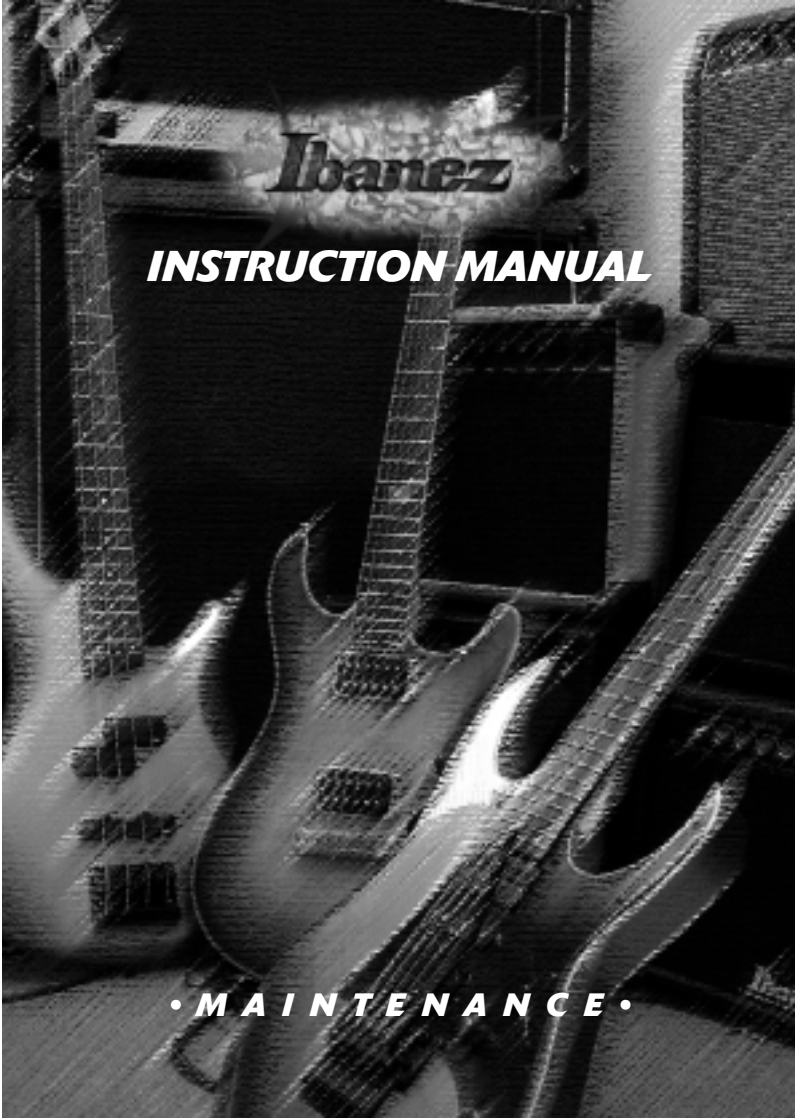




Ibanez

INSTRUCTION MANUAL



Our congratulations and deepest thanks on making Ibanez your choice of instrument.

Ibanez standards are second to none.

All Ibanez instruments are set up to our strict quality control standards before shipping.

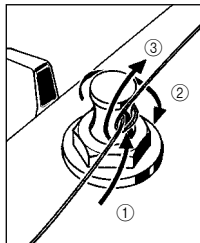
The purpose of this manual is to explain how to maintain your instrument's finish and to keep your guitar playing as well as it did when it left our factory.



• MAINTENANCE •

STRINGS AND TUNING MACHINES

If strings become dirty, discolored, or produce a dull sound or buzz, replace the strings with new ones. For best results we recommend replacing one string at a time, this will help to avoid removing the string tension from the neck. When replacing strings with different gauge strings, it may be necessary to adjust the truss rod tension. (We recommend only qualified technicians perform this.) Instruments that have tremolo systems installed may need to be adjusted after string replacement as changes in string tension can cause the tremolo to raise or lower. Please follow the instructions below for your particular model.

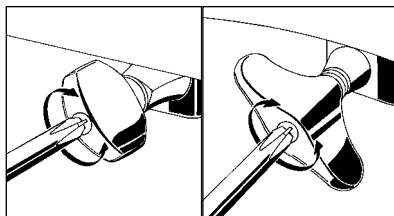
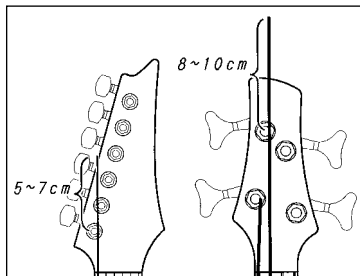


The strings should be tightly wound on to the tuning machines from top to bottom with 2 to 3 string wraps around the post. In the case of unwound guitar strings, the ends of the strings should be prepared as shown in the diagram to prevent unintentional slippage from the posts.

In the case of tuning machines, where the string ends are inserted into the posts, the

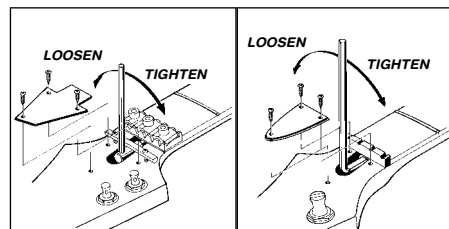
string can be cut to length in advance using a pair of string cutters.

If the tuning machines are sealed gear units, they are self-lubricating types. The set screws for the tuning knob are adjustment screws that can be tightened with a small Philips head screwdriver to increase the tension.



*The use of coarse strings may lead to buzzing and sound distortion. Using strings that have twists or kinks may cause buzzing or decreased sustain. Make sure that the new strings are smooth and free from any defects before installing.

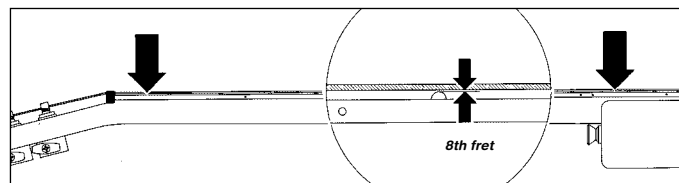
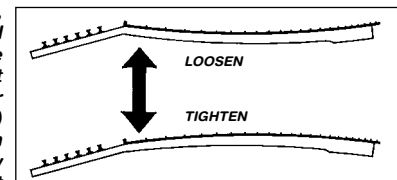
NECK



Ibanez steel string guitars and basses are equipped with adjustable truss rods. The purpose of a truss rod is to adjust the neck to counteract string tension. There are many reasons for truss rod adjustments. One of the most

frequent reasons is changing string gauges or tuning pitch which can affect string tension. String tension changes may affect the string height and cause fret buzz or notes that don't ring true.

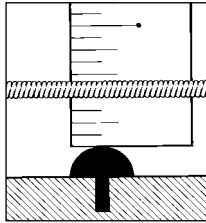
To adjust the truss rod, locate the truss rod nut and adjust it by inserting the correct wrench into the nut and tightening (clockwise) or loosening (counter clockwise) the rod. Truss rod tension can be measured by installing a capo at the first fret the holding the strings down at the fret position where the neck joins the body. Insert a thickness gauge between the string and the fret at the 8th fret. There should be between 0.3mm to 0.5mm clearance. That clearance is referred to as "neck relief." Too much neck relief can cause the neck to have higher action in the middle of the neck causing poor intonation and uncomfortable playability. No neck relief can cause fret buzz.



*Appropriate care must be taken when adjusting the neck and we recommend only qualified technicians perform this procedure.

ACTION

Ibanez guitar string action is set at the factory. However there are many reasons that an instrument's string height can change. Instruments can be affected by changes in temperature and moisture. High string action can make the guitar difficult to play. If the string action is too low, fret buzz or unclear notes can occur. In the case of string action, make sure the guitar is in tune and the truss rod is adjusted properly. Ibanez action is set at the 14th fret. The action may also need to be readjusted after the neck has been adjusted or strings have been changed to a different gauge. Follow the instructions in the relevant bridge manual to make adjustments.

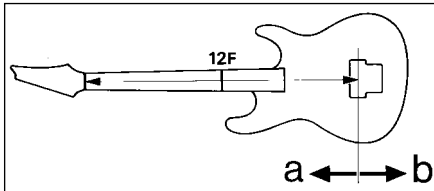


	TREBLE SIDE	BASS SIDE
SOLID GUITARS	1.5mm	2.0mm
SEMI ACOUSTIC GUITARS		
FULL ACOUSTIC GUITARS	1.7mm	2.3mm
BASSES	2.0mm	2.5mm

*If strings other than those described above are used, gradually increase the action clearance from the treble side through to the bass side.

INTONATION

Intonation adjustment is the operation of adjusting the location of the string at the saddle to compensate for different string gauges or different tunings. Follow the instructions of the particular bridge intonation below. Intonation is properly set when the 12th fret note and the 12th fret harmonic are exactly the same note. This is the center point of the scale and the most accurate way of setting a standard scale length. With the harmonic note as the standard, if the fretted note is flat move the bridge saddle forward toward the headstock (a) to decrease the string length. If the fretted note is sharp, move it back away from the headstock (b) to increase the string length intonation adjustments.

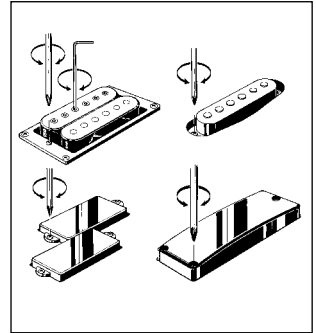


*Please note that strings can be broken when the saddle is moved, so always loosen the strings before making adjustments.

PICKUPS

The output level of the instrument as well as the quality of the signal can be affected by the pickup height. Pickup height should be adjusted until the volume of neck and bridge pickups are almost equal with both volumes wide open. The volume may drop drastically if the pickup height is too low. As the pickups are magnetic, fret buzzing and distortion may occur if the pickup is too close to the strings. Use a small screwdriver to make adjustments to raise or lower the pickup.

*Instruments that have adjustable pole pieces can be adjusted to balance the output of each string.



BATTERY

Instruments with EQ sections or active pickups have batteries that need to be replaced periodically. Replace the battery when the sound becomes distorted or if you notice a volume decrease. To maximize battery life remove the plug from the output jack when the guitar is not in use, this turns off the circuit.

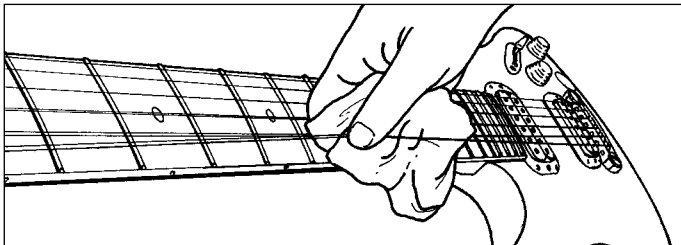
TUNING

Ibanez guitars and basses tuning standards at the factory are as follows.

	1st	2nd	3rd	4th	5th	6th	7th
6-string guitars	E ₄	B ₃	G ₃	D ₃	A ₂	E ₂	/
7-string guitars	E ₄	B ₃	G ₃	D ₃	A ₂	E ₂	B ₁
4-string basses	G ₂	D ₂	A ₁	E ₁	/	/	/
5-string basses	G ₂	D ₂	A ₁	E ₁	B ₀	/	/
6-string basses	C ₃	G ₂	D ₂	A ₁	E ₁	B ₀	/

CLEANING

Regular cleaning of your guitar is one the most important ways you can maintain the finish and lengthen string life. After playing, wipe down your instrument to remove any perspiration from the instrument. Perspiration can actually contain acids that can be corrosive to the strings and metal parts of the guitar.



Gloss finish guitars should be polished with polish formulated specifically for musical instruments, and a soft, treated guitar cloth or a cotton rag. Abrasive rags such as polyester can scratch the finish.

Oil finished guitars should be wiped clean immediately after playing with a dry cotton rag only. If your guitar has become discolored due to extended use or heavy perspiration, factory appearance, see a qualified guitar repair person about methods to restore the oil finish to its original factory appearance.

DISTRIBUTED BY

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This is to certify that the aforementioned equipments fully conform to protection requirements of the following EC council directives.

DIRECTIVES : 89/336/EEC Electromagnetic compatibility