



# GUITAR BULLETIN

7975 NO. HAYDEN ROAD  
SCOTTSDALE, AZ 85258

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*Attention Store Manager: Please route to all appropriate store personnel.*

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**BULLETIN # GB95-2**

**ISSUED DATE: September, 1995**

**ISSUED BY: Jack Schwarz**

**PAGE 1 of 2**

## **INTRODUCTION**

This is the second in a series of Guitar Bulletins. The contents of the bulletin are based on frequently asked questions we receive in our Product Support department. We hope that with this informal format, we can pass on some useful information.

## **LACE SENSOR PICKUPS**

There is an easy way to explain the difference between Fender Lace Sensor pickups and standard single coil pickups. Standard single coil pickups respond in a similar manner as with a uni-directional microphone. Like a uni-directional microphone, optimum response is achieved within a certain field range. A single coil pickup reads the frequency and amplitude modulation from a single magnetic field for each string. The Fender Lace Sensors respond in a manner similar to an omni-directional microphone. They sense frequency and amplitude responses from a much wider field. The larger field on a Fender Lace Sensor is created by many smaller magnetic fields. Because of the size and quantity of these fields, the Fender Lace Sensor has much less magnetic pull on the strings, allowing them to be adjusted much closer to the strings.

## **GUITAR TECH SUPPORT FOR DEALERS AND SERVICE CENTERS**

From time to time situations arise that require the assistance of a Product Support Technician. We at Fender have two guitar technicians on hand to assist you. They are Mark Blythe and Matt Gilsrud. They are available Monday through Friday, from 9:00a.m. to 11:30a.m. and 12:30p.m. to 4:00p.m. Pacific Mountain Time (*Note: Arizona does not observe daylight savings time*) at extension 7138.

## **ADJUSTING THE BRIDGE HEIGHT ON JAGUARS AND JAZZMASTERS**

There are two methods of adjusting the bridge height on the Jaguar and the Jazzmaster. One adjustment is on either side of the bridge and is adjusted with an Allen hex wrench. These adjustments are to set the overall height of the bridge. The other adjustment is an individual string height adjustment. On either side of each bridge saddle is an Allen hex screw that adjusts the *fine* string height after the overall bridge height has been achieved.



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## THE TBX TONE CONTROL

The TBX tone control is a double stacked potentiometer that allows for an extended range of tone options. TBX is short for Treble-Bass-Expander. From 0 to 5, the TBX tone control works like a standard tone control. At 5 there is a center detent. From 6 to 10 the TBX allows more of the original sound of the pickup to come through. Additional treble and bass is *added* by slowly reducing the amount of tone filtering that occurs with all standard tone controls.

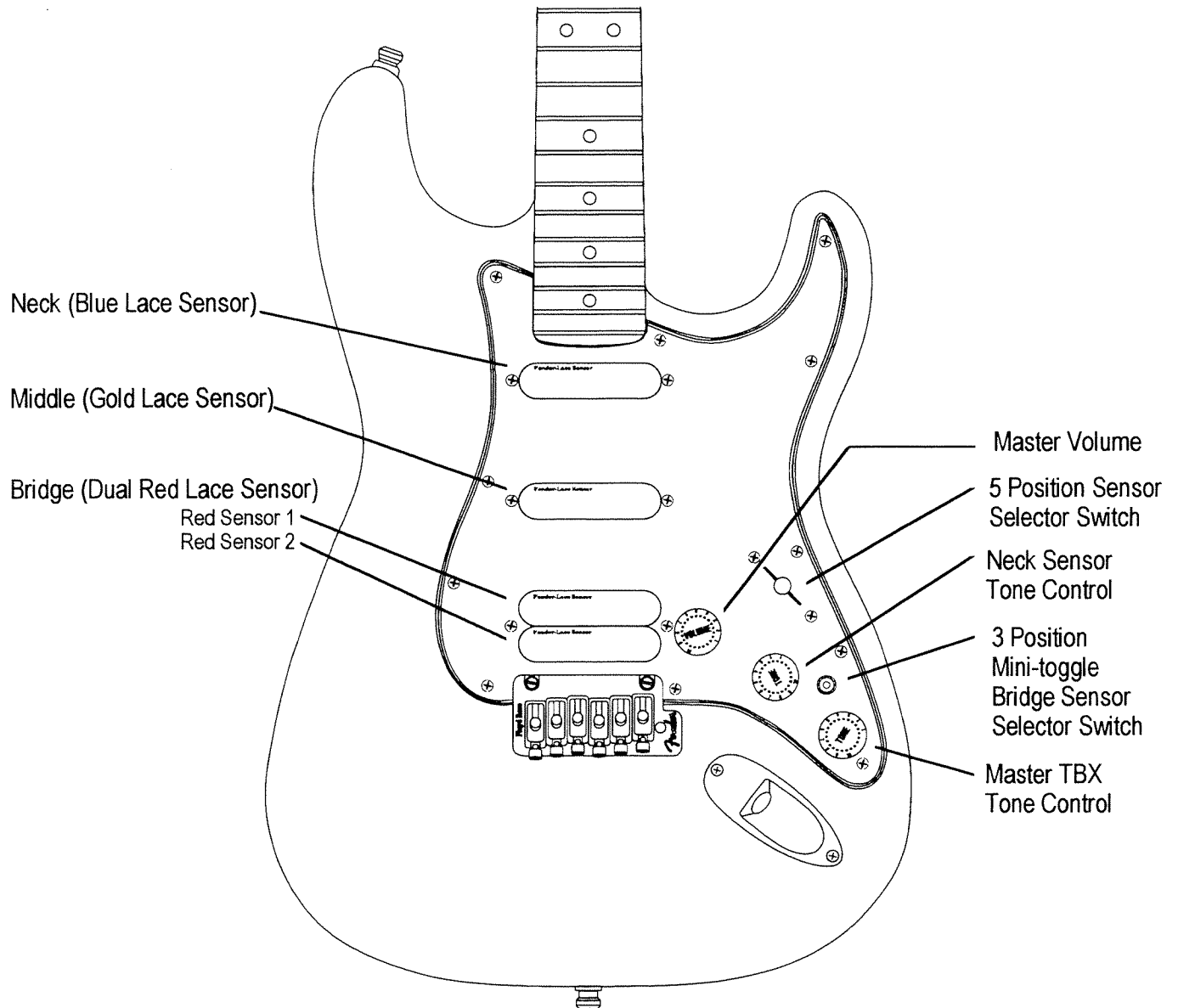
## UNDERSTANDING THE CONTROLS ON THE US STRAT ULTRA GUITAR

There are three controls and two switches on the US Strat Ultra, a master volume, a rhythm pickup tone control, a master TBX tone control, a five-way switch, and a mini-toggle three-way switch. The following US Strat Ultra diagram will show the different pickup switching combinations.

## UNDERSTANDING THE CONTROLS ON THE NEW JAG-STANG

There are two controls and two switches on the Jag-Stang, a master volume, a master tone, and two individual three-way pickup switches. The following Jag-Stang diagram will show the different pickup switching combinations.

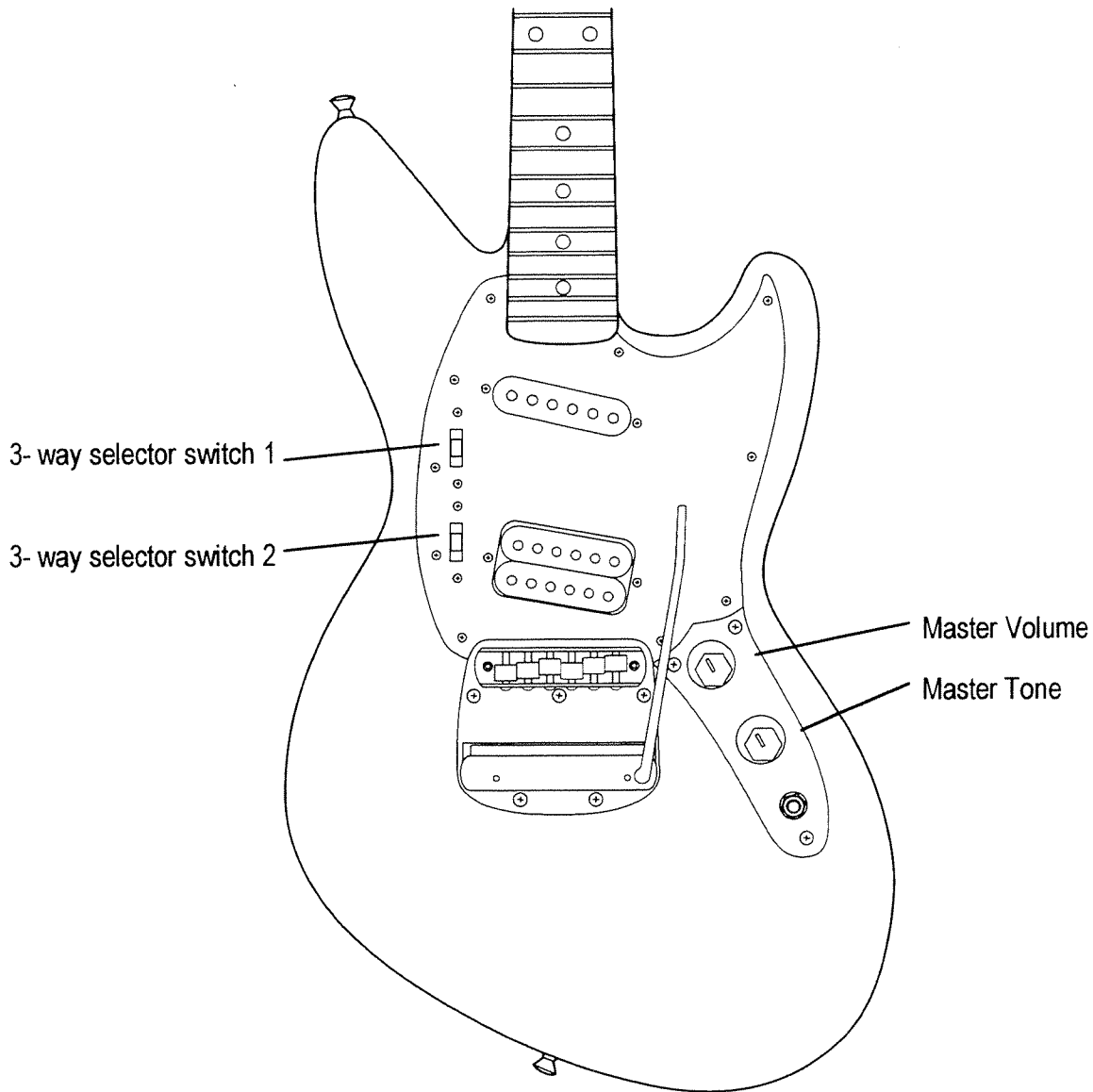
# US STRAT ULTRA



## Pickup Switching Diagram

5 Position Switch	3 Position Switch	Resulting Combination
Position 1	N/A	Neck Blue Sensor
Position 2	N/A	Neck Blue and Middle Gold Sensor
Position 3	Position 1	Neck Blue and Red Sensor 1
	Position 2	Neck Blue and Red Sensor Dual (Series)
	Position 3	Neck Blue and Red Sensor 2
Position 4	Position 1	Middle Gold and Red Sensor 1
	Position 2	Middle Gold and Red Sensor Dual (Series)
	Position 3	Middle Gold and Red Sensor 2
Position 5	Position 1	Red Sensor 1
	Position 2	Red Sensor Dual (Series)
	Position 3	Red Sensor 2

# JAG-STANG



## Pickup Switching Diagram

3 Position Switch 1	3 Position Switch 2	Resulting Combination
Position 1(Left)	Position 1(Left) Position 3(Right)	Neck Pickup/ Bridge Pickup (Out Of Phase)
	Position 2(Center - Off)	Neck Pickup
Position 2(Center - Off)	Position 1(Left) Position 3(Right)	Bridge Pickup
	Position 2(Center - Off)	Neck Pickup
Position 3(Right)	Position 1(Left) Position 3(Right)	Neck Pickup/ Bridge Pickup (In Phase)
	Position 2(Center - Off)	Neck Pickup



# GUITAR TECH NOTES

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TECH NOTE # GTN95 - 3

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## PRODUCT(S) AFFECTED:

**ALL GUITARS AND BASSES**  
(with truss rod adjustment at the base of the neck)

**SYMPTOMS:** Neck is underbowed (too much relief), Truss rod is tight.

**CONDITION:** Truss rod adjustment nut has reached the end of available thread travel.

**REQUIRED ACTION:** First to alleviate the need to remove the strings, de-tune the guitar or bass sufficiently to relieve all tension, then capo the strings at the first fret. Hold on to the neck and body at the joint (see fig. 1). Loosen the neck mounting screws, while holding the neck to the body firmly. Loosen the screws from the neck completely. Start with the top left screw first, bottom right next, top right, and finally bottom left (see fig. 2). When the screws are completely loosened from the neck, slowly ease the neck from the pocket (**Caution: The initial release of the neck may cause the neck to pop loose. This may cause the finish to chip. By maintaining a strong grip on the joint while you have loosened the screws, you can then slowly allow the neck to come free from the body, preventing any finish chipping.**)

When you have the neck removed from the body, loosen and remove the truss rod adjustment nut (located at the butt of the neck) by turning it counter-clockwise (see fig. 3). When you have the nut removed, insert one to three brass truss rod adjustment washers (see fig. 4), Fender part no. 0022335000 (the number of washers necessary will be dictated by the depth allowance of the access hole). Re-install the truss rod adjustment nut and tighten till the neck looks straight. Final check of the neck will have to be made after the neck is remounted and the strings returned to tension. The truss rod adjustment nut when tightened should not protrude from the butt of the neck (see fig. 5). If the nut, when tightened does protrude, you have put too many washers in the access hole. Re-mount the neck by seating the butt end of the neck in first, using the same grip on the joint as in the removal process. Tighten the neck mounting screws in the reverse order of the procedure you used removing them (bottom left, top right, bottom right, and top left). Re-tune the instrument, and check your neck relief. If additional adjustment is necessary, repeat the neck removal procedure, tighten or loosen the truss rod adjustment nut, remount neck, re-tune and re-check the neck relief.

fig. 1

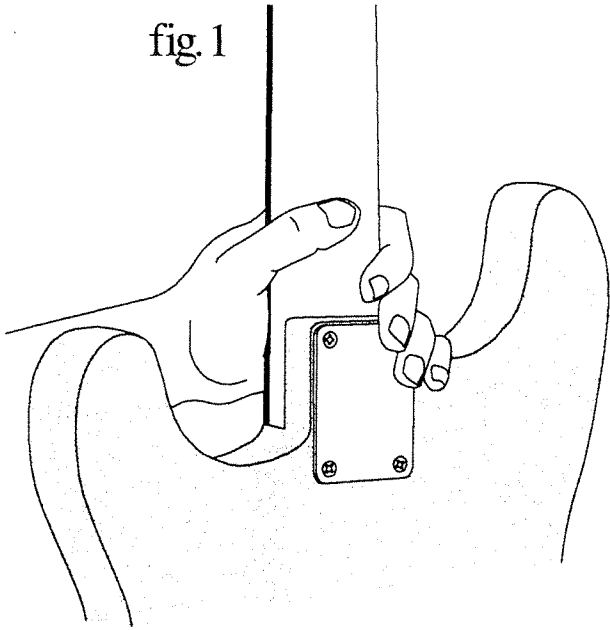


fig. 2

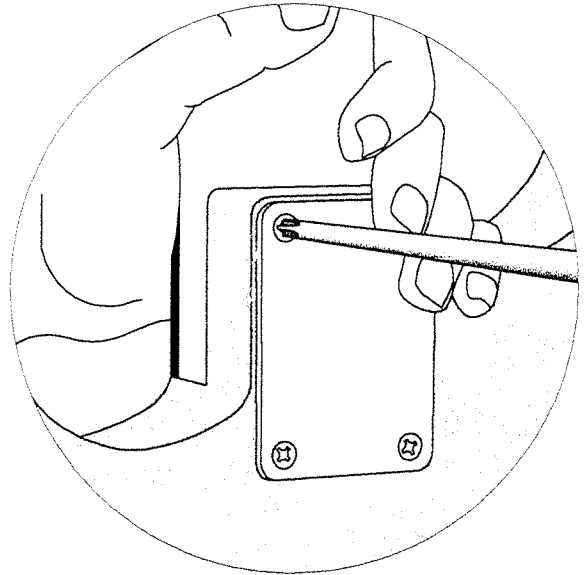


fig. 3

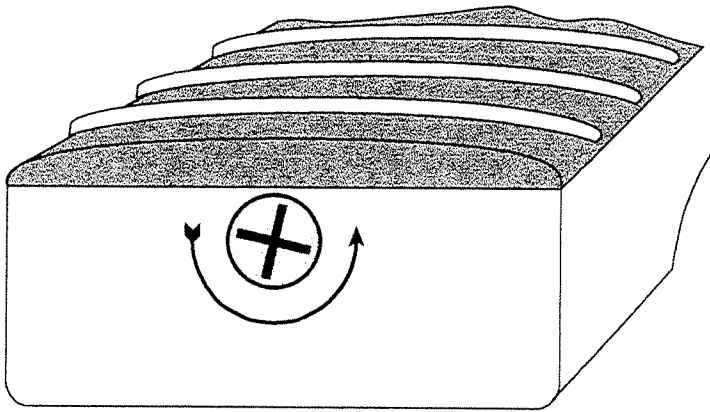


fig 4

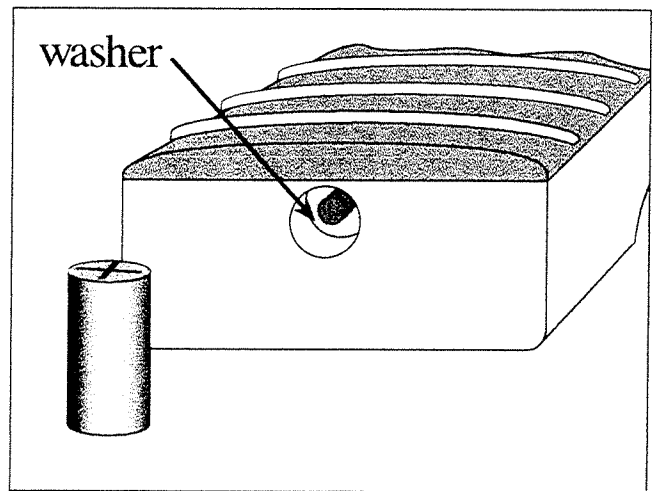
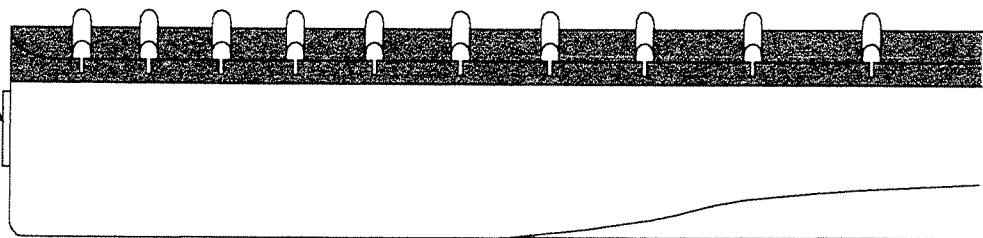
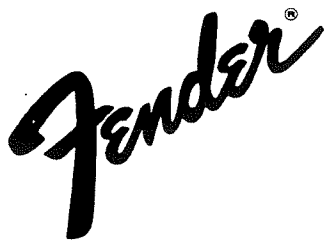


fig. 5

should not protrude





# GUITAR TECH NOTES

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## PRODUCT(S) AFFECTED:

**ALL GUITARS AND BASSES**  
(with a standard nut)

**SYMPTOMS:** Nut is cracked or chipped beyond repair.

**CONDITION:** Existing nut needs to be removed. A new nut needs to be installed.

## REQUIRED ACTION:

- Step 1. Remove all of the strings.
- Step 2. Score the finish surrounding the nut edges with an Exacto knife. This will ensure that the finish will not be chipped or damaged when removing the existing nut.
- Step 3. Apply masking tape around existing nut (see fig. 1).
- Step 4. For this step you will need a small flathead screwdriver and a small hammer. Place the tip of the screwdriver in one of the center grooves and lightly tap the nut at an angle toward the treble edge of the neck. This will loosen the nut for removal(see fig. 2).  
*Note: The nut may crack when tapped, this is normal. If the nut is already cracked it is desirable to tap the nut in the same location as the crack. This will split the nut in two, making removal easier.*
- Step 5. When the nut has been removed, clean the slot with a fine grit sandpaper (600 grit or finer). *Note: Do not oversand the nut groove. Sand only enough to clean the slot of leftover glue and clean any fraying of the finish on the edges.*
- Step 6. Once the nut slot is clean, place the new nut blank in the slot ensuring that you have a nice clean, tight fit. You will need to cut the blank to the width of the slot. Line up the bass edge of the nut flush with the edge of the neck. At the treble edge of the nut, use a pencil to mark where the nut will need to be cut. Cutting the nut to length can be accomplished in many ways. The easiest method is to place the nut blank in a vise, with only the edge to be cut protruding. Using a small finger sander, grind the edge to the pencil mark (see fig. 3). The most common method is cutting the excess portion of the nut with a fine-tooth hack saw. *Note: Whatever method you use to cut the length of*

fig. 1

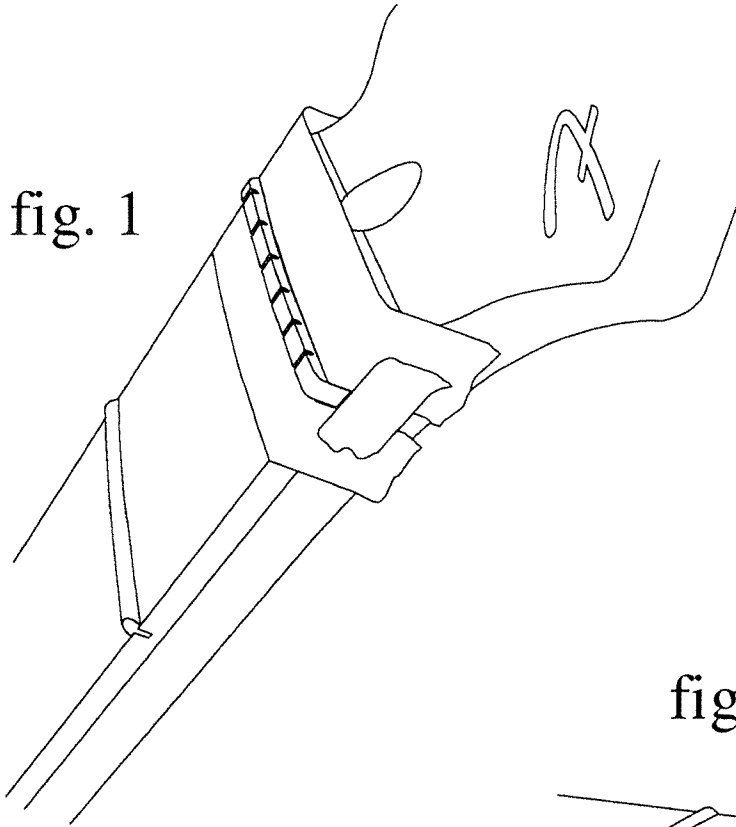


fig. 2

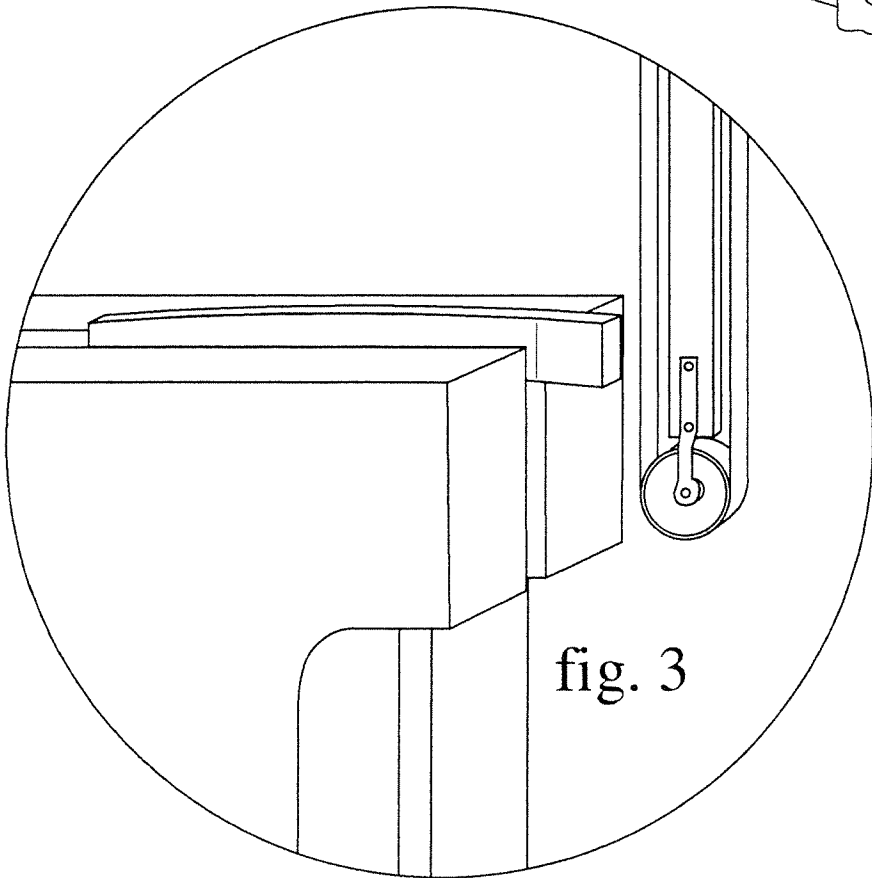
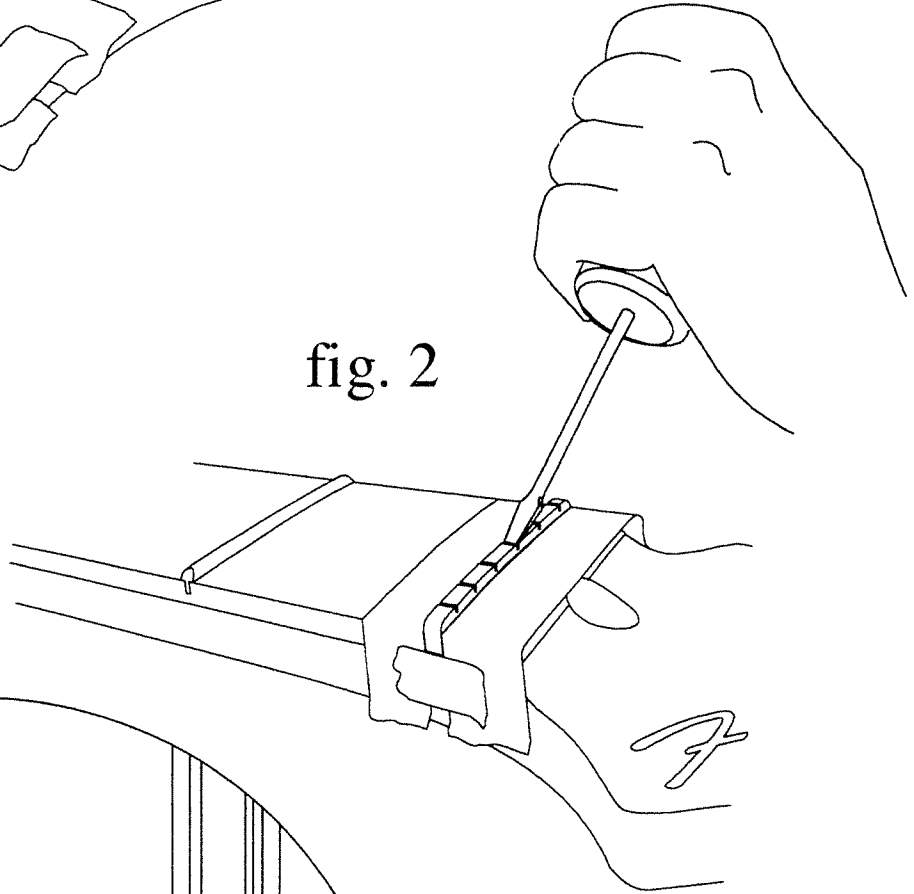


fig. 3





# GUITAR TECH NOTES

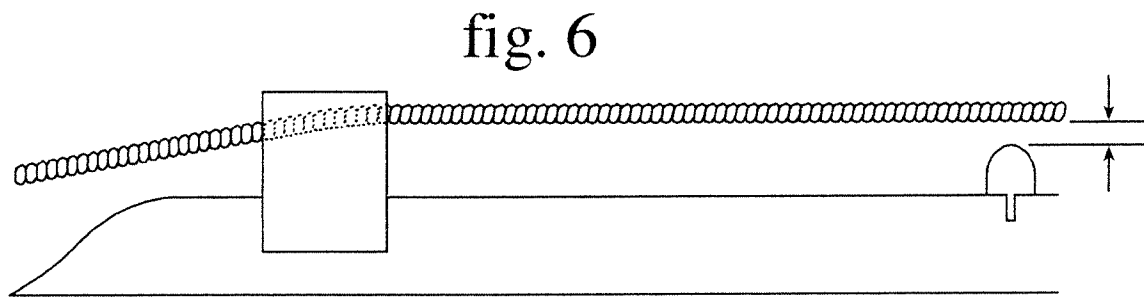
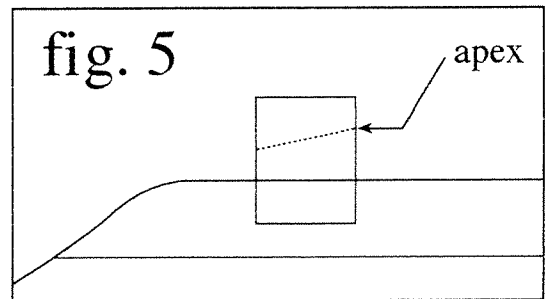
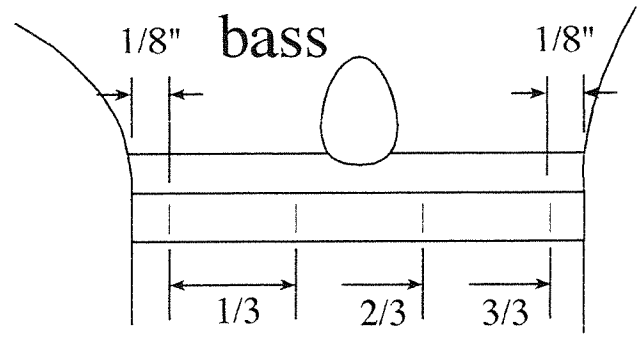
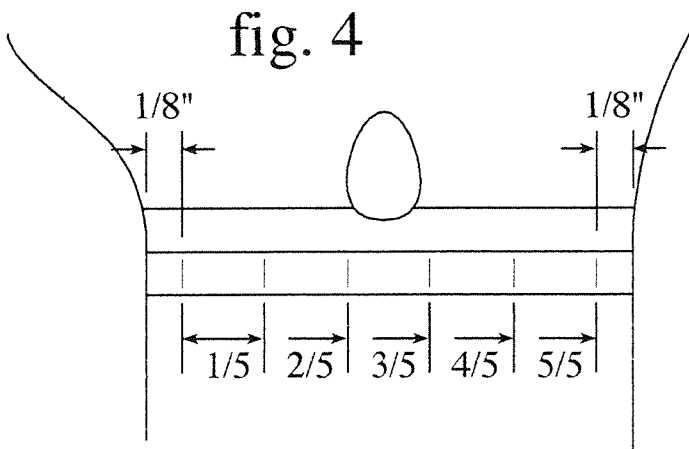
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*the nut, always use caution not to cut the nut too short. Upon getting close to your pencil mark, take the nut blank and compare it to your nut slot to ensure a proper fit.*

- Step 7.** Once the nut length has been cut, glue the nut into place using a wood glue. Take care not to use too much glue. You will need to apply pressure to the nut for a short period of time to properly seat the new nut. This can be best achieved with a small clamp. Upon installation, wipe any excess glue away from the nut with a warm, damp rag or paper towel. Let the nut dry for at least two hours.
- Step 8.** Now, you will need to score the top of the nut before you start filing the new string grooves. The easiest way to score the nut is to use your smallest nut file to mark the intended groove. *Note: When measuring the new grooves remember that you are measuring to the center of each slot.* Start by leaving 1/8" from either side, then divide the remaining space by 5 (for guitar) or 3 (for bass)(see fig. 4).
- Step 9.** Before cutting the new grooves, re-string the guitar, then decide what gauge files will be needed for each groove. For the initial filing of your new nut grooves, use your smallest file once again to create a pilot groove. This will make cutting the larger grooves simpler. All filing must be done at an angle backwards, toward the headstock, creating an apex for the string to rest on(see fig. 5). When filing the new grooves the final distance at the first fret between the bottom of the string and the top of the fret should be .018"  $\pm$  .002" on the top three strings (E,B,G), and .020"  $\pm$  .002" on the bottom three strings(D,A,E). For basses the distance should be .022 + .002" for all four strings(see fig. 6). *Note: This should be measured with the strings tuned to pitch.*
- Step 10.** Upon completion of cutting the new grooves, loosen the strings, place masking tape to the neck at both edges of the nut. You are now ready to profile the nut. You may use a fine mill file, or a small wood block with 220 grit sandpaper to profile the nut. When profiling the nut, it is necessary to leave a minimum of 1/2 the circumference of each string as the depth of the nut groove beneath the string(see fig. 7). *Note: Leaving a shallower nut groove may allow strings to "pop" out when playing.* When completed, fine sand the nut with a 1000 grit sandpaper to buff out all the scratches to achieve a finished look.



Guitars	.018" ± .002 on top three strings (E,B,G)
	.020" ± .002 on the bottom three (D,A,E)
Basses	.022" ± .002 on all four strings

