



CHANGING AND CLEARING TIMPANI HEADS

BY TOM FREER

Maintenance and care of your timpani heads is of the utmost importance in realizing the full musical potential of your Adams timpani. By following these simple steps in the process of changing and clearing heads, you will be able to produce a more pure and focussed pitch as well as a more beautiful sustained tone from your timpani.

Credit must be given to the late Mr. Cloyd E. Duff, for much of these procedures are all based on his experience and teachings with only a few variations. This is the easiest and most effective way to tackle what most players and educators find to be a very confusing and difficult procedure.

STEP BY STEP TIMPANI HEAD CHANGING AND CLEARING:

1.) HEAD SELECTION:

When selecting plastic heads, first make sure the heads are round, flat, and free from any wrinkles or defects. If there are defects of any kind, a clear and in tune head will be impossible to achieve. Contact the manufacturer, and or distributor immediately.

2.) REMOVING OLD HEADS: Always refer to your TIMPANI ADJUSTMENT MANUAL for more detailed technical assistance and troubleshooting.

A. PROFESSIONAL MODEL TIMPANI

Begin by placing the pedal in its lowest register position. **WARNING!** If you have Professional model timpani be sure to keep your foot on the pedal as you begin unscrewing your tension rods, in order to keep the pedal in it's lowest position. Or, use a block of wood wedged under the front of the pedal between the pedal and the base of the frame to hold the pedal from slapping up. The spring action of the pedal can cause the pedal to jump to its highest note position automatically and possibly cause damage, this is true for any timpani brand. Next, begin to unscrew each tension rod evenly, until the head is completely relaxed with no recognizable pitch. If you have blocked your pedal into the lowest register position, you can now continue to unscrew and remove all tension rods completely. If you're pedal is not being blocked, and you are keeping it in the lowest register manually, allow it to **SLOWLY** move forward into the highest range, and continue removing the tension rods. Make sure rods are well lubricated and free from dirt and debris.

B. PHILHARMONIC TIMPANI

With philharmonic model timpani, place the pedal in its lowest register position, and turn the fine tuner handle counter clockwise until it stops. **NOTE:** For older model philharmonic timpani, simply turn until the tip of the fine tuner is no longer touching the rocker arm, and place a block under the rocker arm to support it completely. Next, unscrew the tension rods evenly, completely and remove. Number the tension rods so that you re-insert them where they came from. Make sure rods are well lubricated and free from dirt and debris.

3.) PREPARING THE BOWL FOR A NEW HEAD:

Clean the lip of the bowl with any naphtha based solvent such as Energine. This works well and leaves no residue. If your timpani are older you may want to use a #0000 steel wool in conjunction with the solvent to clean away any accumulated lubricants. DO NOT rub the bearing edge with the steel wool horizontally. Use a vertical motion similar to shinning the tips of your dress shoes-floor to ceiling. Adams recommends re-lubricating with a dry Teflon spray for best results. Spray the bearing edge (lip of the bowl) in a slow constant horizontal motion-approximately one foot per second-ensuring the Teflon does not build up or run. Cork grease and Teflon tape are acceptable but have their disadvantages. Allow to dry as manufacturer specifies.

A. LINING THE COUNTERHOOP

Make sure that the undersides of your counter hoops have a lining of moleskin or very thin adhesive felt strip. This prevents any metal to metal contact and any resultant noise. It should be replaced whenever necessary, usually every two head changes.

4.) MOUNTING NEW HEADS:

Place the head in the counter hoop and place the head and counter hoop onto the bowl. Insert all tension rods. Align the manufacturers logo opposite the pedal. Insert the tension rods and begin to thread them. However, DO NOT tension the head at all at this point. The object here is to just get the tension rods to "seat" into the counter hoop WITHOUT PUTTING ANY TENSION ON THE HEAD! This is very important and is the one step where many people make mistakes. Take your time and be sure you are just barely getting the tension rod seated, that's all. Next, center the head over the bowl so that the edge of the counter hoop is equidistant from the lip of the bowl at four points around the drum.

PROFESSIONAL TIMPANI

Once the rods have been seated you will need to manually move the pedal into it's lowest register and then continue to seat the rods the rest of the way. Again, using a block at this point will be convenient. Continue to tension the rods with the tuning key in even half turns until there is a recognizable pitch.

PHILHARMONIC TIMPANI

Once the rods are perfectly seated, you may turn the fine tuner clockwise until there is a recognizable pitch. Make sure the tension rods are equidistant from each strut.

SELECTING THE "SWEET SPOT" (both models of timpani)

Finding the "sweet spot" on the timpani is very simple. Most timpani heads have minute variations in thickness that will produce a more desirable tone which you want to have positioned in your playing area. Strike the drum in all eight spots between all tension rods and select the one that sounds the most pure and feels good. The sweet spot will instantly grab you as a pure and clear pitch and have a natural rebound feel to it. Less desirable spots will not sound clear and will fight your stroke with little rebound. When you've decided on a sweet spot, mark it and unscrew your tension rods evenly, just enough to spin the head freely in the counter hoop until the sweet spot is where your playing spot is. This should not require much turning of the tension rods to achieve, and note that with the Philharmonic timpani, you should again turn your fine tuner counterclockwise before de-tuning the rods.

Now that you've decided on your sweet spot and positioned it to your playing area, follow these simple steps.

First, check one more time to be sure the head is on center and then bring the timpani into range so that the drum is able to play the notes it is capable of. Most important to this procedure is the top note of each drums range. These should be:

20" high C
23" high A
26" high F#

29" high D
32" high B

What the drum gets in its lowest register will vary from brand to brand of head used. Many of Adams timpani will be able to achieve nearly one full octave or slightly less.

PROFESSIONAL MODEL TIMPANI:

A. Continue tightening tension rods evenly in half turns moving crosswise around the drum (tighten one rod then it's opposite across the head) until the recommended high notes are achievable. If you have blocked your pedal, you will now need to remove it and monitor the pedal action manually.

PHILHARMONIC MODEL TIMPANI:

A. Once the head is positively centered, and the tension rods are equidistant from each strut, turn the fine tuner clockwise until about one third of it is exposed below the base of the frame. Then, continue tightening tension rods evenly in half turns moving crosswise around the drum (tighten one rod then it's opposite across the head) until the recommended high notes are achievable.

Listen to the head to make sure it rings and sounds relatively clear. It should at this point if you have followed the steps accordingly. It will not by any means be perfectly in tune, but should sound good, and ring nicely. If it does not, **DON'T BLAME THE DRUM!** Before you decide there is something wrong with the drum, you can be sure that it is more likely the head. If the head has a very poor quality sound to it, then try one more time with the step by step procedures above and give it a second listen. If it is still the same poor quality pitch and ring, then immediately contact the manufacturer for replacement.

5.) CLEARING THE HEADS - STEP BY STEP

Place the timpani up on a platform to bring the head up to ear level. Place a small lightweight mute in the middle of the head to cut down on overtones. Strike the head softly with a fairly hard stick in the playing area and listen to the **LOWEST FUNDAMENTAL PITCH** you can hear, while keeping your head down and near the counter hoop. **DO NOT BE DECEIVED BY HIGH OVERTONES.** Simply play three soft notes and one loud stroke about a single forte and listen for a rise or fall in the pitch. You will hear your "true" pitch when striking softly, you will hear any great falseness when striking loudly. If the loud stroke sounds immediately flat in comparison to the soft stroke, then you can begin looking for a flat spot. If the loud stroke sounds immediately sharp in comparison to the soft stroke, then you can begin looking for a sharp spot. If these false notes are **VERY** obvious then you can begin looking for them in the four tension rods relative to your playing area. If there is little difference between the soft and loud stroke then you can begin looking in your secondary four tension rods opposite the playing area. The idea is to find these differences and correct them until the pitch of the soft strokes and loud stroke is **EXACTLY THE SAME.**

For example: Strike the head three times soft then one time loud. If the loud stroke is blatantly flat and then rings true after about five seconds, there is a flat spot. Begin looking for it amongst the four tension rods in the main playing channel, and decide which of the four sounds lowest. Whenever you think you've found it, **CHECK IT'S OPPOSITE.** When you are positive which one is the lowest, raise that rod's pitch by tensioning it clockwise by one quarter turn.

Remember when making an adjustment to turn the tension rod in **EVEN QUARTER TURNS** so that your adjustment makes an audible difference (less than one quarter turn will not engage the tension rod threads enough to make a difference). This will also ensure that the tension rods remain square so that you can be sure if anything has moved inadvertently. **ALWAYS** check the opposite tension rod before making an adjustment just to be sure, this is an important step that is frequently overlooked. When you think you've found a spot that needs to be corrected, always check it's opposite to see if it is an even greater difference in pitch. In general, flat spots will be easier to hear, and false spots in the playing area will also sound more obvious to the ear.

Most importantly take your time in doing this, and don't spend more than **TEN MINUTES** attempting to make a true adjustment. If you are working patiently in a quiet environment, you should be able to make one or two adjustments that you are positive of, then either take a break or make another adjustment later on, the ear fatigues easily and you will begin to misjudge things and make mistakes.

When you are finished mounting your heads and doing your initial first clearing, tune the drums to the following pitches:

23" G
26" E
29" C
32" A

Put the head protectors on the drums and do not play them hard for at least two to three days if possible, in order for them to stretch and settle slowly.

SUGGESTIONS:

Electronic tuners: Don't use them. They don't work for this purpose and are incapable of focussing in like the human ear can and will produce a highly inferior result.

Heat guns: Don't use them. They will heat and soften a head extremely unevenly and destroy a perfectly good head. Even a plastic head will seat itself quickly and easily, conforming to the lip of the bowl as soon as the drum is brought up to range without the need for any assistance from such shop tools. If you are trying to remove dents from old heads with such a device, don't waste your time. Replace your heads and prevent any such abuse in the future. Any amount of force great enough to dent a plastic head severely is simply abuse.

Measuring devices: They work sometimes but frequently not at all. By measuring the amount of collar or "pull down" at each tension rod, it would seem logical that the head tension would be even and the pitch sound pure. More often than not, after measuring equally at each tension rod, the pitch at each rod will be extremely different and the head completely out of tune. There is no single explanation for this but it is a fact. Measuring devices do however work consistently well with calf skin heads especially during their initial wet mounting. For this purpose they are highly recommended.

Tension gauges: These work well although they are not 100% reliable either. They work much more consistently than a measuring device, however sometimes can produce a similar frustrating effect. You can adjust the head tension (or pressure) at each tension rod to a point where the gauge "says" the tension is exactly the same, but again the sound will be obviously false. This does not happen often, but it does happen therefore it is important to develop your head clearing technique by ear, so as not to have a need to rely on them.

Even tension rod seating: This method as described in section four is superior in general. By "seating" each rod carefully and evenly WITHOUT TENSIONING THE HEAD WHATSOEVER will produce a reliable and consistent result. Simply tension each rod by hand until it is seated into the counter hoop, working your way around the head in opposites. You will easily be able to see if the head tension changes at each rod if you think of it as a bowl of milk and you are looking for the slightest ripple. As long as your counter hoop, bowl lip, and head are flat and round, you will achieve a consistent and reliable "first listen" which will sound relatively clear right off the bat.

HEAD CLEARING SUMMARY: Do's and don'ts

- a. DO it in a COMPLETELY quiet environment.
- b. DO put the drum up on a platform or chairs to make the head at ear level.
- c. DO it for only ten to fifteen minutes at a time. Make just one or two adjustments you are POSSITIVE of, and move on.
- d. DO use a hard stick for listening.
- e. DO use a small piece of felt or leather to slightly mute the head.
- f. DO strike the head softly three times in the playing spot, then one loud stroke, with your head down near the counter hoop. Listen for the pitch of the loud stroke to be either lower or higher than the soft strokes. Accordingly, make an adjustment of the most false tension rod by one quarter turn, and then repeat the process.
- g. DO clear your heads a little bit EVERY DAY.
- h. DO keep your heads clean and covered with a high quality head protector.
- i. DON'T ever use a heat gun on a timpani head.
- j. DON'T bother with quartz tuners and pick up mics.

- k. DON'T bother with measuring devices.
- l. DON'T bother mounting a defective head with wrinkles or that has a potato chip shape.
- m. DON'T try to clear heads in a noisy environment or for more than ten or fifteen minutes.

6.) WHEN IS IT TIME TO CHANGE HEADS?

Depending on the amount of use, plastic heads should be changed every three to six months, with the exception of once a year for professional players who take excellent care of their heads and instruments.

Tom Freer - A native of Millbrook, New York, Tom began his percussion and timpani training seriously at age 9 with Jim Atwood, a former student of Cloyd Duff. Up until then Tom had always planned on being a rock drummer because his brothers and sisters discovered he could actually play along to the iC ousin Bruciei show on the radio in time at age 5. Tom got his first drum set immediately after that and then disassembled it when he started studying with Jim Atwood, so he could use the toms as timpani. By age fifteen, he won an audition to become principal percussionist with the Asheville, North Carolina Symphony, and then principal timpanist at age 16. Tom attended the Cleveland Institute of Music where he was accepted as Cloyd Duff's last student before retiring. He continued his timpani and percussion studies there with Mr. Duff's predecessor, Cleveland Orchestra timpanist Paul Yancich, and principal percussionist Richard Weiner, until graduating in 1986. While in school, Tom formed a band called Exotic Birds along with now Stabbing Westward drummer Andy Kubiszewski, Pittsburgh Symphony timpanist, Tim Adams and Trent Reznor of Nine Inch Nails. This was an original alternative band that toured with Culture Club and opened for many major acts of the time such as The Thompson Twins, Psychedelic Furs, Paul Young, Big Country, Modern English and others. In 1986 Tom resigned from the rock scene and headed to Stockholm Sweden, to become principal percussionist and assistant timpanist of the Norrkoping Symphony Orchestra. After one year there Tom became principal timpanist for the Fort Wayne Philharmonic for two seasons and then principal timpanist of the Alabama Symphony in Birmingham for two seasons. Tom has now been assistant principal timpanist and section percussion for the Cleveland Orchestra for seven years. He has recorded and toured with some of the greatest conductors of our time all over the world. Tom can be heard with the Cleveland Orchestra on London/Decca and Deutsche Grammophon records.

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