

# Guitar Technical Services

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## FITTING NEW STRINGS

- ◆ USE THE SAME GAUGE STRINGS AS FITTED AT THE SET-UP. When a guitar is set-up, the truss rod is adjusted to counteract the pull of the strings. Different string gauges have varying amounts of pull. When you choose to change your gauge of string, a qualified guitar technician should adjust the truss rod accordingly. If you put a new set on and keep the to same gauge and type, the set up should not change.
- ◆ Fit one string at a time and tune to pitch, then move on to the next. This is especially important for guitars fitted with tremolos.
- ◆ If you have machine-heads with capstan type barrels and holes in them, use the 'string lock method' to fit the strings (as illustrated below). Not only is it more secure it's a quicker method.
- ◆ Once the strings are all on, tune them to pitch.
- ◆ Particularly with wound strings, check they are pulling straight from the saddle top - it is good practice to lightly press down on the saddle top & string to ensure the string does not slightly rise in the air before continuing towards the fretboard. Most new, thicker wound strings do, which also causes intonation problems. Depending on how thick the strings are, the intonation can be out by 5 to 25% too sharp, so it's important to help them pull straight from nut to saddle. See photos below.
- ◆ Now retune, bending each string in normal playing fashion, **about 2 string positions across the fretboard at the 12th fret (middle of the string)**, let it return to its normal position and then check the tuning meter. You do not need to use one finger to bend the string - style does not count when pre-stretching - you can use 3 or 4 fingers to bend each string. Ensuring that new strings are pre-stretched is very important to maintain the set up and stability.
- ◆ Re-tune up to pitch and bend each string in normal playing fashion again! **This procedure may have to be repeated as many as 6 times or more to achieve stability.**
- ◆ When the strings have reached their optimum tension you will be able to bend and release them and they will stay in tune. Even if you do not normally bend strings during playing, this method should be used to stabilise tuning and to make the truss rod work against the correct string tension.
- ◆ Over-stretching a string may result in damage to it or even breakage. If the intonation is correct and you suspect a faulty string, check the percentage error on the 5th fret. If you have pre-stretched the strings correctly, the 5th fret reading should ideally be Zero, but up to 10% sharp is normal. If the note is above 15% sharp eg 25% or even 30%, it is most likely that the string is defective. Please note that too much finger pressure will also give false readings.

**SEE PHOTOS ON NEXT SHEET**



When a new string is fitted it may not pull straight from the saddle top - it is good practice to press down on the saddle top & string lightly to ensure a straight pull. ● This should only be done after the intonation has been set. If you don't set the intonation first, it can result in a kink in the string if you have to move the saddle backwards. If you are unsure about the intonation, then move all the saddles backwards and use this method, then check the intonation and move it forwards again if necessary. This will ensure that any kinks are behind the saddle.



Most bass players are reluctant to change their strings because of the problems as outlined in the 1st photo. This has the effect of A) increasing the string height - poor playability & B) because of the increase in string height, the intonation is sharpened due to the distance of travel before the string is fretted. Depending on how thick the strings are, the intonation can be out by 5 to 25% too sharp, so it's important to help them pull straight from the nut too, by pressing just in front of the saddle. This method should be done after the strings are pre-tensioned & stretched.



● If you change the strings for the same gauge and type there should not be a need to alter the intonation if it was originally correct.

Using this method of re-stringing reduces the risk of an unpredictable outcome .

Make sure that there is enough string wrapped around the machine-head post (capstan) in a downwards spiral. Failure to do this will result in a poor string angle away from the nut (string-holder) i.e. too shallow. This means that the energy and sound is being lost when transmitted through the nut. One reason a string-tree is fitted to bass guitars is to create more downwards pressure on the nut when the machine-head is positioned further away. A clearer, more defined note will sound if as much energy is pushed down into the nut and neck-stock. If in doubt, feel if any string vibration can be detected after the nut.