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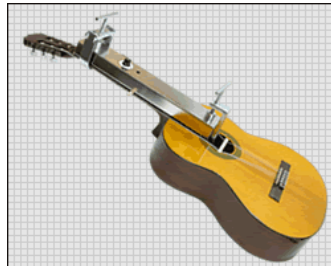
SUPPORT

ABOUT ARIA

## SUPPORT

## Neck Straightener

ARIA NECK STRAIGHTENER user's manual.



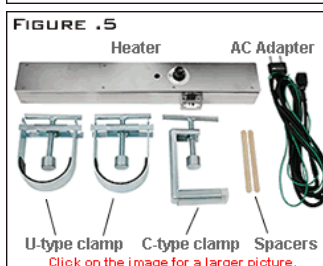
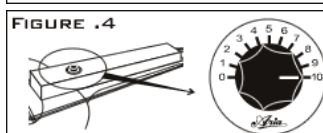
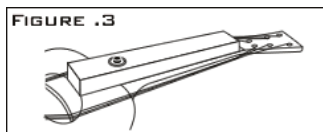
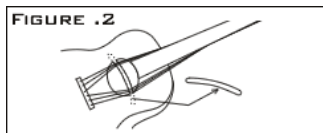
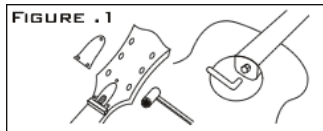
Of all the problems that beset guitars, the most common are those of necks. Upward or downward warp in the neck, drop off, turn-up and wavy necks would normally require a highly experienced repairman. However, the "ARIA NECK STRAIGHTENING TOOL" means you can now fix these problems yourself.

Neck problems are usually caused by alternating extremes of dampness and dryness and the accompanying expansion and contraction of the two different materials, i.e. the neck and the fingerboard.

How to use the ARIA NECK STRAIGHTENER.

## A) Before Heating

1. Check the neck thoroughly to see how it warps.
  2. Note carefully the spot where the warp is worst.
  3. To fix a neck with a truss rod. (See Fig.1)
    - (A) Upward warp in neck: Loosen the truss rod completely.
    - (B) Downward warp in neck: Loosen the truss rod completely and then wind it a couple of times.
  4. Loosen the strings and set them aside. (See Fig.2) Keep them off the fretboard with the bar supplied. \*You can use the spacer for this.
  5. Please check the chart on "How to use the Neck Straightener" to find out what your case is. ([Go to "How to use Neck straightener"](#))
  6. Place spacers on the fingerboard. (Please see each name of parts on Fig.5)
  7. Position the heater on top of them (See Fig.3) and clamp it on the neck.
  8. Plug the cord in and turn the switch on with a dial indicator. Please adjust the dial indicator based on the quality of material. Rosewood fingerboard---Turn the dial indicator to the highest (#10) and heat it about 10 to 15 minutes. (See Fig.4) Ebony and Maple fingerboards---Turn the dial indicator to half (#5) and heat them about 15 to 20 minutes. Please heat the fingerboard gradually. If it is heated too quickly it can crack the board.
- \*Please be careful about neck coatings such as Lacquer, French polish and so on. These are softer than other finishes and can melt easily if over heated.



## B) After Heating

1. After heating for the recommended time, touch the bottom of the neck. If warm, it's ready. Turn the switch off and replace the heater with a non-heated iron bar (See Fig.6) immediately while the fingerboard is still warm. \*CAUTION - Please be careful when handling the heater, the high temperatures involved can cause serious injury.
2. After cooling off the neck, remove the iron bar and clamps and check the result. It usually takes about an hour to cool down but may need longer if the neck is badly warped.

## Cautions

1. Heating times will vary with the amount of clamping force, thickness of the spacer, type of lacquer or varnish applied.
  2. If less time is required, the heater can be placed directly on the fingerboard with no spacers. Insert the spacers after the neck warms up and then clamp. In this case, set the thermostat carefully to avoid any damage to inlays, position markers or edge binding which might be caused by overheating.
  3. Each spacer should be cut a little narrower than the width of the fingerboard so that the procedures of the repair work can be observed more easily. Check by looking down the edge of the neck from the headstock as well. Take care when applying the clamps.
- Lacquer finish---classical guitar, acoustic guitar, high grade handmade guitar.  
Polyester finish---acoustic guitar, solid body guitar.  
Polyurethane finish---acoustic guitar, solid body guitar.

XA03-O  
O-type Heel-Clamp  
O-type heel clamp is now in stock and available for immediate shipment. This clamp is ideal for fixing warped or twisted necks and features a rigid stainless steel construction for durability.  
\*XA03-O can be used instead of the extra large C-type clamp.

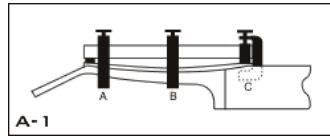


[Click on images for a larger picture.](#)



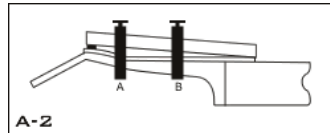
#### How to use Neck Straightener

##### Upward Warp



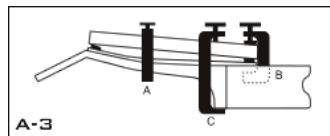
##### General upward warp.

Place each spacer on both end of the fingerboard. Clamp at A (Use U-type) & C (Use C-type) to hold the heater. Clamp hard at B (Use U-type) to force the neck upwards into a slightly reverse curve.



##### Partial upward warp from 1st to 5th fret.

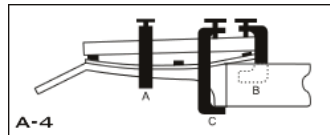
Place a spacer on the first fret. Clamp at B (Use U-type) to hold the heater. Clamp at A (Use U-type) with more force.



##### Turn up from the heel.

Place each spacer on both ends of the fingerboard. Clamp at A (Use U-type) to hold the heater. Clamp at B (Use C-type) with a little more force. Use the large heel clamp (Use Extra large C-type or XA03-O) to force up the length of the neck into a reverse curve.

**\*Extra large C-type clamp is required. (See Fig.6)**  
**Please purchase proper size C-type clamp.**

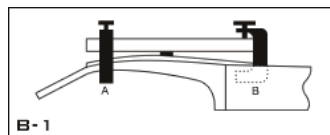


##### Partial upward warp with a humped section.

Place a spacer on the humped portion of the neck. Clamp at A (Use U-type) to fix the general upward warp and clamp at B (Use C-type) to force the hump down. Clamp at C (Use Extra large C-type or XA03-O) hard enough to lift up the whole length of the neck into a slightly reverse curve.

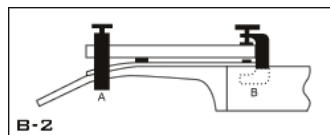
**\*Extra large C-type clamp is required. (See Fig.6)**  
**Please purchase proper size C-type clamp.**

##### Downward Warp



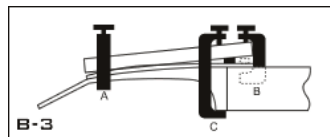
##### General downward warp in Neck.

Place a spacer in the middle of the fingerboard. Clamp at B (Use C-type) to hold the heater. Clamp at A (Use U-type) with more power to force the neck down into a slightly reverse curve.



##### Partial downward warp in Neck-from 1st to 5th fret.

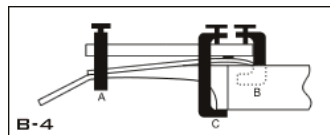
Partial downward warp in Neck-from 1st to 5th fret. Place each spacer on 3rd and 19th fret. Clamp at B (Use C-type) to hold the heater. Clamp at A (Use U-type) hard enough to give the neck a slight reverse curve.



##### Drop off from the heel.

Place a spacer on the neck joint. (12th or 14th fret.) Clamp at B (Use C-type) to hold the heater. Clamp at A (Use U-type) and at C (Use Extra large C-type or XA03-O) hard enough to force the neck up slightly into a reverse curve.

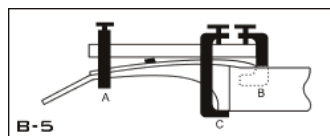
**\*Extra large C-type clamp is required. (See Fig.6)**  
**Please purchase proper size C-type clamp.**



##### Partial downward warp in a humped section.

Place a spacer on 12th or 14th fret. Clamp at A (Use U-type) to hold the heater. Clamp at B (Use C-type) and at C (Use Extra large C-type or XA03-O) harder enough.

**\*Extra large C-type clamp is required. (See Fig.6)**  
**Please purchase proper size C-type clamp.**

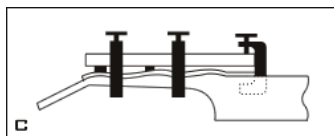


##### Partial drop off from 12th or 14th fret to 19th fret.

Place a spacer on the neck just between the humped section and the downward warp. Use the clamp at C (Use Extra large C-type or XA03-O) to force down the hump and at the same time clamp at A (Use U-type) to fix the whole neck straight.

**\*Extra large C-type clamp is required. (See Fig.6)**  
**Please purchase proper size C-type clamp.**

##### Wavy Neck



Place spacers on the humped portions. Use pressure evenly across each clamp with enough force to get the neck straight. This procedure may need to be repeated two or three times. (Use U-type x2, Use C-type x1)

Twisted Neck



Place a spacer on the upper side of the fingerboard and use the clamp as illustrated. Your own choice of shape, thickness and bevel degree of a spacer is important. (Use U-type)

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