

Tosa Wasen: A Traditional Japanese Twenty-Foot Fishing Boat

by Clare Hess



Figure 1. Mr. Shibafuji standing next to a Tosa wasen at Kansu-hori Harbor, Urado Bay, Kochi City in 2008. He apprenticed with boatbuilder Masaru Hiromitsu, who built the boat in 2006. Mr. Hiromitsu had built wasen for 60 years when he passed away in 2014. Courtesy of Mr. Shibafuji.

Introduction

Those Guild members who were fortunate enough to attend the conference at Mystic in October 2016 had the opportunity to listen to a fascinating talk given by boat builder Douglas Brooks about Japanese wooden boat-building, and his five apprenticeships with master boat builders in Japan.

I was already familiar with

Brooks's work, having been in touch with him over the past couple of years regarding the replicas built of traditional Japanese coastal transports such as *Naniwa Maru* and *Michinoku Maru*. Following his work, I also began to learn about traditional small Japanese boats, which led me down an entirely new path as a ship modeler.

I had already discovered the Japanese wooden ship model kit manufacturer, Woody Joe, and built a few of



Figure 2. Douglas Brooks and Mr. Masaki Tanimura of Thermal Studio at a lunch meeting when Mr. Brooks was working on a boat-building project in Takamatsu in 2013. Courtesy of Mr. Tanimura.

the company's kits, when I discovered a rather obscure, but very interesting looking kit of a traditional twenty-foot Japanese fishing boat. I did not know much about it other than seeing a few photographs on the Internet, and it took me many months before I discovered the manufacturer. It was sometime later that I was able to determine that the kit was in production and available for purchase.

The boat is called the Tosa *wasen*, which literally means traditional Japanese-style boat from the Tosa region. The manufacturer of the kit is a company called Thermal Studio, and is a maker of large model glider kits. The fact that I had a hard time finding the Tosa *wasen* kit was partly due to the fact that it was a special sideline product of the company, and, at the time there was no mention of the kit on their website.

The only reason I was able to purchase the kit was because I stumbled upon it while perusing Amazon-Japan, a site that is not easy to navigate if you cannot read Japanese. Fortunately, I know just enough of the language and have enough computer skills to be able to type Japanese text and to use a mix of optical character recognition, online translation, and the Chinese character recognition feature built-in to my computer to get by (The Japanese language uses Chinese characters that the Japanese call *kanji*). I purchased my kit from the Amazon-Japan seller, and since they did not offer international shipping, I had a friend in Japan act as a shipping agent, forwarding the package to me. I have since contacted the manufacturer by email and we began a discussion about the kit, which was still being produced, and how those of us outside of

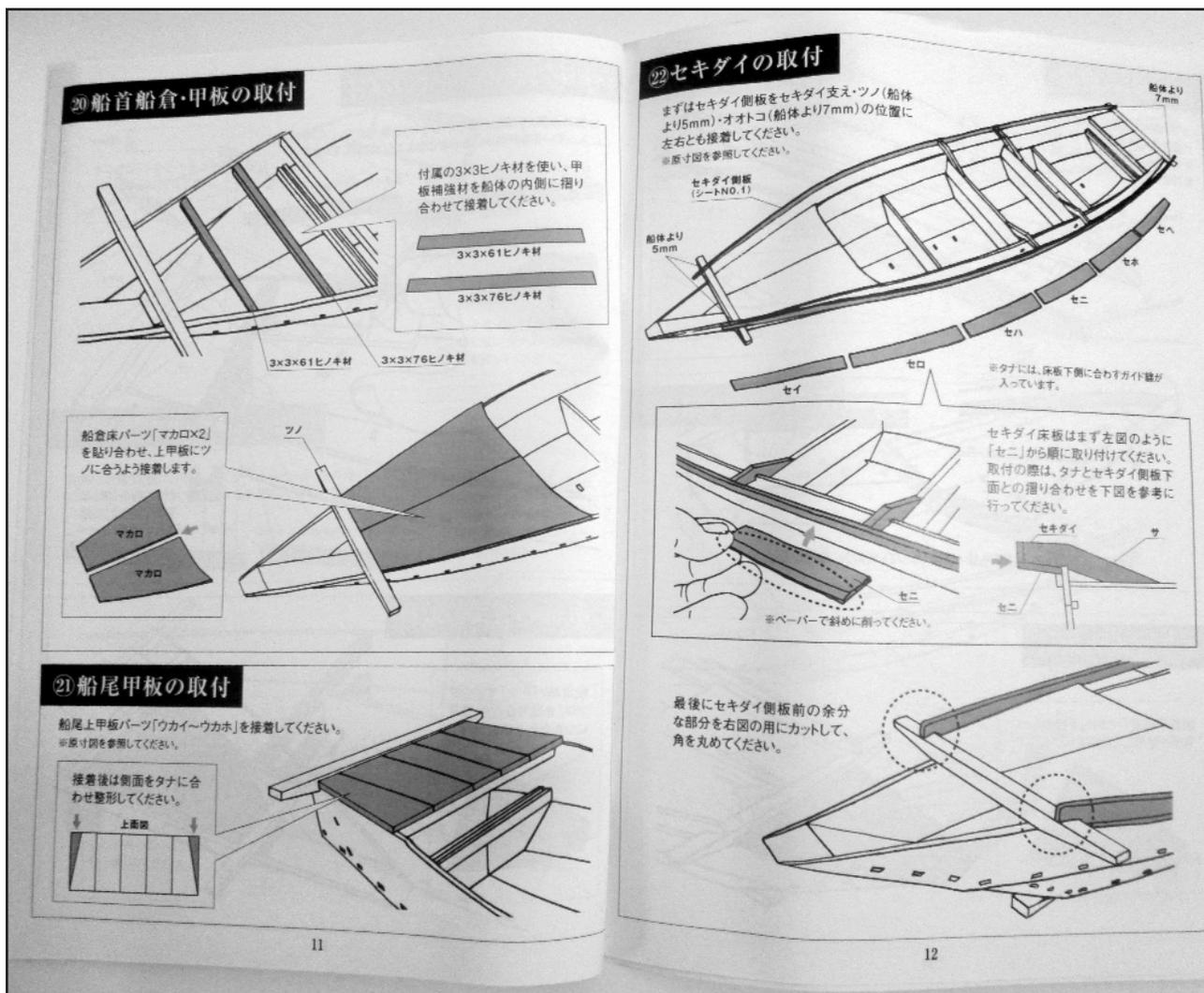


Figure 3. The instructions are in Japanese, but they are well illustrated and the steps involved are clear. There are a few spots that might be a bit confusing, but a careful study of the drawings will usually clear things up. All images by the author unless otherwise indicated.

Japan could purchase it. I will provide the purchase details at the end of this article.

The company that makes the kit is run by Masaki Tanimura, who created the product out of his desire to produce a kit of a traditional Japanese wooden boat that is built from the same materials used to construct the actual boats. While some ship modelers may balk at the idea of using woods not best suited to model building, it is a practice common among Japanese boat builders who create models of their own boats. And, though the grain and figuring of the wood may be out of scale, the color is

right, and the Japanese woods used are very aromatic, giving the builder an unusual sense of connection to the subject.

The kit was developed under the supervision of the *Tosa Wasen Tomo no Kai*, or the Tosa Traditional Wooden Boat Society. The man who made the original drawings for the manufacturer is Toshihiko Shibafuji, who manages the society's Facebook page, and who was kind enough to reach out to me after the manufacturer made a Facebook post about our email conversation. Mr. Shibafuji had studied traditional boat building with master boat builder Masaru Hiromitsu in the Tosa area. I discovered,

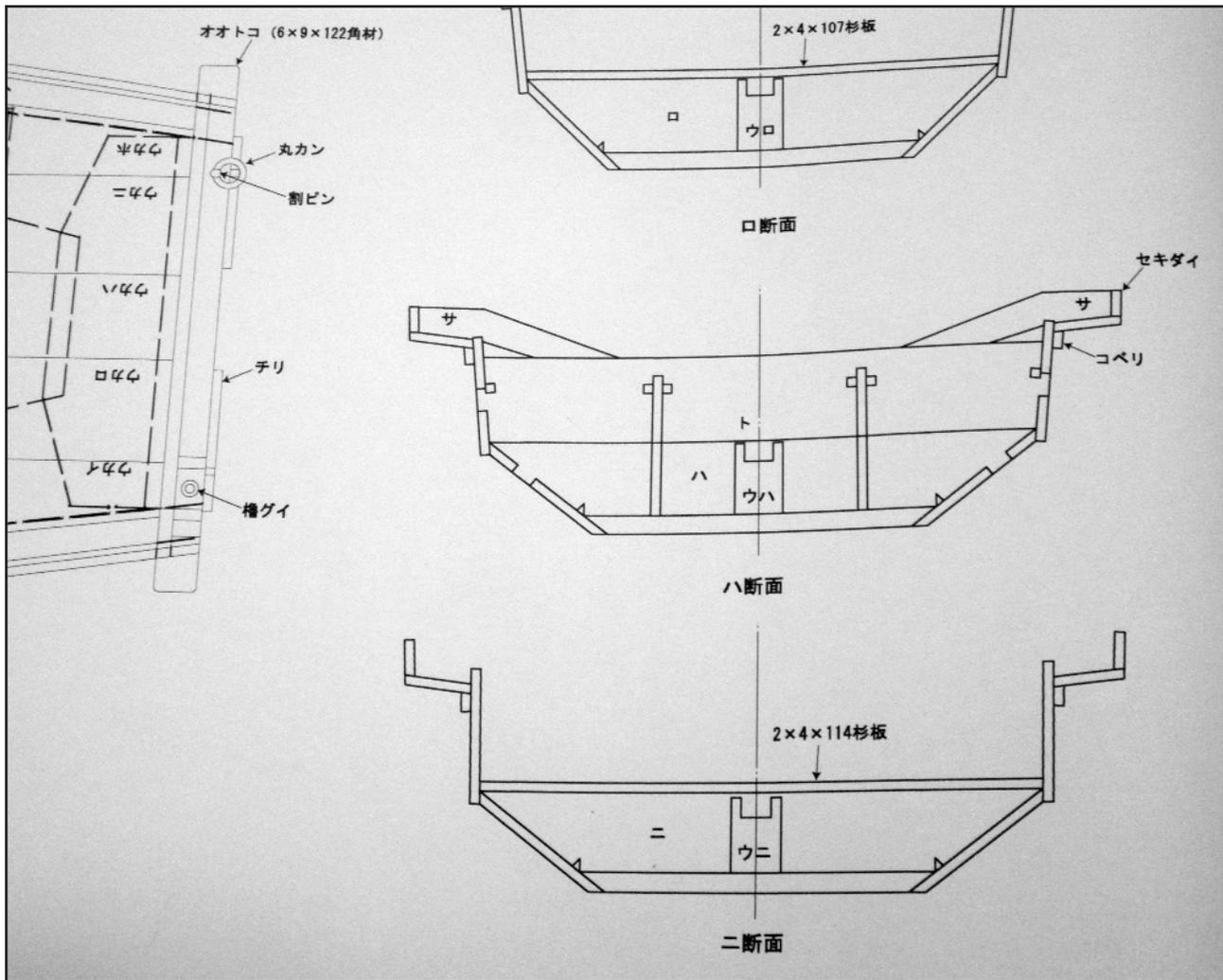


Figure 4. Plans are printed in Japanese, but mostly show the part identifier labels. The numbers shown are millimeter dimensions. Though a few items are mention by name, for the most part, the builder who doesn't know any Japanese is not missing anything.

interestingly enough, that Mr. Shibafuji and boat builder Douglas Brooks were acquaintances, and that Mr. Tanimura and Mr. Brooks had met a few years ago. The world, it seems, is shrinking every day, at least in terms of Japanese traditional boat building and model making.

About the Tosa Wasen

The Tosa *wasen* is a traditional twenty-foot boat that was used by fisherman from the Tosa region on the south side of Shikoku, one of Japan's four main islands. Typically, these boats carried one or two fishermen, who fished using

bamboo poles. The boat is made primarily of *sugi*, or Japanese cedar, with major structural pieces made from *hinoki*, or Japanese cypress.

The hull design is of a style similar to most Japanese traditional boats in that it features wide, relatively thick boards, making up a five-sided hull consisting of a bottom board, two garboard planks and two sheer planks. Unlike most western boats, where a frame is first built and planks are fastened to it, traditional Japanese boats are mostly frameless, and planks are edge-fastened with large iron nails. Typically, these hulls are supported by athwartship

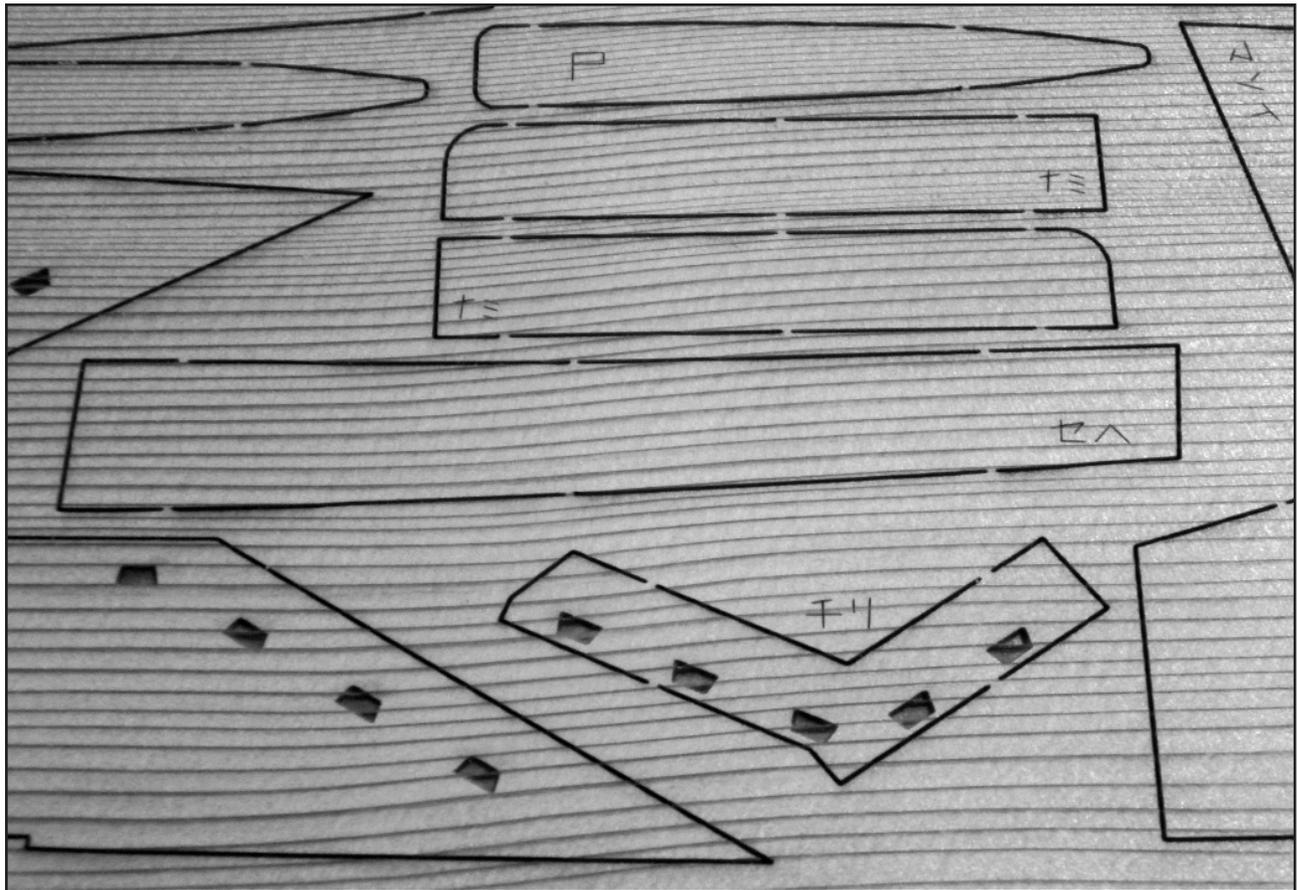


Figure 5. The kit's laser-cut parts sheets are well labeled using Japanese characters as part identifiers. When cutting the parts from the sheets, the dark lines of the cedar wood are much denser than the lighter areas, so the laser did not fully cut through some of the dark lines.

beams, and, sometimes, by a few key frames, both of which are usually added only after the hull planking is nailed into place.

The inside of the Tosa *wasen* is decked over with small, removable panels, creating easily accessible storage compartments underneath. Being built for fishing, there is a pair of live wells in the center of the boat, with the larger used to hold the catch and the smaller used to hold bait.

At the stern is a heavy beam with a pivot base located on the port side for the single, long sculling oar, which is called a *ro*. This oar is quite long and features an off-set handle and rope lanyard that, together, cause the oar to self-feather. When travelling longer

distances, the fisherman operating the boat might stand and use both hands on the sculling oar. But these small boats were typically used for pole fishing, and the Tosa fishermen commonly used a one-handed sculling technique, allowing them to sit in their boat and hold their fishing pole in one hand, while operating the oar with the other. In modern times, while the sculling oar is still used while fishing, an outboard motor is often used for faster travel to and from the fishing grounds.

The Kit

The Tosa *wasen* kit is a 1:10-scale model that makes heavy use of laser-cut

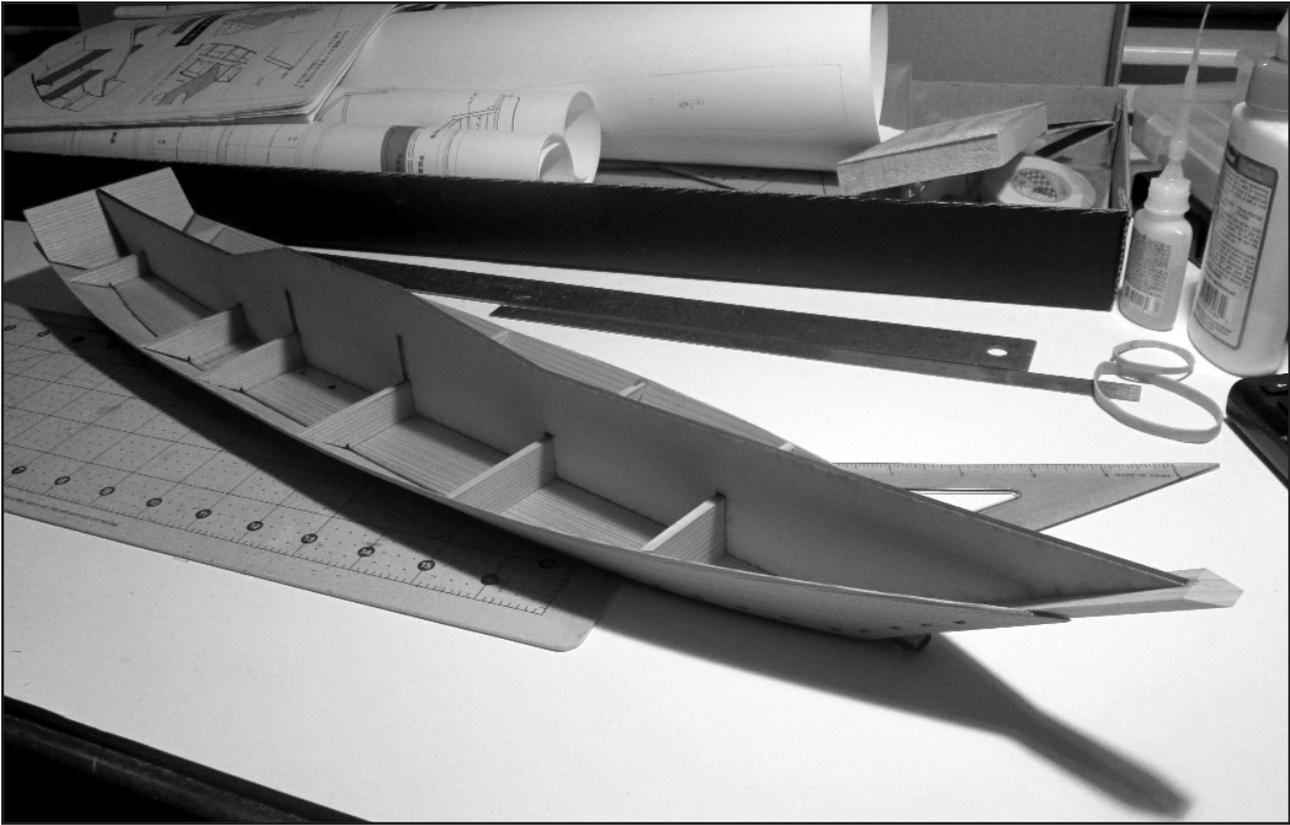


Figure 6. A temporary former is used in the kit to aid in the alignment of stem and transom, the positioning the floor frames, and to provide rigidity to the model while in the early stages of construction. On real Tosa wasen, these floor frames are only added after the hull planks are attached.



Figure 7. An alignment template provides the proper angle for bow and stern storage compartments. This is very similar to double-ended templates I've seen used in traditional Japanese boatbuilding for the setting of key angles.



Figure 8. Creating a nice, graceful, fair curve comes before the building of the supporting structure. This is a common theme in Japanese traditional boatbuilding that took a little time to understand. At first, I was positive I must have been missing something important in the instructions.

parts. Being patterned after a twenty-foot boat, the completed model is about two feet long. The parts are all well labeled, using Japanese characters as part identifiers. Western manufacturers might label parts “AB”, “AC”, “AD”, and so on, but in Japanese characters, these will look more like セイ, セロ, セハ, Those not familiar with written Japanese may get confused by the similarity in appearance of some of the characters, so it may take a little extra care to properly identify some parts. But knowledge of the characters is really not necessary, as they do not actually spell anything here.

Because of the nature of some of the parts, the identifying labels are

sometimes etched on a visible part of the model. Sanding them off is possible, but the etching is deep enough that some labels are difficult to remove. In a couple of instances, it seemed to be better to simply leave the labels in place. Most people seeing these will not know what the Japanese characters represent anyway.

Laser etching is also used to good effect in this kit—simulated mortises are etched into the surface of the planks, as are lines for the alignment or some parts or to indicate the edge of an area to be beveled by the modeler. A unique feature of this kit can be seen if you flip over the laser-cut sheets. You will see that, on

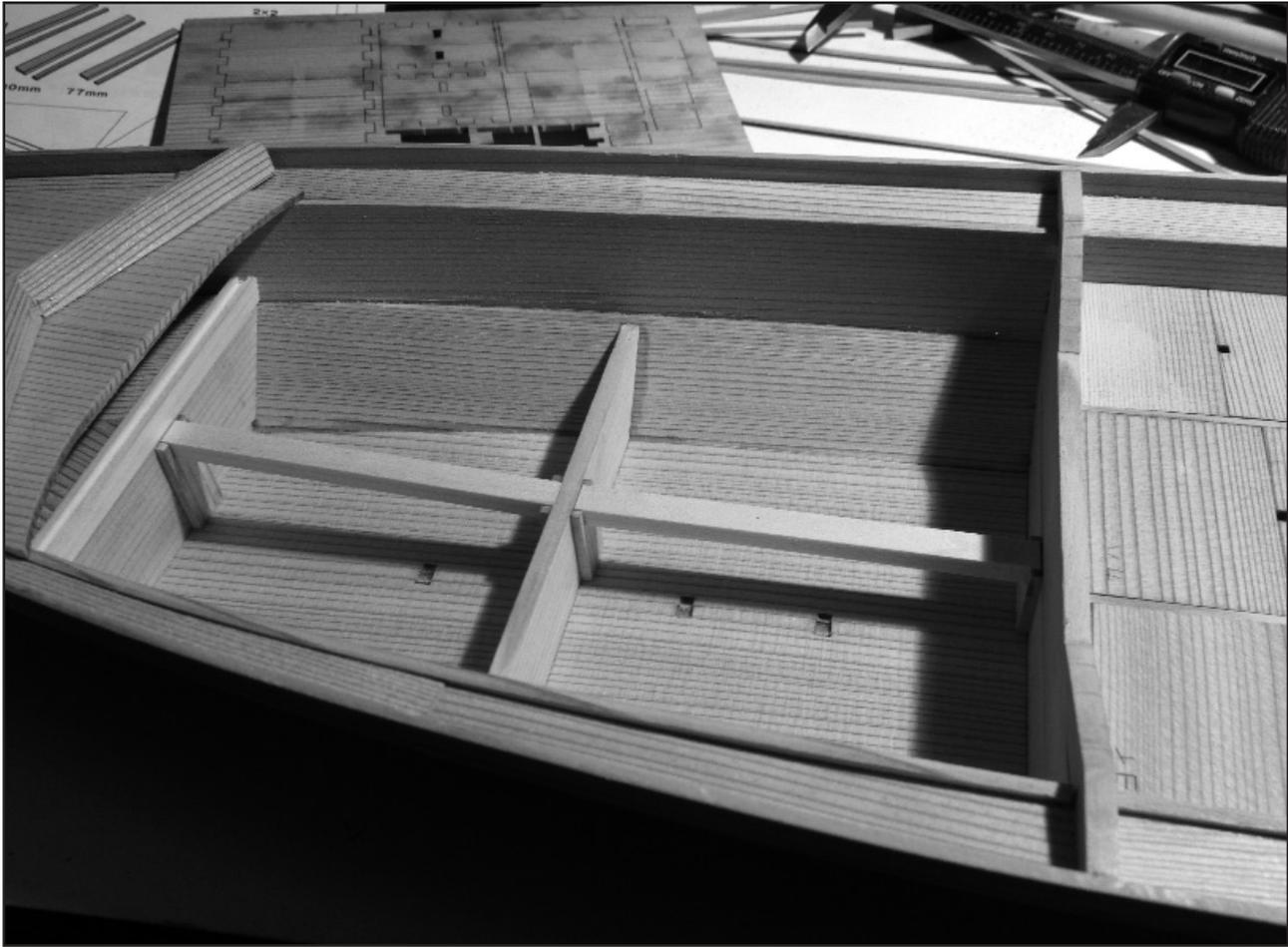


Figure 9. The basic structure of the traditional Japanese boat makes use of beams that are added after the planks are fastened together and used to support the deck.

some of the sheets, there is etching on the back as well as on the front. This would require the manufacturer to run the sheet through the laser cutter twice, with the position of the sheet perfectly registered for the second pass. This is the first time I have seen this done on a wooden ship model kit.

The instructions in this Thermal Studio kit are well illustrated. And, while they are written entirely in Japanese, for the most part, the illustrations are clear enough to follow without text translation, similar in many ways to the instructions by the Japanese wooden model kit manufacturer Woody Joe.

An unusual, but very handy inclusion in this kit is a simple sanding block

and some very nice quality narrow masking tape. Also, included are some cyanoacrylate glue applicator tips. I think the idea here is to stress applying only very thin beads of glue when building this kit.

Working with the Kit

Construction seemed to mostly follow actual traditional practices. Even the joint where the floorboard angles upwards near the stern is created by partially cutting through the floorboard and then physically pulling the after portion of the board upwards, a method that mimics a technique used in real *wasen* construction. One obvious simplifica-

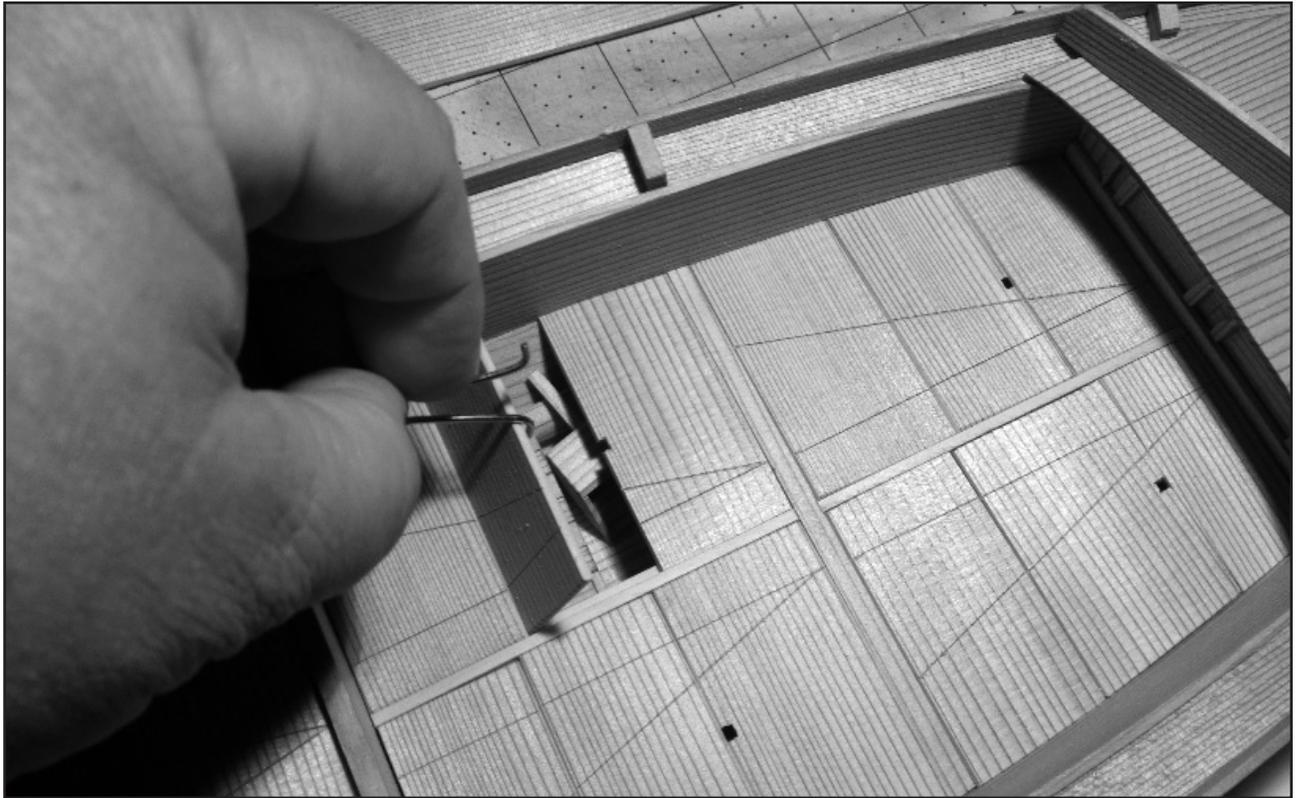


Figure 10. The deck boards are all unique, shown here completed and in place. The boards in the kit come oversized, requiring the builder to sand them to fit. It was extremely easy to over-sand the soft wood.

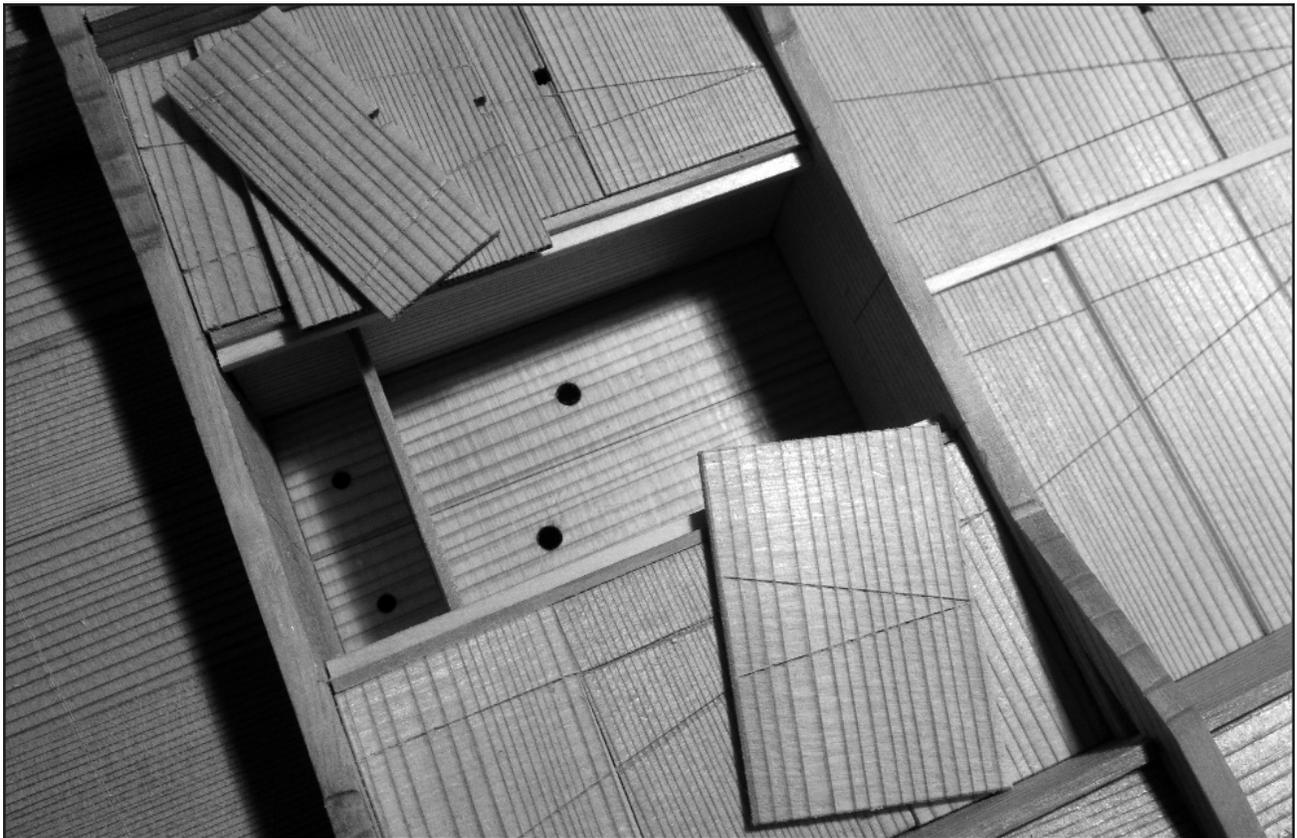


Figure 11. I found this feature interesting and assumed it must have been a live well. An email to Mr. Shibafuji confirmed that this was in fact a live well with the larger compartment for the catch and the smaller one for bait.

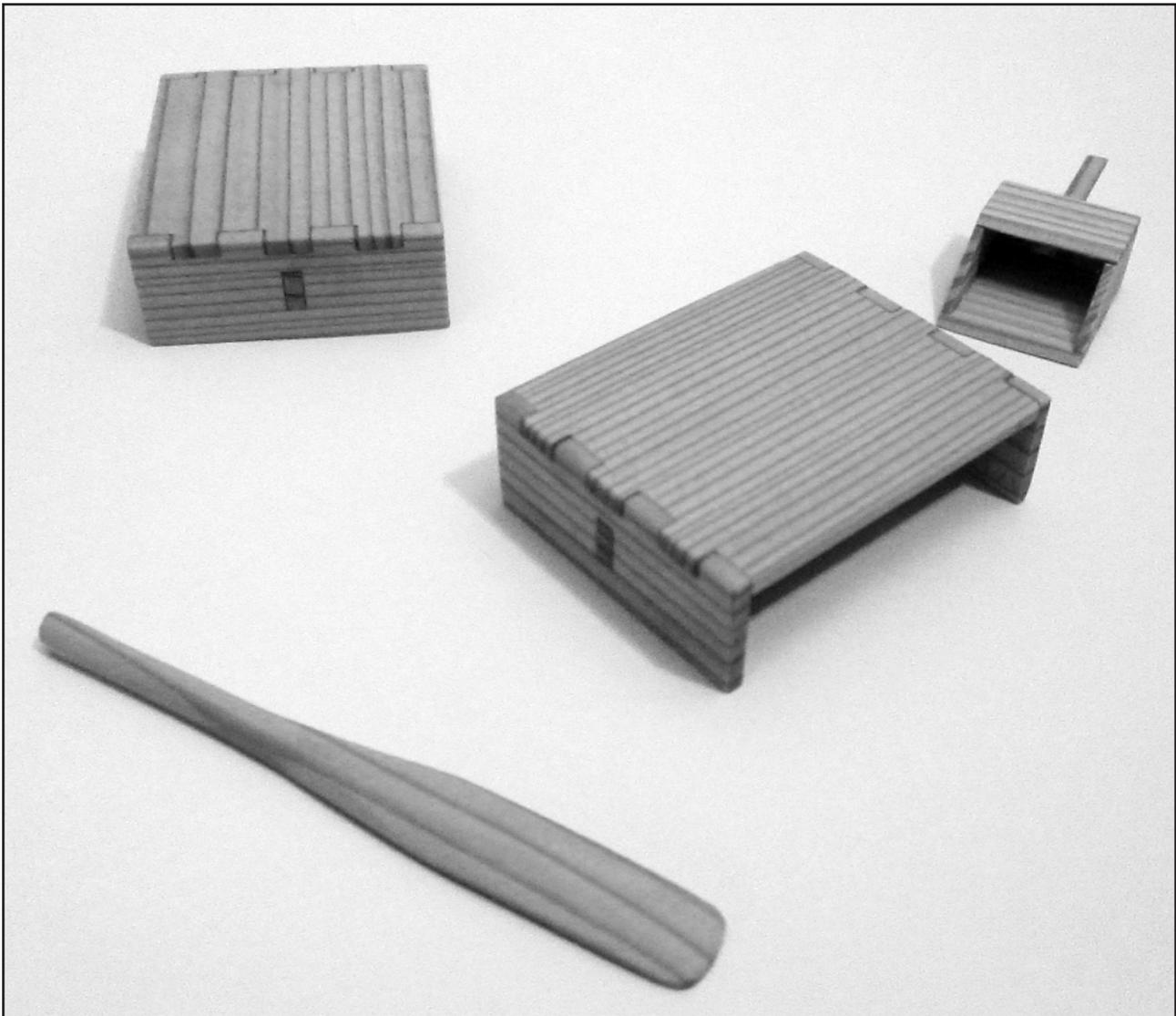


Figure 12. A small variety of included accessories added some life to the model. The larger structures are simple, low wooden seats. What looks like a dustpan is a bailer. The remaining item is a small wooden hand-paddle called a *Te-Kaki*.

tion is the use of a temporary mold that helps to locate and properly position floor timbers, the transom piece and stem. This also gives the model a little more rigidity when working on it in the early stages of construction, and, without it, the build would probably have been a lot harder.

One downside: as mentioned earlier, the wood used in the kit is primarily Japanese cedar. This wood has a light reddish-brown color and is streaked with darker figuring lines. The wood is pretty soft, so sanding is a bit tricky, and it is



Figure 13. I loved the details of the boat's anchor. The rope is fasten where the wooden cross-piece fits through the metal anchor. The rope is then attached to the eye of the anchor with a separate piece of rope.

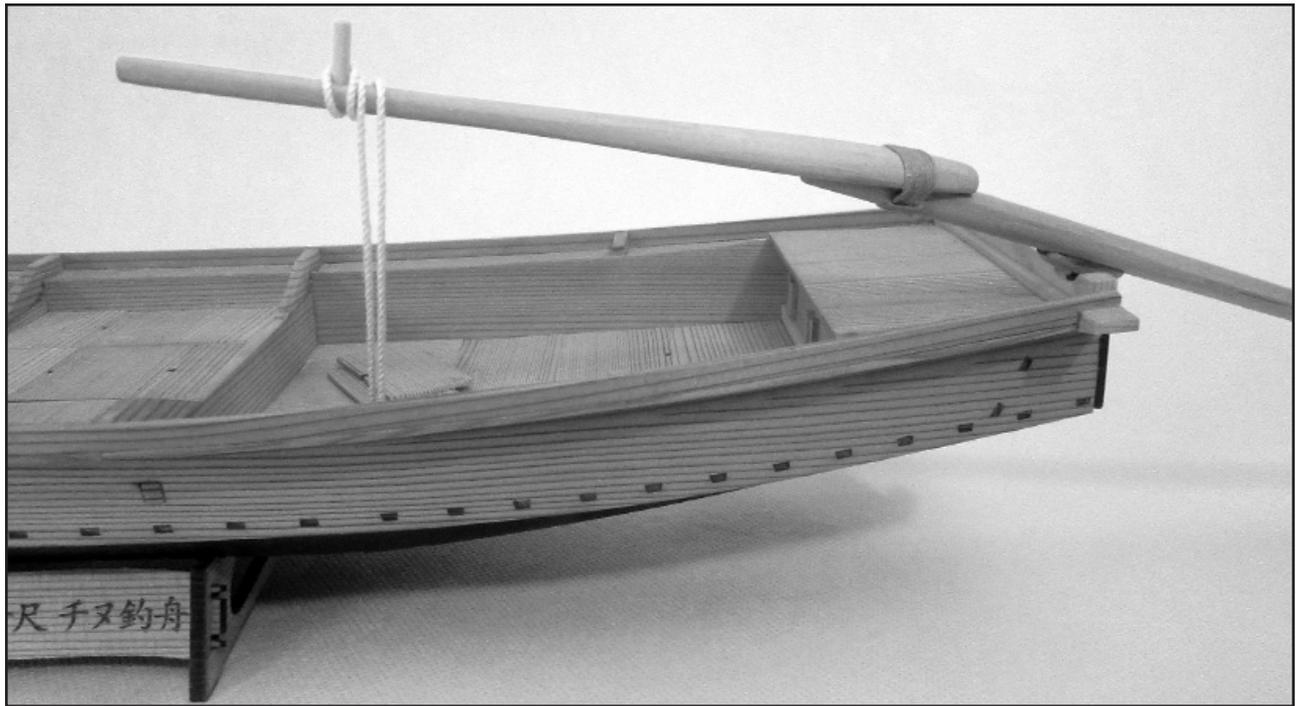


Figure 11. The sculling oar was a treasure of this kit. I have built other kits of Japanese boats with sculling oars, but this was the most detailed. The plan drawings showed the changing cross-section of the blade, which was exactly as described in the book by Douglas Brooks, illustrating the authenticity of this model.

easy to take off too much wood. Also, while the wood is soft, the dark figuring lines are much harder. So, if it is necessary to cut the wood, the different densities within the wood will cause a knife to deflect very easily. It can be cut, but it is tricky, and I do not know that replacement parts are feasible or what Thermal Studio's policy is regarding them. So, it is necessary to be extra careful.

Construction Difficulties

There were a couple of things that tripped me up during the build. The first of these was the covers for the storage compartments at each end of the boat. These were fitted into place after most of the model was completed, using a pair of wooden tweezers that you build using parts included in the kit. It would have been simpler to build these compart-

ment covers at the time the compartments were being built. But I believe the order of construction here was meant to follow that of the real boat.

Another issue was with the building of the rails, called *sekidai* in Japanese. It took me a while to get comfortable with the idea that the shape of the rail is not defined by the supporting pieces, since most of those are added after the fact, but by the eye and experience of the builder. The plans show the shape of the rail but, in a model with pre-cut parts, I developed an expectation that the parts would be made to fit, which they were not. The rail pieces themselves were overly long, and the laser-cut pieces that fit underneath were overly wide. But the over sizing allows for some variation in the build.

Probably the most difficult time I had was in shaping of the deck boards. Since each one was unique, and pre-cut

to oversized dimensions to allow for build variations, they required careful sanding and fitting. The main issue here was simply the softness of the Japanese cedar and my desire to make use of the kit's included sanding block. It was extremely easy to sand the wood too much, and once that happened, there was not much that could be done except to take some of the left over scrap wood from the laser cut sheets and fashion new pieces. There is enough scrap to fix a few instances of over sanding, but, if that runs out, it is hard to match with domestically-available material. While Japanese cedar is an inexpensive wood in Japan, it is impossible to find in the United States.

Interesting Discoveries

One of the things I have always loved in building model kits, even the plastic ones I built in my youth, is that one always ends up learning something interesting about what one is building. In the case of the *Tosa wasen*, there was actually quite a bit of that. But, there were a couple things in particular that gave me an "Aha!" moment.

One of these was the deck boards and the pattern that is drawn on the tops of them. These boards serve not only as a floor to stand or sit upon, but also as a cover for the storage spaces under the deck. They are easily removable and some have a finger hole to make it easy to reach through and pull up the boards. Interestingly enough, these deck boards are not uniformly constructed. They are instead custom-fitted, and each deck board is a different size, so each can only fit properly in one position. But with so many of them, it could get a little confusing knowing

which one goes where. To simplify the matter, there are two lines drawn in an arrow like pattern on the tops of each set of deck boards. When fitted together correctly, these lines line up very clearly, and serve much like the picture in a jigsaw puzzle.

Parts of the Tosa Wasen

<i>Kawara</i>	カワラ	Hull Bottom Board
<i>Kajiki</i>	カジキ	Lower Planks
<i>Tana</i>	タナ	Upper Planks
<i>Miyoshi</i>	ミヨシ	Stem
<i>Todate</i>	トダテ	Transom
<i>Shino</i>	シノ	Bow Beam
<i>Ootoko</i>	おおとこ	Stern Beam
<i>Sekidai</i>	せきだい	Rail
<i>Koberi</i>	こべり	Rub Rail (located beneath the <i>sekidai</i>)
<i>Marukan</i>	丸カン	Ringbolts
<i>Ro</i>	櫓	Sculling Oar
<i>Isu</i>	イス	Chair
<i>Tekaki</i>	テカキ	Hand Paddle
<i>Hishaku</i>	柄杓	Bailer
<i>Sugi</i>	すぎ	Japanese Cedar
<i>Hinoki</i>	ひのき	Japanese Cypress

Note that most of these terms apply specifically to the boats of the Tosa region. While there is much overlap with terms used elsewhere in Japan there are also many, many regional variations.

Final Impressions

Building the *Tosa wasen* was like one big lesson in traditional Japanese boat construction. Going back to my copy of Douglas Brooks's book, I could see much of what he was describing in my model. Of course, there are many aspects of actual boatbuilding that are not experienced in this kit but it definitely

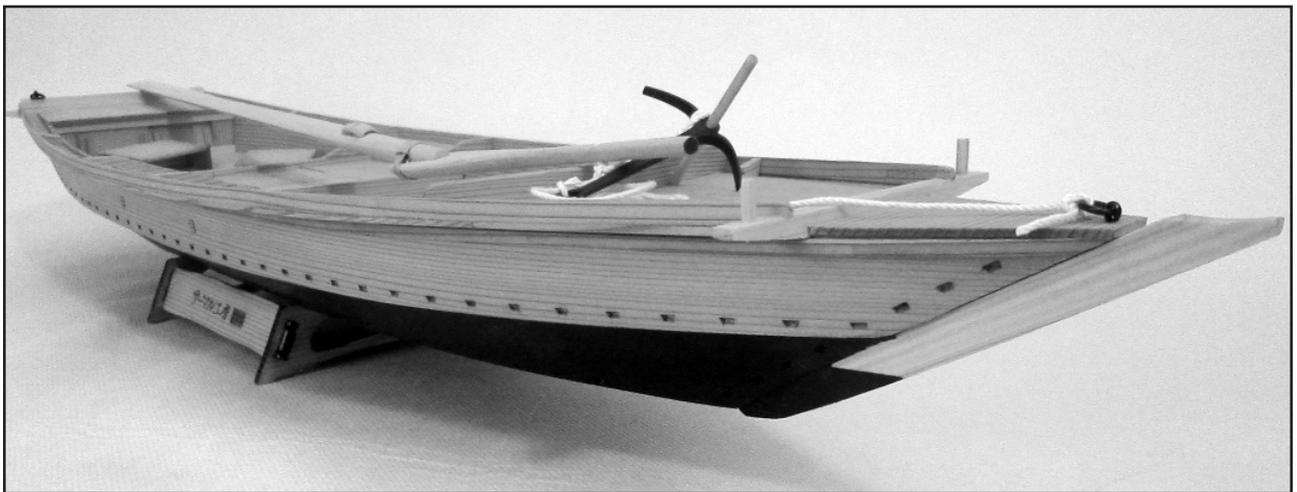
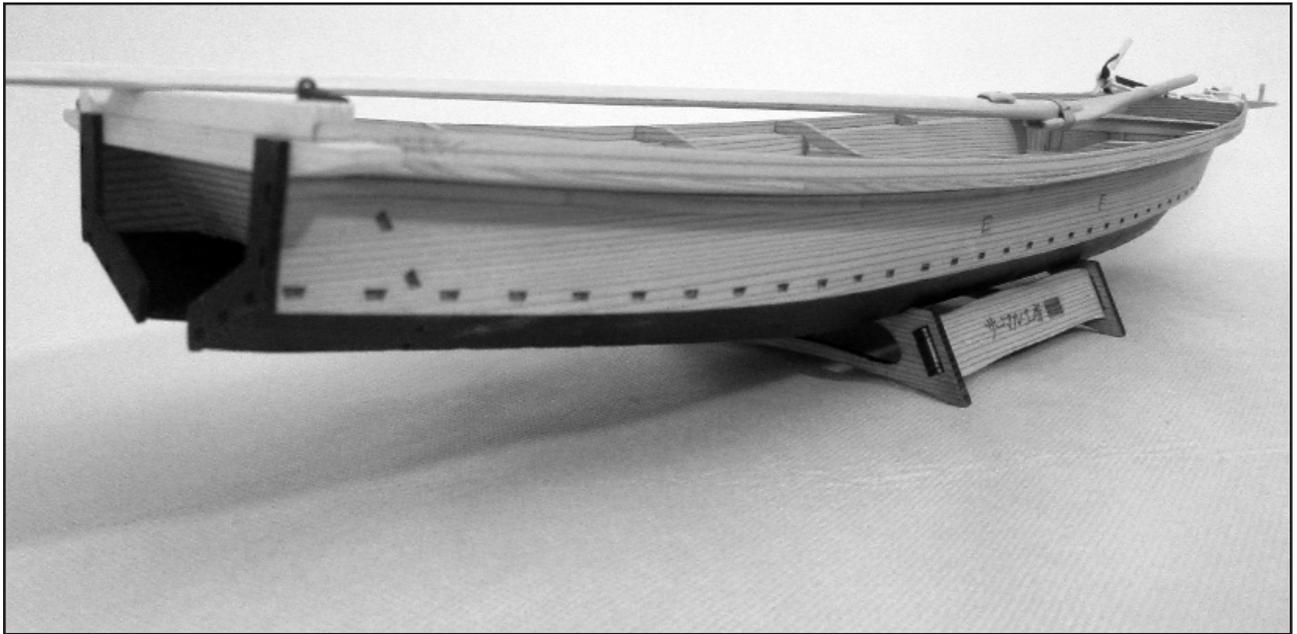
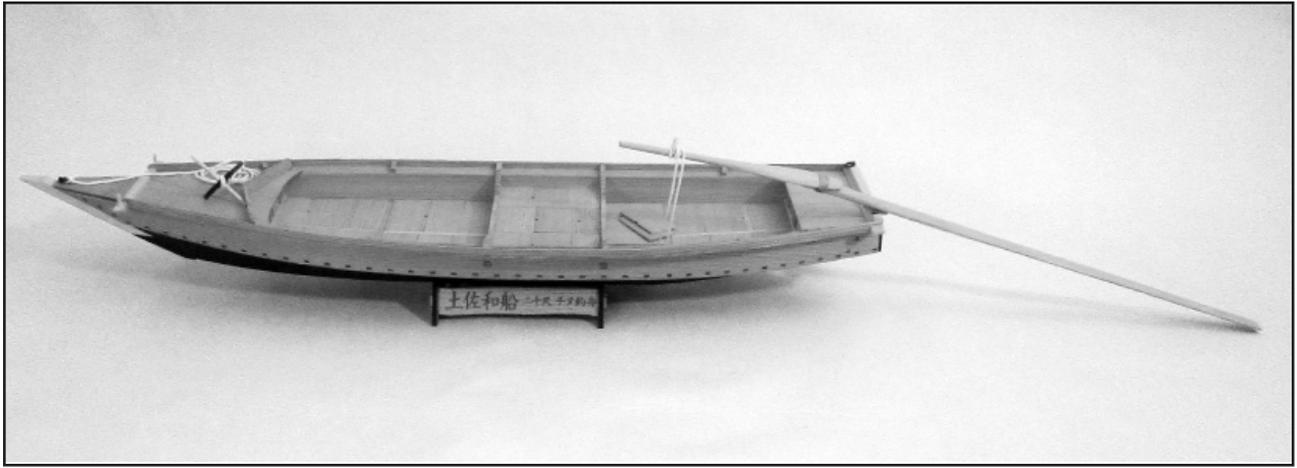


Figure 11, 12, & 13. The large scale of the model is actually a common scale used by Japanese boat builders and their models. This is the same scale that is commonly used in their simple “plank drawings” which record the key measurements for the construction of their boats.

gives one a better sense of how these boats go together. Anyone considering scratch building a *wasen* model will gain much from building this kit first.

Purchasing the Kit

The kit is mostly easily purchased direct from the manufacturer. The company's website is <http://www.thermal-kobo.jp>, and since I began working on the kit and blogging about it, it now appears on the site. The simplest way to buy the kit is to send an email to shop@thermal-kobo.jp to get final pricing. Payment must be made in yen using PayPal. I ordered a second kit direct from the manufacturer and the total price with shipping (EMS) was only 15,400 yen or about \$130 at the time of this writing, and the kit arrived in about one week.

More Information

Douglas Brooks

For more details on Japanese traditional boats, I recommend buying a copy of Douglas Brooks's book, *Japanese Traditional Boatbuilding*, which provides a great deal of background on these vessels and their construction, and details the author's five apprenticeships with Japanese master boat builders. It is a fascinating read and very informative. While it is available from the major book sellers, if one purchases it from the author's site one can get a signed and inscribed copy, not available elsewhere, and the profits go to funding more of the author's research. Find out more about this book and about Mr. Brooks' work at: <http://www.douglasbrooksboatbuilding.com>.

Masaki Tanimura and Thermal Studio

Mr. Tanimura, the owner of Thermal Studio, which manufactures the Tosa *wasen* kit, has a blog site that includes a visual guide for building the kit. The blog is in Japanese, but the many photographs make the construction steps easy to follow. It can be found at: <http://reishiki.exblog.jp/i8/>. Thermal Studio's website is at: <http://thermal-kobo.jp>.

Toshihiko Shibafuji and the Tosa Traditional Boat Society

Mr. Shibafuji manages the Tosa Traditional Boat Society's Facebook page at: <https://www.facebook.com/tosawasen>. He studied boatbuilding with Japanese boatwright Masaru Hiromitsu in the Tosa region and has built his own traditional Japanese boat. You can see photographs on the Facebook page. He also maintains his own blog at: <http://wave.ap.teacup.com/wasennfuna-daiku/>

My Tosa Wasen Build Logs

For those ship modelers that would like to follow my own Tosa *wasen* build, you can find my build log on The NRG's Model Ship World at: <http://modelshipworld.com/index.php/topic/12152-tosa-wasen-traditional-japanese-fishing-boat-by-catopower-thermal-studio-small-110-scale/#entry367959>

I also have another version of the build log on my own blog site at: <https://ship-modeler.wordpress.com/category/ship-model-blogs/tosa-traditional-japanese-boat/>