Instrument: Clarinet

Magazine or Journal Title: The Galpin Society Journal

Citation:

Benade, Arthur & Keefe, Douglas, *The Physics of a New Clarinet Design,* The Galpin Society Journal, (Mar 1996), Vol. 49, pp 113-142

Article Title: The Physics of a New Clarinet Design

Author: Arthur Benade and Douglas Kefe

Summary (Outline form):

* Tuning a clarinet
  + - * Play E5
      * Make sure embouchure is set
      * Play E5 down to B4 relaxing embouchure
      * Center each pitch
      * Don’t pitch too much
      * Play scale and try tightening embouchure
      * Notice reed resonance
      * Reed-mouthpiece ratio is not constant throughout range
      * Lots of physics behind all of these embouchure and pitch changes
* Design Considerations for the NX Clarinet
  + - * Register hole system
        + Return to old small tone holes-for different tone
        + May sharpen tone and change necessary air flow
      * Non-linear Effects
        + Effects in air column and tone holes
      * Conical Terminations and flaring bells
        + Acoustics of air and bell
* Experiments on the NX Clarinet
  + - * Experiments through playing conditions
      * Test different registers
      * Find best acoustical range