

Do It Yourself Percussion Repairs

For questions or support for this project don't hesitate to email repairs@jwpercussion.com

Repair an out of round Copper Timpani Bowl

A little bump, a little push, a little squeeze on the loading dock or in the van and now the heads are hard to clear. Some bowls are weaker than others and need adjusting after awhile. A little simple procedure will greatly affect the clearness of your sound. When changing heads it is a good time to do a couple, simple checks of the health of your drums. Should your bowls be out of round, I have provided an easy way to repair them, using common tools.

Tools needed to check roundness:

Tape measure

Large piece of flat glass and dollar bill

or a large flat, smooth surface with a flashlight.

Tools needed to repair out of round drums:

Ratchet strap or spare tire jack

approx 14" Piece of 2"x4" wood

3" piece of 2"x4" wood

Rubber hammer , or a regular hammer with a block of wood covered in a soft material such as carpet.

Step One

Measure Bowls

With the head off, measure from strut to opposite strut, all the way around the drum. Be careful to get very accurate measurements to within 1/8". 1/16" is better, but not *that* critical. Determine which lengths are different, if any.

Step Two

Checking Bearing Edge.

Lay a piece of flat glass on the top of the drum. Glass should cover the whole bearing edge. But in the case of the 32" drum you may not find a glass large enough in your local hardware store. As long as you can cover most of the drum it will be ok. Take the dollar bill and try to put it between the edge and the glass. If there is a low spot the bill will easily slip thru. This means your edge is not flat. Sometimes out of round bowls will cause this condition and will be fixed when bowls are back in round. I DO NOT RECOMMEND THAT A NOVICE ATTEMPT TO REPAIR THE BEARING EDGE except for roundness. Specialized tools, techniques and experience are required to make these repairs.



Alternative to using glass.

Lay bowl upside down on a flat surface with the flashlight inside. Look for light coming thru between flat surface and bearing edge.

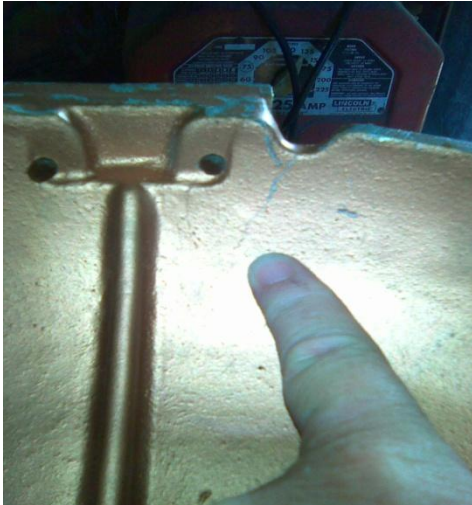
Some brands have a steel ring attached to the bowl and they have a welded seam that may be uneven or rough. It can be filed smooth, but be careful not to file thru and compromise the weld. This is a factory condition and the head will seat around it. And yes the factory gets it out of alignment sometimes but correcting this condition may be overkill for the average drum. Teflon tape will help slightly here.



Step Three

Check Frame for Cracks

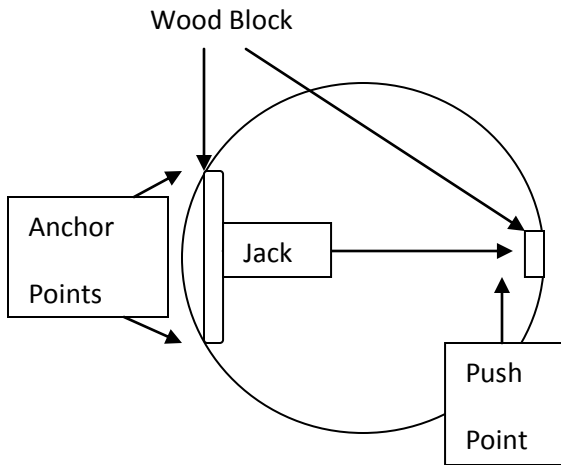
This is a good time to check for cracks in the base and struts. A crack will flex under pressure causing tuning problems. Rewelded struts can cause a flexing problem also. They should always be welded in a jig to factory specifications.



Repairing the Bowls

The most important thing to remember whenever pushing or pulling on a bowl is to have multiple anchor points. See Diagrams. This will prevent bending the wrong area. Example: If you have a tug of war with two people on one side and one person on the other side, the weaker side will yield. Don't rush thru the setup it is the most important part of the procedure.

You **always** want to push (inside) or pull (outside) **the shortest measurement**. If you are pushing on the inside, you may need to tape the boards in place for easier handling. You will need to jack past the measurement you are looking for. It will always spring back. Copper is a soft metal. Take baby steps, little by little. If you are not getting the results after a couple of tries, put the pressure on and use the rubber hammer on the sides not being pulled or anchored. Don't try to give it one good blow, instead massage it lightly around both sides. You may go too far and need to pull from another set of struts, but with patience and finesse you will get it done. **Brute force will not work!**

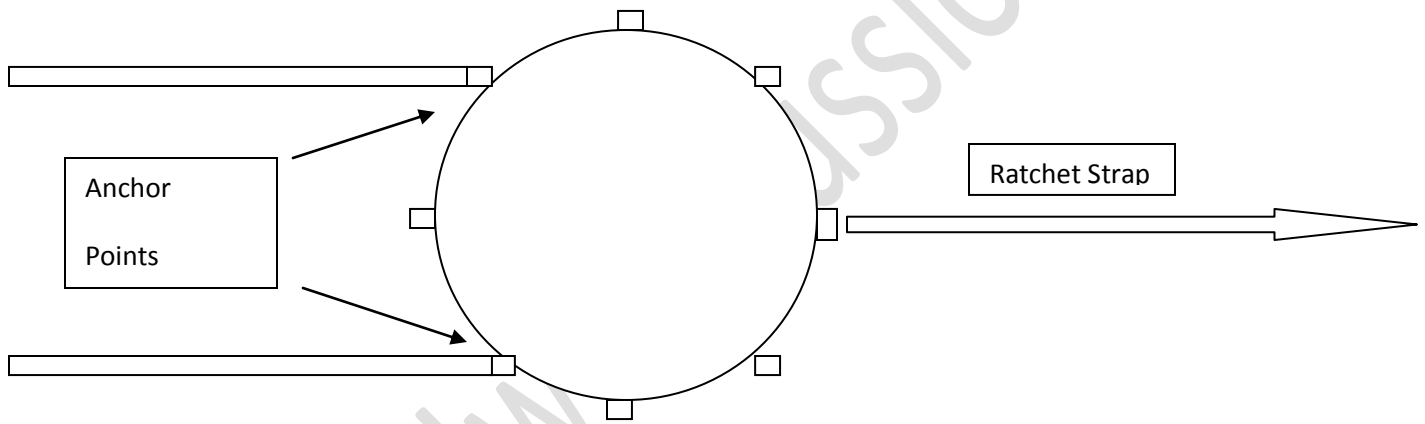


Pushing from the inside

Use a bottle jack, screw jack or spare tire jack.

Use a board that reaches two struts to spread out the jacking force.

Use a small block to focus the jacking force where you want to push.



Pulling from the outside

Use a Ratchet strap for pulling

Anchor the drum with two struts and pull from the opposite side

Email: repairs@JwPercussion.com for more information, questions or comments.

Jw Percussion is a percussion rental and repair facility with years of experience and a shop full of specialized tools and equipment for achieving professional results. These "Do it yourself" repair articles are intended for percussionist who want to repair their own gear and band directors who have limited funds. Sometimes we disagree with traditional methods of repair. The traditional methods were established by Great Percussionist not necessarily great Craftsmen.