Gibson ES-300 series – Measurements
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Introduction

This purpose of this paper is to present measurements of ES-300 series instruments for a variety of years between 1959 and 1979. Ear shape, nut width, and neck thicknesses are recorded. Pictorial comparisons are made with a 1959 ES-345 as a reference.

Mouse ears, fox ears, and rabbit ears

Most fans of ES-335 style instruments know that the shape of the upper bouts (or "ears") changed over the years. One of the goals of this paper was to come up with a way to quantify this change. The 1958 to 1963 profile is considered by most to be the quintessential shape, often called "mouse ears" because of the slight resemblance to a certain cartoon celebrity who splits his time between California and Florida. A few different reasons have been proposed for this change over the years. It's not my goal to address the reasons for the changes (changes in the mold, changes in the clamping methods, etc), but rather to document them.

Figure 1 – Ears, ears, ears

To do my comparison, I traced the body shape of multiple ES guitars. These tracings were then scanned and imported into Corel Draw, where the tracings were converted to line drawings. Each guitar was then overlaid on the classic 1959 shape as a comparison.

A platform was made to rest the guitar on so that the rounded back of the guitar wouldn't interfere with the measurements. Large tracing paper with 1" square grids was placed on the platform and the center of the paper was cut out so that the paper wouldn't be bent by the back profile and would be planar to the guitar's surface at the

outer rim of the guitar. The guitar made a flat seal with the paper at the platforms surface. A half pencil was used to trace the outline (thanks to Dan Erlewine for the tip). Painter's tape was put on the exposed graphite to protect the guitar finish and the guitars were traced. The paper was then cut into smaller sections and scanned into Corel Draw. The grid on the paper was then used to re-align the sections before tracing the pencil outline.

Figure 2 –Platform

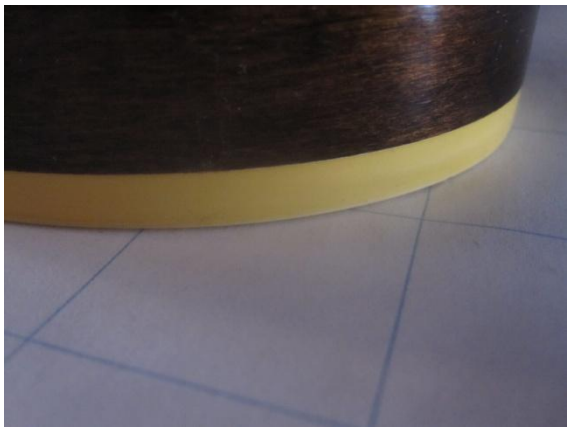


Figure 3 – body sitting flat on paper

Figure 4 – Half pencil

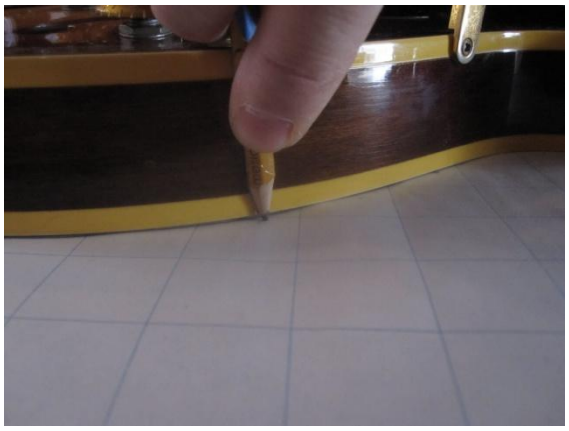


Figure 5 – tracing body

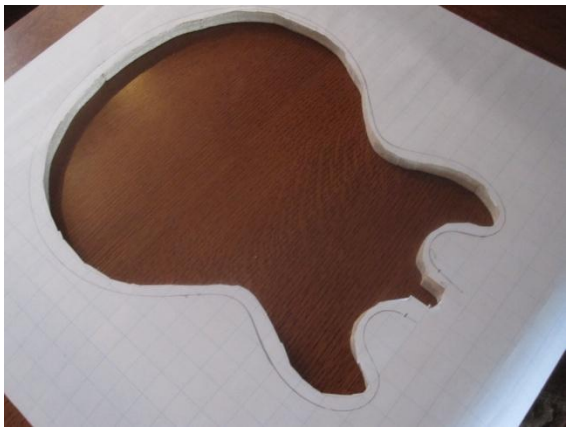


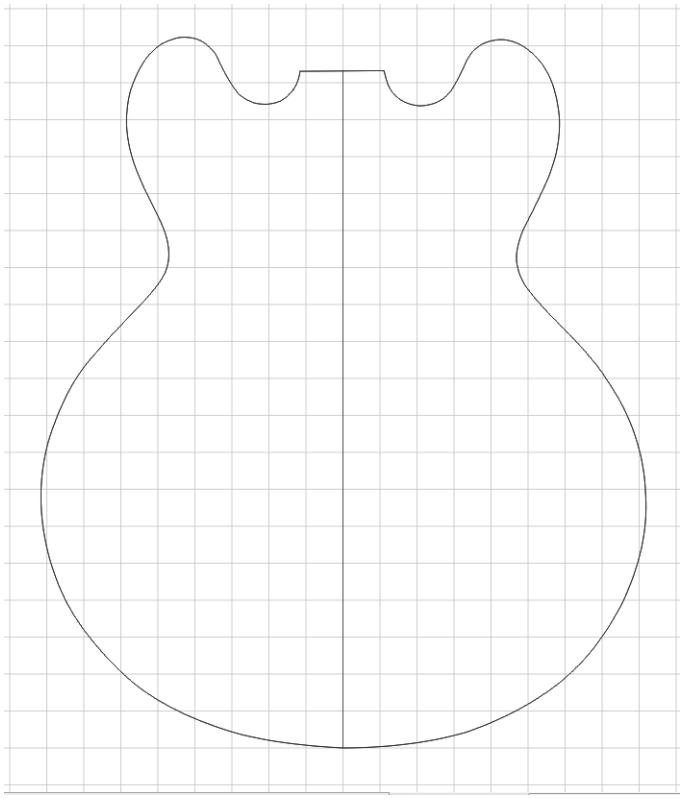
Figure 6 – Finished tracing

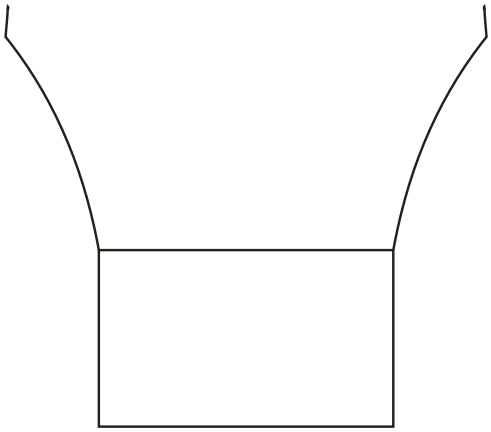
Figure 7 – Ready for scanning

The Guitars

Front L to R: ’64 Epiphone EAP-7, ’59 ES-345
Back L to R: ’79 ES-347, ’69 ES-340, ’61 ES-345, ’60 EB-6, ’67 ES-335-12, ’66 ES-335, ’72 ES-335

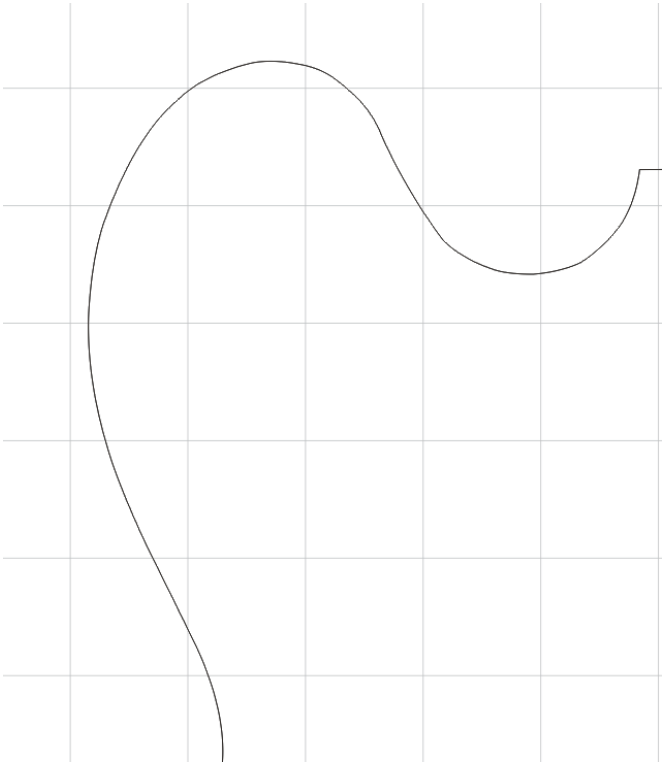
1959 ES-345





nut widths

1.669” 1959 ES-345



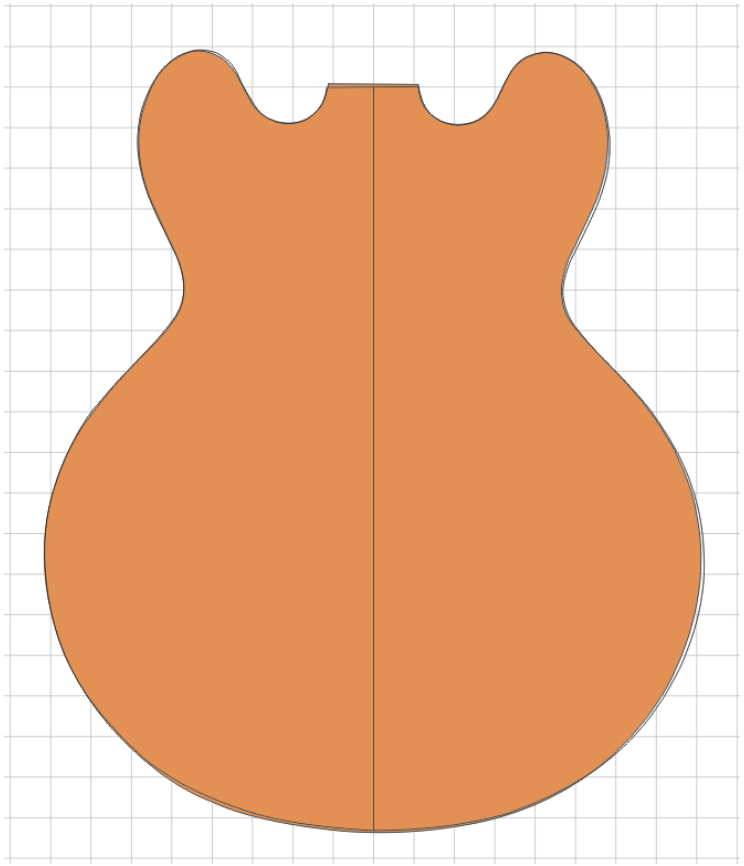
Notes:

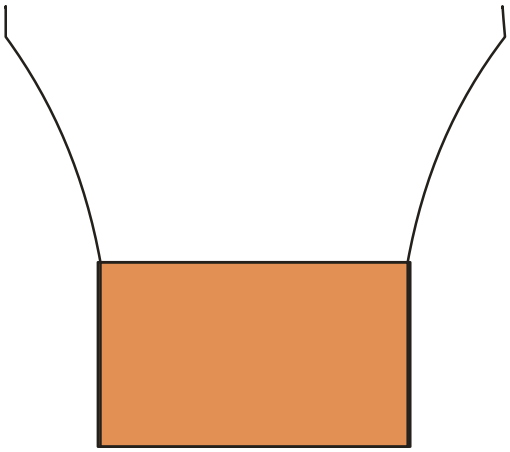
This guitar is used as the reference shape for all subsequent measurements and appears as a black outline surrounding the colored profile of the guitar being measured.

Weight:

8.0 lbs

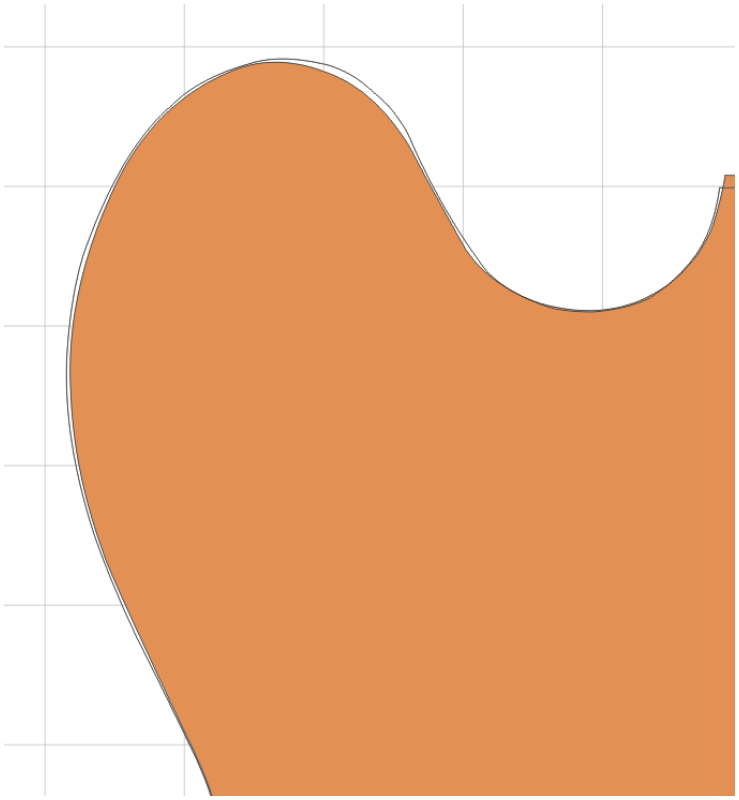
1960 EB-6





nut widths

1.669” 1959 ES-345
1.702” 1960 EB-6



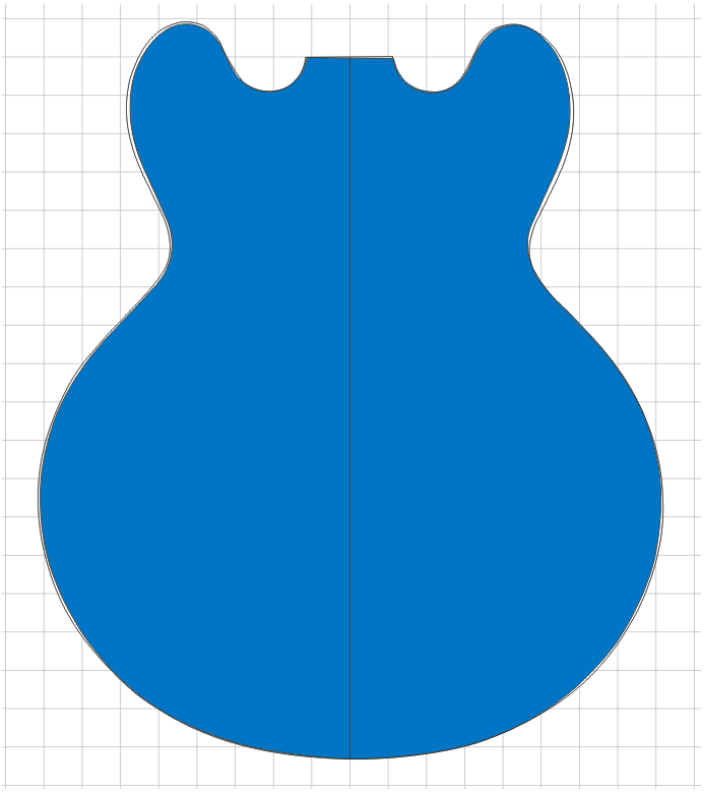
Notes:

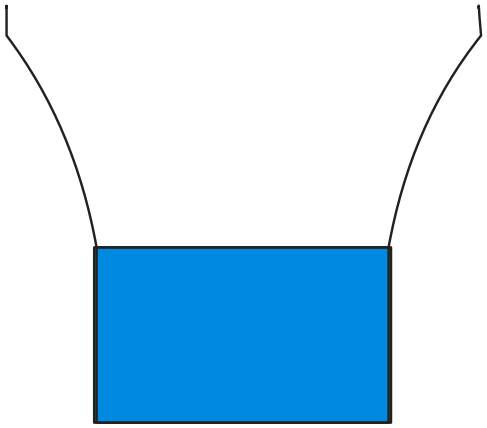
Body shape is nearly identical to the ’59 ES-345. The nut width is notably wider (as it should be).

Weight:

8.2 lbs

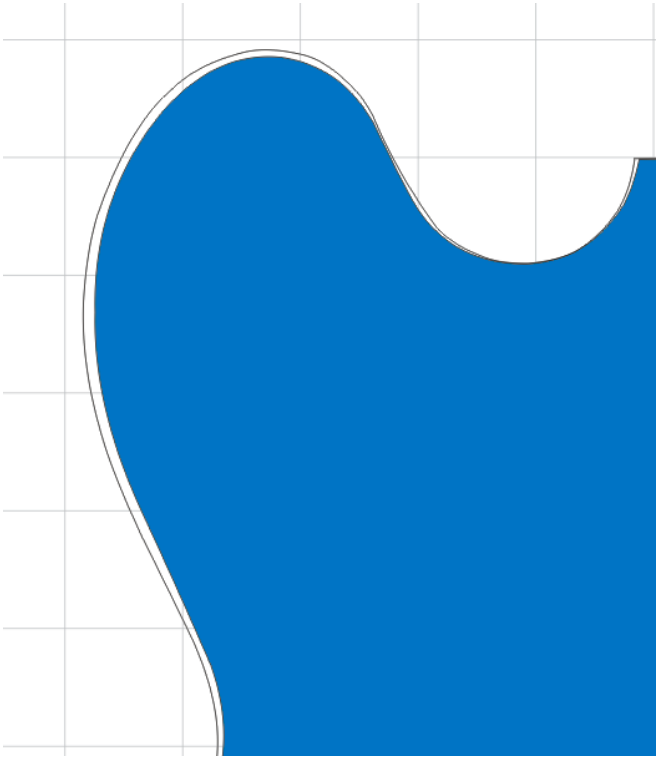
1961 ES-345





nut widths

1.669” 1959 ES-345
1.688” 1961 ES-345



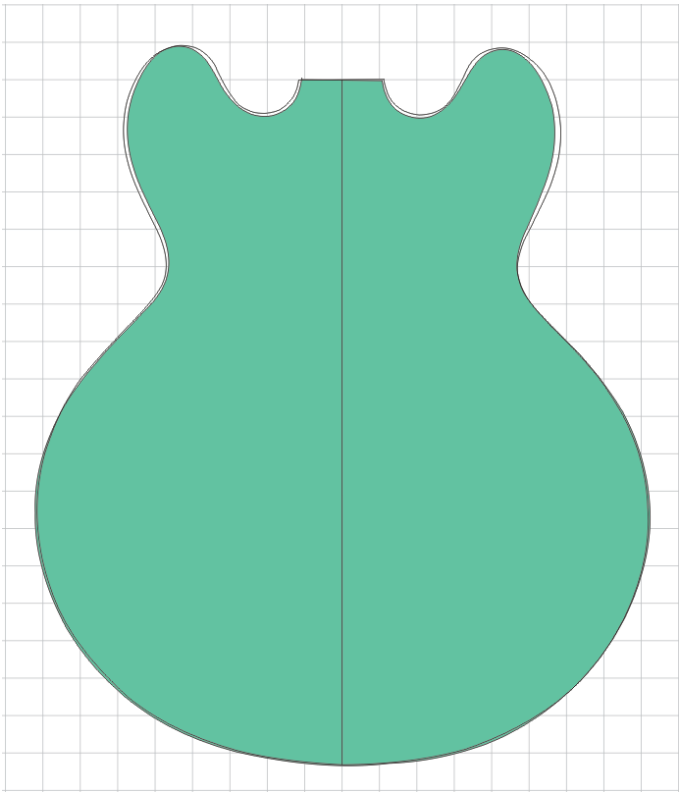
Notes:

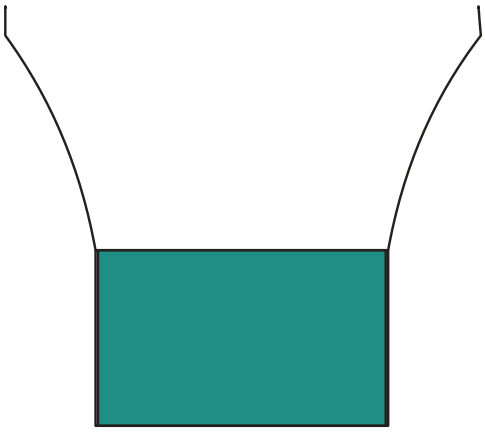
Body shape is nearly identical to the ’59 ES-345, but with overall slightly smaller ears with the same shape. The nut width is slightly wider.

Weight:

8.0 lbs

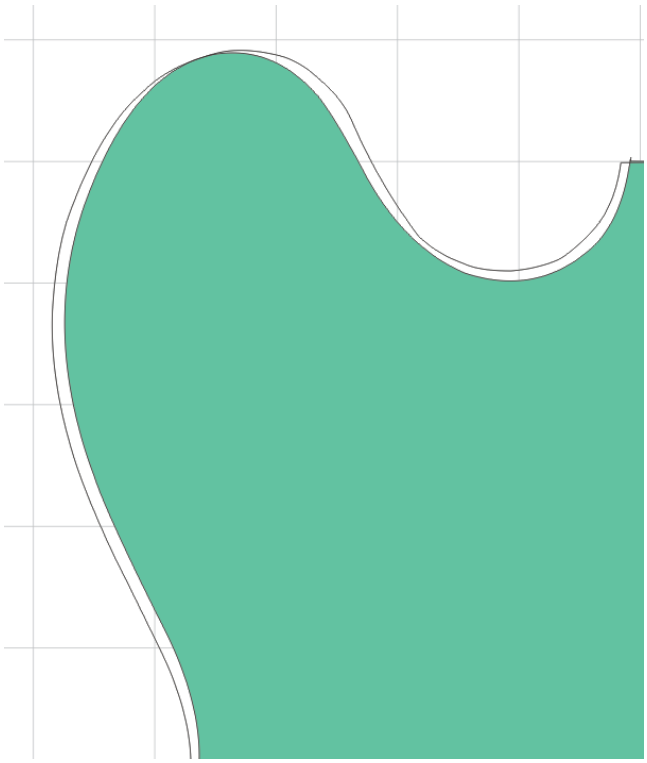
1964 Epiphone EA7P





nut widths

1.669” 1959 ES-345
1.633” 1964 EA7P



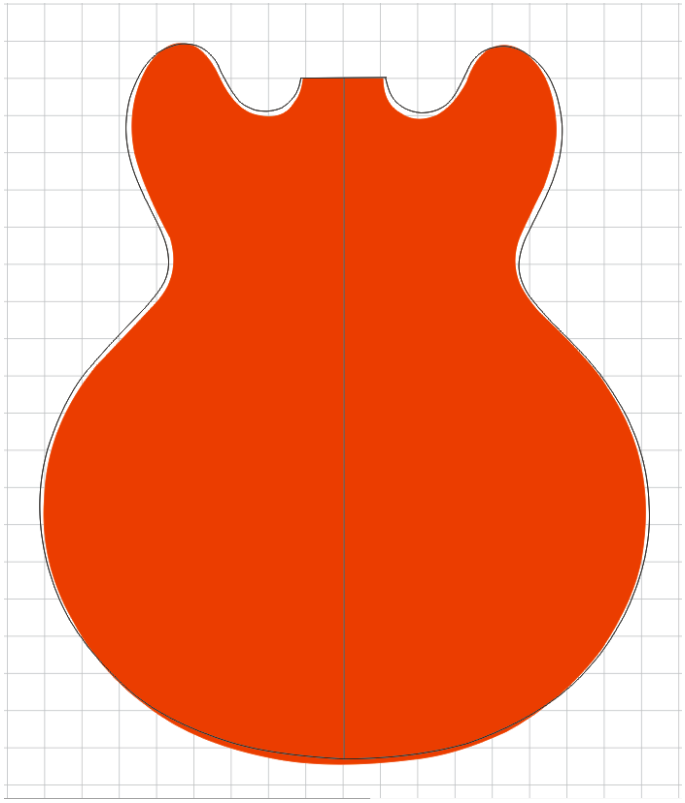
Notes:

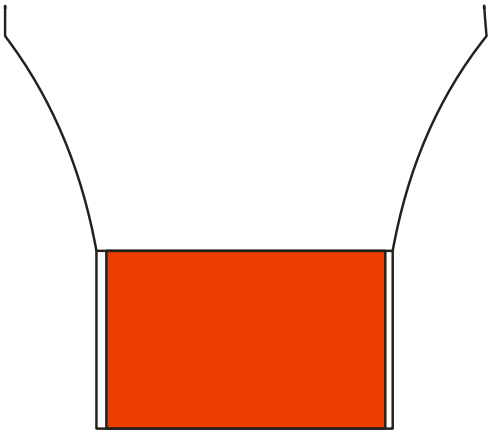
The ears begin to have the pinched fox-like shape. The nut width is notably smaller.

Weight:

8.8 lbs w Bigsby

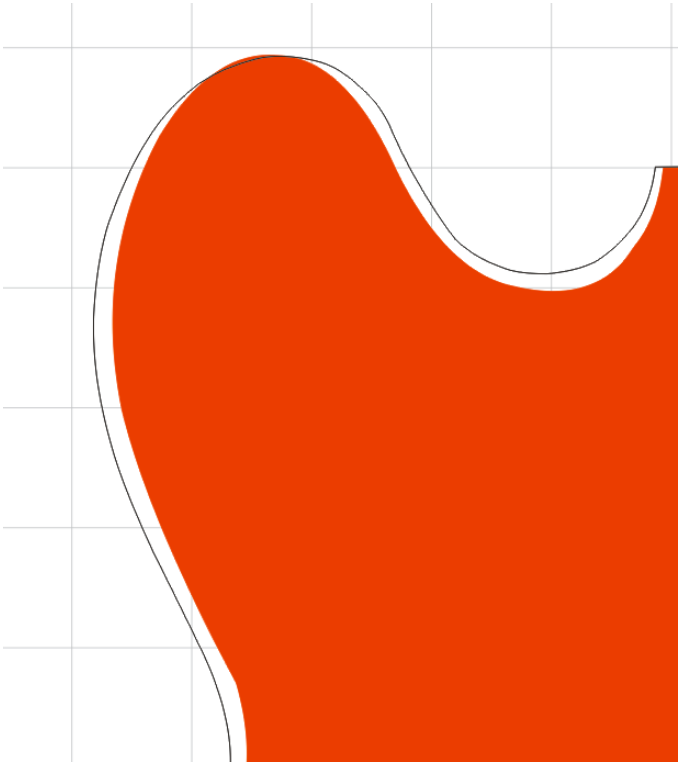
1966 ES-335





nut widths

1.669” 1959 ES-345
1.574” 1966 ES-335



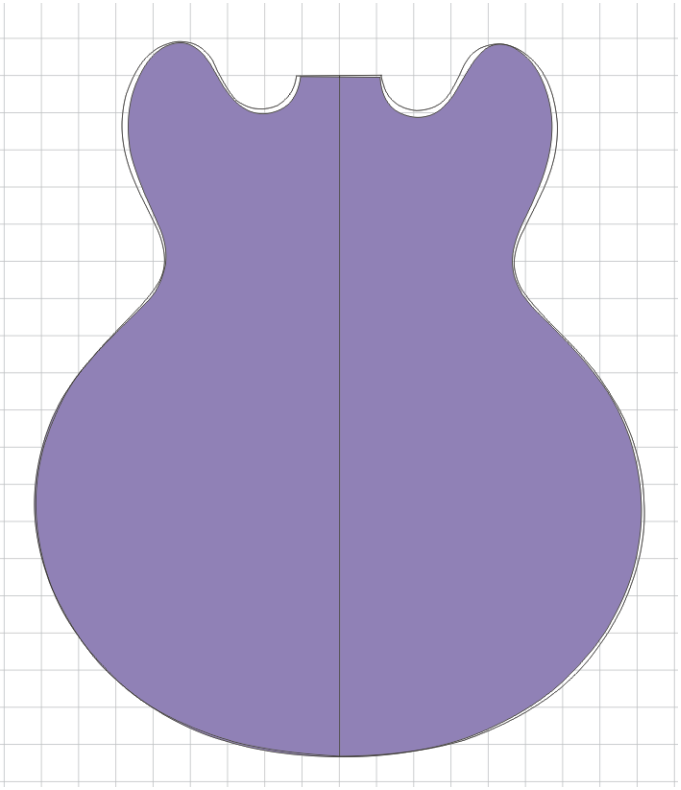
Notes:

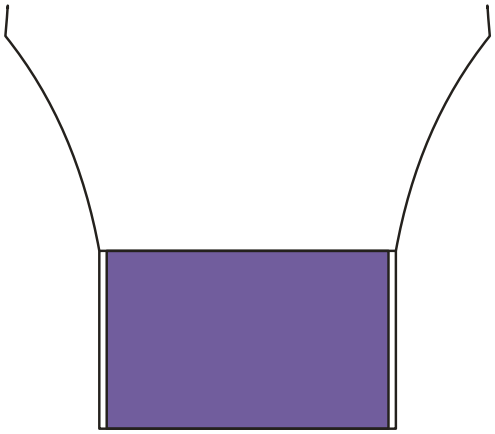
The ears have the full fox ear profile. The cutaways are deeper. The nut width is dramatically smaller.

Weight:

8.0 lbs

1967 ES-335-12

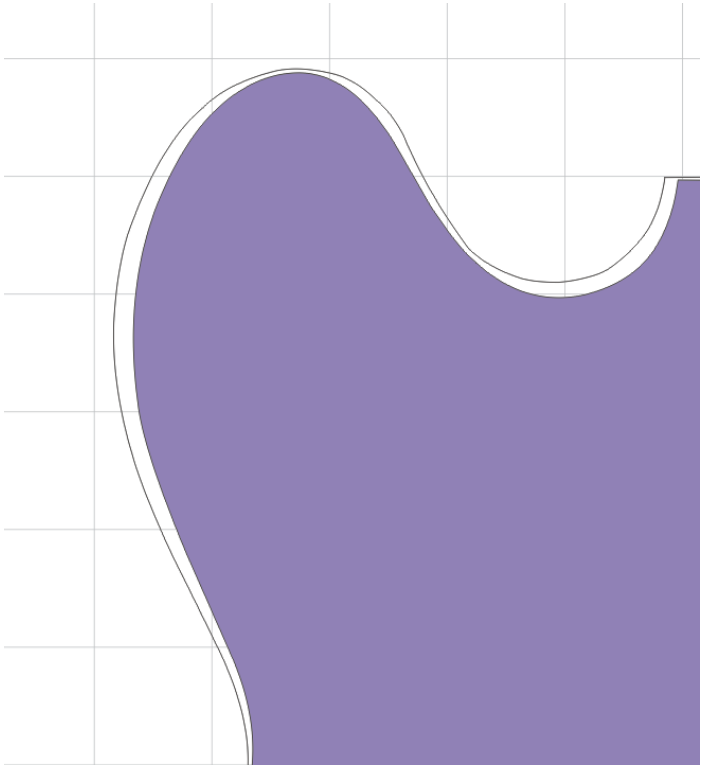




nut widths

1.669” 1959 ES-345

1.586” ‘67 ES-335-12



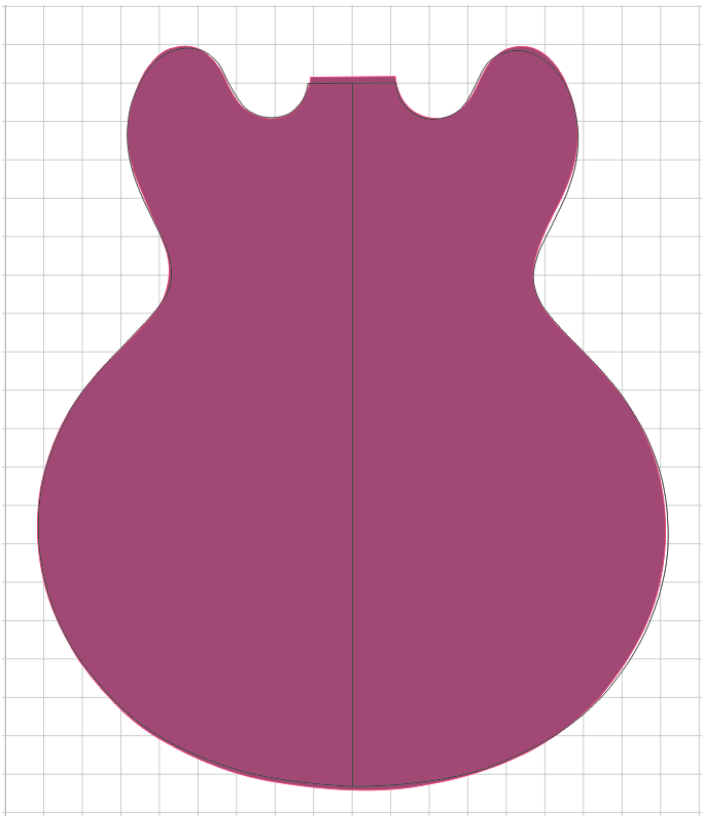
Notes:

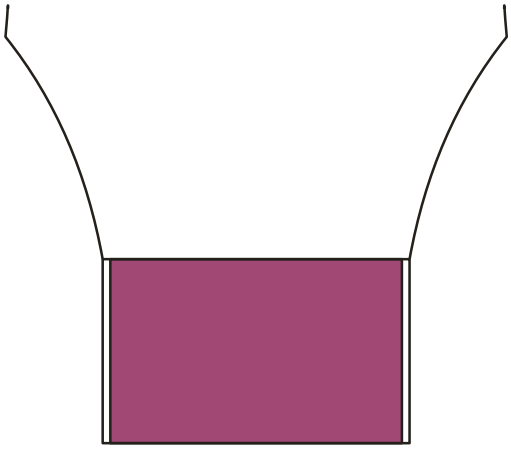
The ears have the full fox ear profile. The cutaways are deeper. The nut width is dramatically smaller, which is especially noticeable since this is a 12 string. This takes getting used to, but in the end it’s worth it.

Weight:

7.9 lbs

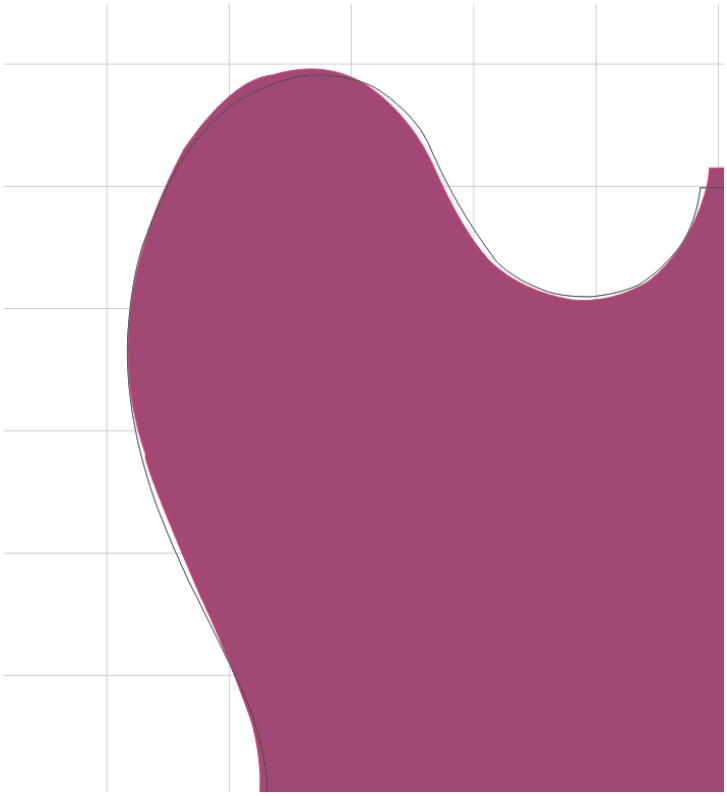
1969 ES-340





nut widths

1.669” 1959 ES-345
1.585” 1969 ES-340



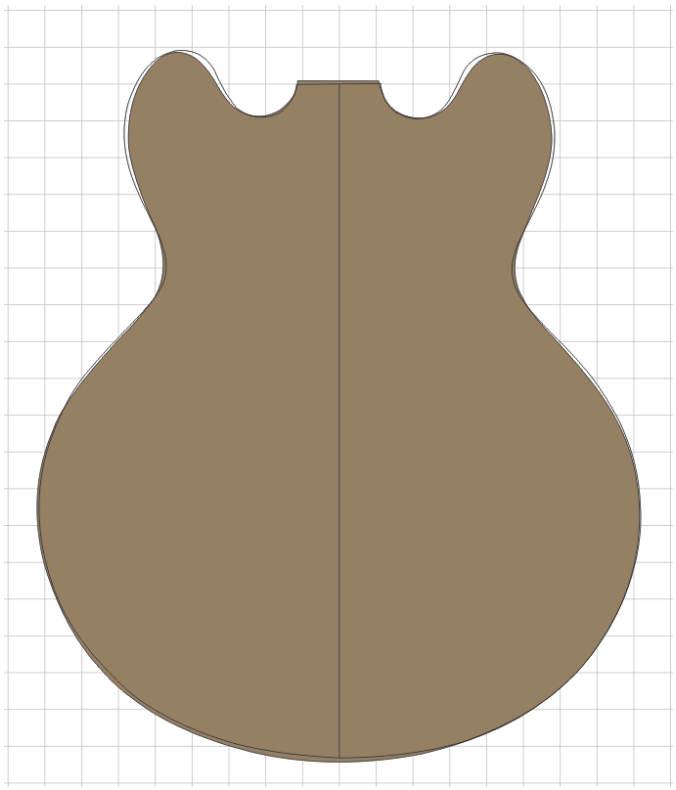
Notes:

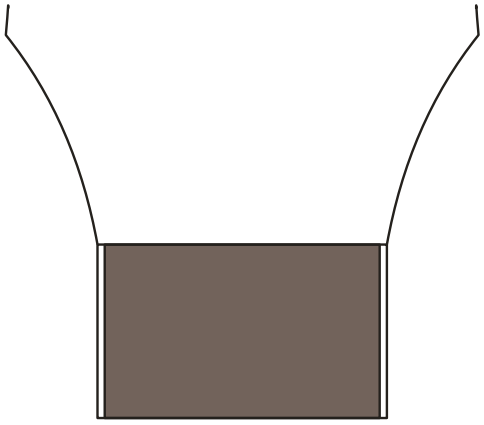
The ears have returned back to mouse profile. The neck profile is also back to being fat (see p12). The nut width is still dramatically smaller.

Weight:

8.0 lbs

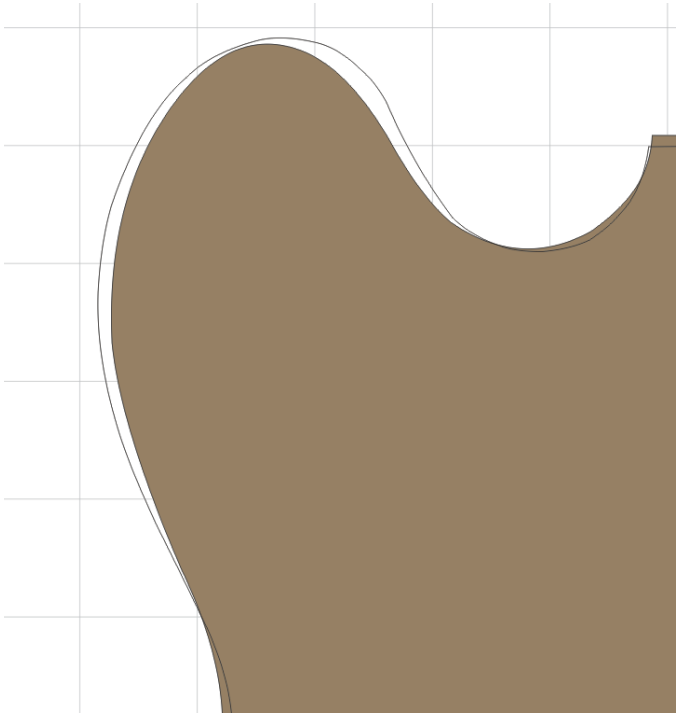
1972 ES-335





nut widths

1.669” 1959 ES-345
1.575” 1972 ES-335



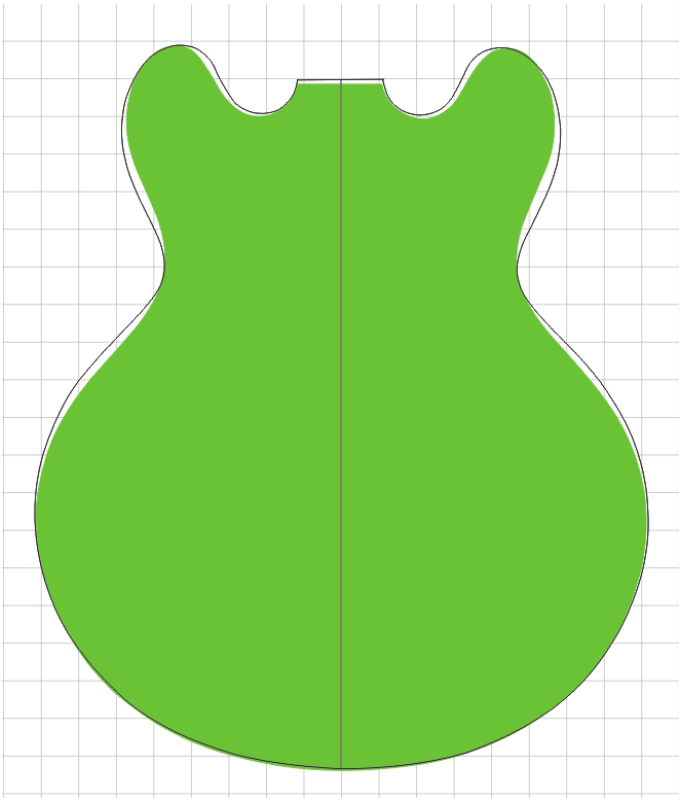
Notes:

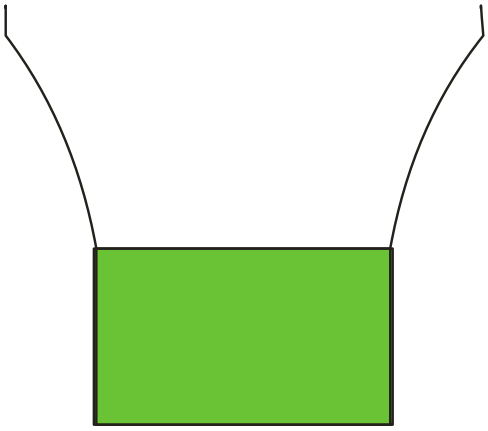
The ears are fox-ears, but the cutaway isn’t as deep as the 60’s models. Nut with is dramatically smaller.

Weight:

7.9 lbs

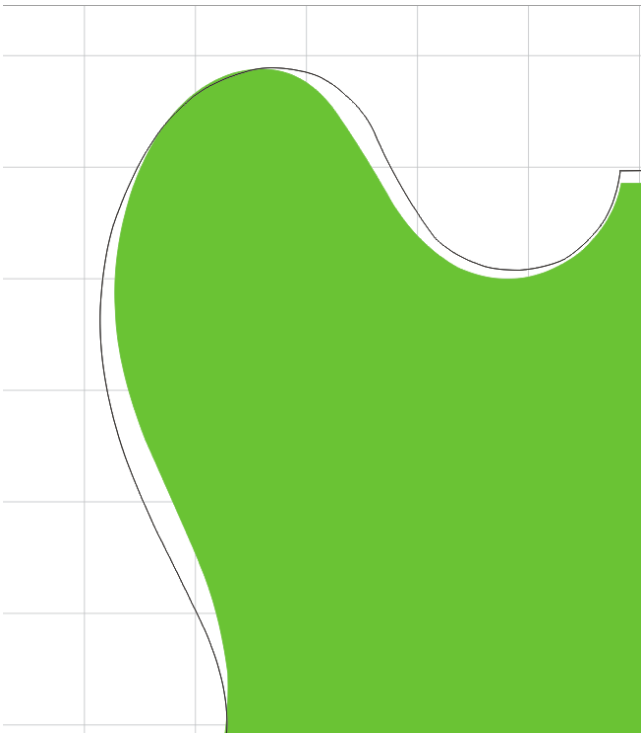
1979 ES-347





nut widths

1.669” 1959 ES-345
1.702” 1979 ES-347

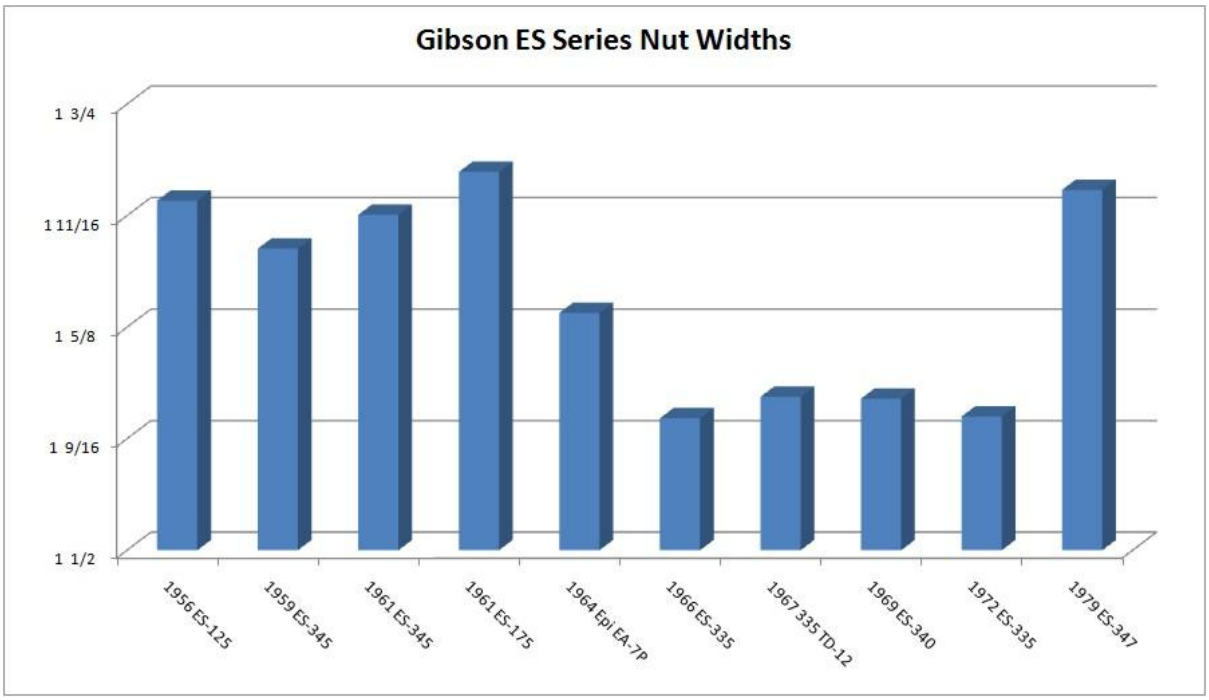


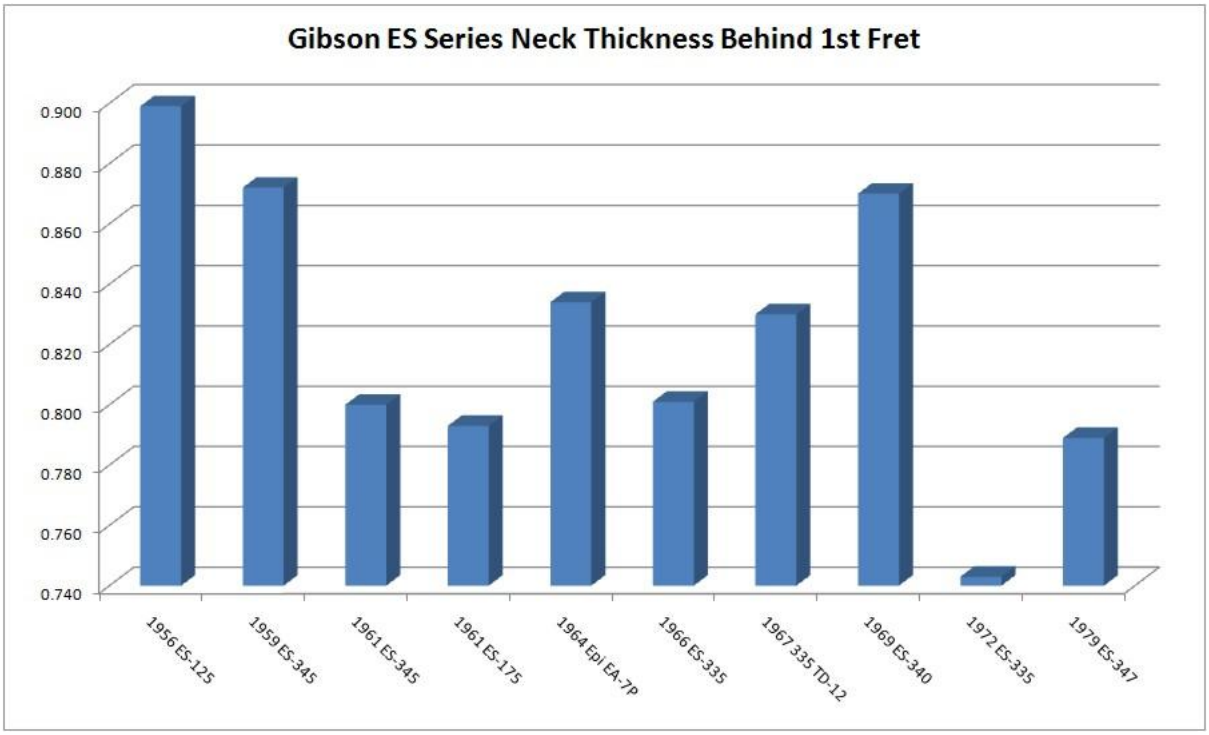
Notes:

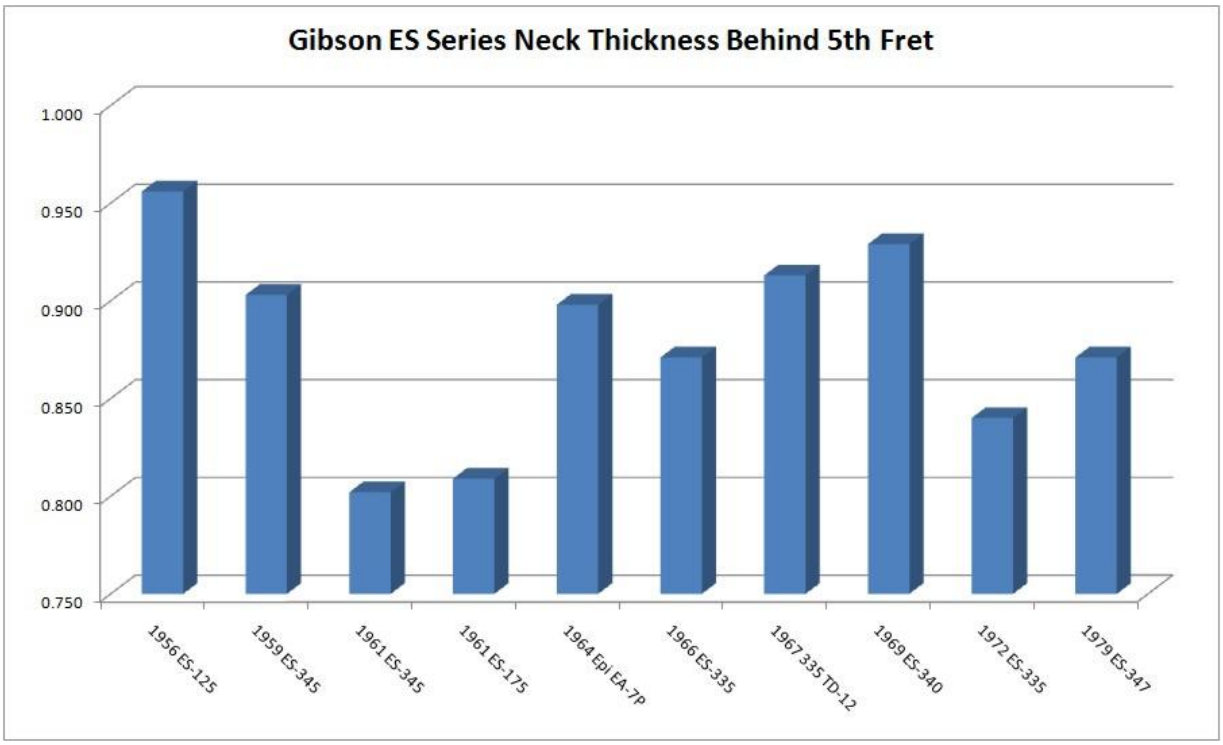
The ears are even more pinched, giving them the “rabbit-ear” designation. This example shows the first significant change in the lower bout, which is not as full on the top. Nut width has returned, and is even wider than the ’59 reference.

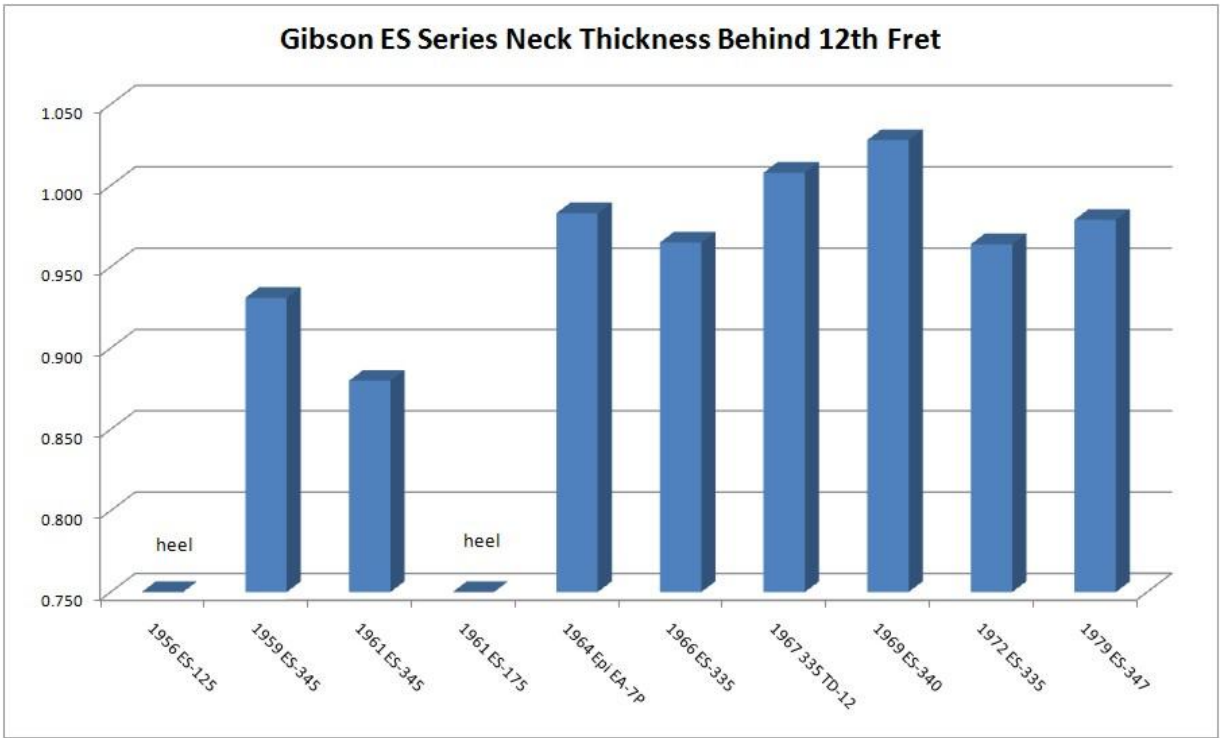
Weight:

9.2 lbs (including about a pound of brass hardware)


Gibson ES Series Nut Widths
1 3/4
1 11/16
1 5/8
1 9/16
1 1/2
1956 ES-125
1959 ES-345
1961 ES-345
1961 ES-175
1964 Epi EA-7P
1966 ES-335
1967 335 TD-12
1969 ES-340
1972 ES-335
1979 ES-347


Gibson ES Series Neck Thickness Behind 1st Fret
0.900
0.880
0.860
0.840
0.820
0.800
0.780
0.760
0.740
1956 ES-125
1959 ES-345
1961 ES-345
1961 ES-175
1964 Epi EA-7P
1966 ES-335
1967 335 TD-12
1969 ES-340
1972 ES-335
1979 ES-347


Gibson ES Series Neck Thickness Behind 5th Fret
1.000
0.950
0.900
0.850
0.800
0.750
1956 ES-125
1959 ES-345
1961 ES-345
1961 ES-175
1964 Epi EA-7P
1966 ES-335
1967 335 TD-12
1969 ES-340
1972 ES-335
1979 ES-347


Gibson ES Series Neck Thickness Behind 12th Fret
1.050
1.000
0.950
0.900
0.850
0.800
0.750
heel
heel
1956 ES-125
1959 ES-345
1961 ES-345
1961 ES-175
1964 Epi EA-7P
1966 ES-335
1967 335 TD-12
1969 ES-340
1972 ES-335
1979 ES-347

Guitar	nut width	neck thickness 1st fret	neck thickness 5th fret	neck thickness 9th fret	neck thickness 12th fret	neck thickness 15th fret	Fret width	Fret height	body depth
1956 ES-125	1.696	0.899	0.956	1.007	NA	NA	0.105	0.045	3.41
1959 ES-345	1.669	0.872	0.903	0.919	0.931	0.958	0.100	0.038	1.63
1961 ES-345	1.688	0.800	0.802	0.845	0.880	0.941	0.103	0.034	1.68
1961 ES-175	1.712	0.793	0.809	0.858	NA	NA	0.100	0.520	3.34
1964 Epi EA-7P	1.633	0.834	0.898	0.931	0.983	1.054	0.100	0.034	1.74
1966 ES-335	1.574	0.801	0.871	0.934	0.965	1.015	0.108	0.032	1.76
1967 335 TD-12	1.586	0.830	0.913	0.968	1.008	1.050	0.105	0.031	1.74
1969 ES-340	1.585	0.870	0.929	0.991	1.028	1.110	0.100	0.033	1.70
1972 ES-335	1.575	0.743	0.840	0.918	0.964	1.019	0.100	0.035	1.73
1979 ES-347	1.702	0.789	0.871	0.940	0.979	1.026	0.105	0.032	1.66

Notes:
The ’56 ES-125 has the fattest neck
The ’69 ES-340 has a fatter neck than the ’59 345
Nut width is narrow after ’64 but come back full by ‘79
The ’72 is the thinnest neck at the lower frets, the ’61 at the highest frets
The ’79 has the ‘60s neck profile at the lower frets and the ‘50s profile at the higher frets
All guitars made after ’61 get fatter than the ’59 up the fretboard.