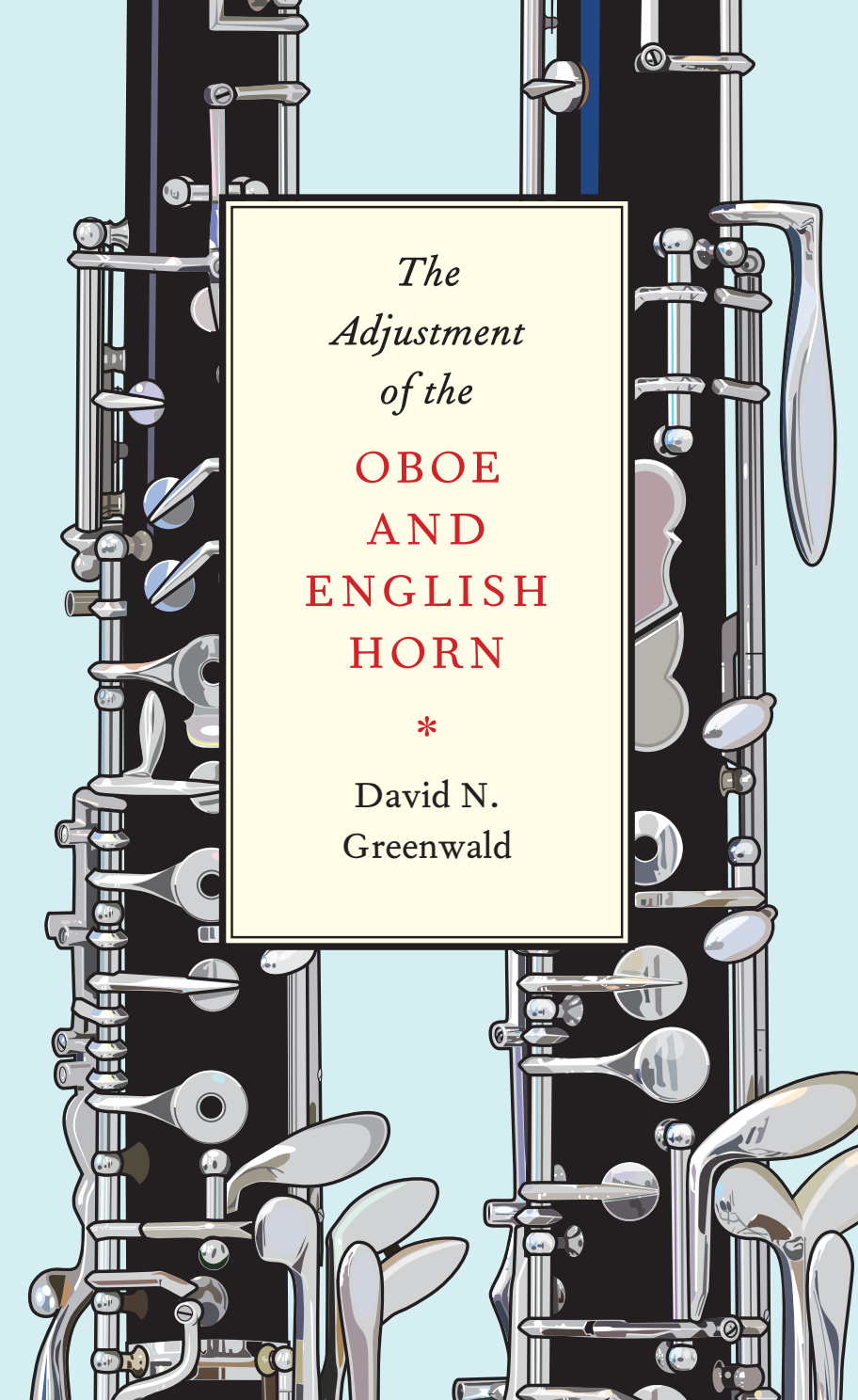

The Adjustment of the OBOE AND ENGLISH HORN

*

David N. Greenwald

THE OBOE and its lower-pitched relative, the English horn, each have about 25 small screws that regulate how easily and well the instrument plays. The protocols for 'adjusting'—finding the proper position for—each screw are unique to each screw, and small errors can make the instrument hard to play or even unplayable. As a result, most players find the process of adjustment daunting.

The Adjustment of the Oboe and English Horn guides the reader through all the protocols and diagnostic tests players need to adjust their instruments. With the aid of high-quality color illustrations, the book offers generous, complete instructions for adjusting each screw, as well as a wealth of 'playing tests,' some developed by the author himself, to help the player troubleshoot. Where helpful, the mechanism of the keywork regulated by an adjustment screw is explained; and, where relevant, differences among the mechanisms of different makers' instruments are addressed. Although adjustment has occasionally been the subject of chapters in general instrument maintenance books or of pamphlets, *The Adjustment of the Oboe and English Horn* offers the first book-length treatment of the subject. For the first time in the history of the oboe and English horn, players have a reference work to which to turn to obtain all the guidance they need to get an instrument ready for a challenging performance.

'*The Adjustment of the Oboe and English Horn* is a major contribution to our field. With its detailed, step-by-step approach, this book is both a how-to for students and an important reference for professionals.'

—RYAN ROBERTS, *New York Philharmonic; Mannes School of Music; Bard College Conservatory of Music*

From the Foreword:

'Players often tell me they'd like to adjust their own instruments but have no idea how to acquire the skills. This manual offers those players a perfect place for gaining the knowledge of adjustments they need to keep their instruments in good working order. It is authoritative and comprehensive, and it offers clear, step-by-step procedures and illustrations. I am not aware of a guide that addresses adjustment of both oboe and English horn so thoroughly.'

—DAVID TEITELBAUM

DAVID N. GREENWALD plays oboe and English horn in New York City, where he lives with his wife and three children.

Book, jacket design and illustrations by Mark Argetsinger, Holyoke, Mass.

PRAISE FOR

The Adjustment of the Oboe and English Horn

The Adjustment of the Oboe and English Horn is the most comprehensive and thoroughly vetted adjustment guide to date. Useful to musicians and repair technicians alike, the book is a precise and succinct must-have for anyone interested in learning how to adjust these intricate instruments. It is the perfect tool for developing a skill every oboist should have.

—MARK CHUDNOW, *Mark Chudnow Woodwinds*

David Greenwald's treatise on the art of adjusting the oboe and English horn is a complete reference. The book is beautifully illustrated and easy to follow. It is a must for the libraries of professionals who want to be self-sufficient in the day-to-day upkeep of their instruments.

—SHERRY SYLAR, *New York Philharmonic;*
Manhattan School of Music

You're only as good as your equipment, and an instrument that is out of adjustment is holding you back from reaching your full potential. David Greenwald lays out a very easy-to-follow guide for adjusting every screw on the instrument. After reading this guide, I applied the methods he suggests to my own instruments and they've never played better. Anyone who can tie a reed can adjust their instrument with the help of this book.

—PHILIP ROSS, *St. Louis Symphony Orchestra;*
Ross Woodwind Specialists

Many oboe players find adjusting their instrument to be a daunting task. Understandably so, since good introductions to the subject are very hard to find. David Greenwald's book fills this need. It is by far and away the most comprehensive that I've come across. It demystifies the process and will be a great help to anyone who wants to develop their skills.

—SVEN BULLER, *Danish National Symphony Orchestra*

THE ADJUSTMENT OF THE OBOE AND ENGLISH HORN

The Adjustment of the

OBOE AND ENGLISH HORN

David N. Greenwald

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Contents

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Foreword

by DAVID TEITELBAUM

FOR MOST OF MY LIFE I have made and repaired oboes and English horns. I worked for 42 years alongside Alfred and Paul Laubin at A. Laubin, Inc. in New York, finishing new instruments and performing most of the repair work. Since leaving the Laubin shop in 2016, I have worked at my own company, Teitelbaum Double Reed Co., repairing oboes and English horns of all makes.

Many instruments brought to me require a great deal of extensive work, but many more simply need the proper adjustment of their mechanisms. Players often tell me they'd like to adjust their own instruments but have no idea how to acquire the skills. This manual offers those players a perfect place for gaining the knowledge of adjustments they need to keep their instruments in good working order. It is authoritative and comprehensive, and it offers clear, step-by-step procedures and illustrations. I am not aware of a guide that addresses adjustment of both oboe and English horn so thoroughly.

Everything connected to the oboe requires practice and patience. You should not expect success with a quick skim through this book. Allow yourself the time to study each step in the order presented, and then practice. Be patient. Once you've acquired the ability to adjust your own instrument you will also have the satisfaction that comes from self-reliance. If on concert

night your oboe 'just doesn't feel quite right,' you'll actually be able to do something about it.

I think woodwind technicians should also find this guide very useful. Most technicians are very familiar with clarinets, flutes and saxophones but some may rarely have a professional-quality oboe land on their workbench. This manual will allow the already-skilled technician to easily regulate the many adjustment screws found on modern double-reed instruments. Oboe and English horn adjustments once considered daunting should become routine.

Pascoag, Rhode Island
January 2023

Introduction

THE OBOE and English horn task the player with instrument maintenance to an unusual degree. The player must continually replace the mouthpiece; and, while the bore of the instrument and its metal keywork are fairly durable, the player must pay regular attention to the 'adjustment' screws that freckle the instrument and regulate its mechanisms. Although these mechanisms, unlike those of a clock, are fully exposed, it takes much study to understand how they work. Once one learns how they work, one appreciates that turning an adjustment screw even slightly will make one pad close more tightly but another, paradoxically, less firmly. This means that it is not enough to simply tighten the screws. They must be tightened only to a point, and then no more. If a screw is even a few degrees too tight or too loose, a pad will spring tiny, microscopic leaks. These leaks may make it difficult to play the instrument. In extreme cases, they will make it impossible to play it at all.

After reading this, one would think that all oboists would want to learn how to regulate the adjustment screws as soon as possible. Yet many oboists do not feel comfortable adjusting their own instrument. Many have come to believe that semiannual adjustment by a technician is enough. They fail to appreciate that the self-reproach they experience when, on a poorly adjusted instrument, they choke on a slur is not necessarily warranted. Or they spend time and money

searching for a 'better' instrument than the one they own, not realizing that their own instrument, when perfectly adjusted, may fulfill their technical and expressive needs very well. The benefits of good adjustment are not just smooth note connection. They also include some control of tuning and, in some contexts, smoother key response. Good adjustment is also a prerequisite for the fair evaluation of reeds. A very well-balanced reed may not pass a test of response if a pad is leaking even a minute amount of air. The leak may result from one or more defects in adjustment, all discussed herein, all easily fixed with the tiny turn of a screw in the right direction.

Learning adjustment is especially important because oboes may fall out of adjustment quickly, even when not played. Like all materials, the wood, cork, metal and synthetic materials that make up the oboe change in response to changes in temperature, humidity and atmospheric pressure. Although these changes are irrelevant in almost any other mechanical context, they are very consequential for the mechanism of the oboe. Tiny leaks from a pad can mean the difference between, on the one hand, a slur down to Low B or up to High C♯ that speaks and, on the other, one that chokes. Tiny differences in pad height can mean the difference between a Forked F that is indistinguishable from a regularly fingered F and one that is sharp. Etc., etc., …

What makes the reluctance to learn adjustment all the more puzzling is that compared to everything

else the oboist has to do, adjustment is just not that hard. To be sure, it requires a fair amount of patient instruction by a knowledgeable teacher, for it would be difficult to deduce the principles of adjustment and its various tests on one's own. But it does not require musical gifts, dexterity or mechanical prowess. It is, like reed knife-sharpening, a technical, non-musical skill whose mastery provides a tailwind for improving musical technique and expression.

This guide will offer what none has before: a systematic, comprehensive approach to oboe and English horn adjustment through a combination of paper tests, playing tests and, in a few cases, visual tests. Unlike the limited literature that addresses adjustment, this guide will offer a wealth of peer-reviewed protocols, several developed by the author himself. Once mastered, the protocols and tests this guide describes will enable an oboist to transform an instrument so out-of-adjustment as to be completely unplayable into one ready for a challenging audition. They will convert the player from one who spends money every six months on adjustment (often by a technician whose primary instrument is not the oboe), or from one who lives in dread of arriving at a hall only to discover that 'something is not right,' into a player who, to the puzzlement of her fellow musicians, obsessively strokes and pokes her oboe with cigarette paper and a screwdriver during every rehearsal break.

To be sure, adjustment can become a tic. This guide does not advocate the development of tics. But of all

the disorders that can afflict the musician, this one is far from the most debilitating, and it can save the oboist from worse.

* * *

I thank Ryan Roberts (New York Philharmonic) and David Teitelbaum (Teitelbaum Double Reed Co.; A. Laubin, Inc., 1974–2016) for instruction on adjustment and for comments on drafts. For comments on drafts, I also thank Sven Buller (Danish National Symphony Orchestra); Mark Chudnow (Mark Chudnow Woodwinds); Michael Lawrenson (student, Sibelius Academy); Harrison Linsey (National Symphony Orchestra); James Riggs (Palm Beach Symphony); Philip Ross (St. Louis Symphony Orchestra; Ross Woodwind Specialists); Spencer Rubin (student, The Juilliard School); Carl Sonik (formerly, St. Louis Symphony Orchestra); Sherry Sylar (New York Philharmonic); and Joakim Thomsen (Royal Danish Orchestra). I also benefited from discussions of English horn adjustment with Jason Onks (Onks Woodwind Specialists) and Nick Abel (Nick Abel Wind Repair). I am indebted to Ward Farnsworth (University of Texas Law School) for editorial suggestions and to him and Larry Downes for unstinting encouragement and advice. I am grateful to Mark Argetsinger for the design of this book and for its illustrations.

THE ADJUSTMENT OF THE OBOE AND ENGLISH HORN

Nomenclature and Usage

THE KEY-STACK of the oboe comprises *keys* and *pads*. A key refers to a metal disc or tab a finger depresses to play a note. A pad refers to a disc, generally made with cork but sometimes with a synthetic material, that covers a tone hole. This guide refers to the keys and pads of the oboe and English horn with the nomenclature indicated in Figures 1–4.

In certain contexts, this guide refers to keys that are also pads (*e.g.*, the A Key, the F♯ Key) as *key pads* rather than *keys* (*e.g.*, the A Key Pad, the F♯ Key Pad). No difference in meaning is intended.

When this guide uses the terms *right* and *left*, it will adopt the frame of reference of the player: *right* means the side of the instrument along which the right hand positions itself; *left*, the left hand.

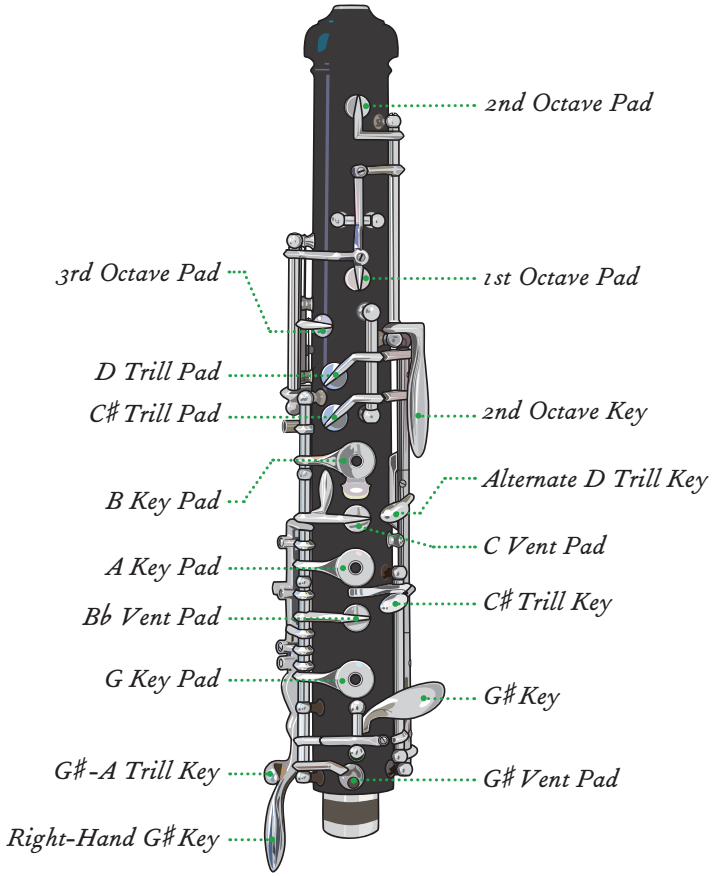
When this guide uses the terms *above* and *below*, it will adopt the frame of reference of the instrument when played.

When this guide refers to a screw lying *between* two keys or pads, it means a screw positioned between, but not necessarily along the line connecting, the keys or pads.

When this guide refers to *tightening* or *loosening* a screw, it means turning the screw clockwise or counterclockwise, respectively, even though adjustment screws, unlike most other screws, do not serve to fasten two objects together.

Similarly, when this guide states that a screw is *too*

FIG. 1: OBOE TOP JOINT



Not visible from front view

TOP JOINT: *1st Octave Key; 3rd Octave Key.*

BOTTOM JOINT: *F Pad.*

FIG. 2: OBOE BOTTOM JOINT & BELL

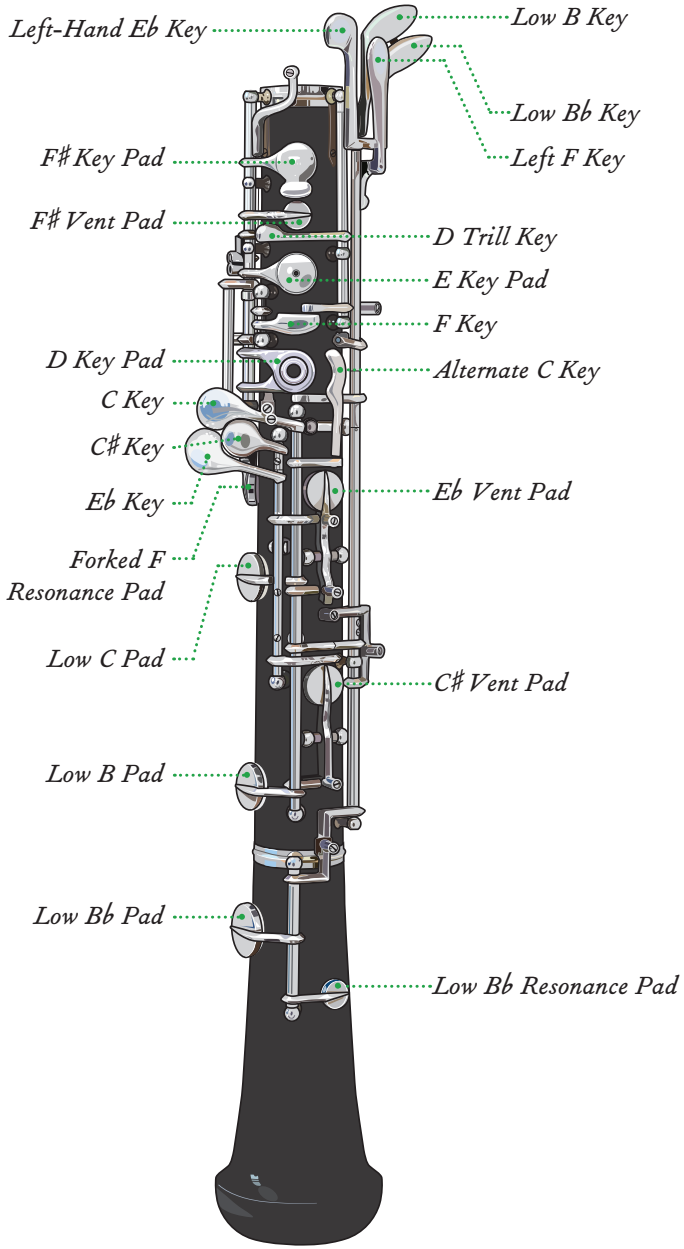
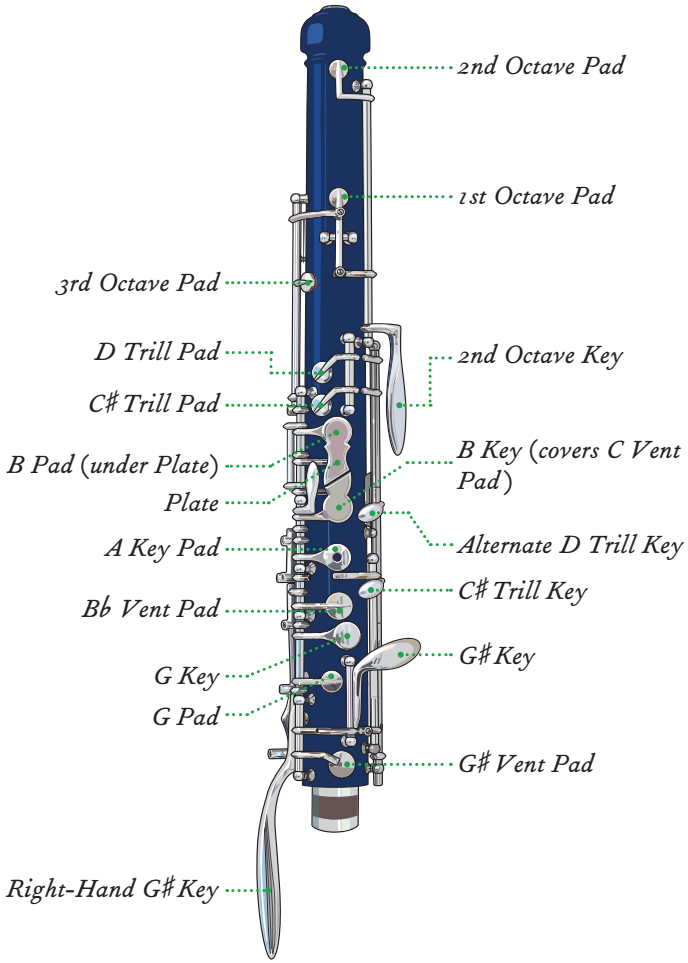


FIG. 3: ENGLISH HORN TOP JOINT

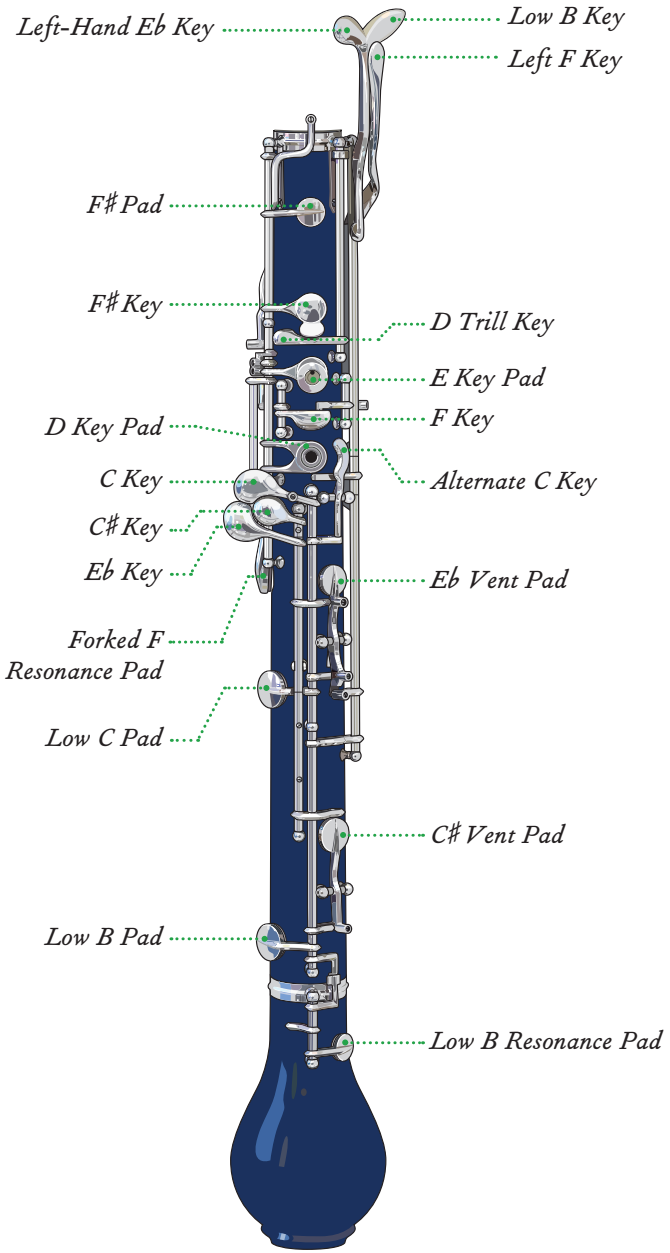


Not visible from front view

TOP JOINT: *1st Octave Key; 3rd Octave Key; A Resonance Pad.*

BOTTOM JOINT: *F♯ Vent Pad; F Pad.*

FIG. 4: ENGLISH HORN BOTTOM JOINT & BELL



tight, it means only that the screw point is protruding too deeply out of its socket; *too loose* means that it is not protruding deeply enough. A screw should sit snugly within its socket no matter how 'tightly' or 'loosely' it is screwed in. If it does not sit snugly within its socket, see discussion of 'threadlocker' below (pp. 19–21).

The Purposes of Adjustment

THE ADJUSTMENT screws on the oboe allow the player to optimize pad closure, intonation and key response.

Pad Closure

Because cork and wood are porous materials, even a pad that covers a tone hole completely will let pass a minuscule amount of air. Most of the adjustment screws, and those most likely to benefit from frequent adjustment, serve to minimize these tiny leaks to the point at which they become irrelevant. Mastering the adjustment of these screws is by far the most important and most difficult aspect of adjustment.

One could reasonably ask why one cannot simply turn these pad-closure adjustment screws in as tightly as possible to plug up any leak. The answer is that indiscriminate, complete tightening of any pad-closure adjustment screw will render the instrument unplayable. The reason is hard to explain in prose, even with the aid of static diagrams. Suffice it to say that the mechanism of the oboe involves the ascent and descent of pads powered by a combination of finger pressure and energy stored in the oboe's springs. Those springs are configured such that increasing the force or torque that each exerts on one pad will generally decrease the force/torque exerted on another pad. Hence, excessive

tightening or loosening will cause one pad to close tightly but the other to perceptibly leak. The result will be, in extreme cases, an instrument that cannot emit a note. In less extreme cases, certain notes will not speak easily unless one applies finger pressure that is antithetical to fast passagework and smooth note connection.

Intonation

Several screws on the oboe, more on professional than on student instruments, serve to modify the pitch of certain notes. These screws do not regulate how firmly a pad closes. Rather, they control how high the pad rises when the mechanism controlling its ascent is engaged. Lower pad height causes air to escape from the pad's tone hole less rapidly. The result is a flatter note. And vice versa: higher pad height results in a sharper note.

Pad height may also affect the tone—typically, the 'stuffiness'—of a note.

Key Response

A few screws affect the size of the small gaps that separate certain pieces of the oboe's mechanism. These gaps eliminate potential impediment to the full closure of certain pads. But if the gap is too large, it can cause 'play' or 'slop in the keys,' or 'double action': a sensation that a pad is not descending instantaneously with the depression of the associated key. This can impair smooth note connection.

General Aspects of Adjustment

BEFORE DESCRIBING the steps of adjustment, it is useful to discuss some general aspects of the process.

Tests of Pad-Closure Screw Adjustment

For pad-closure adjustment screws, the process of adjustment involves the application of paper and playing tests.

PAPER TESTS: For most pad-closure screw adjustments, the first, indispensable step is to assess how firmly the relevant pads are closing. For this, one uses ungummed cigarette paper, the thinner and less textured, the better. The standard approach is to cut off a thin strip, about 1.5 cm wide, and then snip off one end diagonally to form something that looks like an Exacto blade:

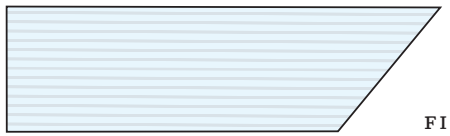


FIGURE 5

The pointed end of this 'test strip' is then placed under the half of the pad opposite its hinge and the pad is very lightly depressed with the key that controls it. The player then pulls gently on the test strip to see how firmly the pad grips. The firmer the grip, the more firmly the pad is closing. If the pad does not grip at all,

the associated screw is badly out of adjustment and must be turned in the direction that causes the pad to close more tightly. But if, as is more common, the pad grips to some extent, the role of the test strip is to allow comparison of the pressure with which that pad grips the paper with the pressure exerted by a different pad whose closure is controlled by the same adjustment screw.

Critical to the performance of any paper test is the use of exceedingly light pressure to depress the pad under evaluation (in the words of one esteemed technician, the pressure of 'a butterfly's wing'; in the words of another, a 'dead man's touch'). Getting a pad to pass a test by applying more finger pressure defeats the purpose of the test. One must also test similar areas of the pads. If one places the test strip under one half of one pad but under the entirety of the other, the result will not be true.

Two pads controlled by the same screw are sometimes referred to as *primary* and *secondary* pads. The primary pad is the pad that sits typically, but not always, below the other, secondary pad. The reason for this terminology is that generally the primary pad is a key pad a finger depresses, whereas the secondary is depressed through the operation of keywork that is connected to, but physically distinct from, the primary pad. For example, the A Key Pad, when depressed to slur from C to B♭, also, secondarily, depresses the C Vent Pad located just above it.

In truth, primary/secondary terminology is of limited value, partly because a few confusing exceptions

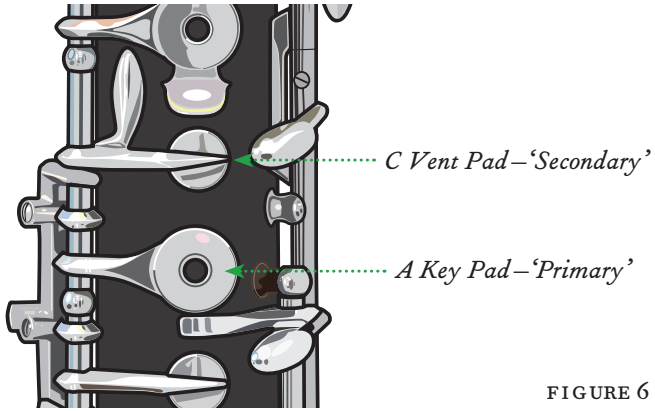


FIGURE 6

exist. The terminology can be useful when, as here, discussing adjustment generally, without reference to specific screws. Otherwise, this guide will avoid it.

When the primary pad grips a test strip more firmly than the secondary, one may equalize the pressure by tightening the screw. Tightening a screw makes the secondary pad close more firmly and the primary pad less firmly. Loosening a screw has the opposite effect. Surprisingly, there is a diversity of opinion whether the grip of the primary pad on the test strip should be as firm as, or more firm than, the grip of the secondary pad. One can find excellent technicians/players who passionately espouse each of these incompatible views. Yet each is able to adjust instruments very well. This guide will not wade into this debate except in cases (which will be noted) where repeated observation makes clear that any well-adjusted instrument will exhibit a palpable imbalance. Instead, this guide will sidestep the debate by asserting that once the pressure of a primary pad is

slightly greater, *and in no event lighter*, than the pressure of a secondary pad, the paper test is satisfied, and that further adjustment should be performed through use of the playing tests described herein. No matter how sensitive one's fingers, it is easier for all but experienced technicians to hear imperfections in pad closure using playing tests than to diagnose them with comparisons of tiny differences between the pressure of two pads on a test strip.

In performing paper tests, bear in mind that cork pads inherently grip more tightly than synthetic pads, with which most makers line certain bottom-joint pads. When assessing the closure of synthetic pads or comparing their grip with the grip of cork pads, one should be mindful of that difference.

Bear in mind also that informative paper tests require the pads of the instrument to be in very good condition. If the player is unsure of their condition, the instrument should be examined by a technician, who can replace or reseat any defective pad. More generally, annual maintenance by a technician is advisable to detect and correct problems with bumper corks, pads, rods, springs, etc. that, if not corrected, will preclude proper adjustment.

PLAYING TESTS: Once the closure of two pads controlled by the same screw, as judged with a test strip, is acceptable, the next step is to perfect the adjustment through playing tests unique to each screw. Like paper tests, playing tests detect leaks from pads and inform the player how to eliminate them.

Most playing tests will be performed by slurring *slowly and exceedingly gradually, with extremely light finger pressure*, from one note to a lower note, and listening for any imperfection in the slur. For these slur tests, one should try to 'creep up on' the second note. Slurring too quickly with too much finger pressure will render the test less sensitive.

A leak revealed by a playing-test slur may manifest itself in any of three ways:

1. The slur is not smooth; it stops, as if it hit an obstacle, and the player must apply more air pressure to complete it. This guide will refer to this imperfection as a *hitch*. Hitches are most commonly associated with leaks from pads that are also keys the player depresses ('key pads') and from larger pads, such as the Low C, Low B and Low B♭ Pads.
2. The slur, though smooth, sounds as if the first note is evolving into the second. Before the slur concludes, the second note will, for an instant, be very slightly higher in pitch. For lack of a better term, this guide will refer to this imperfection as a *wooze*. Woozes are most commonly associated with leaks from small, vent pads.
3. The second note of the slur sounds cloudy, fuzzy and/or sharp in relation to the first note.

This guide will refer to a slur free of any hitch or wooze as a *clean* slur. This guide will refer to a slur whose second note is pure and in tune with its first note as a *clear* slur. A slur passes a playing test if it is

both clean and clear, or, in a word, *good*. When a slur is good, the second note will 'feel' to the player as if it is falling into place without any hesitancy, as if it were a ball falling into a cup.

For some playing-test slurs, one must distinguish between a hitch and a wooze to know the direction in which to turn the screw to eliminate the leak. For others, the distinction is not critical; the player need only confirm that the slur is clean and, if not, turn the screw in the direction the test counsels.

A playing test should be performed only after the player has applied and satisfied the paper test for the pads regulated by the screw under adjustment. A playing test is of no use for pads so far out of adjustment that they cannot pass their associated paper test. If a pad does not pass its paper test, a playing test will generate hitches and other problematic sounds that are not informative.

A playing test is also of no use if performed with a reed that is resistant. Even the most perfectly adjusted instrument will flunk a playing test if the reed does not respond easily.

Once a playing test has identified a defect in a screw's adjustment, the next step is to correct it. Unlike the screw turns that may be necessary to satisfy paper tests, the screw turns necessary to satisfy playing tests will generally be exceedingly small, *i.e.*, even single degrees. This is because the purpose of playing tests is fine adjustment only. If one needs to turn a screw significantly to satisfy a playing test, that is often a

sign that the paper test was not performed properly or that something else (*e.g.*, poor adjustment of another screw) is at work.

Some oboists, including some of the finest, supplement playing tests with tactile, *tap tests*. Tap tests require the player, while playing a note or slur, to tap or touch very lightly with one finger the secondary pad whose screw is being adjusted. The goal is to detect vibrations of the secondary pad. Vibrations indicate the escape of air and hence suboptimal adjustment. In theory, these tests are very sensitive, but they require extremely sensitive, 'safecracker' fingers, which many players will find hard to develop. The author believes that the playing tests described herein can provide similarly sensitive information about leaks from secondary pads. For this reason, this guide does not discuss these pad-tapping tests.

Distinguish these pad-tapping tests from tests that involve tapping a pad as one tightens a screw, to listen for a 'knock' indicating that the pad is still not closing fully. In places—*e.g.*, sections relating to adjustment of the Forked F Resonance Pad Screw (p. 35) and the A Resonance Pad Screw of the English horn (p. 91)—these pad-tapping tests will be recommended as efficient guides to gross adjustment of the relevant screw.

Screwdriver Technique

To turn adjustment screws, one uses a small screwdriver whose flat edge is a bit narrower than the diameter of the screw's head (*e.g.*, 2 mm) so as not to be

Pages 18–24
omitted

A Method of Adjusting the Oboe

IN THIS SECTION, detailed, step-by-step instructions for adjusting the oboe's screws are presented. Covered first are the screws that ensure the pads of the instrument close fully. These screws are by far the most important. The remaining screws, discussed thereafter, regulate intonation or key response.

The screws that regulate pad closure should be adjusted in the order presented herein, at least until the player acquires facility in adjustment. Thereafter, the order may be varied as the state of the instrument dictates.

The other screws, which regulate intonation and key response, may be adjusted in any order and, indeed, need not be adjusted all at once. A set of eight screws, discussed at pages 61–73 (the 'Set-It-and-Forget-It' Screws), are likely to require adjustment only rarely.

THE TOP-JOINT PAD-CLOSURE SCREWS

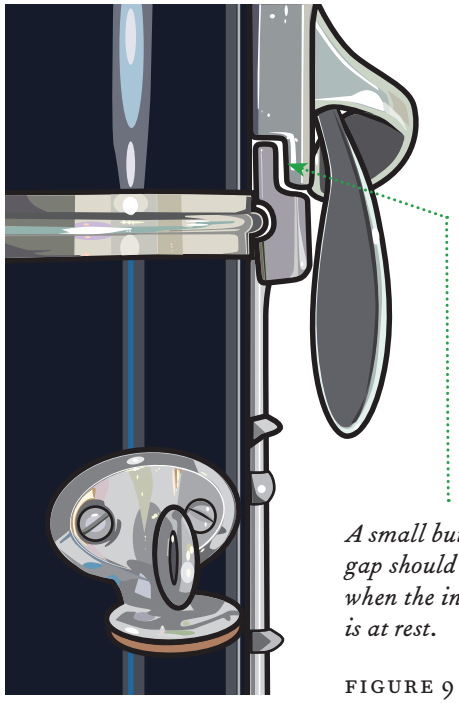
THREE SCREWS on the top joint of the oboe regulate the closure of the B, A and G Key Pads and of the C and B♭ Vent Pads. Perfect adjustment of these screws is critical to the response of not only top-joint notes but also bottom-joint notes. That is because the latter notes depend on properly balanced closure of the pads of both the bottom joint and the top. Indeed, if these

three critical top-joint screws are merely adequately but not optimally adjusted, the player is more likely to experience difficulties with the lower, bottom-joint notes than with the higher, top-joint notes.

Preliminary Disengagements

Before adjusting the top joint, substantially loosen—hereafter, 'disengage'—certain screws so that their points do not make contact with their underlying bumper corks. These screws are the C Vent-A Key Screw (Fig. 11, p. 30), the B♭ Vent-G Key Screw (Fig. 12, p. 32) and the Bridge Key Screw (Fig. 21, p. 57). Disengaging these screws at the outset of the process of top-joint adjustment ensures that they will not, if too tight, distort the results of tests performed before these screws are adjusted.

When adjusting an instrument with which one is not familiar, one should also ensure that a visible gap, as shown on the facing page, exists at the point where the arm of the F♯ Key meets the rocker arm on the right-hand side of the top joint. If the arms touch each other when the instrument is at rest, certain top-joint pads will not close fully. If so, the Joint-Connector Gap Screw must be tightened (see pp. 62–63).



A small but visible gap should exist when the instrument is at rest.

FIGURE 9

Pages 28–33
omitted

THE BOTTOM-JOINT PAD-CLOSURE SCREWS

THE BOTTOM JOINT of the oboe possesses nine screws that regulate the closure of that joint's pads. Although more numerous than the pad-closure screws of the top joint, none individually presents any greater challenge. The chief challenge of bottom-joint adjustment is the Forked F Resonance Pad Screw. The protocol for adjusting that screw presented here should reliably ensure that the Forked F Resonance Pad closes with the proper pressure.

In adjusting the bottom joint, it is helpful to appreciate that the seal of an instrument is only as tight as the closure of its lightest pad. Because the bottom-joint notes, as they descend, require closure of a progressively greater number of pads, the chance that poor adjustment may compromise a note's production becomes greater with each descending note. Accordingly, as adjustment of this joint proceeds, the player should be mindful that problems that seem to defy resolution may be due to imperfect adjustment of screws, including top-joint screws, adjusted earlier in the process.

Preliminary Disengagements

Before adjusting the bottom joint, disengage the E Key-C Pad Screw (Fig. 16, p. 45); the Low C-E♭ Slur Screw (Fig. 17, p. 48); and, if not already disengaged (see p. 26), the Bridge Key Screw (Fig. 21, p. 57). On oboes with a High D Facilitator Screw (Fig. 20, p. 55), disengage that screw as well. Disengaging these screws will ensure that paper/playing tests involving pads those screws indirectly affect are not distorted by the screws' initial, unadjusted positions.

Before adjusting the bottom joint, one should also disengage the Forked F Resonance Pad Screw (Fig. 15, p. 40), but then tighten it just until the 'knock' audible when tapping the Forked F Resonance Pad while also depressing the E and D Keys disappears. The disappearance of the knock indicates that the Forked F Resonance Pad is closing fully but with its screw in a 'neutral' position from which the screw point cannot interfere with adjustment of the F♯ Vent-E Key Screw (see p. 41).

The F♯ Vent-E Key Screw

Between the F♯ Vent Pad and the E Key Pad appear two neighboring screws. Because of their proximity to each other they look like a pair of spectacles.

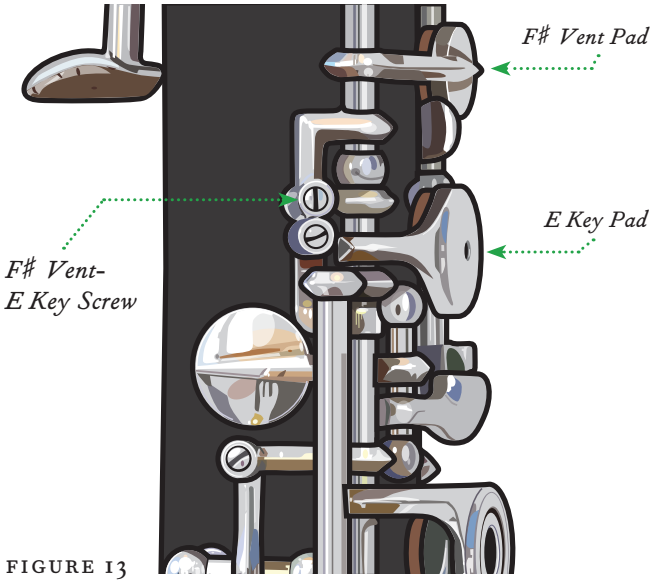


FIGURE 13

The uppermost screw, the F♯ Vent-E Key Screw, regulates the closure of the F♯ Vent and E Key Pads when the latter is depressed.

Tightening the screw causes the F♯ Vent Pad to close more firmly and the E Key Pad less firmly; loosening the screw has the opposite effect.

PAPER TEST: Depress the E Key Pad after placing a test strip under it. Compare that pad's pressure with the

pressure of the F♯ Vent Pad on a test strip when the E Key Pad is again depressed. The pressure of the E Key Pad should be slightly greater, and in no event lighter, than the pressure of the F♯ Vent Pad. If the pressure of the E Key Pad is significantly greater, tighten the screw; if lighter to any degree, loosen it.

Depress the D Key gently when tightening this screw.

PLAYING TEST: Slur from F♯ to E. If there is a hitch, loosen the screw until it goes away. If there is a wooze, tighten it until the wooze goes away. Repeat this test until there is neither a hitch nor a wooze and E is clear.

Pages 38–56
omitted

The Bridge Key Screw

To allow the player to simultaneously anchor the left little finger on the G♯ Key and play notes fingered with the right hand, the oboe possesses a screw that enables this useful feature. The screw appears at the distal end of the F♯ Key's bent arm.

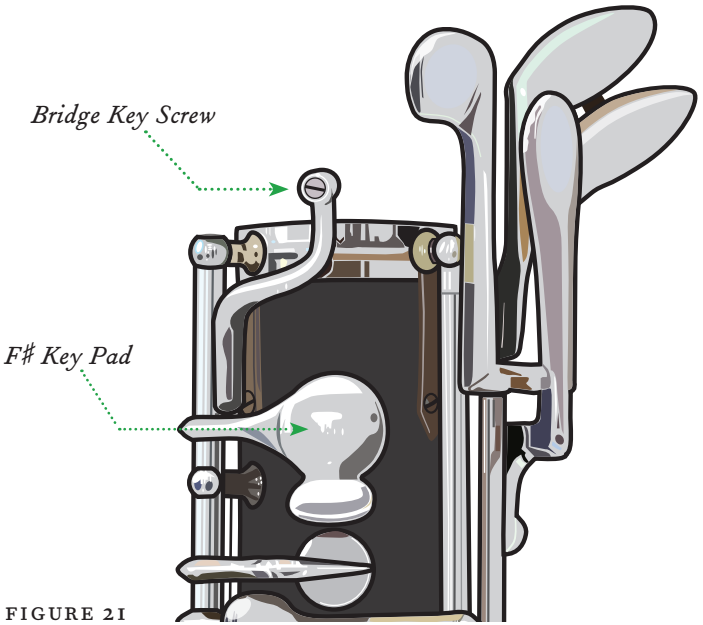


FIGURE 21

This screw, the Bridge Key Screw, clamps the G♯ Vent Pad down when the F♯ Key is depressed and keeps it down even when the G♯ Key is held down. If the screw is too loose, holding down the G♯ Key will open the G♯ Vent Pad a crack. The resulting leak will defeat the

production, when the G♯ Key is held down, of all notes controlled by the keys of the bottom joint.

PAPER TEST: Adjustment of this screw does not require a paper test. Some players may use a test strip to assess whether the point of the Bridge Key Screw touches the G♯ Vent Pad, but the playing tests described below are so easy and reliable that one may dispense with a paper test for this screw.

PLAYING TESTS: Confirm that the top and bottom joints are in perfect alignment. If the Bridge Key Screw is not already disengaged (see p. 35), disengage it. Then, while playing Low D (or Low C or C♯), depress or tap the G♯ Key. There should be a clearly audible change in the note as the G♯ Key is depressed. This indicates the escape of air from the G♯ Vent Pad. Gradually tighten the screw just until tapping the G♯ Key does not affect the note in any way.

To ensure the screw is not too tight, slur from G to F♯, listening carefully for a wooze. If one is detected, loosen the screw by degrees until it goes away. The wooze is problematic because it indicates that air is leaking from the F♯ Key Pad. This will impair the production of low notes, especially very low notes.

On some instruments, the setup of the keywork will make it impossible to satisfy both playing tests simultaneously. Players of those instruments will simply judge before playing each piece/movement whether their need for confident low-note placement or for continuous depression of the G♯ Key takes precedence. If

the former, they should incline to a looser Bridge Key Screw; if the latter, they should incline to a tighter. Fortunately, this adjustment is easy to make 'on-the-fly' and does not, like some adjustments, risk disturbing others.

Note that if the top-joint tenon cork is loose, stable adjustment of the Bridge Key Screw will be difficult.

Pages 60–122
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