

HOW TO ORDER A CUSTOM GUITAR

The Ultimate Guide to Creating
Your Own Signature Guitar



Jeff Lee

INTRODUCTION

I wrote this guidebook to help you discover what's possible when it comes to designing, configuring and ultimately owning your own 'signature' electric guitar that's 100% custom-made to your requirements and preferences. We'll cover every customizable aspect of the guitar with the goal of helping you feel confident in the design and spec choices you make when you decide to embark on the journey of going custom-made.

TABLE OF CONTENTS

What Everybody Ought to Know About Custom Guitars.....	3
Customizing The Body.....	7
Customizing The Neck & Headstock.....	16
Choosing Hardware & Electronics.....	32
Final Thoughts.....	38

WHAT EVERYBODY OUGHT TO KNOW ABOUT CUSTOM GUITARS

Why are we sharing this information?

We've had countless conversations with all kinds of players from hobbyists to weekend warriors all the way up to arena-packing rockstars. One thing they all share in common is a somewhat vague understanding of what's possible when it comes to custom shop guitars. For most of them, getting a guitar truly custom made to their preferences is a first-time experience, which means there are a lot of questions about how it all works. Whereas, we've been operating a custom shop every day for so long that we assumed everybody just knew what we knew.

This has been our mistake. Why? Because it means there are players out there who are throttled or frustrated by their guitars, when really they could have guitars made specifically for them that inspire them, that supercharge their musical creativity and provide endless hours of enjoyment. For some players, wider string spacing is an absolute game changer and opens up everything for them. For others, it's about combining features from a variety of guitars in order to create a new "signature" guitar that checks all the boxes that no other guitar in existence can do.

If you're highly familiar with the technical side of guitars, feel free to skip through the various sections of this guidebook that you already understand well. If that's not you, then it's best to read the guidebook in its entirety. Whatever your familiarity level may be, we hope this guidebook shines light on this topic so everybody is better informed when it comes to deciding if a custom shop guitar is right for them.

What is a custom shop guitar?

The term "custom shop guitar" is defined differently by different people. We'll give three definitions (the first definition being how we define it ourselves:

1. A custom shop guitar is a guitar made to the customer's spec (e.g. customer says they want a neon green guitar, and so the company makes a neon green guitar). In this case, the customer decides how the guitar gets made. Without the customer, no guitar gets made.
2. A custom shop guitar is a guitar made with a different (custom) spec compared to the guitar company's standard offering (e.g. a guitar company that only offers three colors normally decides to offer a special/custom color at limited quantities). In this case, the customer has little/nothing to do with how the guitar gets made. Without the customer, the guitar company is still going to make these guitars.

3. A custom shop guitar is a guitar made to look radically different to what “standard” or “normal” guitars look like (e.g. a guitar in the shape of a star). In this case, it could have been the company or the customer who decided on how the guitar got made, but the reason why it’s considered custom is because a star-shaped guitar is radically different in appearance to what we’re used to seeing (e.g. Strats, Teles, Les Pauls, etc.).

While the term “custom shop guitar” means different things to different people, we’re going to be coming from the perspective that they are guitars made to the customer’s spec, which is the first definition mentioned above. This means the customer has control over the guitar’s overall design and the guitar company is simply taking the customer’s instructions and building the guitar accordingly.

Why do custom shop guitars cost more?

It comes down to efficiency. Custom shop guitars are made one at a time, for one customer only. Contrast this to production guitars that are made in batches, all with the exact same specs, and can be sold to any number of customers. Make a mistake while building a production model guitar... no problem, there are dozens more being made. Make a mistake while building a custom shop guitar... it could be game over and the whole build process needs to start over from the very beginning.

On top of that, the raw materials, hardware and electronics all tend to be of a higher quality standard (more expensive) because customers who go through the process of having something custom made for them don't usually opt for entry-level or economy-grade ingredients.

How can I go about getting a custom shop guitar?

There are two main ways and also a do-it-yourself (DIY) kind of way. The first way is to go with a guitar company that offers custom shop guitars. These companies generally have customers in all 50 states in the USA and internationally. The second is to go with an independent luthier. Luthiers tend to operate on more of a local scale, but there are exceptions to this, of course. The DIY option is for those adventurous and skilled enough (or not) to build the guitar on their own.

How should I pay for a custom shop guitar?

Because custom shop guitars are relatively expensive and take much longer to receive compared to standard guitars, it’s common to pay only a deposit when ordering a custom guitar. Depending on who you buy from, the deposit amount will be different. Some are a percentage of the total price, others are a flat dollar rate. Some give you the option to pay in full if you wish. Some, however, will require you to pay in full upfront. Paying in full upfront has its pros and cons. On one hand, paying in full means you can move on and not have to think about the financial aspect of the guitar again. On the other hand, paying in full can

leave you feeling like you have no leverage when it comes to getting the guitar built according to the agreed-upon schedule. Consider larger projects, like custom home building, there are milestone payments made along the way (e.g. pay 10% when the foundation is complete, pay 10% when the framing is complete, and pay the remaining balance during the final walk-through).

When is the best time to buy a custom shop guitar?

The best time to buy is when you have the time (to wait) because custom guitars generally have long lead times to get built and delivered.

How long does it take to get a custom shop guitar?

There are three things to consider:

1. The actual build time. This is the amount of time actively put into building the guitar (all the processes involved with taking raw wood and transforming it into a functional high performance instrument). In the context of a guitar company, this build time might be around two weeks. In the context of an individual luthier, it could be up to around three months, especially if it includes intricate designs and if everything is done by hand. In either case, making custom guitars is very labor intensive and detail oriented. It is a process and it takes time.
2. The backlog. This is the amount of orders that came in before yours did. Those orders that came in before yours need to be built and delivered before your guitar can get built and delivered. This doesn't mean that no work is performed on your order until late in the overall timeline. Quite the contrary. In the days immediately after placing your order, design/engineering work and purchasing of all the required materials and components is likely to commence.
3. The other production needs. Most guitar companies offer production models in addition to their custom shop services. This can mean that a batch (or several batches) of production models need to be built and delivered before your custom guitar can get built and delivered. Some guitar companies address this issue by having separate production teams/lines (one for production models and another for custom builds). Other guitar companies might address this issue by scheduling, for example, one month is focused mostly on production models and the next month is focused mostly on custom orders. The same kind of thing may occur with individual luthiers, although it is more common that luthiers dedicate some of their time to services like guitar repair, maintenance, setup and upgrades/mods. But, the end result is the same - it takes longer than the actual build time to get a custom shop guitar because whoever is making your guitar has other tasks/jobs/projects that demand their time.

How do I ensure that I'll like the guitar that is built for me?

There's no way to guarantee it, but there are three things that you definitely want to do in order to increase the likelihood that you'll ultimately like the custom guitar you receive:

1. You need to know what you like (and what you don't like) about guitars. It sounds simple (and it is), but it's not advisable to experiment with a new spec on a custom guitar if you've never had first-hand experience with that spec. For example, if you've never played a multiscale (fanned fret) guitar, then you should probably go try one before committing to it on a custom shop guitar.
2. You need to get every little detail (spec) of the guitar down on paper (the way we do this is through a "Full Spec Sheet") so you and your guitar builder are on the same page as to what's being built. If you've ever purchased a guitar before, you're probably familiar with general specs that most manufacturers/retailers will list out for you, but when it comes to ordering a custom shop guitar, it can get very detailed and nuanced to the point where even seasoned players don't know exactly how to define a certain spec. But, don't worry, because this leads to the third point...
3. You and your guitar builder need to arrive at a mutual understanding of the guitar's purpose – that is, what you envision the guitar to do for you as a player. This means you need to communicate and the guitar builder needs to truly understand where you're coming from. It helps immensely when your guitar builder is also a decent guitar player him/herself, though it's not necessary and is often not the case. For example, if you're a jazz player, and you unknowingly select specs that are going to give a thinner sound, the guitar builder should step in and at least bring it to your attention, and perhaps even advise that you change your specs so you can get a fuller sound. Or, if you're a metal player, and you unknowingly choose some specs that aren't going to get you the attack and definition you're aiming for... again, the guitar builder ought to be able to step in and advise you on that fact. When everybody knows what the guitar is intended to do for you musically, then it becomes more likely to happen.

CUSTOMIZING THE BODY

Body Shape

You ought to be able to get whatever body shape you want, right? Yes and no. Turns out most players are drawn to classic designs (e.g. Fender® Strat®, Tele®, Jazzmaster®; Gibson® Les Paul®, SG®, Explorer®) and for good reason - they're great designs! But, when it comes to ordering a custom guitar with these body shapes, you need to know that some of the designs are off-limits due to intellectual property (IP) rights, whereas other designs have lost their IP protection and are freely available for public use. This is part of the reason why you can find a lot of non-Fender guitars that have near-identical Fender-style guitar bodies, but it's not so much the case when it comes to Gibson-style bodies. So, yes, you can get whatever body shape you want unless there are some IP issues at play. But, another reason why you might not be able to get the shape you want is because some guitar builders only want to build their own unique/original shapes. In all other cases, though, you really ought to be able to get whatever body shape you want.

A common question is whether the body shape affects the guitar's sound (tone, sustain). I'm of the opinion that it does not significantly impact the sound, and so it's more practical to choose the body shape based almost solely on how it looks. If you like the way it looks, go for it. What if there isn't a body shape in existence that you love? Well, you could always try designing your own. A custom guitar builder should be able to work with anything from napkin sketches to CAD drawings to bring your custom body shape/design into reality. If you're concerned about your design getting stolen, then it's best to consult a lawyer and get it protected before you send out your design. For what it's worth, after working on numerous customer-submitted body shapes over the years, I've always been content building the custom shapes for customers and I'm not all that interested in taking a design and trying to capitalize on it. Even if that were to be the case, I'd reach out to the customer first and try to come up with an agreement where everybody wins.

I do want to highlight an often overlooked aspect of a guitar's body shape at this time, and that is the upper horn (or lack thereof). The reason is because that's where the strap button gets installed, and so it plays an important part in how well the guitar balances when played on a strap. The point is this: the further the strap button can be installed toward the headstock, the better the guitar will balance when on a strap. While strap button placement is not the sole factor when it comes to balance, the body shape does dictate how far toward the headstock that strap button can be installed. It's worth thinking about, especially because "neck dive" is one of the most common complaints I hear about guitars.

Summary: you ought to be able to get whatever body shape you want. If the exact body shape you want is exclusive to a single company or luthier, go buy it from them. If the only body shape you want is one that you designed yourself, find a builder who is willing and able to work with you and bring it into reality.

Body Wood

There's a never ending debate when it comes to woods and their impact on a guitar's tone. I'm not going to get into that, but if you Google it and check out YouTube you can come to your own conclusion. Instead, I want to focus on how the different woods affect your guitar's appearance and weight.

Regarding the wood's natural appearance - this only matters if you decide to go with a natural or transparent finish because solid finishes completely cover the wood and you won't be able to see what's underneath. Similar to what I said about body shapes, I'll say about body woods: if you like the way it looks, go for it. That said, woods come in a variety of appearances with some being lighter in color and others darker. This is important because when dealing with transparent finishes (bright transparent colors in particular), the natural color of the wood impacts the final color of the guitar. If you want a bright transparent color (e.g. transparent white, transparent emerald green, or transparent pink), then you need to start off with a light colored wood like Maple. If you start with a dark colored wood like Mahogany (or even darker like Walnut), then it's impossible to get that bright transparent color in the end. In addition, woods come in a variety of grain patterns, some being "tight grain" with little visible character, and others being "open grain" with more prominent and visible character. If you want to be able to see some wood underneath that transparent finish, you're better off choosing a more open grain wood (Ash is a good choice for this). Or, to make it really obvious, you can add a highly figured "top" to your body (e.g. flamed maple, quilted maple, buckeye burl, etc.) to get a really striking appearance.

Regarding the wood's weight - I've helped customers on both ends of the spectrum in terms of weight. Some are looking for the most lightweight guitar possible, others want something HEAVY, while the majority don't seem to really think about it (which I take to mean that as long as the guitar is somewhere between 7 to 8 pounds max, all is well). To go as lightweight as possible, I'd choose something like low-density Basswood and build as thin as the hardware/electronics will permit (say, around 38mm thick). To go heavy, I'd select high-density Mahogany, Ash or Black Limba (aka Black Korina) and build thicker (e.g. 50mm thick). For a guitar in the "normal" weight range, I'd go with any of the conventional guitar "tone woods," build to 45mm thickness and select pieces that aren't too far on either extreme of the particular wood's weight range. Because even within one species of wood, there is going to be a weight range (one Mahogany body blank could weigh two pounds more than the next Mahogany body blank). If weight is very important to you, it's best to communicate to your guitar builder a target weight range for the guitar overall so the woods can be selected accordingly.

Summary: you ought to be able to choose whatever wood you want for your custom guitar. Because wood does not radically and singlehandedly determine the sound of the guitar, it's not the end of the world if you choose the wood based on other factors such as its appearance and weight. If you like the way the wood looks, go for it. If you want to learn more about how wood impacts the sound, there's an endless discussion and debate on the subject and it can be easily found on Google and YouTube.

By the way, if you want to learn more about the technical side of woods in general, check out <https://www.wood-database.com/> because it offers a wealth of data and images on a ton of different wood species (note, it's not a guitar-centric wood website).

Body Construction

There are four common ways to construct an electric guitar body:

1. Solid body - these are solid wood throughout the entire body, i.e. a slab of wood. Rejects feedback well. Relatively heavy in weight.
2. Chambered body - similar to solid body, except multiple chambers are cut out of the body, and then a solid wood "cap" is glued on top to cover up the chambers (the chambers are not visible on the completed guitar). The main reason for chambering a body is weight relief. Rejects feedback well. Relatively light in weight.
3. Semi hollow body - similar to chambered body, except instead of having multiple small chambers, the majority of the body gets hollowed out (except for a center block where pickups and bridge are mounted) and a solid cap with an "F" hole cutout is glued on top to cover up the hollowed parts. The hollow part of the body can be seen through the F hole on the completed guitar. Semi hollow bodies have a lot more acoustic resonance than a solid body. This is most noticeable when playing the guitar without an amp. A little prone to feedback. Fairly light in weight.
4. Hollow body (aka archtop) - these are completely hollow and built with a much greater depth measurement compared to the other body types. They are similar in size and weight to acoustic guitars, though a bit heavier due to the added hardware and electronics. They are not as easily customizable due to the way they're constructed and the amount of compatible hardware and electronics on offer. They are the most prone to feedback and the lightest in weight relative to the others.

Want something built solid like a tank? Solid body is probably the way to go. Want something a little lighter in weight to save your back and enable you to play longer? Consider chambering that body. Looking for a jazz, blues or rockabilly sound? Perhaps a semi hollow or hollow body will suit you best. Whatever it might be, you ought to be able to choose the construction method for the body when ordering a custom guitar.

Please note: this guidebook was written primarily with the first three construction methods in mind, so there are sections of this guidebook that do not apply to hollow body guitars.

Body Contours

Guitar bodies start off as slabs of wood. After being shaped, a variety of contours can be added to serve both functional and aesthetic purposes. Let's review some common body contours:

- Flat - if no contours are added, then we call this a “flat” body contour. It's essentially a slab of wood in the shape of a guitar. A good example is the Fender Telecaster. Flat body contours are usually less comfortable with the common gripes being that the body digs into your forearm and/or ribcage. But, hey, some of the greatest players use Teles...
- Forearm contour and tummy cut - A good example is the Fender Stratocaster. Strats have these contours and they take away the wood from the areas where a flat body would normally dig into your forearm and/or ribcage. These two contours don't always have to be paired together on a guitar body. You could opt for just the forearm contour and no tummy cut, or vice versa.
- Tapered/Beveled edges - tapering and beveling around the body's perimeter edges can help with comfort, but it's really effective at creating a distinctive appearance or a modern look.
- Rounded edges - if you put a really large radius on the perimeter edges, it creates a rounded/bulbous appearance. Not too common, but pretty slick. Check out Joe Satriani's guitars for some good examples.
- Carved top - this contour is different from the rest in that there is another piece of wood that gets glued on top of the base slab. This top might increase the overall thickness of the body by 5 to 10mm. The contouring occurs by carving away thickness starting from the center of the top and working your way out toward the edges of the body. Less material is removed from the center. More material is removed from the edges. Because carved tops are thicker overall, they tend to be a bit on the heavier side. A good example of this body contour is the Gibson Les Paul.
- Reveal bevel - this is a term I made up (I think), though I certainly did not come up with the idea itself. It is only possible on guitar bodies that are constructed with multiple layers of wood. To achieve it, a deep and swooping bevel goes across the body top, which often starts from the upper horn, flows through the area where a forearm contour would be, and ends somewhere down by the base of the body where the strap button is installed. The end result is a striking appearance that “reveals” and shows off the multiple layers of wood the body is constructed from. Obviously, it can only reveal the wood layers if the body gets a natural or transparent color in the end. This doesn't mean you can't add the same bevel to a guitar with a solid/opaque color. You totally can, and should, if you happen to like the way the bevels and lines look.

Summary: guitar bodies can be flat or contoured in a variety of ways. When ordering a custom guitar, try to “think in 3D” about how you want the body to look and feel and then let your guitar builder know so they can build accordingly.

Body Trim

You can add trim to your body's perimeter edges in a couple ways (1) binding and (2) purfling. For electric guitars, you would add trim purely for aesthetic purposes. It doesn't increase the durability or stability of the guitar in any meaningful way. For reference, binding is an inlaid material on the body's edge (where the side of the body meets either the top or back edge of the body). Purfling is similar to binding, except it's inlaid right up against the binding, which means purfling does not meet the body edge. Binding comes in a wide range of plastic colors (e.g. black, white, cream, abaloid, red, etc.) and it also comes in wood (e.g. maple, ebony, koa, walnut, etc.). Purfling options are not as plentiful, but there's still a good variety (e.g. black, white, herringbone, abalone). Adding binding and purfling accentuates the body's shape and makes it really pop.

It's important to note that a slight edge is required for binding to be installed. This means guitars with binding might be less comfortable than those without, as the latter can have their edges significantly rounded.

Summary: you can make your guitar body really stand out by adding trim options like binding and purfling. Color options and materials are plentiful, so there's no reason why you can't come up with the perfect color scheme when ordering your custom guitar.

Pickguard

Pickguards are optional. They serve functional and aesthetic purposes. In terms of functionality, they were meant to protect the finish. My gut tells me that most players don't opt for pickguards so they can protect the finish on their guitar, but rather they like the way the pickguard makes the guitar look overall. If you like the way pickguards look, good news, there is a plethora of pickguard color options, materials and textures. With plastic pickguards, you can get almost any color and also textures like tortoise, pearloid, mirror, and sparkle. Wooden pickguards are also an option. Less common materials are available too, like carbon fiber and aluminum. All you need to do is decide on your favorite pickguard color or material and your guitar builder should be able to make it happen.

Important: pickguards can significantly change the way a guitar body gets routed. For example, on a typical Strat, all of the pickups and controls are mounted to the pickguard, which then gets mounted onto the guitar body. This means the control cavity needs to be "top routed." What about a Strat that has no pickguard? In that scenario, the control cavity needs to be "rear routed." So you need to be aware of how a pickguard can affect the way the guitar body is routed, and not make the assumption that if you order your guitar with a pickguard today, that you can remove the pickguard sometime in the future without issue. The issue when you remove the pickguard is that you now have a big gaping hole in the front of your guitar and no simple way of mounting your controls. But, not all pickguards affect the way the body gets routed. For example, Les Paul pickguards are simply mounted to the guitar with a screw and bracket. No pickups or controls are mounted to it.

Body Color

Lots of options here and the sky's the limit. The most basic is going to be a natural finish, which is just a clear coat (no color, no tint) on top of the wood. Beyond that, you can go transparent, solid, or metallic/sparkle. I mentioned it in the previous section (BODY WOOD), but it's worth mentioning again here: If you want a bright transparent color (e.g. transparent white, transparent emerald green, or transparent pink), then you need to start off with a light colored wood like Maple. Because if you start with a dark colored wood like Mahogany (or even darker like Walnut), then it's going to be impossible to get that bright transparent color in the end. But if you're going to go with a solid or metallic/sparkle color, then like I mentioned, the sky's the limit. Guitar makers have access to a million premixed colors and if that's not enough, custom colors can be mixed on demand. This is one of the best parts of getting a custom guitar made - you can get the exact color you want.

Body Graphics

Not every guitar builder or luthier is going to offer custom body graphics, but it's definitely possible. I've worked with clients that wanted their branding on the guitar body (e.g. Budweiser®, Monster Energy Drink®, Mac Tools®) and also bands that wanted their logos on the body. The complexity of the graphic will influence the method for applying the graphic. Simple graphics can be added via silk screen. More complex graphics can be added via high-resolution graphic printouts that get veneered onto the body. Another option is to print directly onto the guitar body with a specialized printer. Finally, custom graphics can be hand painted by a skilled airbrush artist. Adding custom graphics to the body can be a great way of adding a personal or branded touch to your custom guitar.

Body Finish

The term "finish" refers to the final layer that gets applied to the surface of the guitar. Here are some common finishes:

- Gloss - this is highly reflective and shiny. Easy to repair scratches, dings and dents because it can be sanded and buffed to look like new. It's one of the best options for showcasing vivid colors and wood grains. But, it is a fingerprint magnet and requires more cleaning/polishing to keep it looking its best.
- Satin - this is slightly reflective. Hard to repair and make it look like new because it can't be buffed. Doesn't attract fingerprints much, so it's easier to keep it looking clean. Over time, the satin finish will have glossy spots wherever you play/contact the guitar a lot.
- Open pore satin - same as satin, except this finish leaves the wood pores unfilled, which means you can feel more of the wood's natural texture. Whereas regular satin fills the wood pores, which means it gives a uniform flat surface (can't feel the wood's texture).

- Matte - this is not reflective or shiny at all. The comments about satin also apply to matte.
- Oil - this is slightly reflective. Requires re-application of oil over time to maintain its protective and cosmetic qualities. It's like open pore satin in that you can feel the texture of the wood. This is the highest maintenance finish and also the most delicate/prone to getting dinged up.

All of the above, except oil, can be done with nitrocellulose lacquer or polyurethane. I've been asked countless times if we can spray nitrocellulose (we can), but I don't think anybody has ever specifically asked for polyurethane. Two reasons I hear all the time regarding the preference for nitro: (1) it resonates better than poly (2) it ages well and develops a nice patina. That said, poly has its strengths in that it is more durable and it maintains its appearance over time (doesn't really age or develop a patina). On the production side of things, nitro takes more time and is more hazardous. Many prominent guitar brands only use nitro on higher end models and poly for the lower end models. Like everything else, the choice of finish is up to you and your personal preference.

Body Special Instructions

When ordering a custom guitar, there's always going to be a menu of options for you to choose from. What happens when you want something but it's not on the menu? This is the time to speak up and ask. The worst that can happen is that your request is denied. However, if the guitar builder is willing to accommodate your off-menu request, you really need to make sure it's clearly communicated, understood and well documented to ensure that it gets done right and to your expectation.

Time To Reflect

- Take what you've learned about guitar bodies in this section and think about how they apply to your existing guitars
- What is it about your existing guitar bodies that you like and dislike?

Have Some Fun

- Fill out a mock spec list of your own signature guitar's body specs in the "MY SIGNATURE GUITAR'S BODY SPECS" section below
- Experiment and create mockups of custom bodies for free online at www.haloguitars.com/store/custom-guitars.html

MY SIGNATURE GUITAR'S BODY SPECS

Body Shape

- Strat-style
- Tele-style
- LP-style
- Jazzmaster-style
- Other/Custom Shape

Body Wood

- Mahogany
- Alder
- Ash
- Black Limba
- Basswood
- Other

Body Construction

- Solid
- Chambered
- Semi Hollow
- Hollow Body

Body Contour

- Flat
- Forearm cut only
- Forearm cut + Tummy cut
- Tummy cut only
- Tapered/Beveled edges
- Carved top
- Reveal bevel

Body Binding

- Black
- White
- Cream
- Abalone
- Wood

Body Purfling

- Black/White
- Herringbone
- Abalone

Body Color

- Natural
- Transparent
- Solid
- Metallic

Body Graphics

- Yes
- No

Body Finish

- Gloss
- Satin
- Open Pore Satin
- Matte
- Oil
- Nitro/Poly

Body Special Instructions:

Got Questions Or Suggestions?

Send me an email and I'll do my best to include more info in a revised version of this guidebook in the future. My email is jeff@haloguitars.com.

CUSTOMIZING THE NECK & HEADSTOCK

Headstock Shape & Angle

The headstock serves functional and cosmetic purposes.

Unlike body shapes, headstock shapes are more highly-contested and protected by law and this results in there truly being less flexibility here. Many guitar builders have their own version of classic designs, but are careful not to offer something too similar. So, you'll need to be flexible and open to some new/different headstock shapes compared to what you might be used to seeing.

The shape of the headstock makes an obvious cosmetic impact on the guitar, but there are a couple other aspects I want to mention, the main one being "straight string pull." Straight string pull is achieved when the strings pull straight through the nut and into the tuner without taking any turns or making any angles. The reason this is sought after is because it allows the string to pass through the nut with minimal friction. Less friction leads to better tuning stability. That said, plenty of amazing guitar players get by just fine with headstocks that don't have straight string pull. The other thing I want to mention has to do with inline headstocks. Most guitars with inline headstocks have it so all the tuners are on top, but this can be reversed so the tuners are on the bottom. All you have to do is reverse the shape of the headstock. I've heard from many customers that reverse headstocks are preferred because it makes tuning the strings a tiny bit easier, because there's no need to flip your wrist over to the top of the headstock to make tuning adjustments. Instead, with a reverse inline headstock, your fretting hand just slides from the fretboard over to the tuners and you make your adjustments. Although, I've heard from even more customers that reverse headstocks are preferred because they "look cool."

Regarding the headstock angle. There are two choices: (1) straight (2) angled. A good example of a straight headstock is a Fender Strat headstock. The headstock and the neck are on the same plane. This differs from a Gibson Les Paul headstock, which has a headstock that is tilted back at an angle. The headstock is on a different plane than the neck. There are pros and cons to each construction method and one is not "better" than the other. They're just different. I'll list my thoughts on this below:

- It's conventional to go with a straight headstock if you're getting a Fender-style guitar, but it's not necessary. Similarly, it's conventional to go with an angled headstock if you're getting a Gibson-style guitar, but again, it's not necessary
- I like straight headstocks because
 - They fit in shallower guitar cases (angled headstocks increase the overall depth of the guitar, so the guitar case needs to be built deeper to accommodate)
 - I can set the guitar down and the headstock won't come into contact with whatever surface the guitar is set down on

- I dislike straight headstocks because
 - They often require string trees, which is an additional piece of hardware and an additional point of friction for the guitar string. But, it's possible to eliminate the need for string trees by installing staggered height tuners
 - Sometimes I like having a truss rod cover plate on the headstock to dress up the guitar a little (straight headstocks almost never have truss rod cover plates)
 - It's a little harder to do clean binding and purfling work on them due to there being an arc right after the nut (angled headstocks are nice and flat there; easier rout the channels required to install trim)
- I like and dislike angled headstocks for the opposite reasons as listed above, but in addition:
 - The precise angle at which the headstock is set varies from one builder to the next. I've tried a range of angles and am happiest with a 10-degree angle

Summary: you can select from a variety of headstock shapes and choose whether they're straight or angled.

Truss Rod Cover Plate

The truss rod cover plate is usually a small piece of plastic installed on the headstock right after the nut. Its job is to cover up the truss rod adjustment access area and to add a little bit of design flair to the headstock. You don't usually find them on straight headstocks, so they really only apply to angled headstocks.

That said, truss rod cover plates are a great way to further personalize your guitar. They can be made in a variety of shapes, colors, materials, and can even be engraved to include any design you might want (e.g. a name, a logo, etc.). You can go with a singly ply plastic for a relatively subtle look, or a 3-ply plastic to make the cover plate stand out more. Other materials like wood, carbon fiber and aluminum are also available.

Headstock Color, Finish & Trim

The headstock is just another surface like the body, so this means it can be customized very similarly in terms of color, finish and trim options. If you skipped the previous section (CUSTOMIZING THE BODY), please refer back to it so you don't miss out on what's possible. Or, just know that you can get the headstock in any style (natural, transparent, solid, metallic), in any color, in any finish (gloss, satin, open pore satin, matte, oil, nitrocellulose, polyurethane), and with any trim (binding, purfling).

Headstock Signature & Graphics

This is a great way to personalize your custom guitar. All you need to do is provide your guitar builder with a scan of your autograph and they should be able to duplicate it on the headstock

in just the right size, color and location that you prefer. Make sure it gets sealed underneath the clear coat finish of your choice.

Custom graphics can also be applied to the headstock in much the same way as how custom graphics are applied to the body. The following is mostly a copy/paste from the previous section on body graphics, but contextualized for headstock graphics:

The graphics can be for branding (e.g. Budweiser®, Monster Energy Drink®, Mac Tools®), a band logo, or any design for that matter. The complexity of the graphic will influence the method for applying the graphic. Simple graphics can be added via silk screen. More complex graphics can be added via high-resolution graphic printouts that get veneered onto the body. Another option is to print directly onto the guitar headstock with a specialized printer. Finally, custom graphics can also be painted on by hand through a skilled airbrush artist. Adding custom graphics to the headstock can be a great way of adding a personal touch to your custom guitar.

Neck Construction Method

There are three types of construction methods:

1. Bolt on (neck and body are made separately and later joined together with screws or bolts)
2. Set neck (neck and body are made separately and later joined together with glue)
3. Neck through body (the neck extends all the way through to the base of the body and later has “body wings” glued to either side of it, which enables it to take the form of a guitar)

There’s a lot of discussion and conventional wisdom out there regarding which construction method is best. Personally, I don’t think there is a “best,” because it’s a subjective issue. One thing I can say for sure is that neck through body guitars are more expensive than bolt ons and set necks. It just comes down to time and materials (takes longer to make; requires more material). I’ll share my thoughts on the pros/cons of each construction method:

Bolt on

- Pros
 - Most affordable
 - Easiest to replace if necessary
- Cons
 - Neck joint can be less comfortable than set necks and neck throughs
 - Upper fret access is not as good as what’s possible on a neck through
 - Neck screws can loosen over time and cause suboptimal string alignment, though this is easily fixed

Set neck

- Pros
 - More comfortable than bolt on
 - String alignment won't budge (like a bolt on might) because the neck is glued in
- Cons
 - Neck joint can be less comfortable than a neck through
 - Upper fret access is not as good as what's possible on a neck through
 - Not easy or practical to replace the neck

Neck through

- Pros
 - Most comfortable
 - Best upper fret access
 - String alignment won't budge (like a bolt on might)
 - "Looks cool"
- Cons
 - More expensive
 - Cannot replace the neck

Again, I don't think one construction method is absolutely better than the rest. It's more about what's important to you. Once you figure that out, let your guitar builder know so they can build accordingly.

Neck Profile

The neck profile refers to the part of the neck that your thumb comes into contact with when fretting (i.e. the back of the neck). There are two aspects: (1) thickness (2) shape. This is one of the most important parts of your guitar and it's a good idea to spend some extra time thinking it through and experimenting with the various profiles available. It's also fairly subjective and preferences can even change over time. I've known customers who initially started off liking thin/flat necks, but over time started liking thicker/rounder necks. I will say that a "Medium C" shape neck profile satisfies the vast majority of players and that's what we build most often on production models and custom orders. But, it doesn't work for everybody.

Regarding neck thicknesses – they are commonly measured at the 1st fret and the 12th fret. The thicknesses include the back of the neck and the fretboard, but not the fret wire. The best way to get an accurate measurement is to use a caliper when there are no strings installed on the guitar.

Regarding neck profiles – they come in various shapes:

- C - these have a fairly uniform arc from one side of the neck to the other
- D - these are similar to the C, except that it flattens out a bit in the center
- U - these are similar to the C, except the arc starts a little further out (there's more "shoulder")
- V - these are unlike the rest and the least common. Shaped like, you guessed it, a "V"

The neck profiles above will satisfy the vast majority of players, but there are still other kinds of neck profiles that are sought after, such as asymmetric and trapezoidal neck profiles. Asymmetric profiles will have the thickest point of the neck somewhere off-center, which could mean that the bass side of the neck is thicker and the treble side is thinner (or vice versa). Trapezoidal neck profiles are what they sound like. The back of the neck is shaped like a trapezoid and there are three distinct flat surfaces going down the length of the back of the neck.

Whatever your preference may be, you ought to be able to get whatever neck thickness and neck shape you want when ordering a custom guitar. It's just a matter of communicating it to your guitar builder.

Neck Wood

A lot of the thoughts I shared in the previous section (BODY WOOD) applies to neck wood. I won't re-state everything from that section here, except this: if you like the way a certain wood looks, then go for it.

Note: neck wood is not the same as "fretboard wood." The neck wood refers to the part of the neck that your thumb comes into contact with when playing. The fretboard wood is where the frets are installed.

If you didn't read the section on body woods, now would be a good time to do so, otherwise you'll miss out on some important principles when it comes to woods.

Regarding the neck: it's main job is to be strong/stable and be able to remain straight. If it's not, then the playability will suffer and the maintenance required to keep the guitar playing its best will increase. Therefore, it's really important to choose a wood that has been properly dried and is strong/rigid enough to counteract a lot of the string tension that will be applied to it once the guitar is strung up and tuned to pitch. Guitar builders ought to know what they're doing and will select woods accordingly, so you don't really need to worry about this as the customer. I mention it because there are still some guitars out there with problems that are costly or impractical to repair and it's usually because of the wood that was used in building the neck. Some of these problems include: twist in the neck; excessive and uncorrectable relief in the neck; and a "rubbery" (i.e. weak) neck. Once a neck develops a twist or has uncorrectable relief, it's game over as far as I'm concerned. Yes, those issues can be corrected or repaired (somewhat), but it really ought to be replaced instead by whoever

built the neck. Now's a good time to mention warranties. It's a good idea to look into the warranty details before committing to a certain guitar builder. This way you at least know what you're liable for if something goes wrong.

Regarding neck wood and how it affects weight and balance: I previously mentioned that the guitar body's upper horn has a major influence on how well a guitar balances when on a strap. But, another factor has to do with the neck's weight, which is very much influenced by the species of wood selected for the neck. In general, a lightweight neck will have a better chance at avoiding "neck dive" than a really heavy neck.

Summary: you want a neck that stays straight, looks good and balances well. Look into the guitar builder's warranty so you know that you're covered in case something goes wrong with the neck.

Truss Rods & Neck Reinforcement Rods

The truss rod is embedded into the guitar neck along the centerline of the neck. Therefore, it's not visible except for the end where you make truss rod adjustments. The truss rod's job is to help keep the neck straight because, in most cases, the guitar strings (when tuned up to pitch) are going to overpower the neck and cause it to bow forward to the extent that it negatively impacts playability and even intonation. It's somewhat rare for a customer to have a strong preference when it comes to the truss rod, but that doesn't mean it shouldn't be customizable.

I prefer double action truss rods because they compensate for neck relief in whichever direction is necessary. But, there are also single action truss rods and even non-adjustable truss rods if you prefer. In addition to that, the location at which the adjustment is made is also customizable. Some like it to be up at the headstock, others like it down by the end of the fretboard (via a spoke wheel). Others like it to be in the neck heel (you have to take the neck off the body in order to make your adjustment).

In addition to the truss rod, there are also neck reinforcement rod options/upgrades. Note: they're optional. These reinforcement rods increase the rigidity/stiffness of the neck and also help to prevent twists from happening. When the neck is super stable, the setup stays put and there's less need for maintenance. Whatever your preferences may be, let it be known to the guitar builder so they can build accordingly.

Nut

The nut is the piece of material (usually plastic or bone) that is installed up by the headstock. It's responsible for string height and string spacing. You can customize the nut material and the nut width.

The nut material is important for cosmetic and performance purposes. Depending on the color scheme of your guitar, a certain color for the nut might be the obvious choice, whereas a different color might clash and cause eyebrows to raise. Some nut materials include: plastic,

bone, graphite, Corian, and brass. Plastic and bone are the most popular/common. Regarding performance, I'm sure each material has its own frequency response and effect on harmonic content, but I haven't been able to discern the differences easily or with any high level of confidence, so I focus more on what they look like and make sure to lubricate the nut slots for maximum "slipperiness," which helps with tuning stability (especially on guitars with tremos).

The nut width is a very important spec for certain customers because it controls the string spacing. Standard nut widths work fine for the vast majority of players, but wide nut widths are a game changer for other players (particularly those with "fat" fingertips or those who are primarily fingerstyle/classical guitar players). The ability to specify the exact nut width for your custom guitar is one of the most impactful areas of customization.

Zero Fret

I also want to quickly mention "zero frets" even though they're not too common on electric guitars these days. As we've discussed, a nut has two jobs: (1) set the string height (2) set the string spacing. A zero fret, however, only does one of those jobs (it sets the string height). Most of the time, a zero fret is going to be paired with a "string guide," which is installed behind the zero fret and it takes care of the second job (setting the string spacing).

Summary: choose the nut material that looks the best with your custom guitar's color scheme and specify a custom nut width if you don't get along with standard nut widths.

Neck Color & Finish

The back of the neck is just another surface like the body and headstock, so this means it can be customized very similarly in terms of color and finish options. Just know that you can get the back of the neck in any style (natural, transparent, solid, metallic), in any color, and in any finish (gloss, satin, open pore satin, matte, oil, nitrocellulose, polyurethane). Please refer to the previous section (BODY COLOR; BODY FINISH) for more in-depth details on color and finish options.

Also, custom graphics can be applied to the back of the neck in much the same way as how custom graphics are applied to the body. To learn more, refer to the previous section (BODY GRAPHICS).

Fretboard Wood

There are a lot of fretboard wood options. Here are some thoughts on some of the most common ones available:

- Ebony - this is a go-to choice. It complements virtually every color scheme and it is very durable (i.e. it's great for fretboards... or fingerboards if you're going fretless). One thing you may not know is the fact that Ebony is not always uniformly black. Some pieces are fairly brown and include streaking. If you want it to be black, then it's worth

mentioning this preference to your guitar builder instead of assuming that you'll get a perfectly black Ebony fretboard. All the guitar builder needs to do is select a board that has no brown in it or any streaking in it. This is not difficult to do, it just costs more. Lastly, Ebony fretboards are left unfinished, so they need to be oiled from time to time.

- Rosewood - this is a fairly common choice and works well with most color schemes. Rosewood fretboards are left unfinished so they need to be oiled from time to time.
- Maple - very common and works well with most color schemes. Maple fretboards are usually finished, so there's no need to apply oil
 - Did you know that Maple fretboards are good candidates for adding color? They can be tinted to give a vintage look, stained for a transparent finish, or painted even painted a solid color.
- Other - there are tons of other choices and you ought to be able to request whatever fretboard wood you want. Some of these other choices are: Ziricote, Pau Ferro, Pale Moon Ebony, Roasted Maple, Birdseye Maple, Flamed Maple, Wenge, and the list can go on and on.

Scalloped Fretboards

While on the topic of fretboards, I want to quickly mention the option for scalloping your fretboard. A scalloped fretboard refers to when the wood in between the fret gets scooped out. The result is that your fingertips do not come into contact with the fretboard at all when fretting, which proponents of scalloped fretboards will say enables them to play faster. Because the wood has been scooped away, it's also a lot easier to get under the strings when doing string bends. It takes some time to adjust to a scalloped fretboard, particularly with how hard you press down on the strings. If you don't have a light enough touch, it's a lot easier to press too hard and bend the notes sharp. If you're ordering a custom guitar, you ought to be able to request a partially or fully scalloped fretboard.

Fretboard Inlays

Inlays are dual purpose - they help you quickly navigate the fretboard when playing and they are decorative. When ordering a custom guitar, you ought to be able to choose whatever inlay shape or design you want as well as the inlay material. Common inlay shapes include dots, blocks, trapezoids, and shark fins but you can also request a custom inlay design. A custom guitar builder can work with sketches of the custom inlay design or CAD files if you have them. You can get almost any color inlay you want when working with inlay materials like acrylic. Or you can go with something natural, like abalone, mother of pearl, wood, rock, aluminum, or phosphorescent (glow in the dark) materials.

Fretboard Side Markers

The side marker dots are installed on the edge of the fretboard, not on the playing surface. These little dots can be customized, too. Standard side markers are plastic (black, white or cream), but they're also available in wood, shell, metal, and phosphorescent (glow in the dark) materials.

Fretboard Radius

The fretboard radius refers to the curvature of the fretboard's playing surface. Vintage guitars tend to have a smaller fretboard radius (e.g. 7.25") and modern guitars have a larger radius (e.g. 10", 12", 16", or 20"). It's often said that it's a little easier to play chords on a smaller radius and it's better to play leads/solos on a larger radius. This is why some fretboards have multiple radiuses (aka "compound radius") with the smaller radius being on the nut side and the larger radius being on the bridge side. For example, a compound radius might start with a 10" radius at the nut and end with a 16" radius at the last fret. The radius gradually works its way up from 10" to 16" in the spaces in between. This gives you the best of both worlds - easier chording down by the nut and better soloing higher up on the fretboard. That's the theory anyway. A lot of amazing players do just fine on guitars without a compound radius. One thing's for sure, though, if you do big string bends, it's better to have a larger radius because the notes on big string bends tend to get choked out sooner when playing on a smaller radius fretboard.

It's also possible to have a flat fretboard (like you'd find on a classical guitar), but out of countless custom electric guitars I've worked on, I think we've only ever done two like that. But, it's what the customers wanted and so that's what they got.

Fretboard Trim

You can add trim to the fretboard in the same two ways that was explained in the "BODY TRIM" section. I'll copy/paste it below, but contextualize it for fretboards:

You can add trim to your fretboard in two ways: (1) binding and (2) purfling. Fretboard trim is added purely for aesthetic purposes. It doesn't increase the durability or stability of the guitar in any meaningful way. For reference, binding is an inlaid material on the fretboard's edge (where the side of the neck meets the side of the fretboard). Purfling is similar to binding, except it's inlaid right up against the binding, which means purfling does not meet the fretboard edge. Binding comes in a wide range of plastic colors (e.g. black, white, cream, abaloid, red, etc.) and it also comes in wood (e.g. maple, ebony, koa, walnut, etc.). Purfling options are not as plentiful, but there's still a good variety (e.g. black, white, herringbone, abalone). Adding binding and purfling accentuates the fretboard's shape and makes it really pop.

Frets

Frets are customizable in three aspects: (1) number of frets (2) fret material (3) fret size.

- Number of frets – you'll want to think about how many frets you really need and choose accordingly. More isn't always better. For example, I had a customer request 27 frets one time. No problem. All we had to do was extend the fretboard and install some more frets. However, this extra fretboard length would have pushed the neck pickup closer to middle pickup territory, and this makes a big difference in tone. It results in a "neck" pickup that sounds a lot brighter than what you'd get out of a neck pickup on a guitar

with only 21 or 22 frets. Turns out when he learned how this would impact his tone, he quickly (and gladly) went back to 22 frets so he could keep his warm neck pickup tone and forgo the five extra frets that he said he probably would never play anyway. On the other hand, I've had other customers (shredders) who have requested 27 frets and even 30 frets and played them all. I've even had one recently that was built with 25 frets, go figure. Point is, you ought to be able to order your custom guitar with however many frets you want or need.

- Fret material – the most common material is “nickel silver.” This is a guess, but I'd say somewhere around 85% or more of all guitars are made with nickel silver frets. They are very shiny when freshly polished, but can tarnish quickly if you have oily, sweaty and acidic hands. They wear down quicker than other fret materials like stainless steel. Stainless steel frets are really great. They aren't as shiny as nickel silver, but they don't tarnish (so they stay clean looking) and they take forever to wear down. Because stainless steel frets are harder than nickel silver, they tend to feel relatively slippery compared to nickel silver. For example, you can feel a little resistance when doing vibrato or string bends on nickel silver frets, but on stainless steel, it feels almost like you're on ice (slippery). It's not hard to adjust, but the difference is noticeable, subtle as it is. Jescar EVO is another fret material (made by a company called Jescar) and it's a gold-colored fret wire that looks really nice when the guitar has gold hardware. Luxurious. Looks aside, Jescar EVO wire is great for players who have a nickel allergy because the EVO stuff doesn't have any nickel in it (nickel silver and stainless steel both contain nickel). The last material I'll mention is cast silicon bronze, which is (as far as I know) only found on True Temperament® frets. TT frets are those squiggly frets if you've ever seen them. Back in the day, it was really a task to get TT frets on a custom guitar, but these days the folks at TT have made it a lot easier for custom builders to use their stuff. I'm sure there are frets made from other materials, but these four are the ones I've encountered over and over again.
- Fret size – there are a lot of fret sizes available on the market. In general, frets are measured in two ways: (1) height (2) width. Height options range from “short” to “medium” to “tall.” Width options go from “narrow” to “medium” to “wide.” You can get any combination of these measurements, but most people are more familiar with blanket terms like “medium,” “jumbo,” or “extra jumbo.” If you don't have a preference for fret size, I'd say it's better to go with smaller frets (like “medium”). If you tend to play with a fairly light/controlled touch and like a slightly scalloped feel without getting a scalloped fretboard, then you could opt for the largest frets, “extra jumbo.”

Summary: when ordering a custom guitar, let your guitar builder know how many frets you want, what material they need to be, and what size you'd like.

Time To Reflect

- Take what you've learned in this section about the guitar neck/headstock/fretboard and think about how they apply to your existing guitars
- What is it about your existing guitar neck/headstock/fretboard that you like and dislike?

Have Some Fun

- Fill out a mock spec list of your own signature guitar's neck/headstock/fretboard specs in the "MY SIGNATURE GUITAR'S NECK/HEADSTOCK/FRETBOARD SPECS" section below
- Experiment and create mockups of custom necks/headstocks/fretboards for free online at www.haloguitars.com/store/custom-guitars.html

MY SIGNATURE GUITAR'S NECK/HEADSTOCK/FRETBOARD SPECS

Headstock Shape

- Inline
- Reverse Inline
- 3x3
- 4x2
- 2x4
- Other/Custom Shape

Headstock Angle

- Straight
- Angled

Truss Rod Cover Plate Material

- Plastic
- Wood
- Carbon Fiber
- Other

Truss Rod Cover Plate Engraving

- Yes
- No

Headstock Color

- Natural
- Transparent
- Solid
- Metallic

Headstock Graphics

- Yes
- No

Headstock Finish

- Gloss
- Satin
- Open Pore Satin
- Matte
- Oil
- Nitro/Poly

Headstock Binding

- Black
- White
- Cream
- Abalone
- Wood

Headstock Purfling

- Black/White
- Herringbone
- Abalone

Headstock Signature

- Yes
- No

Headstock Graphics

- Yes
- No

Neck Construction Method

- Bolt on
- Set neck
- Neck through body

Neck Profile

- Thin C
- Medium C
- Thick C
- Thin D
- Medium D
- Thick/Vintage U
- Other

Neck Wood

- Mahogany
- Maple
- Wenge
- Roasted Maple
- Other

Truss Rod

- Double action
- Single action
- Non-adjustable

Neck Reinforcement Rods

- Carbon fiber
- Stainless Steel
- Titanium

Nut Material

- Plastic
- Bone
- Other
- Zero fret

Nut Width

- Standard
- Custom

Neck Color

- Natural
- Transparent
- Solid
- Metallic

Neck Graphics

- Yes
- No

Neck Finish

- Gloss
- Satin
- Open Pore Satin
- Matte
- Oil
- Nitro/Poly

Fretboard Wood

- Ebony
- Rosewood
- Maple
- Other

Scalloped Fretboard

- Yes
- No

Fretboard Inlays

- Dot
- Block
- Trapezoid
- Shark fin
- Custom/Other

Fretboard Inlay Material

- Abalone
- Mother of Pearl
- Acrylic (any color)
- Wood
- Other

Fretboard Side Markers

- Standard
- Luminlay (glow in the dark)

Fretboard Radius

- 7.25"
- 9.5"
- 10"
- 12"
- 16"
- 20"
- Compound Radius
- Other

Fretboard Binding

- Black
- White
- Cream
- Abalone
- Wood

Fretboard Purfling

- Black/White
- Herringbone
- Abalone

Neck/Headstock/Fretboard Special Instructions:

Got Questions Or Suggestions?

Send me an email and I'll do my best to include more info in a revised version of this guidebook in the future. My email is jeff@haloguitars.com.

CHOOSING HARDWARE & ELECTRONICS

Hardware Color

There are three common hardware color options

1. Chrome
2. Black
3. Gold

Beyond these three, there are some specialty colors, but it can sometimes be difficult to find all the other miscellaneous hardware (e.g. mounting screws, knobs, jack plates, etc.) in the same/matching color.

Generally, chrome is the most affordable. There might be a little price increase for black, and there's almost always a premium for gold. Something that's not great about gold hardware is that it tends to age poorly. I've seen a lot of gold hardware lose its brilliance and even turn a little green. This, of course, is over the course of time and exposing it to sweaty/oily/acidic hands.

Hardware color is a matter of taste. Choose the one that looks the best to you – whatever you think complements your guitar's color scheme best – and go for it.

Bridge

There are a lot of options here.

You might already know what kind of bridge you want on your guitar. If you don't, then the first step might be to differentiate between fixed bridges and tremolo (or vibrato) bridges. If you never use a whammy bar (and don't intend to start), which is only found on a tremolo bridge, then you're probably OK with choosing a fixed bridge for your guitar. Fixed bridges can be mounted to the guitar body in one of two ways (1) flat mount (2) stud mount. On a flat mount bridge, the strings are relatively close to the surface of the body. On a stud mount bridge, the strings are higher up off the surface of the body. I personally prefer there to be more space between the strings and the surface of the body so that my pick doesn't come into contact with the body as easily when I'm playing. I'm sure I could adjust my picking technique if I tried, but this is one reason why I personally prefer a stud mount bridge. It's also the same reason why I don't like having a middle pickup, but I digress...

I find that most people I talk to have a pretty strong preference in their bridge choice. Like many other aspects of a guitar, I don't think there is a "best" bridge. I prefer to think about it in terms of what works best for your needs. Do you want to be able to set it and forget it? Do you need it to be able to do huge divebombs and pull ups? Or do you need it to be more subtle in its vibrato? If you don't already know what your choice of bridge is, then it's a good opportunity to consult with your guitar builder and find out which bridge might be best for

your individual needs. In my experience, the following bridge manufacturers (in no particular order) are the most commonly requested: Hipshot, Floyd Rose, Tone Pros, Gotoh, Kahler, EverTune, Schaller, and Bigsby.

Tuners

When it comes to tuners, you have some options:

- Color (chrome, black, gold)
- Standard (non-locking) or Locking
- Brand (generic, Hipshot, Schaller, Gotoh, Grover, etc.)

If it's in the budget, I'd always go for locking tuners because they make string changes much faster. A common question is whether locking tuners improve tuning stability. My opinion is "sometimes" but "not really." The reason is because, in my experience, when strings are properly installed on a guitar with non-locking tuners, the tuning stability is about the same as with a guitar with locking tuners. I think the tuning issues on non-locking tuners have more to do with the fact that guitar players don't necessarily know how to optimally/properly install their strings, and so the strings end up slipping on the tuning peg and the strings go out of tune. I base this on my experience from back when I was doing a lot of guitar repairs. I encountered some very interesting string install methods...

In short, choose the tuners that match the hardware color on the rest of your guitar, get locking tuners if it's in the budget, and stick with the major brands if you can swing it.

Pickups

For electric guitars, this is where most of the tone is coming from. I'll do my best to break down the various pickup types, positions and configurations.

Note: pickups are either passive or active (actives require a battery, passives don't)

Pickup types:

- Single Coil - noisy (hum), bright/glassy/clear/crisp tone, commonly used in blues, country and funk
- Humbucker - these cancel out noise (hum), are fuller/warmer than single coils, generally higher output, commonly used in rock, metal and jazz
- Mini-humbucker - a smaller version of a humbucker pickup, has a brighter and more focused sound
- P90 - also a single coil, but thicker/more powerful than traditional single coils, is tonally somewhere between a single coil and humbucker, gritty/growly tone

- Filtertron-style - a type of humbucker, has a clear, jangly sound with a tight low-end response, commonly used in rockabilly, country, and some rock music. A good blend of the clarity you get with single coils and the fullness of humbuckers
- Other

Pickup positions:

- Bridge position - this is the pickup that is installed closest in proximity to the bridge
- Middle position - this is the pickup that is installed in between the bridge and the neck pickup
- Neck position - this is the pickup that is installed closest in proximity to the neck/fretboard

Note: for the three-letter acronyms below, the first letter refers to the bridge pickup, the second letter refers to the middle pickup, and the third letter refers to the neck pickup. For the two-letter acronyms, it's just the bridge and neck pickups. When there's only one letter, it usually refers to the bridge pickup. S stands for single coil and H stands for humbucker.

Pickup configurations:

- SSS - this is a three-pickup guitar, Strats are SSS
- HSS - also a three-pickup guitar, Super Strats are HSS
- HSH - another three-pickup guitar
- HH - two-pickup guitar, Les Pauls are HH
- HS - two-pickup guitar, some Teles are HS
- SH - two-pickup guitar, some Teles are SH
- SS - two-pickup guitar, most Teles are SS
- H - single pickup guitar, some 80s hair metal guitars feature a single bridge humbucker, some jazz guitars feature a single neck humbucker

Summary: the pickups make up the majority of the tone you get out of your guitar. Choose wisely based on the musical genre you intend to play. Once you've figured out the pickup type(s) and pickup configuration you want, communicate with your guitar builder so they can source them and get them installed in your guitar.

Electronics/Controls

Most players know how many volume and tone knobs they want, but beyond that, it hasn't been an area that most customers really get into. But when they do, it can get pretty specific. I'll just say that if you're ordering a custom guitar, then you ought to be able to specify the pot values (e.g. 250K, 500K), pot tapers (e.g. audio, linear), capacitors, pickup selector switches, output jacks, and other switches if you wish.

Knobs & Switch Tips

I saved these for last because whenever I get to the stage of installing knobs and switch tips on a guitar, it really feels like I'm coming to the end of the process of that particular custom guitar build. So here too, as I discuss knobs and switch tips, it feels like the rest of the guidebook has already been thoroughly covered.

Here are some common types of knobs

- Dome knobs - made of metal (can also be made of wood), secured to the pot with a set screw; good for guitars with push/pull pots because they don't pull off as easily as some other knobs might
- Speed knobs - made of plastic, press fit onto pot; easiest to quickly roll on/off with one finger
- Strat knobs - made of plastic, press fit onto pot
- Reflector knobs - made of plastic, commonly used on Gibson guitars

All the knobs are available in a variety of colors. Simply choose the ones you think look the best.

There's not much to say about switch tips except that they come in different colors, so choose the one that complements the rest of your guitar and that should be the finishing touch!

Time To Reflect

- Take what you've learned in this section about hardware and electronics and think about how they apply to your existing guitars
- What is it about your existing guitar's hardware/electronics that you like and dislike?

Have Some Fun

- Fill out a mock spec list of your own signature guitar's hardware and electronics specs in the "MY SIGNATURE GUITAR'S HARDWARE/ELECTRONICS SPECS" section below
- Experiment and create mockups of various hardware/electronics configurations for free online at www.haloguitars.com/store/custom-guitars.html

MY SIGNATURE GUITAR'S HARDWARE/ELECTRONICS SPECS

Hardware Color

- Chrome
- Black
- Gold
- Other

Bridge

- Fixed
- Tremolo

Tuners

- Standard, non-locking
- Locking

Pickups

Bridge pickup choice:

Middle pickup choice:

Neck pickup choice:

Electronics (specify any special requests related to pots, switches, capacitors, etc.)

Knobs (specify choice of knobs)

Switch tip

- Black
- White
- Cream
- Chrome
- Gold

Special Instructions:

Got Questions Or Suggestions?

Send me an email and I'll do my best to include more info in a revised version of this guidebook in the future. My email is jeff@haloguitars.com.

FINAL THOUGHTS

Embarking on the journey to create your own signature guitar is both exciting and rewarding. Now that you have a better understanding of the various components, such as the body, neck, pickups, hardware, and electronics, you can feel confident in your design and spec choices. With careful planning, collaboration and communication with your guitar builder, you will end up with a guitar that not only looks and sounds amazing but also feels like an extension of yourself. Happy playing!

ABOUT THE AUTHOR

Jeff Lee has been in the custom guitar business full time since 2006 and has worked on thousands of custom guitars for customers from all over the globe. He has served guitar players from all 50 states and in over 40 countries. He is the architect behind the Halo Guitar Customization Tool – the world’s most powerful guitar configurator.

Thank you for reading
HOW TO ORDER A CUSTOM GUITAR

The Ultimate Guide to Creating
Your Own Signature Guitar

By Jeff Lee

Contact Information
408-873-8606
jeff@haloguitars.com