

## Read Me First!

Installation of this product is a simple procedure, but we recommend this job only if you are an experienced repair technician.

## Requirements

The Resophonic guitar pickup is suitable for installation on most single cone resonator guitars with biscuit or spider cones.

The National® Style Resophonic guitar pickup is suitable for single cone National® brand biscuit bridge assemblies only.

## Installation



### Observe the following precaution!

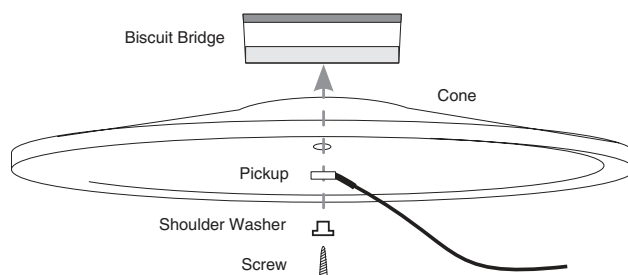
- Handle the pickup carefully! Mishandling may damage the pickup, producing ground hum or intermittent signal.

### Resophonic pickup installation

#### Installation for biscuit style instruments

The pickup is held against the center of the cone with the wood screw that normally holds the biscuit to the cone.

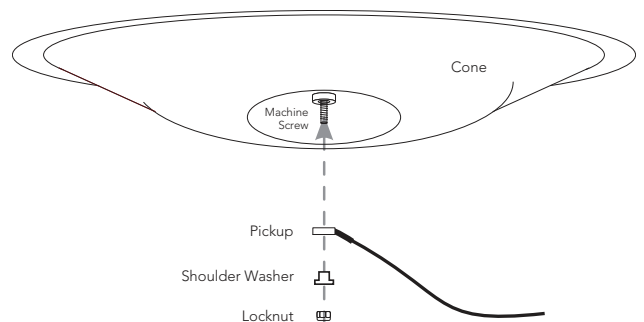
1. Remove the original screw from the biscuit and swap it with the longer wood screw that is supplied with the kit.
2. Notice that the heat-shrink tubing on the end of the pickup is bent to one side. Do not attempt to unbend it! If you do so you may damage the pickup. Position the pickup so the bend in the heat-shrink tubing faces away from the cone.
3. Place the shoulder washer into the pickup and the screw into the shoulder washer.
4. Fasten the pickup assembly to the cone/biscuit. Tighten the screw until snug and then another  $\frac{1}{8}$  turn tighter.



### Installation for spider style instruments

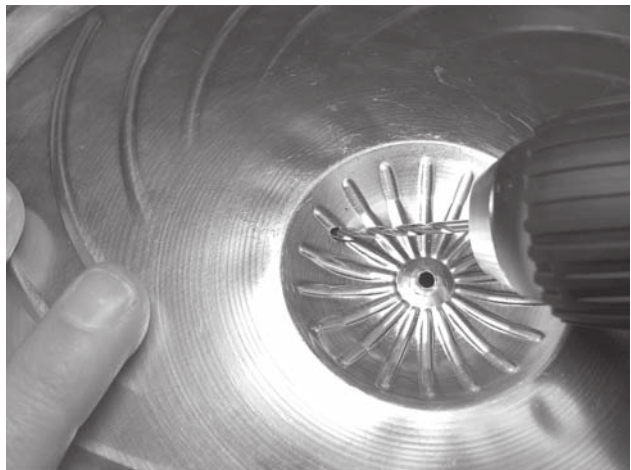
For the pickup to operate properly it is critical that the spider and cone are preloaded with the correct pressure.

1. Remove the strings and the plate that protects the cone assembly. Calibrate the spider/cone pressure by loosening the screw that holds the cone to the spider until the screw head no longer touches the spider frame. Tighten the screw until the head just touches the spider and then tighten one full turn more. The spider/cone is now preloaded for optimum bass response without buzzes or rattles.
2. If the end of the screw is long enough to accept the pickup and locknut, go on to the next step. If it is not long enough you will need to replace it with a longer screw and go back to step 1. We include replacements for both SAE 4-40 and 3mm screws plus matching locknuts in the hardware kit. Choose the screw that matches the threaded slug in the center of the cone assembly.
3. Notice that the heat-shrink tubing on the end of the pickup is bent to one side. Do not attempt to unbend it! If you do so you may damage the pickup. Position the pickup so the bend in the heat-shrink tubing faces away from the cone.
4. Place the pickup, then the shoulder washer on the screw and start to thread the locknut. You must hold the head of the screw stationary (with the screwdriver) as you tighten the locknut or you will change the crucial preloaded pressure on the spider and cone. If the screw accidentally turns as you tighten the locknut, then you must go back to step #1 and re-calibrate the cone and spider.
5. Tighten the nut until it is snug against the pickup and then  $\frac{1}{8}$  turn tighter.
6. When the installation is completed, plug the instrument into an amplifier and slowly turn the screw counter-clockwise until you hear the strongest signal.

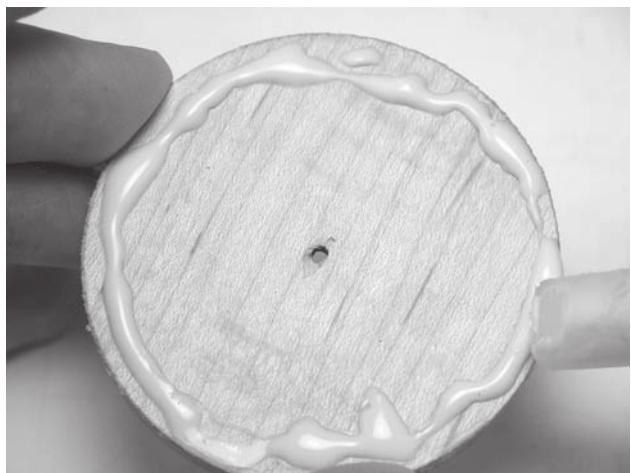


## National® Style Resophonic pickup installation

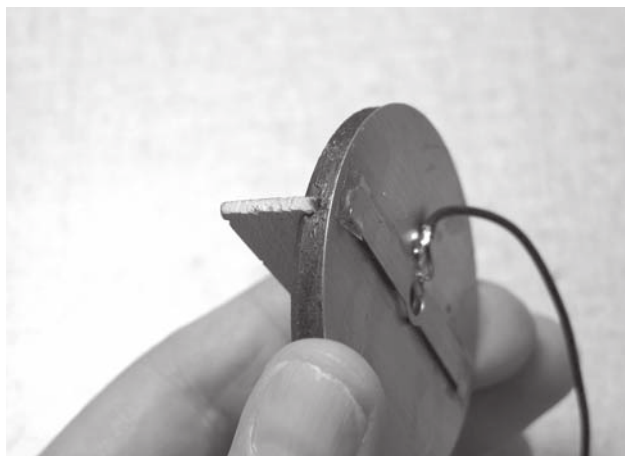
1. Remove the strings and the cover plate. Unscrew the biscuit from the cone.
2. Drill a .094" (2.4mm) hole in the cupped side of the cone, about  $\frac{3}{8}$ " (9.5mm) below the rim. Remove any burrs from the hole.



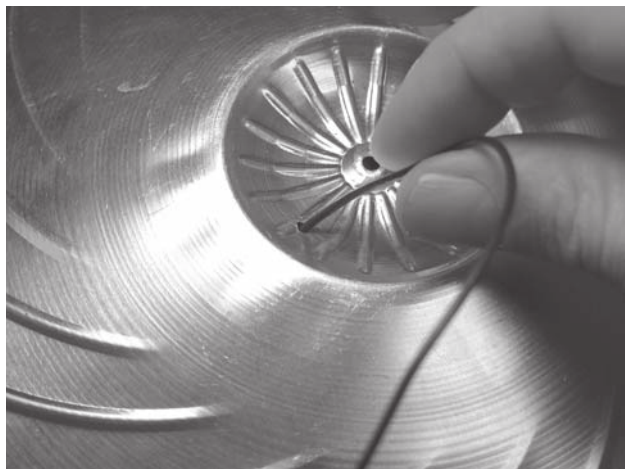
3. Examine the bottom surface of the biscuit with a straightedge. If the biscuit is warped sand it flat.
4. Clean off any dust or debris from the bottom of the biscuit and apply a thin bead of woodworking glue around the edge.



5. Line up the ends of the saddle with the notches in the brass disc, on the side of the disc opposite the pickup element.
6. Affix the biscuit to the disc and wipe off any excess glue. Double-check the alignment between the notches in the disc and the ends of the saddle. Clamp for several minutes.



7. Thread the pickup wire through the hole you drilled earlier.



8. Fasten the biscuit/pickup assembly to the cone. Tighten this screw just enough to prevent the biscuit assembly from freely rotating on top of the cone. Do not over tighten the screw or you may short out the pickup!

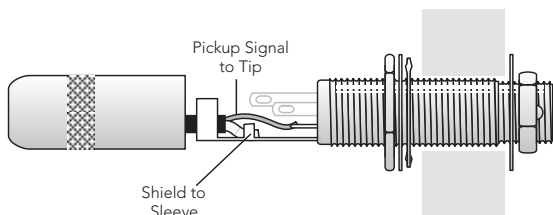


9. Remove the barrel from the jack and thread the pickup wire through it.

## Wiring Options

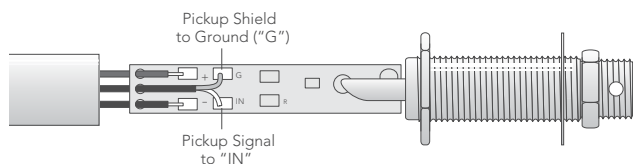
### Passive pickup

Solder the center wire to the Tip terminal and the shield wire to the Sleeve terminal. Fasten the shielding cap to the jack.



### Active pickup

Thread the pickup wire through the strain relief hole at the end of the circuit board. Solder the signal wire to the "IN" pad and the shield wire to the "G" pad. Be careful not to burn the solder pads! If the pads are overheated, they may lift off the circuit board. Fasten the shielding cap to the jack.



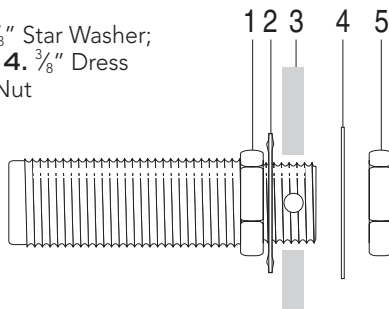
## Jack Installation

### Where to locate jack

#### Metal body instrument

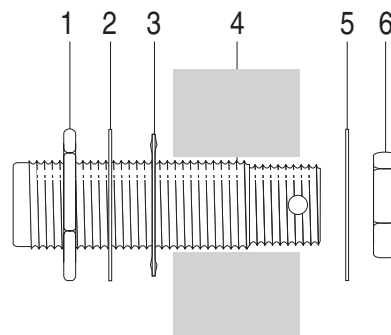
For a metal instrument with a stick that runs the length of the body into the tailblock, we recommend that you place the jack on the treble side lower bout. Use a center punch at the chosen location and use a sharp  $\frac{3}{8}$ " (9.5mm) brad-point drill. For best results, use a drill press and clamp the instrument securely to prevent the drill from wandering or distorting the shape of the hole.

1.  $\frac{3}{8}$ " Nut; 2.  $\frac{3}{8}$ " Star Washer;  
3. Guitar Body; 4.  $\frac{3}{8}$ " Dress Washer; 5.  $\frac{3}{8}$ " Nut



### Wooden body instrument

For most wooden instruments, locate the jack at the endblock, centered below the tailpiece. Drill a  $\frac{3}{16}$ " (4.8mm) hole and enlarge it to  $\frac{15}{32}$ " (12mm) with a  $\frac{15}{32}$ " tapered reamer. Note that if the instrument has a ring ("soundwell") inside the sound chamber, you may have to drill through it to accommodate the jack.



1.  $\frac{15}{32}$ " Nut; 2.  $\frac{15}{32}$ " Washer; 3.  $\frac{15}{32}$ " Star Washer;  
4. Guitar Endblock; 5.  $\frac{3}{8}$ " Dress Washer; 6.  $\frac{3}{8}$ " Nut

## Battery Installation

You may locate the battery bag on any flat surface inside the instrument.

1. Clean the area where you will mount the bag with mineral spirits. Let the area dry before continuing.
2. Peel off the plastic film from the Velcro patch and attach the bag at the chosen location.
3. Carefully separate the bag from the Velcro patch. To set the adhesive, burnish the entire area of the patch, especially the edges.
4. Install a 9V alkaline or lithium battery. Tuck the battery into the bag and re-attach to the Velcro patch. The adhesive under the Velcro patch requires 24 hours to achieve a full bond, so take care to not stress the adhesive if you remove the battery bag after the initial installation.

## Complete the Installation

Reassemble the instrument and tune to pitch.

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