



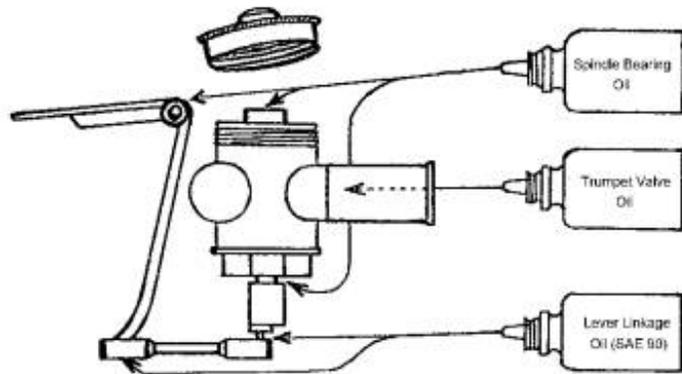
## ROTARY VALVE MAINTENANCE

Rotary valves are easy to maintain, and with proper care, they will give trouble free service for many years. We have found the following procedure effective in keeping the valves in good condition, providing a tight air-seal and a smooth, quick, and quiet action.

1. Unscrew the valve caps. Place a drop of medium weight machine oil (Paxman or Yamaha Spindle Bearing Oil, Hetman Bearing and Linkage Oil, or equivalent) on the end of each rotor bearing. *Without* depressing the levers, pull each valve slide out to the end. The resulting suction will pull oil into the thrust bearing at the end of the rotor. Replace the valve caps.

2. Turn the horn over. Place a drop of spindle bearing oil (or equivalent) at the place where the rotor shaft emerges from the casing of each rotor. Draw the valve slides as in step one.

3. Remove the 1st F and Bb slides. Holding the slides vertically, pour an eyedropper of light trumpet valve oil (Al Cass or equivalent) into each slide. Still keeping the slides vertical, insert them *all the way* into the horn (this keeps the oil off the slide tubes.) Pour the oil onto the rotors, rock the horn back and forth while working the valves to distribute the oil, and drain off the excess. The purpose of the light oil inside the horn is to protect the valves from corrosion.



4. Paxman lever linkage oil or Hetman Bearing and Linkage oil should be used to lubricate the key hinge rods and the springs. If the horn has mechanical linkages they should be oiled with Paxman lever linkage oil or Hetman Bearing and Linkage Oil. Hetman ball joint oil or SAE 90 gear oil should be used to lubricate ball-and-socket linkages.

These steps should be followed twice weekly. It is also a good practice to blow an eyedropper of valve oil through the mouthpipe when the valves are oiled. The oil film both protects the inside of the instrument from the corrosive effects of the breath and keeps foreign material from adhering to the bore.

Once a year your horn should be professionally cleaned to remove built up lime and copper carbonate. If any wear is evident the valve bearings can also be adjusted at this time. Bumpers should be replaced every three to five years, or when they become hard and noisy. A properly maintained set of valves should last for twelve to fifteen years of steady use before rebuilding becomes necessary.

If these procedures are followed faithfully you can expect many years of trouble free service from your horn.