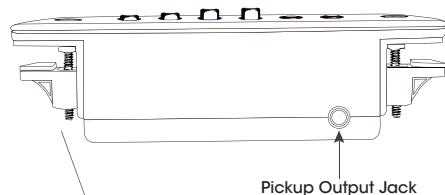
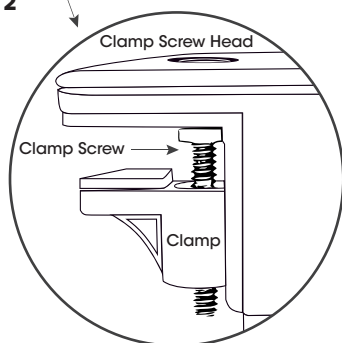
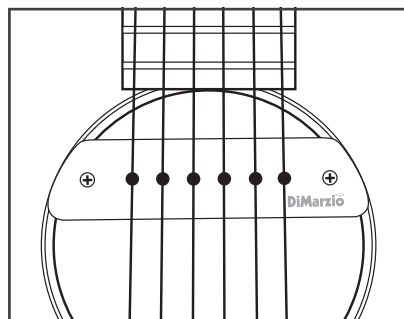


# THE ANGEL™ DP230 INSTALLATION INSTRUCTIONS

**FIG. 1****FIG. 2****FIG. 3**

The Angel™ is a magnetic soundhole pickup designed to work with standard bronze strings, but nickel-wound and compound strings can also be used. It will not work with nylon strings.

**[FIG. 1]**

The soundhole must have a minimum diameter of 3½ inches (89 mm).

**INCLUDED IN THIS PACKAGE**

- (1) The Angel™ soundhole pickup
- (1) 12-foot (3.5 meter) cable
- (1) 20-inch (50 cm) endpin jack cable assembly
- (1) ⅜-inch Allen wrench
- (2) self-adhesive cable retainer clips
- (1) spare set of pickup mounting cushions
- (1) instruction sheet
- (1) warranty card

There are two ways to install The Angel™ soundhole pickup. The quick installation uses the included 12-foot (3.5 meter) guitar cable out of the soundhole. The professional installation (see reverse) uses the included pre-wired endpin jack.

**THE ANGEL™ QUICK INSTALL**

Loosen the clamp screws on both ends of the pickup top plate using a small Phillips screwdriver until the clamps are open wide enough to mount the pickup on the top of the guitar. **[SEE FIG. 2]** Then slide the pickup into the soundhole.

For small soundholes, it may be necessary to remove one or both clamps, slide the pickup into place, and then reassemble the clamp(s) once the pickup is correctly positioned. When reassembling the clamps, be sure they slide into the slots molded into the pickup housing.

We recommend installing the pickup as close to the bottom edge of the fingerboard (towards the neck) as possible.

Adjust the pickup so that it is centered in the soundhole and the pole pieces are aligned with the strings. **[SEE FIG. 3]** A slight mismatch between your guitar's string spacing and the spacing of the pole pieces will not affect performance.

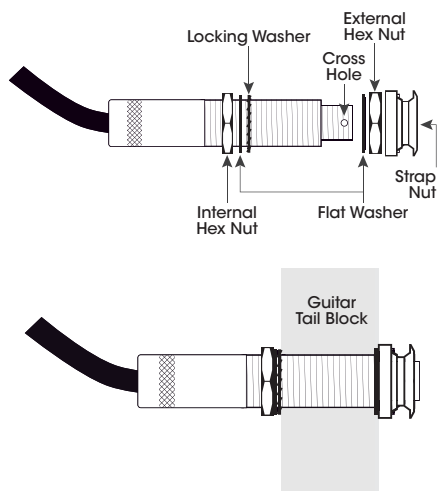
Tighten the clamp screws firmly, but do not over-tighten. Over-tightening can damage the pickup or guitar finish.

Once the pickup is securely installed, you can plug the 12-foot (3.5 meter) guitar cable directly into the pickup output jack and hang the cable outside the soundhole.

The pole pieces of The Angel™ are preset for standard bronze acoustic strings (four wound strings and two plain), but this setting is only a basic reference point. The pole pieces are adjustable with the included ⅜-inch Allen wrench to provide the best balance for your specific guitar. Raising a pole piece will increase the output from its string, while lowering it will decrease it.

**IMPORTANT:** The pole pieces have a maximum downward adjustment range. When you encounter additional resistance at the bottom of the adjustment range, do not force the pole piece further. This could result in permanent damage.

**FIG. 4**



**THE ANGEL™ PROFESSIONAL INSTALL**

Remove the guitar strings before proceeding with installation.

The pre-wired endpin jack [SEE FIG. 4] requires a clean 15/32-inch (11.9 mm) hole in the tail block of the instrument.

**IMPORTANT NOTE:** If your guitar already has a hole of the correct diameter for this endpin jack in the tail block, proceed to the paragraph below to complete the installation of the endpin jack. If your guitar does not already have a hole of the correct diameter for this endpin jack in the tail block, we strongly recommend that a qualified guitar technician install the endpin jack as follows:

- Remove the existing endpin and place a piece of masking tape on the outside of the instrument over the endpin area to prevent chipping of the guitar finish.
- Enlarge the hole with a 15/32-inch (11.9mm) tapered reamer, available from Stewart-MacDonald ([www.stewmac.com](http://www.stewmac.com)), part number 4323.
- Remove the masking tape and proceed with the installation.

Remove the strap nut, hex nut and one flat washer from the end of the jack assembly. There should still be one locking washer, one flat washer, one hex nut, and a threaded barrel remaining on the jack.

Using care to keep the washers on the jack, bring the jack down through the soundhole into the body and insert it into the hole in the tail block.

Adjust the internal nut so that the larger threaded section of the jack remains recessed 1/16-inch (1.5 mm) below the outside surface of the instrument and most of the smaller threaded section protrudes from the guitar.

With the jack in place, lay the remaining flat washer over the threads outside the instrument and install the external hex nut hand tight.

Insert the included 3/32-inch Allen wrench through the cross hole in the jack and hold firmly while tightening the nut. Use of a proper wrench instead of pliers will help prevent damage to the guitar. To avoid cracking the guitar finish, do not over-tighten the nut.

**NOTE:** If the jack will not tighten firmly, remove the external hex nut and re-adjust the internal hex nut until the larger threaded section is recessed at least 1/16-inch (1.5 mm) below the outer surface of the instrument.

Finish by installing the strap nut hand tight. It should cover the retaining nut and washer. The end of the jack must protrude slightly from the end of the strap nut so that when a plug is inserted, it will snap securely in place.

Once the endpin jack is installed, install two of the self-adhesive cable retainer clips on the inner back surface of the guitar to hold down the cable and prevent it from vibrating against the guitar.

Install the pickup by following **THE ANGEL™ QUICK INSTALL** instructions on the front of this page.

Once the pickup is securely installed, plug the cable from the pre-wired endpin jack into the pickup output jack. Restring your guitar and you're ready to play.