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1 – The Hardware

1.1 – The Guitar Itself

Neck and Head

The neck and head are usually a strong material, like rosewood. The neck and body usually are nothing exciting unless you get really fancy.

Body

The body is where flavor comes in. There are usually two types of materials for two degree of warmth:

- **Spruce** – a brighter and crisper tone
- **Cedar** – a warmer and deeper tone

The body also has other peculiarities that people can build in, like the shape. People usually put in at least a single cut-away. The cut-away (seen in the diagram) is designed to help you reach your finger into that area of the neck to get those higher frets.

Care

To care for the guitar, make sure it’s in a place of moderate humidity and out of the sun if possible. Dryness and humidity will do a number on the guitar, making it last not so long. The sun may also add to aging as well.
If you are going to put it away for awhile, loosen the strings on it to lighten the load on the neck.

1.2 – Strings

NOTE: I will refer to only guitars with 6 strings

Weight

This is the most basic of the considerations for a string. The thicker a string the longer it lasts... but then again, the harder the tension it is on your fingertips. This is a personal taste. I usually stick with light.

The following is a chart of the approximate width of the string in inches.

<table>
<thead>
<tr>
<th>Weight</th>
<th>E string</th>
<th>A string</th>
<th>D string</th>
<th>G string</th>
<th>B string</th>
<th>e string</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra Light</td>
<td>0.047</td>
<td>0.039</td>
<td>0.030</td>
<td>0.023</td>
<td>0.014</td>
<td>0.010</td>
</tr>
<tr>
<td>Light</td>
<td>0.053</td>
<td>0.042</td>
<td>0.032</td>
<td>0.024</td>
<td>0.016</td>
<td>0.012</td>
</tr>
<tr>
<td>Medium</td>
<td>0.056</td>
<td>0.045</td>
<td>0.035</td>
<td>0.026</td>
<td>0.017</td>
<td>0.013</td>
</tr>
<tr>
<td>Heavy</td>
<td>0.059</td>
<td>0.049</td>
<td>0.039</td>
<td>0.027</td>
<td>0.018</td>
<td>0.014</td>
</tr>
</tbody>
</table>

Material

The material of the string determines the tone of the sound. There are 3 basic materials that acoustic strings come in.

- **Bronze** – Commonly referred to as 80/20, in reference to the copper ratio in the alloy. This type gives the loudest, crispest and brightest sound of them all.
- **Phosphor Bronze Wound** – This is in reference to the alloy that coats the outside of the bronze strings. This type of string gives you a nice balance between bronze and silk wound that combines both a little warmth and adequate volume for most occasions.
- **Silk / Steel Copper Wound** – This, like Phosphor Bronze, refers to the wounding on the bronze strings. This is the quietest, softest and warmest of the strings. This is usually reserved only for finger picking.

Brands

It is important to understand that not all brands are the same... though some are very similar. The ones that I usually use are Martins and D'Addario. They offer a normal string without any bells or whistles and deliver what they advertise.
Then there’re crazies like Elixir. Elixir is famous for the special coating they offer. It is meant to protect the strings from the constant wear and tears of guitar playing, like the gunk on your fingers that rubs off, making the string last longer. I personally hate this because it sticks to your fingers. I do finger strumming a lot and it just sticks too much for any good effects.

**Care**

ABSOLUTELY change strings every half year. If you play more often, change more! If it starts to become hard to tune or it just sounds not as bright and lively, it’s a pretty major sign it’s time to change strings. Make sure you clean the neck when you do change it, the fret board’s hard to get at normally.

### 1.3 – Pick

**Weight**

Weight is usually the biggest deal with picks. The range from paper thin to slab sized thickness and each offers something different. Different weight is good for different situations. Usually the lighter the string the more flexible and the flimsier your sound will come out, the heavier the more rigid and harder your sound will come out. Though each has its purpose most people stick with starting on Medium, though that’s not a standard.

**Material**

The material adds more variable effects to the pick... mostly with friction and flexibility. Though weight will be the most important defining point in picking a pick... don’t neglect the material since it can almost completely offset all effects that the thickness adds.

Here are common plastic materials:

- **Celluloid** – This is what you usually think of when you think of a guitar pick. This is the old school original material.

<table>
<thead>
<tr>
<th>Width</th>
<th>Approximate thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extra light/thin</td>
<td>≤ 0.014</td>
</tr>
<tr>
<td>Light/thin</td>
<td>0.020–0.023</td>
</tr>
<tr>
<td>Medium</td>
<td>0.028–0.031</td>
</tr>
<tr>
<td>Heavy/thick</td>
<td>0.034–0.047</td>
</tr>
<tr>
<td>Extra heavy/thick</td>
<td>≥ 0.060</td>
</tr>
</tbody>
</table>
• **Nylon** – This has little friction and can be made very thin. This is the material chosen for most light and ultra (paper) thin picks.
• **Tortex / Delrex** – Very good grip
• **Acetal** – A bit stiffer in comparison to celluloid
• **Ultem** – Super stiff compared to celluloid
• **Lexan** – Stiffest of them all

I would recommend against using metal picks unless you’re doing heavy or death metal… doesn’t really sound good for acoustic at all. There are also exotic materials too… but I doubt we can afford them or would need them.

**Styles**

A lot of the materials that I mentioned up there can be used to help add that extra style to the pick as well as the feel. This is all personal; it adds nothing to the sound itself.

There are also different shapes you can explore. I haven’t found anything added to the sound by any of them myself.

**1.4 – Capo**

Capos are primarily used to move the nut down the neck. What this does is it helps you to change the base pitch of your whole entire song a note at a time. In this example above we have the capo on the third fret, giving you the ability to play 3 notes higher consistently.
There are two basic types of capos: the regular capo and the cut capo. The regular capo is shown above, it presses down on all the strings. The cut capo only presses down on a select few. Below is an example of a cut capo.
2 – Basic Music Theory

2.1 – Notes

There are 7 natural notes and almost all have an accidental note. With the two exceptions that don’t have accidental notes we have a total of 12 notes.

Natural notes

Natural notes are designated by English letters from A to G: A, B, C, D, E, F and G. This is the note to base most of our other discussions on.

Accidental notes

There are two types of accidental notes, # (sharp) and ♭ (flat).

Every natural note has a # (sharp) to it, EXCEPT B and E. The sharp note is half a pitch higher than the natural note.

Joke: Look up Homer Simpsons and B#...

The other kind that is less commonly used is the ♭ (flat). Flat notes are the exact opposite of a sharp note; they are half a pitch lower than the natural note. The same rule applies to the exceptions. There are no flat notes for C and F.

It must be noted that there is equivalence with these two accidental notes. For instance: C# = D♭.

A good way to remember which notes doesn’t have accidental notes is to remember that it’s all just B and E not having sharp notes and C and F not having flat notes. A good little sentence to help you is: Big Cat Eats Fish.

2.2 – Timing

There are two components to timing: tempo and rhythm. Tempo talks about the speed of the music and rhythm talks about the pattern of which timing happens.

Tempo

Tempo is a rather simple topic because there’s only one true measure of tempo in today’s vocabulary: beats per minute (bpm). This beat is determined by how many notes a specific instrument plays per minute, so it’s an individual measurement. For beginners and
intermediate guitar players the comfortable speed of play is usually between 60bpm and 128bpm. Anything faster would be hard to get your hand around and anything slower will be hard for you to get the timing just right.

Rhythm

Though the acoustic guitar isn’t strictly a rhythms instrument like the bass guitar is it is still heavily rhythmic.

The basic unit of time is a beat. A beat is when a note happens, or sounds.

A collection of beats is a measure. A measure is usually denoted in a time signature as a fraction:

\[
\frac{3}{4}
\]

The above timing signature is common for Waltz and some older style of music. What this signature indicates is that in the duration of 4 whole notes, 3 beats will occur. The top number indicates how many beats will happen in within a measure and the bottom number indicates the length of the measure in whole notes. The speed at which a whole note happens is defined by the tempo.

Usually the time signature of the music we listen to is that of:

\[
\frac{4}{4}
\]

We tend to like this time signature because it’s simple and it makes sense: a beat for beat, no irregularities.

But as we know from dancing, it’s not conducive for all dance styles... especially for dances like Waltz or Rumba. However, a dance like Jitterbug or East Coast (which works really well with a \(\frac{3}{4}\) timing with the 6 count) can work with a modern rock, \(\frac{4}{4}\), time signature OK.
I know, reusing pictures is lame... but this is a great one. Anyway, that’s the base note of each string on a 6 string guitar. This is the note it makes if you don’t hold down any string in any of the frets.

A good way to remember the order of notes in open string is to get something politically incorrect. So here it is: Every Animal Deserves Garbage Before Eating. I know other people have less crude ways but this is my favorite. It hits you hard and makes you cringe.

The notes increase as you go up (the direction toward the sound hole) the frets. So if you start on the B string, the first fret is C and second is C#, then D, D# and so forth.

3.2 – Tuning the Guitar

Tune to a Piano

This is not the technique that I use... but you can. Follow the diagram to tune the guitar if the piano is tuned.
Tune to a tuner

This is the route that most new guitar players take. It’s hassle free, turn the thing on and you get the job done without thinking. Each tuner is different, most are automatic and try to guess the string for you but some will ask for more. You can also preset the base pitch to most tuners.

Relative tuning (aka tune it to itself)

This technique can be done without any reference except for the guitar itself. As long as you are sure that at least one of your string is tuned you can tune all the rest against it. Sometimes you don’t even need to tune it accurately; it just has to be tuned to a relative pitch. The diagram to the left shows it.

The way that this works is that you can match almost every string to the open note of the string under it at the fifth fret. The only exception is the G to B transposition.

The advantage of this technique is that this can allow you to tune to anything, any instrument, any voice, any other guitar... or heck, even a bird chirping.

3.3 – Body Posture

This picture is the old school way of holding the guitar. The idea behind good posture is to make sure that your hand is not bent fanning out. This guy is bending it towards the fretboard (neck), which is correct if you need more leverage, just don’t bend it perpendicular to this axis of tilting.

What differentiates this position from what people mostly do is he puts the body on his left leg, which is elevated. This is to get a better position for your wrist, slightly overkill but it does help.

You don’t have to hold your right elbow anywhere, just make sure it drapes your right hand down comfortably over the sound hole.
3.3 – Strumming

In the beginning the only thing I can recommend is to hit every string when you strum. You will find later on that selectively hitting only some of the strings is desirable.

The direction which you strum is totally up to you. Usually the direction is up and then down, but that all depends on the rhythm of the song.

You can also do little strumming tricks to accentuate different beats, like pull up harder on the final beat of a measure.

As a lot of guitar teachers have said... feel your way into strumming, it’s better that way as to not make you mechanical.

3.4 – Finger Placement

It is good to remember that most of the time things don’t feel right because your finger dexterity isn’t quite there yet... and other times you’re just holding it wrong. The key to remember when placing your fingers is that you might want to designate one finger per fret if possible.

For instance, the C major chord, which is to the left, uses your index finger on the first fret, middle finger on the second and ring finger on the third. This allows for minimization of contention between fingers when been placed.

Another common problem when placing fingers is not noticing the need for a bar. I won’t go into that now but whenever you see an arch or line in the diagram from string to string, it means there’s a barring action needed. A good example is the B minor chord to the right. Don’t try to do these unless you know how to do a bar chord or the song allows for a capo.
4 – Reading Chords and Tablatures

4.1 – Chord Diagram

Talk about finding great images online! This is a great description of how to read a chord diagram. Each horizontal line represents a fret and each vertical line represents a string. It’s always read from fattest to thinnest from left to right, I haven’t seen it any other way yet.

It will sometimes tell you which finger to put on what string by numbering… but most don’t give you that. The numbering system fails when you have to use your thumb, yes you will have to use your thumb for certain chords.

Another notation worth mentioning is the arc. The arc is to signal a barring of the strings. This requires a finger to press down on all the strings shown in the diagram.

Do notice the X and O above the diagram. X means don’t hit that string when strumming. The O signifies that no finger is to go on it but it must be strummed or open string on that string.

Another way to show chord formation is to only have the numbers as seen in the diagram on the right. It usually goes from left to right with fattest to thinnest string. For instance:

Fmaj: 003211

This basically is the equivalent of the diagram on the right. Sometimes people on the internet are stupid and reverse the order because they don’t know any better… so be prepared for that.

4.2 – Chord Notation

Here’s a snippet of “Amazing Grace”. The chord notation is much easier to read than the sheet music, though it is not as flexible as sheet music. It usually is accompanied by the lyric, though not always, and has the start of a new chord where the chord is written above the lyric.

Amazing grace! How sweet the sound
That saved a wretch like me!
I once was lost but now I’m found;
Was blind, but now I see.
This notation has quite a few weaknesses. It doesn’t show the inner chord variations that give life to the music or does it show specific timing details. This is a fast way to get your music on the page... but it requires the reader to have an intimate knowledge of the song.

4.3 – Tablatures

Tablature is a whole different beast on its own. It gives a lot more information than the simple chord notation that was presented earlier. Above is a sample from Chris Tomlin’s song “Unchanging” from the album “Not to Us”. What it shows in the verse are all chords. All numbers in a column form a chord. So for instance, the first chord it forms is a variant of the Gmaj. What you should observe is that all things particular to the chord notation still applies. X and blanks stands for don’t strum and 0 stands for open stringed strum. Just as in the chord notation, you are on your own with timing, it will try its best to show you the intervals and timing but, it’s a text document from a text editor, it can only get so accurate.

The second set of tricks is in the chorus. It emphasizes on a string at a time, finger picking. There are a few important notations in here:

- h – hammer. This appears right between two numbers. What this means is to do a normal strum on the first fret, the first number, and then hammer down on the second fret instead of strumming it. Don’t strum the second fret, use the hammering as your acoustic.
• / or \ – slide. This is like the hammer, it appears between two frets. This requires you to slide your finger from one fret to another with full contact on that single string.
• ~ – ring. This signifies that this fret is to ring, which is to let it go for a few beats (or just a beat) unmuted.
• ^ – bend. Bending is when you first hold down on that fret, strum and then drag that string along that fret up and down, letting it distort the sound as you rub the string.
• v – vibrato. I have never done this but I assume it’s a certain variety of bending.
5 – Music Theory: Scales and Chords

5.1 – Scales

We have spoken about chords a lot... but what are they? They are patterns within a scale. A scale is just a set of notes that work well together. These combinations have no real reason other than they just sound good together. There are many that have been developed over the ages of music. We are going to only cover major scales as they will cover almost everything we will talk about.

What we will cover mostly is a double octave scale, or a scale that covers two sets of 7 notes plus two more (for a total of 16 notes), hence double (2) octave (8). A single octave is only the first half (8 notes, the seven plus an additional root note) of a double octave.

The most important note in the major scale, and all scales, is the root note. For instance, if we are doing the G major scale we will have G as the root note. In a 6 string guitar you can hit the root note three times. In the diagram above, they are designated with the hollow black dots.

All other subsequent notes are numbered as you go from left to right first then up to down in strings. So basically you would get a numbering seen in the diagram to the right. The numbering is important as chords and other patterns will be formed from them.
5.2 – Chords

A chord is nothing more than restricting notes played to comply with that of a scale in a specific way.

The best example we can use is that of the major chords. The major chords are formed from using the root, third and fifth note of the major scale. By looking at the following diagram of the G major scale, we can see that the root, third and fifth notes are G, B and D:

If we put this together, we can actually achieve restricting the notes in a single strum to only G, B and D in a not so finger twisting way as shown with the standard G major chord in the diagram to the right. The E string becomes G with the third fret, the A becomes B on the second fret, D stays on the open string, G string stays to keep the root, B stays to keep the third note and the final e string becomes G on the third fret just like the E string.

Chord Qualities

Chords can be formed with different “qualities” as well. The quality can be achieved by adding different notes from the same scale into the chord. The quality of a chord is denoted by a number after the primary chord. This number sometimes is prefixed by something like “add”, “no” or some others. These shouldn’t really matter, what matters is the number and how the chord sounds.

A good example of this is the transformation from the C major chord to the C2 (sometimes called Cadd9) chord. The reason why it has two names is that since the octaves loop in numbering every 7 notes, 9th note is really the second in the next octave.

Now, let’s observe the notes in a C major scale:
Chapter: 5 – Music Theory: Scales and Chords

And now, let’s look at the C major chord:

Notice that the first finger on the first fret is on the C note? Let’s look at the C2:

Notice how the first B string became a D now from moving it up 2 frets? (but we haven’t lost the C note from the A string on the third fret) Ok, so let’s look at the C major scale. In the C major chord, we used the root, third and fifth note, which is C, E and G. We omitted the E string because it’s hard to get to (not the case with classic style, which includes the E string on the third fret), but we kept the pattern through all the strings. But look at the new pattern with C2, we added the second (or 9th if you call it Cadd9) note to it. The difference is that we still have our C, E and G but now we added the D into the mix. It becomes a whole different flavor and a whole different chord.

Chord Usage

So how do you know what chord’s what and how to use it? A lot of it comes from practice... but in the beginning, you just want to memorize the chords and how they are formed. You need a vocabulary to start with, right? I’ll add a set of common chords in the back.

5.3 – Building a Bass Line

As the name of this section may suggest, this kind of playing is primarily designed for the bass guitar. But it is also very important to play them when finger picking an acoustic guitar, or any guitars when picking. Bass lines are easy to build if you observe some patterns and rules.

The first thing to remember is that the bass line is built off of the four fattest strings: E, A, D and G. This limits the range of motion you need to do. You can also limit your notes down as well when you only have to traverse through 4 strings instead of 6.
Another thing to help is to know that most bass lines are built off of only the root note. So if someone’s playing Bsus4, just keep picking the B note on every beat.

You will find that the major scale is the most effective scale to use for the bass line, even if that’s not what you use to form the chords. The reason is that the major scale is very geometrically easy to work with. For instance, the root note can be found again by going two strings down and two frets up the neck. The new root that you find is the next pitch over.

There are other common technique is to build off of common patterns. The following are some patterns common in bass:

- Root and fifth
- Root and third
- Root, fifth and seventh
- Root, fifth and sixth
- Root, third and fifth

The root and fifth is more commonly used than root and third because root and third sometimes conflicts with chord progressions within a song… so for instance the next chord been played has the root note of the current chord’s third note. This is also the reason why root, third and fifth is not a commonly used technique as well since all you’re doing is building the major chord of the major scale.

The three note patterns are a bit harder than the two note patterns since you have to fit all those notes in one beat at a time before the next chord is played. This can become a practical issue with beats per chord before the next one is played in the progression. It can also become a problem if finger dexterity isn’t mature enough for it.
6 – Guitar Technique: Power and Bar chords

6.1 – Power Chord

Power chords are special chords in that they only emphasis on the root and fifth note of the scale, usually the major. There are many variations of them and they many times bend the rules that most beginner guitarists have in mind when first learning about how chords work.

The rule that most beginner have in mind is that if you are to move a specific chord up a note, you need to bring EVERYTHING over (which is known as a bar chord, we’ll get to that in the next section)... but that is not the case. Power chord is one that will bend the rules. The way that the rules are bent also depends on the specific power chord as well as the type of guitar you are playing.

The most common way of playing a power chord is to strum only the strings that you are pressing on, like the diagram to the right.

The flavors you can have in a power chord are many, though the configuration you see on the right is the most common for acoustic guitar, repeating the root note twice and only getting the fifth note once, you may omit the repeat of the root note so as to have only press down on two strings.

Another last variation worth mentioning is the addition of the third note in the second octave. If we use the E5 example, we can observe that in the diagram to the right the red dot added is the new note. This never really worked for me other than the song “40” by U2 with their B variant.

Play with this a bit, there’s no right answer... it just has to sound good with what you are playing.
6.2 – Bar Chords

The bar chord is one of THE most dreaded types of chords for beginner guitarist... in fact most design their playing around bar chords just to make the song manageable. The technique of avoiding certain type of chords for others is part of a category of techniques called compensation; we will go into that later.

Bar chords are chords that require the player to press down on more than one string at a time for any finger. It usually doesn’t ask for more than one finger to bar at a time... but there are ones where double barring is desirable.

The thing you have to remember about a bar chord is that... it just takes practice. This thing will not come overnight and it takes up to years of practice to get it right. It took me about 2 years before I even attempted it. One thing that will help is finger strength. As your fingers get stronger you will be able to make a more complete bar with your fingers.

The bar chord in the chord diagram looks like an arc going from one string to the other. Some keep the arc above the nut in the diagram and others draw it from one dot to the other. Still others just draw a horizontal line across all the strings effected on that fret.

The best beginner bar chord to try is the Fmaj chord, actually both:

```
F Major
```

Keep in mind that both are Fmaj and both are equally correct... it’s just that they are of a different pitch. I’ll talk about which ones to choose in the next chapter. You will want to start with the left one first, as you only have to bar two strings. The second one is a complete bar. This is a much more common form of barring.
Yup! We can’t get away from scales... that’s the name of the game. Chord progressions are what define how a song sounds, sets up the mood. Most songs essentially repeat different chord progressions over different parts of the song. Music contemporary to our time usually has minimally a progression for the verse, one for the chorus and one for the tag or bridge.

The chord progressions are documented through music history and the simplest is shown above in the chord progression circle. This simply will take the first sound in the progression as the root and build the following chords in the progression after the fourth and fifth note of the major scale. If you need to add one more, you can just pop in the sixth if you must.

Chord progressions are pretty well documented and should be consulted first before designing them. But in general, that’s where they come from.

So in regards to chord progressions, you can actually take a song, find the progression it uses and transpose it to another root note. For instance, the song “Mighty to Save” by the Hillsong group was recorded in the A note in their album version. The A note produces the chord progression of D, A, F#m2 and then E for the verse of the song. Then if you observe Laura Story’s album version of the song, which is in the G note, you get the progression C2, G, Em7 and then D(sus). If you look in the chord progression diagram on the top, it’s a perfect transposition if you ignore the chord quality of each chord.
4.2 – Chord Motions

So you sometimes may wonder if there are many different finger positions to form the same chord, which one to chose? That answer can be easier to get to if you consider the “boringness” or the “excitement” of certain changes in pitch on different strings. This can be captured by the kind of motion you create when going from one chord to another.

The motion that I’m talking about is the motion of the finger positions. Each motion can add a feel to the song... and many times you have a choice of what motion to achieve. Many times you’ll be able to achieve a couple different types of motion in one change of chords.

There are four basic movements in chord motion:

The motions will help you pick the chords to use. For instance if you are going from an Am to F:

If I was going for something that sounds as harmonious as possible but slightly boring, I’d pick the second F to create a parallel movement. If I wanted to add something more interesting but not so harmonious, I’d go for the first F since that creates an oblique motion.
7.3 – Final word on Chord Choices

We have discussed some pretty deep stuff... the last bit I left out is the final word on chord choice. I think I’ve stressed enough that it’s all about the final sound... but it’s also about playability. If you can never get your hand to the next chord in the chord progression... don’t do it! If you can’t play a certain chord progression, you might as well just not play it.

Another consideration is the amount of traveling on the neck. How far do you need to travel for the next chord in the progression? If you want something harmonious and it’s too much movement too far down/up the neck, don’t go there, find something close to make it sound more harmonious.