

## TECH-SHEET (WATKINS 27 CONSTRUCTION)

Material & Procedure subject to change

Hull Lamination: Application of laminates is done by hand and the use of mechanical operations.

1) Average layup order:

- A) Gelcoat surface
- B)  $\frac{3}{4}$  oz. Mat
- C) 1  $\frac{1}{2}$  oz. Mat
- D) 1 – 24 oz. Woven roving
- E) 1  $\frac{1}{2}$  oz. Mat
- F) 1 – 24 oz. Woven roving
- G) 1  $\frac{1}{2}$  oz mat
- H) 1 – 24 oz. Woven roving
- I) 1  $\frac{1}{2}$  oz. Mat
- J) 24 oz. Woven roving stripping

This is the average procedure for lamination. A-G is the normal layup for the major hull with the additional H, I, & J at engine location.

Deck Lamination: Application of laminates is done by hand and the use of mechanical operations.

1) Average layup order:

- A) Gelcoat surface
- B)  $\frac{3}{4}$  oz. Mat
- C) 1  $\frac{1}{2}$  oz. Mat
- D) 1 – 24 oz. Woven roving
- E) 1  $\frac{1}{2}$  oz. Mat
- F) Stiffening at backup plate core
- G) 1  $\frac{1}{2}$  oz. mat

Areas of stress have additional woven roving dependant upon calculated working pressures.

Deck Hull joint: We are using a hatbox style decking procedure. This procedure is where the deck flange slides over the hull. Stainless steel fasteners and glass tape are used to secure this seam. A bonding material, such as 5200 Marine Seal, is used to seal this jointing area. The shearing of the stainless steel fasteners along this area is virtually impossible and has proven to be very reliable.

Mast Support and Chainplates: By carrying a large beam, we were able to support our mast directly over its compression pole. This compression pole is located in the head area. The compression strut is a cross laminated structure.

All chainplates are physically bolted through the hull and deck on Watkins 27's. This procedure allows on the spot inspection of fasteners and is easily serviceable. The chain plate strut is made of a high intensity alloy. By the use of these struts, the owner of Watkins 27's will benefit from these features:

- A) Easy accessibility
- B) Triangular support of deck
- C) Load distribution between hull and deck
- D) Lack of dry rotting of conventional wood structures
- E) Peace of mind in heavy weather.

Stem head and backstay straps are bolted through the deck as well as hull.

Rigging & Mast: All masts and booms are of a high-grade marine aluminum. The Watkins 27 mast and boom also have an anodized finish for extra protection against corrosion.

Halyards: Halyards are run externally for trouble free operation. Halyards are constructed of marine wire with Dacron tails. There are stainless thimble to rope splices at their joining. Halyard shackles for both the jib and main halyards are provided with each set.

Lighting: A twenty-point light is provided on each mast. It is wired internally and exits just above the mast step.

Masthead: Sheaves in this mast head are grooved to accommodate the stainless wire halyard. A divider plate insures that halyards cannot be crossed. The mast head can be completely disassembled for maintenance or its removal for additional wiring.

Gooseneck: A stainless steel gooseneck of the fixed variety is the attaching point for the boom.

Boom: We are using a very advanced boom for this size boat. It is constructed of a high strength anodized aluminum. This boom features an internal double purchase outhaul and internal jiffy reefing. Boom vang bails and mainsheet bails are made of high strength stainless.

Rigging: All rigging is of a high-grade stainless cable. The cables to turnbuckle and eye fittings are rotary swaged. Rotary swaging adds the safety to rigging strength by eliminating grooving formed by roller swaging cable to fitting hardware. Forestay and backstay are constructed of 1/4" diameter cable. Turnbuckles are open bodied screws with cotter pin lock. Uppers and split lowers are constructed of 3/16" cable.

Head Liner: Application of laminates is done by hand and the use of mechanical operations.

1) Average lay-up order:

- A) Gelcoat surface
- B)  $\frac{3}{4}$  oz. Mat
- C) 1  $\frac{1}{2}$  oz. Mat
- D) 24 oz. Woven roving stripping
- E) Fiberglass bonding material used as filler between head liner and deck.

Inner Hull Liner: Application of laminates is done by hand and the use of mechanical operations.

1) Average lay-up order:

- A) Gelcoat surface
- B)  $\frac{3}{4}$  oz. Mat
- C) 24 oz. Woven roving
- D) 1  $\frac{1}{2}$  oz. Mat
- E) 24 oz. Woven roving stripping
- F) Stiffing and back up plate core

Stringers are run from seating to hull support, also in beam support in hanging locker and head areas.

Keel Structure: The Watkins ballast is internal lead. This lead is in the form of a solid unit which is cast to Watkins' specifications. The lead is permanently bonded in the fiberglass keel structure. A sealed capping procedure covers this lead and also forms a drainage sump for the bilge pump.

Engine Installation & Rudder Installation:

I. Engines are supplied with a muffler and filters for fuel, air and water. Gate valves and shut-off valves are used for safety. Engine mounting bracket is directly secured to hull with use of various layers of woven roving. This adds strength and vibration absorption. Engine compartment has glassed bulkheads for noise insulation and added strength. Accessibility to engine is provided by removal of panels forward of the engine and to its side. Fuel cells are of aluminum construction and equipped with a fuel level gauge. These tanks hold approximately 20 gallons of fuel.

II The Watkins rudder is a two-piece fiberglass construction on the lower half. It has a flat channel welded to a stainless 1  $\frac{1}{4}$ " shaft for support. The rudderpost is supported internally by two collars and a support brace off the lower skag. At the hull level of the mid-support location we use a stuffing box coupling to aid in longevity and lubrication control.