



Handcrafted pickups. Pure sound.

THE PURE PICKUP™

Installation Manual
Pure Mini for Steel String Acoustic Guitar

Thank you for choosing the K&K Pure Mini! This manual describes the installation for pin bridges and pinless bridges.

For pin bridge guitars, a jig installation can be used (jig is included with product). The jig allows you to place the pickups very accurately. For pinless bridges, we describe a jigless installation procedure.

Please try to work as thoroughly as you can and **DO NOT INSTALL THE PICKUPS IN ANY OTHER LOCATION**, including the back side of the bridge plate (towards the endpin jack). This position will definitely not sound as good! On extremely small bridge plates, the transducers may overlap by as much as 1/16" (1.5 mm) on the cable side of the pickup. Do not overlap more than that, and it is always preferable to have no overlap at all!

Please read through the entire manual before installation. **Please make sure you read, understand and agree to the disclaimer. Please call or email us if you have any questions.**

DISCLAIMER

Following the pickup installation instructions is mandatory. Installation or removal of this product is at your own risk. In no event will K&K Sound Systems Inc. be liable to you or whomever you select for doing this installation or removal in your place, for any damages arising from your use of, or, the inability to use these products. This includes any possible health hazards, accidents, injury, any lost profits, or other incidental or consequential damages, even if K&K Sound Systems Inc. has been advised of the possibility of such damages, or for any claim by another party.

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1. PACKAGE CONTENTS

- 3 transducers with cable harness and endpin jack. The Pure Mini uses 3 identical transducers. It does not matter in which position (high e/b string, g/d string, low e/a string) you install them.
- Manual
- Accessories pack (see photo, from left to right)
 - Jig (remove protective foil before use)
 - White pin & golf tee
 - Putty (remove protective foil before use)
 - Double-sided tape for peel-and-stick install



2. TOOLS/SUPPLIES NEEDED

- Superglue gel (any brand of Cyanoacrylate glue will do as long as it is gel)
- Electric drill (for endpin jack mount)
- Drill bits, at least 3/8" (10mm) and 1/2" (12mm for endpin jack mount), endpin reamer or 1/2" Forstner bit
- Pliers or wrench for endpin jack installation

- Flashlight and small handheld mirror for visual check
- Fine sandpaper or razorblade (if residue on bridge plate surface or if not smooth and level)

FOR PINLESS BRIDGES ONLY

Same tools/supplies as above, plus:

- Double-sided carpet tape or similar
- 3 latex gloves
- 1/16" drill bit

3. SUPERGLUE VS. "PEEL-AND-STICK" INSTALLATION

We think that a superglue installation helps the pickups reach their full potential. The best sound is achieved when there is as little material as possible between the pickups and the surface of the guitar. Superglue gel bonds the pickups to the guitar on a molecular level.

For players who absolutely do not wish to use superglue on their guitar, we supply some very thin double-sided tape (for peel-and-stick attachment). Please note that using this method will result in about 30% loss of volume and tone quality, compared to the superglue mount. If you choose to proceed with "peel and stick" installation of the pickups, please use the supplied double-sided tape and follow the instructions that come with it.

If necessary, superglued pickups can be removed by wedging a scraper blade (razor blade with a handle on one side) between the bridge plate and the pickup discs. If done correctly, this will not damage your instrument.

Please note that removing a superglued pickup may damage the pickup, plus handling these sharp tools could result in personal injury. Please read and understand the section on removing superglued pickups towards the end of this manual.

4. PREPARATION (FOR ALL GUITARS)

- If you have a pinless bridge, remove the strings. If you have a pin bridge, loosen the strings and clamp a capo on the 10th fret. Pull out the string pins and the ball ends of the strings. The capo will hold the strings on neck and tuners. This way you don't have to remove the strings entirely and can quickly re-install them after the pickup is installed.
- Place the guitar on a table (use a blanket underneath) so you can comfortably put your hand into the sound hole and feel the internal structures underneath the bridge with your fingers.
- Locate the X-bracing and the bridge plate. The size of the bridge plate and the bracing of your guitar might be different from the bracing structure shown in the pictures in this manual.
- Use a handheld mirror (one which fits into the sound hole) and a flashlight to examine the bridge plate area. Make sure that the bridge plate is level, clean and smooth.
- Drill or widen the endpin hole to 1/2" (12mm). In my opinion, this is the most difficult part of the installation. First you have to determine what kind

of endpin is currently installed in your guitar. It may be a simple type, which is held in place by a single screw. Or it may be a standard ¼" tapered endpin, either press-fit or glued in. The glued in type is the most difficult one to deal with and we recommend looking for professional assistance.

- Tape the endpin hole area generously with masking tape to protect your guitar's finish.

SINGLE SCREW TYPE

- We recommend using a ½" (12mm) FORSTNER drill bit to drill out the screw hole. This one makes the nicest cut and is most gentle to your guitar. You also may use a step-by-step method to widen the hole to ½" (12mm). Use several ascending size drill bits in succession. Make sure to use self-centering drill bits (used for metalwork) not the single-pointed drills for wood!

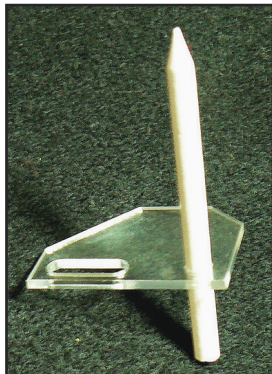
STANDARD ¼ TAPER PRESS FIT ENDPIN

- Pull out the endpin and use several ascending size drill bits in succession to widen the hole step by step. Make sure to use self-centering drill bits (used for metalwork) not the single-pointed drills for wood!

5.1 JIG INSTALLATION FOR PIN BRIDGES

1. Please remove the protective foil from both sides of the jig before starting. The jig itself is clear and the protective foil peels off easily.

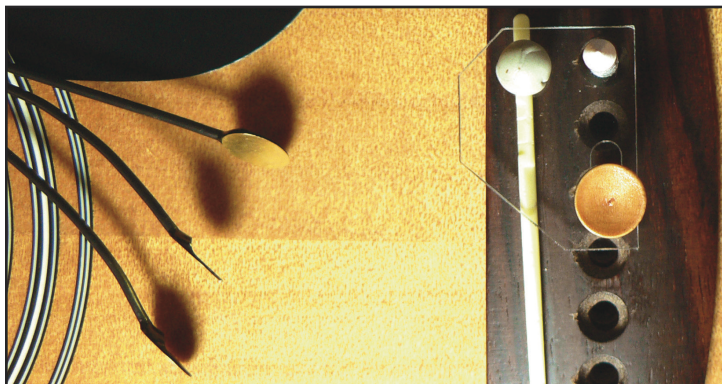
2. The white pin needs to be inserted into the round hole, point first (see photo below for proper orientation). Push the pin about $\frac{3}{4}$ of the way through the jig.



The pin should fit very snugly – you may have to use some force (or even file it down a bit) to press it into the hole. If the pin fits too loosely, please use some superglue to secure it. Wipe off excess glue and let dry.

3. Insert the flat end of the white pin into the high E string pinhole. Slide the brown golf tee through the oblong hole in the jig and through the G string pinhole.

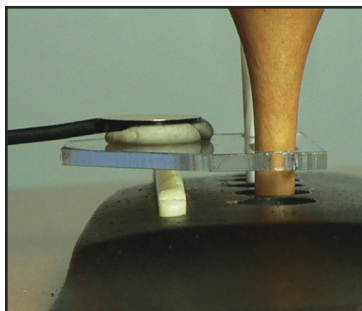
4. With the included putty, form a small ball and stick it on top of the jig, above the point where the saddle and high E string intersect. (**Note:** On the high E string we place the pickup directly under the high E string, for the G/D string pickup and A/E string pickup we place it between the strings.)



5. Place one pickup on the putty with the golden side facing up and press the pickup to the putty. It should hold the pickup in place securely enough to allow for the installation.

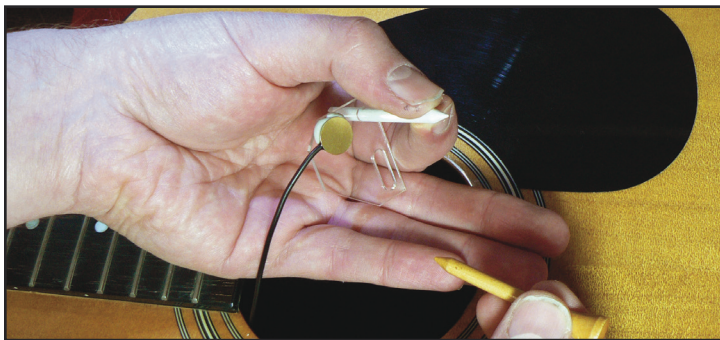
Make sure the pickup sits parallel to the surface of the jig.

Tip: Don't use too much putty -- aim for a piece that's just a bit smaller than the pickup head.



We recommend that you do a test run without using the glue at this point to practice finding the right position for the jig inside the guitar.

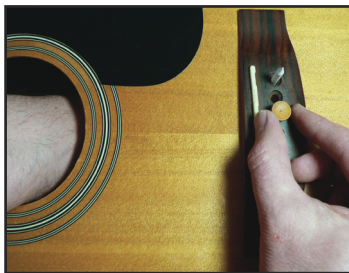
6. Hold the tip of the white pin between your thumb and forefinger. The golden part of the pickup should be facing up and away from the palm of your hand.



7. Move the jig inside the guitar through the soundhole. Stick the golf tee into the high E string hole from the outside with your other hand and try to feel it protruding to the inside with the thumb or index finger of your jig hand. This process helps you identify the correct pinhole on the inside.



8. Guide the white pin up through the high E string hole from the inside and secure the jig by moving the golf tee to the G string hole from the outside and finding the oblong hole in the jig. This will align the jig exactly as was done in step 3, during the practice run.



9. Once you confirmed that the procedure works as intended, you can apply glue the golden side of the pickup and glue it in. Please ensure that the putty still holds the pickup firmly in place after the trial run. Use a fresh piece of putty if necessary.

Use a good amount of glue and spread it generously over the golden surface of the pickup. You should use enough glue to cover the entire surface of the pickup. It is best if some glue “oozes” out around the pickup as you install it.

The most common source of sound issues and transmission problems with the Pure pickups is using too little glue for the pickup to bond properly to the bridge plate.

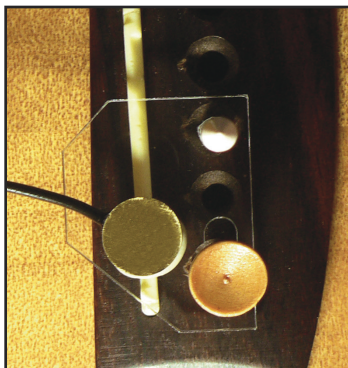
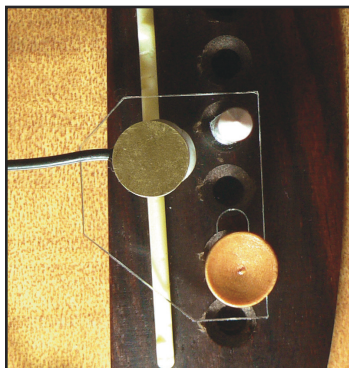


10. Once the pickup is in place, apply pressure to the jig/pickup while you slowly count to 30 to allow the glue to set. Release the pressure, but **leave the jig in place for another 5-10 minutes** to allow the glue to cure before continuing.

11. To remove the jig, carefully wiggle it left and right to loosen the bond of the putty from the pickup. The putty will most likely stick to the pickup. We recommend using a rag or cotton swab to wipe off the excess superglue around the pickup and then remove the putty from the pickup. If there is some small amount of putty residue left on the pickup, it will not present a sound problem.

If you get superglue on your fingers, the easiest way to remove it is to let it dry and then buff it off with some fine sandpaper or a nail file.

12. Please use fresh putty for each pickup and repeat the same process as described above with the center pickup (between G and D, left photo below) and the low string pickup (between E and A, right photo below).



13. Here is how the finished result will look inside the guitar. You can use a mirror and flashlight to check that the position of the pickups is correct.

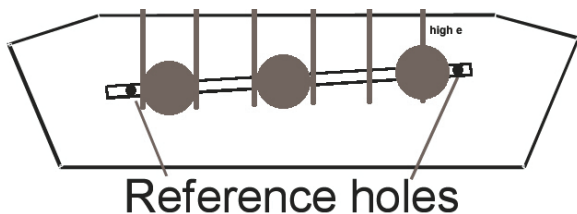
Tip: The sliding tube along the pickup cable can now be slid about 1-2 inches from the pickup heads to keep the cables together. Once the endpin jack is mounted and before it is fully fastened, give it a twist or two to form a loop in the pickup cables to keep them from touching the soundboard or bottom of the guitar. When done correctly, there will be no need to secure the wires with clamps.



5.2 INSTALLATION FOR PINLESS BRIDGES

PREPARATION

- Installation on pinless bridges requires you to drill two 1/16" reference holes in each end of the saddle-slot. If the guitar already has a hole in the saddle-slot for an under-saddle pickup you can use this hole.
- Please inspect the bridge plate inside the guitar with a mirror and a flashlight to make sure that there is enough room for all 3 pickups.
- Use a fitting nail, toothpick or the drill bit itself (that's what I do) to stick it through the reference holes so that it will extend about 1/2" or so inside the guitar and act as a guide on the inside.
- Use this guide as a side-stop for your 2 outer pickups:



- The 2 outer pickups are going to be placed with their outer edges right next to the guides. Once the outer pickups are in place you can remove the guides and install the center pickup in between the 2 outer transducers. You can install this one by feel only, but if you prefer, you could drill a third guide hole for it.

PRACTICE

- Before you actually superglue the pickups into your guitar, you should perform some practice runs without using the superglue gel. This is important for learning the correct movements and getting the feel.
- Find out which hand feels more natural doing the installation procedure and put on a latex glove. Use a small piece of double-sided “carpet tape” to stick the pickup to your fingertip (see photo below). The golden side of the pickup is facing up. This makes holding on to the pickup and aiming inside the guitar a lot easier.
- Practice placing the outer pickup discs right next to one of the guides in the reference holes.
- Later, when doing the actual installation, you will have to firmly press the pickup to the bridge plate to allow the excess glue to ooze out around the pickup’s edges. Please make sure that you will be able to comfortably perform this final aiming procedure. The pickup has to be pressed down and held in place against the bridge plate for at least 30 seconds.



- The center pickup should only be installed when the two outer pickups are glued in place. These 2 pickups need to be used as guides for the installation of the center transducer. This means you should practice with the center pickup only after the 2 outer pickups are installed.
- On occasion, with pinless bridges, we've used double-sided tape for the center pickup and superglued only the 2 outer ones. The center pickup contributes only about 15% to the total sound. The 2 outer transducers do most of the work. The "peel-and-stick" installation of the center pickup will have only minor effect on the final sound and it would be beneficial in case the center pickup is badly misplaced.

FINAL INSTALLATION

- Apply superglue gel to the golden underside of the first pickup. Spread a generous layer of the gel with the tip of the tube so it will cover the entire surface.
- Now install the first pickup to its corresponding position at the high E string, as practiced. Press it down and hold it in position for at least 30 seconds.
- Repeat above steps and attach the second transducer to the corresponding position between the low E and A strings.
- Check your work with a mirror and flashlight.
- Attach the center transducer between the 2 outer pickups, aiming for a position between the G and D strings.
- Check your work with a mirror and flashlight.

6. IMPORTANT SUPERGLUE INFORMATION

Please read and follow the safety instruction for the superglue gel. Make sure not to get superglue on your fingers or on your guitar! It is a good idea to cover the entire guitar top with fabric or paper, just leaving an opening for the sound hole.

The entire golden underside of the pickup discs needs to be covered with superglue gel. Spread a generous amount all over the surface. Do not use just a drop in the center, as this will not distribute evenly. Please be aware that the amount of glue coverage is directly related to the signal output, balance, and sound. Careless and insufficient gluing is the number one cause of unsatisfactory sound for this pickup!

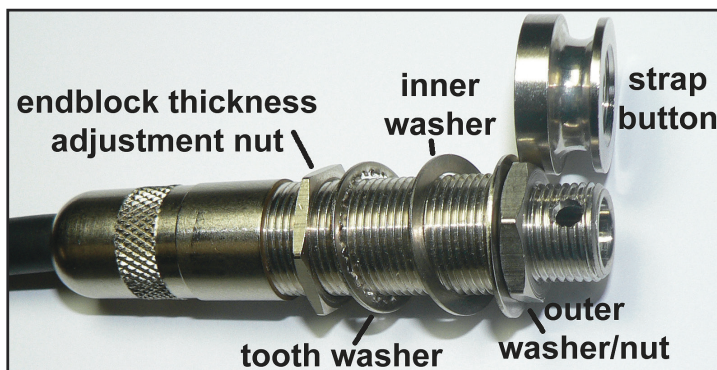
Don't worry; the superglue gel will not dry immediately after it is applied to the pickup. You will have more than sufficient time without rushing things. A generous amount of gel will actually be good for several minutes. The gel will only set after contact with another surface.

The superglue gel even allows for a few seconds of repositioning time after the pickup is pressed onto the bridge plate surface. After the final position is reached, hold and press the pickup firmly down in place for at least another 30 seconds.

Excess gel will ooze out around the edges and eventually dry - that's fine. You can use a rag or cotton swab to wipe off the excess gel if you want. Be extremely careful not to get the rag or swab in contact with the guitar's finish!

7. INSTALLING THE ENDPIN JACK

- Unscrew the endpin jack's strap button.
- Remove the outer nut and washer.
- Determine the thickness of your guitar's end block and set the endblock thickness adjustment nut accordingly. You may have to back off the screw cap. Once the nut is in place, screw the cap back in, either right up against the nut or as far as it goes, as tightly as possible. This step might take a few tries to get the right spacing.
- Insert the jack from the inside into the endpin hole. **Tip:** a chopstick or something similar helps to get a hold of the jack and guide it through.
- Attach outside washer and nut and tighten. Attach the strap button. **Important:** Make sure that the strap button screws in ALL THE WAY over the outer threaded part of the jack, so that a tiny portion of the thread is exposed when the strap button is tightened.



8. REMOVING SUPERGLUED PICKUPS

Removal is at your own risk. It might result in destruction of the pickup and/or personal injury. We STRONGLY recommend you consult an experienced luthier.

A luthier should be able to remove the pickups by using a scraper blade wedged between bridge plate and pickup discs from the pinhole side. The pickup usually pops off once the blade is about 1/8 - 1/4" or so under the pickup.

The superglue gel's bond is easier to break than, for example, epoxy glue. This makes it possible to remove the pickups without damaging the wood, but you may damage a pickup during removal. You have to carefully test the pickups after removal and cleaning. You can purchase single replacement transducers from us if needed.

The glue residue on the bridge plate can be removed with fine sandpaper or you can carefully scrape it off with the scraper blade. If done correctly there should be no damage to the bridge plate or to the inside surface of the guitar top.

TESTING PICKUPS FOR RE-INSTALLATION

Be careful not to bend the pickups. Visually inspect the pickups for bend marks or other irregularities. If they look damaged, they may still work but we recommend replacing bent or nicked pickups. Use the scraper blade to scratch off any remaining glue residue from the golden side of the transducers. Make sure not to

bend the pickups while you are doing this. Some fine scratches in the metal will not hurt the performance.

To test the pickups, plug the pickups into an amp. (If you have a Trinity System you can plug a mono guitar cable into the endpin and you will hear the pickups only.) Hold one pickup at a time about 3/4" (2cm) from the pickup head on the cable and tap the pickup with your finger. Do this tapping in both directions, so that you tap the black side and the golden side. You can do this quite hard. The tapping sound will be amplified and all pickups should produce about the same volume.

There should not be any missing taps. There should not be any loud "crackles." If the pickups test out fine, you can reinstall them. Make sure that all glue residue is cleaned off the wood of the bridge plate or guitar top. Smooth the wood surface until it is perfectly straight and clean.

9. TROUBLESHOOTING

MY PURE SYSTEM SOUNDS WEIRD AND HOLLOW

This is probably an installation issue. First, check if the pickups are positioned correctly on the bridge. Then, test if they are solidly adhered or if they come off easily. If peel-and-stick installation was used, output will not be as good as with superglue installation.

There are several things that could go wrong during an installation, but the one factor that seems to be the dominant one is that not enough glue was used. This

may result in the pickup only being partially bonded to the bridge plate due to insufficient coverage. One indicator of good glue coverage is to see “oozed out glue” around the entire edge of the transducer. We recommend you carefully remove the system and re-install.

MY GUITAR FEEDS BACK EASILY, ESPECIALLY AT HIGH VOLUME

It is more difficult (but not impossible) to use the Pure Pickup in very loud band situations, especially on small stages. It is designed more for the acoustic musician and the best possible natural tone. A sound hole cover is the first remedy here and helps a lot. Our PowerMix Pure System would actually be the best choice for high volume situations.

Impedance mis-match issue: Acoustic amps and most competitors’ preamps are designed to work best with undersaddle pickups or other very high ohmic piezo pickups. They feature extremely high input impedance (5-10 meg), which boosts the bass response. Most competitors’ pickups need this high input impedance to boost their weak bass response. The Pure has a strong low-end response. It is overkill to boost it.

The Pure sounds best with input impedance like 500 k to 1 meg. If you experience excessive bass response, plug the Pure Pickup straight into the line input of a mixing board -- you’ll see that the excessive bass response is gone.

The best option to compensate for excessive bass on

an acoustic amp is to get a K&K preamp. It may still be necessary to turn down the bass control on the amplifier.

Phase issue: Use a preamp with a phase switch like the K&K Pure XLR Preamp. With properly adjusted phase, you will achieve 30-40% more volume before feedback.

THE PICKUP DOES NOT WORK OR WORKS ONLY INTERMITTENTLY

This may happen if the strap button on the endpin jack is not screwed in all the way. Remove it and try again without it. If this fixed the problem, you have to back off the inner nut in order to allow the precise amount of outer thread to be exposed.

ONE OR MORE STRINGS ARE LOWER IN OUTPUT

A defective transducer is not likely. We thoroughly test each of the transducers several times during production. It is more likely that it is an installation issue. There are many factors that can go wrong during an installation, but the one factor that seems to be dominant is that not enough glue was used. This may result in the pickup only being partially bonded to the bridge plate. One indicator of good glue coverage is to see "oozed out glue" around the entire perimeter of the transducer. If in doubt, you may have to remove & re-install the pickups.

If only the high E string is affected, this phenomenon seems to happen on guitars with tight X bracing. The brace closest to the high strings dampens the vibration on that area of the bridge plate. This affects bridge plate

pickups in general. For this reason, we recommend placing the high string pickup directly under the high E string, which generally helps a great deal.

Acoustically, these guitars sound fine and balanced, the phenomenon affects only the bridge plate. It may be corrected by adding a fourth transducer beyond the X brace on the high string side. This one would be glued to the soundboard. Soldering is necessary.

Another remedy is to try using a thicker gauge high E string.

THE PURE PICKUP JACK IS TOO SHORT FOR MY ENDBLOCK

This seems to be the case in some vintage guitar models. Unfortunately, longer jacks are not available on the market. What you can do is either not use the inner nut but use the inner washer against the screw cap only. Or you can eliminate the screw cap, but in this case you would have to unsolder the wires and then re-solder them. Usually eliminating the inner nut and using some "lock tight" glue to just fix the screw cap on the first thread should allow for the extra length needed. As a last resort, you can leave off the strap button, or use a vintage jack. (Available from K&K, please call us for more information.)

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