

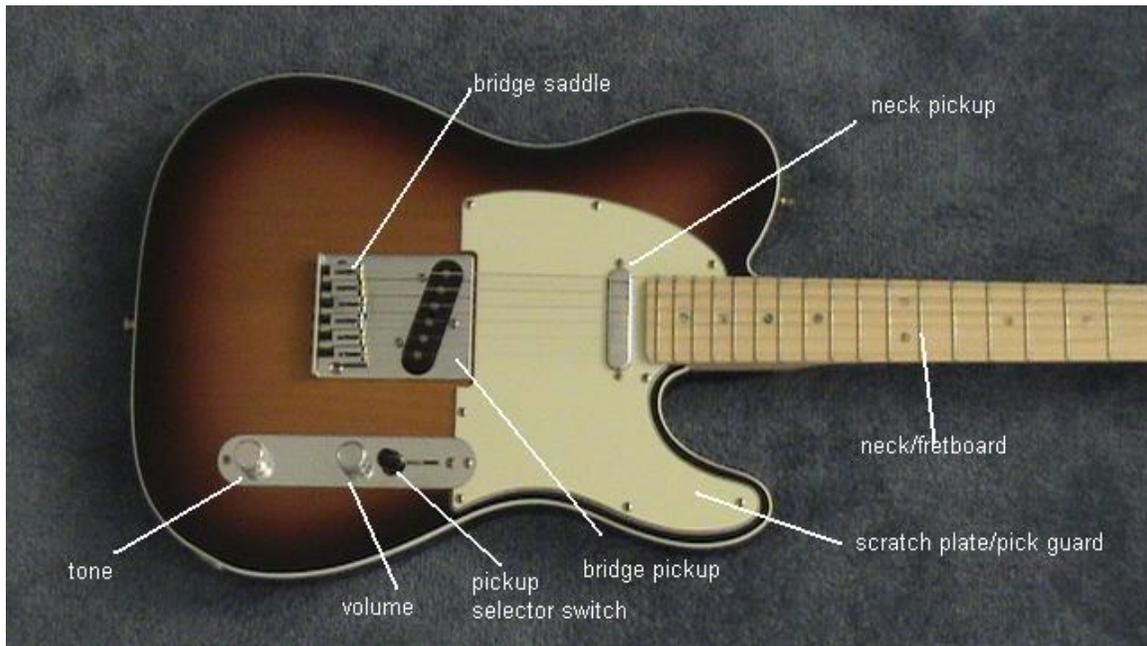
Rock Guitar - Lesson 2

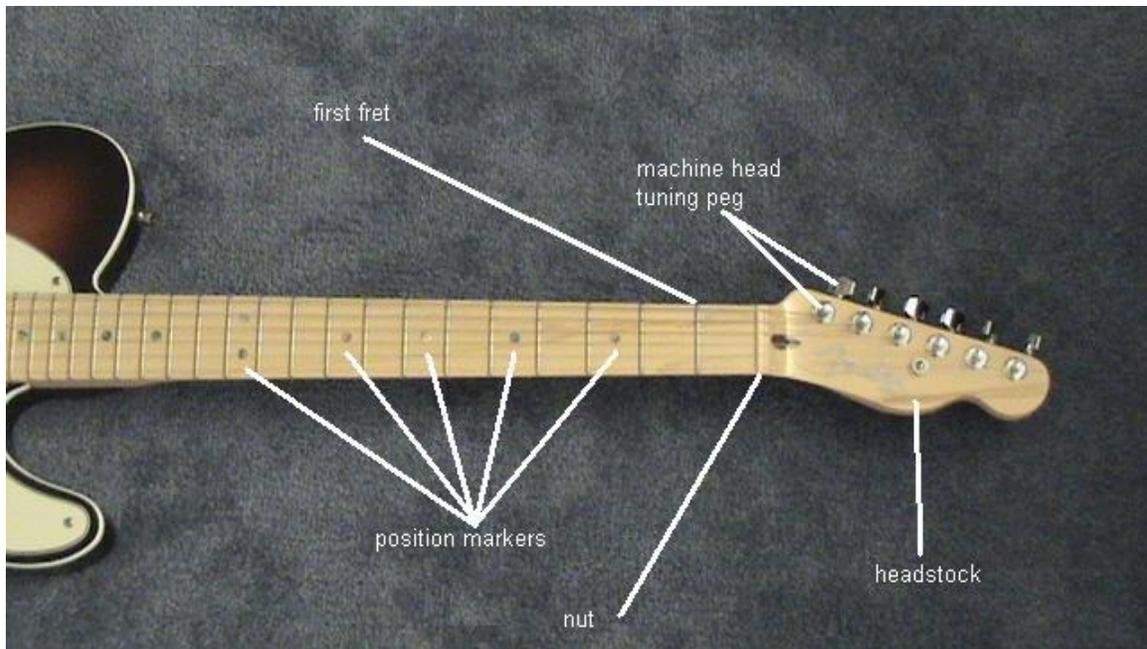
Introduction:

Welcome to the second installment in my rock guitar lessons. After an initial look at music last week, this week, we'll build on our background knowledge and after a brief tour of guitars and amplifiers, we'll have a look at our first three chords.

The Guitar:

It's our weapon of choice. Everyone's seen an electric guitar before, but how much do you actually know about them? If you are yet to buy your first guitar, hopefully this section will provide some knowledge that'll become useful in choosing the right guitar for you. I've described some of the most common guitar types that you'll find. Chances are, the one you have or are buying will related to one of these types. If not, and you are wondering about something, feel free to contact me about it.





The guitar in the above pictures has what you'll find on most electric guitars. It's based on a Fender Telecaster from the late 1940's.

Part Descriptions:

Bridge Saddle:

There are six of these saddles on a six string guitar. They provide a nice sharp corner for the string to be stretched over. They also allow for the individual adjustment of each strings height and scale length. Scale length refers to the distance between the saddle and the nut. It has nothing to do with musical scales. We'll look at why you would adjust the scale length in a latter lesson.

Neck Pickup:

A pickup is a simple device for converting mechanical motion into electrical current. Basically, there's a magnetic core within a coil. The movement of the string makes the magnetic core move also. When you move a magnet within a coil, you will get electric current moving in the coil. The pickup produces only micro volts, but this is the signal used by your amplifier.

Neck/Fret board:

No big secret what this is for, but it is worth noting that this particular fret board is Maple and will sound ever so slightly different to a fret board that has a Rosewood veneer. It's a matter of personal preference and most manufacturers offer these two and more variations.

Tone:

Does the same kind of thing as the tone control on a hi-fi, except it's range is heavily restricted to the task at hand.

Volume:

Think of this as more an input level controller than simply a volume control. More on this latter, but the gist is, if you have an overdrive setting, this knob won't have affect the overall volume very much, but will control the amount of overdrive.

Pickup Selector Switch:

For this type of guitar, you can select the Bridge pickup, both pickups or just the Neck pickup. The Bridge pickup has lots of attack and treble, whilst the Neck pickup will give you a more 'jazzy' type mellow sound. It's best to experiment to find the sound you're after.

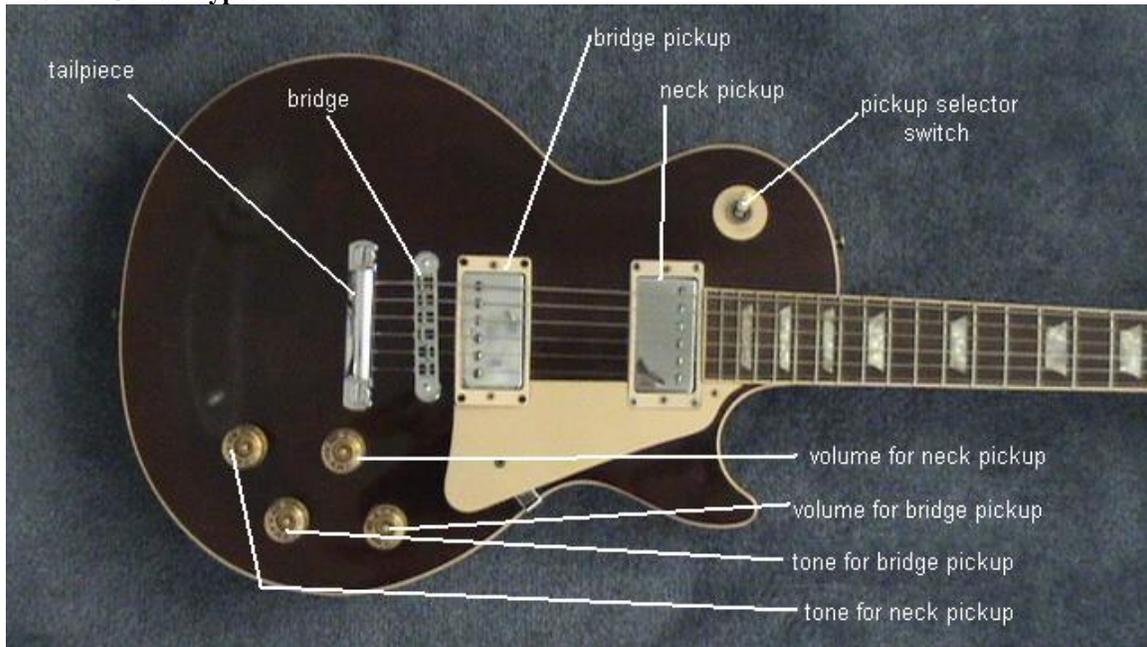
Bridge Pickup:

Described above.

Scratch Plate/Pick guard:

Easily changeable, just in case!

Another Guitar Type:



The guitar above is another very common type, based on the Gibson Les Paul from the 1950's. There are some slight variations from the first type of guitar we looked at, noted in the part descriptions below:

Tailpiece:

Just an anchor for the strings. On the Telecaster type guitar, the strings are anchored inside the body and you need to poke them through holes in the back of the guitar.

Bridge:

The height adjustment is not exclusive to each 'saddle' on this type of bridge. There are two adjustments on each end that move the whole bridge. Each saddle can still be adjusted for scale length though, as this is very important for correct intonation.

Bridge/Neck Pickup:

These pickups are called Dual Coil or 'Humbucking' pickups. Under the metal cover, reside two pickups as in the first guitar. They have coils wound in an opposing manner to cancel out any RF hum picked up. They also provide a higher output signal. The downside is a big loss in attack, although this is desirable for a lot of rock applications.

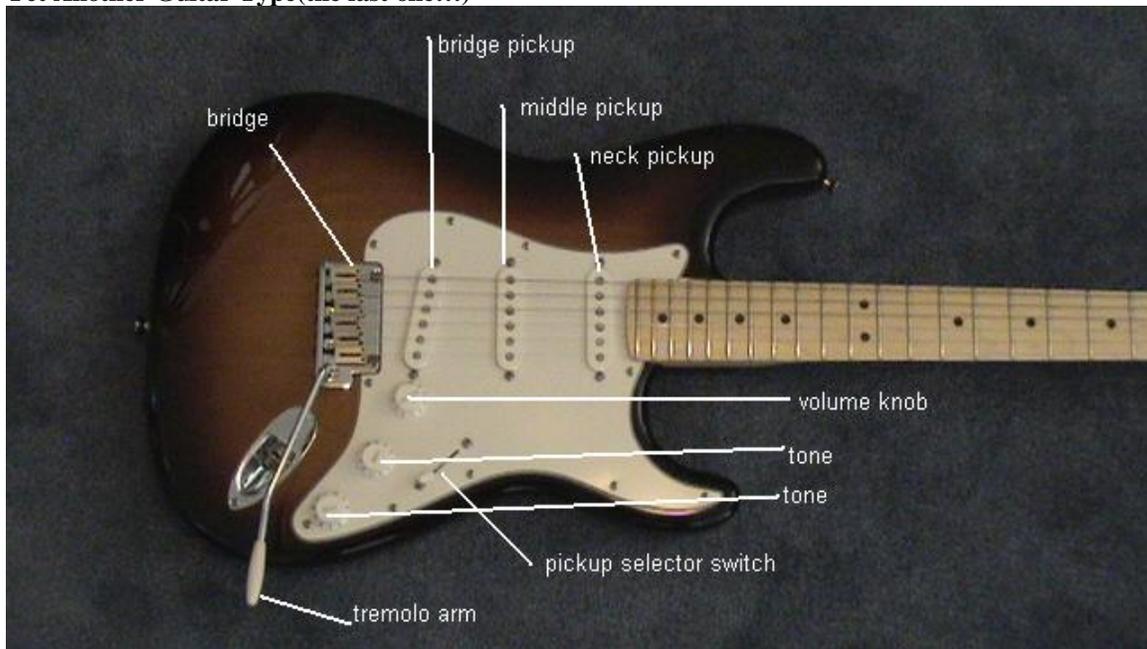
Pickup Selector Switch:

Once again, a three position switch that functions exactly the same as the Telecaster type guitar.

Vol and Tone:

Each pickup has its own volume and tone control. When the pickup selector switch is central, both pickups are selected. This means you can mix the four controls together to achieve finer control over your sound. It seems like a good idea, but I rarely do this, mainly because your settings are difficult to find again once you've changed the knobs.

Yet Another Guitar Type(the last one...)



The final electric guitar type variation that I can show you is that based on the Stratocaster produced by Fender in 1954-Present.

Bridge:

Basically the same as the Telecasters, except that this bridge pivots at the two screws. Springs inside the back of the guitar weigh against the tension of the strings.

Pickups:

Usually 'single coil', but a common variation is for the bridge pickup to be a hum bucker. A company called Jackson started this trend in the early 80s with it's 'Super Strat' series.

Volume/Tone:

As per usual. Think of the tone controls as sitting between each pickup, sharing the two pickups on either side. The back tone control is responsible for the bridge and middle pickups, the other for the middle and neck pickups.

Pickup Selector:

Originally a three position switch for selecting each of the three pickups, now, it has five positions. You can select the bridge, bridge/middle. middle, middle/neck and the neck pickups with this switch.

Tremolo Arm:

This is how you move the bridge against the weight of the springs and the strings. Be careful though! Excessive use will put your guitar out of tune unless you have 'locking' tremolo setup. This is where the strings are tune as normal, then they are clamped down at the nut. You can then move the bridge up and down 'til your hearts content, without any loss in tuning. The bridge is also different from the one shown, as you need to be able to fine tune using the string saddles. The body of the guitar needs extensive routing work in order to fit the locking tremolo bridge.

Onto Amplifiers:



I'm only going to explain the basics of the most common controls found on every amp. Your amp may have more features than this, but your manual will provide ample instruction about that! An amplifier has two main areas of concern for us. The pre-amp and the power-amp. The pre-amp is what gives you 99% of the tone characteristic, the power-amp simply takes this and makes it powerful enough to drive the speaker[s]. All of the tone and gain controls are for the pre-amp. There will usually (but not always) be a volume control for the power-amp. Learn to identify the pre-amp volume and the power-amp volume if you want to achieve the best overdrive and gain sounds. Here's how it works.

You plug your guitar into the pre-amp. The guitar is outputting a micro voltage signal. The pre-amp sends this signal through it's circuits to amplify and alter the sound to the settings you have chosen on the front of the amp.

The signal is now many times greater than what's coming from the guitar, but is still only a few volts. From the pre-amp, the signal is sent to the power-amp that simply amplifies whatever comes it's way, without altering anything or very little about the tone. The power-amp will alter the sound ever so slightly, but you get the gist!

Amplifiers from the 1950's and 60's and many smaller amps from today do not have a volume control for the power amp. This means that the pre-amp controls the overall volume. What's wrong with that? Nothing, if you live on a 40acre block!

The problem stems from how overdrive is created. A normal signal from the pre-amp is a nice smooth wave. If you crank the pre-amp volume up to past a level it's comfortable with, it will chop or clip the top of this wave as the volume demands exceed it's ability to deliver. That's called overdrive, and the chopping of the wave makes it effectively square, hence the harsh sound.

Without a volume control on the power-amp, it will faithfully map this high pre-amp signal to a proportionality large output level, meaning you can only get the good overdrive sound by running your amp flat out. Not fun for the neighbors if you own a 100watt stack!

By adding a volume control to the power-amp stage, you can get your overdrive sounds at any level.

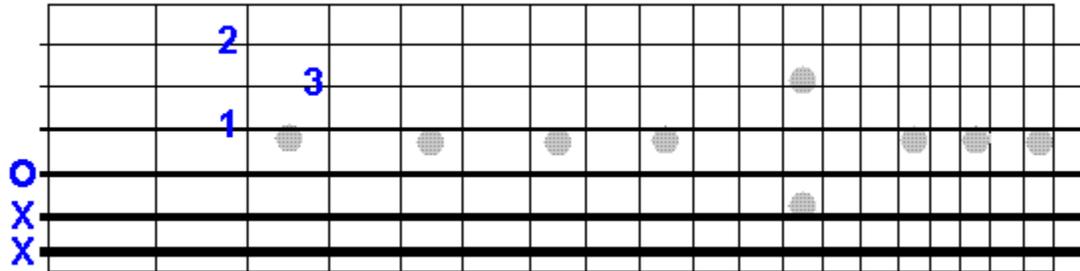
We'll be studying guitars, amps and sound settings throughout this series, but as for an introduction, that's enough. To finish up this lesson, we'll look at three chords and I'll give you an exercise to complete.

Your First Chords:

Ok, on to the guitar playing! When you play more than two notes together on a guitar, or any instrument, it's called a chord. Next week, we'll look at what makes up a chord and why, but this week, you just need to memorize these three.

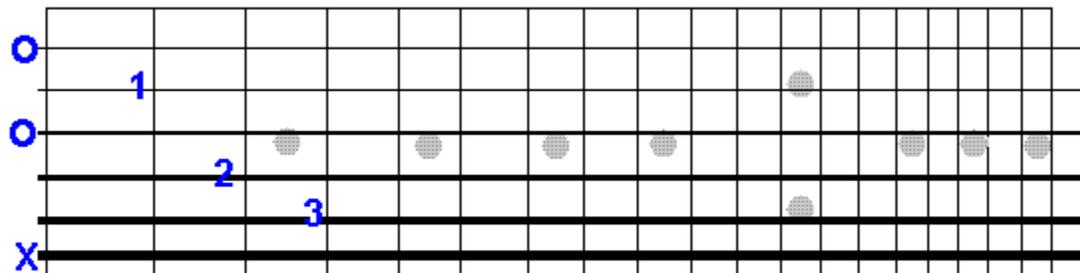
The first one is called **D Major**.

D Major

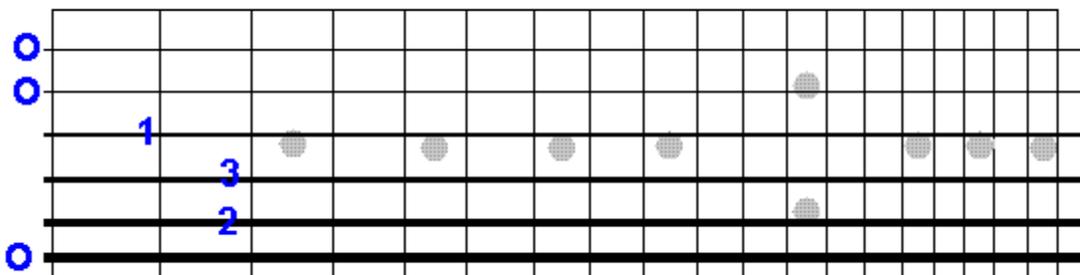


If you number your fingers from 1, the index finger, to 4, the pinky, you can see which fingers to use on which frets. The **O**, **X**'s are there to show you which strings are strummed besides the ones with notes on them. You can see from this particular diagram that you play the D string, without any notes, along with the next three strings.

C Major

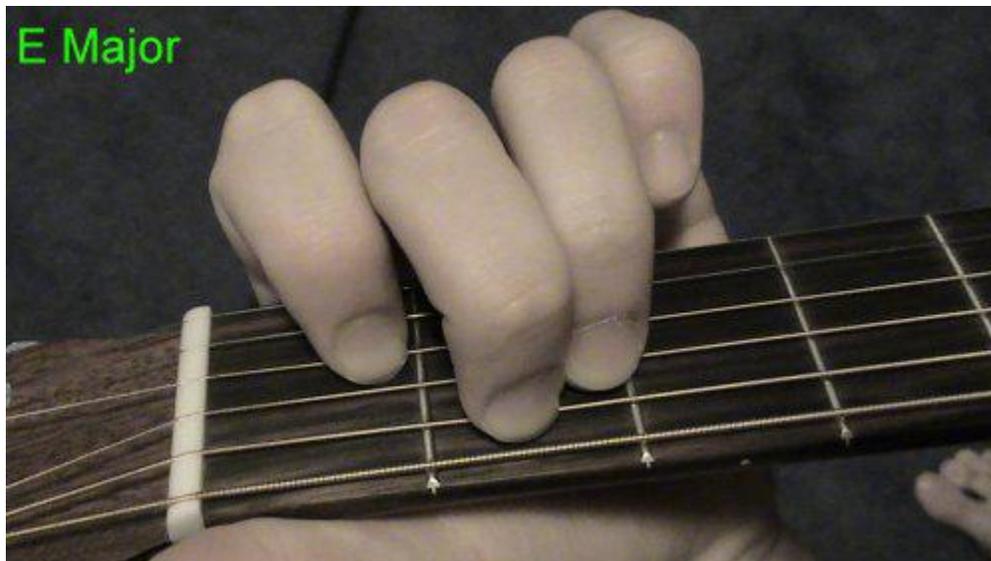


E Major



And there's the other two chords. If you aren't sure about fingering the notes, refer to the pictures below:





We haven't looked at holding the pick yet, so just use your fingers any way you like. The important thing for this lesson is to memorize these chords and be able to play them so that each note can be heard, and each open string rings freely.

To test this, start at the first open string of the chord and slowly pick each string in turn. If any of the notes are not ringing or sound deadened, center your fingering and try to increase the angle of your finger to the strings. IE, more upright.

EXERCISE:

Find out if your amp has a volume control for the power-amp. If it does, set the normal volume to full, and the power-amp volume to zero. Turn your guitar volume all the way up and slowly increase the power-amp volume (often called 'master'). You'll hear a nice raspy, overdriven crunch sound. Now, use your guitar volume to control the amount of overdrive.

EXERCISE:

Remember these chord shapes and be able to play them by name, without referring to this guide!

Next Week:

We'll learn some more chords, play them and learn your first song amongst other things! See you there.