

Drum Repair

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1 Overview

Uneven tension in the tsukeshime results in out-of-parallel head rings. At a minimum, this uneven tension limits the pitch and pure tone a tightened tsukeshime can produce. In extreme cases, uneven tension can permanently damage a drum's heads. Achieving perfectly even tension around the drum requires significant tightening practice. Thankfully, minor uneven tension is not dangerous when the tsukeshime is released between uses. All too often however, tsukeshime with unevenly tightened heads are left for extended periods in their poorly tightened position. (Ideally a tsukeshime is never left tight for more than four hours at a time.) As the skins stretch to fit the body between them, they deform permanently out of parallel. Depending on the severity of the deformation, the heads can often be prodded back to parallel over numerous tightenings. Some heads are damaged beyond simple repair.

Heads are clearly damaged when the indentation from the drum body (*dō*) is not centered or is uneven around the head. Often both conditions occur, the indentation from the *dō* significantly larger on one side of the heads than the other and the ringed indentation shifted far from center.

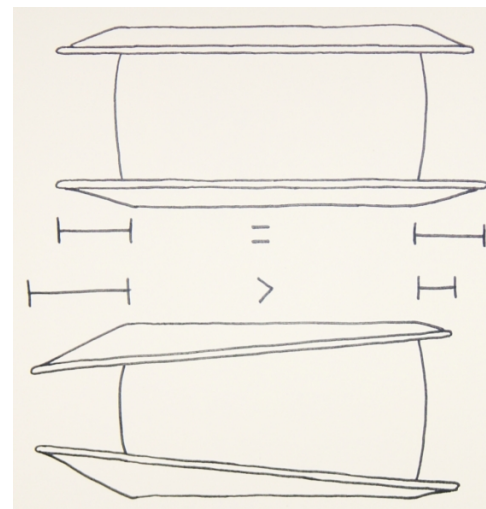


Figure 1: Uneven Head Rings

2 Tightening Uneven Heads

There is no quick fix for repairing deformed heads, but attention to body centering and maintaining parallel head rings over numerous tightenings can work to return head rings to parallel.

By far the most common cause of uneven tension in the tsukeshime is what the TIASOU Method refers to as “hasty tension”. During the early stages of tightening, namely the slack removal stage, the zig-zagging ropes around the drum are relatively loose. Slack should be removed in small increments, over several passes around the drum. Often, however, too much tension is generated too early. As the rope is loose, it is easy to pull too much at one point, usually at the beginning of a pass around the drum, near the start-knot. If too much slack is pulled at any one point, tension at that point is significantly higher than elsewhere around the drum. When the ropes are relatively loose, greater tension on one side of the drum is not adequately resisted by the opposing side. The head rings are pulled too close on the side under high tension. Often the body slides out of center encouraging the rings to move farther out of parallel. Over several hasty passes the problem intensifies.

Repairing deformed tsukeshime heads simply requires re-tightening the drum with particular attention to drum body centering and to keeping the head rings parallel. Depending on the severity of the head deformity, this can be easy or difficult to accomplish.

3 Moving the Start-Knot

It is most common for hasty tension to occur immediately following the start-knot. As the start-knot provides a locked starting point for tension, it is easiest to overdo tension at this point. When the start-knot has contributed to uneven tension, head rings will be closest soon after the

start-knot (from the first few laces to as far as 90 degrees around the drum).

When this is the case, moving the start-knot location to the immediate opposite side of the drum will often assist in retightening with even tension. Mark the start-knot location with tape on *both* heads and remove the rope. Re-tie the start-knot on the opposite side of the drum and lace the drum in the same direction as before. In this position, the start-knot will simplify applying tension to the area that needs it most. Make sure the tape on the heads is aligned and the rope is threaded in the same direction as before when re-threading the drum.

Moving the start-knot will help assist in generating tension where it is needed to correct the deformity of the heads. Note, however, that the original problem of hasty tension should be later avoided when the heads are back to parallel. When heads are naturally parallel great care should be taken to increase tension in measured amounts, equally around the drum.

4 Why Rotation Isn't A Good Idea

It is sometimes suggested that one head be rotated in reference to the other in an effort to fix out-of-parallel head rings. It is sometimes suggested that heads be rotated 180 degrees in relation to each other. Unfortunately, this is generally the wrong approach, and will often exacerbate the problem. When heads have been deformed out of parallel, the head rings have been pulled closer at one side of the drum than at the other. Since the heads are deformed in the same location, it is usually best to keep the heads in their current relation to one another. Both heads need to be reformed in the same way, and rotating them out of alignment with each other only complicates this challenge.

5 Parallelism, Not Tension

When retightening a tsukeshime with the hopes of correcting for head deformity, it is extremely important that the rings of the heads are kept parallel through the slack removal and agebatchi stages. This is only accomplished with great care and diligence, as the drum body will want to slip out of center and the heads will try to return to their previous, out-of-parallel positions.

When correcting for head deformity, during the slack removal stage the head rings must be forced parallel. For severely deformed heads, this will sometimes require extra slack be left on the side of the drum where the rings are closest, and extra tension be generated at the opposite side. Thus unlike standard tightening, when correcting uneven heads, even tension around the drum is *not* the goal during the early stages. Tension should be focused on the side of the drum where the head rings were farthest apart, and the opposite side should be given slack as necessary. The head rings should be parallel before proceeding to stage two tightening.

6 Long-Term Success

Retightening the drum carefully to ensure the head rings are parallel will not immediately correct the problem. After untightening, the heads will likely still be deformed. Over numerous tightenings, however, the heads will stretch to a more balanced and even default position.

It is tempting to leave a corrected drum tight with the hopes of making the corrections more permanent. This is not recommended, however, as leaving the heads tight for extended periods (more than a few hours) always reduces their life-span. It is true that the heads will stretch more quickly to a more balanced and even position when left this way, but the stretching of the heads is equivalent to hours and hours of what would

otherwise have been useful playing time. It is best to tighten and loosen the drum before and after use as usual, with extra diligence applied to keeping the dō centered and the head rings parallel. Over many tightenings the heads will stretch naturally and return to a more even default position.

7 More Information, Copyleft

For more information, please visit tiasou.org or contact Kristofer Bergstrom by email, phone, or the address below. All questions and comments are welcome.

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