

Larrivee Guitar Forum

Main Forums => Technical Discussion => Topic started by: Waxer on July 03, 2011, 09:00:35 AM

Title: **No saddle height left and bridge profiling**
Post by: **Waxer** on **July 03, 2011, 09:00:35 AM**

It seems many people have issues with low to no saddle left for adjustment.
This is what I have been told when I asked a very reliable source, Larrivee has used a thicker than normal bridge to allow the user to adjust the set up to their liking via a bridge profile. When I asked what a profile was I was told that the bridge material is removed to allow for more saddle height so the the saddle can now be lowered again. It just seems that shaving bridge material with the bridge on the guitar is a bit aggressive.
If someone can explain bridge profiling and how it is done that would be great.

Title: **Re: NO SADDLE LEFT AND BRIDGE PROFILING**
Post by: **Matthew Larrivee** on **July 03, 2011, 09:38:20 AM**

It's an issue that opens a can of worms for many people. As there are a group of "internet forum readers" who believe it is not a valid way to adjust the guitar. Both Jean and I, Taylor, Martin, Collings, and virtually every other maker disagree with them.

Our bridge starts off at around 10.5mm and you can safely take the bridge as low as 7.0mm with no loss in tone or stability. We basically use a rectangular orbital sander and some hand sanding to do it. We also manufacture special bridges (9.5, 9, 8.5, 8, 7.75, 7.5, 7.25, and 7mm) that we use for repairs. The bridge usually requires some extra dremel sloting to reset the string break angle as well.

The primary reason this is done is not that neck join has changed, but rather the back of the guitar has either swollen or collapsed due to moisture change which forces the neck block to slightly move in turn giving the appearance that neck angle has changed. For example I had a lady come in this week from San Diego whos guitar was swollen like a football. Her action was a mile high because the back of the guitar had swollen up shifting the neck forward. She had lowered the saddle and there no room for it to go lower. So we removed about 2mm from the top of the bridge and reset the break angle - the string height at the 14th fret went from 8.5/64th to 5/64th with room on the saddle to spare to try and get lower if she wanted. It's a quick and easy permanent fix that doesn't require the risks and damage of a neck reset.

Title: **Re: No saddle height left and bridge profiling**
Post by: **Waxer** on **July 03, 2011, 11:05:17 AM**

Thank you for taking time to answer this question. There is so much information on the guitar repair web sites about sanding saddles down but nothing letting people know about this option, and how it is done, if they run out of saddle that I have found any way.
BTW my Larrivee guitar has good action with some saddle and bridge left to adjust.
I live in a pretty dry area so I keep an eye on humidity.

Title: **Re: No saddle height left and bridge profiling**
Post by: **uncrob** on **July 03, 2011, 07:49:48 PM**

Just because you read it on the internet in some tech/luthier forum doesn't mean its true ALWAYS ALWAYS take it to someone you trust who does it for a living and has the to help knowledge explain it to you before they do any work.

Matthew you know some nitwit is going flame you for what you typed,please be careful.I know we all love it that you help but be careful my friend there are more nitwits out there then you think.THANKS for always going above and beyond. :wave
They will find a way to distort what you've type and hold it against you.

Title: **Re: No saddle height left and bridge profiling**
Post by: **jeremy3220** on **July 03, 2011, 10:54:23 PM**

Quote from: **Waxer** on **July 03, 2011, 09:00:35 AM**
If someone can explain bridge profiling and how it is done that would be great.

Probably a hand plane or sander. I don't think 'profile' is normally used as a verb in this situation. It's more commonly used to mean the outline, general shape or arch that a guitar part has. So if you shave the top of the bridge you probably want to maintain the profile(arch) the bridge has. This is something you want a professional to do.

As to what the proper fix is depends on the root cause. Neck angles, bridge heights, saddle heights, etc are dealt with by established acceptable ranges. I believe what determines proper neck angle is not saddle clearance and where a straight edge lands on the bridge but rather the neck angle's effectiveness in supporting an ideal string height over the soundboard with bridge height being a subsequent consideration. Again, there will be an acceptable range for string height over the soundboard and as long as shaving the bridge keeps it within that range it's probably an acceptable method. With some newer neck attachment methods, resetting the neck may be easier than shaving the bridge.

Title: **Re: No saddle height left and bridge profiling**
Post by: **Zohn** on **July 04, 2011, 03:16:29 AM**

Modern day quick fixes: Some choose bolted necks, others just sand their bridges.
:winkin:

Title: **Re: No saddle height left and bridge profiling**
Post by: **Waxer** on **July 04, 2011, 08:46:58 AM**

The idea of bridge profiling makes good since to me but I would never try this at home. NO WAY!!
Sanding a saddle down and truss rod adjustments are the only home set up adjustments that I would advocate. Any thing beyond that should be done by a skilled repair person. Bridge profiling should give those people out there, that have no saddle left, another option to lower their action.
Just because we are not enough to have Matthew explain this process does not mean this is something we should try ourselves. I am sure there is a delicate art to this like many other things in guitar building. Lets just appreciate knowing. Thats enough.

Title: **Re: No saddle height left and bridge profiling**
Post by: **Walkerman** on **July 04, 2011, 09:27:57 AM**

Quote from: **uncrob** on **July 03, 2011, 07:49:48 PM**
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Rob....how true...remember the poster who insisted he was shafted by the folks at Larrivee precisely because they would not do a neck reset, but instead chose to shave the bridge. He was sure he knew better than JCL and Matthew on how a Larrivee should be handled.

Title: **Re: No saddle height left and bridge profiling**
Post by: **uncrob** on **July 04, 2011, 08:07:39 PM**

I have givin up with people who know better then me.I either show them the door but in most case's I get read from the phone conversation.Its evry one of favorite sayings is "What do I know,I'm just an idiot and an a**hole,40 odd years and I know nothing".We used that technic for years now I prefer to pop the bridge and take it from the bottom then reglue,come's out neater.What scare's me is some diggleberry is going to read what Matthew posted and try to do it themselves and damage there guitar,blame him and try suing them.TOOOOO many stupid people out thereand waaaaay tooooo many of those same stupid people breeding. :whistling:

Title: **Re: No saddle height left and bridge profiling**
Post by: **Matthew Larrivee** on **July 04, 2011, 10:27:38 PM**

Quote from: **uncrob** on **July 04, 2011, 08:07:39 PM**
We used that technic for years now I prefer to pop the bridge and take it from the bottom then reglue,come's out neater.

... and it's a good method too - Many ways to climb the same mountain.

Quote from: **uncrob** on **July 04, 2011, 08:07:39 PM**
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Absolutely - While it is a simple thing for us - potential damage could arise in unskilled hands and it should only be done by a professional. I try not to post a lot on internet guitar forums, but I feel strongly about this topic and if it isnt written on the internet than no one will believe it! :/

Title: **Re: No saddle height left and bridge profiling**
Post by: **tadol** on **July 05, 2011, 12:29:07 AM**

This makes so much sense - but I've not seen it discussed much on-line, other than about adjusting the bridge during construction -

SO - if I may ask a couple questions -

How much support should the saddle get? (how deep into the bridge should the saddle go) - Are there any min or max values you look for when you're evaluating this? How much bridge do you like to see between the bottom of the saddle and the soundboard?

Hard numbers aren't necessary - but I do appreciate your general philosophy and honest approach to this - Thanks Matthew -

Title: **Re: No saddle height left and bridge profiling**
Post by: **L07 Shooting Star** on **July 05, 2011, 01:58:15 AM**

I'm not an expert. Some quotes from my reference book (and I'm paraphrasing):

"a bridge thickness of 5/16" is beginning to get a bit skimpy"

"the saddle slot is 1-1/2 to 2 times as deep as the exposed saddle"

"the saddle should be showing 1/8" to 3/16" exposure above the bridge. This ensures a string angle steep enough to produce good volume. A too-tall saddle exerts too much pressure on the slot, and can cause the saddle to warp. A height much less than 1/8" does not give the guitar's body enough chance to sound."

For what it's worth, I've applied these suggestions in the few setups I've done, and they worked very well for me.

Kurt

Title: **Re: No saddle height left and bridge profiling**
Post by: **Zohn** on **July 05, 2011, 02:26:33 AM**

Quote from: **L07 Shooting Star** on **July 05, 2011, 01:58:15 AM**

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Kurt

Those are good references, but also relative - the angle is also determined by the distance from the saddle to the string's point of exit at the pin hole. Similarly it can be brought closer by ramping slots to increase the angle.

Shaving of material off the top of the bridge without altering the saddle-slot depth will produce the same result, obviously with a shallower saddle slot.

Title: **Re: No saddle height left and bridge profiling**
Post by: **L07 Shooting Star** on **July 06, 2011, 11:27:24 PM**

Quote from: **Zohn** on **July 05, 2011, 02:26:33 AM**

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Shaving of material off the top of the bridge without altering the saddle-slot depth will produce the same result, obviously with a shallower saddle slot.

I see what you mean. So one could get that string angle correct by more than one method depending on circumstances. For example if you believe 1/8" is the absolute min. saddle height acceptable, and your saddle is already there, then you shave the top of the bridge or maybe ramp it or maybe a bit of both? On the other hand, if you had a nice high saddle but also too-high action, you would simply shave the underside of the saddle and you would (potentially) still have an acceptable string angle when you were done. I never considered the distance between the point of exit and the peak of the saddle. This would be one of the "circumstances" where you would want to adapt and use the applicable combo of methods.

Title: **Re: No saddle height left and bridge profiling**
Post by: **Zohn** on **July 07, 2011, 11:48:32 AM**

Quote from: **L07 Shooting Star** on **July 06, 2011, 11:27:24 PM**

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Right. I cut ramps into the bridges of my J-05 and my Walden for a greater break angle with great results. Bryan Kinsey illustrates it well on his web page.
(<http://www.bryankinsey.com/bridges/Collings.JPG>)
