

# THE EVEN KEEL

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## ***Three Leading Designers, Three Different Boats, One Keel Builder***

### **TRIPP 88'**

The 'Shaman' 88 world cruising yacht is a fine example of Tripp Design Naval Architecture, Derecktor Shipyard Construction, and [MARSKEEL TECHNOLOGY](#), leading to the perfect keel for this technologically advanced yacht.

The Markeel Antimonial Lead Bulb (pictured at left - click on the photo for a larger image) featured hydrodynamic streamlining and retractability to extend the boat's inshore cruising capability, while providing optimum stability and performance offshore. The design weight of the keel was 29,500 lbs. The weight of the finished keel was 29,580 lbs., a scant 0.27% deviation. This pays tribute to Marskeel Technology's craftsmanship in pattern making, superstructure fabrication and casting.

Internally Mars fabricated the K-400 Monel superstructure that provides longitudinal support for the 14' long bulb, and precise alignment for the 5 1.5" K-500 Monel keel bolts.

The keel was cast with a foil shaped recess on the top forward section, joining the Monel sleeves to the bulb where countersunk core pockets were cast in to facilitate the attachment bolts vertically that accurately mate the bulb and fin sections together.



**Giant 22,580 lbs. Bulb for Tripp 88, finished, and ready for installation.**

The completed [MARSKEEL](#) was faired and finished ready for shipping and installation by Derecktor Shipyards, in Mamaroneck NY.

The boat's first criteria was to be a 'sailing' yacht and this dictated that Designer Bill Tripp balance the two important factors that maximize performance: speed and ease of the sail handling.

A strong, light construction system utilizes carbon fiber hull and rigging, all directed at keeping the total displacement at a minimum. The lighter boat has smaller sails, lower loads, and a higher hull speed, all of which increase the ease and pleasure of sailing.

The results is a thoroughly modern sailing yacht with features such as a carbon fiber rig, retractable spinnaker pole, water ballast and hydraulically lifting keel incorporated into the design. The long and narrow hull shape is designed for maximum speed and

reduces pitching. The high stability comes partly from the hull shape and partly from the large MarsKeel bulb and water ballast.

The layout of the deck incorporates a working cockpit aft with twin wheels, winches and all sail controls.

This allows sailing activities to be located in this area keeping the rest of the decks free. The central cockpit interacts with the pilot house, and has protected seating for 8-10 guests around the table.

The raised pilothouse affords protection from the elements, good visibility and is the main entrance to the Andrew Winch designed interior.

The interior includes a salon, owner's cabin, recreation room / guest cabin, office and laundry room.

The 'Shaman 88' is truly a world cruiser with outstanding sailing and performance characteristics.

<b>Tripp 88</b>	
DESIGNER:	Bruce King
BUILDER:	Derecktor Shipyards, Mamaroneck, New York
SPECIFICATIONS:	
LOA:	88 ft.
LWL:	79 ft.
BEAM:	19.74 ft.
Dratt (min)	7.94 ft.
Dratt (max)	13.24 ft.
Displacement:	100,000 lbs.
Keel wt:	29,580 lbs.
Water Ballast:	1800 gals.
Sail Area:	3,608 sq. ft.

## **EAGLE 40'**

The HÅkan S-dergren designed Eagle 40' brings together innovation in every concept of its design. The retractable fin keel exemplifies innovation, and the collaborative efforts of HÅkan Sodergren Design Inc., Azzura Yachts International Inc. and **MARSKEEL TECHNOLOGY** ensured project success.

The keel features a stainless steel fin coupled with a lead bulb. The fin weighs 800 lbs. and the bulb is 3850 lbs. The total height of the keel is 12.5 ft. but the top 3' section always remains inside the hull's keel sleeve structure.

The fin is built from 316 stainless steel with 4-3/16 inch, 316 stainless steel vertical stiffeners. This configuration is watertight, strong and resistant to salt water corrosion.

The fin section is married to a lead bulb that features a neck which is cast integrally to the fin. 12-7/8" superstructure bolts are cast in place to provide a rigid and secure bond between the lead bulb and the fin section. **MARSKEEL TECHNOLOGY** is very evident in the production skill required to cast the lead bulb and neck, to meet the watertight needs of the interior of the keel fin section.

The entire keel section is raised and lowered vertically, providing a shallow draft of 3.87 ft. and a maximum draft of 9.85 ft.

Topside the Eagle 40 is an ideal of innovative design and construction techniques. Two freestanding masts predetermined a stern cockpit. Two identical carbon fiber freestanding masts were chosen to lower the center of effort on the sails as well as provide a self tacking rig that can be effortlessly but effectively sailed, even without the jibs.

The masts are both fitted with a profile with an aerodynamic leading edge which rotates through 360°.

Twin water ballast tanks, construction of Divinycell or Honeycomb sandwich with Epoxy binder, and unsinkable watertight compartments, make this rigged for single handed sailing yacht, a true craft of innovation.

The Eagle 40 is a fast, innovative, safe and accommodating craft, that exemplifies its designer's and builder's skills, that will extend the owner's sailing skills providing maximum satisfaction.

<b>EAGLE 40</b>	
DESIGNER:	Hakan Sodergren
BUILDER:	Azzura Yachts Intern. Inc. Loangoat Key, Florida
SPECIFICATIONS:	
LOA:	40.7 ft.
LWL:	38 ft.
BEAM:	12.6 ft.
Dratt (min)	3.87 ft.
Dratt (max)	9.85 ft.
Displacement:	10,585 lbs.
Keel wt:	4,650 lbs.
Water Ballast:	420 gals.
Sail Area:	910 sq. ft.

## HINCKLEY 70'

Designer Bruce King has drawn a classic, moderate to heavy displacement hull for Hinckley's 70 foot (21.4 m) masthead-sloop that provides excellent carrying power for all the gear found aboard today's cruisers.

Long overhangs found on the Hinckley 70 are not just classic in design but fundamental, as an excellent way of increasing the yacht's waterline length, and hence its speed, when heeled. In light airs, they provide a lower wetted surface providing the bonus of higher speeds.

Bruce King provides to this classic all of the modern construction technology, including a combination E-Glass and Kevlar hull, together with a three spreader carbon-fiber rig that ensures minimum weight aloft and at the vessels ends. This provides a low radius of gyration that translates to the reduction of pitching for a more comfortable motion at sea.

Further stability is added by the **MARSKEEL TECHNOLOGY** centerboard keel that weighs 30,326 lbs. Centerboard keels demand a great deal of precision, particularly in the centerboard slot, to ensure years of carefree service.

**MARSKEEL** pattern makers created a fiber glass mould plug for reverse casting of the centerboard fiber glass liner.

This matches the cast in place Rabbit at the leading edge of the keel. The centerboard is raised on a 3 inch Pivot Pin Hole machined by Mars (rather than cast in) that ensures dimensional accuracy.

The internal superstructure of 1 inch, 316 stainless round bar features a 1/2 inch baffle plate at the forward and stern segments of the keel. The superstructure provides internal strength and ensures precise alignment of the keel bolts during casting. There are 21 (15-1" and 6 1 1/2 ") 316 stainless steel keel bolts that run the length of keel, that provide an accurate fit to the hull and years of carefree service.

The centerpiece of the interior of the Hinckley 70 is the enclosed deck salon that offers 360 degrees of view though large windows. There are three cabins each with its own head and a captain's cabin accessible from on deck or from below.

<b>HINCKLEY 70</b>	
DESIGNER:	Bruce King
BUILDER:	The Hinckley Company Southwest Harbour Maine
SPECIFICATIONS:	
LOA:	70.25 ft.
LWL:	52.33 ft.
BEAM:	17.5 ft.
Dratt (min)	6.5 ft.
Dratt (max)	16.17 ft.
Displacement:	90,000 lbs.
Keel wt:	30,326 lbs.
Water Ballast:	N/A
Sail Area:	2,276 sq. ft.

The Hinckley 70, is a cruiser's delight and a sailor's adventure, all in one package of pure perfection.

<b>MARS METAL COMPANY</b>	
<b>MARS METAL COMPANY</b> <b>4140 MORRIS DRIVE</b> <b>BURLINGTON, ONTARIO,</b> <b>CANADA L7L 5L6</b>	<b>CONTINENTAL TOLL FREE:</b> <b>1-800-381-KEEL (5335)</b> <b>TEL: (905) 637-3862</b> <b>FAX: (905) 637-8841</b>
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