The Art of Tsukamaki

written and illustrated by Thomas L. Buck, Ph.D.

Ever since seeing my first Japanese sword, I have been captivated by the elegance and complexity of TSUKA-MAKI (the art of wrapping the tsuka). Although I will share with you a few of the tools, materials and techniques needed for tsuka-maki, I have learned, through the guidance of Takahashi-sensi, that patience, persistence and excellence are the true requirements for the application of this art.

COMMON TERMS

In order to make this more understandable for both the novice, as well as the experienced wrapper, I shall start by defining a few of the common terms used in tsukamaki.

- **FUCHI/KASHIRA** pommel caps
- **HA** cutting edge side
- **HISHIGAMI** paper wedges
- **ITO** cloth braid
- **MAKI** to wrap
- **MENUKI** hilt ornaments
- **MEKUGI** peg that secures hilt
- **MEKUGI ANA** holes in the hilt
- **MUNE** the side opposite cutting edge
- **NAKAGO** tang of sword
- **OMOTE** the side that faces out
- **TSUKA** hilt or sword handle
- **TSUKAITO** cloth braid covering tsuka
- **SAME** shark or ray skin

MATERIALS

Aside from the *tsuka* itself, the basic materials in tsukamaki are the *ito*, paper and glue.

The glue can either be purchased (such as Elmer’s) or produced by boiling rice, working it into a past while still warm, and adding a small amount of water.

The paper can be of nearly any weight, but ideally it should be relatively close to newsprint in weight and consistency.

During the wrapping, be sure to moisten the paper wedges before inserting them under the braid, this will allow the wedges to conform more readily to both the *tsukaito* and the *same*.

Although the *ito* is available in a wide range of colors, it is only manufactured using two different types of fibers (natural and synthetic). When trying to identify an unknown *ito*, a burn test is often helpful. The following chart gives tests for the principle natural fibers, and a few synthetics.

<table>
<thead>
<tr>
<th>FIBER</th>
<th>FLAME</th>
<th>ODOR</th>
<th>RESIDUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
<td>Luminous, rapid</td>
<td>Burning paper</td>
<td>Fine, gray</td>
</tr>
<tr>
<td>Silk</td>
<td>Slow, orange</td>
<td>Burning hair</td>
<td>Brittle bead</td>
</tr>
<tr>
<td>Wool, hair</td>
<td>Slow, blue</td>
<td>Burning feathers</td>
<td>Brittle bead</td>
</tr>
<tr>
<td>Rayon</td>
<td>Sparks, orange</td>
<td>Burnt paper</td>
<td>Black ash</td>
</tr>
<tr>
<td>Acetate</td>
<td>Rapid, sparks</td>
<td>Vinegarish</td>
<td>Hard bead</td>
</tr>
</tbody>
</table>
URA the side that faces in

TOOLS

For holding the tsuka: a stand that will hold the tsuka firmly in place for both wrapping and tightening, and will allow work to be done easily on both the omote and ura side.

For inserting the paper wedges, and adjusting the ito: tweezers, a pick (any small pointed tool), and any small hand held tool with a blunt wedge shaped tip. You can most likely find all of these in used dental tools.

For holding the ito in place: a clamp that can be worked around freely, will not allow the ito to shift, and goes on and comes off readily.

SUGGESTED ITO LENGTHS

Although I have encounter several different ways to derive the required length of ito, ranging from special formulas and ratios, to wrapping the tsuka from end to end and half way back, I tend to follow the simple guidelines given me by Takahashi-sensi.

TANTO (4" tsuka) 6 feet of ito
WAKIZASHI (6" tsuka) 8 feet of ito
KATANA (10" tsuka) 12 feet of ito

PREPARING THE TSUKA

In preparing the tsuka, start by stretching a sample of the desired ito tight and measuring its width (1W).

Using a small amount of rice paste glue, place thin paper strips along both the ha and mune sides of the tsuka. By Layering the paper you will decide the finished shape of the tsuka, and also gaurd the ito from snaring on the surface of the same. Continue layering the paper until the fuchi/kashira will be flush with the edges of the tsuka (after the ito is in place).

HISHI-GAMI (THE PAPER WEDGES)

To give the maki a proper shape, the tsukaito is folded over various styles of hishi-gami, or small paper wedges. Here are a few of the many different styles used.
Measure and mark the ha and mune sides in tsukaito width segments (1W). The distance between the fuchi and kashira should measure an odd number of width units along both the ha and mune. If not, either the tsuka may have to be altered, or a different weight ito may have to be selected in order to fit within an odd number of spaces.

In making the wedges, begin by folding a sheet of newsprint, or standard weight paper 5-11 times. Cut off excess paper, then cut the folded paper into two width (2W) segments. Use these to make any of the wedge styles previously illustrated in this article.

One alternative to the previously mentioned hishi-gami, is made from a piece of paper (1" X 1/2") folded as shown above.

Another, fatter alternative wedge, can be made from a piece of paper (7 1/2" X 1 3/4W) folded as shown above.

THE WRAPPING OF THE HANDLE

To begin with, it should be stated that both Japanese tradition, and personal observation, suggest that tsukamaki should be started and completed on the omote, or the side of the tsuka that faces outward when being worn. This is almost always true regardless of the style of wrap.

- Measure half the length of the tsukaito.
- Place the first two paper wedges on the ura (side placed after the third set of folds from the fuchi on the omote side and three sets of folds from the knot on the ura side. In reference to wakizashi and tanto, the menuki are commonly place after the second or third set of folds. In any event, the positioning of the may vary because of the tsuka size, menuki size, ito width, or placement of the mekugi-ana.
opposite the *omote*), and align them with the marks on the paper strips.

- Make the first two *tsukaito* folds overlap the paper wedges.
- Bring the other half of the braid around and make the next two folds.
- Repeat with other length of *ito*.
- Continue this procedure on the other side, alternating the direction of the folds.

During the wrapping, tightness should be a primary concern. Each fold should be drawn or stretched so that there is no slackness or looseness.

Throughout the process, continually monitor and adjust the symmetry of the folds and open areas, and try to maintain a smooth surface appearance along the *ha* and *mune* edges of the tuska. Ultimately, a quality *tsukamaki* maintains a consistent tightness and exactness.

**PLACING THE MENUKI**

In both the *ito maki no katana*, as well as the *ito maki no tachi*, the *menuki* are usually

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**TYING THE URA SIDE KNOT**

At the end of the tsuka, on the ura side, pass the end of the tsukaito, coming from the mune, over and then under the proceeding fold. Then, pass the end from the ura over the other end, and under the previous fold, making a loop. Bring it back again under the fold. Thread both ends through the shitadome (if present) and the kashira side-by-side.

**TYING THE OMOTE SIDE KNOT**

To start the omote knot, pass the bottom end of the tsukaito under the top set of folds, pull the braid over the fold, cut off,
apply rice paste glue, and tuck under. Take the top end of the tsukaito under the top set of fold, repeating the first part of the previous step. Then, make a loop by bringing it back again under the folds. At this point, insert a small wad of paper and fold the tsukaito over and tighten. Bring the top length around to the left and down again cut off, apply and paste glue and tuck under.

ALTERNATIVE KNOTS

(MAKIKAKE NO KASHIRA)

ALTERNATIVE TSUKAMAKI STYLES

Of the more than forty styles of tsuka-maki that I am familiar with, here are five of the most common.
(COMMON GUNTO KNOT)

(Tsumami maki)
(Katate maki)

<table>
<thead>
<tr>
<th>Long End</th>
<th>(short end on-top for 1st cross-over)</th>
<th>Short End</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Omote)</td>
<td>(Ura)</td>
<td>Long End</td>
</tr>
</tbody>
</table>

Cut Short End Here

1/2 Paper Wedge
Use Rice Paste Here
Full Wedge

3 Cross-overs from Fuchi
No Paper Wedges
Twisted Paper Strips
3 Cross-overs from Kashira

(Tachi Tsukagashira Kake maki)

To begin the first cross-over, draw the first side of the ito loosely over the hishi-gami
For the second half, draw the ito flat across the lower strip...
...then, pull the ito tight, making sure the hishi-gami remain centered and completely covered.

Ito strips remain flat, with a nice even flow...

(page 5)
(Two Variations of Kami Hira Maki zuka)

(Tsuka without Knots)

(Tsuka with Knots)

(Prepare Strings for 1st cross-over by stitching them together in groups of 2.)

Preparation:

(Tsuka with Knots)

(Two Variations of Kami Hira Maki zuka)

(Hoso Jabaraito Kumiage zuka)

Follow the same basic steps as for Ito Maki no Katana
VARIOUS SAGEO KNOTS

(Preparation:)
(Stitch stings in groups of two.)
(The Wrap:)
(Start wrap in notch on Ura side.)
(Same')
(To keep string from covering hole, overlap string on itself alternating directions.)

to Kashira.

from Fuchi.

(Ura Side)

(Omote Side)

(The Knots:)

(For tsuka with knot, 12 string widths from kashira, begin three new groups of string)

(Ura Side)

(Omote Knot)

(Ura Knot)

(Tsuka without Knots)

Follow the basic steps as for Ito Maki no Katana.

(Kami Hira Maki zuka)

(Sageo Knots)

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