

THE CRITICAL ADJUSTMENTS OF THE OBOE

by Lars Kirmser

Before you start to perform the final adjustments on the Oboe or English horn, your actual approach will depend largely upon the specific types and levels of repair that were performed just prior to the adjustment. On a complete overhaul, for example, where all the pads, corks, silencers, etc. have been replaced, the amount of time and actual number of radical adjustments will generally exceed those required of most "playing-condition-only" situations. When overhauling an instrument, you will have performed many of the pertinent adjustments during the course of the entire overhaul process, as opposed to merely checking them (in a similar order) on a completely assembled "playing condition only" instrument. Whereas, the actual elements and requirements will not vary much from one environment to the next, the amount of time required, and the actual number of adjustments performed may differ considerably.

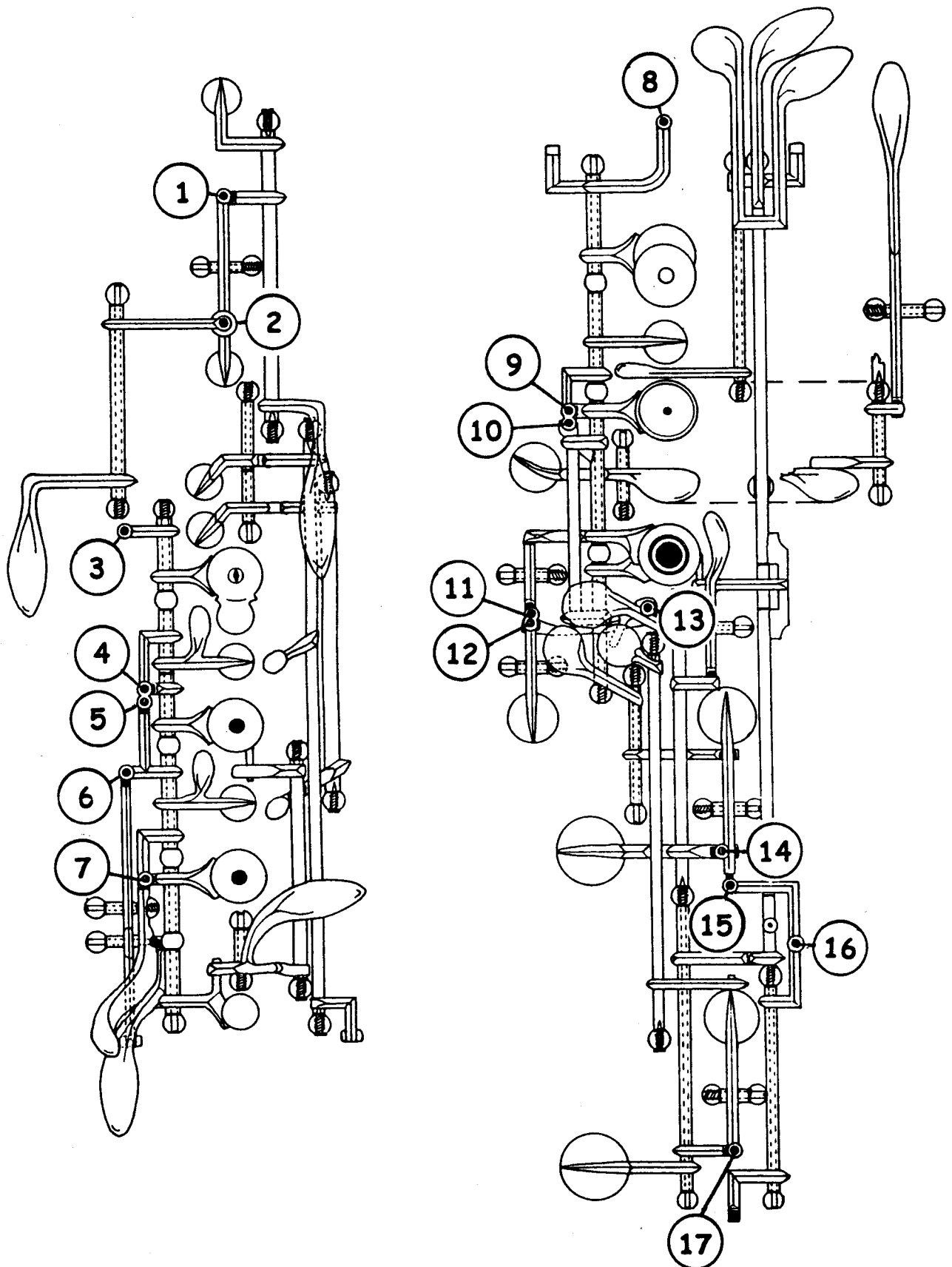
When approaching a "playing condition only" repair, it is important that you make sure that all pads are carefully checked for their relative levelness and resealed when appropriate. You must also check to see that all silencers and corks are in place and of the correct thickness, and that all springs and parts of the key mechanism are properly regulated. And, as you may recall, all pads have been precision centered and leveled, and all adjustment screws have been backed-off one complete turn. To help facilitate the organization of this task, I would suggest that you categorically follow all the appropriate "physical" and "visual" checks and adjustments as outlined on the oboe/English horn inspection sheet. To finalize the inspection, the instrument should be completely assembled (where all three sections of the instrument are integrated as one) since the various bridge and lever relationships can only be verified in a fully assembled configuration. O.K., you may now proceed as follows:

OBOE

(UPPER SECTION)

1. **ADJUSTMENT SCREW #1**
Regulates the closure of the lower octave key from the upper octave key
 - While depressing the Lower Octave Thumb Lever (2), regulate Screw #1 such that you achieve full closure of the Lower Octave Key (3) when closing the Upper Octave Key (1).
2. **ADJUSTMENT SCREW #2**
Regulates the key travel of the Lower Octave Thumb Lever (2)
 - Adjust this screw so that you allow the Lower Octave Key to open 2mm.
3. **ADJUSTMENT SCREW #3**
Regulates the key opening of the B Key (9)
4. **ADJUSTMENT SCREW #5**
Regulates the Equal Closure of the Bb (12) and C Keys (10)
 - Assemble both main body sections for this adjustment
 - Press the F# key (20) closed with your left hand so that both Bb and C keys open
 - Place your mylar feeler gauge under the Bb pad and release the F# key with your left hand. This action will cause both the Bb and C keys to close via the F# - Bb & C Bridge (19). Immediately perform an identical check on the C Key, by opening and closing the F# key.
 - If the resistance on your feeler gauge is equal on both the Bb key and the C key, then this adjustment is already correct. If you experience unequal resistance on your feeler gauge, then adjustment screw #5 must be adjusted. For example, if the Bb key is lighter than the C key, you must turn the adjustment screw *counter clockwise* until you experience EQUAL resistance from both keys. Be sure to turn the screw only 1/8 turn at a time and recheck with your feeler gauge by manipulating the F# key open and closed. If the C key exhibits a lighter resistance than the Bb key, then the adjustment screw #5 should be rotated *clockwise*, again only 1/8 turn at a time.
 - Both Bb and C Keys should now indicate identical resistance on your feeler gauge.
1. **ADJUSTMENT SCREW #4**
Regulates the A key - C key
 - Disassemble the two body sections and carefully place a cork wedge beneath the F# - Bb & C (Bridge) Lever. This will allow both the Bb and C Keys to remain open.
 - Verify that the A key is contacting its relative tone hole completely and evenly at all quadrants.
 - Verify that the C Key is contacting its relative tone hole completely and evenly at all quadrants.
 - Rotate Adjustment Screw #4 until you are able to achieve an identical feeler gauge resistance at the front of both the A Key and the C Key. Use extremely light pressure when closing the A key.
1. **ADJUSTMENT SCREW #7**
Regulates the G key - Bb key
 - Verify that the G key is contacting its relative tone hole completely and evenly at all quadrants.
 - Verify that the Bb key is contacting its relative tone hole completely and evenly at all quadrants.
 - Rotate Adjustment Screw #7 until you are able to achieve an identical feeler gauge resistance at the front of both the G Key and the Bb Key. Use extremely light pressure when closing the G key.
 - Verify that you get an identical resistance from the Bb and C keys when gently closing the G key.

ADJUSTMENT SCREW LOCATIONS FOR THE FULL CONSERVATORY OBOE



2. ADJUSTMENT SCREW #6**Regulates the F# Key (20) to Bb & C Bridge Lever Adjustment**

- This adjustment will be performed after both the upper and lower sections are complete.

OBOE**(LOWER SECTION)****1. ADJUSTMENT SCREW #9****Regulates the closure of the Fork F Key (21) from the E Key (22)**

- Make sure that the #12 Adjustment Screw on the F Resonance Key (26) is backed off.
- Verify that the E key is contacting its relative tone hole completely and evenly at all quadrants.
- Verify that the Fork F key is contacting its relative tone hole completely and evenly at all quadrants.
- Rotate Adjustment Screw #9 until you are able to achieve an identical feeler gauge resistance at the front of both the E Key and the Fork F Key. Use extremely light pressure when closing the E key.

2. ADJUSTMENT SCREW #10**Regulates the closure of the Fork F Key (21) from the D Key (25)**

- Verify that the D key is contacting its relative tone hole completely and evenly at all quadrants.
- Rotate Adjustment Screw #10 until you are able to achieve an identical feeler gauge resistance at the front of both the D Key and the Fork F Key. Use extremely light pressure when closing the D key.
- Verify that the feeler gauge resistance on the Fork F Key is identical when closing the D Key and the E Key individually.

3. ADJUSTMENT SCREW #12**Regulates the closure of the F Resonance Key (26) from the E Key (25)**

- While depressing the D Key, verify that the F Resonance key is contacting its relative tone hole completely and evenly at all quadrants.
- Verify that the F Resonance Key achieves full closure when you release the D Key.
- While depressing the D Key, rotate Adjustment Screw #12 until you are able to achieve an identical feeler gauge resistance at the front of both the E Key and the F Resonance Key. Use extremely light pressure when closing the E Key

4. ADJUSTMENT SCREW #13 (Opt.)**Regulates the closure of the E Key (22) from the Low C Key (28)**

- When playing the high C# and D, the Low C Key is depressed. This fingering causes the E Key to close. If the E Key fails to close fully, the high C# and D will tend to be unstable and out of tune.

- Verify that the Low C key is contacting its relative tone hole completely and evenly at all quadrants.
- While depressing the Low C Key, rotate Adjustment Screw #13 until you are able to achieve an identical feeler gauge resistance at the front of both the E Key and the Low C Key. It is possible that you will have to favor the Low C over the E Key if identical resistance is difficult to achieve. Use extremely light pressure when closing the Low C Key

5. ADJUSTMENT SCREW #14**Regulates the closure of the Low Eb Key (33) from the Low C Key (28)**

- When the Low Eb Side Lever (34) is held down at the same time the Low C Key is also depressed, Adjustment Screw #14 sets the regulation of the Low Eb Key from the Low C Key.
- Verify that the Low Eb key is contacting its relative tone hole completely and evenly at all quadrants.
- While depressing the Low Eb Side Lever (34) and Low C Key only, rotate Adjustment Screw #14 until you are able to achieve an identical feeler gauge resistance at the front of both the Low C Key and the Low Eb Key. Use extremely light pressure when closing both the Low Eb Side Lever and the Low C Key.

6. ADJUSTMENT SCREW #17**Insures that the Low C# Key (31) remains closed when shifting to the Low B and Bb**

- Verify that the Low C# Key is contacting its relative tone hole completely and evenly at all quadrants.
- While holding the Low C# Lever (30) closed, rotate adjustment screw #17 such that you achieve an equal resistance from the Low C Key and the Low C# Key. Check the Low C Key first, then depress the Low Eb and Bb Side levers and then check the Low C# Key.
- Over adjusting this #17 screw will inhibit the Low B Key (38) so be careful here.

7. ADJUSTMENT SCREW #16**Regulates the balance between the Low B Key and the Low Bb Key**

- With the bell in place and lined up with the Low Bb Bridge (39) depress the Low B Side Lever and verify the closure of the Low B Key.
- Verify that the Low Bb Key is contacting its relative tone hole completely and evenly at all quadrants.
- Depress the Low Bb Side Lever and rotate adjustment screw #16 until you achieve an identical resistance from you feeler gauge on both the Low B Key and the Low Bb Key.

ASSEMBLE THE 3 BODY SECTIONS**1. ADJUSTMENT SCREW #6****Regulates the F# Key (20) to Bb & C Bridge Lever Adjustment**

- This adjustment screw #6 allows a range of adjustment at

the bridge "clutch". Rotating screw #6 *clockwise* will reduce the lost motion extant at the F# - Bb and C Bridge. Rotating screw #6 *counter clockwise* will increase the distance between the lower and upper lever. If this screw is *over* adjusted, it will cause the Bb and C keys to remain open; if it is *under* adjusted it will allow for excessive lost motion between the bridge levers. Attempt a good balance and compensate any remaining lost motion on the F# Key by applying a thin silencer beneath the lower bridge lever.

2. ADJUSTMENT SCREW #8

Regulates the F# Key (20) to G# Key (16)

- Adjust this tone arm such that you get equal resistance from you feeler gauge on the G# Key and the F# Key when the G# Lever (17) is depressed. Check this adjustment by closing the right hand stack and depressing the G# Lever; there should be neither perceptible motion nor restriction of the right hand keys.

3. ADJUSTMENT SCREW #15

Regulates the contact point between the Low Eb Side Lever and the flat spring radiating from the bottom of the Low Eb Key

- This screw is not frequently out of adjustment as such, however its regulation may improve the voicing of the Low Eb, for example, screwing #15 *clockwise* will allow the Eb Key to open more. Make sure that there remains a very tiny bit of travel between the spring and adjustment screw #15.



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