

The Great-Case Cabinet Company

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Hang Angle Measurement Procedure

To ensure that your guitar is hosted properly, we need to know how big it is. Our largest cabinet will host almost any guitar on the market, but a more economical size may be adequate.

If you have a late model guitar made by Fender, Gibson, Guild, Gretsch or Martin, then you should not have to trouble yourself with this procedure. Tell us the year, make and model and we will be able to quickly determine the size of your cabinet. Most popular guitars are listed on our Catalog of Standard Sizes, available at : <http://www.great-case.com/home/id32.html>

On the other hand, older instruments can be difficult to research. Except for Martin, dimensions are not readily available. If your guitar was built before 1980, you may need to measure it. Unusual guitars such as Dean are popular for their exotic shapes, and some stretch the typical dimensions to an extreme.

A visit to your local Luthier might be in order. An experienced guitar technician can quickly tell you the standard size which best describes your instrument. "This is just a variation of a Dreadnought" is a common discovery. If your guitar fits into a late model standard, coffin case, then tell us the make and model of the guitar the case was built for. If all else fails, DIY...

These pages will show you how to accurately measure your instrument, but our assistance is always just a moment away, feel free to call.

Measuring Height and Width

This procedure is as simple as it sounds.

Lay the guitar on a table with a soft towel as a cushion. Use a tape measure.

Determine the widest points on the body. Use the strings as a reference.

Check to see if the upper section of the guitar's body is wider than the tail.

A yard stick laying on the strings will allow you to extrapolate the string line off the tail. Is one side of the guitar wider than the other?

With an X-shaped body like the guitar shown here, the upper right point of the X is sometimes paired with the lower left point to determine Width.

Check for a Strap Knob at the tail of your guitar and be sure to include it in your measurements of Height.



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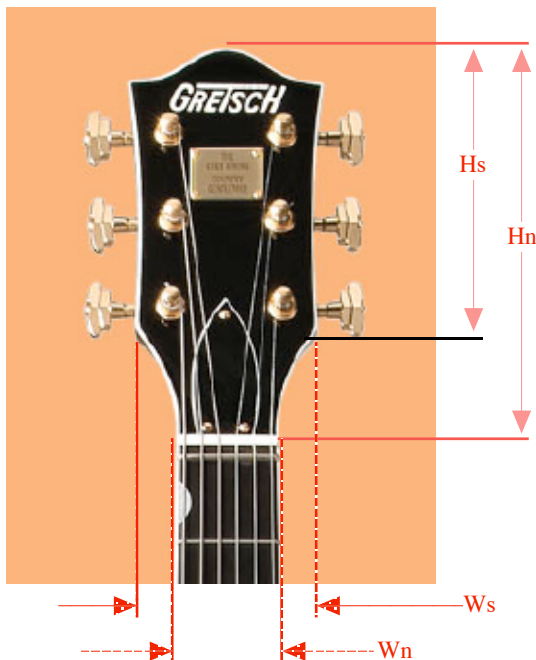
As shown below, the guitar will rest on a standard String Swing™. We often replace the mounting block with one made from your hardwood or with our flexible MultiLoc™ Yoke Block, but the rubber coated yoke which contacts and cradles the guitar is always the same.



Measuring the Head Stock

In order to center the guitar vertically, we need to know how it will sit into the Yoke and how tall it is above the Yoke. Two measurements of height and width are required, as shown below.

If your guitar has an unusual Head Stock, is asymmetric or without clearly defined shoulders, then read the next section. Otherwise...



The two widths shown on the left determine how deeply the head stock will sit into the yoke.

Drawing Point	Definition
Ws	Width of the ... Head Stock at the Shoulders
Wn	Base of the Head Stock or Nut

The two heights will determine where the yoke belongs with respect to the top of the cabinet.

Drawing Point	Definition
Hs	Top of Head Stock to the ... Top of the Shoulders
Hn	Base of the Head Stock or Nut

The yoke is adjustable, allowing about 1/2" of motion up or down, but if you have other guitars,

with different head sizes, get a MultiLoc™ and then oversize your cabinet selection.

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Unusual Head Stocks

If your Head Stock has different shaped shoulders on either side, the yoke will pivot and still hold it securely. The center point of the yoke, however, is a bit more difficult to determine.

If you know that your Head Stock is an identical copy of the famous Telecaster (shown right) or Stratocaster by Fender™, then simply tell us this. We've hung a few of these already.

Otherwise, please trace an outline of the Head Stock to allow us to determine the appropriate measurements ourselves.

A photograph of your Head Stock is an effective technique. Lay a ruler next to the Head Stock to help us estimate the dimensions we need.



Hang Angle Measurements

There are four measurements we need while the instrument is hanging on a yoke. Laying your instrument on a table to take these measurements might sound like an acceptable shortcut, but unless you know that the instrument hangs plum this can be misleading. Very few guitars hang plum. Telecasters actually hang with quite a bias in both vertical dimensions (width and depth) because the center of mass is so far from the line of symmetry.

If you do not have a typical guitar hanger, your local guitar store certainly has hundreds already on the wall. Take your guitar, a tape measure and a yard stick to the store and ask nicely... give them our card. Tell them to call to arrange a free cabinet for their store! Oooops, sales talk...

The only shortcut we've found that saves a trip to the guitar store is a trick we call the Hand Hang.

With your thumb and index finger extended, lift the guitar as if you were gripping the top of the neck, but keep your fingers open and try to rest the guitar on its shoulders as if your hand was a cradle.

Gripping the neck too tightly will affect the resulting hang angle.

Slowly approach a wall and, as you get closer, watch for evidence that the back of the guitar is closer to the wall at the top than the bottom.

With an assistant, all of the measurements shown below can be taken while you hold the guitar quietly near the wall. Resting the back of your hand against the wall is a good way to stabilize the guitar for accurate measurements.

You may discover, after trying the Hand Hang technique, that the guitar hangs plum (such that the back is parallel to the wall). If this is true, then the remaining measurements can be acquired with the guitar laying on a table and soft towel. Be certain to hold the guitar down with the back flat against the table.

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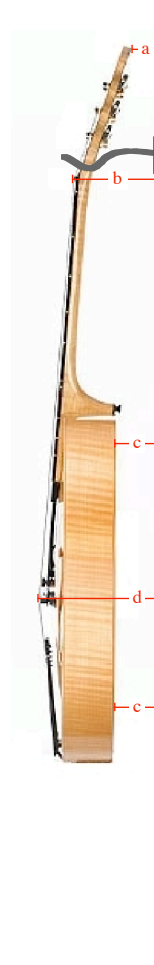
Whether you have your own yoke, go to a store or use the Hand Hang described above, the four measurements to be acquired are defined below.

While measuring the distance from the wall to the highest point on the face of the guitar, the yardstick will be helpful. Place it against the high point and try to hold it parallel to the wall. A second set of hands would be best to accomplish this. An assistant should measure both ends of the yardstick to help determine its final orientation.

Pay particular attention to the points of closest proximity to the wall along the back of the instrument's body.

Arched backs can be difficult to measure and some guitars have strap knobs on the back.

Drawing Point	Definition Measure from the wall to the ...
a	back tip of the guitar's Head Stock at its closest point to the wall.
b	front of the neck at the Nut. The Nut is the at top of the strings and at the base of the Head Stock.
c	back of the guitar body's closest point to the wall. Check for knobs and arched backs, find the closest point.
d	highest point (farthest from wall) on the front of the guitar. Typically the bridge, but check switches, knobs and tremolo arms.



Rather than trying to sneak a ruler into the small space between the wall and back of the guitar body, use the yardstick again.

Note that the highest point on the front of the guitar (farthest from the wall) is often the bridge at the base of the strings, but please look closely at the knobs and switches. Toggle the switches...

On a Stratocaster, the pickup selection switch at the middle position is actually taller than the standard stop-tail bridge.

If your guitar has a whammy or tremolo arm, make sure you swing it through its entire range of motion to find its tallest point. Consider where you will stow the tremolo when you hang the guitar. Measure it at the highest point of travel if you fear it will swing freely while hung

Precision

Your best effort will certainly suffice, this is not Rocket Science. On the other hand, do not assume that a larger measurement will assure you margin. Don't round up... or down.

In several of our calculations, we will subtract one measurement from another. To determine the thickness of the guitar's body, for example, we subtract **c** from **d**. Measure these very carefully.

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Results

Use the following table to document the dimensions you've taken. Thank you for your considerable effort. FAX us this final table and we will quickly determine the smallest possible enclosure your guitar will require.

Measurement	Drawing Point	Definition
	H	Height of the Guitar
	W	Width of the Guitar
	Ws	Width of the Head Stock at the Shoulders
	Wn	Width of the base of the Head Stock or Nut
	Hs	Top of Head Stock to the top of the Shoulders
	Hn	Top of Head Stock to the base of the Nut
	a	From the wall to the back tip of the Head Stock at its closest point to the wall.
	b	From the wall to the front of the neck at the Nut.
	c	From the wall to the back of the guitar body's closest point to the wall.
	d	From the wall to the highest point on the front.