Schatten Design
Better By Sound

Handmade Pickups For Acoustic Instruments
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# Installation Instructions - UST Active Under Saddle Pickups

**Notes:**

1) The UST piezo cable element is 0.075" in diameter and should be fitted to a saddle slot with a minimum depth of 3/16" in order to avoid excessive saddle lean.
2) The last 1/8" at the end of the element is not active. It is suggested that a short extension to the saddle slot be drilled at a very small downward angle at the treble end of the slot to ensure that the pickup under the high E string is fully active.

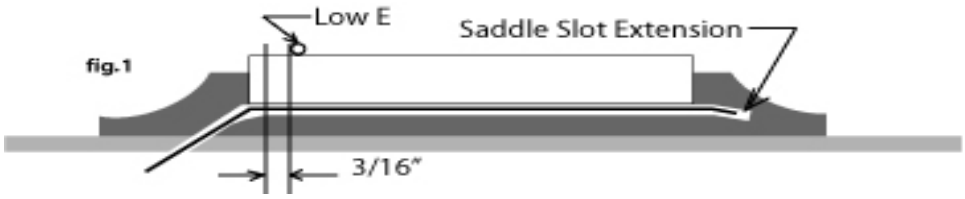


fig.1

3) The element has an extra coating of gray colored shielding. Avoid bending the coated portion as much as possible in order keep this extra coating in place.
4) In order for this pickup to work properly, the bottom of the saddle slot and the bottom of the saddle must be absolutely flat. Many guitars will develop a small upward curvature to the bridge from string tension over time and it very well be necessary to re-cut the bottom of the saddle pocket in order to make certain that it is true and flat.

**Drilling Endpin Jack Preamp Hole:**

1) Remove the strings and saddle from the instrument.
2) The endpin jack preamp requires a ½" diameter hole. If no hole has been pre-drilled in your guitar, then a ½" Forstner bit is suggested to make the first cut through the finish and through the side wood. A Forstner can cut slowly and you may wish to use a ½" spade bit to complete the drilling through the end block.
3) If you don't have access to these bits then you may use regular drill bits going up in sized steps until you have drilled the required size.

**Fitting The Endpin Jack Preamp:**

***Note:*** *On the circuit board of the preamp there is a small white trim pot that can be set to control the maximum output of the preamp. The trim pot can vary the gain from 0 to 20 db and is set at approximately 6 db after the preamp is built and tested. You may need to adjust the gain of the preamp depending upon your amplification. See the fig.5 for the actual wiring of the preamp circuit board.*

1) Remove the button and outer nut and washer from the jack.
2) Reach inside the sound hole and poke the preamp through the drilled hole in the end block. The jack part should protrude approximately 5/16" outside the guitar. Reinstall the flat washer and small nut.
3) Insert a small allen wrench or other small round (like a drill bit) through the 2 holes in the end of the jack part to keep the preamp from rotating; tighten the small nut and reinstall the button.

**Fitting The Pickup:**

1) At the bass end of the saddle slot drill a hole at a small angle through the bridge and top. The suggested diameter of the hole is 1/8" but may be made as small as 5/64" depending upon slot width. (fig.2)

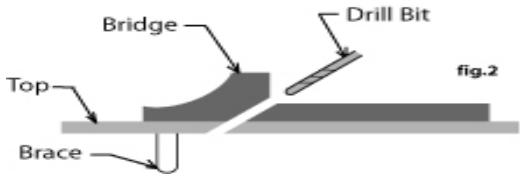


fig.2

2) It is best if the element does not make any 90 degree bends and for this reason it is necessary to round the leading edge of the hole where it goes through the bridge. Lower the angle of the drill and relieve the leading edge of the hole so that it is not sharp. This step may also be done with an x-acto knife. It is important that this rounding over at the edge of the hole remains at least 3/16" from the low E string. (fig.1 and fig.3)
3) At the treble end of the saddle slot drill a hole (the same diameter as the one drilled at the bass end) at a very small downward angle into the end of the saddle slot. Depth of the hole should be no more than 1/8". (fig.4)
4) With your hand inside the guitar, insert the pickup element into the hole drilled through the top and bridge.
5) Guide the element so that the end of it inserts into the saddle slot extension holed drilled into the treble end of the saddle slot.
6) The nylon battery bag attaches to the inside of the guitar with self adhesive velcro. Normal placement for the battery would be on the neck block or on the side near the neck block.
7) Secure any loose wiring with the supplied self adhesive wire clips.

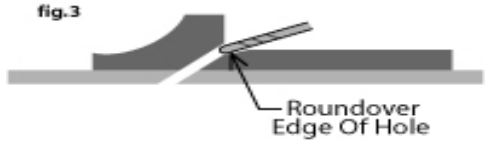


fig.3

**Thumbwheel Volume & Tone:**

1) For those models with thumbwheel controls, choose a flat area under the bass side lip of the sound hole to place the controls.
2) Remove the backing from the self-adhesive pad and press the unit into place.
3) Secure any loose wiring with the supplied self adhesive wire clips.


fig.4

**Re-Fitting The Saddle:**

1) In order to maintain the original string height, the saddle has to be trimmed down 0.075" (approx. 5/64").
2) In order for the pickup to work properly, the saddle must be a loose fit within the saddle slot and cannot bind in the slot. You must be able to pull it out easily with your fingers.
3) Re-install the strings.

**Post Installation Notes:**

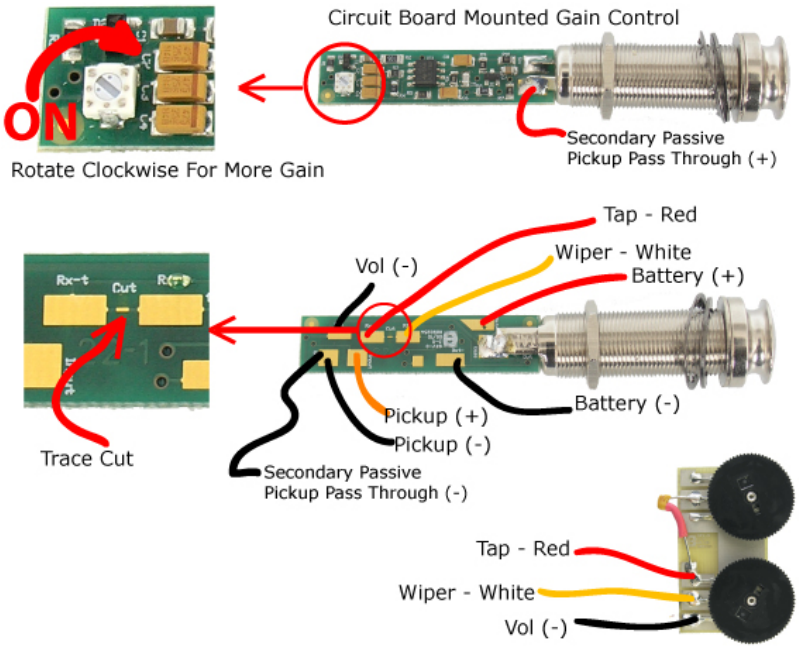
1) Press down on the top of the saddle to seat the pickup and the saddle.
2) Check for string balance and output.
3) After installation, it can take at least an hour for the pickup element to become completely flat and come into proper contact with the saddle bottom.
4) As indicated earlier, the pickup will not work properly nor will the output from each string be equal if the saddle slot is not flat or if the bottom of the saddle is not flat.

Notes:

You may add a magnetic pickup and have it feed passively through the Player Preamp. The attachements to the circuit board are shown by the 'Secondary Passive Pickup Pass Through (+) and 'Secondary Passive Pickup Pass Through (-) solder points.

Output from the Player Preamp would be through a stereo cord with the preamped signal on the tip, the secondary passive signal from the magnetic pickup on the ring, and the sleeve ground shared by both pickups.

Player Preamp Circuit Board fig.5

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