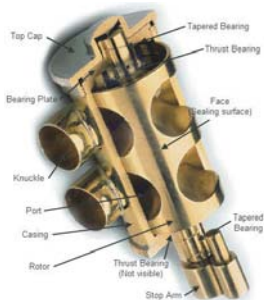


Cornucopia

News and articles for anyone interested in the horn

November 2009



Rotary Valve

Cornucopia

is published four or five times a season. It is free, although contributions are welcome.

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Why do my valves click?

by Bob Osmun

We've all heard it - the annoying clatter of noisy valves. The sound can range from merely annoying to downright disastrous.

Possible sources for the noise are loose stop plate or stop arm retaining screws, misaligned valves that allow the stop arm to hit the stop plate, bent linkages that hit the stop arm, worn mechanical linkages, or unsoldered indexing pins. The most common source is end play.

End play is excess clearance in a valve assembly that allows the rotor to move vertically in its casing. When you press a valve lever, it puts pressure on the rotor shaft, which turns. When it has turned as far as it can, it still responds to the pressure, so it moves up in the casing. When the rotor moves upward as far as it can, it smacks into the thrust bearing on the bearing plate, producing a click.

At one time, especially in the US, makers were casual about end play. Many horns arrived with significant vertical movement in the valves, and no one thought much about it. As better-made European instruments became more widely available, people realized that noisy valves were not something they had to put up with and American makers responded with much better-fitting valves.

Another source of end play is wear. Especially when valves are not properly cared for, mechanical wear can cause significant vertical play in only a few years. The longer this goes uncorrected, the more the problem is exacerbated. One or two thousandths of an inch can cause problems; older instruments with ten or twelve thousandths are not uncommon.

End play is adjusted by hand in the assembly process, an adjustment that requires skill. Some manufacturers build instruments with too little end play. The bearing plate, if seated all the way down into the casing, causes the valve to bind. The assembler puts the valves together and taps the end of the rotor shaft to push the bearing plate out enough so the valve turns. With skill, the valves remain tight, but in the wrong hands, it can be a disaster.

The purpose of the top cap is to hold the bearing plate down. If the threads are too long, the cap rests on the outside of the casing rather than the plate. This creates a gap that allows the bearing plate to move up when the rotor reaches the end of its rotation and pushes up against the bearing plate.

To solve end play, first try oil. Use a bearing oil specifically made for musical instruments. If oiling doesn't help, stronger measures are required. End play is corrected by machining off the underside of the bearing plate where it sits on the casing. This moves the thrust bearing lower in the casing and takes up the excess play. If the cap doesn't hold down the plate, the threads are shortened until the cap sits on the bearing plate instead of the outside of the casing.

Once properly adjusted, valves that are well maintained should retain their adjustment for years. So, if your valves have any problems, get them fixed and then keep them oiled. ❖

Bob is proprietor of Osmun Music (osmun.com). He apprenticed with Bill Tottle while still a student at NEC and worked under Jerry Lechniuk at Schilke in Chicago.

Music in Australia

Australia has professional and amateur ensembles, youth orchestras and conservatories, and musicians both home- and foreign-trained. The professional orchestras were instituted mostly through the Australian Broadcasting Commission (ABC), which was formed in 1932 with a charter to establish broadcast orchestras in each state.

The Melbourne Symphony, the oldest professional orchestra in Australia, celebrated its centenary in 2007. The Sydney Symphony was established in 1932, the year the Sydney Harbor Bridge was opened and ABC formed; the Sydney Opera House is now the orchestra's home. The Adelaide Symphony began as a radio ensemble in 1936. The Tasmanian Symphony Orchestra was founded in 1948 in a partnership between the state government, city councils, and ABC; it aims to be the Australian repertoire orchestra. The Western Australia Symphony started in 1928 as the Perth Symphony by silent movie musicians who were suddenly without work. In 1932 ABC

formed a studio orchestra, which eventually became the West Australian Symphony. The Queensland Orchestra is based in Brisbane.

Community orchestras, concert bands, and brass bands are active in many communities throughout Australia. Woollahra Philharmonic Orchestra, in Sydney's eastern suburbs, was founded by hornist and conductor Mathias Rogala-Koczorowski, who has studied at the Sydney Conservatorium, the ABC National Training Orchestra, and the Musikhochschule Rheinland in Cologne, Germany. His varied music education is typical, although some horn players in Australia are from other countries; for example, Lee Bracegirdle in the Sydney Symphony is from Philadelphia.

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