

Gibson®  
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# HOW TO BUY AN ELECTRIC GUITAR.

Common sense rules  
to an informed purchase.

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We congratulate you for being a conscientious consumer. By requesting the Electric Guitar Buyer's Guide, you've shown that you carefully research important purchase decisions.

The 15 easy rules you'll find in the following pages were formulated from interviews with professional players and Gibson luthiers who are recognized authorities on guitarmaking. We covered the subjects of playability and dependability with players, and materials and manufacturing with the luthiers.

Apply the following rules to each guitar or bass you consider, and you're sure to find lasting satisfaction in the instrument you finally select.



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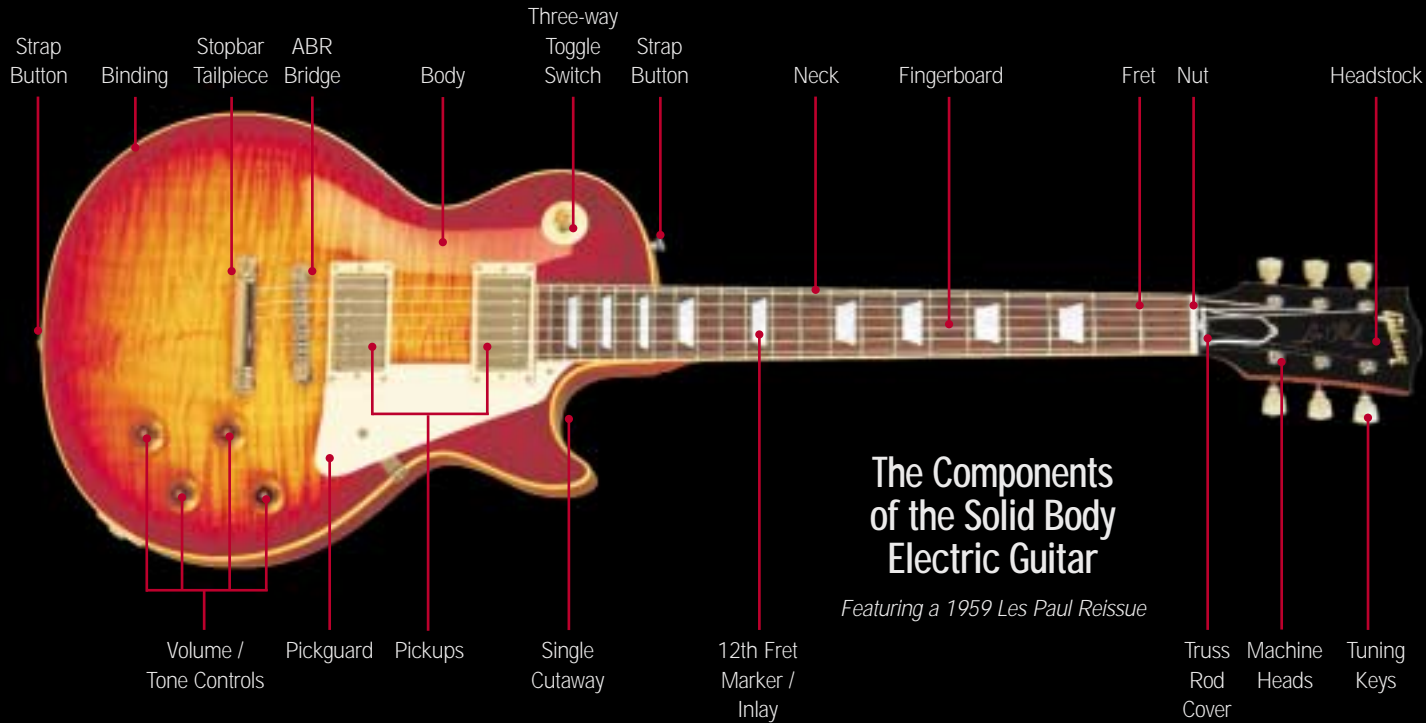
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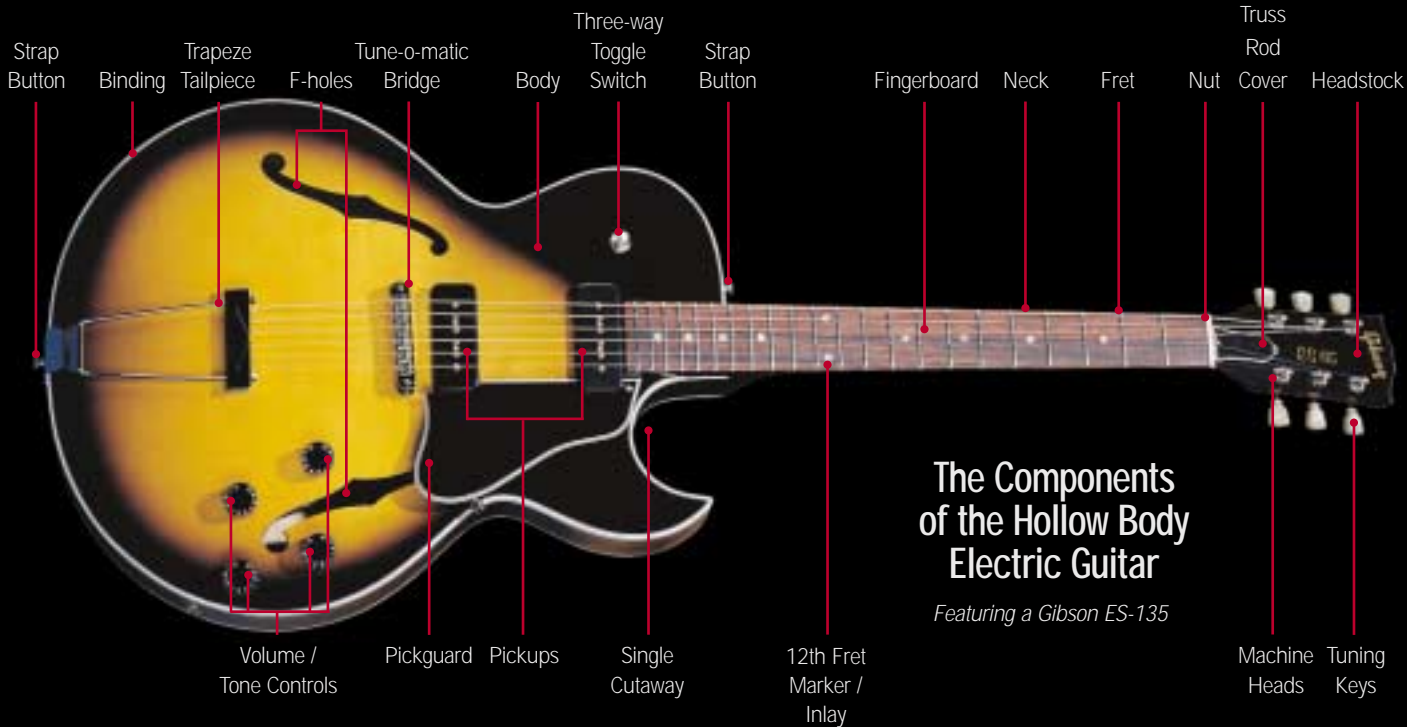
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# The Components of the Solid Body Electric Guitar

*Featuring a 1959 Les Paul Reissue*



## Rule 1: Pay for Quality

*I've known guitarists who went through five or six guitars within a couple of years. They weren't satisfied and kept trading up, and by the time they finished, they'd spent enough to own the best.*

The one point of advice echoed by every professional player we interviewed was to buy the very best quality you can afford the first time. Playability and dependability are measures of quality, and there are no shortcuts. In the highly competitive guitar market, the only way to make a guitar less expensive is to use cheaper materials, cheaper parts and cheaper labor. The result is a cheap guitar in every sense of the word.

No matter where you're playing – onstage, in a studio or at home – you can't afford to have an instrument let you down because you compromised on quality. You'll never regret paying the price for quality.

## Rule 2: Verify Warranty and Service

*A good guitar is like a good friend. It should last a lifetime.*

Ask to see the warranty card or owner's manual. Expect to find a lifetime warranty. That tells you that the manufacturer has complete confidence in its instruments.

A lifetime warranty on a new guitar is not extraordinary or unusual. Many of the first electric guitars made by Gibson in the 1930s are still going strong and have

long outlived their original owners. A manufacturer who only guarantees workmanship and materials for five or ten years probably expects problems to occur after the warranty period.

Ask about the manufacturer's reputation for service and parts availability. If you should have a problem with your instrument, you will want it fixed quickly and correctly.

### Rule 3: Research the Manufacturer

*We're building a lot more guitars, so we have a lot more experience. We know what might cause trouble later on.*

Experience is the best teacher in guitarmaking. A maker who hasn't been around long enough to experiment extensively with materials and manufacturing methods still has mistakes to make. The simple truth is, a guitar without a past may not have much of a future.

### Rule 4: Consider Appreciation

*I think you could buy any of Gibson's classic models and in a few years, if you wanted to trade it in, get your money out of it. You can't do that with many things.*

Your primary reason for buying a guitar is to play it, but you would also like an instrument whose trade-in or resale value is likely to increase over time. Few instruments will match a 1959 sunburst Les Paul Standard, which listed for \$250 originally and brings over \$100,000 in today's vintage market, but you can reason-

ably expect that a high-quality instrument will soon be worth more than you paid for it.

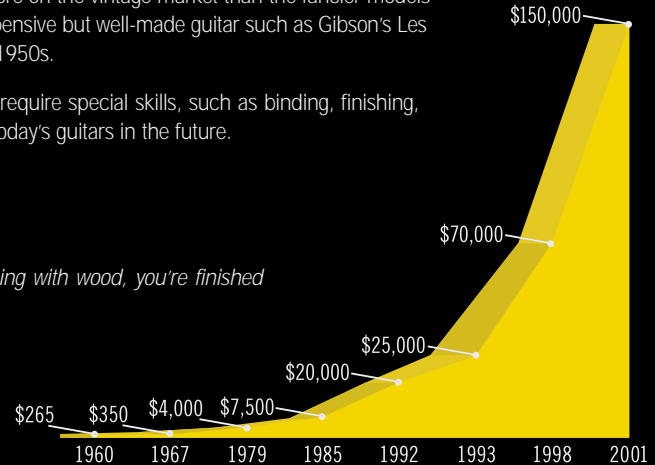
In general, the better-appointed guitars are better investments, but there are some noteworthy exceptions, such as the 1958-60 sunburst Les Paul Standard or the 1958-62 dot-neck ES-335, both of which bring more on the vintage market than the fancier models in their respective model groups, the Les Paul Custom and ES-355. Even an inexpensive but well-made guitar such as Gibson's Les Paul Junior is worth over ten times more than the original buyer paid for it in the 1950s.

Craftsmanship is an important element in the future value of a guitar. Areas that require special skills, such as binding, finishing, handshaping and inlay work, are ever more costly and will enhance the value of today's guitars in the future.

## Rule 5: Demand Good Tone Wood

*Every guitar begins with a piece of wood, and if you don't know what you're doing with wood, you're finished before you even start.*

Although the sound of an electric guitar would seem to come entirely from the pickup, the type of wood has an important influence on tone and sustain. "Tone woods" – woods that have high strength and stability – are the best for electric guitars as well as acoustic. For guitar bodies, mahogany and maple are the most common, although ash, alder, korina and various exotic woods



*Actual offers shown for a 1960 Les Paul Standard in good condition, original hardware, no refinishing and limited flame. Prices are in U.S. dollars.*

are also popular. Different-type electric guitars require different woods and construction methods.

Hollowbody archtops, like the earliest electric guitars, are typically acoustic instruments to which pickups have been added. These guitars are expected to produce some acoustic sound, and to that end the more expensive models have a solid spruce top and solid maple back and sides, while the less expensive will have the top, back and sides constructed of laminated maple.

Semi-hollowbody electrics have some acoustic output, but they have a block of wood underneath the top to dampen the vibrations that can cause pickups to feed back. The block may be maple or, in some Gibson models, a lightweight but strong wood called Chromyte®. Laminates are often used to increase rigidity.

Solidbody guitars minimize the vibration of the top/body in order to maximize sustain and reduce feedback. The strength and density of the wood still makes a subtle difference in tone. Mahogany is generally considered to produce a warmer tone than maple, which is stronger and denser and produces a brighter tone.

Laminate is not necessarily a bad word in electric guitar construction. If the lamination process is designed to strengthen the wood, then a laminate can be stronger than a single, solid piece. The body of a Gibson ES-335 is a good example; it's a three-ply laminate with the grain of the middle section running perpendicular to the outer sections for added strength. However, when wood is laminated or spliced in order to save money by using smaller pieces of wood, quality and value fall dramatically. Similarly, when a thin veneer is used for cosmetic purposes instead of a solid piece of wood, the maker is cutting corners and quality falls.

Mahogany and maple are also the most popular choices for a strong neck. Fingerboard woods affect the strength and stability of the neck, which in turn affect tone. An ebony fingerboard, for example, makes the neck more rigid than the softer rosewood fingerboard and results in a sharper, brighter attack.

## Rule 6: Insist on Quiet Electronics

*It's the old saying about a chain being only as strong as its weakest length. Cheap electronics will sound cheap, no matter how good the rest of the guitar is.*

The pickups on guitars and basses should be shielded from extraneous electronic sources that can cause humming and buzzing. And they should be encapsulated in wax or epoxy to prevent microphonic feedback.

The quietest pickups are humbuckers, invented at Gibson by Seth Lover in the 1950s.

Humbuckers are double-coil pickups, wired so that they cancel out extraneous noise. They were named because they literally "buck the hum" caused by rheostats (dimmers), fluorescent lights and other sources of electronic interference. In the process, they also put out a more powerful signal for a "fatter" tone.

Single-coil pickups have a brighter sound than humbuckers but can be more prone to hum and feedback. All Gibson humbuckers and single-coil pickups (except for the BurstBucker, an exact replica of a '50s-style humbucker) are shielded and dipped in wax.

## Rule 7: Balance Craftsmanship with Production

*Some jobs are more accurately done by a machine, and some can only be done by hand. I'd put our semi-production guitars up against anybody's handmade guitars for lack of flaws. We don't allow flaws.*

Manufacturing processes requiring repeatable precision, such as sawing and routing, are more cost-efficient when performed by automated machinery. However, the elements that set a high quality instrument apart from the run-of-the-mill can only be performed by skilled craftsmen. The final sanding and shaping of the carved top of a Les Paul or the artistic blending of colors in a sunburst finish are examples of craftsmanship that machines can't perform. A "semi-production" guitar – combining automated production and hand craftsmanship – offers the best value.

### **Rule 8: Evaluate the Neck Joint.**

*I like a glued-in neck because it keeps the angle accurate. I've seen other players wedge a guitar pick or a matchbook cover in a bolt-on neck joint to try to get the neck angle right.*

The neck joint should be tight and rigid so that none of the string vibration is transferred to the neck. If the neck joint is loose, the strings lose vibrational energy to the neck and the guitar loses sustain and tone.

Many electric guitars and basses are built with bolt-on necks because the process is easier and faster, but a traditional, fitted, glued-in neck is more solid. A Gibson neck is fitted for "pitch" or angle and then centered side-to-side with the use of gauges. It is then glued in to maintain the neck's axis to the body forever. Minor adjustments, to accommodate changes in string gauge or in climate, can be accomplished with an adjustable truss rod – a Gibson invention – or an adjustable bridge. (See Owner Adjustments at the end of this list of rules.)

## Rule 9: Check Appointments for Functionality

*It sounds obvious, but it's surprising how many guitars are sold that don't work right.*

The nut and headstock should be designed so that there is enough downward pressure to keep the string from rattling around in the nut. The same is true for the bridge and tailpiece. The cutaway and neck heel should not only look good but also allow easy reach into the upper areas of the fingerboard. The pickguard should protect the top from pick damage without getting in the way of the pick. The electronic controls should be easily accessible and arranged in a logical way. Adjustable features, such as the truss rod or the bridge, should be easily adjustable and not require any degree of disassembly.

Traditional designs, such as Gibson's Tune-o-matic bridge, represent more than tradition. They are still widely used because they have stood the test of time.

## Rule 10: Pay Attention to Details

*Attention to the smallest details is how you build value into a guitar. You can hear the difference. You can feel it, too. Sometimes it doesn't even take that much more time to get it exactly right. Another thirty minutes or an hour at a certain point, and it's a much better guitar.*

When manufacturers start cutting corners to save money, the evidence is in the details. Cosmetically, there may be flaws in the wood, sloppy binding work or uneven buffing. More serious problems may be evident in rough fret ends or loose strings in the nut slots. Any obvious, visible problems suggest that the manufacturer is not serious about quality control and that the guitar may have hidden problems, too.

## Rule 11: Look for Innovations

*Lots of people can make a good guitar. I want a guitar from a company that's trying to make a better guitar.*

Which guitarmakers follow the instructions and assemble an adequate product, and which ones truly make a better guitar? The answer can be found in the maker's track record for innovation. A long history of innovations – such as Gibson's arched top design, adjustable truss rod and humbucking pickup – indicates that a manufacturer is constantly trying to improve its guitars. Also, a manufacturer whose instruments are recognized as standard-bearers in several different styles – such as solidbody, semi-hollow and hollowbody electrics – obviously has a wide-ranging knowledge of guitars. Companies that know the guitar inside-out, that maintain their own research and development departments, are more likely to have found the best combination of materials and design elements.

## Rule 12: Check the Neck

*The neck is great on my ES-335. It's connected perfectly. The intonation is so true, it sings like a bird. I can tune it and put it back in the case, and then, take it out a week later, even two weeks sometimes, and it's perfect.*

Electric guitars typically have lower action than acoustics. The strings should be close enough to the fingerboard that they're easy to play, yet high enough that there is no buzzing around the frets. Fret buzz could also be caused by frets that are too high – an indication of bad quality control and cause for concern.

Once the guitar is tuned, it should play in tune anywhere on the neck. This is called intonation, and there's a simple test for it, even if the guitar is not in perfect tune. Touch your left hand to the string at the 12th fret (without pushing the string to the fret) and pluck it to create a "harmonic" note. Now press the string to

the fret and pluck it. If the intonation is correct, the harmonic note will be identical to the fretted note. (Note: Manufacturers typically set up their instruments for the average playing style. If your playing style is heavier than normal, expect some string buzzing. If you're used to a heavier gauge of strings, expect your heavier grip to create bad intonation.)

A guitar with bad intonation or action that's too high or too low can often be "fixed" with a few easy adjustments, but it's a sign of indifference on the part of the manufacturer to offer an instrument for sale that is not set up properly.

### Rule 13: Test for Sustain

*You can't "Play a guitar like a ringing a bell," as Chuck Berry would say, if your guitar doesn't have good sustain.*

Different styles of guitar have different sustaining properties, but the general rule is: The more string vibration that is transferred to the guitar, the less it sustains. A guitar with greater rigidity and weight, such as a solidbody, will sustain longer than one with less rigidity, such as a hollowbody archtop. To accurately assess sustain, test the guitar against an instrument of similar style: hollowbody vs. hollowbody, solidbody vs. solidbody.

First listen without plugging in, playing each string open. If a guitar has a relatively soft sound and relatively short sustain when compared to other similar instruments, then there may be a problem with the neck joint or the string slots in the bridge and nut.

Then plug in. Pickup magnets exert a dampening force on string vibration and sustain. A guitar may be set up with the pickups extremely close to the strings so that they sound more powerful, but that power will come at the expense of sustain. Again compare to other instruments of the same type.

## Rule 14: Listen for Electronic Noise

*Effects boxes are made for a reason. Nobody wants to be surprised by weird sounds coming out of a guitar.*

Plug into an amp, and move the guitar or bass close to it. That will bring out hum, buzz and shrieking feedback if the pickups are prone to unwanted noise. Turn the control knobs and listen for pops that come from dusty potentiometers. Jiggle the cord in the jack to check for a tight fit.

## Rule 15: Inspect the Finish

*If a guitarmaker can't pay attention to the finish, chances are he hasn't paid attention to anything else in the manufacturing process.*

Look for sanding scratches and "orange peel" roughness to the finish – signs that neither the finishers nor the final inspectors were meticulous in their work.

Nitrocellulose lacquer is the traditional material for finishing a guitar, and virtually all Gibsons have a lacquer finish. It's a time-consuming process, requiring multiple coats and many days of drying time. Urethane is widely used because it's cheaper to apply and because spraying nitrocellulose lacquer is illegal in some areas. Although it is strong and durable, urethane finish can't be repaired or "touched up" like lacquer. Fixing a ding in a urethane finish requires refinishing the entire body of the guitar.

## OWNER ADJUSTMENTS

### The Truss Rod

*The truss rod maintains neck alignment against the approximately 100 pounds of force exerted by a set of electric guitar strings on the neck. The optimum shape of the neck is not perfectly straight; rather, it should have a slight bow or curvature. Guitar techs call this curvature "relief," and the amount of relief can change with different string gauges or climatic conditions.*

An adjustable truss rod can correct any changes in neck curvature. On a Gibson, the truss rod is adjusted by turning a nut that is found under a bell-shaped celluloid piece on the headstock. A neck with too little or too much relief can cause string action to be too low or too high, but once the neck is properly adjusted for relief, adjustments to the action should be made at the bridge.

To assess the neck, hold the guitar so that you can sight from the nut down the entire length of the neck. If the fingerboard appears flat, the truss rod should be loosened by turning the nut counterclockwise (no more than one-quarter turn at a time). If the fingerboard has too much curvature, the rod can be tightened by turning the nut clockwise.

## The Bridge

*The bridge maintains intonation and action (string height). Adjusting the truss rod or changing string gauge can change intonation and/or action.*

String height should be adjusted first, raising or lowering the strings to the desired playing level by raising or lowering the bridge. Then string length, which determines intonation, can be adjusted. With Gibson's Tune-o-matic bridge, a small screw moves the saddle to lengthen or shorten the string. When performing the intonation check described in Rule 12, if the fretted note is higher than the harmonic note, then the saddle should be moved to increase the length of the string. If the fretted note is lower than the harmonic note, then the string length should be shortened.

## THE LAST NOTE

Gibson invented the f-hole archtop guitar and the semi-hollowbody electric guitar, and Gibson's solidbody electrics are familiar icons around the world. When it comes to tradition, quality and innovation, *only a Gibson is good enough.*



Gibson Guitar Corp.

309 Plus Park Boulevard

Nashville, Tennessee 37217 USA

1-800-4GIBSON

[www.gibson.com](http://www.gibson.com)