

## *Saxophone Workmanship*

### **Design**

Although all saxophones have less than perfect intonation, a few have unusual problems, caused almost always by bad design—the tone holes aren't placed correctly. A musician attempting to play such an out-of-tune instrument will experience many frustrations.

### **Materials**

Keys can be made of various metals. The most durable keys are power forged, as the forging process (hammering into shape while the metal is very hot) makes the keys strong but adjustable when necessary. Keys that aren't power-forged or are made of cheaper metals are often brittle, so they can't be adjusted and often break with use. Other types of keys don't tolerate heat well, sometimes disintegrating when a technician attempts to replace the pads. A few off-brand instruments now have plastic keys, as new technology allows the plating of plastics. The base material isn't apparent until the key is broken or heated. High quality pads are made of a felt backing covered by soft kid leather. The leather must be soft and pliable to seal the tone hole without excessive pressure on the key. It must also be durable so it doesn't split or tear easily. Cheaper pads are often not made of leather and consequently don't seal as well and/or don't hold up long.

### **Workmanship**

The workmanship of an instrument is most apparent in the fit of the keys. A key should come down on the tone hole so that the seat (the circular indentation made by the tone hole on the surface of the pad) is centered on the pad. The keys of off-brand instruments often are misaligned to the tone holes, making it more difficult to get an airtight seal without excessive pressure. Another sign of poor workmanship is excessive play in the keys. A key that wiggles or slides on its mount will be inconsistent in the placement of the pad onto the tone hole. When a pad comes down outside its normal seat, it will leak.

### **Replacement Parts**

Replacement keys for name brand saxophones are available from the factories and at least one major supply house. Parts for off-brand saxes are usually not available, and so must be made or adapted from other keys.