



## A Brief History

*ALMA* was built in 1891 by Fred Siemer, a German immigrant, behind his house near Hunters Point, on San Francisco Bay. In addition to *Alma*, which was named for his granddaughter, Siemer built one other scow schooner, *Adelia*. Both were built for Siemer's son-in-law, James Peterson.

Until July, 1918, *Alma* hauled freight for Peterson under sail. Then, along with Peterson's other five scows, she was converted to a barge. *Alma* continued to work as a barge until 1926, when she was sold to Frank Resech, of Petaluma, who modified her for use as an oyster shell dredger. A forty-horsepower gas engine and a shell pump and washing belt were installed forward. Oyster shells were dredged from shoals on the bay, washed, and deposited in the hold for the trip to Petaluma's chicken ranches, where they were incorporated into chicken feed, thus providing calcium and promoting hard egg shells.

Mr. and Mrs. Resech lived aboard until 1944, when *Alma* was sold to Peter J. Gambetta. Mr. Gambetta kept *Alma* dredging shells, improving her machinery in 1951. The 1951 modifications allowed *Alma* to continue working until 1957, thus becoming the last San Francisco scow schooner in operation. In that year, however, *Alma* was laid up on the Alviso mudflats, where she stayed until August 1959, when she was sold once again.

*Alma's* new owner, the California State Division of Beaches and Parks, pulled her off the mudflats and towed her to San Francisco Maritime State Historic Park. Her dredging machinery and deckhouse were removed and for several years *Alma* served as a floating work platform for other museum vessels. In 1964 *Alma's* restoration was commenced. Initial restoration was completed in 1968 and she was returned to the water. The following year *Alma* received a new suit of sails and began the program to interpret the history of working sail that continues to the present.

-from

[www.nps.gov/history/marine/nhl/alma](http://www.nps.gov/history/marine/nhl/alma)

# Footy-Scow

A  
Semi-Scale

**"ALMA"**

From San Francisco Bay - 1891



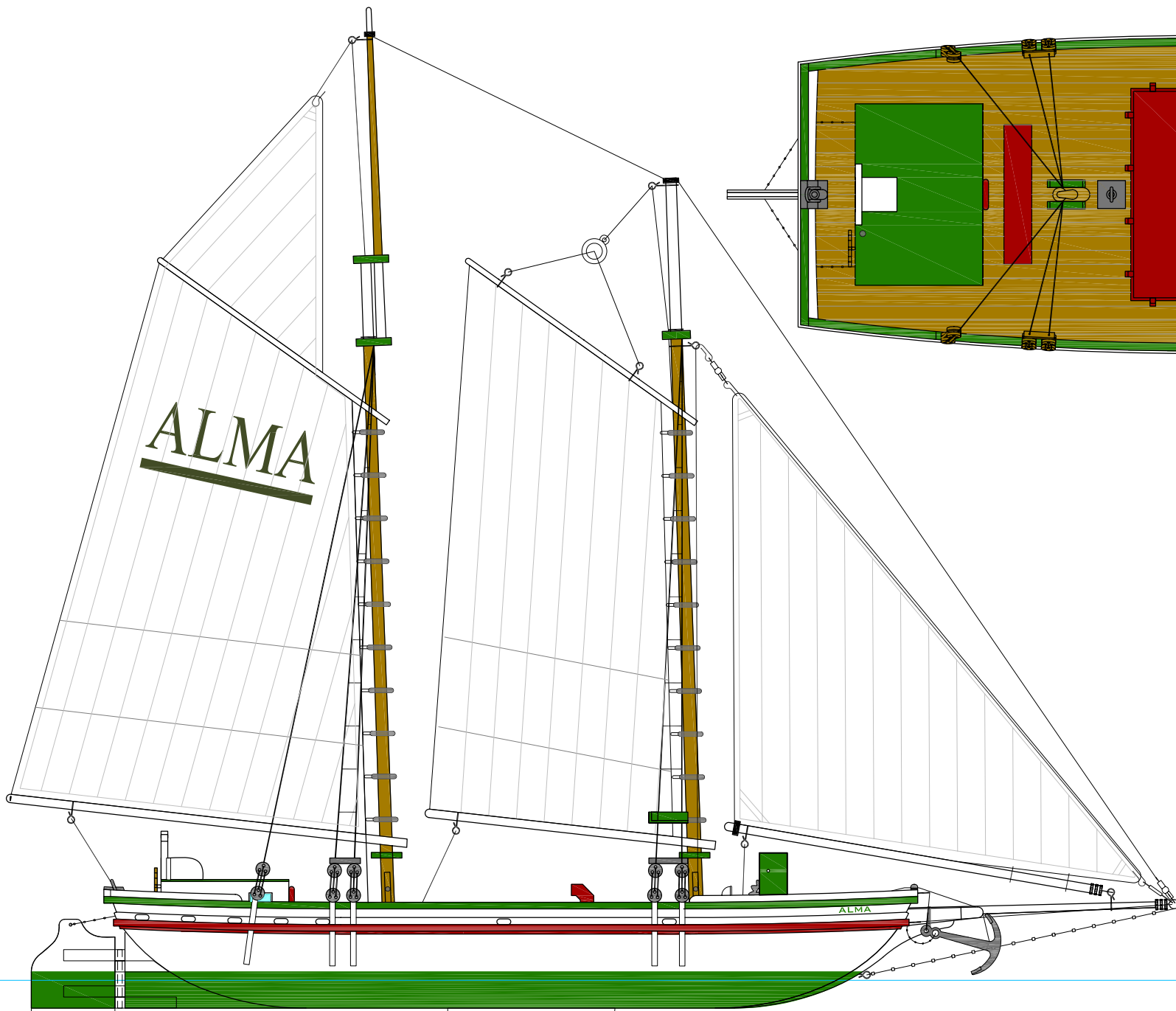
## Plans for Sailing or Static Model

Designed to Comply With  
the Spirit of the  
R/C Footy Rules

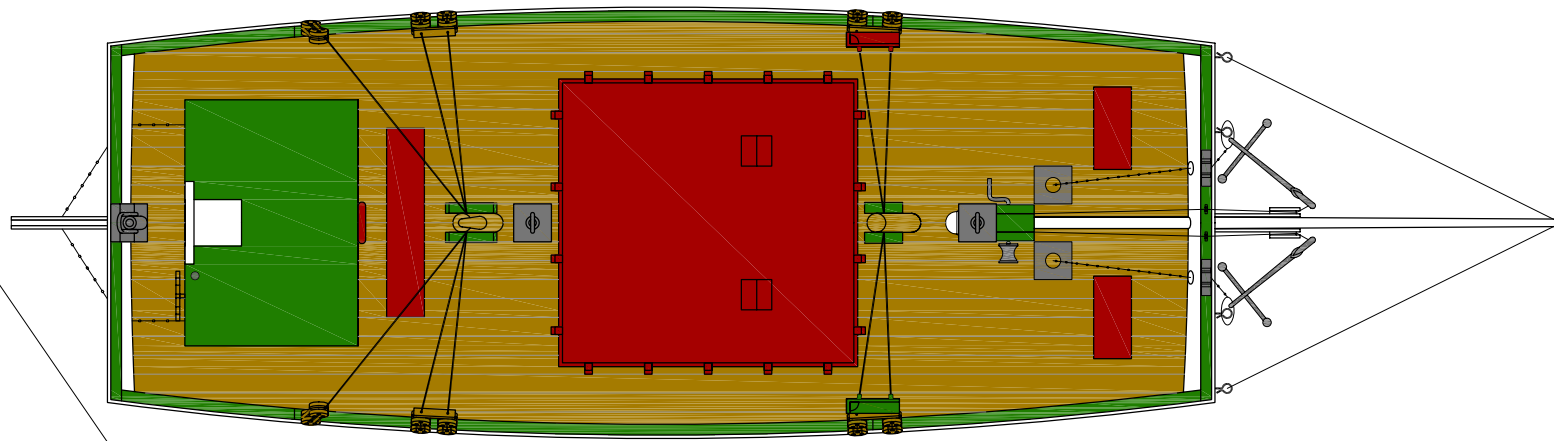
Researched, Designed & Drawn By  
Harold H. Duncan

## Drawing Index

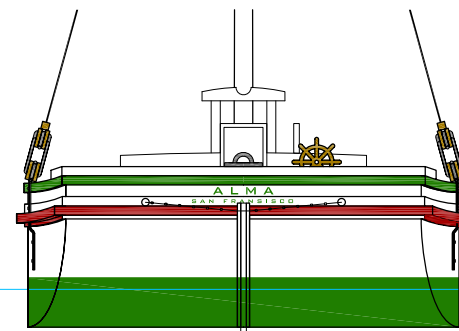
sheet 1	cover sheet & index
sheet 2	General Arrangement
sheet 3	Hull Construction
sheet 4	Fittings
sheet 5	Spars & Booms
sheet 6	Rigging
sheet 7	Sails
sheet 8	misc notes



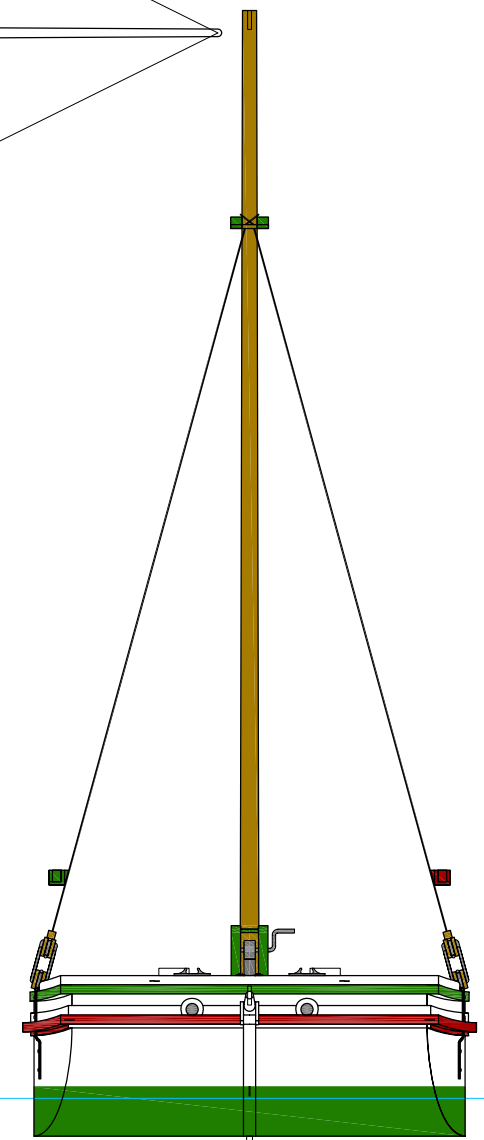
**SIDE ELEVATION**  
Scale: 1:2



**PLAN ON DECK**  
Scale: 1:2



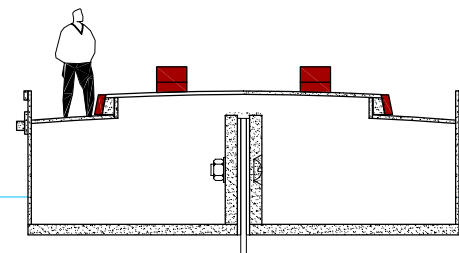
**STERN VIEW**  
Scale: 1:2



**BOW VIEW**  
Scale: 1:2

**NOTES**

1. design weight = 230 grams
2. all up weight not to exceed 280 grams
3. hull built from 0.9mm and 3.2mm balsa

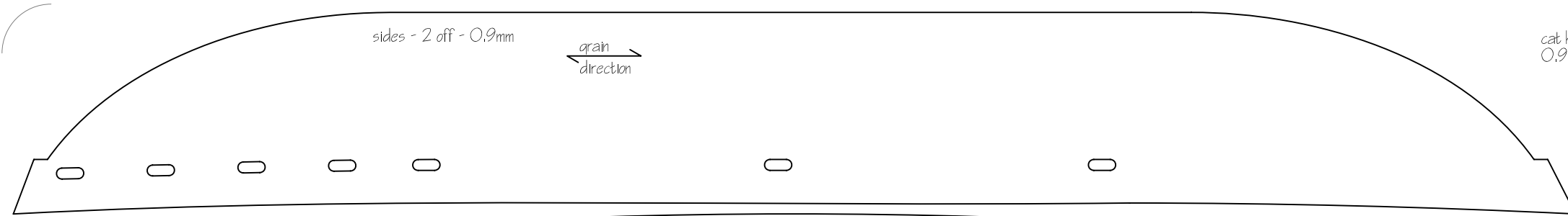


**MIDSHIP SECTION**  
Scale: 1:2

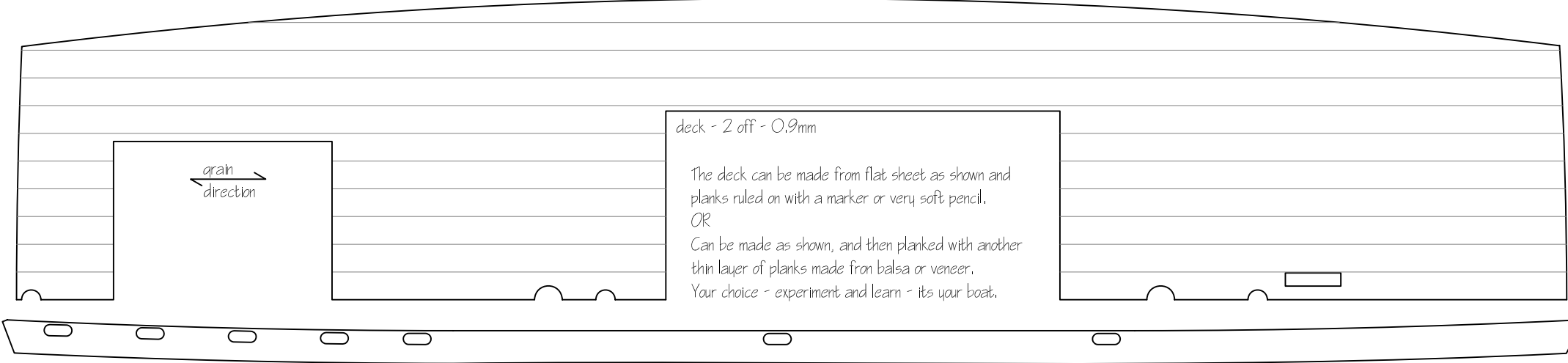


**Footy Scow**  
San Francisco Bay - 1891  
**"ALMA"**

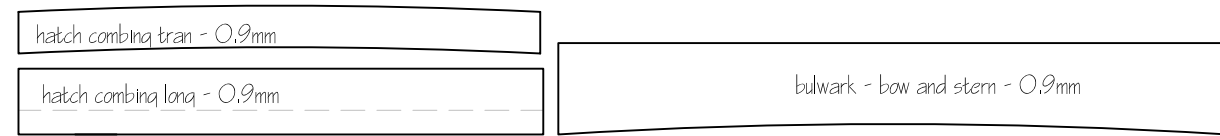
Sailing or Static Model  
General Arrangement



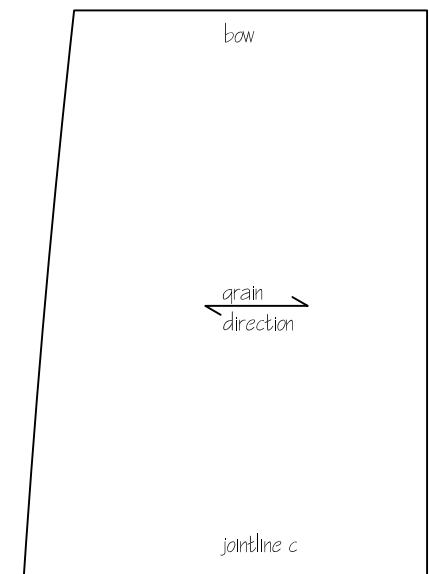
cat heads  
0.9mm



The deck can be made from flat sheet as shown and planks ruled on with a marker or very soft pencil.  
OR  
Can be made as shown, and then planked with another thin layer of planks made from balsa or veneer.  
Your choice - experiment and learn - its your boat.



side trim - 0.9mm balsa or card

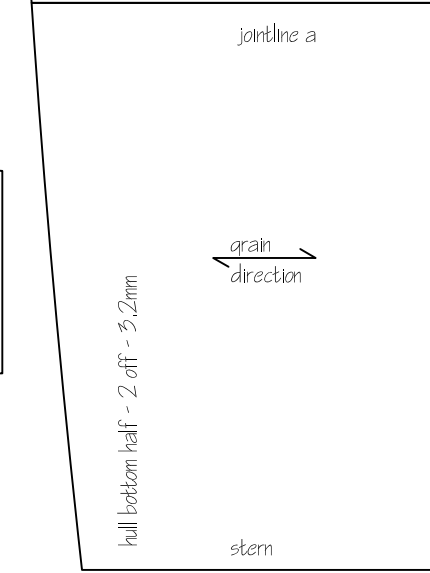
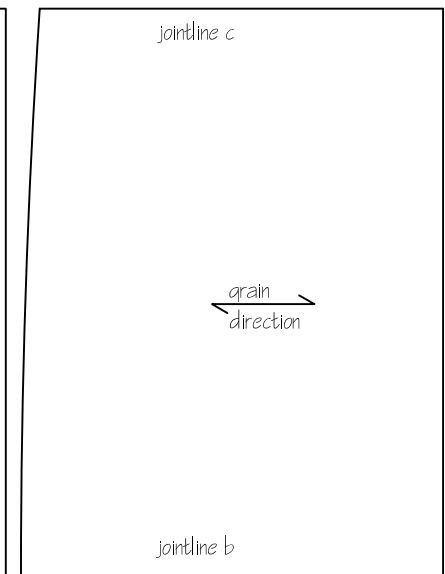
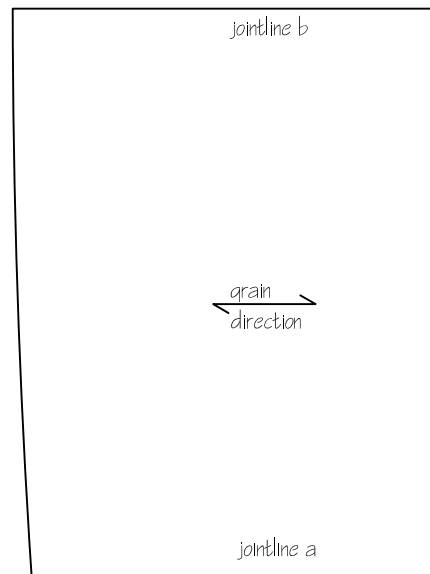
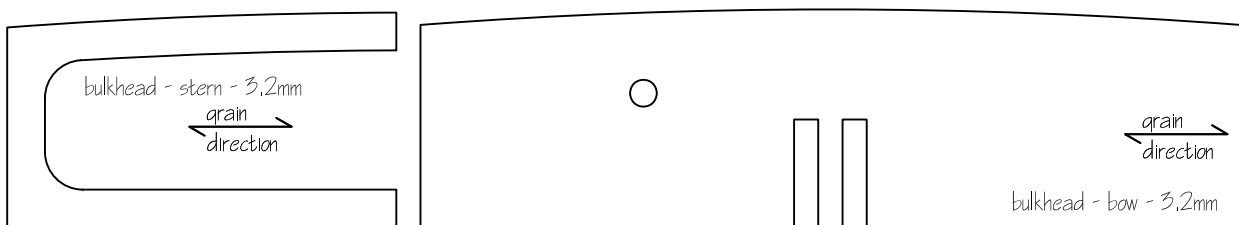
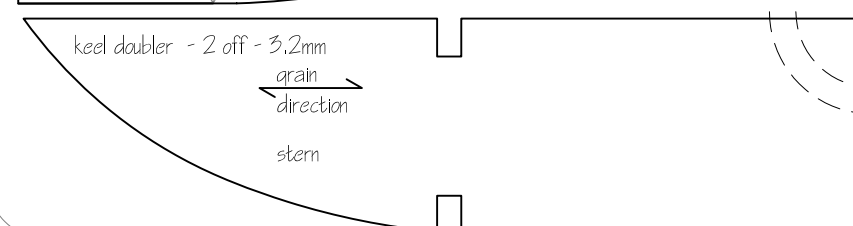
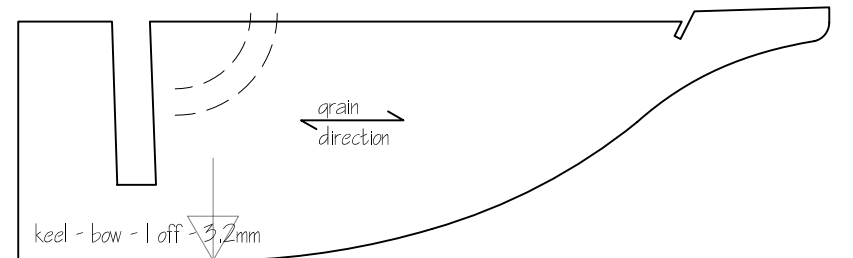
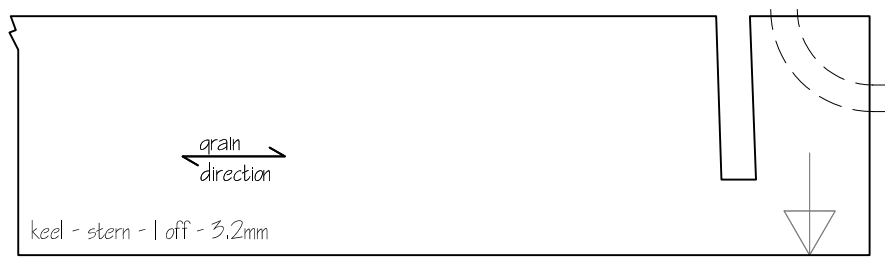
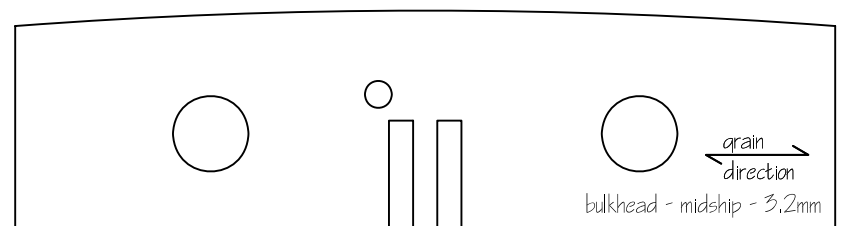


### Hull Parts

The hull parts shown here are full size and can be copied by any method you choose and transferred to the flat material you are using. Some parts require you to mirror the pattern to obtain the total number required.  
The original was built using Balsa Wood, however it can be built using other materials with a little thought. Styrene sheet (1mm minimum thickness) should work well, just as thin plywood can be.  
Your foxy hull should be as light as possible to give you some allowance for different size and weight of servos, batteries and receivers. Use the aluminium keel, and adjust the lead bulb weight to get the completed boat to float at the shown waterline.

### Build Sequence Guide

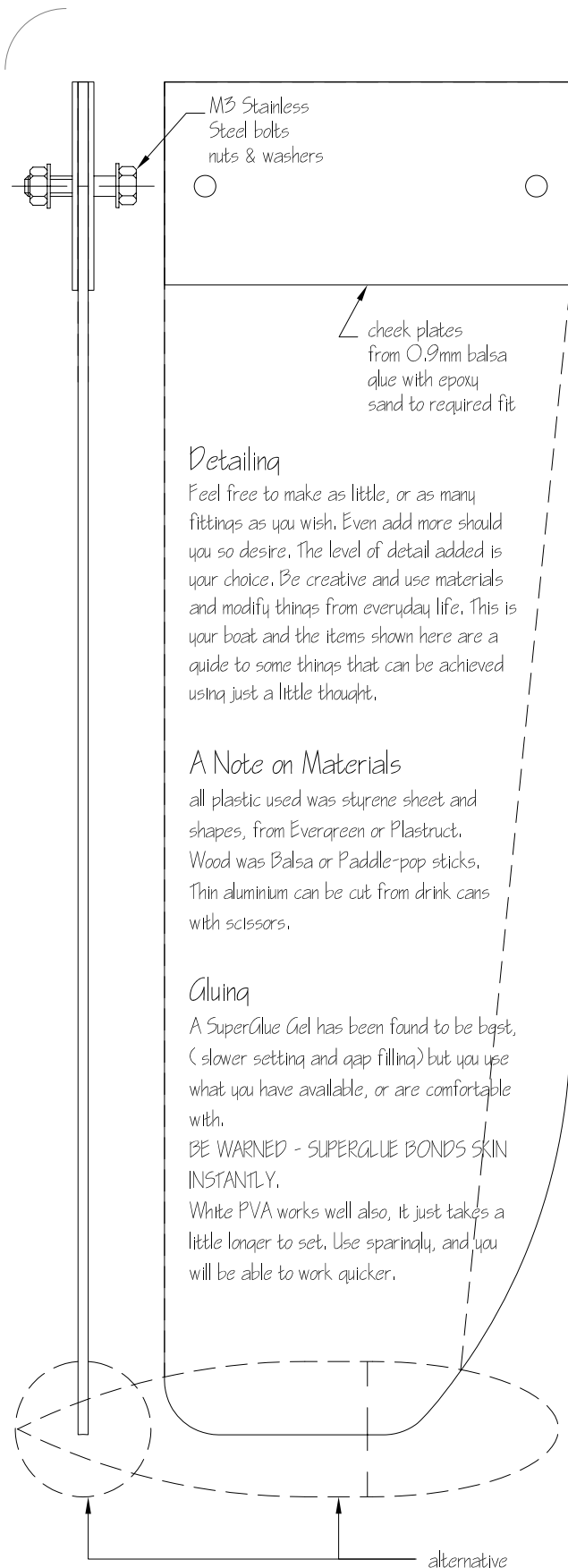
Start with the hull bottom. Glue them together on a flat surface (use a sheet of cling-wrap to prevent the glue from sticking to the surface underneath). Glue the keel and keel doublers together and onto the two hull bottoms. Glue the bulkheads into place, and let the glue dry fully. Fit the tubes for the sail control cords, and then glue the deck into place. Once dry, glue both sides into place. Add the bow & stern bulwarks, followed by the side trim pieces. Add the hatch combings, bow spit and the rest of the hull trim. Make the cabin, hold cover, winch and any other fittings you wish. Seal and paint. Add the masts, sails and rigging, the radio gear and anything else.  
Happy Sailing



**KTK**  
Designs  
LIMITED

**Footy Scow**  
San Francisco Bay - 1891  
"ALMA"

Sailing or Static Model  
Hull Construction



M3 Stainless Steel bolts nuts & washers

cheek plates from 0.9mm balsa glue with epoxy sand to required fit

**Detailing**

Feel free to make as little, or as many fittings as you wish. Even add more should you so desire. The level of detail added is your choice. Be creative and use materials and modify things from everyday life. This is your boat and the items shown here are a guide to some things that can be achieved using just a little thought.

**A Note on Materials**

all plastic used was styrene sheet and shapes, from Evergreen or Plastruct. Wood was Balsa or Paddle-pop sticks. Thin aluminium can be cut from drink cans with scissors.

**Gluing**

A SuperGlue Gel has been found to be best, (slower setting and gap filling) but you use what you have available, or are comfortable with. **BE WARNED - SUPERGLUE BONDS SKIN INSTANTLY.** White PVA works well also, it just takes a little longer to set. Use sparingly, and you will be able to work quicker.

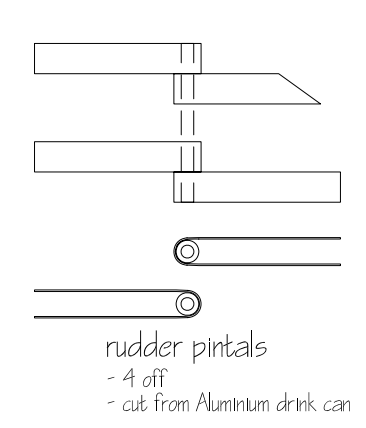
**sailing keel**

1.5mm stainless steel  
- 1 off

alternative 1.0mm aluminium keel and lead bulb maximum combined weight = 80 grams

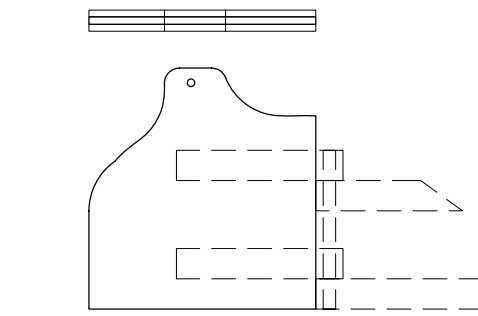
**sailing rudder**

1.0mm aluminium  
- 1 off

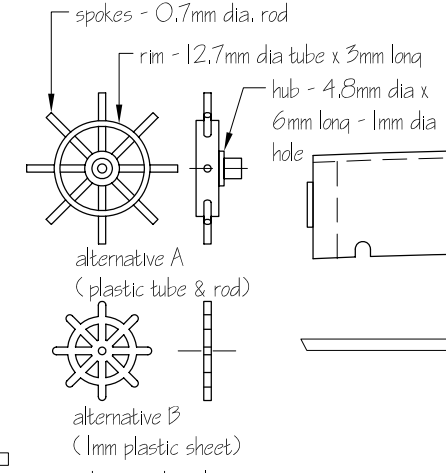


rudder pintals  
- 4 off  
- cut from Aluminium drink can

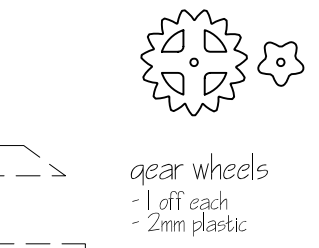
rudder pintals - 4 off  
- 3.2mm dia plastic tube  
rudder pivot - 1 off  
- 1.65mm dia plastic rod



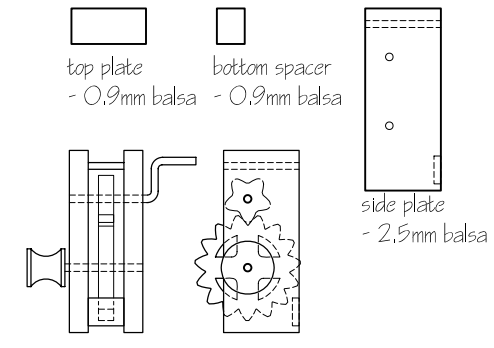
rudder cheeks - 2 off  
- epoxy one each side of sailing rudder  
rudder - static model - 1 off  
- 3.2mm balsa



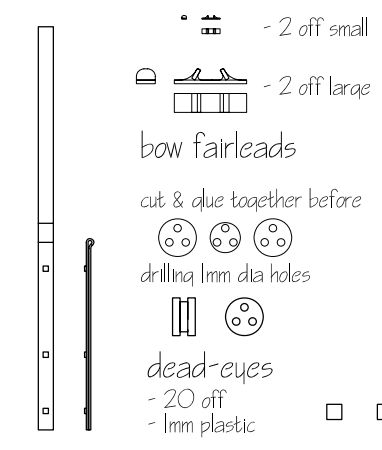
ships wheel - 1 off  
alternative A (plastic tube & rod)  
alternative B (1mm plastic sheet)



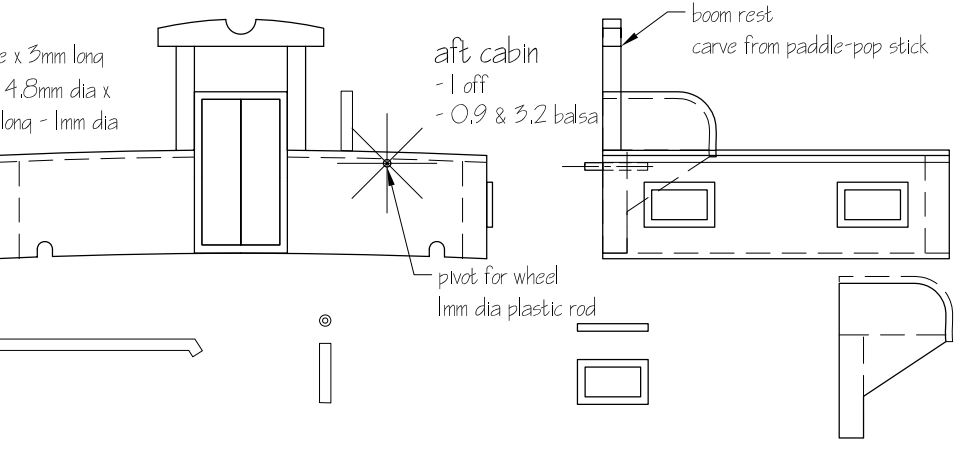
gear wheels - 1 off each  
- 2mm plastic



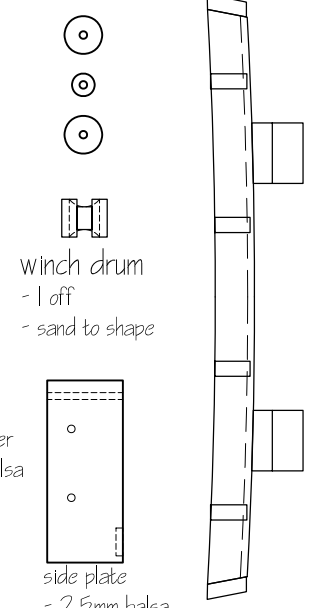
anchor winch - 1 off  
top plate - 0.9mm balsa  
bottom spacer - 0.9mm balsa  
side plate - 2.5mm balsa



bow fairleads - 2 off small, 2 off large  
cut & glue together before drilling 1mm dia holes  
dead-eyes - 20 off  
- 1mm plastic

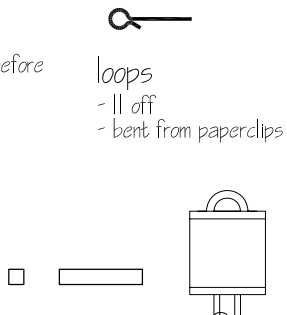


steering tubes - 2 off  
- 1.5 dia tube



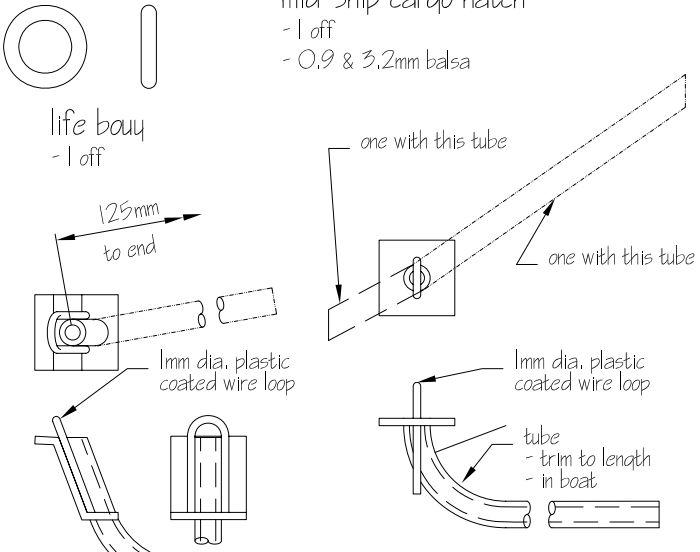
winch drum - 1 off  
- sand to shape

mid-ship cargo hatch - 1 off  
- 0.9 & 3.2mm balsa



chain locker - 2 off  
- 1mm plastic  
loops - 11 off  
- bent from paperclips

spreaders - 4 off  
- wood



life buoy - 1 off  
125mm to end

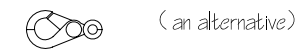
stern cleat - 1 off  
- 1mm plastic  
- 3.2mm dia plastic tube

deck cleats - 2 off  
- 1mm plastic  
- 3.2mm dia plastic tube

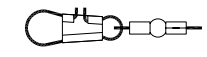
glass beads



necklace joiner



a necklace snap-hook

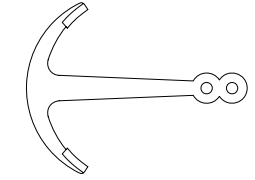


fishing interlock swivels - size 15

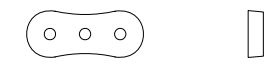


necklace joiners

handcraft chain

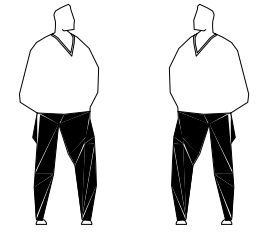


anchor (could be made from 1mm styrene and rod)

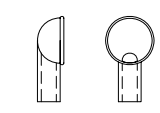


bowsie (drill extra hole in centre) or make from 1mm styrene

crew - as many as you wish



**brought items**

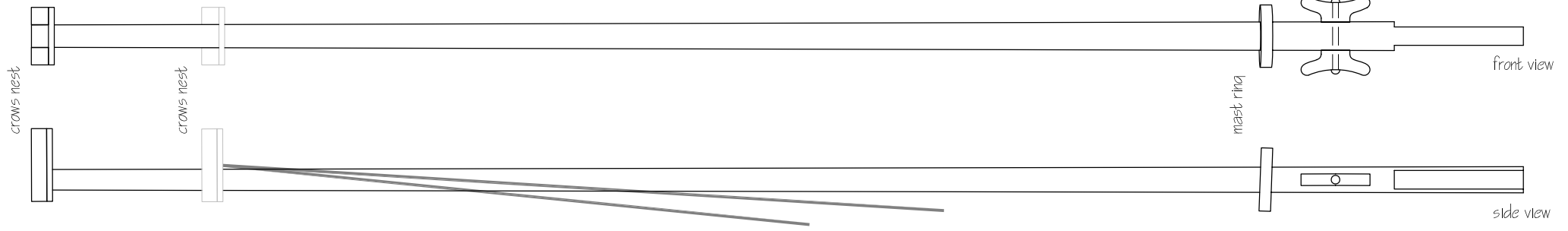
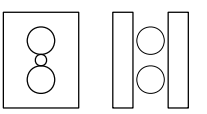
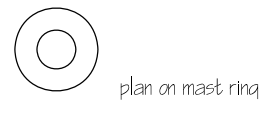


ventilator - 1 off

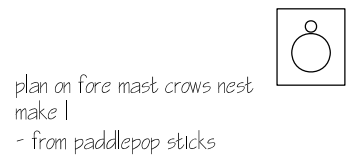
**KTK Designs LIMITED**  
**Footy Scow**  
 San Francisco Bay - 1891  
**"ALMA"**  
 Sailing or Static Model Fittings



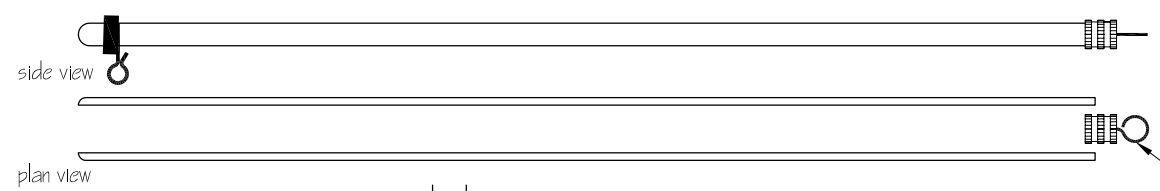
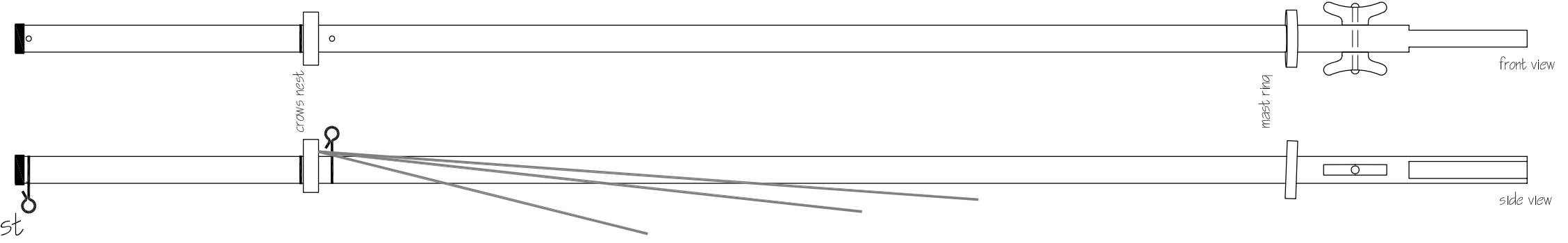
**main mast top**  
- 3mm nominal dia. bamboo skewers



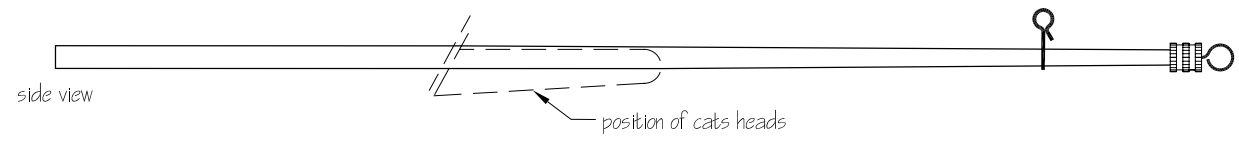
**main mast**  
- 5mm dia. wood dowel



**fore mast**  
- 5mm dia. wood dowel

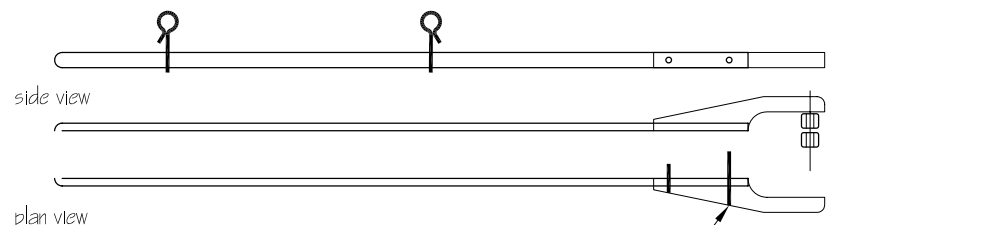


**jib boom**  
- 3mm nominal dia. bamboo skewers

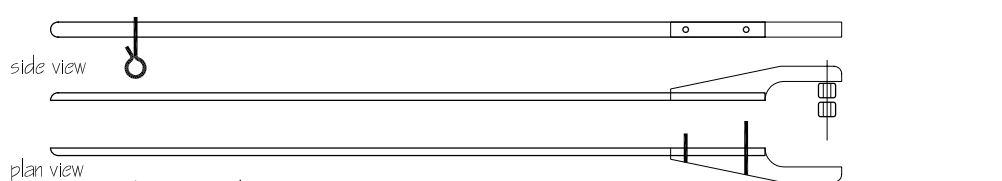


screw onto end of boom after boom has been glued together

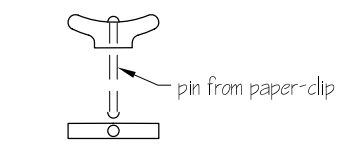
**bow spit** - make in one piece  
- 3mm nominal dia. bamboo skewers



**mid-ship gaff**  
- 3mm nominal dia. bamboo skewers

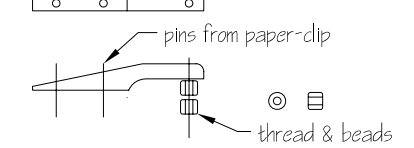


**mid-ship boom**  
- 3mm nominal dia. bamboo skewers



**mast deats**

- 4 required
- from paddlepop sticks

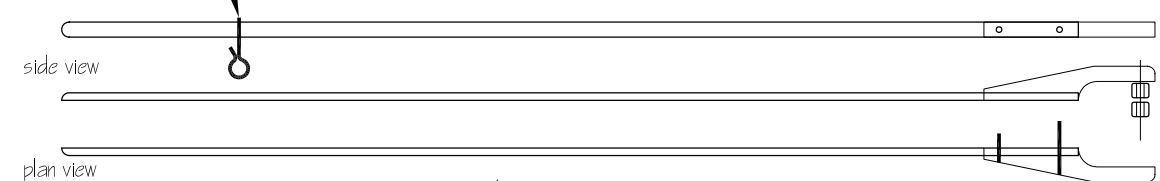


**boom jaws**

- 8 required
- from paddlepop sticks

drill and glue loops after boom is joined and glued together onto sails

**stern gaff** - make in two halves  
- 3mm nominal dia. bamboo skewers



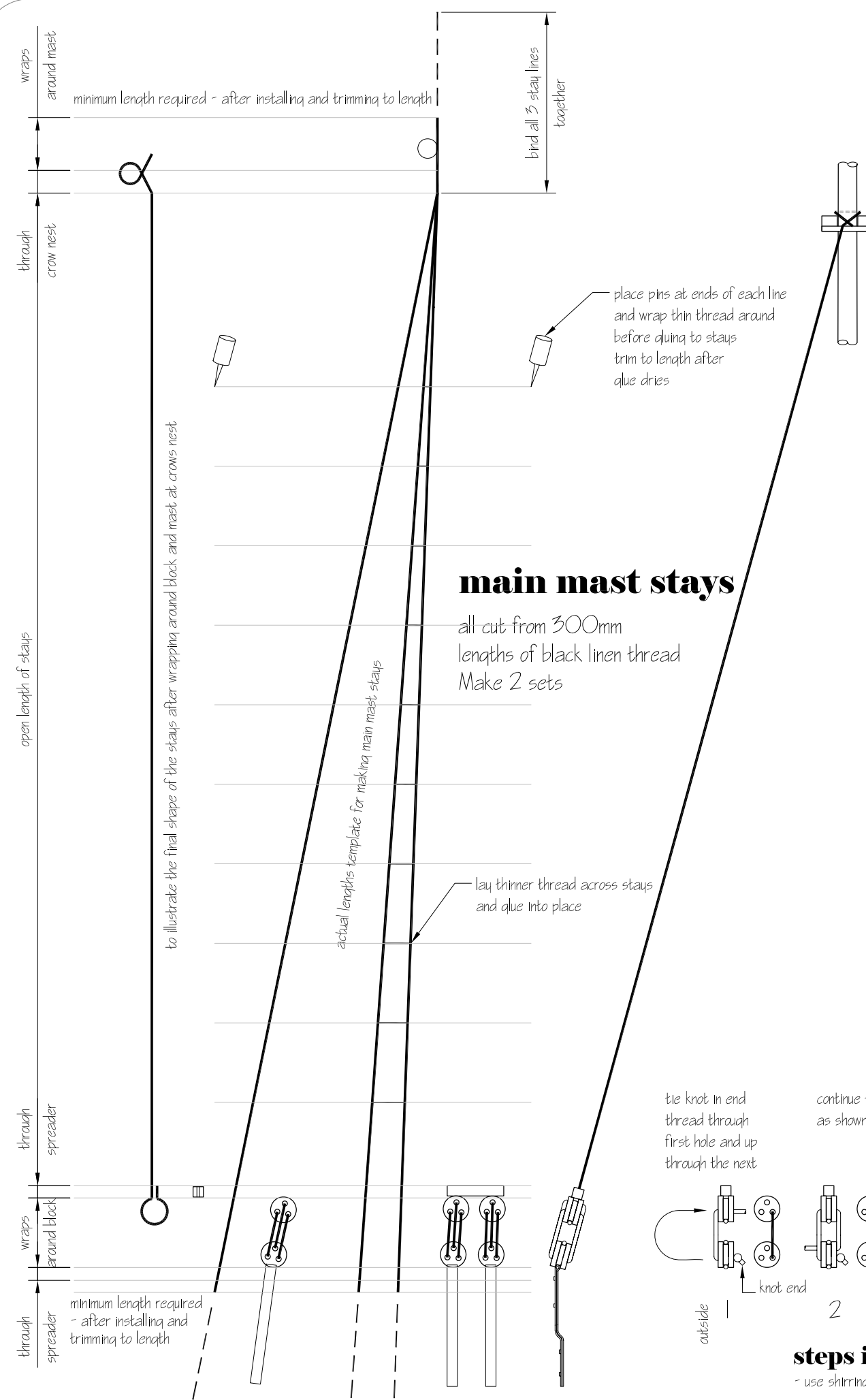
**stern boom**  
- 3mm nominal dia. bamboo skewers

**PLAN VIEW**  
Scale 1:1 - full size

**KTK Designs**  
LIMITED

**Footy Scow**  
San Francisco Bay - 1891  
"ALMA"

Sailing or Static Model  
Spars & Booms

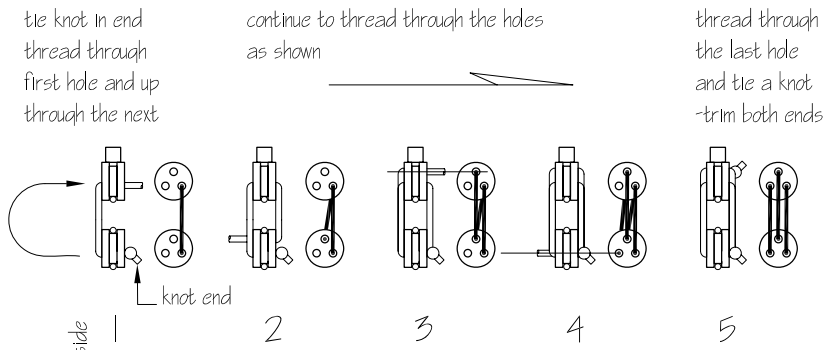


### main mast stays

all cut from 300mm lengths of black linen thread  
Make 2 sets

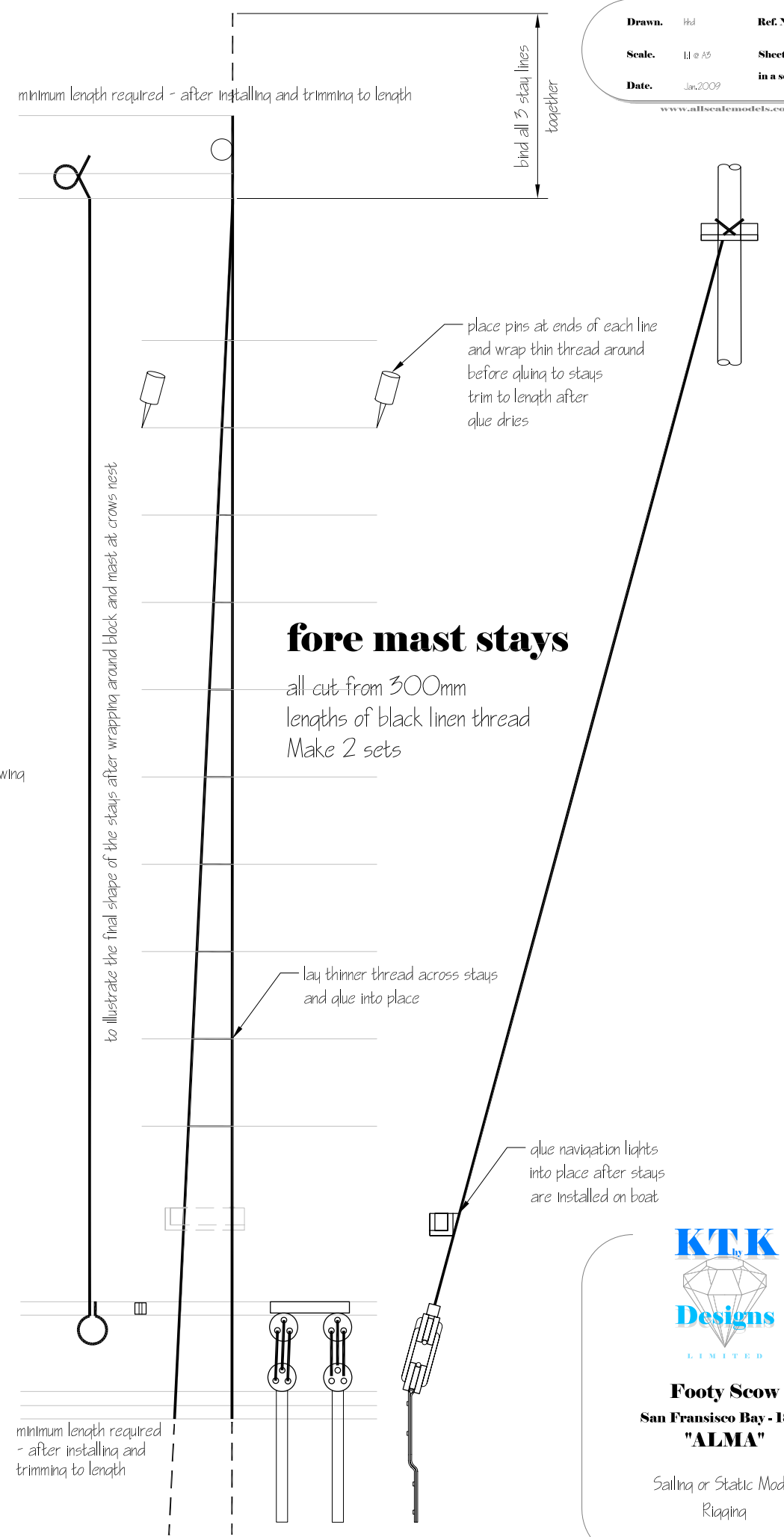
### steps for making mast stays

- 1 wrap thread around dead-eye and bind or glue to itself
- 2 thread through spreader and glue in place
- 3 pin dead-eyes into place over drawing
- 4 either use tape or pin to hold top of stays in place over drawing
- 5 lay thinner thread over and PVA glue to stays
- 6 glue top of stays together
- 7 leave to dry
- 8 trim thin thread
- 9 repeat for all 4 stays



### steps in tying dead-eyes

- use shirring elastic for threading dead-eyes



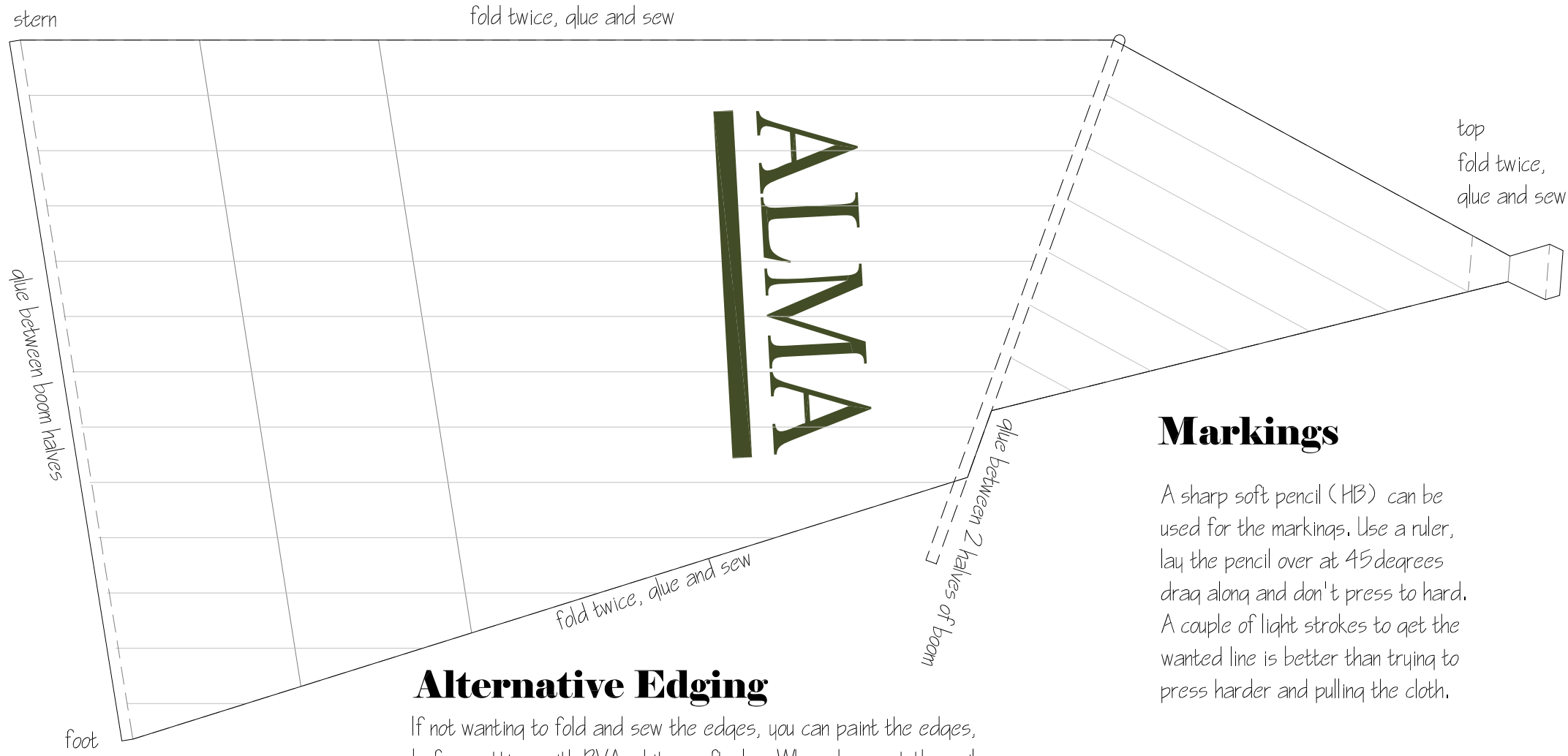
### fore mast stays

all cut from 300mm lengths of black linen thread  
Make 2 sets



**Footy Scow**  
San Francisco Bay - 1891  
**"ALMA"**

Sailing or Static Model  
Rigging



### Alternative Edging

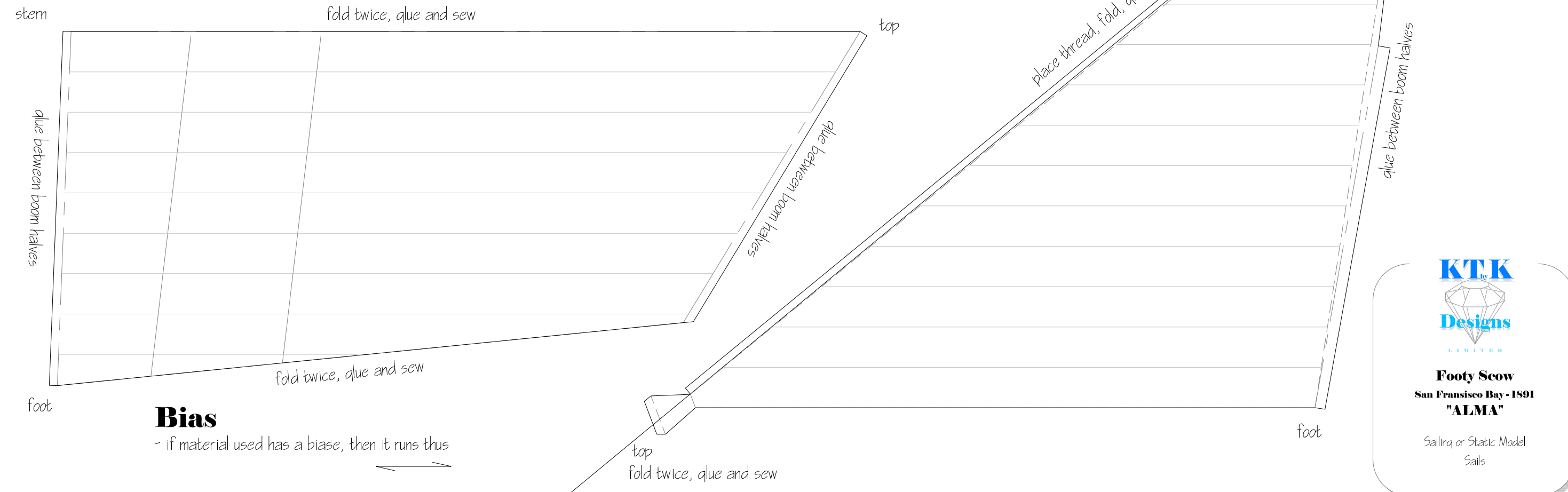
If not wanting to fold and sew the edges, you can paint the edges, before cutting, with PVA-white craft glue. When dry, coat the sails with a light spray of 'water & stain protector'.

### Markings

A sharp soft pencil (HB) can be used for the markings. Use a ruler, lay the pencil over at 45 degrees drag along and don't press too hard. A couple of light strokes to get the wanted line is better than trying to press harder and pulling the cloth.

### Material

Suitable materials for the sails? The choice is yours. Any thin, light material such as linen, or polyester will do. Even thin plastic such as found in shopping bags, although there may be a problem in gluing this. Rip-stop nylon as used in full size boats if you wish. Use your imagination, be creative and use what ever is available. Large handkerchiefs make very good sails. If using a cloth material spray it with a water and stain protector which will help to keep it clean.



### Bias

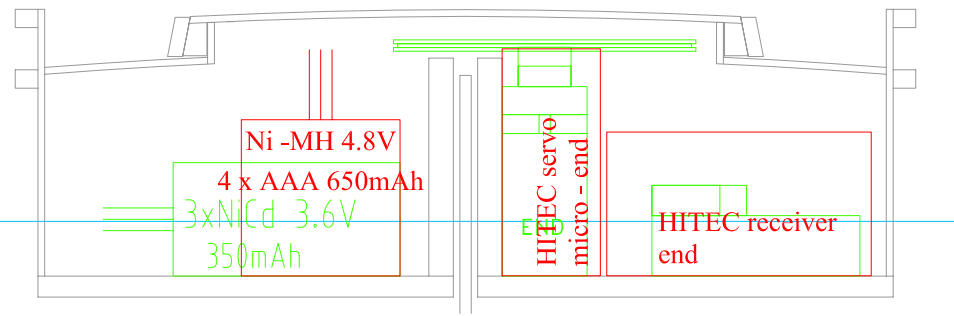
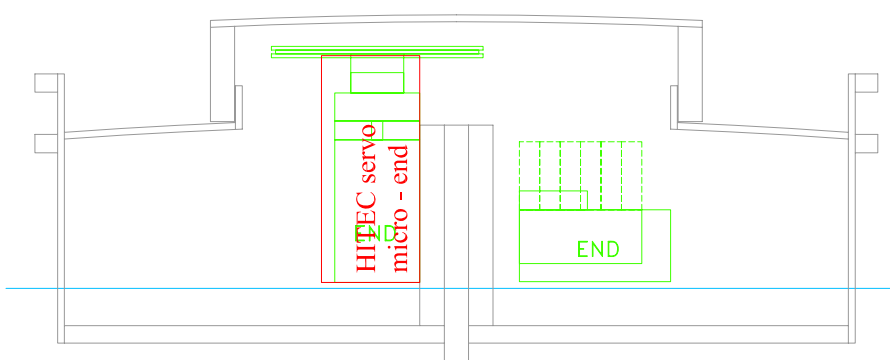
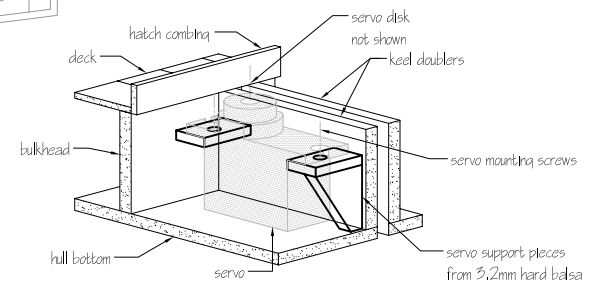
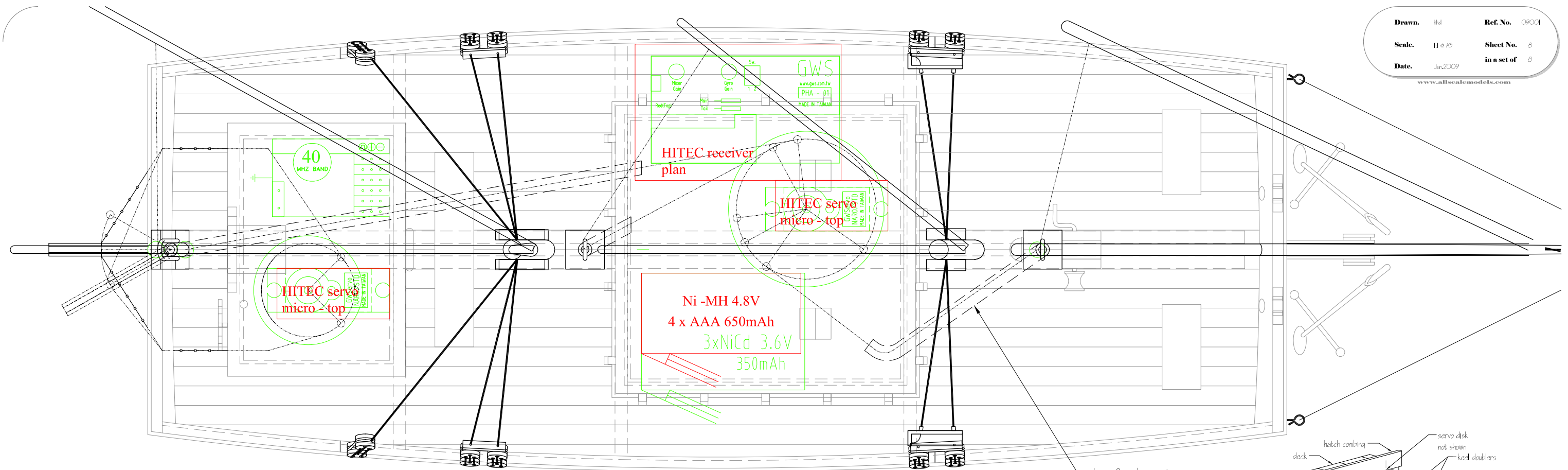
- if material used has a bias, then it runs thus



**KTK**  
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**Footy Scow**  
San Francisco Bay - 1891  
"ALMA"

Sailing or Static Model  
Sails



**Some Notes on Servos**

I have used standard micro-servos, however be aware that the better quality material the gears within the servo are, the longer they will last. Especially the one controlling the sails. I have shown the disc, which replaces the arm on the servo. This disc places a larger load on the gears and as the shock loading from when the boom swings across when changing tack, is what will destroy the gear teeth, I have used a double loop of sheering elastic (you could use some other flexible link) to allow a little give in the lines. Even for such small sails you will be surprised at how much load can be applied to the servo. The top quality servo with quality bearings and materials will last the longest. Also a proper sail winch servo would be ideal, if you can get one to fit.

**Typical Servo installation**

Enjoy your building & painting, and may you have many hours of happy relaxing sailing.

**Some Notes on Types of Paint**

Always try to use paints from one manufacturer. Always use only one type of paint, for example, oil based or acrylic water based, and do not mix the two. Spray cans available for house use can give very good results when used correctly, Remember, several light coats are always better than one thick mess. Spray cans designed for automotive use are another source which can give a good finish. Always read the instructions and use as per what the manufacturer recommends. BUT remember, unlike automotive surfaces, you are using a very porous material, and it must be sealed first, then the painting sequences recommended can be used. Important For detail painting, a modelling paint (I use Tamiya Acrylic brushed) can be applied over your top coat, before the clear is applied. Just try a test piece first to test for non-reaction.

**Some Notes on Painting**

It is important with Balsa wood that the wood is sealed, both inside and out, before applying your top coat of colour. Hence the following sequence should be regarded as a minimum.

1. A seal coat, such as a sanding sealer
2. After rubbing this down, a second coat applied
3. After a light sand, apply an undercoat
4. When dry, lightly sand, fill any imperfections with a filler
5. sand smooth and apply another undercoat
6. Lightly sand, wipe clean, and apply your finishing coat
7. Mask off and paint any other detail colours
8. When dry, lightly sand, wipe clean, and give the whole hull a coat of a good quality clear.

**Some Notes on Radio Gear**

The prototype was fitted with GWS 6-channel receiver, 2-servos, and 7.2V 6-cell 650mAh Ni-Mh battery pack. ( a 3 cell 3.6V NiCd 350mAh pack was also successfully used.) The position of HITEC receiver and micro-servos is also shown. Any basic 2 channel transmitter, receiver, 2 micro-servos and NiMh battery pack would be suitable. As the battery pack is only powering the receiver and servos (no motor) use of the smallest Ni-mh pack which will give you the required voltage. For example if you normally use 4 x AA NiCd's then use 4 x AAA NiMH's, or even smaller cells.

**KTK Designs LIMITED**

**Footy Scow**  
San Francisco Bay - 1891  
"ALMA"

Sailing or Static Model  
Miscellaneous  
Notes

# Footy-Scow

A  
Semi-Scale

**"ALMA"**

From San Francisco Bay - 1891



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