

125' MEGAYACHT *MANDALAY / KAORI*

DIMENSIONS

LOA:	125' 0"
LWL:	107' 6"
BEAM:	28' 2"
DRAFT:	10' 0" / 18' 0"
DISPLACEMENT, 1/2 load:	3 93,098 lbs
BALLAST (lead):	100,000 lbs
SAIL AREA (100% foretriangle):	7,182 sq ft
DISP/L RATIO:	141
SAIL AREA/DISP RATIO:	21.40



MANDALAY as originally built.

MANDALAY (now renamed *KAORI*) was commissioned in 1991 and has since been sailed some 100,000 miles. She was the largest aluminum sailing yacht ever built in the United States at the time of her launching. The term "Megayacht" had just been coined, and she was one of the earliest American examples.

Paine Yacht Design was not the primary designer of *MANDALAY*. That honor went to Ernest M. Brierley who had a design office in Camden at Wayfarer Marine Corporation just upstairs from ours. He specialized in lobsterboats but had managed a refit of the owner's previous *MANDALAY*, a 93 footer, and so impressed that yacht's professional captain that he was invited to submit a proposal for a new and much larger yacht. He subcontracted the preliminary sketch to us, since sailing yachts were our specialty. I had recently hired Mark Fitzgerald, chided him with my mantra "response time is everything," and Mark worked more or less nonstop to draw the preliminary rendering that got us the job of a lifetime. When Ernie had a signed contract in his hand he realized he would need help- this was a BIG JOB- and the two offices worked together for the next two years to crank out the drawings.



Mark Fitzgerald. His determination got us the job.

Partnerships are never easy, but Ernie Brierley was one of the sweetest men to ever walk the face of this earth, and there was never a difficult moment during the two highly productive years it took the two offices to design the yacht. *MANDALAY* was beautifully finished by the Palmer Johnson yard in Sturgeon Bay, Wisconsin. The schooner rig was chosen in order that her mainmast could just fit beneath the Brooklyn Bridge, since she would be based at Oyster Bay and often used to tour New York City.

We realized early in the design that safety was a big issue on something of this size. Just a brush by one of her sheets could knock a man overboard. She had 7,000 square feet of sail and the controls would eventually have to be brought down to a deck full of lives and limbs. Since guests tended to avoid going forward of the pilothouse the major problem was the mainsheet. Our solution was to bring this to a hollow aluminum "sheeting arch" so the dangerous part was well above everyone's head. It was then led internally over a series of sheaves to a reel type winch. Then there were the jibsheets. Even the strongest and most skilled of crew could not safely get a jibsheet emerging from the clew of her huge genoa onto an open winch without being literally shaken to death. Captive winches were just being developed at the time; indeed without their invention it would have been folly to undertake the design of something as colossal as *MANDALAY*. Thanks to these winches

her sail handling was safer than the majority of large yachts of her vintage- though it was still forbidden for any but her trained crew to operate the winches.

Refit for a new owner in 2006 and renamed *KAORI*, this yacht has pleased her owners with luxurious accommodations and fine sailing performance. As recently as the year 2007 she continued to collect silverware, finishing first overall in a fleet of 27 of the world's most famous megayachts at the St. Barths Bucket. Her schooner rig was very much of a compromise, but her hull lines were all about performance as her DISP/L ratio of 141 and SA/DISP of 21.4 should attest.

Our research of the extant megayacht fleet yielded a critique by their captains that the single-stick yachts had a propensity to be tender, and consequently spent much of their lives under power rather than sail. *KAORI* has exhibited none of these flaws, yielding 12-13 knot sailing speeds at comfortable heel angles. She has always been a fine performer, and has won both of the North American megayacht regattas, the Nantucket Bucket and the St. Barths Bucket.

On a yacht of this size there are three aspects to the design. Our part was the naval architecture, exterior styling and deck layout, and structural engineering. The second aspect, and it's huge, is the HVAC (Heating, Ventilation and Air Conditioning) detailing, wiring and plumbing runs, safety engineering, propulsion engineering and the like. This was done by Palmer Johnson shipyard and involved over ten full time engineers. Finally, the interior design is typically done by a specialist, as the interior finish on a yacht of this calibre often rivals that of a European palace. Jane Plachter-Vogel of Ft. Lauderdale was the owners' choice. What she taught us about the interior design of large yachts could easily fill another book.



Art's mockup in cheap plywood and silly putty. Many aspects of the interior were altered here before finish details were drawn.

First of all Jane convinced the owners to spend roughly \$100,000 to have a full size mockup of the interior built. Ernie rented a vacant warehouse conveniently across Camden harbor from our offices and hired Art Paine to build the mockup. This alone was a huge job. So as not to confuse the owners during their inspection visits the different levels of the two-deck interior were accurately constructed, so that sightlines and stair angles could be judged and revised.

Contributing to the design of *MANDALAY* was a huge leap for my career. It allowed me to triple the number of draftsmen in the office and enhanced its reputation. Once you've designed a 125-footer it's a darnsight easier to convince prospective clients that you can handle anything smaller.



It's a long way up there.



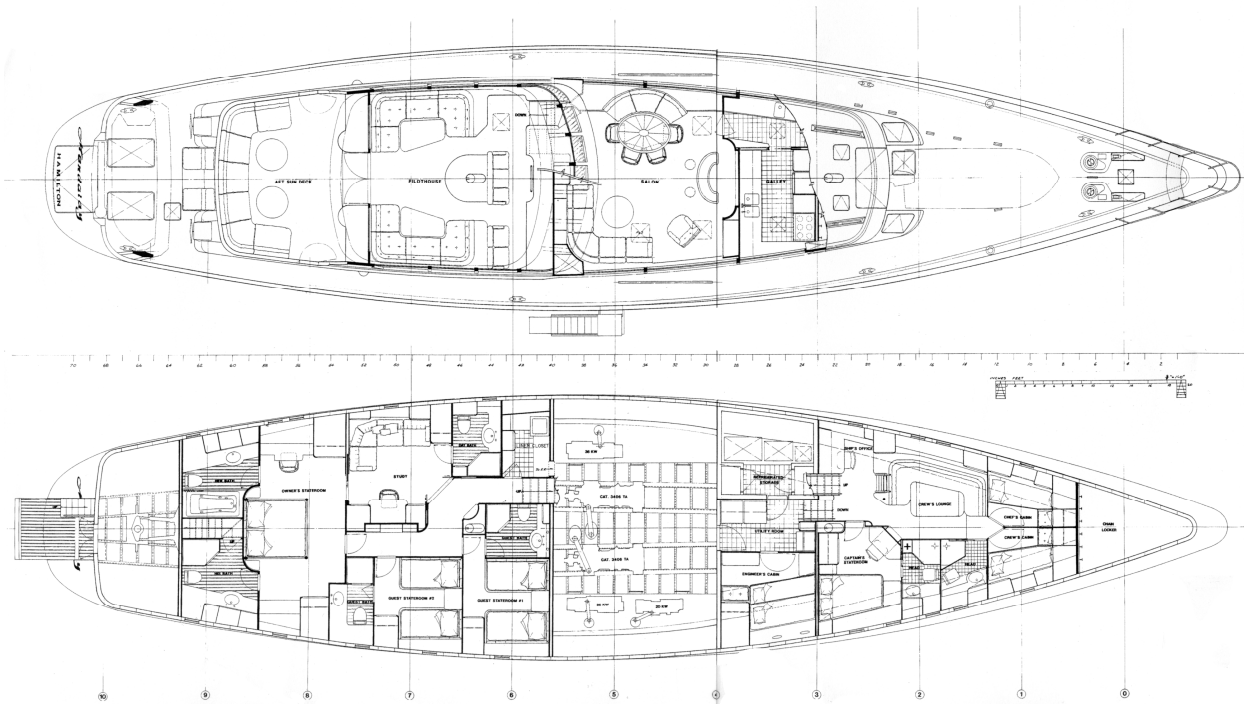
Looking forward in the main salon.



It took ship size gear to handle her huge anchors.



One of the owners' his and hers heads.



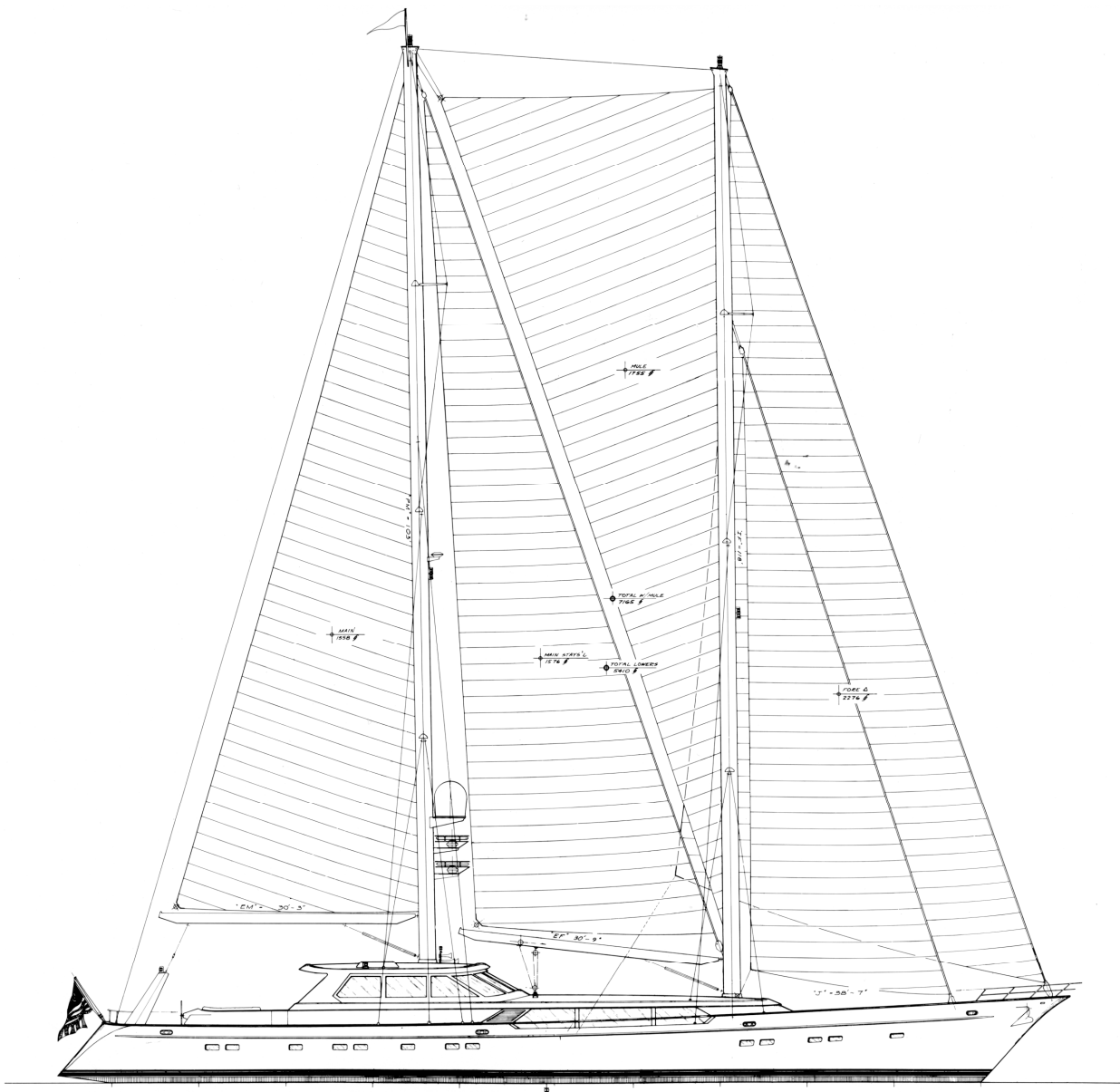
MANDALAY's Arrangement. The owners were aft but the paid crew, all five of them, had nice digs forward.



The owners' stateroom with king sized bed.



The main salon looking aft.



The original sailplan filled the available space with sails. But in time it proved too hard to handle and was replaced with a more conventional foresail in place of the "upside down" sail. At the same time the new owner replaced the aluminum masts with carbon fiber. Since the weight of the original rig was massive, the performance gains were significant. Notice the cut-down bulwarks in way of the main salon windows--the railcap was continuous from bow to stern. Notice also that for a megayacht she had very low freeboard, somewhat mitigating the rather voluminous superstructure. During her refit in 2006 we extended the pilothouse roof aft to serve as a sun cover for the lounging area there. It enhanced her looks and served as a sort of metal Bimini.