which runs from a considerably reduced electrical power, you avoid any chance of electrical shock and personal injury. We don't recommend making a leak light from scratch. There is too much risk involved with possible electrical shock. Believe it or not, I once knew a person who used a standard 110 volt Xmas tree light on the end of a standard extension cord, for a leak light. If a bulb, in that situation, should break you stand a good chance of being seriously injured, or worse.

The most common leak light uses an incandescent bulb, but the light I like uses a small fluorescent tube. The fluorescent tube is cool to the touch and covers a broader area with light.

I recommend purchasing a commercially made leak light for safety reasons, and they just work better. You

can actually purchase three different types of leak lights from a company like Ferree's Tools. Ferree's Tools sells excellent commercially built leak lights. All three are available in a 200 volt model for use in Europe.

LEAK LIGHT MODEL Q80

Their "Leak Light Model Q80" (and there is a 220 volt model available for European use) is a fluorescent light with permanent cord. The Q80 will work on all saxophones.

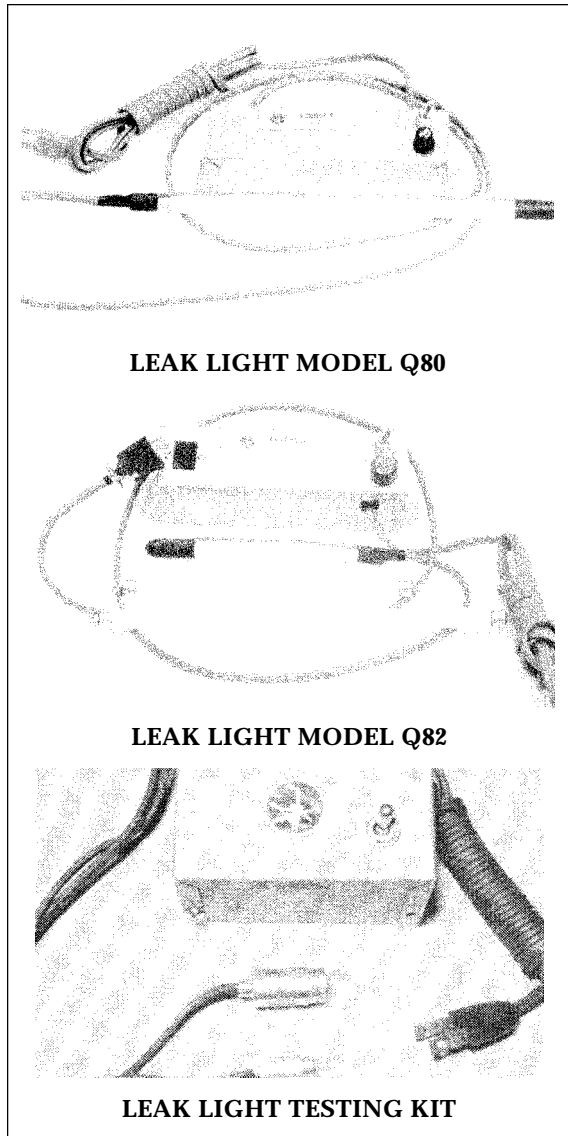
LEAK LIGHT MODEL Q82

This fluorescent leak light comes with a control box only. You need to purchase a separate bulb tube/cord combined in either 6, 9, or 12 inch bulb/tube cord combined. This fluorescent leak light comes with a control box only. You need to purchase a separate bulb tube/cord combination. The bulbs come in 6, 9, and 12 inch lengths and are available in most hardware stores, as well as Ferree's. This leak light also works on all saxophones.

LEAK LIGHT TESTING KIT

The Ferree's Tools "Leak Light Testing Kit" is a different configuration. This leak light feeds two permanently attached chords and bulbs, one standard small round bulb, and one standard slightly larger round bulb. Having this leak light eliminates the need to purchase individual fluorescent bulbs with the other models. But there are advantages to this leak light in that it works on all the instruments no matter what size.

When you order a leak light from Ferree's Tools please specify what instrument(s) you plan to use the leak



LEAK LIGHT MODEL Q80

LEAK LIGHT MODEL Q82

LEAK LIGHT TESTING KIT

attached to the saxophone insert the leak light in the neck end of the saxophone. Position the light bulb under the first tone hole on the horn. With the light turned on look at the pad that covers the first tone hole. You want to look right where the pad makes contact with the lip of the tone hole. If you can see any light coming between the pad and tone hole that is where the leak is occurring. Use a light touch on the keys. If you press down too hard you can cover up the leak. Ideally, with the key spring disabled, the pad should simply lay on the tone hole without any pressure and not have any leaks. Be sure to check the full circumference of the tone hole. This means you will have to move the horn around a lot to allow you to see the full 360 degrees of contact. A simple tool that will aid in this matter is the mirror that the dentist uses to examine the teeth in your mouth. Not having to move the instrument around to see all of the pad contact will save time and provide more accuracy in your exam. Open and close the pad several

times to make sure you locate all of the leaks. Small leaks are very difficult to find. Sometimes this repeated motion will enable you to spot a leak that you wouldn't be able to see. Sometime if you turn the light on and off rapidly or slowly you will spot a leak from the twinkle or the blinking that will occur.

Another gimmick that people use is cover the top of the examination bench with a large mirror to aid them in the visual inspection. Also, in conjunction with this mirror, turn off the room lights before moving on to the next tone hole. Again this is to enhance your ability to spot small or difficult leaks. Another way to spot hard leaks is to use the blinking light but do not look directly at the point of exam. This forces you to use your peripheral vision which will spot movement more easily than direct vision and especially

true in a darkened room. As you proceed through the inspection write down your findings. Make a schematic diagram of the saxophone and indicate by arrows exactly where the leaks are.

EXAMINING A SOPRANO SAXOPHONE

If you are examining a soprano saxophone you can only access the horn from the bell. With the baritone and bass saxophone you will insert the leak light through one of the tone holes.

Next time we will fix the leaks if possible or simply replace the pad if necessary as well as specific trouble spots for leaks. §

Emilio's column is prepared by Paul Wagner, Professor of Saxophone at Berklee College of Music in Boston, Massachusetts.

Photos were excerpted from Ferree's Tools Inc 1996 "50th Anniversary Catalog."

light on, and ask questions about how they work and which model they recommend for your needs.

Contact Ferree's Tools Inc., 1477 E. Michigan Ave.; Battle Creek, MI 49017. I recommend this company because they will sell to individuals, not just to members of the trade. They have the best mail order catalog out there for instrument repair. Cliff Ferree, founder (1946) and President has done a magnificent job of building his company into a premiere instrument repair source for tools, worldwide. They are celebrating their 50th anniversary this year. Call them at (616) 965-0511, or fax them at (616) 965-7719, for a catalog, or a leak light price quote.

USING A LEAK LIGHT TO EXAMINE A SAXOPHONE

Assuming that you have a leak light now let's start. Without the neck being