

## Tightening, Stage One

Kristofer Bergstrom

### 1 Stage One Overview

Stage One of the TIASOU Method aims to generate moderate tension in the rope laced between the two heads. This is accomplished over a series of passes around the drum, each starting at the fixed start-knot. Over the course of each pass, a small amount of slack is generated. This slack is pulled out of the laces and a temporary knot is tied to maintain tension. At the completion of each pass, the rope increases in tension and the heads are pulled tighter.

At the beginning of Stage One tightening, the laces are very loose, and slack can be removed easily with the hands. After a few passes, however, the hands are no longer strong enough to comfortably increase tension. Agebatchi, special oak sticks designed specifically for tsukeshime tightening, are used to relieve the hands.

The most critical challenge of Stage One tightening is to increase tension evenly around the drum. Generating higher tension near the start-knot than toward the end of the laces is a common mistake and has the potential of damaging the drum. The power provided by the agebatchi can quickly misalign the heads and push the drum body (dō) out of center. Proper dō centering, along with great restraint and attention, are required to keep tension even.

### 2 Parallel Rings and Even Tension

The alignment of the rings of a tsukeshime's heads indicate the evenness of tension around the drum. Rings that are out of parallel suggest that tension is greater where the rings are closer and less where they are farther apart. Because a major goal of tsukeshime tightening is to produce even tension around the drum, the angle of the rings is an important indicator of how successfully tension is distributed.

The rings of properly tightened tsukeshime heads are parallel to one another and parallel to the drum body. Achieving this proper alignment of the rings requires great diligence during Stage One tightening. Misalignment cannot be corrected in later stages of the tightening process. Stage Two tightening is entirely dependent on this stage for proper alignment.

A centered dō is critical to keeping the heads' rings parallel. When the drum is out of center, the ropes have more leverage over the heads' rings at some points than at others. (See figure 1.) Thus an out-of-center dō almost guarantees uneven tension. The TIASOU Method emphasizes the importance of this step and provides techniques for easy and quick dō centering.

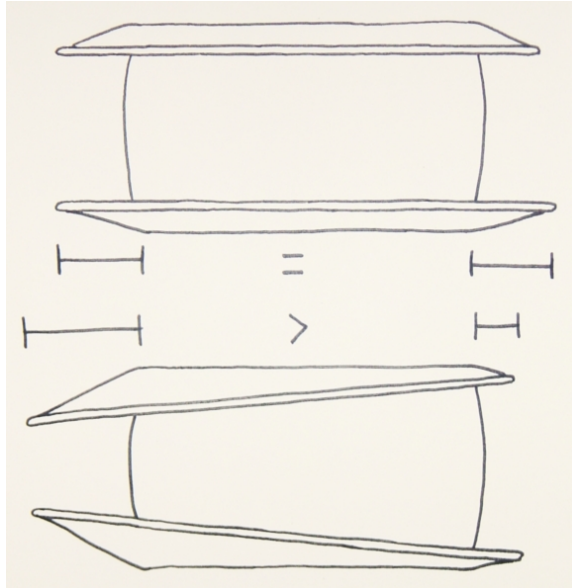


Figure 1: Dō position

### 3 Removing Slack

After lacing the drum, the rope is completely loose. There may even be sections of dangling rope, where several feet of extra rope remain in the laces. Beginning Stage One tightening, the hands are used for the first few passes to remove this slack.

Place the drum before you on its side, the heads perpendicular to the plane of your body and the start-knot tied to the right-side head. The start-knot should be at the top of the drum and the rope laced such that it leads from the start-knot away and over the horizon of the drum. Grasp the section of rope between the heads just after the start-knot and tug slightly. Move to the next section and do the same, proceeding around the perimeter of the drum until returning to the start-knot. Pull the slack generated through the start-knot loop. Make two or three passes with the hands in this way to remove slack. Only tug slightly in early passes and never harder than is comfortable for the hands and fingers. Tie the temporary knot to maintain tension. (See figure 2.) Once the laces are taut, the temporary knot will be required after every pass.

### 4 Centering

After a few passes with the hands, the laces should be taut enough that the dō no longer freely slides about between the two heads. At this point, when the body will remain where it is placed, it is time to center the dō within the heads. It is best to do the centering as early as possible in Stage One tightening, when the body is easy to shift with the hands. Waiting until later will require much greater, and otherwise unnecessary, force. Centering before tension is sufficient to maintain the dō position, however, is also counter-productive, as the dō is likely to slip out of position during subsequent passes around the drum. Generally, the dō is ready to be

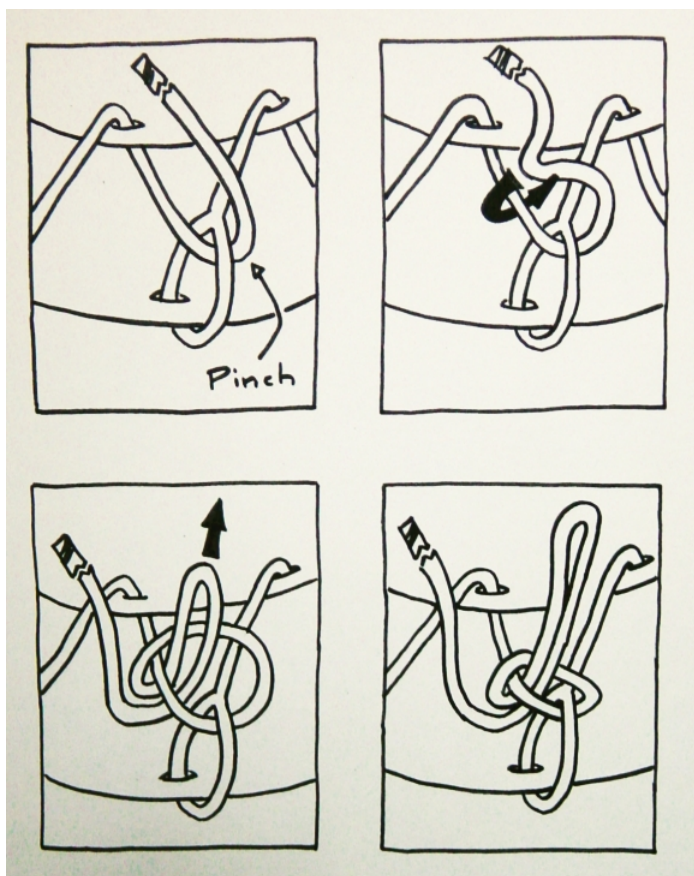


Figure 2: Temporary knot: running half hitch

centered after three passes with the hands.

The center position of the *dō* is found with the help of each head's "cusp gap". On the underside of most *tsukeshime* heads is a ring of hard, dry skin. This ring is what remains of the extra skin cut off during manufacture. Between this cusp and the *dō* is a small gap, different between manufacturers, but usually less than one centimeter. Using the fingers, the size of this gap on opposite sides of the same head is compared. The body is then shifted in the proper direction until the gaps on opposite sides are equal. This comparison is then repeated on the opposing axis. When completed, the cusp gap should be even around the head. The process is repeated for the other head.

## 5 Agebatchi

After several passes with the hands and once the *dō* is centered, an *agebatchi* is used to relieve the hands of the strain of pulling the laces taut. The *agebatchi* is pried under successive lace sections between the heads, working around the drum in the same fashion as before. Between prys with the *agebatchi*, the opposite hand pinches the rope to maintain tension. The pinch occurs at the hole just before the area being pulled by the *agebatchi*, nearer the start-knot.

Generating even tension around the drum is absolutely critical to the health of the instrument and the success of tightening. When using *agebatchi* to increase tension, care must be taken to increase tension evenly at every point around the drum. The clearest indicator of tension is the angle of the *agebatchi* and this angle should increase slightly as tightening proceeds around the drum. Near the start-knot, the *agebatchi* will be nearly horizontal. About half-way around the drum, the *agebatchi* should reach a steeper angle,  $45^\circ$  or less. The *agebatchi* should only reach vertical (its maximum angle) at the very end of a pass, if ever. When the *age-*

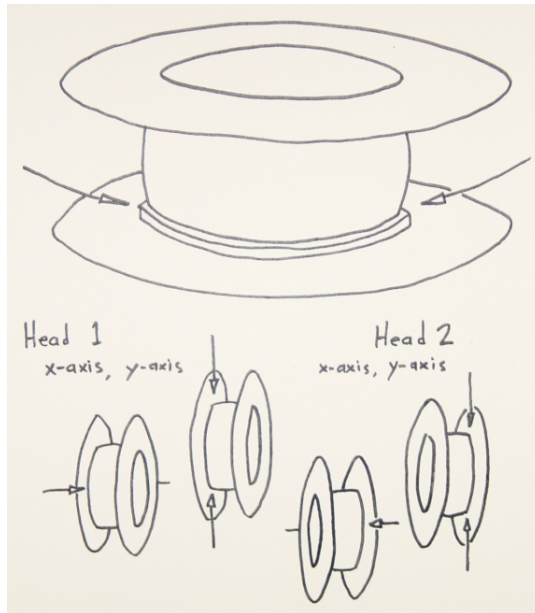


Figure 3: Cusp gap, dō centering

batchi reaches vertical before the end, tension after that point will not be increased. Thus care should be taken during each pass to avoid applying too much pressure to the agebatchi and “maxing out” early. This is a very common mistake, and is one of the main sources of uneven tension.

## 6 Standing Pull

After a pass around the drum with the agebatchi, a more powerful pull of the free end of the rope will be required to generate tension at the end of the laces equal to that at the beginning. For this, the “standing pull” is used toward the end of Stage One tightening. This technique is the focus of the following stage of tightening and is described in detail in TIASOU Method Workshop, *Tightening, Stage Two*. A temporary knot is tied after the standing pull as before.

## 7 More Information, Copyleft

For more information, please visit [tiasou.org](http://tiasou.org) or contact Kristofer Bergstrom by email, phone, or the address below. All questions and comments are welcome.

kris@tiasou.org  
 310-350-8825  
 1411 S Burlington Ave #28  
 Los Angeles, CA 90006

© This document is free to be copied and distributed. It is free to be altered under the terms of the Creative Commons “Share-Alike” license. For a copy of the full license, visit <http://creativecommons.org/licenses/sa/1.0/>