

## First Aid for the Concert Snare Drum: Problems & Solutions

*by Craig Collison, Arkansas State University*

Everyday a young, uninformed percussionist unknowingly transforms a beautiful and expensive concert snare drum into a very poorly sounding instrument. As professional performers and educators we generally do not take enough time to educate the student and the band director on how to properly care for and tune a symphonic snare drum. The key to reversing this trend is to expose both the band director and students to the sound of a well-tuned concert snare drum. This first hand exposure will make the directors aware of what to listen for and to expect of their students. Below are some common maintenance and repair problems and solutions. Most of this information will be common knowledge to the experienced percussionist, but can serve as useful information to the non-percussionist band and orchestra director as well.

**Problem 1:** Drumheads are cranked down “to the max.” - In some cases the batter head is cranked so hard that a ratchet wrench is required to loosen the tension screws. The overall premise is “the more tension the better.” It is not uncommon for a student to put an extreme amount of tension on the batter head and apply little tension to the bottom snare head.

**Solution 1:** Tuning the Heads; A starting point is to have the student match the batter head to concert “A” pitch of the bells. Starting with no tension on the head, have the student gradually tighten the head using quarter turns on the tension screws. Tighten in the method of alternating twelve o’clock to six o’clock, three o’clock to nine o’clock, etc. Some performers may prefer tuning the top head to a slightly lower or higher pitch than “A.” Make sure the head is in tune with itself by comparing the pitch on the head at each tension screw. Next, very gradually tighten the bottom snare head in the same manner until the pitch is slightly higher than the batter head. The pitch of the bottom head is sometimes difficult to hear and can be made more distinguishable by dampening the top (batter head) with your hand while lightly tapping the bottom head. With the snares on medium tension, check to see if a nice crisp snare sound is produced when playing at very low dynamic levels. If it is a “mushy” sound, then there is not enough tension on the bottom head and/or the snares are not tight enough. If it is a “choked” sound, there is too much tension on the bottom head and/or the snares are too tight. Generally I prefer to have the bottom head slightly higher in pitch than the batter head because the sound is a little crisper to my ear. It is important to tighten the bottom snare head very gradually. This head is thin and can easily be broken by tightening too much or too fast.

**Problem 2:** Snare strainers are cranked as tight as possible. The snare sound is “choked” and does not respond at low dynamic levels.

**Solution 2:** Tuning the Snares; Have the student tighten the snares so they sound tight and responsive at low dynamic levels. Then, check at loud dynamic levels. If the sound tends to “spread” much at loud levels, slightly tighten the strainer until the sound is crisper. It is important to reach a happy medium between a responsive snare sound at low dynamics and a crisp sound at loud dynamics.

**Problem 3:** Tone controls and other head dampening devices are tightened too much.

**Solution 3:** Tone Control Tuning; Tone controls should be very gradually tightened to take some of the “ring” out of the drum. Tone controls should not be used as extra devices to tighten the drumhead or completely muffle the head. If used at all they should just lightly touch the head. I prefer to take tone controls out of drums and not use them. Often they will rattle over a period of time. Wrapping dental floss between the felt damper pad and the metal arm sometimes can cure this rattle. The use of an interior damper device stops the head from ringing at a spot on the head. This in turn creates an unwanted overtone. The damper also creates an area on the head that is not playable. The percussionist might be better off using the external dampers, which can be taken off the drum at will. A large metal washer covered with moleskin and secured to a tension rod with string serves this purpose very well. It can be placed anywhere on the drum and can be removed quickly if needed. This quick accessibility can be very handy in a performance situation.

**Problem 4:** Using improper drums heads; Often the student will mistakenly use heads that are too thick. Sometimes students will use marching drumheads on a symphonic snare drum. Evidence of this is the use of two-ply, reinforced, thick, (maybe even Kevlar) on the batter head and occasionally on the bottom snare head. The concert snare does not “ring” at all and has no response except at a triple forte volume level.

**Solution 4:** Using medium weight or thin weight heads; The use of coated medium or thin weight heads on the batter head and clear medium or thin weight snare heads will cure this problem. I prefer using thin heads rather than medium heads on both the batter head and snare head. The thin heads in the Remo brand are labeled “Diplomat.” This use of thin “Diplomat” heads can help make snare drums very responsive at soft dynamic levels. However, thin heads can be too light in some school situations, and students will often easily break them. The preference here might be the use of medium weight heads. This is an “Ambassador” weight in the Remo brand. “Renaissance” and “FibreSkyn” model Remo brand heads sound excellent. I have used diplomat weight Remo brand “FiberSkyn” batter heads on my concert snare drums for years.

**Problem 5:** Ripped or torn bottom snare heads.

**Solution 5:** The heads are often ripped by improperly placing the drum on the stand. Usually one of the arms on the stand has punched a hole in the bottom head. On a stand with the sliding arm, first adjust the angle of the stand so the two stationary arms are at a 45-degree angle to the floor. Then the drum can be gently placed in the two stationary arms. The remaining arm can be slid against the drum shell and the drum tilted back to the desired playing angle. On a basket or telescopic type stand the same procedure of first titling the stand and placing the drum in two of the arms should be followed. Gradually tighten the screw until all arms are secure against the rim.

**Problem 6:** The snare drum is only responsive at loud volumes.

**Solution 6:** The drum may need tuning and the snare strainer has been tightened way too tightly. Another possibility is that the student may have taped the snares to the bottom snare head in an effort to get a tighter and crisper snare sound. Remove the tape! The obvious fact is that you cannot turn the snares off. They will buzz constantly through every horn passage in the band and will not respond well when played at low dynamic levels. We have to teach students to turn off the snares when not in use, especially in orchestral or concert band situations.

**Problem 7:** Even though there are new heads on the drum and the drum is well tuned, the drum doesn’t sound good.

**Solution 7:** There may be dirt on the bearing edge. Dust and dirt between the bearing edge and head can hinder the sound of the drum. When changing heads, take a minute to wipe off the bearing edge with a rag. A light cleaning agent may be required. Avoid any cleaner with a petroleum base. This could cause damage to mylar heads.

**Problem 8:** The “wire” sound is the “only sound in town” syndrome. The only snare the student percussionist is aware of is wire.

**Solution 8:** Often this syndrome is due to a lack of knowledge and exposure. Most beginning level snare drums come with wire snares on them. Wire snares tend to have a “bright” sound and have their place in symphonic band and orchestra repertoire. It is a very nice option to have a “darker” gut-like sound available, especially in the orchestra and on marches in a concert band. I prefer using a “darker” sounding snare for most concert band and orchestra work. I feel this sound blends with the ensemble better than a wire type sound. There are many brands of snares available with this “darker gut-like sound” that use the traditional “fixed” mounting system. They do not require the care of traditional “gut” snares. Different types of cable snares can vary from very bright to very dark snares. Many manufacturers are mounting multiple strainers on snare drums that give performers the option of using two or more different types of snares together or individually.

**Problem 9:** The “counter hoop” is sitting at an angle to the shell rather than flat across the top of the shell. The rim or “counter hoop” may be pulled down below the shell at one point.

**Solution 9:** There are two possible problems here. Possibly, the head has not been “seated” correctly. The tension screws were tightened unevenly and probably only on one side of the drum. All tension needs to be taken off of the head. Then the head needs to be re-centered evenly on the shell. Tension needs to be evenly applied so all of the tension screws are at the same tension. It might be wise to start with a new head because it is likely that some damage has been done to the old head, and you may have trouble correctly reseating it. Drumheads have a position they like to go back to once they have been seated on a shell for a long period. Heads form a “collar” over the bearing edge (top circumference of the shell) and like to go back to that original collar. Once the collar has shifted, the head never quite rings the same again. This is especially true on timpani. The other possibility is that the head has pulled out of the “flesh” hoop at one point, and there is tension only on part of the head. In this case the head is beyond repair and has to be replaced.

**Problem 10:** The tension screws do not turn easily and are pulling at an angle to the tension lugs.

**Solution 10:** Make sure that the tension screw holes in the counter hoop are lined up over the tension lugs so the tension screws can easily thread. Washers could be missing between the tension screws and the counter hoop. Without washers the tension screws may be difficult to adjust because they will catch and drag. I prefer the nylon washers used by many manufacturers. They turn more easily than the metal washers and are less likely to rattle. It is good idea to put a drop or two of light machine oil on the tension screws when putting them into the lugs.

**Problem 11:** The mounting string on the snare is broken.

**Solution 11:** Often the bottom edge of the strainer is sharp or has metal burrs where it comes into contact with the string. Also, the bottom hoop may have burrs on the edge that touch the string. The vibration of the drum will help this sharp edge act like a knife and eventually cut through the string. The sharp edge and burrs can be smoothed by the light use of a metal file. The use of a Mylar mounting strip is preferable to string in that it is much harder to break and applies tension more evenly to the snare from side to side.

**Problem 12:** The snare strainer is sitting at an angle to the shell and the strainer tension and throw-off are bent. The snare tension adjustment screw doesn’t work smoothly, and the snares are not sitting on the bottom head properly.

**Solution 12:** The snare drum most likely was dropped on the strainer. The strainer was pushed into the shell when it was dropped and the strainer was damaged. This is a problem best referred to a good instrument repairman. It is possible to repair the shell in some cases. Replacement of the strainer may solve part of the problem, but if the shell is still bent the strainer will still sit on an angle and will cause some problems.

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