

Guitar Technical Services

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FRET BUZZES AND RATTLES

Electric Guitars with Low Actions

It is normal for electric guitars set with low actions to experience string buzzes/rattles when unplugged which disappear on amplification. Acoustic players increase volume by hitting the strings harder because the acoustic guitar, by its nature, has a sound-board that vibrates just like the skin on a drum. The electric (solid) guitar, however, depends solely on the pickups to transmit sound through to the amp. Electric guitar players are accustomed to playing the strings lightly and use the amplifier's volume to increase the sound - electric guitars are normally deliberately set up for a light, fast playing action. These are the fundamental reasons why the two types of guitar should be seen as totally different instruments in their own right! Someone who is used to playing an acoustic may therefore tend to hit electric guitar strings harder than they need to. There is an old saying that "it takes 30 days to form a habit" and someone switching from acoustic to electric guitar may need to give themselves time to master this different style of playing - i.e. playing lighter and increasing the volume on the amp to compensate. This might not suit some players, in which case the action on the electric should/could be raised until the buzz or rattle disappears, but this does make playing it more of a chore.

Angle of Attack Combined with Amplitude of String

The attack angle of the plectrum on the string may cause the strings to buzz. It cannot be emphasised enough that the skipping rope effect energised/initiated when plucking the string will determine how much the string is likely to buzz.

To explain in more detail: The "skipping rope" effect when the string is plucked at an angle of around 30 degree or less will mean that the string is initially more parallel to the frets and consequently no/very little buzzing will be heard. In contrast, players who use a claw pick method or a 45 to 70 degree angle down onto the string cause a different amount of inertia, which crashes the string down onto the fretboard. This may be done deliberately, as it can sound quite attractively percussive, developing a certain amount of zing from this type of fret rattle. In summary, it is not only how hard you hit string but also the angle of attack that can cause buzzing.

Pick-Up heights (electric guitars only)

The pickup height should not be adjusted to get the loudest level of sound from the guitar - setting them too close to the strings can cause string rattles as well as tuning problems (see separate sheet on 'TUNING DIFFICULTIES'). The magnetic pole pieces of some single coil pickups may need to be situated further away from the strings because of the greater effect from their powerful magnetic pull. With most humbuckers, the magnet is situated at the bottom of the pickup. They therefore have less magnetic pull and can be set closer to the strings.

Note: Some pickups are louder than others by their characteristics - louder does not mean better, just different. If you want more volume do not adjust the pickup, use the volume control on the amplifier.

Acoustic Guitars (including Electro-Acoustics)

Buzzing caused by certain frequencies/strings could be due to loose bracings within the guitar.

On Electro- acoustics manufacturers often hang or tape internal wires on the soundboard which then vibrate in sympathy with string, causing audible buzzing. These wires should always be re-sited away from the soundboard. Also check for loose battery holders and pre-amp units which buzz when the string vibrates.