

## CLOSING WORDS

The manufacturer believes that you will enjoy countless hour of fun and relaxation sailing your Catalina, if you will practice proper sailing and safety procedures both on land and on water. Take good care of your boat and take the time to learn the different phases of good seamanship.

Catalina's interest in both customer and product continues long after you have commissioned your Catalina 27. Within the limits of our specifications, the company's Parts Department is ready to serve your nearest dealer quickly and efficiently. All replacement parts or accessories are delivered through your dealer. He must have detailed information from you to be certain we send the parts requested.

## CATALINA YACHTS



International Catalina 27/270 Association, established in 1972, is a non-profit organization dedicated to promoting the enjoyment of sailing, cruising, and racing C27s and more recently C270s.

The Association established and maintains one-design standards and specifications in order to insure competition between boats of identical design and performance in all the essential areas such as hull lines, weights, and sail plan.

The Association promotes one-design class racing under uniform rules and regulations which will test the skills of the skipper and crew while keeping the cost of acquisition and upkeep of the Catalina 27/270 Sloop within modest limits without sacrificing high standards of performance and seaworthiness.

The Mainsheet Magazine, a publication for Catalina owners which contains information on Catalina, Association, and Local fleet events along with the highly valued Tech Section, is available through joining the Association.

Membership information can be found at [www.catalina27.org](http://www.catalina27.org) or by contacting your dealer

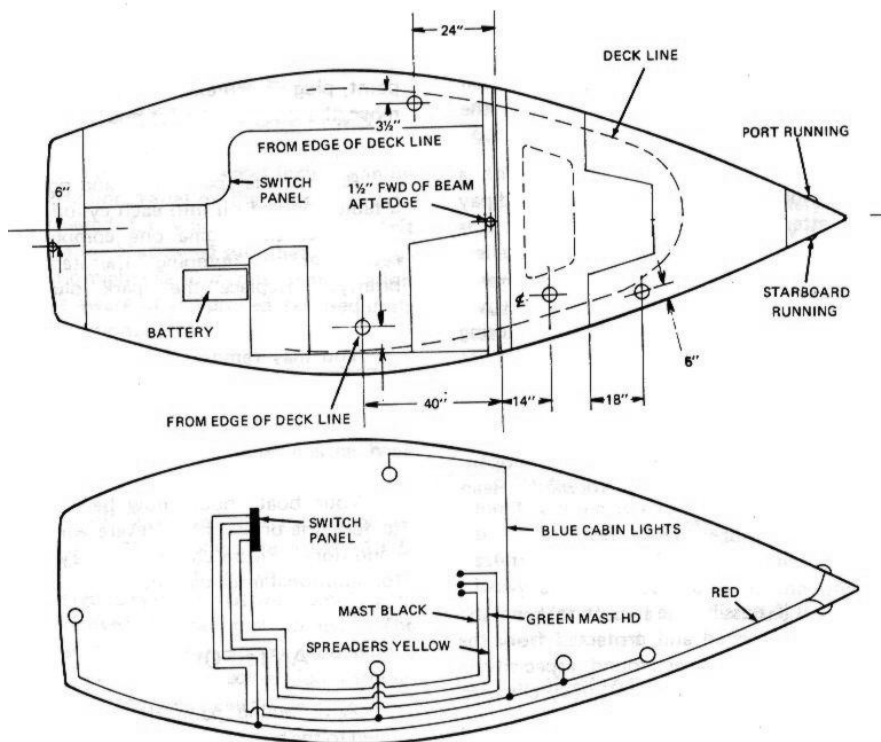
# ***Catalina 27***



## ***Owner's Manual***

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## OPTIONAL ELECTRICAL SYSTEMS

Your electrical system is powered by a marine grade 12 volt battery similar to that in your automobile, but more attention should be paid to maintaining the proper level of distilled water. Do not overfill.

The battery is provided with a tie-down to prevent its tipping over at extreme angles of heel. Be sure this tie-down is fastened.

Each electrical circuit is fused under a screw cover and spares should be obtained before long cruises. The system is also controlled by a sparkproof switch. You should be sure that your boat is free of gasoline fumes before using the electrical system. On inboard models, run the blower for a few

minutes before starting.

The circular sparkproof switch has the markings 1, 2, and "ALL" as well as "OFF". If you have ordered both the inboard engine and the extra battery option you can selectively charge the battery, with the engine alternator. Many experienced cruisers use Battery #1 for electrical lighting needs and keep #2 in reserve for starting the engine.

When the engine is running, NEVER pass thru the OFF position to change from one battery to the other or the alternator diodes will be burned out. Switching from one battery to another should only be done with the engine IDLING, or while stopped. If both batteries are of equal charge, keep the selector switch on ALL position, and use ALL to start the engine if both batteries are low.

To retard electrolysis of the shaft and propeller of your engine, install a zinc collar immediately on the propeller shaft.

If your boat is equipped with a folding propeller, then you should pay attention to the following point. It is not uncommon for folding propellers to fail to open after non-use for a week or two. When this happens you will experience violent vibration when using forward gear. **STOP IMMEDIATELY**, as your strut and/or shaft might suffer damage. The cure is simply to shift to reverse and spin the propeller at high r.p.m. and the propeller will open. You can then proceed forward. Read your warranty.

## WINTERIZING

If possible, it is best to keep the boat covered and protected from the elements all year around, especially in the winter in rainy or snowy climates.

The following procedures should be followed when storing the yacht for prolonged winter periods. Begin by consulting your authorized dealer about storing the boat in or out of water in freezing climates. If at all possible the manufacturer recommends keeping the yacht in dry storage for severe winters.

All thru - hull fittings should be drained and closed off. Water in the sanitation system and other tanks should be pumped out. Fill the lines and fittings with anti-freeze to prevent water from unknown sources from running in, freezing, expanding, and cracking the lines and fittings.

For inboard engines, drain the block, or disconnect the water intake hose from the thru-hull fitting, attach an additional length of hose and place the end of this hose in a bucket of anti-freeze. Run the engine until straight anti-freeze comes out the ex-

haust line. Stop the engine at this point, plug or cap exhaust line and remove the additional hose and bucket.

Remove the spark plugs and pour a tablespoon of oil into each cylinder. Turn over the engine one complete revolution by "bumping" the starter briefly. Replace the spark plugs.

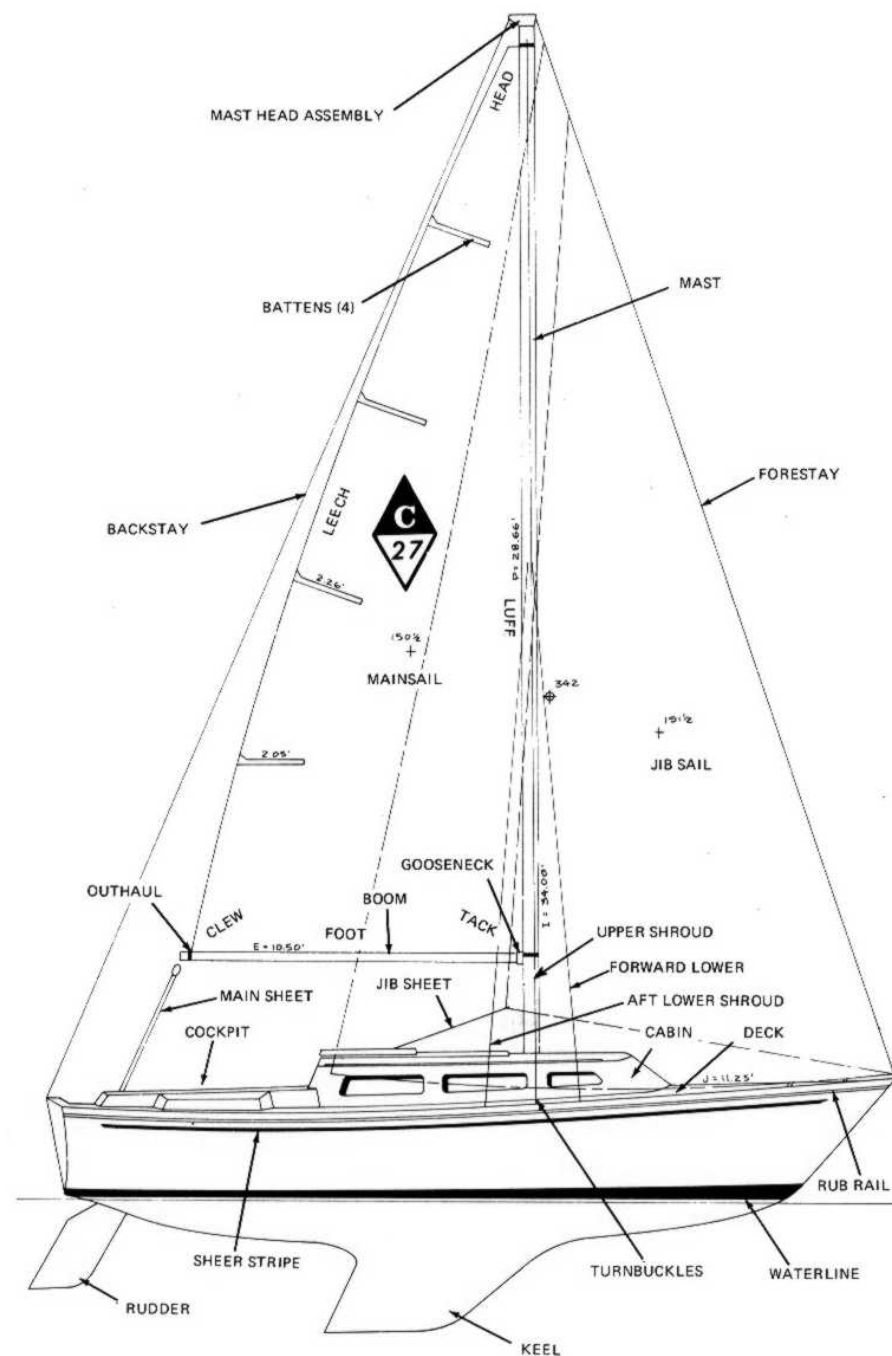
You may remove the battery and keep it out of freezing temperatures or keep it fully charged at all times to accomplish the same purpose.

Your boat should now be ready to face the onslaught of severe winter conditions. Please check with the yard for additional information.

## ANTI-FOULING

Anti-Fouling paint should be applied to the bottom of your Catalina 27 if it is to be moored in either fresh or salt water for any length of time. There are many brands available. Anti-fouling paint prevents the growth of algae, barnacles and other fouling organisms on underwater surfaces. If this paint has been applied at the factory, no action is necessary at the time of launching.

The anti-fouling paint used at the factory is a vinyl-base copper bearing type available either in red, blue, or green from most marine hardware stores. For those owners who apply anti-fouling paint themselves, it should be noted that most brands require all underwater fiberglass surfaces to be very carefully sanded immediately prior to the first application on a new boat. In any event, the instructions of the manufacturer of the brand of paint used should be followed.



## COMMISSIONING

The launching and rigging of the Catalina should be handled by experienced boat yard personnel under the direction of your authorized dealer. Once in the water, you can complete the last stages of rigging and mast tuning yourself if you so desire.

Directions for "Setting Up The Boom" and "Bending On Sails" appear in the GENERAL HANDBOOK and are applicable to all sizes of boats. Directions for "Tuning Your Mast" appear in this manual.

No unpainted fiberglass boat should be kept in the water or in a chemical boat bath. Damage to the fiberglass gel-coat will result in a short period of time in some cases. As part of your boat's commissioning procedure, have the bottom, rudder, and keel properly painted with a top-grade bottom paint. In keeping with the marine fouling conditions characteristic of your area, have the boat bottom periodically cleaned and repainted. Your authorized dealer or local ship's chandlery can advise you about bottom paints.

## MARINE SANITATION SYSTEMS

Your owner packet includes an instruction leaflet on the sanitary system ordered for your Catalina. Read it thoroughly and be sure that all persons who might use your convenience station are aware of the procedures used in its operation.

For the standard marine head, be sure that everyone heeds the warning on foreign objects. You may face an unpleasant task if your marine head is abused.

Self-Contained units may be required nationwide January 1, 1975. Standard marine heads can be converted to systems that will comply with proposed federal regulations. The manufacturer can supply you with a kit to make this conversion through your authorized dealer.

Before ordering such a kit be sure to check with local authorities on requirements for your State or area.

## OUTBOARD ENGINES

The manufacturer recommends an outboard engine in the 6 to 9½ horsepower range. Engines larger than this will not drive the boat faster than its critical hull speed and gasoline economy will be poor.

When mounting the engine in the outboard engine compartment, the hatch door in the transom is removed and the engine inserted through the opening. This method of installation works better than trying to lower the engine via the stern topside deck hatch. Hard wood or stainless steel backing should be placed on the inside and outside fiberglass surfaces where the outboard mounting clamps come to

bear on the transom. This will eliminate marking or shattering of the gel-coat finish.

The outboard engine may be left installed in the transom indefinitely if the outboard will raise sufficiently high to prevent the propeller shaft from dragging in the water. It is suggested that some device be arranged to lock the engine to the boat to prevent theft. Be sure to follow all directions which accompany your outboard engine as to servicing, gas to oil mixing ratios, flushing procedures, etc.

In most states, engine compartment venting is required by law. Be sure to meet these regulations for safety reasons. Gasoline fumes are heavy and will accumulate in the low places of the boat's hull if venting is not properly installed.

## INBOARD ENGINES

For a complete description of your engine please consult the guide supplied by the engine manufacturer, which should be in your Owner's Packet.

Two points are worth special mention. Firstly, marine engines work under conditions tougher than automotive conditions. Your marine engine faces constant torquing not encountered on the highway. For this reason you must change your engine's crank case oil as recommended in the engine manufacturer's guide. Secondly, before using your engine the shaft coupling must be adjusted within a tolerance of .003 T.I.R. thousandths after launching. Be sure that your dealer has made this adjustment before using your engine.

Change oil regularly. Keep spare spark plugs and alternator belt on hand and use only 2/3 to 3/4 throttle on long passages. Keep your gas tank full whenever possible to prevent water condensation in your fuel tank.

## GALLEY

Water is supplied to the sink by a pump from an 18 gallon polypropylene tank under the port settee. The tank has a top fill plug, or if you ordered the option, a deck fill plate and base may be installed.

The drain from the sink has a gate valve for shut off on a thru-hull fitting located under the sink. This should be closed when under sail as excessive heel on the starboard tack will fill the sink and possibly splash water inside. The ice box drain leads into a tee in the same line, and also has its own shut off under the box which should be closed under sail if the thru hull valve is not.

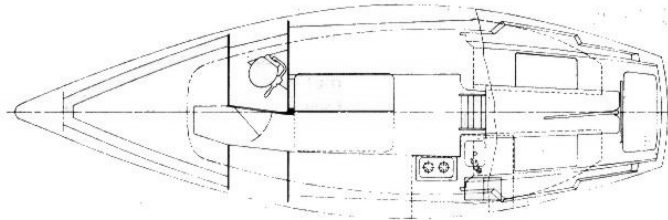
Read the instructions for the alcohol stove carefully. Alcohol is the safest stove fuel for boats, but it must be handled with care. Experience has shown that 5 pounds of tank pressure is more than adequate, and puts less strain on the fittings than the 10 pounds often recommended.

## ANCHORS

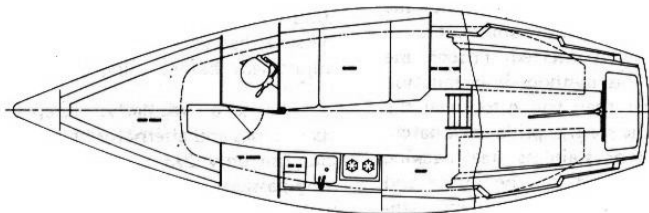
The manufacturer suggests an anchor in the 12-13 pound range and of the "danforth type" to be used as a bow anchor in ordinary conditions. This anchor will only be effective with at least 20 feet of  $\frac{1}{4}$  inch or heavier gauge chain and at least 200 feet or more of  $\frac{7}{16}$ " or heavier nylon line. An 8 pound stern anchor will require about 150 feet of scope and 15 feet of chain.

Under adverse weather conditions as much as a 25 pound bow anchor could prove necessary, and possibly a plough-type anchor might be required.

Inquire in your local area about anchoring procedures relative to the place you plan to visit. Get the opinions of several experienced people and always play it on the safe side in "making up" your anchor and in using it. Do not forget to wire all shackle pins so they cannot come loose under water.



TRADITIONAL INTERIOR



DINETTE INTERIOR



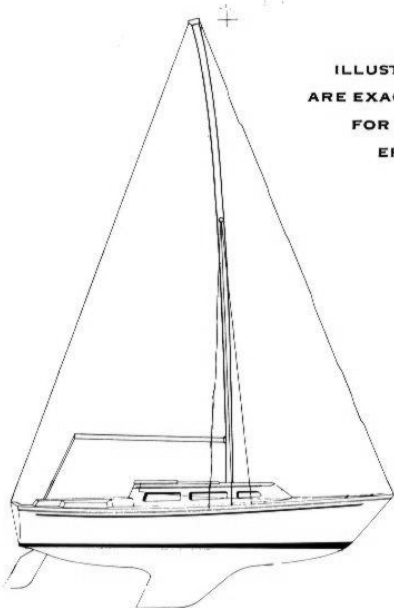


Aft lower shrouds too tight  
Forward lowers too loose

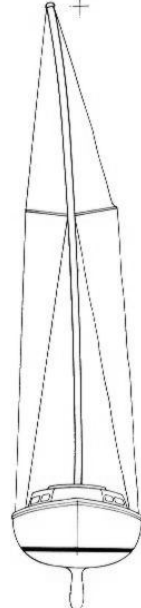


Starboard lower too tight  
Port lowers too loose

ILLUSTRATIONS  
ARE EXAGGERATED  
FOR VISUAL  
EFFECT



Backstay too tight - forestay too loose



Starboard upper shroud too tight  
Port upper too loose

## TUNING YOUR MAST

Your mast is held aloft by the Standing Rigging (forestay, backstay, upper shrouds, double lower shrouds). The term tuning refers to adjustment of the standing rigging so that the mast remains "in column" (not bent) when under load. This is accomplished by following the procedure outlined below:

At the dock:

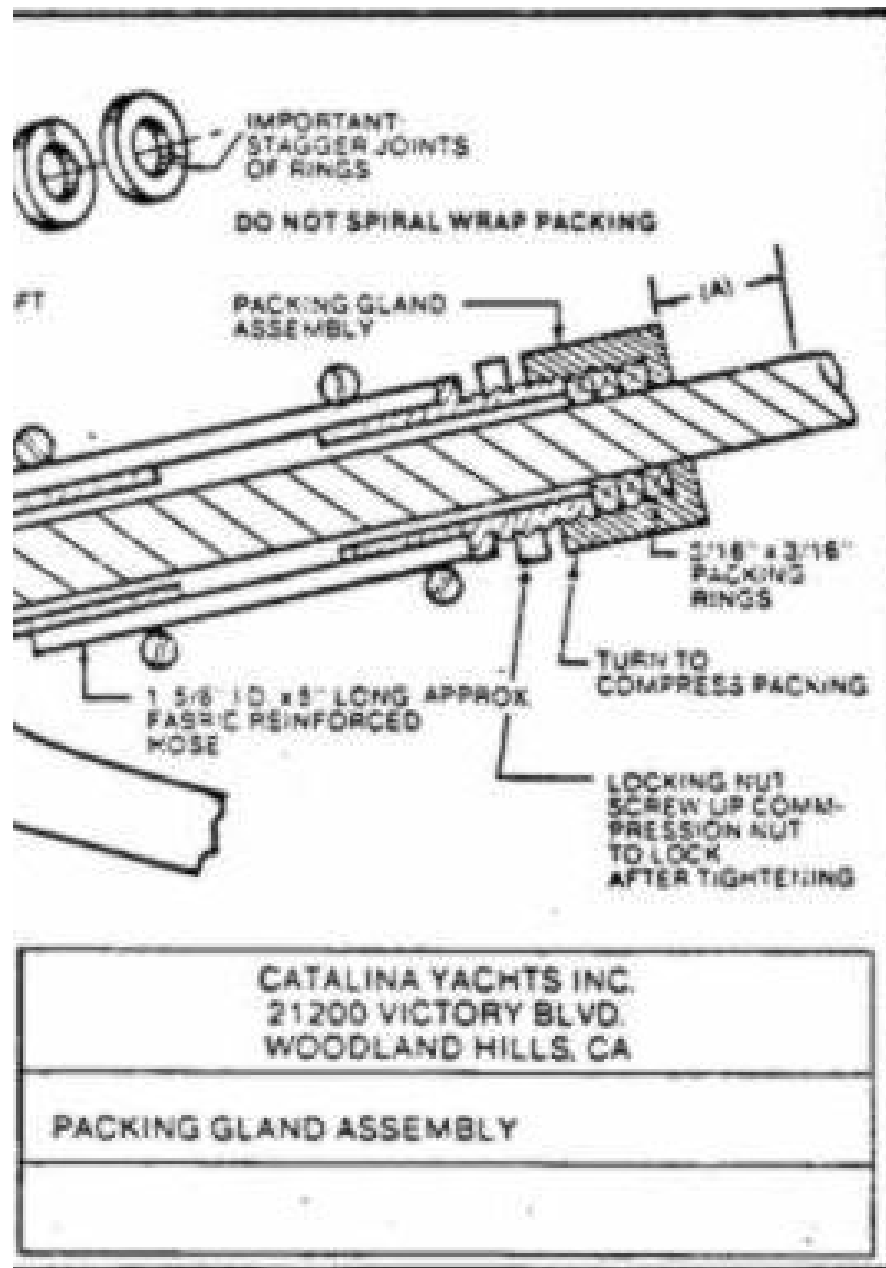
1. Adjust forestay and backstay so that the mast is straight up and down (perpendicular). Tie a bolt to a 6 to 7 foot long piece of twine to make a quick easy plumb bob, and tape the free end of the line to the front of the mast as high up as you can reach. This device will help you determine whether the mast is perpendicular or not, or sight your mast with a corner of a building.
2. Adjust upper shrouds so that mast is straight up and down athwartships, that is, from side to side as opposed to from bow to stern. A useful method is to use the main halyard as a measuring tape. Stretch the shackle end of the main halyard down to the starboard toe rail abeam of the mast-step and then cleat the tail. Then walk halyard around to the port-side toe rail. If it doesn't reach the toe rail, you should loosen the starboard turnbuckle and take up on the port one.
3. The upper shrouds should be firm but not bar tight. A 50 pound push should deflect the upper shroud 1½ inches at shoulder height.
4. The lower shrouds (4 of them) should be adjusted so that they

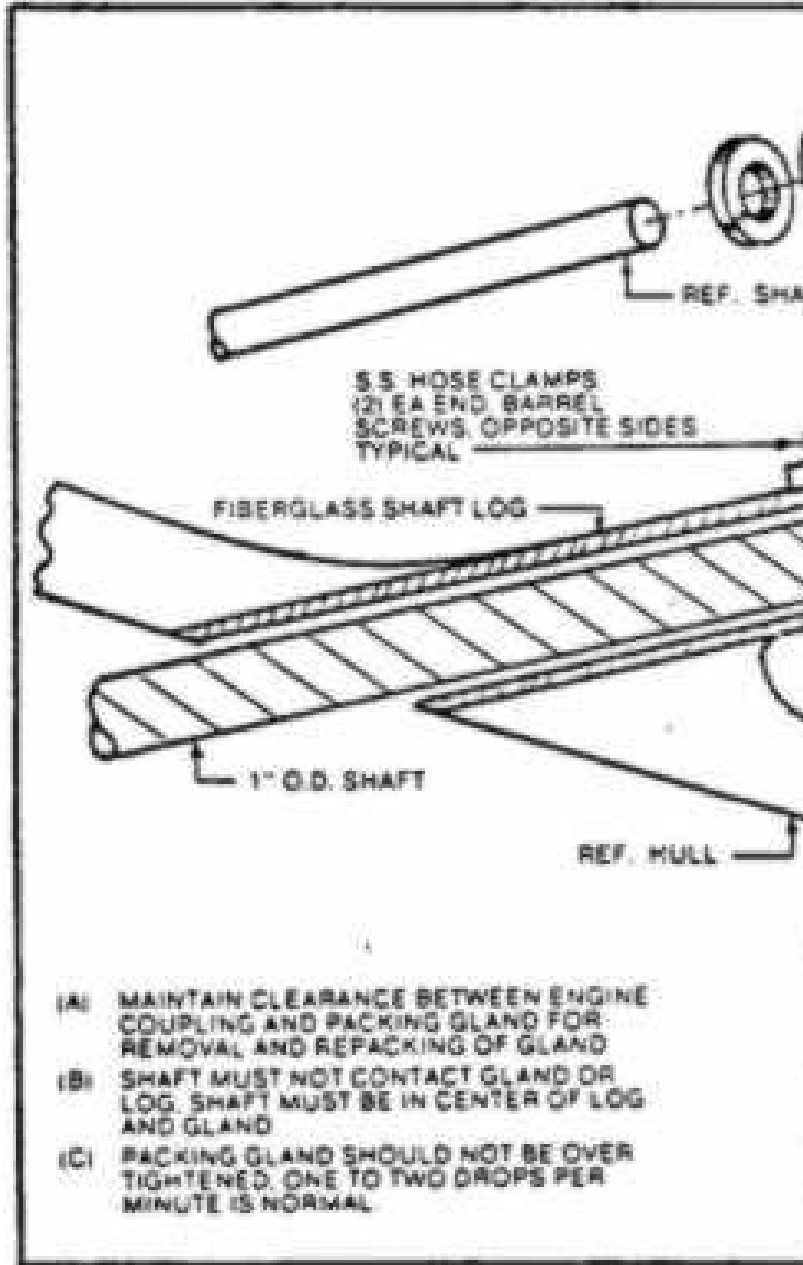
are looser than the upper shrouds. While at the dock they should have no slack but also have no pressure on them. The lower shrouds are correct at this stage when a push on any one of the lower shrouds deflects the middle of the mast the same amount in the direction of the shroud pushed. No shroud when pushed should deflect the mast more than any other shroud when pushed equally hard. If this can't be achieved the upper shrouds are too tight. Back off ½ turn at a time on the upper shroud turnbuckles until the tension on the lower shrouds is brought into balance.

## FINE-TUNING WHILE SAILING

The object of Fine Tuning is to have the mast "in column" (not bent fore or aft or athwartships) when sailing in conditions typical for your area. This is accomplished through adjustments to the lower shroud turnbuckles. Here are some points to look for:

1. When sailing on port tack, sight up the mast from the base. If the middle (where the spreaders are) is sagging to leeward take up equally on both port lower shrouds until the mast is "in column". Repeat this procedure on starboard tack.
2. If, when sighting up the mast while on port tack, the middle is bent forward (but not to leeward) take up a turn on the port aft lower shroud and let out a turn on the port forward lower shroud turnbuckle. Reverse these adjustments if the middle of the mast is aft of the "in column position".





All rigging wire used on yachts has a tendency to stretch, especially after you have sailed in heavier wind than you normally experience. Therefore, you should periodically check the tension on the shrouds and stays, tightening them up if it is required. Repeated trials and help from an experienced sailing friend will lead to a properly "tuned" mast.

After you have made your adjustments to the stays and shrouds, it is suggested that you give the turnbuckle locking caps a slight snugging turn with a pliers. Do not turn them more than about 1/8 inch or less or they may break or split. This snugging action will prevent vibration (or sheets rubbing on them) from ever loosening them up. Check the snugness of the locking caps before each day's sailing.

The finish of natural aluminum is protected against corrosion by a thin, transparent film of aluminum oxide. Dust, dirt, smoke, salt and traffic fumes will adhere to this film, making the surface dull and unsightly. Coating the new surfaces with a good paste wax like Vista or Simonize, will help protect the aluminum oxide from foreign matter. If the surface has become tarnished, any high grade cleaner, wax, polish (Collinite #34 or #38 for example) will restore the original sheen. Heavier pitting can be removed by wet-sanding with #600 paper prior to polishing and waxing. You need not worry about sanding, cleaning or polishing destroying the aluminum oxide film as it reforms or "heals" immediately.

Salt water will gradually stiffen dacron line. Hosing with fresh water or soaking in warm soapy water will make the line soft and flexible again. Keep coiled and stowed in a dry spot below.

Our masts are built to withstand any normal usage but improper tuning or handling can cause problems. Therefore, it is impossible to fully guarantee the mast of your Catalina 27 under our current warranty program. Rigging, as well as tuning, becomes all important when setting up the mast because of the light weight section we use. A knowledgeable person should oversee the rigging and tuning so as to eliminate the possibility of an eccentric load which might occur with an improperly loaded shroud. Special attention should be given to the initial stretch of the uppers and a further gradual stretch of the wire over the first few hard outings.

Clean rigging means clean sails. A quick trip aloft with damp rags takes care of this problem. While aloft, check the entire rig for loose screws, nuts, bolts, cotter pins and chafe which may have resulted from hard sailing. Spreader tips well taped? Periodic inspection of the rig from aloft is your best insurance against rigging and spar failure. Keeping halyards tied away from the mast stops the annoying dockside clanking and saves the mast finish.

## WOOD SURFACES

The interior wood surfaces can be left bare, or waxed or oiled if desired. Many owners leave the exterior teak bare; it does gradually fade to a silvery gray which if objectionable, can be scrubbed clean with "Teak-Brite". The natural color and texture can be preserved by applications of Weldwood's "Woodlife" or similar sealers.

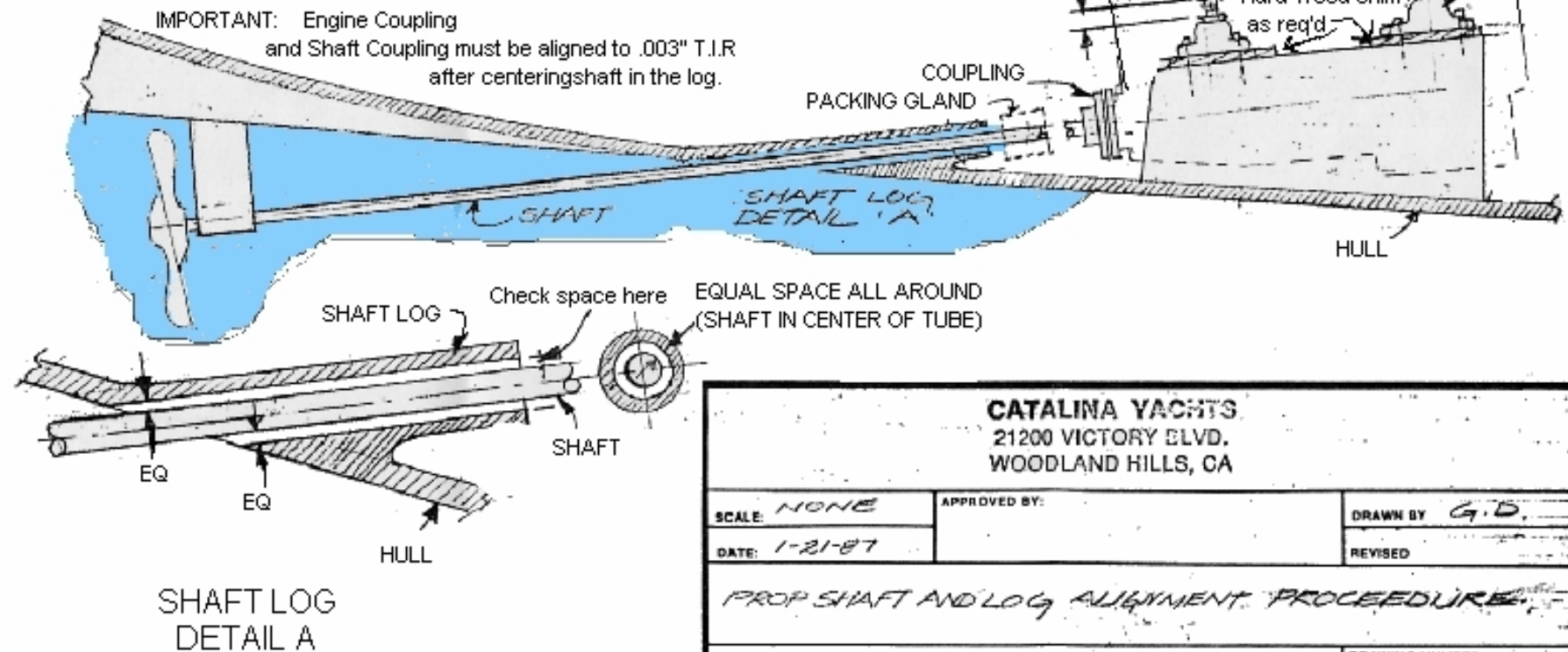
Varnished wood surfaces are the ultimate in yacht finish but they do require constant loving care.

## PROP SHAFT AND LOG ALIGNMENT

The prop shaft must be in the center of the fiberglass shaft log, which passes thru the hull. This can be checked in the following way;

1. Have a supply of rags on hand to slow the flow of water into the boat after the packing gland has been removed.
2. Loosen the two hose clamps holding the rubber hose to the shaft log. Slide the rubber hose, with the packing gland attached, forward, far enough to expose the end of the fiberglass shaft log.

3. Water will enter the boat thru the shaft log.
4. Working quickly, check the location of the shaft in the log. It should be in the center.
5. Use a rag to help slow the flow of water while inspecting the shaft position.
6. Replace the rubber hose on the shaft log.
7. Raise or lower the engine as required to center the shaft in the log.
8. Do Not raise the engine so that more than 3/8" of threads is exposed on the engine mount.
9. Install hardwood shims under mounts as required.



SHAFT LOG  
DETAIL A

**CATALINA YACHTS**  
21200 VICTORY BLVD.  
WOODLAND HILLS, CA

SCALE: NONE

APPROVED BY:

DRAWN BY G.D.

DATE: 1-21-87

REVISED

PROP SHAFT AND LOG ALIGNMENT PROCEDURE

ALL INBOARD MODELS

DRAWING NUMBER

250:50005-0