

# Oboe Cracks: *To Pin or Not to Pin – That is the Question*

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## Introduction

There are two kinds of oboes: those that  
have cracked and those that are going to.

*Anonymous*

*Is there any point in pinning cracked oboes in this day and age? I have well respected North American colleagues who do pin oboes, but the international consensus for decades has been a very emphatic no. I thought it would be informative to present the views of some of the experts in our field so that oboists everywhere can make informed decisions about their available options if an instrument cracks. We are so fortunate to have many renowned repairers and manufacturers in the oboe world today. And as much as I would have liked to have contacted them all, this has not been possible due simply to time constraints in my own life. I hope readers will understand that I cannot be comprehensive in terms of including everyone, as much as I would like to.*

*This article could never have been written without the cooperation of a number of gracious individuals and companies in both the manufacturing and repair worlds. My heartfelt thanks to everyone at Howarth of London, the French makers Marigaux, F. Lorée, and Rigoutat in Paris, Laubin Oboes in Peekskill, New York, Püchner in Nauheim, Germany, and Fox Oboes in South Whitley, Indiana. I am also grateful to my repair colleagues, and would like to single out Suitbert Walter of Uwe Henze in Neuss, Germany, Eric Anderson of Midwest Musical Imports in Minneapolis, Minnesota, John Symer of John Symer Woodwinds in Collingswood, New Jersey, Wen-chia Huang of Rajah Musical Instrument Co., Ltd. in Taipei, Taiwan, John Peterson of RDG Woodwinds in Los Angeles, California, Neil Clark at Howarth of London, Chuck and David Kessler of Kessler & Sons Music in Las Vegas, Nevada, and Eunsoo Lim of LODEM Woodwinds in Seoul, Korea.*

“Pinning? We’ll do *anything* to avoid it!”

*Jeremy Walsworth, Director, Howarth of London*

Sixty years ago, virtually all oboe cracks were pinned with short pieces of threaded metal (sometimes called pinning wire) installed in the area of a crack. The reason oboes were pinned was that the glues of that era were for the most part completely ineffective. There were so-called crack fillers that were not much more than black shoe wax. Some people just stuffed beeswax into cracks. That meant something else had to hold a cracked oboe together, and of course, that something else was pins. For most of us, this was before our time, but there are a few people who do remember the old days. **Paul Laubin**, for example, remembers how his father, **Alfred Laubin**, used to glue cracks. According to Paul Laubin, his father sucked ordinary household white glue (Elmer's Glue) into the cracks, and then finished the surface off with a mixture of shellac and wood dust, since Elmer's glue dried translucent.<sup>1</sup> No wonder virtually all cracks were pinned in those days! Howarth's **Neil Clark** also had personal experience with the old school of gluing:

I even had the opportunity to work for a short while with **Charley Morley**, who was by that time in his 80s. He used to pin as well as fill the cracks with shellac, the only glue he would use. Charley came to work with us for a few afternoons a week for a year or so in the late 80s, early 90s. He was a very old man at that time and I think he used his time here as an interesting change from his own workshop. One of the main things I learned from him is that the new methods of doing almost everything are infinitely better than the old ways. Charley was considered to be the father of British oboe repairing, mainly because he was the only repairer in the country in the 50s and 60s and 70s. Before the war he had worked for Louis<sup>2</sup> and Boosey & Hawkes, I think. Working with him was fascinating; he had many wonderful stories of his life in this industry over the years.

When I first started learning to repair oboes after moving to our London shops in the early 80s from our Worthing factory where I had learned to make oboes, pinning was the normal way of repairing cracks. I was taught by **Graham Johnson** and **Trevor Maloney**, who were both advocates of this process. It was about this time that superglues started to become readily available in the UK. Although invented in the US, and first marketed there in the mid-50s, I don't recall seeing them here before the 1980s. I began experimenting with this glue for filling cracks and although these early glues were quite viscous it became apparent that the mend using this glue was as strong as the wood. I therefore abandoned pinning in the mid-80s. Modern glues are much thinner and draw down into the crack much better, enabling us now to make even better repairs.

Pinning is an intrusive operation that can often cause more harm than any benefit it might offer. If a piece of blackwood wants to move, a small piece of steel isn't going to stop it. Also, I have seen many examples of pinning where the bore has been nicked, causing air leaks through the pinning holes.<sup>3</sup>

As Mr. Clark explains, everything has changed over the years with the advent of all the high tech glues we have at our disposal these days. Cyanoacrylate (superglue) and epoxy have changed everything. Also, cracks do eventually settle down (unless they are straight through to the bore, which most repairers do not consider repairable). My own record is regluing the same crack two times. I believe the world record was four times, and that dubious distinction is held by one of my colleagues who would prefer to remain anonymous on this one.

With the glues we have now, no one anywhere has found a difference in the number of cracks that reopen based upon whether they were pinned and glued or just glued. This is certainly the overwhelming consensus among the European makers as well as the European and Asian repairers I have contacted. None of them pin oboes anymore. And, of course, pinning any oboe usually devalues the instrument. I haven't pinned an oboe for more than a decade partly for that reason. I don't want to bill someone for devaluing their oboe, and that is exactly what would happen if I gave someone back an instrument with more than a couple of well concealed pins. This wasn't always my thinking, but it is now. And, from a very practical point of view for the owner, it's very difficult to resell an oboe with a lot of pins. It's an uphill battle to find a home for an instrument like that, as I know first-hand from decades of experience. **Michael Britton** of Howarths states that having a number of pins in an oboe devalues the instrument enormously in England (although he says he doesn't see many oboes like that these days). He added that it takes much, much longer to sell an instrument like that, and that people don't want to take a chance on an instrument with all those pins.<sup>4</sup> **Philippe Rigoutat** of Rigoutat Oboes in Paris explained things very similarly: "I can't really answer your question about whether pins devalue an oboe, because there are no more pinned oboes in France! I really don't know. It would be very difficult to find an oboe like that! Sure, the value would be less, but we just don't see oboes like that anymore."<sup>5</sup> Howarth's **Jeremy Walsworth** said almost the same thing as Philippe Rigoutat, commenting that it would be a rare circumstance to see an oboe with pins in England today.<sup>6</sup> Resale value is an important consideration because, as the German repairer **Suitbert Walter** points out, people don't keep their oboes for a lifetime anymore. He describes an oboe as a tool that is changed if it doesn't do the job anymore.<sup>7</sup> This is a strong argument for trying to maintain good resale value for an instrument whenever possible.

Europe and Asia have been way ahead of North America on gluing but not pinning. They stopped pinning decades ago. But there is a continental divide between North America and the rest of the world on this topic. Most North American manufacturers and repairers still pin. The rest of the world may consider North Americans old-fashioned (they do), but this is just how things are right now. Talking to so many people about crack repairs, I have learned there is a wide diversity of opinions and very strongly held views both pro and con. I found that keeping an open mind myself was key, whatever my own beliefs and personal experience. The wonderful advantage of staying flexible about what I was hearing from my repair colleagues in North America was that some of us started asking each other questions about the details of how we do certain repairs—lots of emails and calls back and forth—and we started learning from each other. That kind of professional exchange was an unexpected delight. So, I am staying wide open on all of this, no matter what I believe personally. This could be the beginning of some productive cooperation between oboe repairers around the world. As **Wen-chia Huang** of Taipei wrote: “I am honored to reply to your questions. I am convinced that communication between repair technicians is important and helps to raise the standard in the industry.”<sup>8</sup> What an unexpected and wonderful bonus for everyone.

But before I present some of the different comments I received on this topic, I would like to mention a few very practical observations from my own experience gluing hundreds and hundreds of cracks over the years, just to give a bit of background re: what is involved in the simpler crack repairs. Of course, things can get complicated very quickly with oboes; I will keep this as straightforward as possible, with the understanding that cracks in oboes are complicated for many reasons. This is no more than a very basic overview, and I would not suggest anyone try this without an expert teacher, just because there can be so many unexpected surprises with oboes. When I first started out in oboe repair, I was strictly instructed to confine all my learning and experiments to old clunker oboes,<sup>9</sup> and never to use my own instrument for something I hadn't done successfully many times before. This was one of the most valuable lessons I ever learned. We have too great an emotional attachment to our own instruments, so if we are learning how to do something, I firmly believe we should use a nice old clunker.

I use high tech superglue called Loctite 420. I call it my superglue on steroids. This is expensive glue that lives in the refrigerator. Superglue has a short shelf life once it is opened (about one month), so refrigerating it extends its life considerably. Loctite 420 works incredibly well. Before I glue a crack, I clean out the crack with acetone, since acetone helps remove any oil or debris from the wood. After everything is dry, I heat up the wood under a 100-watt bulb for at least fifteen minutes, and usually a good bit longer than that. I leave a gap of about four inches between the light bulb and the crack

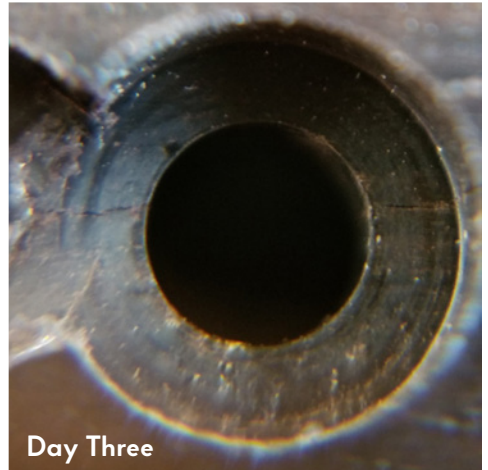
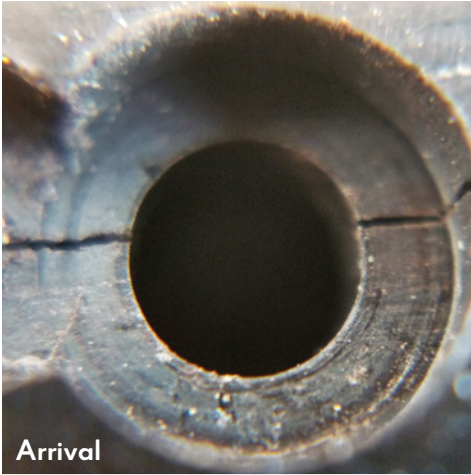
on the oboe. The oboe can stay there for a while or not, but the point is that I want to heat up the wood first. Once I have done that, the superglue just disappears into the wood—the warm wood just sucks it right up. That is exactly what I want. Howarth's Walsworth mentioned that in his experience, the thinner the superglue, the more gets absorbed into the wood.<sup>10</sup> There are some situations when I might not choose to heat up the wood first, but for most cracks, heating the wood makes a very noticeable difference in the amount of glue that the crack absorbs. Some cracks need to be glued more than once, so I just keep at it a number of times until the crack is filled. Epoxies can be used to fill spaces, but not so much with cyanoacrylates, which work best in thin layers. I get the best results by letting small amounts dry completely. The entire process can take a day or even longer, depending entirely on the crack. This is from the time the crack is mostly closed down and ready to be glued, of course. I usually use an oboe needle spring to get the glue into the crack. I pour a tiny puddle of superglue onto a small piece of waxed paper. That works perfectly for me, and then I can start to fill the crack by dipping the needle spring into the superglue and then almost "drawing" along the seam of the crack, dipping my spring into the superglue puddle again as often as needed. I like needle springs for this job because they have flexibility, so they are helpful in getting to the hard to get to places. Sometimes I will "dig" out the crack a tiny bit first with my needle spring (so that I can get more glue into it), but sometimes I don't. It's more like etching along the line of the crack, and I find it's helpful for getting glue into cracks that are very small. It all depends on the crack. After everything is completely glued and dry, I file the outside using some very fine files, sand as needed (400 grit sandpaper), use some steel wool (Grade #000 Extra Fine), and finish off the repair with a combination of cold pressed linseed oil and a cutting compound, so that the wood looks really nice. I usually wait quite a while (overnight if I can) before I finish off the wood, because if you try to file superglue before it is completely dry, you will have a permanent white mark in the wood. That's a compelling reason to give things lots of time, and I always do. But I also understand the reality of getting something out the door very quickly on an emergency basis when that need arises for someone. More often than not, though, I consider myself very fortunate that I usually have the luxury of taking as much time as I need to get something right.

I should also add that with larger cracks, I close them down considerably before I glue anything. This can take two or three days, or even longer, depending on the crack. The top joint goes under that same light bulb 24/7 until the crack closes down. Eventually cracks will close, so it's just a matter of how long it takes. Of course, this assumes that the instrument is not being played during that time period, so the wood *can* dry out. I was taught only to glue a crack once it was mostly closed down and that is how I do it.

There are people who will glue a crack while it is still open, but I am not one of them. **John Peterson** of RDG Woodwinds in Los Angeles explains that he “relaxes” the crack, so that it is somewhere between completely open and completely shut.<sup>11</sup> Other repairers have used that same word; they “relax” the crack. **Chuck Kessler** of Kessler & Sons Music in Las Vegas says he closes any large cracks down about 80 to 90 percent before he starts a crack repair.<sup>12</sup> Chuck Kessler has forty years of experience repairing cracked woodwinds in the desert of Nevada. He has a unique experience and track record, so I listened very carefully to all his comments and explanations. In many ways, he has led the way, isolated in the desert with all those cracked woodwinds. He explained some of the things his company does to help teach players how to care for wooden oboes: “With our new instruments we have been including a sheet called *Wood Instrument Care and Preservation* plus a case humidifier (from Humistat) for about ten plus years on all wooden instruments. We started including a feather and a one ounce bottle of almond oil as well with all wood instruments about three or four years ago.”<sup>13</sup> I personally was pleased to hear all this, since I have done exactly the same thing for decades. I also have a section of my website under *Oboe Info* called *Instructions for the Care of Your New Oboe*. This is very similar to what Kessler has done, just more extensive.<sup>14</sup> Many of the oboe manufacturers provide a brochure outlining the basic care of their instruments. I might add that when we first began supplying humidifiers, feathers and almond oil with all of our instruments, the number of cracked instruments we saw was reduced by about 30% within a year. It stayed that way, too.

Kessler is so impressive because he has never had a crack re-open in all these decades (not that he or any of his sons are aware of, in any case). All this in the middle of a desert! I don’t know any repairer or manufacturer who has that kind of track record, so I wanted to know what Chuck Kessler is doing that the rest of us have missed. Being American, he was taught to pin and he does. He uses superglue for the cracks, he uses acetone and an air compressor to clean out the cracks, he uses Superglue Gel or epoxy to install tone hole inserts and, as I have already mentioned, he closes down his cracks 80 to 90 percent before he starts the repair work. Whatever Kessler is doing, he is the only repairer who is batting 1,000 on crack repairs. He clearly has a stellar record in some of the most adverse climate conditions imaginable. I was intrigued, called him back, and emailed with even more questions. I asked how many crack repairs they have done over the years:

So I chatted with my father this morning and while we don’t have a perfect number to tell you of how many crack repairs we have done, I would estimate around forty instruments per year—sometimes more, sometimes less. Multiply



Closing down a crack through a tone hole while drying under a lamp.

Photos courtesy of Allen Mannes, MidWest Musical Imports, Minneapolis, Minnesota

this by thirty years of being in business, and this is over a thousand crack repairs with a 0% failure rate.

I think that your fascination with the air compressor is where the reality of the difference is here. As my father explained, we will do the acetone treatment to the crack, and then use the air compressor to blow out the acetone from the crack. The acetone cleans out the gunk/grease/oil/pith from the wood. We blow it out of the crack but will repeat that step until the acetone is coming out clean. This can take four to six treatments on average. The pressure we set the PSI at is between 60-90. I would recommend 60 PSI as an effective minimum for this use.

The key is making sure that the crack is debris, grease and oil free (since glue doesn't like oil, naturally occurring or not). Once the wood is truly free of everything, the glue has the best chance to actually seal and stay sealed.<sup>15</sup>

Why does an oboe crack? As Neil Clark of Howarths comments:

In my humble opinion, an oboe may crack for many different reasons, but by far the most common is a sharp change in temperature or sometimes in humidity, i.e. when warm air is blown down a cold instrument in a cold building. Cracks usually occur in the top half of the top joint where the circumference of the wood is smaller and therefore the grain is more likely to open. Cracks are much more likely to occur in a new instrument than an old one. It is therefore important to heed the manufacturer's "blowing in" instructions.<sup>16</sup>

Most upper joint oboe cracks are the result of the inside bore of an oboe expanding with all the moisture that results from being played. The outside of the oboe is still dry and therefore cannot expand. When the inside bore of an oboe expands, the outside is forced to expand—it has no choice—and it does so by cracking open. It's pretty much the same thing as taking a dry kitchen sponge and putting it under running water in the sink. The sponge can double in size, and that is a good analogy for the approximate process the internal bore goes through prior to a crack appearing on the outside. By closing down a crack under a light bulb, I am also slowly drying out the inside of the bore. My hope is that I am getting the instrument close to what it was before the crack occurred. That is surely my goal. I have seen oboes that were glued with the cracks open. When the wood does finally dry out and settle down, the glue is literally forced up from the seam where the crack was. It looks awful and puts an unnatural stress on the wood. Sometimes a parallel crack appears just because of the stress on the wood,



and sometimes the inside of the bore can crack open. The possibility of that kind of catastrophic crack happening (any crack straight through the bore) should strike fear into any repairer's heart. Let's take the example of an oboe d'amour that is played very heavily before a series of concerts. It cracks badly, and is repaired while the crack is open. If the player doesn't use the instrument for another five months after the repair, the glue will usually start to be pushed out of the crack when the instrument dries out and tries to go back to normal. Suitbert Walter discusses the same type of situation in greater detail later in this article. I would respectfully suggest that since cracks do eventually want to close down, why not let them do so before they are glued?

Over the years, many instruments with dreadful cracks have arrived at my shop for repairs, and by the time they arrive, some cracks have actually closed completely. Virtually every manufacturer and repairer has experienced this. If the owner has not marked with a pencil exactly where the crack was located on the oboe, I have had to call to ask specifically where a crack was because it had closed completely during the time it was in the transit with UPS or Fed Ex. Sometimes a hopelessly cracked oboe goes back to the manufacturer for a replacement top joint, and the manufacturer can't even *find* the cracks by the time the instrument clears customs and finally arrives at their workshop. My point is that the bigger cracks will close down sooner or later (even if it happens in transit on a UPS truck), and I believe it's very important to let those cracks close down considerably prior to any attempted crack repair. Again, this is the 80 to 90 percent closure of cracks prior to repair that Mr. Kessler talks about.

Of course, all these comments refer only to cracks on the upper joint of the oboe. These are the serious cracks. Can an oboe crack elsewhere? Of course. Cracks on the middle joint and bell are usually benign. Most are at the top of the tenon areas, where the wood has shrunk over a metal tenon that cannot possibly shrink. The wood shrinks, the metal socket *can't* shrink and voilà, you have a stress crack. Again, this is usually the result of wood shrinkage due to cold weather or air conditioning—in other words, very low humidity. The important thing to understand about these cracks is that they never spread or extend. These cracks stay in the area of the metal socket, and they do behave themselves. I always glue and repair them, but they are truly a minor concern. These cracks never travel or extend further south. They remain in the area of the tenon because that is where the metal socket is that has caused the crack. In the realm of oboe crack severity, these are the cracks I never worry about. And, compared to so many monster cracks I have seen on top joints, these tenon area stress cracks are the easy ones.

A fascinating and detailed group of comments about cracked oboes came in from **Suitbert Walter**, the well-known German repairer at Uwe Henze GmbH in Neuss, Germany. He describes why oboes crack in a fascinating way. For purposes of explanation,

Mr. Suitbert asks us to imagine the top joint of an oboe not as one tube, but as two: the internal bore that swells up with moisture, and an external second tube that does not.

The whole matter is a bit complicated, and it's hard to properly describe all of this with my clumsy English. But, basically, what's happening when an instrument cracks is as follows (this is only for the most common sort of cracks; there are others, too!): A typical oboe has a wall thickness around 6-8mm (excluding top and bottom endings and tenons). Let's look at this thick walled tube as if there are two tubes, one perfectly fitted into the other. The inner tube with the exposed bore has direct contact with lots of humidity. It will therefore increase in volume and mainly increases in outer circumference. This will create stress on the outer tube, but as long as this stress isn't too much, the outer tube will adjust due to its natural strength and elasticity. The real problem now is that the outer tube has the tendency to shrink due to low environmental humidity (heating during the winter, a naturally dry climate, air conditioning, etc.). What's happening now is the typical crack on the outside—typically in those places where one finds high humidity inside and weakened structure outside: the trill keys, post holes, third octave, and octave holes. Sometimes this can happen in places where the wood has had some weak fiber structure due to growth conditions or pre-damage during its life as a tree.<sup>17</sup>

Coming back to my earlier idea of the two tubes, if the crack opening is quite large we can observe one problem. In situations where the instrument isn't played for a longer time (this can be a period of a few months, but in rare cases even a few weeks), the inner tube loses volume due to the natural drying. Now, keep in mind those two tubes are firmly connected due to the natural fiber-compound. The outer tube—which now in fact has a larger circumference (and volume) can't follow the inner (shrinking) tube due to the fact that the glue in the gap of the crack in the outer tube acts like a wedge. This inevitably leads to the inner tube cracking symmetrically to the outer crack, but on the inside. The internal bore dimensions are completely ruined and more importantly, can't be restored in a reliable way. This typically happens with instruments only rarely used—English horns belonging to schools, for example, stored away for months after intensive use (and cracked/repared during this time). This is just a simplification, of course, but I hope this helps to explain the idea.<sup>18</sup>

Now to what some others have to say about pinning oboes and cracks in general. **Renaud Patalowski**, the President of Marigaux Oboes in Paris explained:

We have not pinned instruments for the last thirty to forty years and honestly, nobody asks for it. What we do is use glue and tone hole inserts when necessary. No pins. We use fluid Cyanolit (cyanoacrylate/superglue) and it works fine. We assume cracks can happen, and repairing them is also a 'relief' for the wood. We believe that you cannot avoid all cracks but prevention works well: playing with care at the beginning, swabbing every time, avoiding brutal temperature changes, like from a cold air-conditioned room to the full blown hot temperature of a car, etc.<sup>19</sup>

I could also add that in my experience, oiling the bore is so important. I use one or two drops of almond oil on a feather, and I only oil the top joint. Jeremy Walsworth mentioned that they add a few drops of Tea Tree oil to each bottle of almond oil at Howarths. The Tea Tree oil acts as a disinfectant, and it has worked well for them.<sup>20</sup> Since oil and water don't mix, the oil is an excellent crack preventative. Of course, no one should ever oil the bore of an oboe unless they are 100% sure it is a wood top joint *without* a liner. Some players are not aware that their instruments have liners. This is very important for owners to know and understand. Adequate humidity is also very important. I keep my shop humidified to 50% during the winter. For me, that has worked out really well over the decades. Every oboe here is nicely humidified. So many keys that bind up on oboes every winter (ever notice that this never happens during the summer?) do so as a result of wood shrinkage due to low humidity. With really good humidity control, this common problem can be largely avoided. I also believe in using humidifiers inside the case during the months of the year when the humidity is low. It is very important to try to keep the humidity consistent. Wild swings in humidity (let's say someone alternates between filling their humidifier and forgetting about it) can be disastrous for oboes. In my opinion, it is better to have no humidity control whatsoever than to have big swings in humidity. I remember one cocobolo oboe where the owner was using a Dampit (which was designed for use with string instruments) from time to time, so the oboe experienced big swings in humidity between the times the Dampit was soaking wet and a day later when it was bone dry again. By the time I saw the oboe, it had about forty small cracks—it was like the wood had literally been shredded with cracks. The moral of that story is that if you use a humidifier, be sure to keep things at a consistent level—try not to let the humidifier dry out completely. If possible, I think room humidification for the area where an instrument is kept is

ideal. Small case humidifiers during the months of the year humidity is low are also a good choice. These case humidifiers can be used in addition to or instead of a room humidifier, depending upon the situation.

I also asked Monsieur Patalowski of Marigaux Oboes about when they might decide to replace the wood on an oboe in the case of a bad crack. He answered: “We usually do it on a case by case basis, but the replacement of the wood is the final, ultimate decision as we believe almost all cracks can be repaired... and that repairing the crack is in the best interest of the instrument!”<sup>21</sup>

Jeremy Walsworth, the Director of Howarth of London, had much to say on the subject of cracks. He explained that when he started at Howarths in the early 80s, he did pin some oboes and clarinets. But it was less and less and, after a while, they didn’t do it at all anymore. He also added that he used a treadle lathe and 2mm threaded steel.<sup>22</sup> (The treadle lathe would have allowed him to control the speed of inserting the pins.)

In the experience of everyone I have talked to with the exception of Chuck Kessler in Las Vegas, a certain number of cracks will reopen and have to be glued again. Pinned or not, there is just a group of oboes out there that seem determined to reopen at least once. As Neil Clark of Howarths aptly put it: “No crack can be guaranteed, and may well open up again. Anyone who says otherwise may well try to sell you snake oil.”<sup>23</sup> Walsworth mentioned that no one at Howarths ever found a difference in the number of cracks that reopened based on whether they were pinned or not. I haven’t either, and neither has anyone else I have ever asked. No one in Howarth’s London repair shop pins oboes these days.

**Alain deGourdon** of F. Lorée in Paris made some very practical observations about repairing cracked oboes:

When we find a crack on an instrument we use superglue (cyanoacrylate) to fill the crack. Before doing that, we warm up the wood for the glue to penetrate better. Afterwards, we file the wood, etc. When the crack goes through the tone holes, we install ebonite inserts. We use epoxy to glue in the tone hole inserts. We agree with you that an instrument loses value when it is pinned, even if the pinning is done very well. As a manufacturer, when we have an instrument with a very large crack, we prefer to replace the wood.<sup>24</sup>

**Gabrielle Nilsson-Püchner** responded on behalf of the Püchner firm with a one-sentence response about pinning: “No, we don’t pin cracks.”<sup>25</sup>

I also contacted the South Korean oboe repairer, **Eunsoo Lim** in Seoul. He explained:

Regarding pinning cracks on oboes, I don't do it! When I was a student at Merton College in London I learned pinning cracks on oboes, but after college and I was in the field, no more. I worked at Howarths in London for a while, and they don't do it, either. And as you already know, Marigaux, F. Lorée, Rigoutat and Ludwig Frank etc.—none of the European companies do it, either. I have asked them why. They have all said it's too old-fashioned, that it is also not good for the vibration of the wood to have the additional metal from the pins there, and that certain oboes are just going to crack anyway, no matter what you do.

When I repair a crack, I use thin layers of superglue. If there are deeper and bigger cracks, I use grenadilla wood dust that I put into the cracks, and then I add the superglue.<sup>26</sup>

**Philippe Rigoutat** of Rigoutat Oboes would certainly agree with Mr. Lim. Asked about pinning oboes, he replied:

We haven't pinned a crack in at least twenty years. Pins prevent the top joint from vibrating fully because of the metal in the wood. The wood doesn't like all that metal, especially when we use four or five pins. It's too much. If you pin an oboe, it can still reopen, or crack in yet another place, usually next to the first crack. For us, it wasn't a good solution. When the wood needs to crack, it will! There isn't a lot you can really do about it. On the bigger cracks, we wait; we want them to close down first before we glue them.

Sometimes we can't even see the cracks by the time they arrive here; they are completely closed. In Europe people can easily send their oboe to the maker for repairs, since so many of us are here. The musicians are used to that, and that is different from your country. Lots of our repairers have learned in the factory, too, so the quality of repair work in Europe is very, very high. I think our advantages are the combination of a very high level of repair work, players being able to go back to the manufacturer for their repairs, and the fact that we have three excellent repair schools in Europe.

Another thing we have found is that it isn't the temperature that cracks oboes; it is humidity that is the real problem. I was asked to give a class on oboe repair at the Hochschule in Karlsruhe, Germany. I wanted to show the students how oboes crack. So I brought some pieces of grenadilla wood from

our factory. We put them outdoors each night (it was about minus 6 or 7 degrees Celsius or about 20 degrees Fahrenheit), left them out all night, and then brought them in each morning and put the wood on top of a heater! We did this for several days. None of the wood cracked! I am not suggesting anyone do this with his or her oboe, but the point is that it is the humidity more than the temperature that is the cause of cracks in oboes.<sup>27</sup>

Suitbert Walter, whom I have quoted earlier, also provided his views on to pin or not to pin:

There are good reasons for both ways to repair cracks. Generally speaking for European companies and repair people, the consensus seems to be simply gluing/filling with the typical cyanoacrylate type glues and when needed to bush the tone holes with either hard-rubber (ebonite), delrin, an appropriate different synthetic material, or even wood.

There's almost nobody using the traditional pinning method, although there could well be some repairs where this most likely would be the better solution. But at the same time, I very, very rarely pin myself, as the demands re: time and customer needs dictate a quicker solution. In my humble opinion, the main reason for this development is based on economics rather than pure logic or experience—it's just a much more convenient way to proceed with most cracks.<sup>28</sup>

Howarth's Neil Clark is in full accord with Suitbert Walter:

In our busy workshops in London, I see many cracked oboes of all makes all year round, but many more in the winter months. I have known four or five in one day, most commonly through the trill tone holes. Usually players need a crack repair to be done very quickly, the player is often in a panic and has a concert in a few hours and a speedy repair is necessary. Superglue makes this achievable and offers as quick and reliable a repair as possible.

I will always glue cracks in bed places (tone hole seats), too. Often tiny cracks develop in the bed place causing air leaks under the pad. Bushings will not stop a crack from reopening, but when a crack does reopen, the repair is simple since the bushes can be resealed around the edges and the bed place remains perfect; you will be unlucky if you have to re-seat the pads.

I find all cracks behave differently, some close up, some stay open and some will change whilst they are on the bench. If a crack is very open, I let

the instrument rest in the hope that it will close down a bit. This results in a much better-looking repair.<sup>29</sup>

Suitbert Walter summarizes his thinking on crack repairs:

This method—gluing the crack with cyanoacrylate and bushing any affected tone holes with either synthetic material or the appropriate wood is the most widely used method today. The advantages of this method are that it is 1) easy and economical to do, 2) time is not an issue, since it can sometimes be done on a do-it-yourself basis if needed, and 3) it is cosmetically pleasing when properly executed.

For the second method, the old way of pinning cracks (most likely there are many different ways to pin, so this is only a simplified look at it), the main difference is that the first step for this repair is to wait until the instrument gets back to the initial condition, i.e. one waits until the gap of the crack is closing! Then one would try to strengthen the structure with threaded pins perpendicular to the cracks' length axis. Of course there's additional gluing involved in that process. This method is probably better in regards to restoring the original geometry. On the other hand, it is more work, needs more time, it is cosmetically not that pleasant even if nicely executed, in some cases it is not effective (due to high stress or poor execution), and in some cases the crack doesn't reopen, but a symmetrically "mirrored" crack on the opposite side of the instrument occurs. Pinning can be tricky as well—I've seen pinning hardly capable of doing the slightest of what it's supposed to do—for example, too fine threading for the pins, which can't withstand any sort of force, etc.<sup>30</sup>

Suitbert Walter, Renaud Patalowski and Alain deGourdon all mentioned tone hole inserts in their comments. For readers who might not be familiar with tone hole inserts—also called bushings—inserts are used when a crack goes through one or more wooden tone holes. There are different opinions on this, but this repair is generally considered the gold standard of how to repair a crack that goes through one or more tone holes. There are repairers who only glue the affected tone hole edges, but some others would say this is not stable enough, because as soon as the moisture hits the inside of the tone holes, the crack can reopen. Jeremy Walsworth of Howarths also pointed out that cyanoacrylates and water do quite poorly together, so the glue does less and less well trying to hold the wood together in an exposed tone hole that has been glued with superglue and then comes into contact with moisture.<sup>31</sup> With inserts, the

epoxy helps holds things together, and when the moisture hits the tone hole, it comes into contact with another material, not the wood, so things are usually fine. However, the bushing in a tone hole can possibly leak if the original crack opens significantly after it has been glued. Thankfully, this is a rare occurrence. But it can happen, just like any pinned crack can reopen. I have seen bushings leak maybe twice in thirty-five years. Of course, many oboes already have tone hole inserts installed by the makers when they are manufactured. Many Laubin oboes have inserts, as do the professional Yamaha oboes, and most exotic wood oboes (violetwood, cocobolo, rosewood et al) by the different manufacturers have inserts. Consequently, if an oboe with inserts cracks (exotic wood oboes are more prone to cracking than grenadilla wood), it won't crack through the tone hole since the crack stops at the outer edge of the insert and cannot go further. Therefore, if an oboe with bushings does crack, the real repair is essentially already done and all that needs doing is to glue the crack.

Oboe repairer **Wen-chia Huang** of Taipei, Taiwan, offers his thoughts on pinning cracks:

I don't pin cracks. I have been a professional woodwind instrument repairman since 1987 and I rarely use pins to repair cracks. I have done it just a few times. The only time I would think about pinning would be a serious crack below the G# on the upper joint. I might do this because I think the oboist will apply force when assembling the oboe. But please allow me to remind you that I will only make this decision when the crack is serious in this place. I use cyanoacrylate (superglue), and I pay great attention to the freshness of the superglue.<sup>32</sup>

Fox's oboe design engineer, **Sarah Rude**, is representative of the North American point of view. Although she says that she would not pin her own oboe, Rude will pin an instrument if the customer requests it. Rude goes more by the comfort level of the customer, and added that there are still a number of American repairers who pin the cracks that come through their shops.<sup>33</sup> One of the American repairers who pins oboes is John Symer, who would certainly be in agreement with Rude:

I see no downside to pinning cracks, aside from the finesse it takes to do them well. I have never in forty years had someone complain that pinning negatively affected his or her instrument. I believe pinning is popular here in North America due to our extremes of climate, but of course I would just glue if the customer has strong feelings about not pinning. And like climate science, everyone has an opinion on the subject!<sup>34</sup>



Symer's comments about pinning because of the extreme climates in North America got me thinking, and I respectfully have to admit that I do not agree with him for the following reason: the European oboe makers (who do not pin oboes) have to deal with far more serious global climate variations than we do in the United States, simply because they have to consider the entire planet. They do warranty repairs as well as general repairs for instruments from all over the world. China, for example, has nearly every kind of climate possible, and China is a big and rapidly growing market for oboe manufacturers. According to Howarth's Neil Clark:

I don't know the exact total number of countries we export to, but we do sell in every continent, as do most European manufacturers. So our oboes see the cold of north Canada or Siberia to the heat of the Middle East, the humidity of Colombia to the dryness of an air-conditioned room in Los Angeles, and everything in between.<sup>35</sup>

Asked about the different climates where their oboes are sold, Renaud Patalowski of Marigaux described the situation all the major manufacturers face internationally much like Clark did with Howarths. The sum total of Patalowski's and Clark's experience was a wake-up call for me that maybe things aren't as bad as we thought in North America, and that perhaps it might be time for us to reevaluate the idea of pinning based upon the idea that we North Americans have the franchise on climate variation on our planet. We don't. Patalowski summarized the challenges the manufacturers face. Marigaux was founded in 1935, incidentally, so they obviously have a long track record:

We export approximately 95% of our production to about fifty countries, and it's growing. We sell in so many climates, from Finland to Kazakhstan, China to Australia, Japan, Israel, Qatar, Taiwan, Chile, and Russia... Dry, humid, hot and freezing—everywhere!<sup>36</sup>

When a player has a very bad crack, what happens? What can the owner expect? If an oboe goes back to the maker while it is still under warranty, it is at the discretion of the manufacturer whether to repair or replace the top joint. However, if a crack goes straight through to the bore, there usually is no option but to replace the wood. With most other cracks, though, the final decision is up to the manufacturers, who have many decades of valuable experience and expertise with these issues.

If an oboe is not under warranty, the wood on the top joint usually needs to be replaced if it has cracked straight through to the bore. In most cases, only the manufacturer

can do that, which is a very good reason to purchase instruments from makers who are currently in business and can be contacted directly (no gray market oboes!). If an oboe is not cracked through to the bore, but is cracked through every tone hole, I personally would suggest replacing the upper joint wood. Yes, that is expensive, but so is bushing every tone hole if someone repairs an oboe like that. Going with a new top joint would be my preference, especially since resale value for badly cracked oboes is nonexistent. There are others who might not agree with me, though, so this is no more than one person's opinion. It is what I would do with my own instrument if this happened to me. The cost of a replacement top joint would be more than justified by the fact that the owner would then have an oboe that would play well and would also be sellable. A new top joint actually increases the value of an oboe, which is another reason to consider it a good investment.

Some cracks simply have it in their DNA to reopen. We all have to understand that and try to have patience when it happens. Jeremy Walsworth of Howarths also points out that some people are generally much more worried about oboes cracking than others. For those players, he is strongly in favor of playing on an instrument with a liner, or a synthetic top joint. The liners that Howarths makes are manufactured from a hard rubber, and he adds that the quality of the material they can get now is the best he has ever seen. He also added that with the exception of some thumb-plate British instruments, virtually all Howarth XL oboes, for example, are manufactured with either a liner or a synthetic top joint these days.<sup>37</sup> I asked Walsworth if he would like to see all wooden oboes made with either a liner or a synthetic top joint. Would that be his idea of a perfect oboe world? He answered yes, because it takes so much of the worry out of taking care of an oboe.<sup>38</sup> For me personally, liners have been a godsend. Every winter for decades I descended into what I called the salt mines of mid-winter crack season. It always lasted about four months—from late December right through Tax Day on April 15th. With all the lined instruments out there now, my winters are so much easier and more pleasant. And the same thing can certainly be said not just for the manufacturers and other repairers, but also for all the owners of lined oboes who don't need to worry anymore. I see firsthand what a difference this makes for people.

Of course I realize there will be strong differences of opinion about some of what I have written, and what my repair and manufacturing colleagues have said. I fully anticipate this, and believe that as long as we all approach the subject with open minds, each of us can gain something from the discussion. What I would say is that times change, technology changes, and materials change. I have seen cracked oboes with metal bands around them as a crack repair. How horrendous, but that was the state of the art at the time those repairs were done. I am sure that there will be a time in the

future when someone might read an article like this, smile, and think, “How quaint. They did what they could with what they had at the time.” Materials will change, and there will be new solutions to problems that we can’t even envision right now.

I do think that the people who continue to pin oboes do so simply because that is how they were taught decades ago. That is certainly what they have all told me. In the mid 1980s, I was taught that way, too, so I am probably a good example. But times change, and I decided it was time for me to change, too. For me, it was the right decision. That may not be the case for everyone, though, and I fully respect that. In fact, talking to so many experts while writing this article, I certainly understand all the reasons for the diversity of opinions more completely than I ever did in the past. I have learned so much from my colleagues while researching this article. I started analyzing some of the things that work well for me to see *why* they were working so well. I had just taken some things for granted over the years, but all the comments I got from people were the catalyst for me looking at things in a new way. I was also inspired by Chuck Kessler, and purchased a nice air compressor, and am following his advise on the acetone/air compressor treatment for cracks. Only time will tell if it makes a difference for me, but my interest was piqued, and I thought *why not try it?* My thinking is that his success rate is not due to using cyanoacrylate or pinning the cracks, since virtually everyone uses superglue and quite a few North Americans pin oboes. Cracks can and do reopen whether they are pinned or not, so something else is responsible for Kessler’s success. The only remaining explanations would be closing down the cracks 80% to 90% before gluing them, and then the acetone/air compressor treatment. Since I already close down my cracks significantly before I glue them, I am thinking that the acetone with air compressor treatment must be what makes the difference. I have absolutely nothing to lose by trying this system, and am already doing so. If some of my colleagues’ comments actually enhance my own—as well as others repairers’—skills, what a delightful and unexpected bonus.

The overwhelming consensus among the makers and repairers I contacted is that pinning has long since seen its day, although it certainly was the state of the art for oboe repair thirty-five or forty years ago. Although pinning hasn’t quite gone the way of the dinosaur, it is close. We have been there for decades in Europe and Asia, but not just yet in North America. I have always had tremendous respect for the opinions of the European oboe manufacturers because they are on the front lines of seeing what happens to their instruments in so many different climates across the globe. They have led the way with so many innovations in design and technology, and oboists everywhere have benefitted so much from these advances. So, I took their lead on not pinning oboes many years back, while at the same time remaining open and interested in other approaches.



Cracked English horn before repairs. Photo courtesy of Howarth of London

With the oboe, there can be multiple valid approaches to so many problems. This gives repairers the chance to be very creative in our solutions to problems. It also keeps life very interesting for all of us.

If an instrument of mine cracked, I would not pin it. If I had a pesky crack that insisted on reopening, I would just keep regluing it, since I know that cracks will eventually behave themselves. I always remind oboists that we are dealing with inanimate objects here. An inanimate object like an oboe will eventually succumb to a hefty dose of homo sapien will power and determination. There is simply no way an oboe can win this battle. Sooner or later, every oboe succumbs.

For an Asian or a European reading this, they would probably wonder what the fuss is all about in North America. For them, pinning is dead. But for North American readers, we have to take a special more open-minded approach since we have such a variety of approaches to repairing cracked oboes. I think John Peterson at RDG Woodwinds in Los Angeles summed it up nicely when he explained that he often lets his customers know that the European manufacturers and repairers do not pin oboes. He takes the time to educate his customers about their options. The only thing I would add to that conversation is to add that the leading Asian repairers also do not pin, and then ask that very important question: why devalue an instrument if you don't absolutely have to?

My hope is that this article will provide some intriguing ideas and perspectives that we can all learn from. It would be gratifying

to see manufacturers and repairers give oboists a copy of this article when an oboe cracks, letting the owners weigh the pros and cons for themselves, making their own well-educated decisions. So much of caring for an instrument is in understanding our options.

Much of the innovation that drives change in musical instrument design and repair over the centuries has come from both makers and repairers. But players have also often led the way with change. Arlen Fast and the Fast system contrabassoon is a wonderful example of a player leading the way in our own time. Fox's Sarah Rude pointed out that virtually all product development is consumer driven: "In my opinion, all design development should be led by the player's needs. That is firmly our philosophy at Fox."<sup>39</sup> With the understanding that players *can* lead the way, there is no reason that American oboists cannot be the catalysts for change in how their crack repairs are approached. Players themselves might lead the way on this one, in keeping with what is a long and well-respected tradition in musical instrument innovation.

Yes, the rest of the world believes North Americans are living in the past. The director of one of the European oboe factories commented to me in a moment of brutal candor that the United States sometimes sleeps because they think they are the best. For a lot of things, he said, that is true. But, as he pointed out, in his opinion we are asleep at the wheel when it comes to pinning cracked oboes. He also reminded me that the European oboe makers see each other frequently, and they talk together about what works and what doesn't. No other part of the world has that wonderful advantage, and it must be exciting to be able to hear from some of the greatest oboe makers informally about their approaches to various manufacturing and repair challenges. They are all sharing information and learning from each other's experiences. I am optimistic that North Americans will at least consider the expertise of our colleagues around the world. And we certainly have the ability to lead the way, too. Look no further than Laubin oboes. Back in the late 1960s, Alfred Laubin was already making oboes with liners in the top joint. According to Alex Laubin:

As far as I know, from our records and the oboes I've seen, the first sleeves in Laubin oboes were done in 1968. There are a lot of oboes with hard rubber sleeves from 1968 and 1969. I'm not sure why Al stopped after that. But my dad revived the practice around 1977, and since then every new oboe has had a liner. We are still mostly using ebonite, but we also continue to experiment with other materials.<sup>40</sup>

Fifty years later, many oboe manufacturers still do not offer this option. So, it is probably very fair to say that North America is behind in some things, but ahead in others.

When it comes to what for many of us are the passionate subjects of music and our musical instruments, we should all hold to our own beliefs as if nothing else existed. But I also believe the only way to do that is to remain fully respectful towards other approaches and ideas with which we may not agree at the time. As we encounter the new developments that woodwind musical instrument manufacture and repair will surely experience in future years, if we can keep an open mind, I would argue that we have accomplished a great deal. As Howarth's Michael Britton reminded me: "The great thing is that we are all still learning. That's the *only* way forward!"<sup>41</sup>

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## Endnotes

- 1 Alex and Paul Laubin, Laubin Oboes, telephone interview, April 5, 2019.
- 2 Louis Oboes were manufactured in England between World Wars I and II.
- 3 Neil Clark, Howarth of London, email message to author, April 2, 2019.
- 4 Michael Britton, Howarth of London, telephone interview, February 28, 2019.
- 5 Philippe Rigoutat, Director, Rigoutat Oboes, Paris, telephone interview, March 3, 2019.
- 6 Jeremy Walsworth, Director, Howarth of London, interview, New York, NY, March 14, 2019.
- 7 Suitbert Walter, Uwe Henze GmbH, Neuss, Germany, email messages to author, February 5&7, 2019.
- 8 Wen-chia Huang, President, Rajah Musical Instrument Co., Ltd., Taipei, Taiwan, email message to author, February 15, 2019.
- 9 Internet sites like eBay can be wonderful resources for very inexpensive oboes that are perfect for repair experimentation.
- 10 Jeremy Walsworth, Director, Howarth of London, interview, New York, NY, March 14, 2019.
- 11 John Peterson, RDG Woodwinds, Los Angeles, telephone interview, February 19, 2019.
- 12 Chuck Kessler, Kessler & Sons Music, Las Vegas, telephone interview February 21, 2019. Kessler told me that being a repairman in the desert, he has done more crack repairs than anyone, and he has simply had more practice than anyone else (Kessler

- & Sons also repairs many cracked wooden clarinets and wooden piccolos). That being said, given the percentage of instruments that do crack in the desert, Kessler told me that a few years ago he discontinued selling wooden oboes without liners. Every wooden oboe he sells these days has a liner.
- 13 David Kessler, Kessler & Sons Music, Las Vegas, email to author, February 27, 2019.
  - 14 [www.norapost.com](http://www.norapost.com)
  - 15 David Kessler, Kessler & Sons Music, Las Vegas, emails to author, February 27 and March 22, 2019.
  - 16 Neil Clark, Howarth of London, email message to author, April 2, 2019.
  - 17 Suitbert Walter, email to author, February 7, 2019.
  - 18 Suitbert Walter, email to author February 7, 2019.
  - 19 Renaud Patalowski, President, Marigaux Oboes, Paris, email to author, February 4, 2019.
  - 20 Jeremy Walsworth, Director, Howarth of London, interview, New York, NY, March 14, 2019.
  - 21 Renaud Patalowski, email to author, February 4, 2019.
  - 22 Jeremy Walsworth, Director, Howarth of London, telephone interview, February 23, 2019.
  - 23 Neil Clark, Howarth of London, email to author, April 2, 2019.
  - 24 Alain deGourdon, Director, F. Lorée, Paris, email to author, March 17, 2009.
  - 25 Gabrielle Nilsson-Püchner, J. Püchner Spezial-Holzblasinstrumentebau GmbH, Nauheim, Germany, email to author, February 26, 2019.
  - 26 Eunsoo Lim, President, LODEM Woodwinds, Seoul, South Korea, emails to author February 9&12, 2019.
  - 27 Philippe Rigoutat, Director, Rigoutat Oboes, Paris, telephone interview March 3, 2019.
  - 28 Suitbert Walter, emails to author, February 5&7, 2019.
  - 29 Neil Clark, Howarth of London, email to author, April 2, 2019.
  - 30 Suitbert Walter, emails to author February 5&7, 2019.
  - 31 Jeremy Walsworth, Director, Howarth of London, interview, New York, NY, March 14, 2019.
  - 32 Wen-chia Huang, email to author, February 11, 2019.
  - 33 Sarah Rude, Oboe Design Engineer, Fox Products Corporation, South Whitley, Indiana, telephone interview, February 6, 2019.
  - 34 John Symer, email to author, April 3, 2019.
  - 35 Neil Clark, Howarth of London, email to author, April 4, 2019.
  - 36 Renaud Patalowski, President, Marigaux Oboes, Paris, email to author, April 4, 2019.

- 37 Jeremy Walsworth, telephone interview, February 23, 2019.
- 38 Jeremy Walsworth, interview, New York, New York, March 14, 2019.
- 39 Sarah Rude, Oboe Design Engineer, Fox Products Corporation, South Whitley, Indiana, telephone interview, April 9, 2019.
- 40 Alex Laubin, Laubin Oboes, email to author, March 24, 2019.
- 41 Michael Britton, telephone interview, February 28, 2019.