

Ibanez

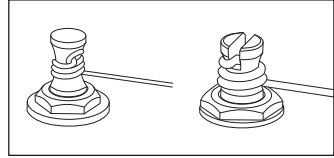
Maintenance Manual

STRING REPLACEMENT

Strings will deteriorate over time, causing buzzing or inaccurate pitch. Replace the strings whenever your strings begin to rust or become discolored. We recommend that you replace all of the strings as a set at the same time. Bent, twisted, or damaged strings will not produce the appropriate quality sound and therefore should not be used.

Wind the string around the tuning machine post two or three times, making sure to wind from top to bottom. Wind about 5–7 cm of string for guitar and 8–10 cm for bass. Do not wind the string on top of itself. The strings should be replaced one by one instead of removing all the strings at once.

This is done to avoid stress on the neck and to reduce the risk of affecting tremolo balance.



※ The method for removing and installing strings attached to a tremolo/bridge will differ depending on the type of tremolo/bridge. For details, refer to the section for the tremolo/bridge installed on your guitar.

Visit our web site (<http://www.ibanez.com>) for details.

TUNING

When shipped from the factory, Ibanez guitars are set up using the following tunings.

■ Guitar

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
6-strings	E	B	G	D	A	E	-	-	-
7-strings	E	B	G	D	A	E	B	-	-
8-strings	D#	A#	F#	C#	G#	D#	A#	F	-
9-strings	E	B	G	D	A	E	B	F#	C#

■ Bass

	1st	2nd	3rd	4th	5th	6th
4-strings	G	D	A	E	-	-
5-strings	G	D	A	E	B	-
6-strings	C	G	D	A	E	B

There are exceptions to some models. **Visit our web site (<http://www.ibanez.com>) for details.**

Use a tuner or tuning fork to tune up the sound of each open string to the above frequencies. If the pitch is higher than the above frequency, loosen the string to lower the pitch, and wind the string in small increments to tune it up. This is an easy way to stabilize your tuning. You may need to adjust the neck or the intonation if you tune your guitar to pitches other than those shown in these tables, or if you use strings of other than standard gauge.



Memo

- Please note that extreme tuning or use of strings not intended for electric guitar may cause parts to break, and may cause unexpected injury.

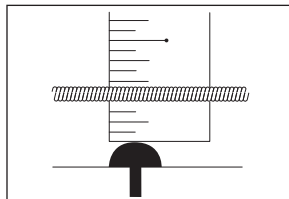


STRING HEIGHT

Action refers to the distance between the frets and the string.

To measure the action, tune the guitar accurately; then place a ruler at the 14th fret and measure the distance from the top of the fret to the bottom of the string.

In general, this distance should be 1.5--1.7 mm for the first string, and 2.0 mm--2.2 mm for the sixth string. For a seven-string guitar, the seventh string should be at 2.2 mm--2.4 mm. For eight-string and nine string guitar, the eight string should be at 2.4mm--2.6mm.



For bass, there should be about 2.0 mm at the 12th fret for the high strings and about 2.5 mm for the low strings for typical playability.

For strings other than those listed above, adjust the action so that the distance gradually increases from the first string toward the lowest string.

If the action is too high, the instrument will be difficult to play. If the action is too low, you may experience string buzz, muted notes, or poor sustain.

If you experience string buzz or muted notes even when the action is adjusted correctly, you might need to adjust the neck bow.

※ The method of adjusting the action will depend on the type of tremolo/bridge with which your guitar is equipped. For details, refer to the appropriate tremolo/bridge section.

※ For the bridges with stud lock function, make sure that the stud locks are released before you adjust the height.

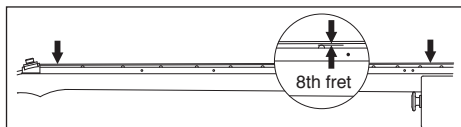
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NECK ADJUSTMENT

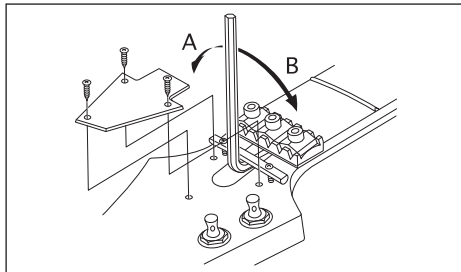
The neck is constantly bearing the tension of the strings, and its curvature will be subtly affected not only by the state of tuning and the string gauge, but also by changes in temperature and humidity.

If you experience problems such as string buzz or muted notes even after the action and tuning are adjusted correctly, you should check and adjust the curvature of the neck.

- 1. Check the curvature of the neck. After tuning accurately, hold the guitar in playing position. Then press the first string at the first fret and also at the fret that is nearest to the point where the neck joins the body, and measure the gap between the string and fret at the eighth fret. In the same way, measure this gap for the lowest string, and make adjustments so that the gaps are in the range of 0.3 mm--0.5 mm.**

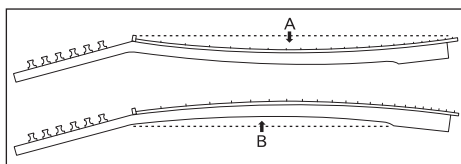


- 2. If the gap is less than 0.3 mm, use a hex key wrench or socket wrench included with the guitar to turn the truss rod nut located at the headstock end of the neck or at the base of the neck in direction 'A', causing the neck curvature to be more concave.**



3. If the gap is greater than 0.5 mm, turn a hex key wrench or socket wrench in direction 'B', causing the neck curvature to be more convex.

※ Adjust the truss rod nut in small increments of a quarter turn, checking the tuning while you do so.



Memo

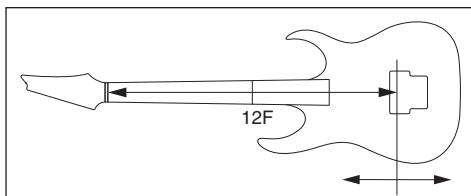
- You must take care when adjusting the neck. Forced adjustments can damage your guitar. If you are unable to adjust the neck correctly, please contact your dealer or the Ibanez Corporation.

INTONATION

If you've changed string gauges or are using your guitar with an alternative tuning, you'll need to adjust the string length (intonation) to ensure that the correct pitch is sounded at all frets.

After tuning your guitar accurately, hold the guitar in playing position and compare the pitch of each string pressed down at the 12th fret with the pitch of the harmonic played at the 12th fret.

If the pitch of the fretted note at the 12th fret is lower than the harmonic at that fret, move the saddle of the tremolo/bridge forward to shorten the string. Conversely, if the pitch of the fretted note is higher than the pitch of the harmonic, move the saddle backward to lengthen the string.



※ Use a tuning meter to ensure accurate intonation adjustments.

※ The method of adjusting the saddle position will differ depending on the installed model of tremolo/bridge. For details, refer to the section for the tremolo/bridge that's installed on your guitar.

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CLEANING

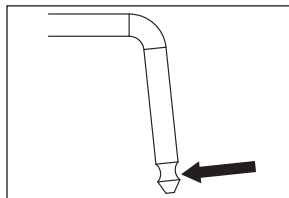
After playing, wipe sweat and oil off metal parts such as the underside of the strings, the frets, bridge saddles and nut. This will help to prevent rust. Dirt or dust that adheres to metal parts may adversely affect their function.

Wipe off stubborn dirt with a soft cloth moistened with a small amount of oil.

To clean the finished surface, do not use volatile or abrasive cleaning compounds; instead gently wipe using a soft cloth with polish formulated specifically for musical instruments.

To clean off dirt that has adhered to an oil finished body or neck, use a pencil eraser, fine sandpaper of #1000 or finer grade, or #0000 steel wool. You can prevent drying by polishing once or twice a year with a colorless furniture finish oil or gun oil applied to #0000 steel wool or a cloth. Unfinished fingerboards should be carefully wiped with a cloth moistened with a small amount of fingerboard oil or high-quality lemon oil, wiping carefully to the edge of the frets.

If the tremolo arm should squeak when turning, apply some grease to the notch on the shorter side of the tremolo arm.



BATTERY

If your guitar has a built-in pre-amplifier or equalizer, it will be powered by a battery.

Replace the battery when you notice that the volume level has decreased or the sound has become distorted.

Some models use a 006P (9V) battery, and other models use two AA (1.5V) batteries.

Check the type of batteries used by your guitar, and replace them with the same type of batteries.

The batteries are found in the battery box located on the back of the body.

On models equipped with a battery, the output jack also functions as a power switch; inserting a plug into the jack will turn on the power.



Memo

- To prevent the battery from running down, remove the plug from the output jack if you will not be using it for an extended period.
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