

# FISHMAN® ACOUSTIC MATRIX™ PICKUP INSTALLATION

## Pickup Dimensions

### Wide Format

Width: 1/8" (.125" / 3.2mm)  
Height: .053" (1.35mm)  
Length: 2.650" (67.31mm)  
Sensing Area: 2.620" (66.55mm)  
Maximum recommended "E to E" string spacing for both formats : 2.500" (63.5mm)

### Narrow Format

Width: 3/32" (.094" / 2.3mm)  
Height: .043" (1.1mm)  
Length: 2.700" (67.31mm)  
Sensing Area: 2.620" (66.55mm)

**NOTE:** The overall length of the Acoustic Matrix pickup is 2.650" (67.31mm). To avoid pinching the ends of the pickup, we recommend a saddle slot length of at least 2.825" (71.76mm).

The pickup can accommodate string spacings of up to 2.500" (63.5 mm). Poor string balance may result with string spacings greater than 2.500".

Custom pickup lengths are available from Fishman. DO NOT trim the end of the pickup to make it fit in a short slot. Doing so will compromise the foil shield and cause audible hum.

## Tools

- Router with 1/8" or 3.2 mm (for Wide Format), 3/32" 2.37mm (for narrow Format) plunging cutter
- Caliper
- 400 grit sandpaper or Scraper

## IMPORTANT!

**INSTALLATION BY A QUALIFIED PROFESSIONAL REPAIRMAN IS STRONGLY RECOMMENDED. FISHMAN TRANSDUCERS WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO YOUR INSTRUMENT DUE TO IMPROPER INSTALLATION.**

Particular attention must be paid to the flatness and squareness of both the saddle and the saddle slot. Pickup performance and balance will be greatly enhanced by a properly fit pickup.

Handle the pickup carefully! Mishandling may tear the delicate foil shield, producing ground hum or intermittent signal. Fishman Transducers will be in no way responsible for any damages to the pickup that occur due to misuse or poor installation.

For technical assistance, contact Fishman Customer Support at 978-988-9665 or e-mail us at [tech@fishman.com](mailto:tech@fishman.com)

## Mechanical Factors Affecting Pickup Performance

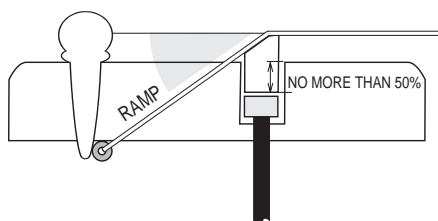
Before you install the pickup, make sure the bridge and saddle are within our recommended "safe zone" of usable parameters.

### Break Angle

In order for the pickup to perform optimally, there should be a 20° (minimum) string break angle across the back of the saddle. An adequate break angle can often be realized by "ramping" the string slots. In extreme cases, where the break angle is much less than 20° and the saddle is so low that it is nearly flush to the top of the bridge, the instrument probably requires a neck re-set. In these cases, resetting the neck to a higher angle will restore the saddle height and the string break angle required for good pickup performance.

### The 50/50 Rule

We have found that there is a critical relationship between the overall saddle height and the bridge slot depth. For adequate mechanical coupling and pickup balance, we recommend that the saddle slot depth (with pickup installed) measures no more than 50% the total height of the saddle. If the slot measures more than 50% the total height of the saddle, balance and/or output level of the pickup may suffer. In these cases, add a hardwood shim under the pickup. To determine the shim's thickness, subtract 1/2 the total saddle height from the slot depth. Then remove an equal amount of material at the bottom of the saddle.



### Exception to the 50/50 rule:

Pickups in bridges (especially Martin style, 3/32" width) with exceptionally steep string break angle will generally perform very well, even if the saddle slot depth measures more than 50% of the total saddle height.

## 1 - Prepare the Saddle Slot

A large percentage of string balance problems with undersaddle pickups can be traced to an unevenly cut or warped saddle slot. Irregularities on the bottom or sides of the slot can often prevent the saddle from uniformly pressurizing the pickup. For this reason, we strongly recommend that before you install any undersaddle pickup, re-mill an existing slot with a plunge router, jigged up in an appropriate slot cutting fixture.

1. Rout a .125" (3.2 mm) wide saddle slot for the Wide Format pickup.

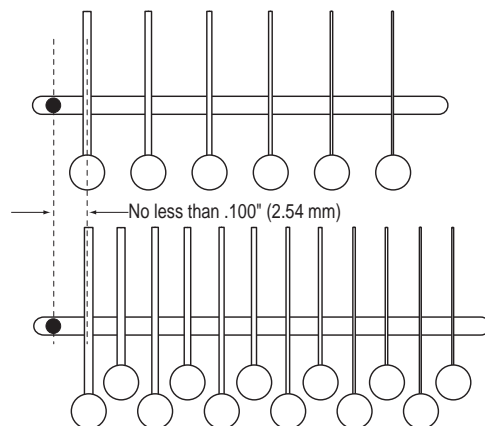
### OR

Rout a .094" (2.3 mm) wide slot for the Narrow Format pickup.

2. Be certain that the bottom of the slot is **FLAT**.  
Deepen an existing slot only enough to obtain a clean, flat surface.

## 2 - Locate the Wire Hole

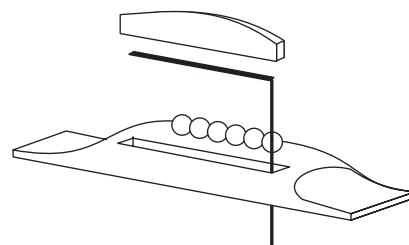
1. Locate the center of the wire hole no less than .100" (2.5 mm) from the closest string.
2. Mark the location where the wire will enter the saddle slot. Center the mark between the walls (width) of the slot.
3. Drill a .094" hole.
4. Clear wood chips and foreign materials from the saddle slot.
5. Carefully insert (do not bend) the pickup. The pickup must fit loosely in the slot, without binding. If the corners of the pickup touch the radiused ends of the saddle slot, pickup failure could result.



## 3 - Prepare the Saddle

We highly recommend the Fishman Cleartone™ saddle for enhancing the performance of the Acoustic Matrix pickup. We also suggest synthetic materials such as Micarta™ or Corian™ as adequate substitutes. Organic saddles such as bone or ivory can not be recommended since these are not structurally as consistent as synthetic materials and may produce poor string to string balance through the pickup.

1. Prepare a .125" wide saddle (.094" for Narrow Format).  
The bottom of the saddle must be **FLAT**.
2. Remove only enough material from the width of the saddle to provide a sliding fit in the slot. To test the fit, the saddle should slide easily in the slot, but should not fall out when overturned. To maintain your current action, the new saddle must be .053" shorter in height (.043" for Narrow Format pickups) than your current saddle.



**FISHMAN®**  
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