

Installing Tuning Machines

Roller spacing: Make sure that the roller spacing of the new tuners is the same as the old. The easiest way to measure the distance on the old set is to take a digital caliper or ruler and measure the center-to-center distance of adjacent gears (i.e. from the very middle of the gears). On greater than 95% of contemporary guitars, the distance is 35 mm. Vintage guitars may have distances of 36 or 37 mm, but this is rare.

Mounting screws and holes: The best situation is when the new holes **do not** align or even come close to the old holes. In this case, the procedure is:

1. Insert the new machine head with the **gears facing toward the nut**. Hopefully, the plate will cover all the old holes, in which case you need not fill the unused holes.
2. Punch starting divots with an awl.
3. Drill 1/16" pilot holes only as deep as the screws.
4. Mount the screws with a small screwdriver.

The most challenging situation is **when an old hole is close, but does not perfectly align with the new**. In that case the old hole will pull the screw sideways, which is not acceptable. You must first fill the old hole with a small dowel such as a toothpick sanded to the same diameter as the old hole. Once glued in the hole with woodworker's or super glue and carefully leveled with a chisel or razor blade, drill a new pilot hole and install the screw.

If the old hole is too large in diameter, you must also fill and re-drill as above.