YACHT NAME

REGISTRATION OR DOCUMENTATION NO.	PORT OF CALL
DATE OF COMMISSIONING	HULL NUMBER
OWNER'S NAME	OWNER'S ADDRESS

LENGTH, OVERALL STANDARD RIG ..... 36'-4"	DRAFT STANDARD ..... 5'-10" SHOAL ..... 5'- 1"
DISTANCE FROM WATERLINE TO MASTHEAD STANDARD RIG ..... 54.6 FT TALL RIG ..... 56.6 FT	DISPLACEMENT STANDARD ..... 13,500 EST LBS SHOAL ..... 14,300 EST LBS
FRESH WATER CAPACITY STARBOARD ..... 17 GAL AFT CENTER TANK ..... 25 GAL HOT WATER HEATER ..... 6 GAL TOTAL ..... 48 GAL	BALLAST STANDARD ..... 6,000 LBS SHOAL ..... 6,800 LBS
WASTE TANK CAPACITY ..... 21 GAL	ICE BOX CAPACITY ..... 5.75 CU FT
FUEL CAPACITY ..... 33 GAL	ENGINE SERIAL NUMBER
BEAM ..... 11'-11"	SAIL NUMBER
LENGTH, WATERLINE ..... 30'- 3"	RADIO TELEPHONE CALL NUMBER

2.0 C O M M I S S I O N I N G C H E C K L I S T

2.1 PRE-LAUNCH CHECK:

1. _____SHAFT TURNS FREELY BY HAND, ZINC COLLAR INSTALLED IF REQUIRED
2. _____CHECK INTAKE HOSES AND CLAMPS
3. _____CHECK ALL THROUGH HULL FITTINGS
4. _____DRAIN PLUGS TIGHT,___ENGINE, MUFFLER, AND EXHAUST LINE
5. _____BOTTOM CLEAN, PAINT OK
6. _____HULL SIDES CLEAN, GEL COAT OK
7. _____DECKS CLEAN
8. _____TEAK CLEANED AND OILED
9. _____INTERIOR FINISHED, OILED, CLEAN
10. _____CUSHIONS, CARPETING, CURTAINS, CLEAN AND IN PLACE
11. _____TABLE CONVERTS TO BERTH OK, DINETTE, TRADITIONAL TABLE STOWS
12. _____HATCH LIDS PRESENT AND FIT OK OK
13. _____LIFELINES AND PULPITS RIGGED AND OK
14. _____SPREADERS TAPED AND DRILLED AT BASE END,UPPER SHROUD WIRED TO TIP END AND TAPED
15. _____RIGGING LENGTHS VERIFIED WITH CHECK LIST IN KIT
16. _____MAST AND BOOM INSPECTED:COTTER PINS, SHEAVES, TANGS, SPREADER OK
17. _____MAST LIGHTS CHECKED BEFORE MAST STEPPED
18. _____CHECK OVERHEAD FOR ELECTRICAL WIRES WHICH MAY INTERFERE WITH THE SPACE REQUIRED TO RAISE THE MAST TO ITS FULL UPRIGHT POSITION. IF THERE ARE WIRES OF ANY KIND ANY WHERE NEAR THE BOAT, DO NOT RAISE THE MAST. MOVE BOAT TO ANOTHER LOCATION AWAY FROM ANY WIRES. CONTACT WITH WIRES CAN BE FATAL.

2.1 IN WATER CHECK:

2.2.1 ELECTRICAL:

1. _____ELECTRICAL EQUIPMENT OPERATIONAL:
   ___RUNNING___CABIN___BOW___ANCHOR___SPREADERS
   ___PRESSURE___WATER___MACERATOR PUMP___MASTER
2. _____SHORE POWER OUTLET OK
3. _____CHECK BATTERY SWITCH #1___#2___OK
4. _____CHECK BATTERY FLUID LEVEL
5. _____CHECK BATTERY TERMINAL FOR TIGHTNESS

2.2.2 PLUMBING:

1. _____NO LEAKS AT THRU HULL FITTINGS WITH SEACOCKS OPEN
2. _____FILL ALL WATER TANKS
3. _____CHECK ALL WATER TANKS
4. _____TEST ALL FAUCETS AND FOOT PUMPS FOR LEAKS
5. _____CHECK FOR LEAKS AT SINK DRAIN, SINK DRAINS OK
6. _____PUT WATER IN ICE BOX AND CHECK FOR PROPER DRAINAGE
7. _____CHECK BILGE PUMP OPERATION, HANDLE PRESENT
8. _____CHECK HEAD BY FLUSHING AND PUMPING
9. _____CHECK SHOWER SUMP DRAIN LINE
10. _____CHECK HOLDING TANK, PUMP VENT AND FITTING

2.0 COMMISSIONING CHECK LIST (CONTD):

11. ___ CHECK HEAD AND PUMP HANDLE FOR LEAKS
12. ___ MAIN HATCH NO LEAKS, SLIDES FREELY, HATCH BOARDS FIT OK
13. ___ CABIN WINDOWS HOSE TESTED FOR LEAKS
14. ___ ANCHOR LOCKER DRAIN OK, NO LEAKS
15. ___ STOVE OPERATES OK: CHECKS, TANK, FUEL LINE, BURNER, AND OVEN

2.2.3 RIGGING AND HARDWARE:

1. ___ MAST STEPPED
2. ___ PIN, TAPE, AND TUNE STANDING RIGGING
3. ___ BACKSTAY ADJUSTER, WHISKER POLE, SPINNAKER GEAR, BOOM VANG
4. ___ BLOCKS, CARS, CLEATS RIGGED OK
5. ___ TEST ALL WINCHES, WINCH HANDLES PRESENT

2.2.4 ENGINE:

1. ___ NO LEAKS: SHAFT, RUDDER, STUFFING BOX, OR SHAFT LOG
2. ___ SHAFT, DIMPLED FOR SET BOLTS AT COUPLING; BOLTS WIRED AND COUPLING SECURED
3. ___ WITH FUEL TANKS FULL, NO LEAKS AT FILL PIPES, OVERFLOW VENT, OR ANY FUEL LINE CONNECTIONS
4. ___ WITH COUPLING DISCONNECTED, ENGINE AND SHAFT ALIGNMENT OK- RECHECK ALIGNMENT AFTER RIGGING TUNED
5. ___ TRANSMISSION OIL LEVEL OK
6. ___ CRANK CASE OIL LEVEL OK
7. ___ FUEL VALVES OPEN, BLEED AND PRIME LINES IF DIESEL ENGINE
8. ___ CHECK THAT SHAFT IS COUPLED AND ALIGNED TO .003 MAXIMUM TOLERANCE
9. ___ ENGINE WIRE OK, CONNECTIONS TIGHT
10. ___ THROTTLE CONTROL CABLE TRAVEL AND BRACKETS OK
11. ___ CLUTCH CONTROL CABLE TRAVEL AND BRACKETS OK
12. ___ START ENGINE
13. ___ EXHAUST WATER FLOW OK
14. ___ NO LEAKS IN FUEL LINES AT FITTING, FUEL FILTER, FUEL PUMP, OR INJECTORS
15. ___ NO ENGINE OR OIL LEAKS
16. ___ IDLING SPEED SET ___ R.P.M.'S
17. ___ CHECK CHOKE OPERATION, CHECK SHUTOFF CABLE FOR DIESEL ENGINE
18. ___ CHECK FOREWARD AND REVERSE SHIFTING
19. ___ CHECK ENGINE INSTRUMENTS FOR OPERATION, TACHOMETER FOR CALIBRATION
20. ___ RUN IN GEAR FOR TEN (10) MINUTES
21. ___ RECHECK PACKING GLAND AFTER ENGINE STOPS
22. ___ BILGE BLOWER AND VENT SYSTEM OK

2.0 COMMISSIONING CHECK LIST (CONTD):

2.3 OPERATING CHECK LIST:

1. ___ PEDESTAL STEERING OPERATION OK, COMPASS OK
2. ___ SAILS AND HALYARD OK
3. ___ BOAT PERFORMANCE UNDER POWER AND SAIL OK

2.3.1 FINAL CHECK:

1. ___ ALL ACCESSORY EQUIPMENT OPERATES OK
2. ___ ALL BOAT, ENGINE, AND ACCESSORY LITERATURE, AND/OR MANUALS ABOARD
3. ___ WARRANTY CARDS COMPLETED AND MAILED, OWNER REGISTRATION CARD ATTACHED, OWNER INFORMED OF WARRANTY RESPONSIBILITIES
4. ___ ENGINE WARRANTY CARD COMPLETED AND MAILED

3.0 MAINTENANCE GUIDE

3.1 PRE-USE MAINTENANCE:

RIGGING
1. INSPECT TURNBUCKLES TIGHTEN AS REQUIRED.
2. INSPECT CLEVIS PINS AND COTTER PINS.
3. VISUALLY INSPECT SPREADER TIPS AND OTHER AREAS WHERE SAILS MAY CHAFE DURING SAILING, REPLACE TAPE AS NECESSARY.
4. HALYARDS FREE AND NOT TANGLED.
5. INSPECT MAST HARDWARE ATTACHMENT BOLTS, TIGHTEN AS REQUIRED.

HULL AND DECK INSPECTION:
1. BILGES AND COMPARTMENTS ARE DRY.
2. THRU HULL VALVES, HOSES, AND CLAMPS, OK.
3. CHECK RUNNING LIGHTS

ENGINE:
1. CHECK ENGINE OIL AND FUEL LEVELS.
2. PACKING GLAND OK, COOLING WATER INTAKE VALVE OPENS AND CLOSES OK.
3. THROTTLE SHIFT OK.
4. BLOWER SYSTEM.
5. CHECK BILGE AREAS FOR FUEL BEFORE STARTING ENGINE.

3.2 MONTHLY MAINTENANCE:

RIGGING:
1. INSPECT CHAIN PLATES, FASTENINGS, AND BOLTS, TIGHTEN AS NECESSARY.
2. INSPECT BLOCKS, SHACKLES, COTTER PINS.
3. CHECK RIGGING TUNE, TIGGING WIRE CONDITION.
4. CHECK TURNBUCKLES AND LOCKING PINS.

HULL AND DECK:
1. CHECK COCKPIT DRAINS, CLEAR DEBRIS.
2. INSPECT HULL VALVES, OPEN AND CLOSE FREELY.
3. WINCHES TURN FREELY, LUBRICATE AS PER MANUFACTURE'S RECOMMENDATIONS.
4. CLEAN AND OIL EXTERIOR TEAK AS NECESSARY.
5. CLEAN AND WAX GEL COAT SURFACES AS NECESSARY.

ENGINE:
1. CHECK OIL AND FLUID LEVELS.
2. BATTERY: CHECK FLUID LEVELS AND TIE DOWNS.
3. TIGHTEN ALL BOLTS AND NUTS TO PROPER TORQUE.
4. CHECK FUEL TANK FITTINGS, AND HOSE CLAMPS.
5. DISASSEMBLE AND INSPECT COOLING SYSTEM ANTI-SYPHON (LOCATED UNDER GALLEY COUNTER NEAR SINK).

3.3 SEASONAL MAINTENANCE:

RIGGING:

1. MAST HEAD PINS AND SHEAVES TURN FREELY.
2. HALYARDS ARE IN GOOD CONDITION
3. SPREADERS TIPS AND BASES, AND MAST FITTINGS
4. ALL SHROUD TERMINATIONS AND SWEDGED FITTINGS, CHECK FOR CRACKS OR CORROSION.
5. GOOSENECK ASSEMBLY AND BOOM ASSEMBLY.
6. MAST, BOOM, AND SPREADERS CLEANED AND WAXED.

HULL, DECK, AND CABIN:

1. ALL CHAINPLATES AND THRU BOLTS TIGHT.
2. DISASSEMBLE WINCHES AND LUBRICATE BEARINGS AND PAWLS.
3. ELECTRICAL SYSTEM AND BATTERY TIE DOWNS, COAT TO PREVENT CORROSION, AND TERMINAL CONNECTORS.
4. DRAIN AND FLUSH FRESH WATER SYSTEM.
5. CHECK HEAD AND ANTI-SIPHON VALVE IN TOILET.
6. HATCH GASKETS, AND HOLD DOWN DOGS.
7. BOTTOM, KEEL, AND RUDDER CONDITION.
8. LIFELINES, STANCHIONS, AND PELICAN HOOKS.

ENGINE:

1. CHECK SHAFT ALIGNMENT, REPACK STUFFING BOX IF NECESSARY.
2. CLEAN MOTOR THOROUGHLY.
3. INSPECT FUEL SYSTEM.
4. TUNE ENGINE AS PER MANUFACTURERS RECOMMENDATIONS.

3.4 FIBERGLASS MAINTENANCE AND REPAIR:

ONE OF THE MAJOR BENEFITS OF A FIBERGLASS BOAT IS THE ELIMINATION OF MAINTENANCE CHORES REQUIRED BY OTHER MATERIALS. YOU HAVE ONLY THREE RELATIVELY EASY MAINTENANCE RULES TO FOLLOW TO KEEP YOUR BOAT LOOKING LIKE NEW.

1. EACH YEAR CLEAN, BUFF, AND WAX THE EXTERIOR OF THE BOAT.

2. TOUCH UP AND PATCH SCRATCHES, SCARS, AND SMALL BREAKS.

3. REPAIR ANY MAJOR BREAKS AS SOON AS POSSIBLE TO AVOID ADDITIONAL DAMAGE TO THE HULL OR DECKS.

MOST FIBERGLASS BOATS ARE MANUFACTURED OF TWO "LAYERS" OF MATERIAL, PERMANENTLY BONDED TOGETHER BY A CHEMICAL REACTION. THE OUTSIDE SURFACE IS FORMED BY A COLORED GEL COAT. THIS IS A SPECIAL RESIN MATERIAL CONTAINING CONCENTRATED COLOR. IT PROVIDES A SMOOTH, FINISHED SURFACE.

THE SECOND "LAYER" IS MADE UP OF POLYESTER RESIN REINFORCED WITH LAMINATIONS OF FIBER GLASS MAT, CLOTH, OR WOVEN ROVING. BOTH THE GEL COAT AND POLYESTER RESIN ARE "CURED" BY A CHEMICAL CATALYST WHICH CAUSES THEM TO FORM A HARD, STRONG MASS THAT IS HIGHLY RESISTANT TO IMPACT AND DAMAGE.

AFTER SAILING, A GOOD HOSING DOWN WITH FRESH WATER AND A MILD DETERGENT WILL KEEP YOUR BOAT SPARKLING FRESH AND CLEAN. THE NON-SKID SURFACES MAY NEED TO BE SCRUBBED WITH DETERGENT. SMOOTH GLASS AREAS MAY BE POLISHED WITH LIQUID WAX OR ANY GOOD FIBERGLASS WAX TO ADD EXTRA LUSTRE. IN THE CASE OF OLDER BOATS, WHERE SOME FADING OF THE GEL COAT HAS OCCURRED, THE SURFACE SHOULD BE BUFFED WITH POLISHING COMPOUND AND THEN WAX FINISHED.

WHEN BUFFING THE BOAT TO RESTORE ITS FINISH, CARE SHOULD BE TAKEN NOT TO CUT THROUGH THE GEL COAT SURFACE. THIS IS ESPECIALLY TRUE ON CORNERS AND EDGES OF THE HULL. A POWER BUFFER MAY BE USED OR THE WORK DONE BY HAND, USING A LIGHTLY ABRASIVE RUBBING COMPOUND SUCH AS MIRRO GLAZE NO. 1 FOR POWER BUFFERS, OR DUPONT NO. 7 FOR HAND BUFFING. ANY HIGH QUALITY PASTE WAX MAY BE USED AFTER BUFFING.

3.4.1 FIBERGLASS TOUCH UP AND REPAIR

Scratches, Shallow Nicks, Gouges, Small Holes (That do not penetrate through the hull)

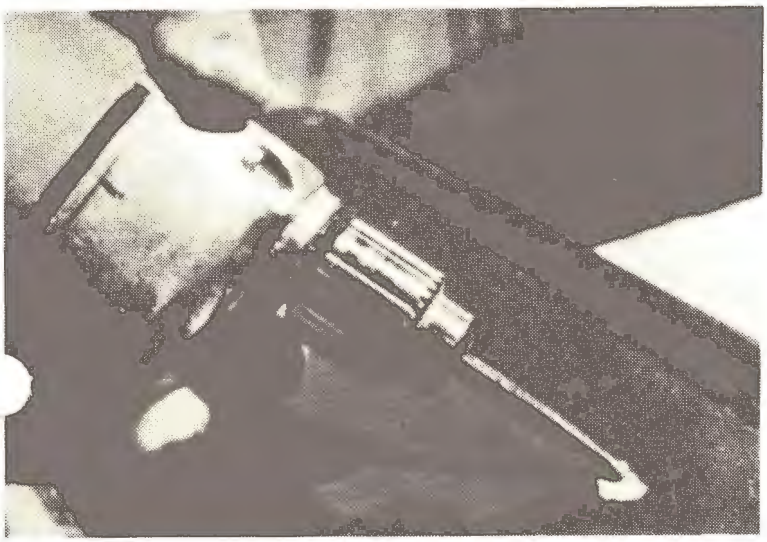
These repairs are easy because only the surface of the boat is damaged. They fall into two categories: (1) damage to the gel coat colored outer surface, and (2) holes or gouges that are deep enough to penetrate the fiber glass reinforced area of the boat. The repair operations are similar.

For damage to the gel coat surface, you will need a small can of gel coat, of the same color as your boat, and a small amount of catalyst. For deeper holes or gouges (1/8" or more) you will also need some short strands of fiber glass which can be trimmed from fiber glass mat or purchased in the form of "milled fibers." These materials can be purchased from your dealer.

(1) Be sure the area around the damage is wiped clean and dry. Remove any wax or oil from the inside of the hole or scratch

(2) Using a power drill with a burr attachment, roughen the bottom and sides of the damaged area and feather the edge surrounding the scratch or gouge. Do not "undercut" this edge. (If the scratch or hole is shallow and penetrates only the color gel coat, skip to step No. 8.)

(3) Into a jar lid or on a piece of cardboard, pour a small amount of gel coat . . . just enough to fill the area being worked on. Mix an equal amount of milled fibers with this gel coat, using a putty knife or small flat stick. Then add two drops of catalyst, using an eyedropper for accurate measurement. For a half-dollar-size pile of gel coat, this amount of catalyst will give you 15 to 20 minutes working time before it begins to "gel". Carefully cut the catalyst into the gel coat and mix thoroughly.



(4) Work this mixture of gel coat, fibers and catalyst into the damaged area, using the sharp point of a putty knife or knife blade to press it into the bottom of the hole and to puncture any air bubble which may occur. Fill the scratch or hole above the surrounding undamaged area about 1/16".

(5) Lay a piece of cellophane or waxed paper over the repair to cut off the air and start the "cure."

6) After 10 or 15 minutes the patch will be partially cured. When it feels rubbery to the touch, remove the cellophane and trim flush with the surface, using a sharp razor blade or knife. Replace the cellophane and allow to cure completely (30 minutes to an hour). The patch will shrink slightly below the surface as it cures.

7) Again use the electric drill with burr attachment to rough up the bottom and edges of the hole. Feather hole into surrounding gel coat, do not undercut.

8) Pour out a small amount of gel coat into a jar lid or on cardboard. Add a drop or two of catalyst and mix thoroughtly, using a cutting motion rather than stirring. Use no fibers.

9) Using your finger tip or the tip of a putty knife, fill the hole about 1/16" above the surrounding surface with the gel coat mixture.

0. Lay a piece of cellophane over the patch to start the curing process. Repeat step 6, trimming patch when partially cured.

11. Immediately after trimming, place another small amount of gel coat on one edge of the patch and cover with cellophane. Then, using a rubber squeegee or back of the razor blade, squeegee level with area surrounding the patch. Leave cellophane on patch for 1 to 2 hours, or overnight, for a complete cure.

12. USING A SANDING BLOCK, sand the patched area with 600 grit WET sandpaper. Finish by rubbing or buffing with a fine rubbing compound. Some slight color difference may be observed. Weathering will blend touch-up, if properly applied.

3.5 BOTTOM BARRIER COATING AND PAINT PREPARATION:

IT IS RECOMMENDED THE UNDERWATER SURFACES BE COVERED WITH A BARRIER COAT TO PREVENT WATER PENETRATION INTO THE GEL COAT. BARRIER COATINGS ARE AVAILABLE FROM SEVERAL PAINT MANUFACTURERS, AND THEIR COATING RECOMMENDATIONS SHOULD BE CAREFULLY FOLLOWED FOR A SUCCESSFUL APPLICATION.

FOR THOSE OWNERS WHO APPLY ANTI-FOULING PAINT THEMSELVES, IT SHOULD BE NOTED THAT MOST BRANDS REQUIRE A: UNDERWATER FIBER-GLASS SURFACES TO BE VERY CAREFULLY SANDED AND PRIMED IMMEDIETLY PRIOR TO THE FIRST APPLICATION ON A NEW BOAT. IN ANY EVENT, THE INSTRUCTIONS OF THE MANUFACTURER OF THE PAINT USED SHOULD BE FOLLOWED.

ANTI-FOULING PAINT SHOULD BE APPLIED TO THE BOTTOM OF YOUR CATALINA 36 . 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. BEFORE APPLYING BOTTOM PAINT, THE BOTTOM SHOULD BE THOROUGHLY CLEANED WITH A SOLVENT TO REMOVE ANY WAX.

3.6 TEAK MAINTENANCE:

WOOD TRIM AND PARTS-MOST EXTERIOR WOOD IS TEAK AND CAN BE KEPT LOOKING GOOD BY OCCASIONAL OILING WITH TEAK OIL.

SHOULD THE TEAK BECOME WEATHERED, CLEANING AND BLEACHING WITH A COMMERCIALLY AVAILABLE TEAK CLEANER AND BLEACH WILL RESTORE THE COLOR OF THE WOOD. THEN OIL THE WOOD WITH A GOOD GRADE TEAK OIL TO RESTORE THE GOLDEN COLOR OF THE TEAK. DO NOT USE WIRE OR HARD BRISTLE BRUSHES ON THE WOOD, AS THIS WILL REMOVE THE SOFTER WOOD BETWEEN THE ANNUAL RINGS AND LEAVE A ROUGH SURFACE.

3.7 SPAR AND RIGGING MAINTENANCE:

STANDING RIGGING:
YOUR BOAT IS EQUIPPED WITH STAINLESS STEEL STANDING RIGGING, DACRON RUNNING RIGGING, TO GIVE YOU YEARS OF TROUBLE FREE SERVICE. HOWEVER, DO TO NORMAL WEAR AND TEAR, IT IS RECOMMENDED THAT A PERIODIC INSPECTION BE MADE ON ALL FITTINGS AND WIRE. TURNBUCKLES SHOULD NEVER BE NEGLECTED AND SHOULD BE UNSCREWED FROM TIME TO TIME IN ORDER THAT THEY DON'T SIEZE. EVERY THREE MONTHS SHOULD BE ABOUT RIGHT FOR THE AVERAGE SAILOR. A SLIGHTLY BENT TURN-BUCKLE SHAFT OR BROKEN WIRE IN YOUR SHROUDS SHOULD BE REPLACED IMMEDIATELY.

UNDER MOST CONDITIONS, 1 X 19 STANDING RIGGING HAS A SAFE "WORKING" LIFE SPAN OF APPROXIMATELY FIVE YEARS: SEVEN YEARS UNDER IDEAL CONDITIONS. FACTORS WHICH REDUCE THE LIFE OF THE WIRE ARE ENVIROMENTAL FACTORS SUCH AS HIGH HUMIDITY (FLORIDA, THE CARIBBEAN, AND GULF STATES): HIGH SALINITY (GREAT LAKE, GULF STATES, OR MOORING NEAR A SEA WALL WITH CONSTANT SALT SPRAY); EXTREMES IN TEMPERATURE; AND INDUSTRIAL POLLUSTION (PULP MILLS, GENERATING PLANTS, ACID RAIN, AND SMOG). HIGH LOADING OF THE RIGGING AS

REQUIRED IN MOST RACING BOATS ALSO INDUCES STRESS IN THE RIGGING SYSTEM.
MANY OF US HAVE TO DEAL WITH AT LEAST ONE OF THESE CONDITIONS AND SHOULD CONSIDER REPLACING STANDING RIGGING NEARER THE FIVE YEAR LIMIT.

UNLIKE RUNNING RIGGING WIRE ROPE, WHICH GIVES US CLEAR SIGNS THAT IT IS DETERIORATING BY BROKEN STRANDS AND "MEAT HOOKS", STANDING RIGGING MAY GIVE NO SIGN THAT FAILURE IS IMMINENT. THE USUAL POINT OF FAILURE OF STAY OR SHROUD IS APPROXIMATELY 1/4" INSIDE THE BOTTOM SWEDGED THREADED STUD FITTING WHICH THREADS INTO THE TURNBUCKLE BARREL.

ALTHOUGH THE STUD IS COMPRESSED AROUND THE WIRE DURING THE SWEDGING PROCESS, SALT WATER AND POLLUTANTS WORK DOWN INTO THE TINE CAVITIES BETWEEN THE WIRE STRANDS AND THE INEVITABLE CORROSIVE PROCESS STARTS IN THE CREVICE THE FIRST TIME THE RIGGING BECOMES WET WITH SALT WATER.

A COMMON METHOD OF VISUALLY MONITORING SWEDGE FITTING CONDITIONS EMPLOYED BY DISTANT RACERS AND CRUISERS IS TO DAB A SMALL RING OF ENAMEL PAINT AROUND THE JOINT BETWEEN THE WIRE AND THE SWEDGE FITTING. THIS WILL HELP PROVIDE A MEANS TO SEE IF THE WIRE IS PULLING OUT OF THE FITTING.

ANOTHER TECHNIQUE USED TO CHECK THE CONDITION OF SWEDGE FITTINGS IS A "DIE PENETRANT" TEST. THIS SIMPLE TEST WILL DETECT ANY CRACKS WHICH MAY DEVELOP IN THE FITTINGS DUE TO INTERNAL PRESSURE FROM THE CORROSIVE PROCESS. INEXPENSIVE DIE TEST KITS USUALLY ARE AVAILABLE AT MOST WELDING SUPPLY STORES. DIE TESTS USUALLY ARE NOT REQUIRED BY WEEKEND SAILORS, BUT MAY BE DONE BEFORE AN EXTENDED CRUISE OR OCEAN PASSAGE IF ANY DOUBT ABOUT THE INTEGRITY OF THE RIGGING EXISTS.

ALL STAINLESS STEEL WIRE ROPE RIGGING WILL DEVELOP SOME RUST FILM WHEN NEW.THIS IS NORMAL.

THE RUST IS CAUSED BY TWO FACTORS. WHEN WIRE ROPE IS MANUFACTURED, THE WIRE STRANDS ARE FED OVER STEEL ROLLERS DURING THE PROCESS OF TWISTING OF LAYING THE WIRE. TRACE AMOUNTS OF THE FERROUS STEEL FROM THE ROLLERS AND DIES ARE TRANSFERRED TO THE WIRE STRANDS. AS THIS SMALL AMOUNT OF STEEL RUSTS IT CAUSES A FILM ON THE NEW WIRE.

THE SECOND CAUSE OF THE RUST FILM ON NEW WIRE ROPE IS THE MICROSCOPIC VEINS OF FERROUS MATERIAL WHICH EXIST IN ALL STAINLESS STEEL. AFTER A PERIOD OF TIME, AS THE SURFACE MATERIAL VEINS ARE DEPLETED, AND THE STAINLESS STEEL HAS BEEN CLEANED SEVERAL TIMES, NEW RUST FILM DEVELOPMENT WILL SLOW TO A MINIMUM.

FOR THE AVERAGE SAILOR, THE BEST INSURANCE AGAINST A RIGGING FAILURE IS A PERIODIC (EVERY SIX MONTHS IS RECOMMENDED) INSPECTION OF ALL RIGGING PARTS, INCLUDING TURNBUCKLES, AND REPLACEMENT OF STANDING RIGGING AS REQUIRED.

FITTINGS:

MARINE FITTINGS TODAY NEED LITTLE MAINTENANCE. DECK HARDWARE SHOULD BE HOSED DOWN WITH FRESH WATER AFTER EACH SAIL IN SALT WATER. STAINLESS STEEL FITTINGS SUCH AS PULPITS AND LIFELINE STANCHIONS SHOULD BE CLEANED AND WAXED PERIODICALLY TO MAINTAIN THEIR APPEARANCE. WINCHES REQUIRE OCCASSIONAL CLEANING AND LUBRICATION. WHERE POSSIBLE, A MAINTENANCE BROCHURE FOR YOUR WINCHES HAS BEEN INCLUDED IN THIS MANUAL. MASTHEAD FITTINGS, HALYARD SHEAVES, ETC., SHOULD BE INSPECTED, CLEANED, AND LUBRICATED PERIODICALLY. KEEP YOUR EQUIPMENT CLEAN OF DIRT AND SALT.

SPARS:

LIKE ALL OTHER FITTINGS, MAST AND BOOMS SUFFER FROM SALT WATER, AIR AND SPRAY. THESE SHOULD BE KEPT WAXED WHERE POSSIBLE, AND AT LEAST ALWAYS HOSED DOWN WITH FRESH WATER. ALWAYS SEE THAT THE HALYARDS ARE TIED OFF AWAY FROM THE MAST. THIS WILL ELIMINATE SLAPPING IN THE WIND, AND SUBSEQUENT MARKING OF THE MAST. KEEP TACK PIN (WHICH IS LOCATED ON FRONT OF BOOM) WILL LUBRICATED, AS THE STAINLESS STEEL PIN CAN BECOME SEIZED IN THE ALUMINUM GOOSENECK CASTING WITHOUT PROPER LUBRICATION.

FIND A HIGH PRESSURE NOZZLE AND SHOOT FRESH WATER TO THE TOP OF THE MAST AND SPREADERS. THIS WILL HELP KEEP YOUR SAILS CLEAN TOO, AS THEY RUB ON THE MAST AND SPREADERS.

INSPECT SPREADERS AND SPREADER BRACKETS FOR SIGNS OF FATIGUE. SEE THAT ENDS OF SPREADERS ARE WIRED AND WELL COVERED WITH TAPE TO PREVENT WEAR ON THE SAILS.

3.8 SAIL MAINTENANCE:

SAILS SHOULD NEVER BE PUT AWAY WET. IF THEY ARE WET AFTER SAILING, LEAVE THEM LOOSE IN BUNDLES AND DRY THEM AT YOUR FIRST OPPORTUNITY.

FOR MOST PROBLEMS SUCH AS COMMON DIRT, DRIED OR CAKED SALT, ETC., TRY SCRUBBING THE SURFACE WITH A SOFT BRISTLED BRUSH AND LIQUID DETERGENT. AVOID HARSH POWDER DETERGENTS AND STIFF BRUSHES, AS THEY MAY DAMAGE THE FINISH OR STITCHING. THIS APPROACH SHOULD WORK NICELY FOR MOST APPLICATIONS. MORE SEVERE STAINS CAN BE TACKEN CARE OF BY THE FOLLOWING:

* IMPORTANT: FOR WHITE SAILS ONLY!

BLOOD: SOAK THE STAINED PORTION FOR 10-20 MINUTES IN A SOLUTION OF BLEACH (CLOROX) AND WARM WATER. GENERALLY 10 PARTS WATER TO 1 PART BLEACH. SCRUB AND REPEAT IF NECESSAY. RINSE THOROUGHLY, PARTICULARLY NYLON, AND DRY COMPLETELY.

OIL, GREASE, TAR AND WAX: WARM WATER, SOAP AND ELBOW GREASE SEEM TO BE EFFECTIVE. ON HARD STAINS, PROPRIETY STAIN REMOVER AND DRY CLEANING FLUIDS SHOULD DO THE TRICK. BE CAREFUL TO REMOVE ALL FLUIDS. AS THEY CAN SOFTEN THE VARIOUS RESINATED COATINGS ON SAILCLOTH.

RUST AND METALLIC STAINS: THESE TYPES OF STAINS ARE VERY OFTEN THE MOST FRUSTRATING AND DIFFICULT TO REMOVE. FIRST SCRUB WITH SOAP AND WATER, AND APPLY ACETONE, M.E.K., OR ALCOHOL. AS A LAST RESORT, YOU MIGHT TRY A DILUTED MIXTURE (5%) OF OXALIC SOAKED FOR 15-20 minutes. hydrochloric acid, 2 PARTS TO 100 IN WARM WATER, WILL ALSO WORK.

MILDEW: HOT SOAPY WATER WITH A LITTLE BLEACH WILL GENERALLY PREVAIL. AFTER SCRUBBING, LEAVE THE SOLUTION ON THE FABRIC FOR A FEW MINUTES AND RINSE THOROUGHLY. WHEN USING A BLEACH, A RESIDUAL CHLORINE SMELL MAY BE PRE-SENT AFTER RINSING. A 1% SOLUTION OF THIOSULPHATE (PHOTOGRAPHER'S HYPO) SHOULD REMOVE ALL CHLORINE TRACES. HERE AGAIN, RINSE AND DRY WELL.

PAINT AND VARNISH: ACETONE AND M.E.K. SHOULD REMOVE MOST COMMON PAINT AND STAINS. VARNISH CAN BE EASILY RFMOVED WITH ALCOHOL.

TEMPERKOTE OR MYLAR SAILS ARE STILL NEW AND EXPERIMENTAL. AT THIS POINT IN TIME, AVOID MOST SOLVENTS, AS THEY CAN DAMAGE THE FABRIC OVER A PERIOD OF TIME. SOAP AND DILUTED BLEACHES SHOULD TAKE CARE OF MOST STAINS.

GENERALLY SPEAKING, USE ALL SOLVENTS WITH CARE. ALWAYS RINSE AND DRY THOROUGHLY. IT SHOULD BE EMPHASIZED THAT NYLON RIPSTOP SPINNAKER FABRICS ARE LESS DURABLE AND MORE SENSITIVE THAN THEIR POLYESTER COUNTERPARTS. BLEACHES AND SOLVENTS CAN RUIN NYLON IF NOT USED PROPERLY.

FOLLOW THE ABOVE GUIDELINES, TAKE YOUR SAILS INTO YOUR SAILMAKER FOR PERIODICAL INSPECTION, AND I'M SURE YOU WILL HAVE MANY EFFECTIVE SEASONS OF RACING AND CRUISING PLEASURE.

3.9 INTERIOR CUSHION, FABRIC COVER:

CLEANING:

1. REGULAR VACUM CLEANING OR BRUSHING IN THE DIRECTION OF THE PILE WITH A SOFT BRUSH.

2. STAINS SHOULD, IF POSSIBLE, BE REMOVED AT ONCE WITH A DAMP CLOTH. DO NOT ALLOW STAINS TO HARDEN AND AGE.

3. GREASY STAINS CAN BE REMOVED WITH ORDINARY CLEANING FLUID.

4. FOR OVERALL CLEANING, USE COMMERCIAL TYPES OF UPHOLSTERY SHAMPOO USING ONLY THE FOAM TO PROTECT THE BACK PADDING FROM MOISTURE. AFTER A MINUTE OR SO, REMOVE FOAM, AND WHEN DRY, VACUM OR BRUSH IN THE DIRECTION OF THE PILE.

5. DO NOT USE HEAT SUCH AS AN IRON OR STEAM.

3.9.1 CURTAINS:

WHEN CURTAINS BECOME SOILED, DO NOT HAND OR MACHINE WASH, FOR IT WILL WEAKEN THE MATERIAL. DRY CLEANING IS THE RECOMMENDED PROCEDURE FOR THE REMOVAL OF ANY DIRT OR STAINS.

4.0 Y A C H T S Y S T E M S

4.1 RIGGING:

4.1.1 STEPPING THE MAST:

CAUTION: THE AMULINUM AND OTHER METAL PARTS CONDUCT ELECTRICITY COMING IN CONTACT WITH OR NEAR AN ELECTRICAL POWER LINE OR LIGHTNING CAN CAUSE SEVERE INJURY OR DEATH. STAY AWAY FROM OVERHEAD ELECTRICAL POWER LINES WHEN SAILING AND/OR LAUNCHING THE BOAT.

WHEN TRAILERING YOUR BOAT ALWAYS TRY TO UNDO AS LITTLE RIGGING AS POSSIBLE. IT IS NECESSARY ONLY TO UNDO THE TWO FORWARD LOWER SHROUDS AND THE FORESTAY BEFORE LOWERING THE MAST.

1. BEFORE RAISING MAST, MAKE SURE HALYARDS ARE NEATLY TIED DOWN AND THAT THEY ARE ON PROPER SIDES OF THE SPREADERS. YOU SHOULD NEVER ATTEMPT TO RAISE THE MAST UNLESS THE UPPER SHROUDS (THOSE THAT PASS OVER THE SHROUDERS) AND THE AFT LOWER SHROUDS ARE ATTACHED TO THE DECK FITTINGS AND THE TURNBUCKLES WELL 'STARTED' INTO THEIR BARRELS. THE TURNBUCKLES MUST NOT BE COMPLETELY TIGHTENED HOWEVER, BECAUSE SLACK IS NEEDED IN THE SHROUDS TO ENABLE THE MAST TO BE FULLY RAISED. THE BACKSTAY SHOULD BE ATTACHED TO THE TRANSOM CHAINPLATE. THE UPPER SHROUDS, AFTER LOWER SHROUDS, AND BACKSTAY WILL KEEP THE MAST FROM FALLING OVER WHEN ITS RAISED, THEREFORE, ALL OF THESE MUST BE ATTACHED TO THE CHAINPLATES BEFORE THE MAST IS RAISED.

2. MAKE SURE THAT THE SHROUDS AND STAYS ARE NOT FOULED. BACKSTAY SHOULD LIE CLEAR OF THE TRANSOM. YOU MAY STEP THE MAST ON LAND OR WHILE THE BOAT IS IN THE WATER. IT SEEMS TO BE EASIER ON LAND BECAUSE THE BOAT IS WTILL. ALSO, IT KEEPS OTHER SAILORS FROM GETTING IMPATIENT WHILE THEY WAIT FOR YOU TO MOVE OUT OF THE LAUNCH AREA.

3. WALK THE MAST AFT AND DROP THE MAST FOOT INTO THE TABERNACLE LOCATED ON TOP OF THE DECK, KEEPING THE MAST IN CENTER LINE OF BOAT INSERT THE PIVOT BOLT AND LOCKING NUT.

4. ONE CREW MEMBER SHOULD PULL ON A LINE TIED SECURELY TO THE FORESTAY WHILE ANOTHER PUSHES UP ON THE MAST AND WALKS FROM THE COCKPIT FORWARD. WITH THE MAST ERECT, ATTACH THE FORESTAY AND FORWARD LOWER SHROUDS.

4.1.2 TUNING THE MAST:

YOUR MAST IS HELD ALOFT BY THE STANDING RIGGING (FORESTAY, BACKSTAY, UPPER SHROUDS, FORE AND AFT, LOWER SHROUDS). THE TERM "TUNING" REFERS TO ADJUSTMENT OF THR STANDING RIGGING SO THAT THE MAST REMAINS "IN COLUMN"(NOT BEN) WHEN UNDER LOAD, THIS IS ACCOMPLISHED BY FOLLOWING THE PROCEDURE OUT-LINED BELOW:

CAUTION: THE ALUMINUM AND OTHER METAL PARTS CONDUCT ELECTRICITY COMING IN CONTACT WITH OR NEAR AN ELECTRICAL POWER LINE OR LIGHTNING CAN CAUSE SEVERE INJURY OR DEATH. STAY AWAY FROM OVERHEAF ELECTRICAL POWER LINES WHEN SAILING AND/OR LAUNCHING THE BOAT.

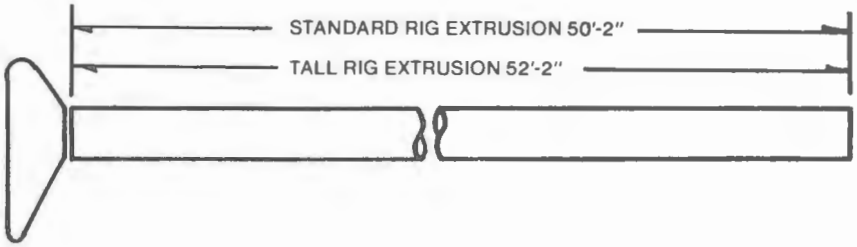
AT THE DOCK

1. ADJUST FORESTAY AND BACKSTAY SO THAT THE MAST IS STRAIGHT UP AND DOWN. TIE A BOLT TO 6 TO 7 FOOT LONG PIECE OF LIGHT LINE TO MAKE A QUICK PLUMB BOB, AND TAPE THE FRFE END OF THE LINE TO THE FRONT OF THE MAST AS HIGH UP AS YOU CAN REACH. THIS DEVISE WILL HELP YOUR TO DETERMINE IF THE MAST IS PERPENDICULAR OR NOT. OTHERWISE, SIGHT YOUR MAST WITH THE CORNER OF A BUILDING.

2. ADJUST THE UPPER SHROUDS SO THAT THE MAST IS STRAIGHT UP AND DOWN ATWARTHSHIPS. THAT IS, FROM SIDE TO SIDE AS OPPOSED TO BOW AND STERN.

3. THE UPPER SHROUDS SHOULD BE FIRM BUT NOT BAR TIGHT. A 50 POUND PUSH SHOULD DEFLECT THE UPPER SHROUD ABOUT 1" AT SHOLDER HEIGHT.

4. THE LOWER SHROUDS (4 OF THEM) SHOULD BE ADJUSTED SO THAT THEY ARE LOOSER THAN THE UPPER SHROUDS. WHILE AT DOCK, THEY SHOULD HAVE NO SLACK, BUT NO TENSION EITHER. NO LOWER 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 ONE HALF TURN AT A TIME OF THE UPPER SHROUD TURNBUCKLES UNTIL THE TENSION ON THE LOWER SHROUDS IS BROUGHT INTO BALANCE.



TURNBUCKLES	QTY.
5/8" WITH 5/8" PIN	2
1/2" WITH 1/2" PIN	6

MISC. RIGGING		
DESCRIPTION	LENGTH	QTY.
ADJUSTER LINE, DACRON	5/16" x 18'-0"	1
REEFING LINE, DACRON	3/8" x 16'-0"	1
REFFING LINE, DACRON	3/8" x 26'-0"	1
VANG LINE, DACRON	7/16" x 40'-0"	1
FORE GUY, DACRON	3/8" x 45'-0"	1
SPINNAKER TOPPING LIFT DACRON	3/8" x 70'-0"	1
SPINNAKER SHEET, DACRON	7/16" x 70'-0"	2
GENOA SHEET, DACRON	7/16" x 45'-0"	2
JIB SHEET, DACRON	7/16" x 55'-0"	2
TRAVELER SYSTEM LINES	5/16" x 16'-0"	2
MID SHIP TRAVELER MAINSHEET, DA CRON	7/16" x 80'-0"	1

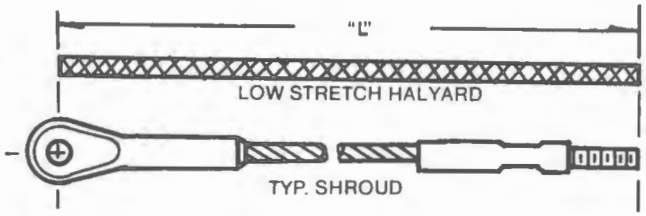
DESCRIPTION	LENGTH		MATERIALS	QTY.
	STD.	TALL		
BACKSTAY	47'-11 1/2"	50'-1 1/2"	5/16" - 1 x 19	1
FORESTAY	45'-5 1/2"	46'-11 1/2"	5/16" - 1 x 19	1
UPPERS	42'-10 3/4"	44'-8 1/2"	5/16" - 1 x 19	2
AFT LOWERS	22'-10 1/4"	23'-10 1/4"	1/4" - 1 x 19	2
FWD LOWERS	22'-7"	23'-7"	1/4" - 1 x 19	2
TOPPING LIFT	39'-0"	41'-0"	3/32" - 1 x 19	1
TOPPING LIFT TAIL	20'-0"	22'-0"	1/4" DACRON	1
JIB HALYARD	115'-0"	117'-0"	3/8" L.S. DACRON	1
MAIN HALYARD	115'-0"	117'-0"	3/8" L.S. DACRON	1
SPINNAKER HALYARD	105'-0"	107'-0"	3/8" L.S. DACRON	1
(OPT.) FORESTAY FOR HOOD R.F.	45'-7 3/8"	47'-3 3/4"	5/16 - 1 x 19	1

(1) EYE.

NOTES:

(1) TOLERANCE ± 1/2"

(2) MEASUREMENTS FROM CENTER OF EYE TO CENTER OF EYE OR END OF STUD.



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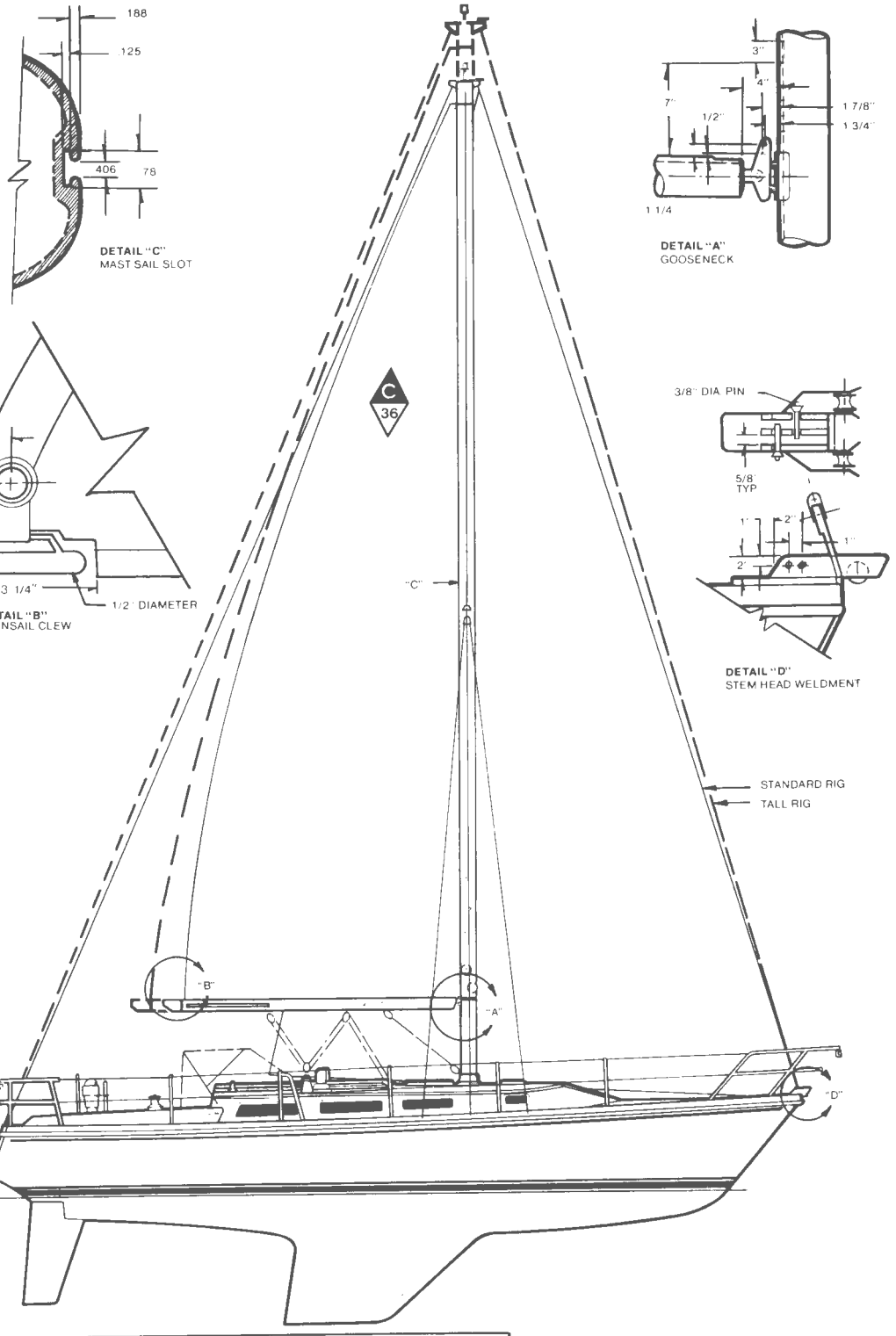
RIGGING WIRE LENGTH CHECK LIST



STANDARD RIG					
SAIL	LUFF	LEACH	FOOT	RATED AREA	NOTES
MAIN	39.00	40.74	12.00	234	
110% JIB	39.50	36.00	17.41	311	LP = 15.74
155% GENOA	45.00	43.16	23.25	500	LP = 22.21
SPINNAKER	44.63	MAX. GIRTH = 25.79		978	RADIAL HEAD
	I = 44.75 J = 14.33 P = 39.00 E = 12.00				

TALL RIG					
SAIL	LUFF	LEACH	FOOT	RATED AREA	NOTES
MAIN	41.00	43.00	13.00	266	
110% JIB	41.50	37.82	17.41	327	LP = 15.74
155% GENOA	47.00	45.41	23.00	522	LP = 22.21
SPINNAKER	44.63	MAX. GIRTH = 25.79		978	RADIAL HEAD
	I = 46.75 J = 14.33 P = 41.00 E = 13.00				

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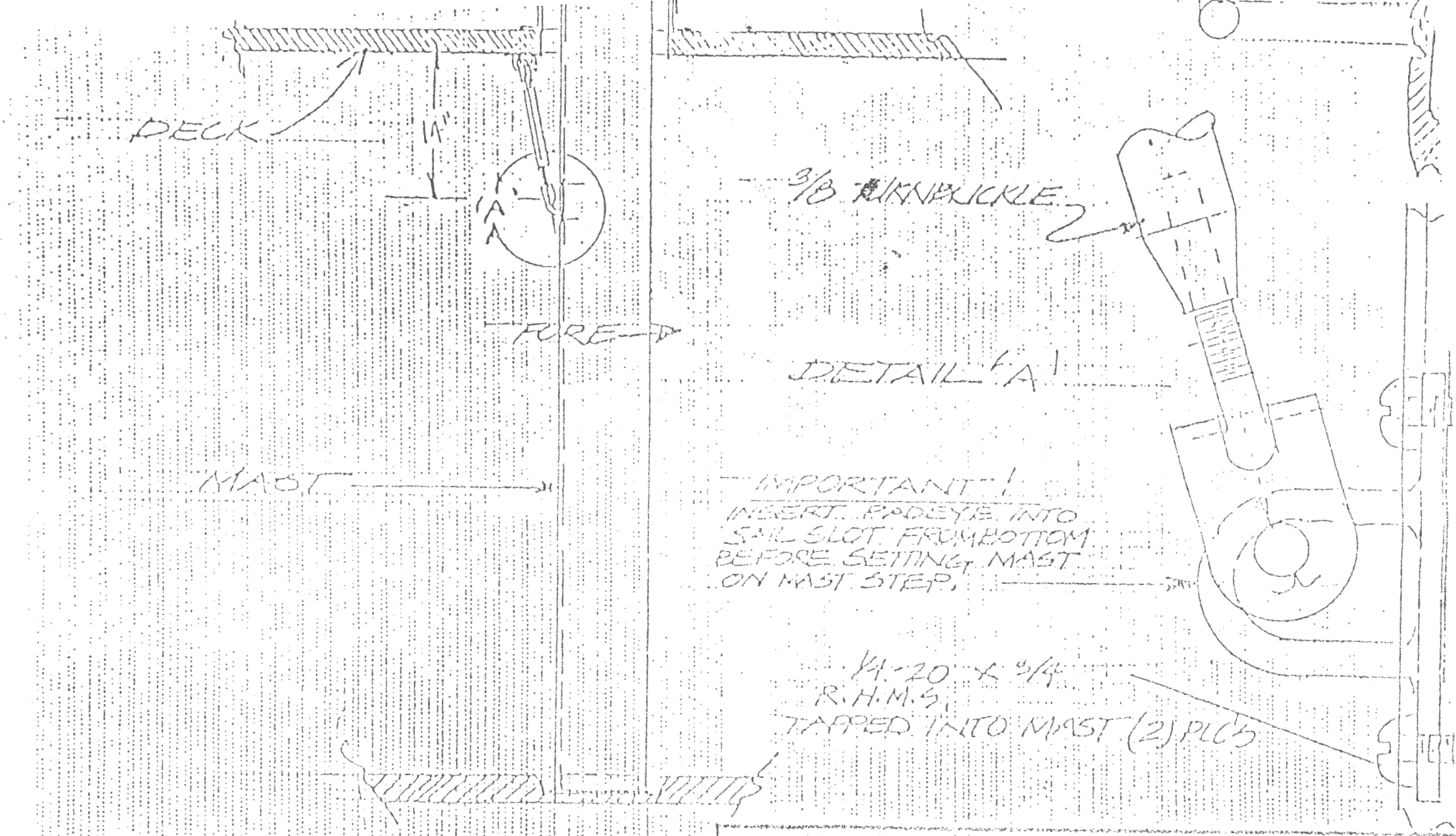
SAIL PLAN

CATALINA 36 OWNERS MANUAL 4.1.4



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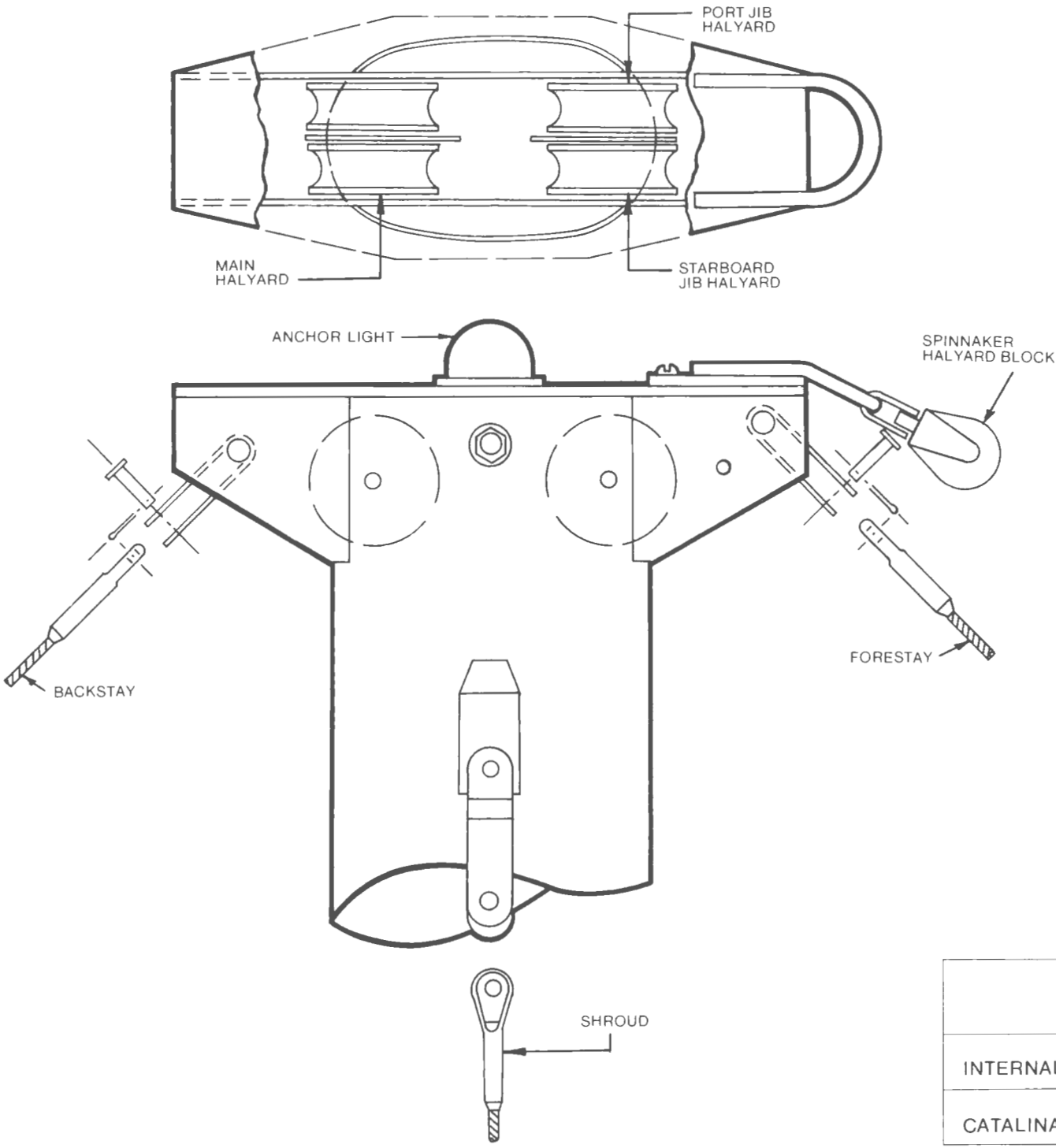
SCALE: NONE	APPROVED BY:	DRAWN BY:
DATE: 11-22-83		REVISED: 12

DECK TIE TURNBUCKLE



CATALINA YACHTS INC. 21200 VICTORY BLVD. WOODLAND HILLS, CA
INTERNAL HALYARD MAST HEAD ASSEMBLY
CATALINA 36 OWNERS MANUAL 4.1.5

4.1.6 MAIN SAIL REEFING:

REEFING SHOULD ALWAYS BE DONE BEFORE IT BECOMES NECESSARY. SOME SAILORS USE THE RULE OF THUMB THAT IF THE THOUGHT OF REEFING OCCURS TO YOU, IT IS TIME TO REEF. SAILING AT EXTREME ANGLES OF HEEL, 25 DEGREES OR MORE, IS NOT EFFICIENT, FAST, OR COMFORTABLE.

THE CATALINA 36 IS EQUIPPED WITH JIFFY REEFING, ALSO CALLED SLAB REEFING, FOR REEFING THE MAIN SAIL. THE SYSTEM CONSISTS OF A TRACK AND TWO REEFING CARS MOUNTED ON THE STARBOURD, OUTBOARD END OF THE BOOM. TWO CARS ARE PROVIDED SO THAT TWO SETS OF REEF POINTS CAN BE PUT IN THE MAINSAIL. TWO CLEATS ARE LOCATED ON THE MAST BELOW THE GOOSENECK, FOR REEFING THE LUFF OF THE MAIN.

RUN THE REEFING LINES PROVIDED THROUGH THE CRINGLES (GROMMETS) IN THE LUFF AND LEECH OF THE MAIN SAIL IN PREPARATION FOR REEFING. PER ILLUSTRATION, ONE CREW STATIONED IN THE COCKPIT AND ONE CREW AT THE MAST ARE RECOMMENDED FOR FAST, SAFE REEFING.

REEFING PROCEDURE:

1. TAKE UP SLACK IN MAIN BOOM TOPPING LIFT, CLEATED TO PORT SIDE OF BOOM.

2. RELEASE THE MAIN HALYARDS TO A PREDETERMINED POINT. MARKING THE HALYARD WITH INK OR A COLORED THREAD WOVEN INTO THE LINE IS HELPFUL. RECLEAT THE HALYARD AFTER LOWERING.

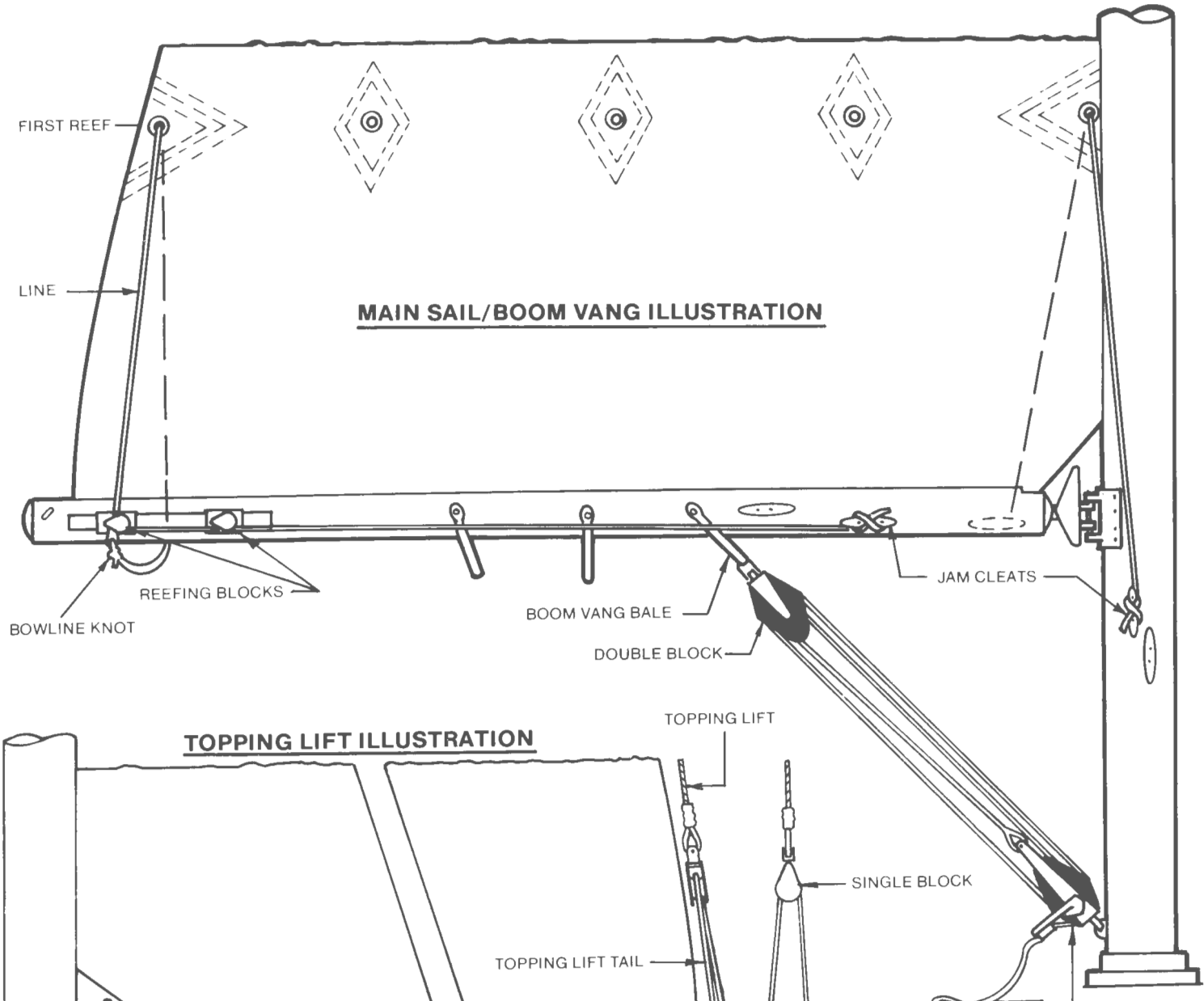
3. PULL THE LUFF CRINGLE DOWN TO THE GOOSENECK BY PULLING THE LUFF REEFING LINE THROUGH THE CLEAT ON EITHER SIDE OF THE MAST. BY PULLING THE LINE UP THROUGH THE CLEAT, A 2:1 PURCHASE IS CREATED ON THE LUFF. TIE OFF THE LUFF REEFING LINE WHEN THE CRINGLE MEETS THE GOOSENECK.

4. EASE THE MAINSHEET.

5. PULL THE LEECH CRINGLE DOWN TO THE BOOM, BY PULLING THE LEECH REEFING LINE ON THE STARBOURD SIDE OF THE BOOM AND MAKE THE LINE FAST.

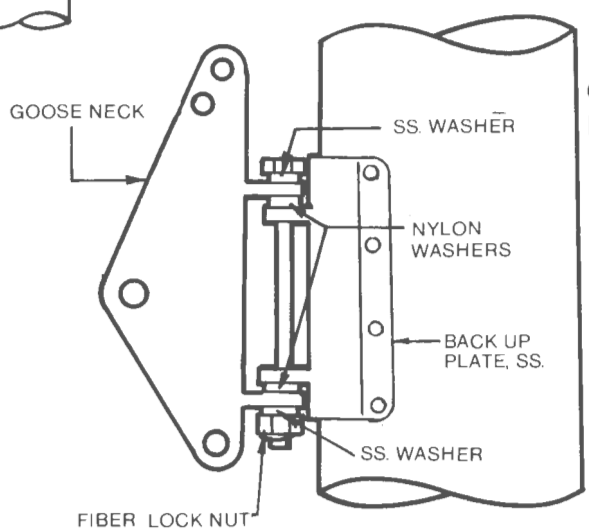
6. TRIM IN THE MAINSHEET.

7. SNUG UP THE MAIN HALYARD AS REQUIRED TO FLATTEN OUT THE MAINSAIL.



MAIN SAIL/BOOM VANG ILLUSTRATION

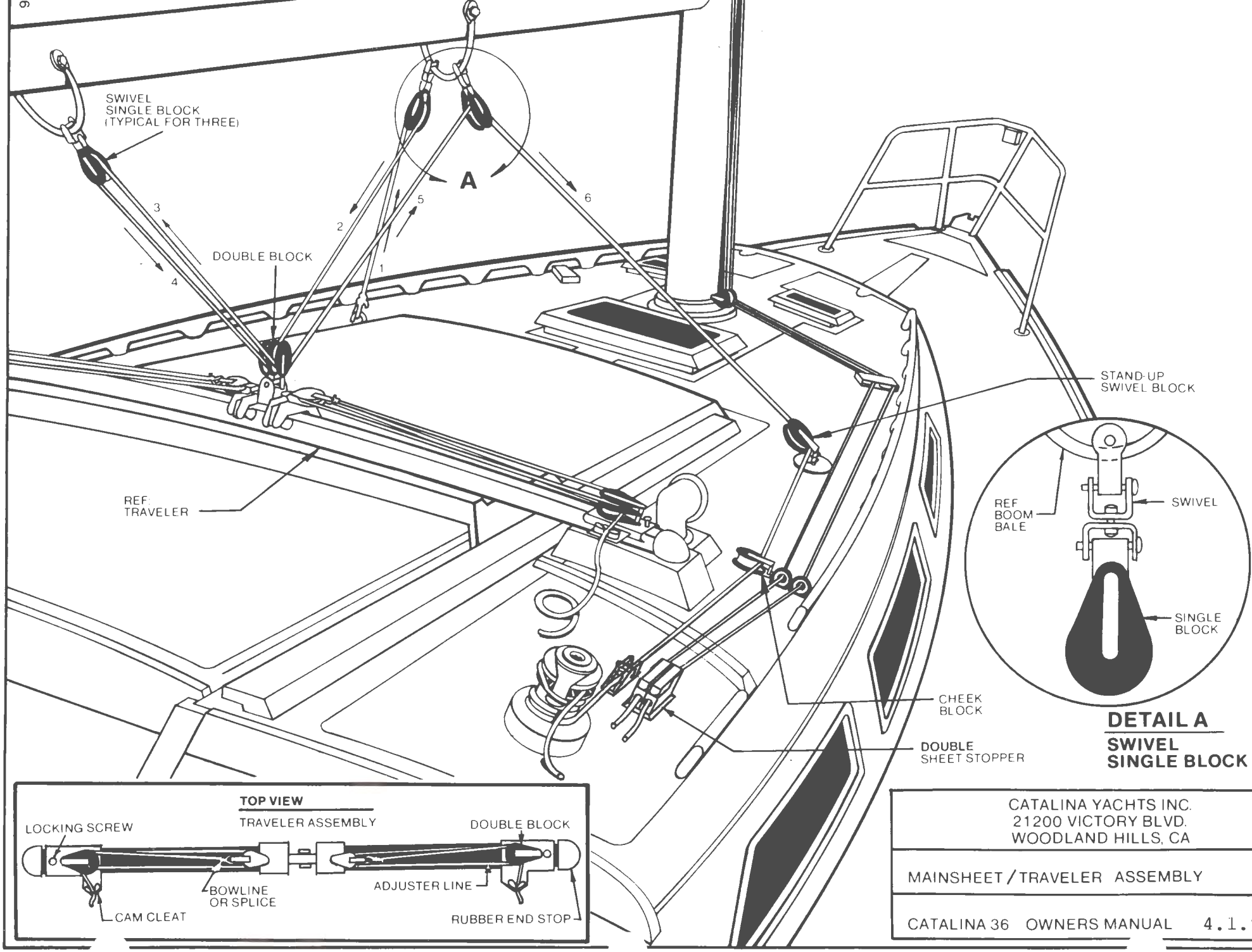
TOPPING LIFT ILLUSTRATION



GOOSE NECK ILLUSTRATION

* BLOCKS ARE DRAWN OVERSIZE FOR CLARIFICATION

CATALINA YACHTS INC. 21200 VICTORY BLVD. WOODLAND HILLS, CA
MAIN SAIL REEFING/BOOM VANG ASSEMBLY TOPPING LIFT ASSEMBLY GOOSE NECK ARRANGEMENT
CATALINA 36 OWNERS MANUAL 4.1.7



DETAIL A
SWIVEL
SINGLE BLOCK

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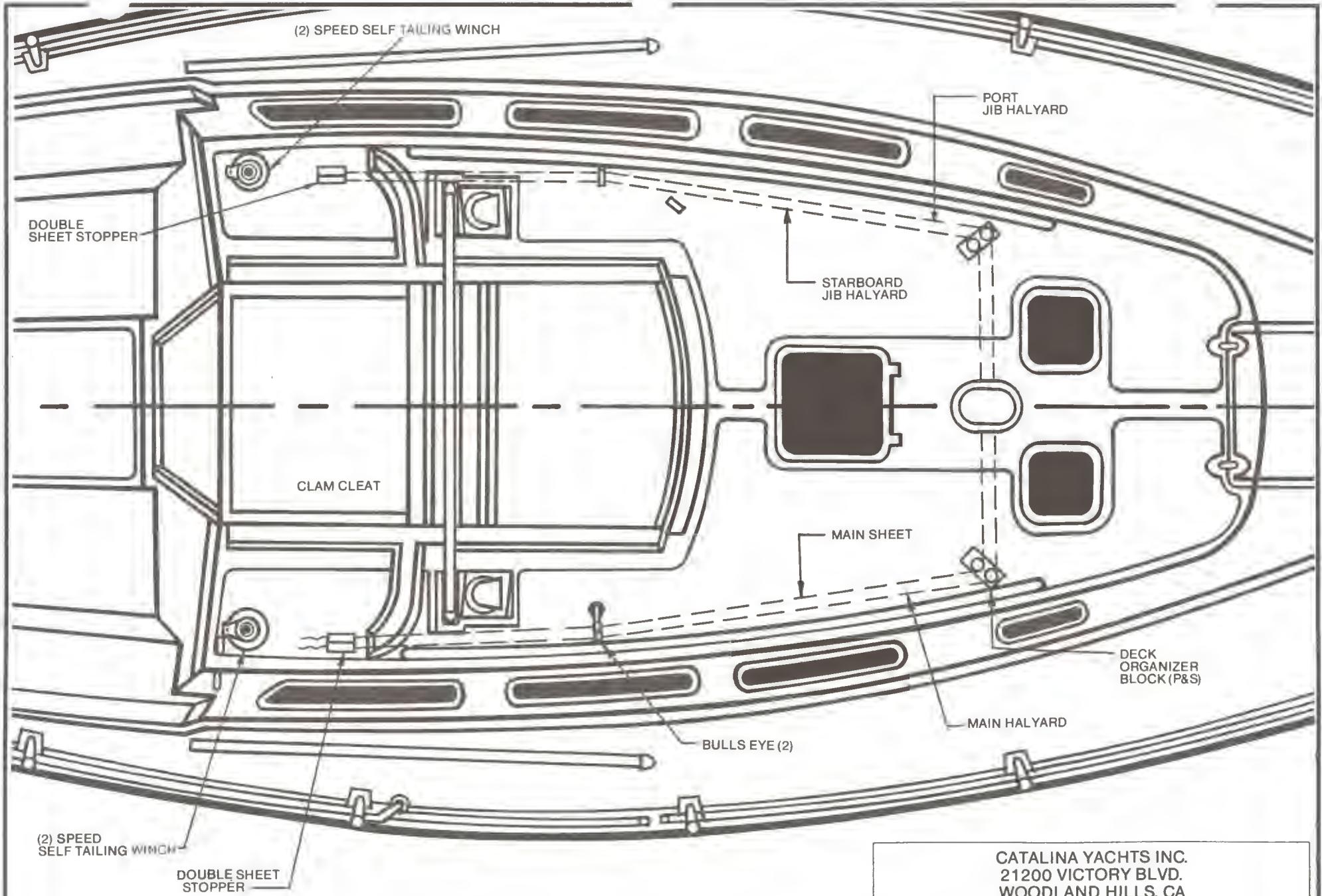
MAINSHEET / TRAVELER ASSEMBLY



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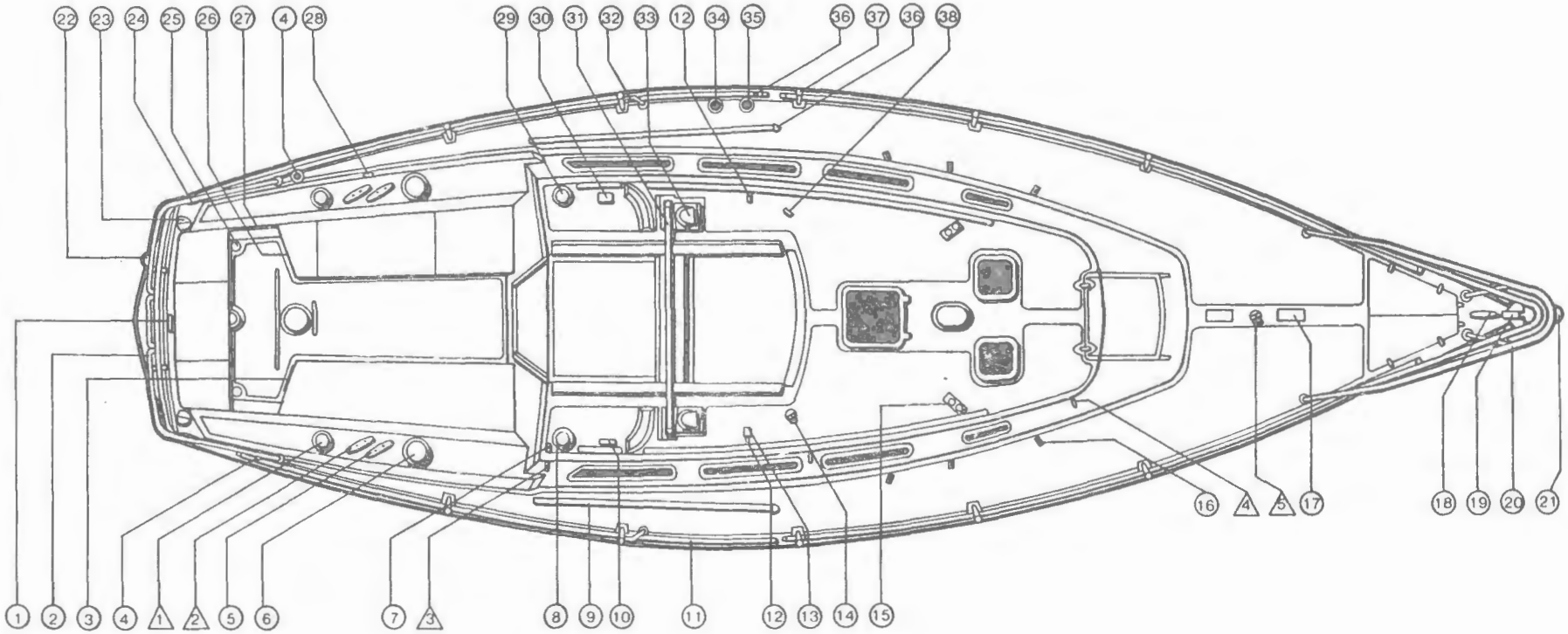
HALYARD ARRANGEMENT

CATALINA 36 OWNERS MANUAL 4.1.9

1. BACKSTAY CHAINPLATE
2. STERN PULPIT
3. OPENING PORT
4. WATER FILL PLATE
5. 6" CLEAT P&S
6. PRIMARY WINCH P&S
7. CAM CLEAT
8. MAIN SHEET/ MAIN HALYARD WINCH
9. 6'-0" TRACK P&S
10. SINGLE SHEET STOPPER
11. 14'-0" T-TRACK P&S
12. BULLSEYE (2)
13. CHEEK BLOCK
14. SWIVEL BLOCK
15. DECK ORGANIZER BLOCK
16. CHAIN PLATE (3) P&S
17. SKY LIGHTS
18. BOW MOORING CLEAT
19. STEM HEAD FITTING
20. BOW PULPIT
21. BOW LIGHT
22. STERN LIGHT
23. VENTILATOR P&S
24. STERN MOORING CLEAT
25. COCKPIT SCUPPER P&S
26. BILGE PUMP
27. ENGINE PANEL
28. 110 VOLT CONNECTOR
29. JIB HALYARD WINCH
30. DOUBLE SHEET STOPPER
31. TRAVELER
32. BRACED STANCHION P&S
33. COWL VENT P&S
34. FUEL FILL PLATE
35. WASTE PUMP OUT
36. END STOP
37. STANCHION
38. PADEYE

SPINNAKER GEAR OPTIONS = △
1. SECONDARY WINCH P&S
2. 6' CLEAT P&S
3. CAM CLEAT
4. BULLS EYE (2)
5. STAND UP SWIVEL BLOCK



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DECK HARDWARE ARRANGEMENT

CATALINA 36 OWNERS MANUAL 4.1.10

4.2 ELECTRICAL:

4.2.1 BATTERIES:

YOUR ELECTRICAL SYSTEM IS POWERED BY A MARINE GRADE 12 VOLT, DEEP CYCLE 90 AMP HOUR BATTERY. ATTENTION SHOUD BE GIVEN TO MAINTAINING THE PROPER LEVEL OF DISTILLED WATER. DO NOT OVER-FILL.

THE BATTERIES ARE PROVIDED WITH A TIE DOWN TO PREVENT ITS TIP-PING OVER AT EXTREME ANGLES OF HEEL. BE SURE THESE TIE DOWNS ARE FASTENED SECURELY.

WITH PROPER CARE, THE BATTERY INSTALLED IN YOUR CATALINA 36 WILL PROVIDE LONG AND SATISFACTORY SERVICE. PROPER CARE IS NOT DIFFICULT IF A FEW BASIC POINTS ARE KEPT IN MIND.

WARNING! THE ELECTROLYTE IN A BATTERY IS A SOLUTION OF SULPHURIS ACID. IF ANY SHOULD ENTER THE EYES, RINSE IMMEDIATELY WITH LARGE AMOUNTS OF FRESH WATER, AND SEEK MEDICAL ATTENTION. ELECTROLYTE SPILLED ON SKIN SHOULD BE RINSED WELL WITH FRESH WATER ALSO. EVEN A SMALL AMOUNT OF ELECTROLYTE SPILLED ON CLOTHING WILL DESTROY THE CLOTHING.

ELECTROLYTE LEVEL:

THE ELECTROLYTE LEVEL IN A BATTERY SHOULD NEVER BE ALLOWED TO FALL LOW ENOUGH TO EXPOSE THE PLATES. THIS NOT ONLY RESULTS IN A LOSS OF BATTERY CAPACITY WHILE THE BATTERY IS LOW, BUT WILL CAUSE HARDENING OF THE ACTIVE MATERIAL ON THE BATTERY PLATES. THIS WILL RESULT IN A PERMANENT LOSS OF BATTERY CAPACITY.

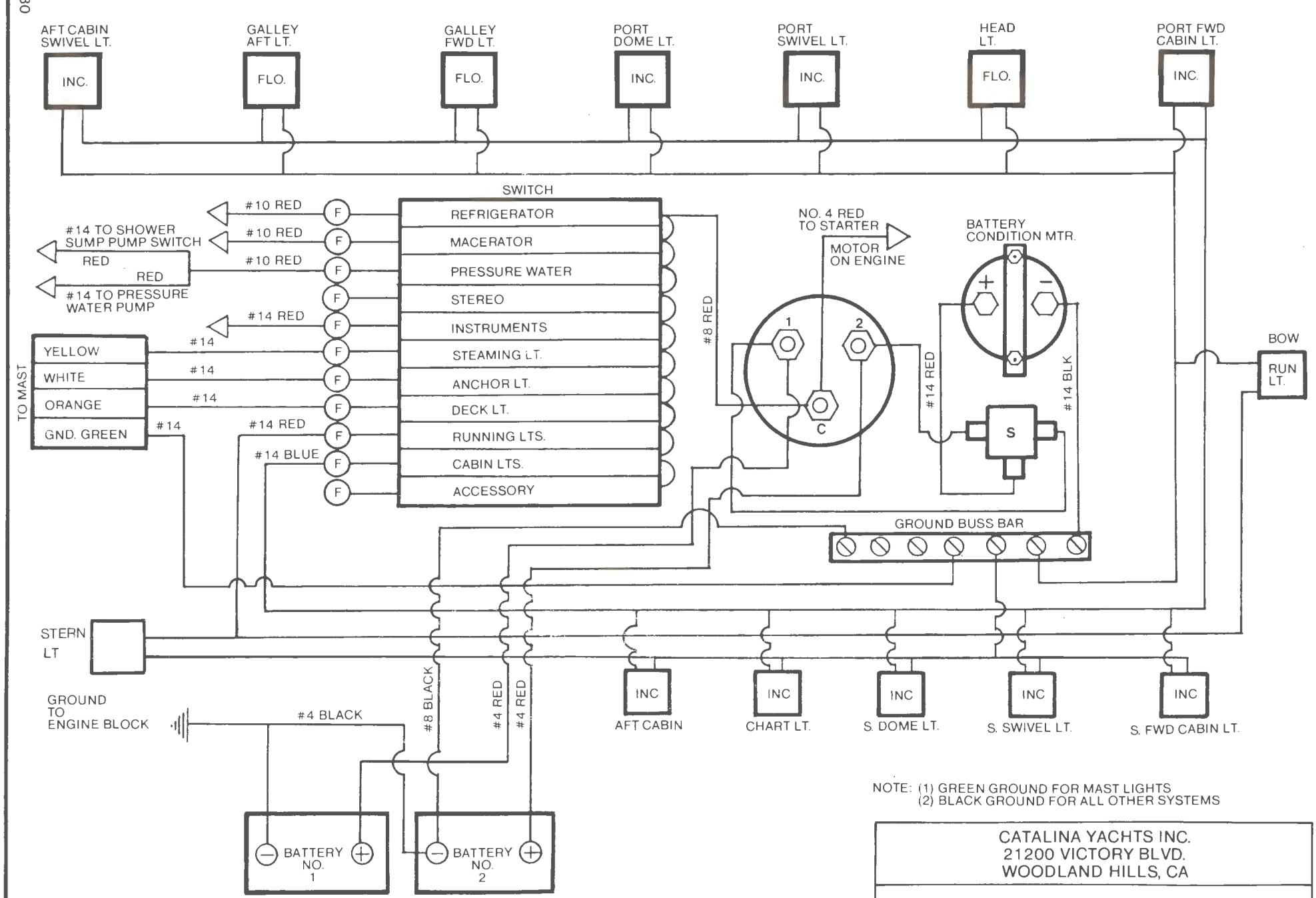
CAUTION! USE ONLY PURE DISTILLED WATER TO REPLENISH ELECTROLYTE LEVELS. THE WATER FROM MANY CITY WATER SUPPLY SYSTEMS IS UNSATISFACTORY FOR BATTERY USE.

DISCHARGED STATE:

LEAVING A BATTERY IN A DISCHARGED STATE FOR ANY LENGTH OF TIME CAN ALSO RESULT IN A PERMANENT LOSS OF CAPACITY FOR THE BATTERY. DOING SO IN COLD WEATHER CAN DESTROY THE BATTERY SINCE IT WILL FREEZE AT RELATIVELY LOW TEMPERATURES.

CLEAN CONNECTIONS:

KEEP BATTERY CONNECTIONS CLEAN AND TIGHT. A CUP FULL OF STRONG BAKING SODA SOLUTION AND A TOOTHBRUSH WILL CLEAN CORROSION FROM THE TERMINALS AND NEUTRALIZE ANY SPILLED ACID (DO NOT ALLOW ANY OF THE SOLUTION TO ENTER THE BATTERY CELLS). A COATING OF PETROLEUM JELLY ON THE BATTERY TERMINALS WILL INHIBIT CORROSION.



NOTE: (1) GREEN GROUND FOR MAST LIGHTS
(2) BLACK GROUND FOR ALL OTHER SYSTEMS

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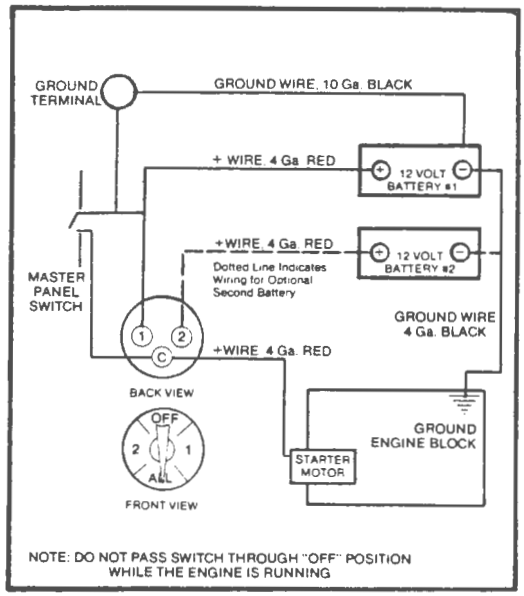
D.C. SYSTEM WIRING DIAGRAM

4.2.3 MAIN BATTERY SWITCH:

EACH ELECTRICAL CIRCIT IS FUSED UNDER A SCREW COVER AND SPARES SHOULD BE OBTAINED BEFORE LONG CRUISES. THE SYSTEM IS ALSO CONTROLLED BY A MASTER SWITCH. YOU SHOULD BE SURE THAT YOUR BOAT IS FREE OF GASOLINE FUMES BEFORE USING THF ELECTRICAL SYSTEM. ALWAYS RUN THE BLOWER FOR AT LFAST FIVE MINUTES BEFORE STARTING THE ENGINE.

THE CIRCULAR BATTERY SWITCH (SEE ILLUSTRATION 4.2.3) HAS THF MARKINGS 1,2, AND "ALL" AS WELL AS "OFF". IF YOU HAVE ORDERED THE EXTRA BATTERY OPTION, YOU CAN SELECTIVELY CHARGE THE BATTERY WITH THE ENGINE ALTERNATOR. MANY EXPERIENCED SAILORS USE BATTERY #1 FOR ELECTRICAL LIGHTING NEEDS AND KEEP #2 IN RESERVE FOR STARTING THE ENGINE.

WHEN THE ENGINE IS RUNNING, NEVER PASS THROUGH THE "OFF" POSITION TO CHARGE FROM ONE BATTERY TO THE OTHER OR THE ALTERNATOR DIODES WILL BE BURNED OUT. SWITCHING FROM ONE BAT-TERY TO ANOTHER SHOULD ONLY BE DONE WHEN THE ENGINE IS 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.



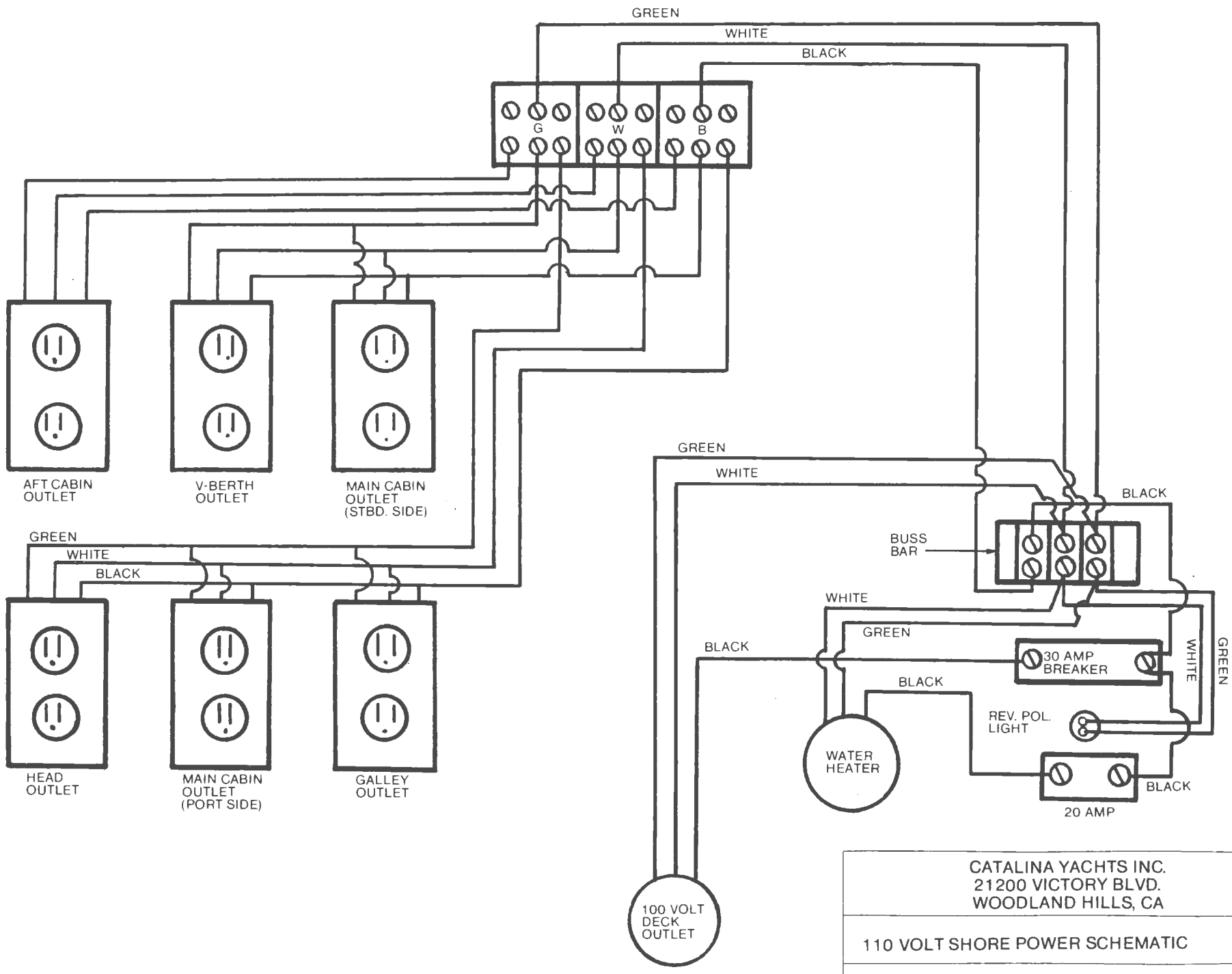
MAIN BATTERY SWITCH SCHEMATIC 4.2.4

4.2.5 110 VOLT SYSTEM:

THE 110 VOLT AC SYSTEM IS CONNECTED TO SHORE POWER BY A GROUNDED TWIST-LOCK CONNECTOR MOUNTED ON THE OUTSIDE OF THE PORT COCKPIT COAMING.

A THIRTY (30) AMP TWO POLE CIRCUT BREAKER IS LOCATED ON THE MAIN PANEL. SIX (6) DUPLEX OUTLETS FOR THE 110 VOLT SYSTEM ARE LOCATED IN THE CABIN. BE CERTIN THAT ALL 110 VOLT APPLIANCES, OTHER THAN LAMPS, HAVE AN ADEQUATE GROUNDING CONNECTOR. WET FEET OR MOIST ATMOSPHERE INCREASES THE POTENTIAL SHOCK HAZARD.

IMPORTANT! DO NOT OPEN THE ELECTRICAL PANEL FOR ANY PURPOSE WITH THE 110 V. SHORE POWER CONNECTED TO THE DOCK. 110 V. WIRING IS EXPOSED WHEN THE PANEL IS OPEN. CONTACT WITH 110 VOLT WIRING CAN CAUSE ELECT-ROCUTION!



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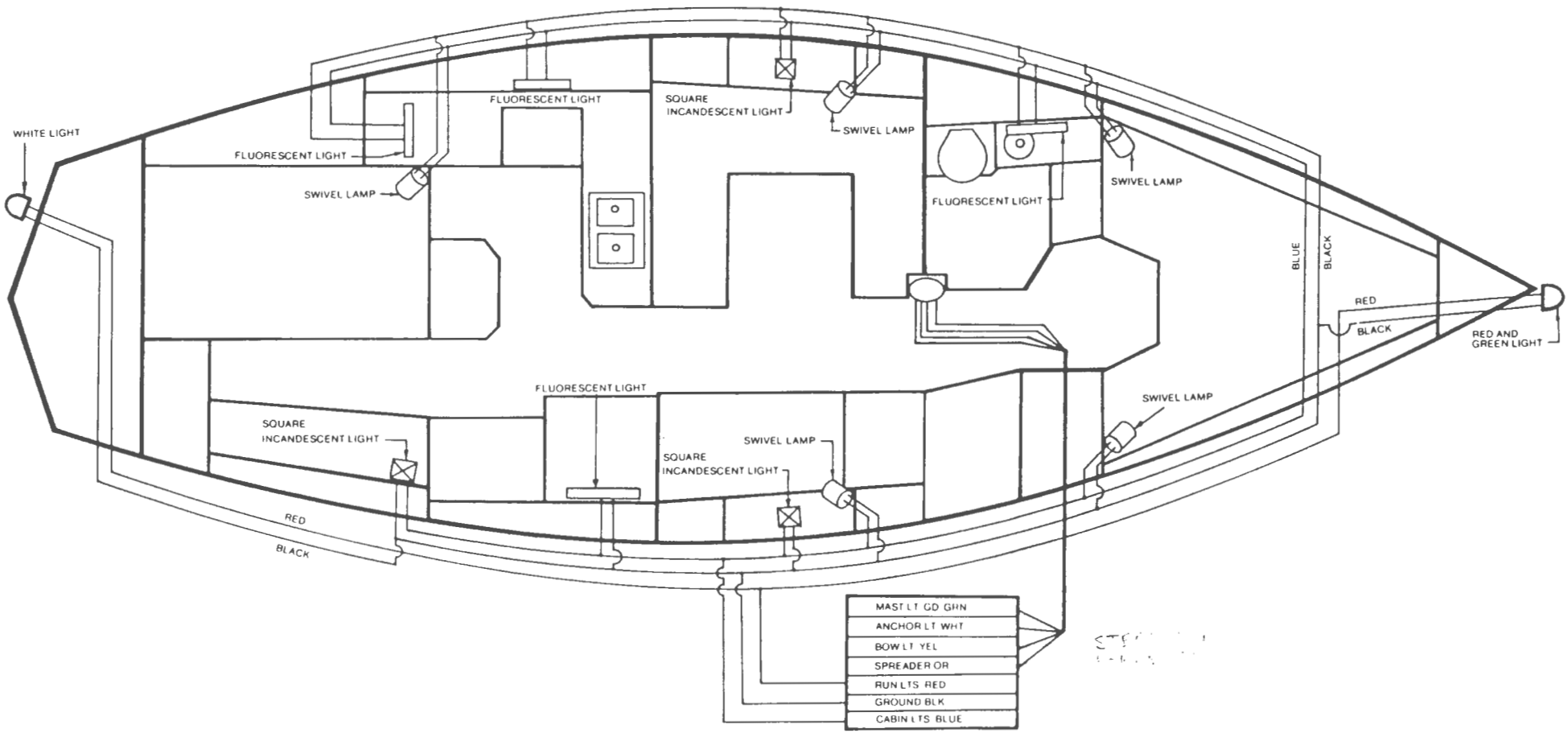
110 VOLT SHORE POWER SCHEMATIC
CATALINA 36 OWNERS MANUAL 4.2.6



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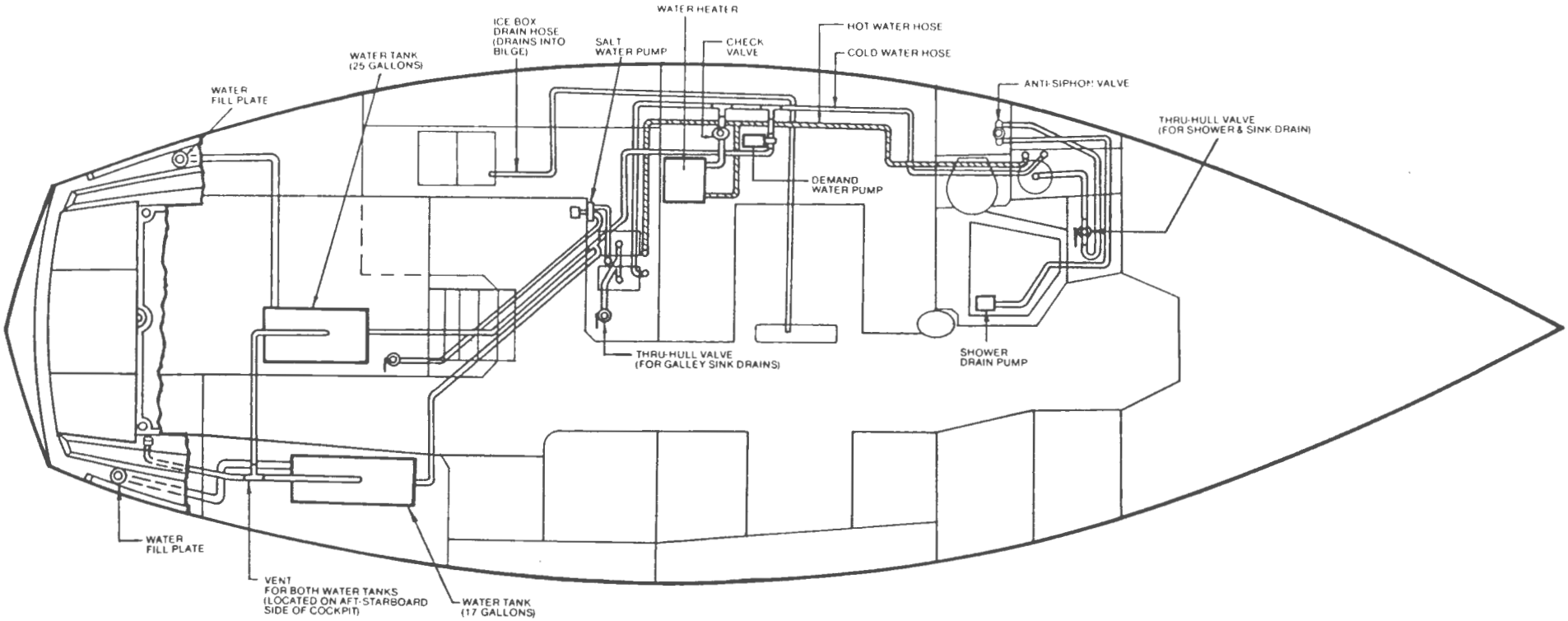
12 VOLT SCHEMATIC

CATALINA 36 OWNERS MANUAL 4.2.7



CATALINA YACHTS INC. 21200 VICTORY BLVD. WOODLAND HILLS, CA	
HOT & COLD PRESSURE SYSTEM PLUMBING SCHEMATIC	
CATALINA 36 OWNERS MANUAL	4.3.1

4.0 YACHT SYSTEMS(CONT'D)

4.3.2 MANUAL BILGE PUMP:

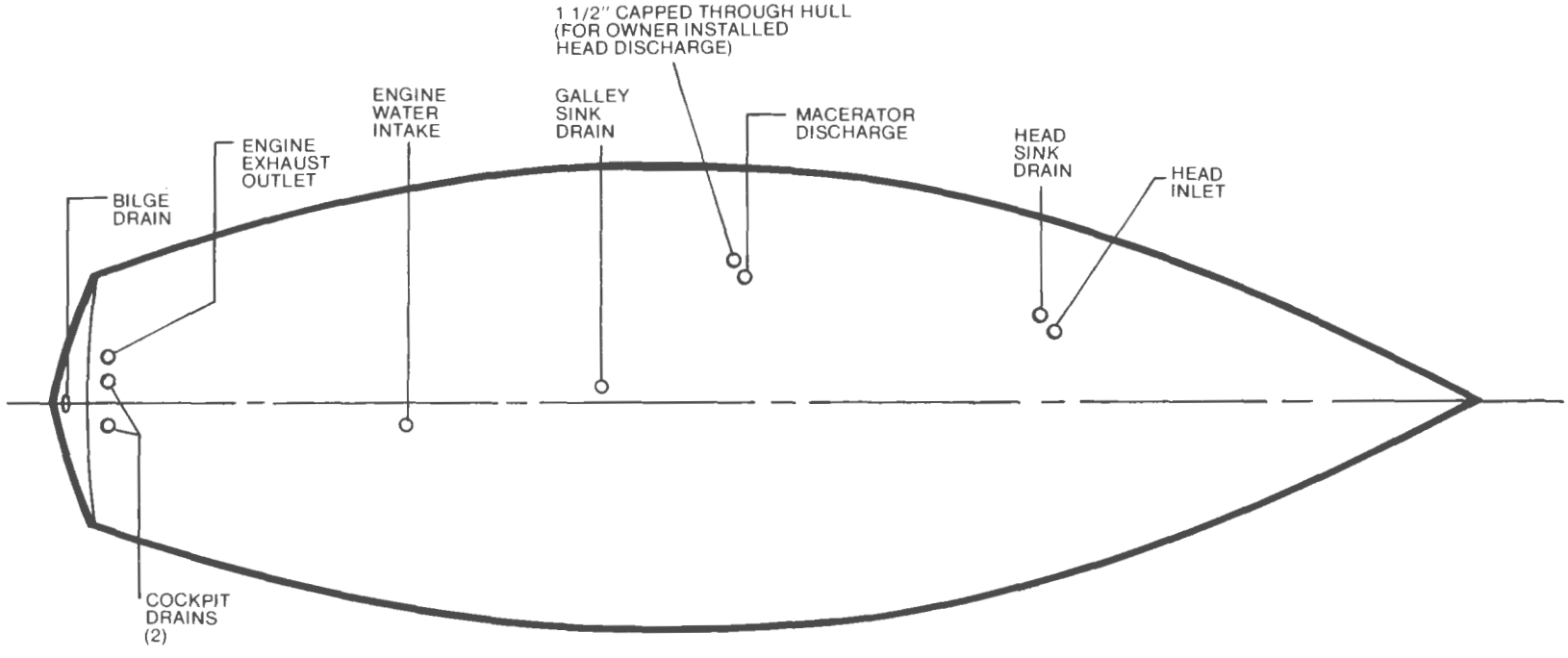
THE MANUAL BILGE PUMP IS LOCATED ON THE AFT PORT END OF THE COCKPIT. THE HANDLE IS STORED IN A CLIP FITTING JUST ABOVE THE PUMP INSIDE THE LOCKER. INSERT THE HANDLE THROUGH THE WATER TIGHT FITTING IN THE COCKPIT TO OPERATE THE PUMP. THE PUMP INTAKE HOSE IS IN THE STUB UNDER THE MAIN CABIN SOLE.

4.3.3 SEACOCKS:

ALL UNDERWATER THRU HULL FITTINGS ARE EQUIPTED WITH SEA-COCKS. IT IS GOOD PRACTICE TO CLOSE ALL SEACOCKS WHEN LEAVING THE BOAT, ESPECIALLY FOR LONG PERIODS OF TIME.

TO CLOSE SEACOCKS, TURN HANDLE PERPENDICULAR TO FLOW, TO OPEN, TURN HANDLE 1/4 TURN TO PARALLEL.

IT IS GOOD PRACTICE TO OPERTAE THE GATE VALVES AT LEAST ONCE A MONTH TO KEEP THEM IN GOOD WORKING ORDER.



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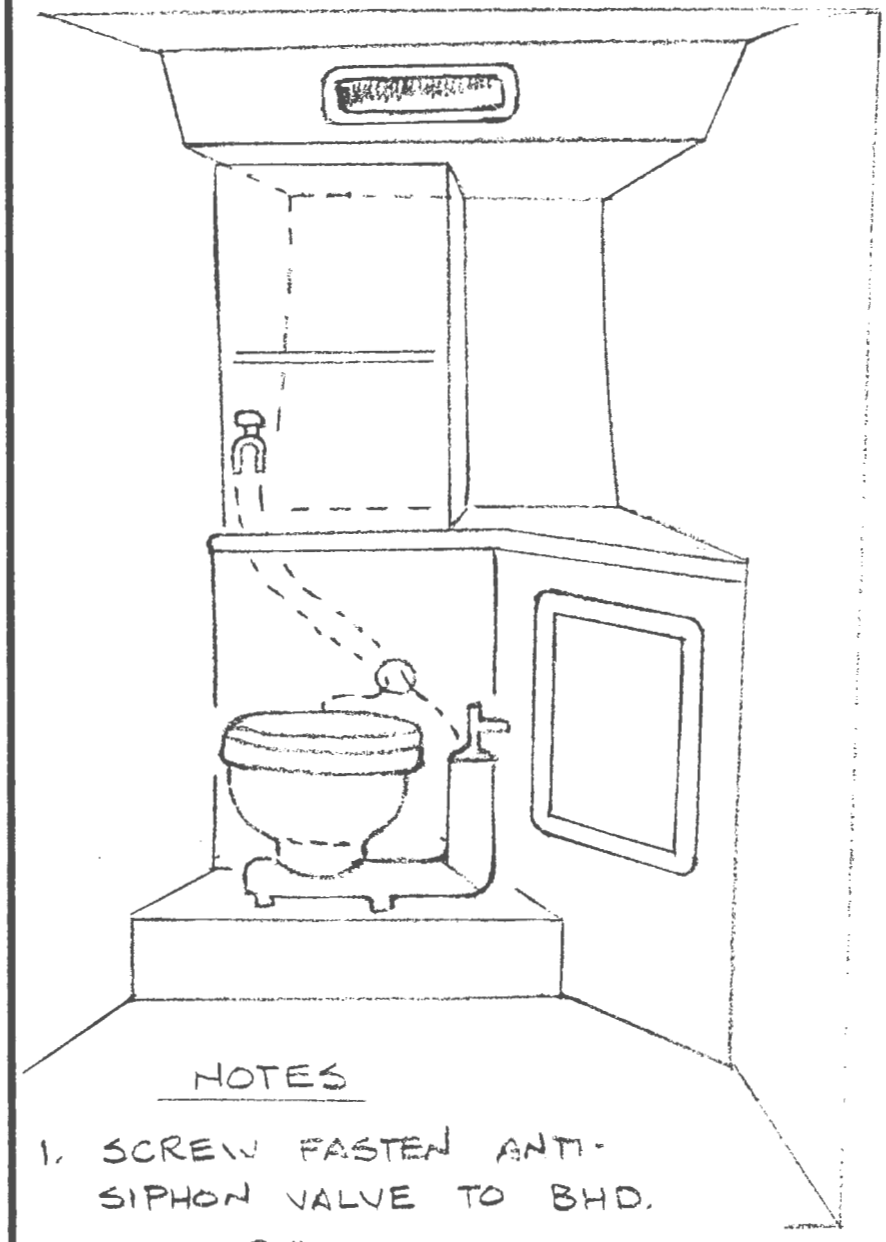
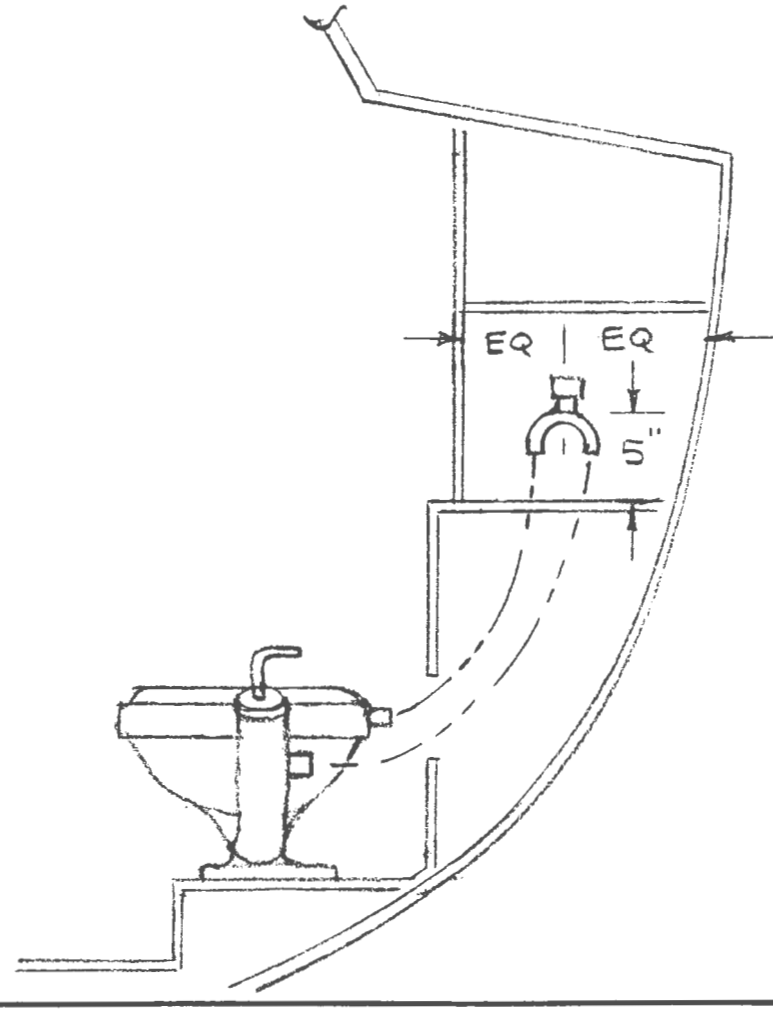
THROUGH HULL LOCATIONS





NOTES

1. SCREW FASTEN ANTI-SIPHON VALVE TO BHD.
2. USE 3/4" REINFORCED HOSE BETWEEN VALVE & HEAD.

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SCALE: NONE	APPROVED BY: GD	DRAWN BY GE
DATE: 5-26-89		REVISED

HEAD ANTISIPHON INSTALLATION

C-27, 30, 36, 38

DRAWING NUMBER
270-63006-0

4.3.5 MARINE TOILET OPERATION:

USING THE HEAD:

1. READ THE INSTRUCTIONS FOR OPERATION OF THE TOILET SUPPLIED WITH THE MARINE HEAD. THESE INSTRUCTIONS ARE ALSO PRINTED ON THE TOILET PUMP HOUSING. BE SURE EVERYONE WHO WILL BE USING THE HEAD IS FAMILIAR WITH THESE INSTRUCTIONS.

2. IMMEDIATELY BEFORE USING THE HEAD, THE INLET VALVE "A" MUST BE OPENED. THIS PROVIDES FLUSHING WATER TO THE TOILET. THE VALVE SHOULD BE KEPT CLOSED WHEN THE HEAD IS NOT IN USE. THIS WILL PREVENT WATER FROM FLOODING THE BOAT IF THE VALVE IN THE TOILET PUMP SHOULD FAIL.

3. WASTE WILL BE PUMPED DIRECTLY INTO THE HOLDING TANK WHEN THE BOWL IS EMPTIED. A MINIMUM AMOUNT OF WATER FOR EVERY FLUSH SHOULD BE USED IN ORDER TO TAKE BEST ADVANTAGE OF THE TANKS CAPACITY BETWEEN PUMP-OUTS.

EMPTYING THE TANK THRU THE DECK DISCHARGE PLATE:

1. THE HOLDING TANK SHOULD BE EMPTIED VIA THE DECK DISCHARGE PLATE ONLY AT APPROVED SHORE BASED PUMP-OUT STATIONS.

2. REMOVE THE CAP FROM THE DECK DISCHARGE PLATE. THE THREADS ON THE PLATE CAP SHOULD BE PERIODICALLY COATED WITH SILICONE SPRAY OR PETROLIEUM JELLY TO INSURE A GOOD SEAL.

3. THE PUMP-OUT STATION SUCTION HOSE SHOULD FORM A SEAL AT THE DECK PLATE.

4. BE SURE INLET VALVE "A" IS CLOSED WHEN THE TANK IS BEING EMPTIED.

5. AFTER THE TANK IS EMPTY, YOU MAY WISH TO OPEN VALVE "A" AND PUMP SOME WATER THRU THE TOILET AND INTO THE TANK TO DILUTE RESIDUAL SLUDGE AND RINSE THE TANK AND LINES.

6. CLOSE ALL VALVES AFTER THE TANK IS EMPTIED AND RECAP THE DECK PLATE.

EMPTYING THE TANK USING THE MACERATOR PUMP:

1. READ THE MACERATOR PUMP OPERATING INSTRUCTIONS SUPPLIED BY THE PUMP MANUFACTURER.

2. CLOSE THE INLET VALVE "A".

3. OPEN THE THRU HULL VALVE "B".

4. TURN ON THE PUMP WITH THE SWITCH ON THE 12 VOLT PANEL.

5. THE PUMP WILL CHANGE TONE AFTER IT BECOMES PRIMED. IT WILL RESUME THE HIGHER PITCHED TONE AFTER THE TANK IS EMPTIED.

6. YOU MAY WISH TO RINSE THE TANK, HOSE LINES, AND MACERATOR PUMP BY PUMPING CLEAR WATER THROUGH THE HEAD, THEN REPEATING THE PROCEDURE FOR EMPTYING THE TANK.

7. CLOSE VALVE "B" IMMEDIATELY AFTER EMPTYING THE HOLDING TANK.

4.3.6 MACERATOR PUMP AND TROUBLESHOOTING:

PROBLEM 1: THE MACERATOR PUMP MOTOR STARTS THEN STARTS.

A. CHECK THE FUSES; IT SHOULD BE 20 AMP.

B. CHECK THE VALVES; "B" VALVE MUST BE OPEN.

C. CHECK THE VENT LINE. IF THE BOAT HAS BEEN SAILED AT EXTREME ANGLES OF HEEL, FLUID MAY BE CLOGGING THE VENT LINE. DISCONNECT THE VENT AT THE TANK AND EMPTY THE HOSE INTO A DISPOSABLE CONTAINER.

D. SLUDGE MAY HAVE FORMED IN THE BOTTOM OF THE TANK. THIS SHOULD BE DILUTED AS MUCH AS POSSIBLE. THE TANK SHOULD BE EMPTIED REGULARLY TO PREVENT SLUDGE BUILD UP.

PROBLEM 2: THE HEAD TOILET PUMP HAS EXCESSIVE BACK PRESSURE AND WILL NOT EVACUATE THE BOWL.

A. REFER TO THE TOILET MANUFACTURERS SPECIFICATIONS AND OPERATION INSTRUCTIONS.

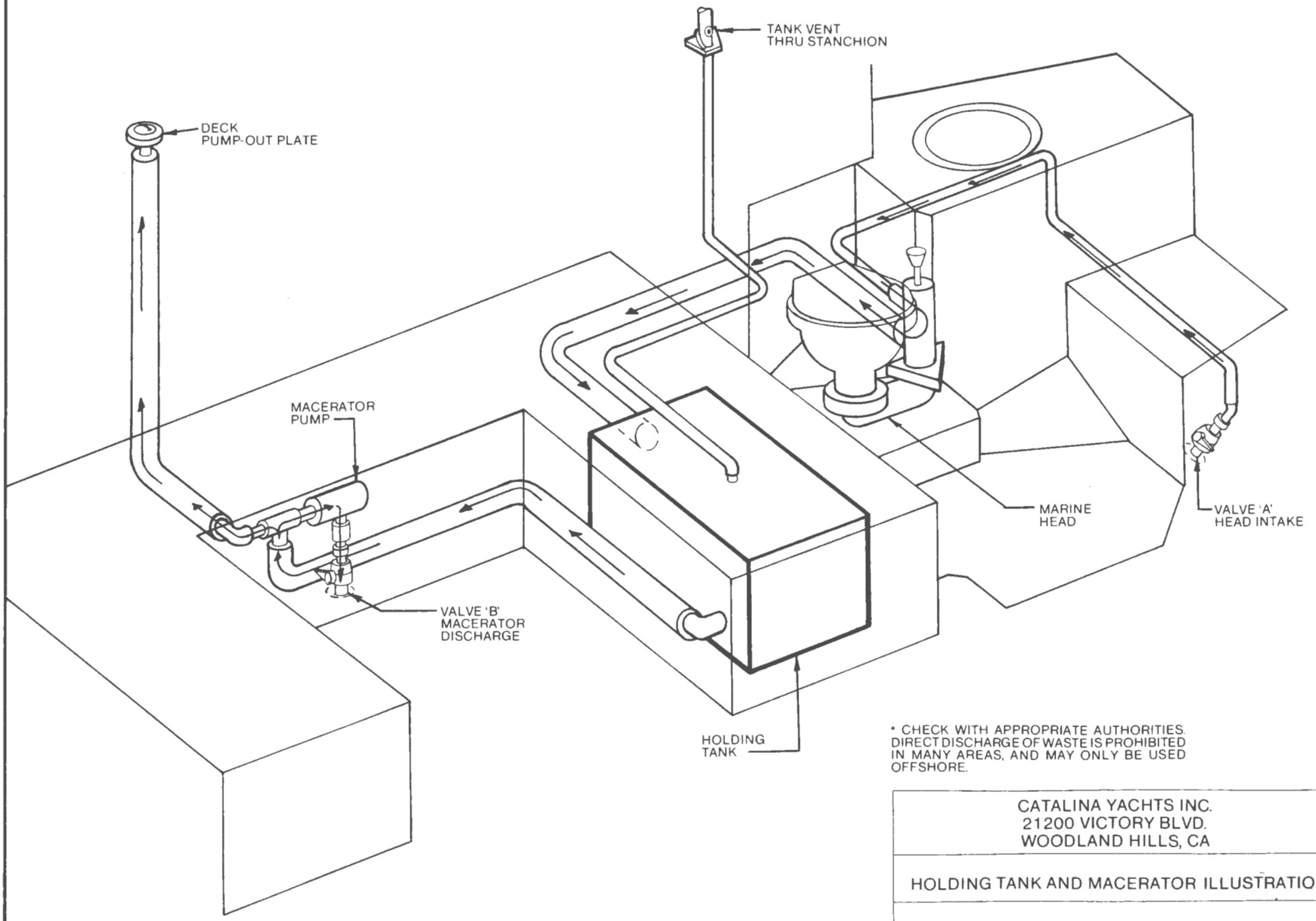
PROBLEM 3: THE MACERATOR PUMP, WHEN ON, MAKES A HIGH PITCHED SOUND BUT DOES NOT EMPTY THE TANK.

A. IMPELLER IN MACERATOR PUMP IS FAULTY AND MUST BE REPLACED.

B. THE VENT IS CLOGGED AND THE PUMP CANNOT PULL A PRIME AGAINST THE VACUUM IN THE TANK.

C. THE HOSE INTO THE PUMP MAY BE CLOGGED.

D. THE PUMP MAY BE DRAWING AIR THRU THE DECK PLATE PREVENTING A PRIME. CHECK SEAL AT DECK PLATE MARKED "WASTE", AND LUBRICATE THREADS.



* CHECK WITH APPROPRIATE AUTHORITIES. DIRECT DISCHARGE OF WASTE IS PROHIBITED IN MANY AREAS, AND MAY ONLY BE USED OFFSHORE.

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HOLDING TANK AND MACERATOR ILLUSTRATION

4.4 AUXILLARY POWER

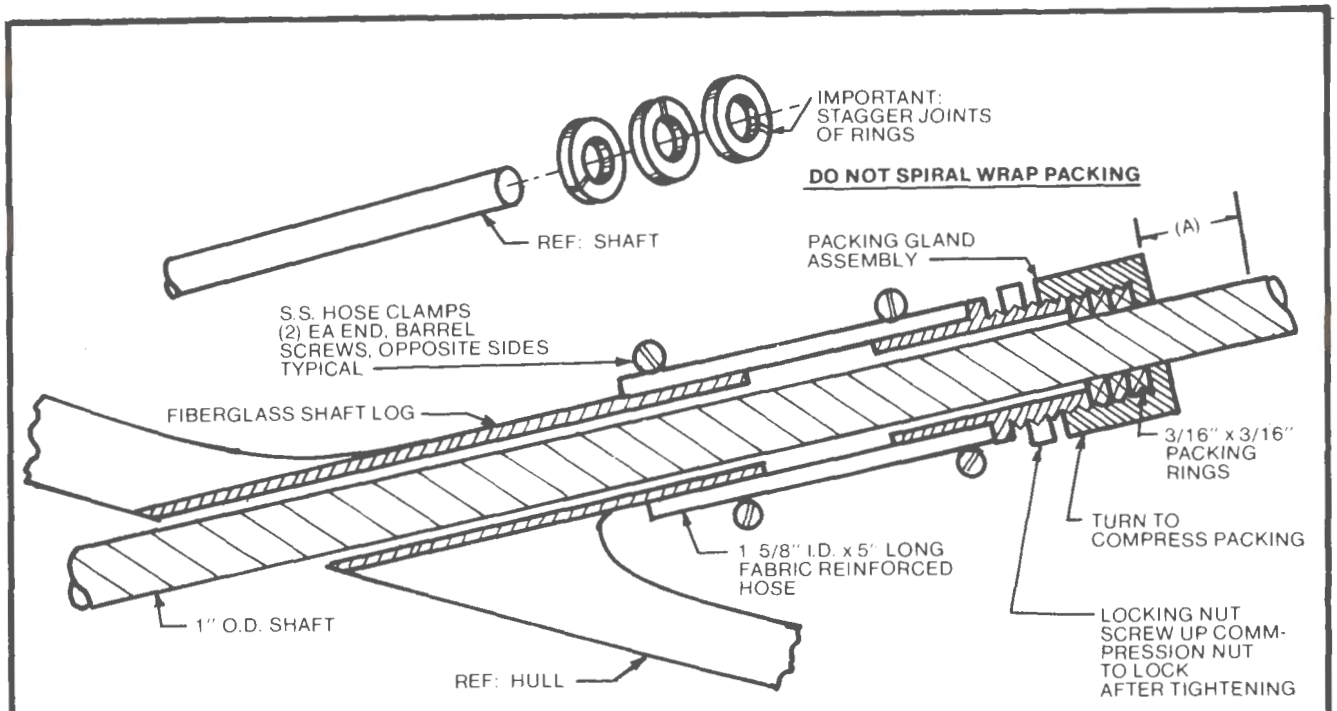
4.4.1 GENERAL ENGINE INFORMATION:

FOR A COMPLETE DESCRIPTION OF YOUR ENGINE, PLEASE CONSULT THE GUIDE SUPPLIED BY THE ENGINE MANUFACTURER. THIS CAN BE FOUND IN YOUR OWNER'S PACKET.

TWO POINTS ARE WORTH SPECIAL ATTENTION. FIRSTLY, MARINE ENGINES WORK UNDER CONDITIONS TOUGHER THAN THOSE CONTITIONS OF AUTOMOTIVE ENGINES. YOUR MARINE ENGINE FACES CONSTANT TORQUING NOT ENCOUNTERED ON THE HIGHWAY. FOR THIS REASON, YOU MUST CHANGE YOUR ENGINE'S CRANK OIL AS RECOMMENDED IN THE ENGINE MANUFACTURER'S GUIDE. SECONDLY, BEFORE USENG YOUR ENGINE, THE SHAFT COUPLING MUST BE ADJUSTED WITHIN A TOLERANCE OF .003 T.I.R. THOUSANDTHS AFTER LAUNCHING. THIS IS DONE DURING COMMISSIONING OF THE YACHT. BE SURE THAT YOUR DEALER HAS MADE THIS ADJUSTMENT BEFORE USING YOUR ENGINE.

CHANGE THE OIL REGULARLY. KEEP SPARE SPARK PLUGS AND ALTERNATOR BELTS ON HAND AND USE ONLY 2/3 TO 3/4 THROTTLE ON LONG PASSAGES. KEEP YOUR FUEL TANK FULL WHENEVER POSSIBLE TO PREVENT WATER CONDENSATION IN YOUR FUEL TANK.

TO RETARD ELECTROLYSIS, WE RECOMMEND INSTALLING A ZINC COLLAR IMMEDIATELY ON THE PROPELLER SHAFT.



(A) MAINTAIN CLEARANCE BETWEEN ENGINE COUPLING AND PACKING GLAND FOR REMOVAL AND REPACKING OF GLAND

(B) SHAFT MUST NOT CONTACT GLAND OR LOG, SHAFT MUST BE IN CENTER OF LOG AND GLAND.

(C) PACKING GLAND SHOULD NOT BE OVER TIGHTENED, ONE TO TWO DROPS PER MINUTE IS NORMAL.

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PACKING GLAND ASSEMBLY
CATALINA 36 OWNERS MANUAL 4.4.2

4.4.3 SHAFT PACKING GLAND (STUFFING BOX):

THE PACKING GLAND IS LOCATED UNDER THE AFT DOUBLE BERTH AT THE BASE OF THE COMPANION WAY LADDER.

A PROPERLY ADJUSTED SHAFT PACKING GLAND SHOULD DRIP SLIGHTLY (FROM 4 TO 10 PER MINUTE) WITH THE ENGINE OFF. TOO LOOSE AN ADJUSTMENT WILL ALLOW TOO MUCH WATER IN THE BILGE AND ENGINE OPERATION WILL SPRAY WATER FROM THE SHAFT. TOO TIGHT AN ADJUSTMENT WILL ROB THE ENGINE OF POWER, AND THE LACK OF WATER LUBRICATION IN THE PACKING GLAND CAN GENERATE ENOUGH HEAT TO DAMAGE THE GLAND AND/OR SCORE THE PROPELLER SHAFT.

ADJUSTMENT:

1. HOLDING THE PACKING NUT WITH ONE WRENCH, USE A SECOND WRENCH TO LOOSEN THE LOCK NUT. TURN THE LOCK NUT FAR ENOUGH TO KEEP IT FROM INTERFERRING WITH THE NEXT ADJUSTMENT (2 OR 3 TURNS).

2. TIGHTEN THE PACKING NUT TO OBTAIN 4 TO 15 DROPS PER MINUTE. HAND TIGHTENING OF THE PACKING NUT IS OFTEN SUFFICIENT TO OBTAIN THIS ADJUSTMENT. IF THIS IS NOT THE CASE, AN ADDITIONAL 1/4 TO 1/2 TURN WITH THE WRENCH SHOULD PRODUCE THE DESIRED RESULT.

3. HOLD THE PACKING NUT IN PLACE WITH ONE WRENCH, AND USE THE SECOND WRENCH TO BRING THE LOCKING NUT SECURELY AGAINST THE PACKING NUT. MAKE CERTAIN THAT THE LOCKING NUT IS TIGHT. FAILURE TO DO THIS COULD ALLOW THE PACKING NUT TO BACK OFF WHEN THE ENGINE IS OPERATING.

4. OPERATE THE ENGINE AT SLOW SPEEDS IN FOREWARD AND REVERSE AND USE A LIGHT TO CHECK FOR EXCESSIVE WATER AT THE PACKING NUT. SHUT OFF THE ENGINE AND RECHECK PACKING FOR PROPER DRIP.

4.4.4 SHAFT ALIGNMENT:

FOR PROPER OPERATION OF THE ENGINE, THE PROPELLER SHAFT AND ENGINE MUST BE ALIGNED.

ALIGNMENT IS GAUGED AT THE ENGINE AND SHAFT COUPLING. ALIGNMENT PROCEDURES MUST BE DONE WITH THE BOAT IN THE WATER AFTER THE MAST IS ERECTED, AND THE RIG IS TUNED.

1. THE PROPELLER SHAFT MEST BE DIMPLED (1/8' DEEP) FOR TWO (2) COUPLING SET SCREWS. THE SET SCREWS MUST BE SEFETY WIRED, USING THE STAINLESS STEEL WIRE PROVIDED, AS ILLURSTRATED. CHECK KEY IN KEY WAY, AS IT MUST BE IN PLACE BETWEEN SHAFT AND COUPLER.

2. REMOVE COUPLING FLANGE BOLTS AND CHECK PROPELLER SHAFT FOR CLEARANCE. ADJUST STUFFING BOX TO PREVENT EXCESSIVE SEEPAGE, YET ALLOW SHAFT TO SPIN FREELY.

3. SLIDE SHAFT AWAY FROM ENGINE AND CHECK COUPLING MATING SURFACES. THESE

MUST BE CLEAN.

4. SLIDE SHAFT FOREWARD TO CONECT COUPLING SURFACES. PILOT ON TRANSMISSION FLANGE MUST ALIGN WITH RECESS IN SHAFT COUPLING FLANGE. THIS IS AN INDICATION OF CORRECT AXIAL ALIGNMENT.

5. WITH COUPLING FLANGES IN CONTACT, MEASURE GAP AROUND EDGE OF COUPLING FLANGES WITH .003 FEELER GAUGE. MAXIMUM ALLOWABLE GAP AT ANY POINT IS THREE THOUSANDTHS OF AN INCH. TAKE THIS MEASUREMENT SEVERAL TIMES.... ROTATING SHAFT 1/4 TURN EACH TIME. ANY GAP IN EXCESS OF .003 MUST BE CORRECTED BY CHANGING ENGINE POSITION, ESPECEALLY FORE/AFT TILT.

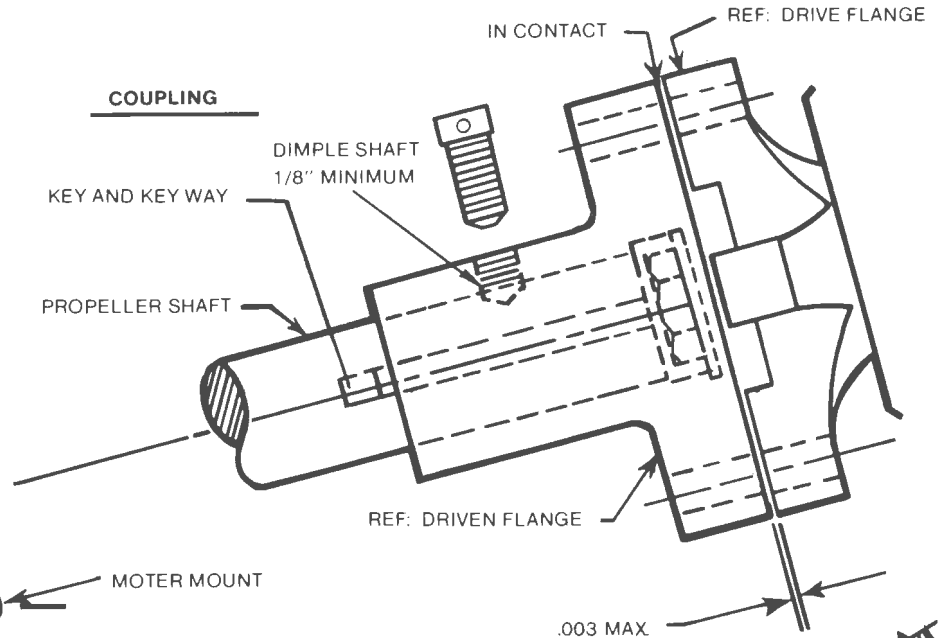
   FOR EXAMPLE, EXCESSIVE GAP AT THE BOTTOM OF THE COUPLING (SEE DRAWING) INDICATES ENGINE IS TILTED TOO FAR AFT (FRONT TOO HIGH). USING A 15/16 END WRENCH, LOOSEN LOCK NUTS ON FORWARD MOTOR MOUNT(S). LOWER FRONT OF ENGINE BY CLOCKWISE ROTATION OF MOTOR MOUNT NUTS. REMEASURE GAP AT COUPLING. A GAP AT THE TOP OF THE COUPLING WOULD REQUIRE THE EXACT REVERSE PROCEDURE.

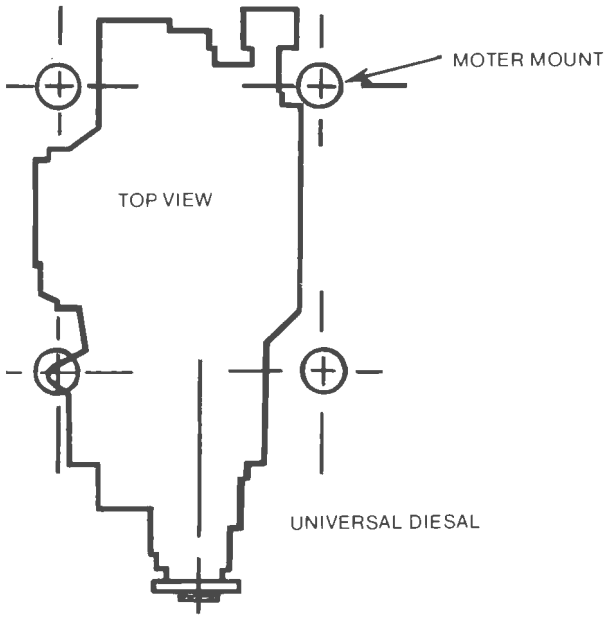
6. PULL SHAFT BACKWARDS AS IN STEP 3. AGAIN SLIDE SHAFT FORWARD, RECHECKING AXIAL ALIGNMENT AS IN STEP 4.

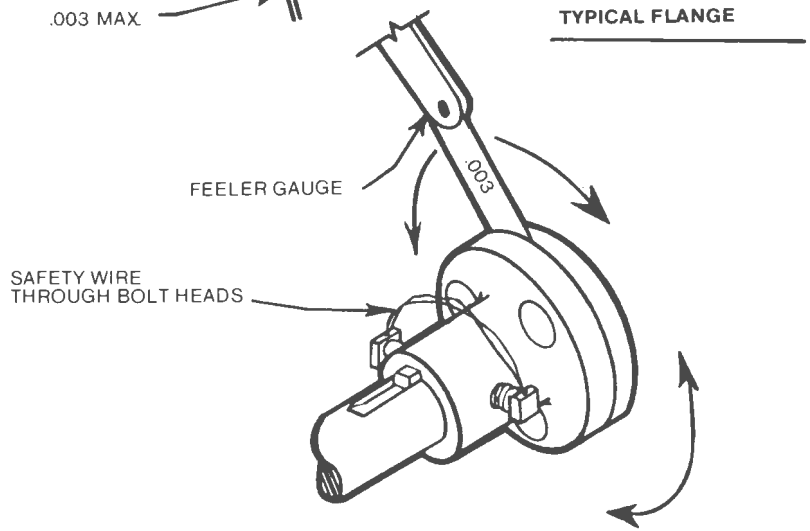
7. REPEAT STEPS 5 AND 6 UNTIL ALIGNMENT WITHIN TOLERANCE IS ACHIEVED.

8. TIGHTEN MOTOR MOUNT LOCK NUTS AND INSTALL COUPLING BOLTS.

NOTE: ALIGNMENT SHOULD BE CHECKED YEARLY, OR WHENEVER ANY EXCESS VIBRATION IS NOTICED. THE ALIGNMENT CAN ALSO BE AFFECTED BY CHANGES IN RIGGING TENSION.







MEASURE GAP BETWEEN MATING FACES OF COUPLING FLANGES. MAXIMUM ALLOWABLE GAP AT ANY POINT IS .003 WHEN ANY POINT OF COUPLING FACES ARE IN CONTACT. TAKE THIS MEASUREMENT SEVERAL TIMES, ROTATING SHAFT 1/4 TURN EACH TIME. THIS MEASUREMENT MUST BE MADE WITH COUPLING BOLTS REMOVED.

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SHAFT ALIGNMENT ILLUSTRATION

4.4.6 FUELING:

THE FUEL SYSTEM OF THE CATALINA 36 IS ILLUSTRATED AND CONSISTES OF A 33 GALLON ALUMINUM FUEL TANK, FUEL SUCTION AND RETURN LINES. A SECONDARY FUEL FILTER ON THE ENGINE, AND AN ELECTRIC FUEL PUMP CONTROLLED BY THE ENGINE KEY SWITCH, A DECK FILL PLATE, AND AN OVER BOARD VENT THRU THE TRANSOM.

REFER TO THE ENGINE MANUAL PROVIDED FOR RECOMMENDED FUEL TYPE. A DIESEL ENGINE DOES NOT REQUIRE AN IGNITION SYSTEM AND IS SUPERIOR TO A GASOLINE ENGINE IN DEPENDABILITY. THIS DEPENDS ON THE CLEAN FUEL BEING SUPPLIED TO THE ENGINE SINCE THE CLOSE TOLERANCES REQUIRED BY THE ENGINES FUEL DELIVERY SYSTEM MAKE IT INTOLERANT OF DIRT OR WATER CONTAMINATION. THE ENGINE IS SUPPLIED WITH PRIMARY AND SECONDARY FILTERS THAT PREVENT CONTAMINANTS FROM REACHING THE ENGINE WHERE THEY COULD CAUSE DAMAGE. HOWEVER, A CLOGGED FILTER, ALTHOUGH PROVIDING THIS PROTECTION, CAN ALSO STOP AN ENGINE, KEEPING THE FILTERS FREE OF DIRT AND WATER IS CRITICAL.

BEFORE FUELING:

1. EXTINGUISH ALL SMOKING MATERIALS AND CHECK THE FUELING AROUND THE AREA FOR OTHER SOURCES OF SPARK OR FLAME. REMOVE IF FOUND.

2. SHUT OFF THE ENGINE, AND ANY ELECTRICAL ACCESSORIES OR DEVICES.

3. DE-ENERGIZE ALL ELECTRICAL EQUIPMENT BY TURNING THE SELECTOR SWITCH TO THE OFF POSITION.

4. CLOSE ALL HATCHES AND PORTS.

5. ENSURE THAT A FIRE EXTINGUISHER IS READILY AVAILABLE.

6. ENSURE THAT THE PROPER (DIESEL, NOT GASOLINE) HOSE IS ABOUT TO BE USED.

WARNING: DO NOT FUEL DURING AN ELECTRICAL STORM. BESIDES THE OBVIOUS HAZARD OF LIGHTNING, THE POSSIBILITY OF STATIC DISCHARGE IS GREATLY INCREASED AT THIS TIME.

FUELING PROCEDURE:

1. REMOVE FILL PIPE COVER USING A PROPER TOOL.

2. PLACE NOZZLE OF FUEL HOSE IN THE FILL PIPE. KEEP THE NOZZLE IN CONTACT WITH THE DECK PLATE RIM DURING FUELING TO AVOID THE POSSIBILITY OF A STATIC SPARK.

3. FILL SLOWLY. DO NOT OVERFILL. IF IT IS NOT POSSIBLE TO SEE THE METER ON THE FUEL PUMP, THE ATTENDANT OR A CREW MEMBER SHOULD CALL OUT THE GALLONAGE FROM THE FUEL DOCK. FILLING THE TANK TO ONLY 95% OF CAPACITY WILL AVOID OVERFLOW PROBLEMS ON A HOT DAY.

4. REPLACE COVER, CLEAN UP ANY SPILLED FUEL. IF ANY RAGS, ETC., WERE USED FOR

THIS PURPOSE, DISPOSE OF THEM ASHORE.

5. CHECK BELOW DECKS FOR PRESENCE OF FUMES OR FUEL LEAKAGE. CHECK BILGE, ENGINE SPACE, AND MAIN CABIN. IF FUMES OR EVIDENCE OF LEAKAGE IS FOUND, DETERMINE THE CAUSE, CORRECT IT, AND CLEAN UP ANY SPILLAGE BEFORE PROCEEDING.

6. OPEN ALL HATCHES AND PORTS TO VENILATE THE BOAT.

7. SWITCH ON BATTERY.

8. THE ENGINE SHOULD BE STARTED ONLY WHEN IT IS CERTAIN THAT NO POTENTIALLY HAZARDOUS CONDITIONS EXIST.

4.4.7 FUEL SANITATION:

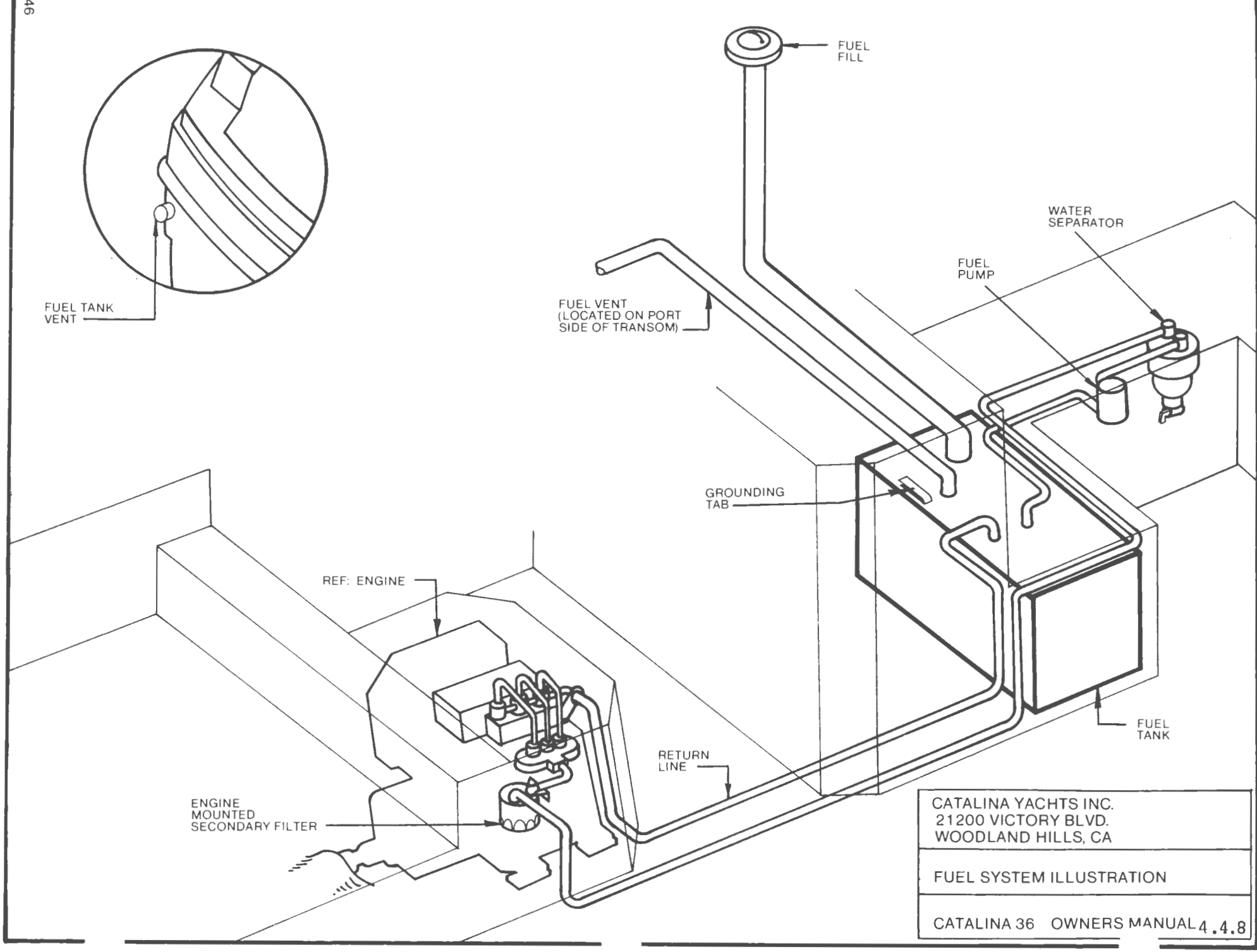
BACTERIAL CONTAMINATION:

BACTERIAL CONTAMINATION OF THE DIESEL FUEL CAN CAUSE PROBLEMS. THE BACTERIA NEED BOTH WATER AND FUEL TO EXIST, AND THRIVE AT THE FUEL/WATER INTERFACE IN A FUEL TANK. AS THEY MULTIPLY, THEY FORM MORE WATER AND A FILTER CHOCKING BROWN SLIME. THEIR PRESENCE WILL NOT BE KNOWN UNTIL ROUGH WEATHER CHURNS UP THE FUEL TANK CAUSING CLOGGED FILTERS AT THE WORST POSSIBLE TIME.

KEEPING WATER OUT OF THE FUEL WILL PREVENT THE PROBLEM ENTIRELY. HOWEVER, A CERTAIN AMOUNT OF WATER DUE TO NORMAL CONDENSATION INT THE TANK IS TO BE EXPECTED.

FUEL ADDITIVIES:

FUEL ADDITIVIES OR FUNGICIDES PROVIDE ANOTHER MEANS OF COMBATTING CONTAMINATION. ADDITIVES BREAK THE WATER DOWN TO A MOLECULAR LEVEL, DISPERSING IT THROUGHOUT THE FUEL AND ALLOWING IT TO PASS HARMLESSLY THROUGH THE FUEL SYSTEM. SEVERAL BRANDS OF THIS PRODUCT ARE AVAILABLE AT MARINE STORES.



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FUEL SYSTEM ILLUSTRATION

4.4.9 EXHAUST SYSTEM MAINTENANCE:

IN-BOARD ENGINE INSTALLATIONS ON SAILBOATS DIFFER FROM ENGINE INSTALLATIONS ON POWER BOATS. THE PRIMARY DIFFERENCE IS THAT THE ENGINE IS USUALLY INSTALLED BELOW THE WATERLINE OF THE VESSEL.

THE BENEFITS OF THESE LOCATIONS ARE THAT THE WEIGHT OF THE ENGINE IS WHERE IT WILL NOT ADVERSELY EFFECT TRIM, AND THAT THE SHAFT IS AT AN EFFICIENT ANGLE FOR POWERING AND MINIMUM DRAG WHEN SAILING.

ENGINE INSTALLATIONS BELOW THE WATERLINE REQUIRE SPECIAL ATTENTION TO THE DESIGN OF THE EXHAUST SYSTEM. THE DISCHARGED COOLING WATER MUST BE EXHAUSTED ABOVE THE WATERLINE TO AVOID EXCESSIVE BACK PRESSURE ON THE ENGINE AND PREVENT SEA WATER FROM TRAVELING UP THE EXHAUST LINE AND ENTERING THE ENGINE.

TO EXHAUST THE ENGINE ABOVE THE WATERLINE, THE DISCHARGED COOLING WATER AND EXHAUST GAS MUST BE "LIFTED" TO A LEVEL ABOVE THE THRU HULL FITTING ON THE TRANSOM.

IN THE CATALINA 36 THE EXHAUST COOLING WATER AND WXHAUST GAS ARE LIFTED ABOVE THE WATERLINE BY AN "AQUA-LIFT" TYPE MUFFLER. THE AQUA-LIFT MUFFLER PERFORMS THREE JOBS:

1. IT MIXES ENGINE GAS AND WATER TO COOL THE GAS AND LOWER EXHAUST LINE TEMPERATURE.

2. IT BAFFLES AND DEADENS ENGINE EXHAUST NOISE.

3. IT CREATES PRESSURE REQUIRED TO LIFT AND EXPEL COOLING WATER.

AS SHOWN IN ILLUSTRATION THE INLET TUBE INTO THE AQUALIFT IS SHORT AND THE OUTLET TUBE IS LONG NEAR THE BOTTOM OF THE TANK.

AS WATER ACCUMULATES IN THE BOTTOM OF THE TANK, EXHAUST GAS PRESSURE BUILDS IN THE TOP OF THE TANK. THIS FORCES THE COOLING WATER UP THE EXIT TUBE AND THROUGH EXHAUST LINE OVERBOARD.

THE SYSTEM REQUIRES EXHAUST PRESSURE IN THE TANK TO FUNCTION. WHEN THE STARTER IS TURING OVER, BEFORE THE ENGINE FIRES, WATER IS BEING PUMPED THROUGH THE COOLING SYSTEM BY THE BELT DRIVE COOLING WATER PUMP. IT IS VERY IMPORTANT NOT TO OPERATE THE STARTER MOTOR FOR MORE THAN 30 SECONDS IF THE ENGINE DOES NOT FIRE. SHOULD IT BE NECESSARY TO OPERATE THE STARTER MOTER MORE THAN 40 SECONDS, WATER MUST BE DRAINED FROM THE AQUALIFT BY REMOVING THE DRAIN SCREW AT THE BASE OF THE AQUALIFT.

THE DRAIN SCREW MAY BE REMOVED UNTIL THE ENGINE FIRES, IF DESIERD. ALL CATALINA 36's ARE EQUIPPED WITH ANTI-SYPHON VALVES AS AN ADDITIONAL PRECAUTION TO PREVENT COOLONG WATER FROM ENTERING THE ENGINE.

REFER TO ITEM "B" OF ILLUSTRATION 4.4.8. THE FUNCTION OF THE ANTI-SYPHON VALVE

IS TO PREVENT COOLING WATER FROM BEING SYPHONED THROUGH THE THRU HULL VALVE, THROUGH THE ENGINE COOLING SYSTEM AND INTO THE AQUALIFT MUFFLER WHEN THE ENGINE IS NOT OPERATING.

IF THE MUFFLER WERE TO FILL COMPLETELY WITH WATER, WATER WOULD TRAVEL UP THE INLET TUBE AND ENTER THE ENGINE BLOCK.

THE CATALINA 36 EXHAUST SYSTEM IS BASICALLY SIMPLE AND WILL PROVIDE TROUBLE FREE SERVICE IF YOU PERFORM REGULAR MAINTENANCE AND INSPECTION. THE IMPORTANT POINTS TO REMEMBER ARE:

1. CLOSE THE ENGINE COOLING WATER THRU HULL VALVE WHEN YOU ARE NOT OPERATING THE ENGINE.

2. DO NOT OPERATE THE STARTER MOTOR FOR MORE THAN 30 SECONDS WITHOUT DRAINING THE AQUALIFT MUFFLER.

3. PERIODICALLY DISASSEMBLE THE ANTI-SYPHON VALVE. BE SURE THE GASKET IS NOT FOULED WITH SALT DEPOSITS AND THAT IT MOVES FREELY UNDER THE CAP.

4. CHECK THE OPERATION BY REMOVING THE VALVE:

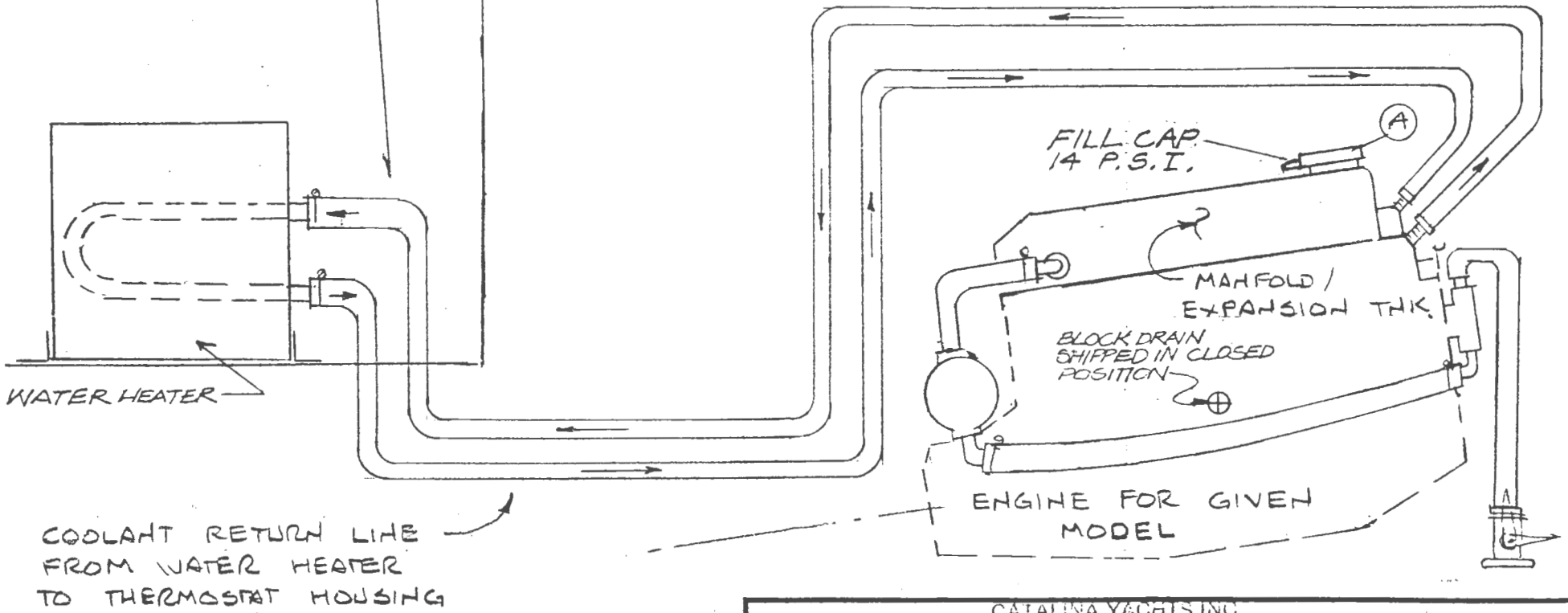
    A. PUT A FINGER OVER ONE LARGE HOLE AND BLOW THROUGH THE OTHER. AIR SHOULD NOT ESCAPE THROUGH THE CAP.

    B. IF YOU SUCK THROUGH ONE LARGE HOLE WITH A FINGER OVER THE OTHER, AIR SHOULD ENTER THE VALVE THROUGH THE CAP.

5. CHECK THE FLAPPER VALVE ON THE TRANSOM. THIS PREVENTS WATER FROM SURGING UP THE EXHAUST LINE IN A FOLLOWING SEA. REPLACE THE FLAP AS REQUIRED TO MAINTAIN FUNCTION.

FWC. COOLANT BLEEDING PROCEEDURE FOR BLEEDING AIR FROM CLOSED SIDE OF FRESH WATER COOLING SYSTEM AND WATER HEATER

1. FILL COOLING SYSTEM AT FILL CAP (A) WITH COOLANT SOLUTION
2. ADD COOLANT AT EXPANSION TANK FILL CAP (A) AFTER OPERATING ENGINE.



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SCALE: NONE	APPROVED BY:	DRAWN BY GD.
DATE: 12-23-82		REVISED 6-30-91

FWC. COOLANT BLEEDING PROCEEDURE

C-30, 34, 36,	DRAWING NUMBER 300-50021-4

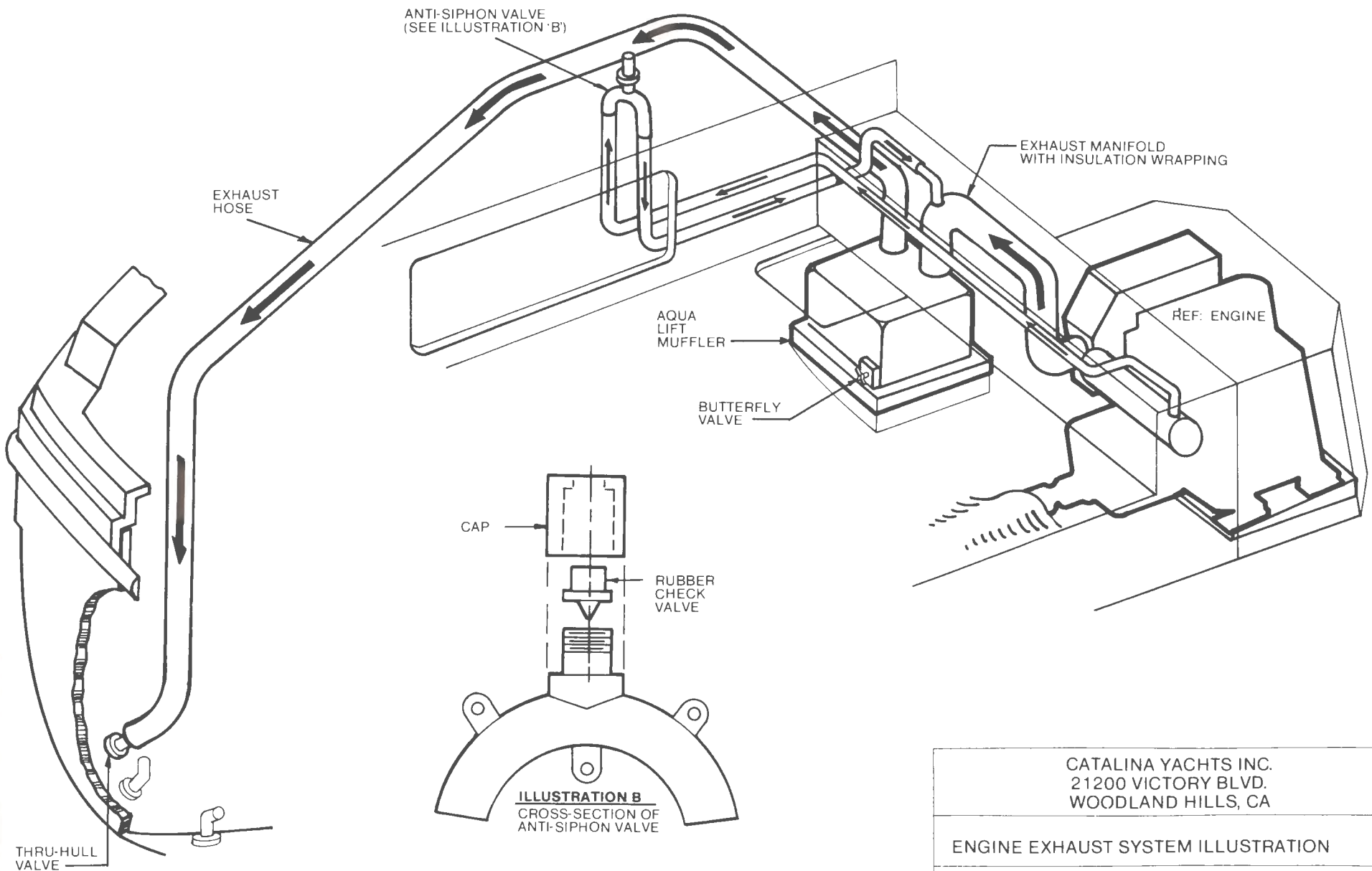

ILLUSTRATION B
CROSS-SECTION OF
ANTI-SIPHON VALVE

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WOODLAND HILLS, CA

ENGINE EXHAUST SYSTEM ILLUSTRATION

4.5.1 EMERGENCY TILLER:

IT IS RECOMMENDED THE SKIPPER AND CREW BECOME FAMILIAR WITH THE EMERGENCY TILLER AND ITS USE.

THE EMERGENCY TILLER SHOULD BE STORED IN A CONVENIENT LOCATION, KNOWN TO EVERYONE OPERATING THE BOAT.

A DRY RUN OF THE SYSTEM WILL MINIMIZE CONFUSION IN AN EMERGENCY:

1. LOCATE THE EMERGENCY TILLER.

2. REMOVE THE WHEEL. KEEPING A WRENCH HANDY FOR THIS PURPOSE IS A GOOD IDEA.

3. INSERT THE EMERGENCY STEERING TILLER IN THE RUDDER POST CAP.

NOTE: THE EMERGENCY TILLER MOVES THE WHOLE STEERING, INCLUDING CABLES AND QUADRANT. THESE ELEMENTS MUST BE FREE TO MOVE IN ORDER TO STEER THE BOAT.

4.6.1 GALLEY STOVE:

THERE IS PROVISION FOR A GIMBALLED STOVE WITH OVEN ON THE PORT SIDE OF THE GALLEY AREA. A TWO BURNER PRESSURE ALCOHOL STOVE IS FACTORY STANDARD INSTALLATION. IT COMES WITH AN OPERATION AND MAINTENANCE BOOKLET PROVIDED BY THE STOVE MANUFACTURER. A C.N.G. STOVE WITH OVEN IS AVAILABLE AS A FACTORY OPTION. FOLLOW THE INSTRUCTIONS FOR OPERATION CAREFULLY WHEN USING THE STOVE. ALTHOUGH COMPRESSED NATURAL GAS IS AMONG THE SAFEST OF COOKING FUELS, EXTREME CAUTION SHOULD BE USED WHEN COOKING ABOARD OR HANDLING C.N.G. FUEL TANKS. A FEW ADDITIONAL POINTS ON OPERATION OF THE STANDARD ALCOHOL STOVE ARE BELOW.

THE 2 GALLON PRESSURE TANK IS LOCATED IN THE COCKPIT STERN LOCKER. WHEN FILLING THIS TANK, PLEASE OBSERVE THE FOLLOWING BEFORE REMOVING THE STOPPER.

1. ALL BURNERS ARE OFF.

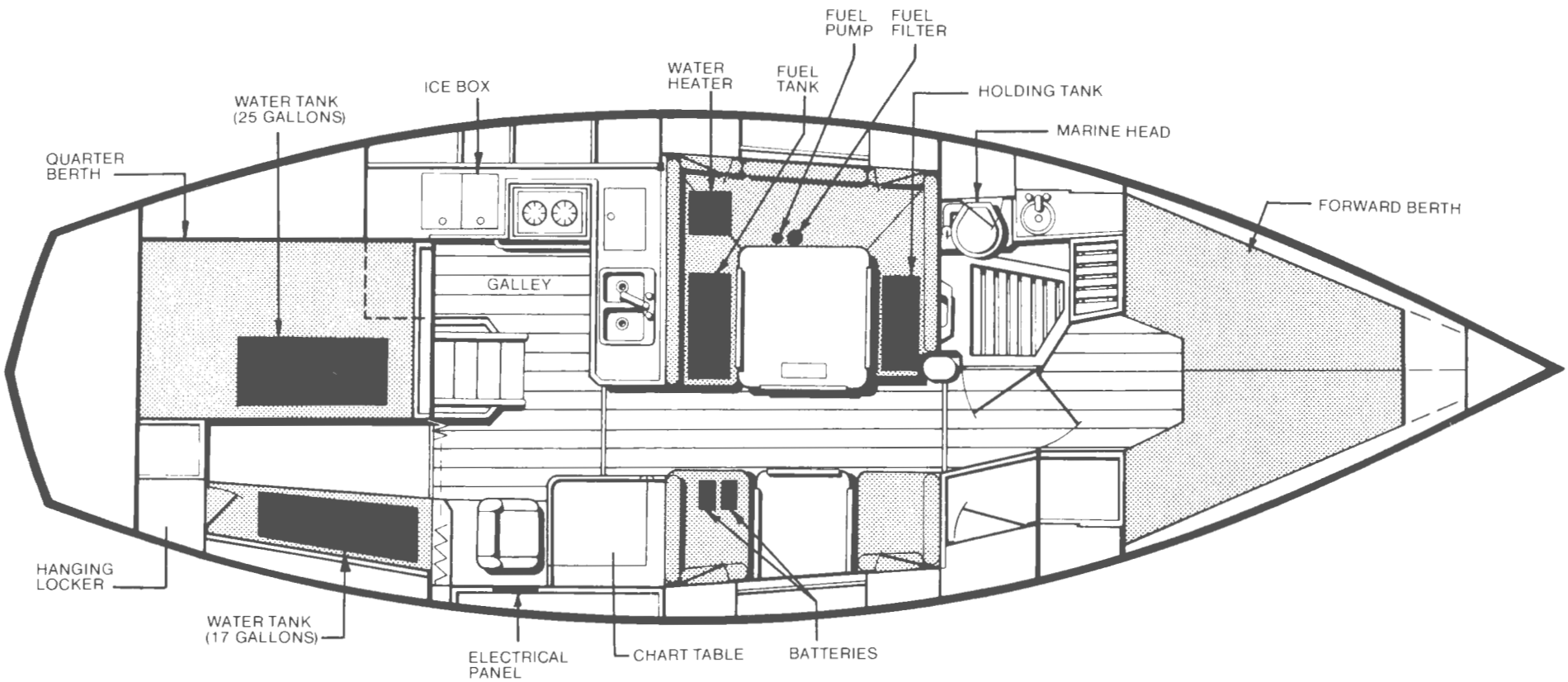
2. MAIN ALCOHOL SHUTOFF VALVE ON TOP OF PRESSURE TANK IS CLOSED.

3. TANK PRESSURE IS ZERO; REMOVE STOPPER.

4. FILL THE TANK 3/4 FULL TO ALLOW FOR AIR PRESSURE.

5. REPLACE STOPPER AND SCREW DOWN TIGHT.

6. EXPERIENCE HAS SHOWN THAT 5 POUNDS OF TANK PRESSURE IS MORE THAN ADEQUATE AND IMPOSES LESS STRAIN ON THE FITTINGS THAN THE RECOMMENDED 10 POUNDS.



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

CABIN ARRANGEMENT

CATALINA 36 OWNERS MANUAL 4.6.2

5.0 D E C O M M I S S I O N I N G

5.1 WINTERIZING YOUR ENGINE:

LAYING UP:

IN COLD CLIMATES WHERE YACHTS ARE DECOMMISSIONED DURING THE WINTER, YOUR CATALINA 36 MAY BE SAFELY STORED IN THE WATER PROVIDED ADEQUATE MEASURES ARE TAKEN TO PREVENT ICE DAMAGE TO THE HULL. CHECK WITH YOUR YARD TO DETERMINE THE FEASIBILITY OF STORING IN THE WATER.

WHEN THE BOAT IS TO BE STORED ON LAND, THE MAST MAY BE LEFT STEPPED ON THE DECK. HOWEVER, IT IS RECOMMENDED THE MAST BE REMOVED AT THE TIME OF HAULING FOR A THOROUGH INSPECTION AND PREPARATION FOR NEXT SEASON.

THIS ALLOWS PLENTY OF TIME TO ORDER AND REPLACE AND SHROUDS OR RIGGING PARTS NEEDED OVER THE WINTER MONTHS, AVOIDING ANY DELAYS IN THE SPRING COMMISSIONING.

FOLLOWING PROPER LAY-UP PROCEDURES WILL MINIMIZE THE EFFORT NEEDED TO RECOMMISSION IN THE SPRING.

BEFORE HAULING:

1. REFER TO ENGINE MANUAL INSTRUCTIONS FOR WINTERIZING THE ENGINE. PERFORM THE APPROPRIATE IN WATER STEPS.

2. CONSULT THE MANUFACTURER'S INSTRUCTIONS FOR WINTERIZING ANY OPTIONAL OR OWNER INSTALLED EQUIPMENT.

3. INSPECT THE CRADLE ON WHICH THE BOAT WILL BE STORED. CHECK WELDS AND PADDED POPPITS FOR CONDITION AND REPAIR AS REQUIRED.

4. LIFT THE BOAT WITH STRAPS AT THE LOCATIONS ILLUSTRATED.

AFTER HAULING:

1. WASH BOTTOM, REMOVING GROWTH AND LOOSE PAINT.

2. WASH TOPSIDES, DECK, AND ALL OTHER EXTERIOR FIBERGLASS SURFACES. WAX ALL EXCEPT THE NONSKID SURFACES.

3. REMOVE ALL SAILS. FOLLOW SAILMAKER'S INSTRUCTIONS IN REGARD TO CLEANING. SCHEDULE ANY REPAIRS REQUIRED AND STORE IN A DRY PLACE.

4. REMOVE ALL SHEETS AND LINES, CLEAN, STORE IN A DRY PLACE.

5. IF THE MAST HAD BEEN REMOVED FROM THE YACHT, REMOVE ALL STAYS AND SHROUDS FROM THE MAST. WASH THE ENTIRE STAY OR SHROUD ASSEMBLY, USING FRESH WATER AND A STIFF BRUSH. DRY THOROUGHLY, AND COIL INTO LARGE NONKINKING COILS. STORE THE COILS IN A DRY PLACE. WASH AND WAX ALL SPARS. COIL HALYARD INTO NONKINKING COILS, AND PUT IN A DARK COLORED PLASTIC BAG TO PROTECT FROM SUNLIGHT IF STORING OUTDOORS. LASH THEM TO THE MAST. STORE THE MAST EITHER

INSIDE OR OUTSIDE WITH ADEQUATE SUPPORT ALONG ITS LENGTH.

6. IF MAST IS TO BE LEFT IN PLACE, REMOVE THE BOOM, CLEAN AND STORE AS DESCRIBED BEFORE. CLEAN SHROUD/STAY END FITTINGS, TOGGLES ETC. USING FRESH WATER AND A STIFF BRUSH. APPLY A LIGHT COAT OF SILICONE GREASE, PAYING PARTICULAR ATTENTION TO THE END FITTINGS WHERE THEY CONNECT TO THE STAYS AND SHROUDS.

7. CLEAN AND LUBRICATE ALL DECK HARDWARE THAT CONTAIN MOVEABLE PARTS. FOLLOW MANUFACTURER'S INSTRUCTIONS ON WINCHES.

8. REMOVE ALL GEAR SUCH AS BOOKS, DOCUMENTS, BEDDING, PFD'S, ANYTHING MOVEABLE THAT IS SUBJECT TO RUST, CORROSION OR MILDEW.

9. REMOVE ALL FOOD SUPPLIES FROM LOCKERS AND ICE CHEST. WASH OUT ICE CHEST INTERIOR WITH A WEAK SOLUTION OF CLOROX. LEAVE ICE CHEST LID OPEN.

10. STORED BATTERIES SHOULD BE FULLY CHARGED, AND BOTH POSITIVE AND NEGATIVE TERMINALS SHOULD BE DISCONNECTED. THE BATTERIES MAY BE EITHER LEFT ABOARD OR STORED IN A COOL, DRY PLACE. SUB ZERO TEMPERATURES WILL NOT HARM A FULLY CHARGED BATTERY.

11. CLOSE ALL MANUAL SHUTOFFS FOR THE STOVE FUEL SYSTEM.

12. WINTERIZE THE HEAD SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

13. WINTERIZE THE HOT AND COLD WATER SYSTEM IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

14. REMOVE ALL ELECTRONIC GEAR THAT MAY REQUIRE SERVICING DURING THE WINTER.

15. REMOVE FIRE EXTINGUISHERS FOR WEIGHING, CHECKING, AND ANY NECESSARY RECHARGING. IF AN AUTOMATIC FIRE EXTINGUISHING SYSTEM IS INSTALLED, RETURN THE CYLINDERS TO THE YACHT AND REINSTALL AS SOON AS POSSIBLE.

16. IF CUSHIONS ARE LEFT ABOARD, BRING COCKPIT CUSHIONS BELOW AND PLACE ALL CUSHIONS ON EDGE TO ENCOURAGE VENTILATION.

17. LEAVE ALL INTERIOR LOCKERS OPEN TO ENCOURAGE VENTILATION.

18. ENSURE THAT COCKPIT AND DECK SCUPPERS ARE OPEN AND FREE.

19. IF THE BOAT IS TO COVERED, ENSURE THAT THE COVER IS INSTALLED IN SUCH A WAY AS TO PROVIDE ADEQUATE VENTILATION, AND THAT THE COVER IS NOT PERMITTED TO CHAFE AGAINST THE HULL OR DECK.

20. IF THE BOAT IS NOT TO BE COVERED, ENSURE THAT MECHANISMS SUCH AS WINCHES AND STEERING PEDESTALS ARE PROVIDED WITH ADEQUATE COVERS.

21. IF THE MAST IS TO REMAIN STEPPED, SNUG ALL SHROUDS AND HALYARDS TO MINIMIZE NOISE AND WEAR.

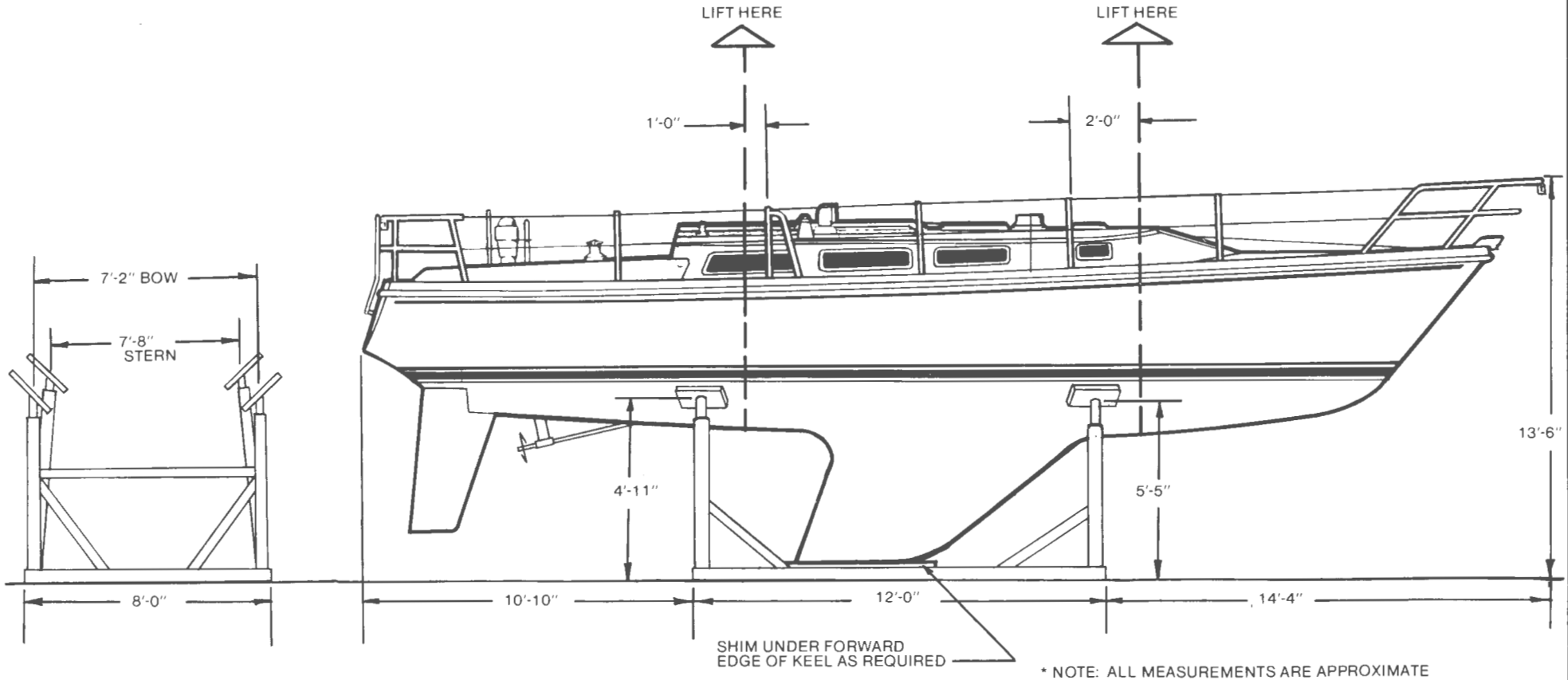
GENERAL NOTES:

WE RECOMMEND THE FOLLOWING PROCEDURES BE FOLLOWED WHEN STORING THE YACHT FOR PROLONGED WINTER MONTHS. 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.

FOR DIESEL ENGINES, CONSULT THE MANUFACTURER'S MANUAL FOR SPECIAL INSTRUCTIONS. FOR MOST GASOLINE ENGINES PROCEED AS FOLLOWS:

UNLESS MANUFACTURER'S MANUAL STATES OTHERWISE, DRAIN THE BLOCK, DISCONNECT THE WATER INTAKE HOSE FROM THE THRU HULL FITTINGS, ATTACH AN ADDITIONAL LENGTH OF HOSE AND PLACE THE END OF THIS HOSE IN A BUCKET OF ANTIFREEZE. RUN THE ENGINE UNTIL STRAIGHT ANTIFREEZE COMES OUT THE EXHAUST LINE. STOP THE ENGINE AT THIS POINT, PLUG OR CAP THE EXHAUST LINE, AND REMOVE THE ADDITIONAL HOSE AND BUCKET.



* NOTE: ALL MEASUREMENTS ARE APPROXIMATE

*** STANDARD DRAFT BOAT SHOWN**

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

LIFTING RECOMMENDATIONS

CATALINA 36 OWNERS MANUAL

6.0 OWNER-USER RESPONSIBILITY

6.1 GENERAL SAFETY TIPS:

1. DON'T VENTURE OUT WHEN THE WEATHER CONDITIONS ARE UNFAVORABLE OR ARE PREDICTED TO BECOME SO. LISTEN TO WEATHER FORECASTS, CHECK WITH YOUR HARBOR PATROL OFFICE, AND LOOK OUT FOR SMALL CRAFT STORM WARNINGS.

2. BE ESPECIALLY CAREFUL IN AREAS WHERE THERE MAY BE COMMERCIAL SHIPPING TRAFFIC. KEEP WILL AWAY FROM SHIPPING CHANNELS.

3. LEARN THE RULES OF THE ROAD. ALL OTHER SAILORS WILL EXPECT YOU TO KNOW THEM AND ABIDE BY THEM. THE U.S. COAST GUARD (BBE-2) 400 S. ELEVENTH ST., S.W., WASHINGTON, D.C. 20590, WILL SUPPLY FREE LITERATURE ON THIS. YOUR LOCAL BRANCH OR HARBOR PATROL OFFICE MAY HAVE IT AVAILABLE.

4. IF YOUR BOAT HAS A GENOA SAIL THAT OBSCURES THE HELSMAN'S VISION, HAVE A DEPENDABLE PERSON IN THE CREW KEEP A SHARP LOOK OUT UNDER THE JIB SAIL FOR ONCOMING TRAFFIC.

5. WHEN SAILING AT NIGHT, PROVIDE SAFETY HARNESSES FOR YOURSELF AND YOUR CREW, AND TIE THESE LINES TO THE BOAT. USE APPROVED HARNESSES.

6. PURCHASE ALL COAST GUARD REQUIRED SAFETY EQUIPMENT AND LEARN HOW TO USE IT.

7. ENROLL IN A C.G. CLASS OR OTHER CERTIFIED BOATING AND SAILING CLASS. YOU WILL LEARN A LOT AND ENJOY SAILING EVEN MORE.

8. DO NOT TAKE MORE THAT A SAFE NUMBER OF PERSONS ABOARD YOUR BOAT WHEN SAILING.

9. MARINE INSURANCE IS WORTH EVERY PENNY YOU PAY FOR IT. TAKE OUT INSURANCE FROM THE START. SEE YOUR DEALER FOR A RECCOMENDED MARINE AGENT IF YOU DON'T HAVE ONE.

10. KEEP ALL SEAT HATCHES AND MAIN HATCH CLOSED DURING ROUGH WEATHER OR GUSTY WINDS WHICH COULD UNEXPECTEDLY STRIKE THE BOAT AND CAUSE A KNOCK DOWN.

11. CAUTION! THE ALUMINUM MAST, AND THE METAL PARTS CONDUCT ELECTRICITY. COMING IN CONTACT WITH, OR APPROACHING AN ELECTRICAL POWER LINE CAN BE FATAL. STAY AWAY FROM OVERHEAD POWER LINES AND WIRES OF ANY KIND, WHEN LAUNCHING, UNDERWAY, OR WHEN STATIONARY.

6.2 REQUIRED SAFETY EQUIPMENT:

FIRE EXTINGUISHER:

IT IS WISE TO LOCATE A MINIMUM OF TWO, APPROVED FOR MARINE USE, FIRE EXTINGUISHERS, ONE FOR FORWARD OF THE GALLEY AND ONE BEHIND THE GALLEY, PREFERABLY BELOW THE COCKPIT HATCH. SHOULD AN ALCOHOL STOVE OR ENGINE FIRE START, YOU CAN ALWAYS REACH A FIRE EXTINGUISHER.

FOR EXAMPLE, YOU DO NOT WANT TO LOCATE BOTH OF YOUR EXTINQUISHERS IN THE HEAD

AREA BECAUSE IF YOU ARE LOCATED IN THE COCKPIT, YOU WOULD HAVE TO GET BY THE DANGER AREA TO REACH THEM IF THE FIRE IS EITHER IN THE GALLEY OR ENGINE AREA.

DRY CHEMICAL EXTINGUISHERS SHOULD BE INVERTED OCCASIONALLY TO PREVENT THE CONTENTS FROM PACKING. EXTINGUISHERS SHOULD BE RECHARGED YEARLY OR AFTER EACH USE, ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

LIFE VESTS:

KEEP A COAST GUARD APPROVED LIFE VEST ON BOARD FOR EACH CREW MEMBER. WEAR THEM DURING ROUGH WEATHER AND NIGHT SAILING. CHILDREN SHOULD WEAR VESTS AT ALL TIMES NO MATTER HOW MUCH THEY OBJECT.

HORN:

YOUR YACHT SHOULD BE EQUIPPED WITH A HORN CAPABLE OF PRODUCING A BLAST THAT CAN BE HEARD FOR A DISTANCE OF ONE MILE.

FLARES:

THE LAW REQUIRES THAT YOUR YACHT BE EQUIPPED WITH A MINIMUM OF 3 DAY/NIGHT FLARES.

6.3 SUGGESTED SAFETY EQUIPMENT AND SAFETY PACKAGE:

MEDICAL KIT:

A BASIC MEDICAL KIT IS A WISE INVESTMENT FOR ANY BOAT OWNER. SUGGESTED ITEMS INCLUDE: MOTION SICKNESS PILLS, ASPIRIN, BANDAGES, ETC. WE RECOMMEND THAT YOU PERSONALIZE YOUR MEDICAL SUPPLIES FOR YOU AND YOUR CREWS SPECIFIC NEEDS.

TOOL KIT:

A VARIED ARRANGEMENT OF TOOLS IS AGAIN, A WISE INVESTMENT TO HAVE ON YOUR BOAT. TAILOR YOUR TOOL BOX FOR THE CONDITIONS THAT YOU SAIL. FOR LOCAL SAILING, WITH PROFESSIONAL HELP JUST A PHONE CALL AWAY, YOU ONLY NEED A SMALL ARRAY OF TOOLS. HOWEVER, FOR LONG RANGE CRUISING, A MORE EXTENSIVE SUPPLY OF TOOLS WILL BE NEEDED.

6.4 SAFETY PACKAGE, FACTORY OPTION:

PKG. INCL.	DESCRIPTION
1 EA	18-S ANCHOR
15 FT	5/16" GALVANIZED PC CHAIN
1 EA	1/2 x 25Ø ANCHOR LINE
2 EA	3/8" GALVANIZED STEEL
2 EA	8 x 2Ø FENDER w/LINE
10 FT	7/16" W.NYL. FENDER LINES (2 x 5')
1 EA	THROWABLE CUSHION
1 EA	FOLDING ALUMINUM RADAR REFLECTOR
1 EA	FLARE KIT
1 EA	FREON AIR HORN

PACKAGE INCLUDES	DESCRIPTION
1 EA	BRASS BELL
2 EA	FIRE AWAY EXTINGUISHER
1 EA	BOAT MEDICAL KIT
1 PR	BP-2 ALKALINE BATTERIES
1 EA	CHAPMAN PILOTING, SEAMANSHIP, SMALLBOAT HANDELING
6 EA	ADULT LIFE JACKET
1 EA	FLASHLITE
2 EA	5/8 x 15 DOCK LINE

6.5 ANCHORS, ANCHORING, AND MOORING:

THE MANUFACTURER SUGGESTS AN ANCHOR IN THE 18-25 POUND RANGE TO BE USED AS A BOW ANCHOR IN ORDINARY CONDITIONS. THIS ANCHOR WILL ONLY BE EFFECTIVE WITH AT LEAST 6 FEET OF 5/16 INCH OR HEAVIER GAUGE CHAIN AND AT LEAST 1/2 INCH OR HEAVIER NYLON LINE.

UNDER ADVERSE WEATHER CONDITIONS, A HEAVIER 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 SHAKLE PINS SO THEY CANNOT COME LOOSE UNDER WATER.

REMEMBER: LIGHTER ANCHORS ARE MADE MORE EFFECTIVE BY INCREASING THE SCOPE, I.E., THE RATIO OF LENGTH OF LINE AND CHAIN TO DEPTH OF WATER. A 7:1 RATIO IS RECOMMENDED. THIS MEANS USING 7 FEET OF ANCHOR LINE FOR EACH FOOT IN WATER DEPTH.

6.6 LIGHTNING PRECAUTIONS:

YOUR YACHT WAS NOT PROVIDED WITH A LIGHTNING PROTECTION SYSTEM DURING CONSTRUCTION . THE REASONS ARE AS FOLLOWS:

1. THERE IS NOT A PROCEDURE FOR LIGHTNING PROTECTION WHICH IS PROVEN RELIABLE UNDER ALL CONDITIONS. YACHTS WITH ELABORATE LIGHTNING PROTECTION SYSTEMS HAVE SUSTAINED SERIOUS DAMAGE FROM A DIRECT LIGHTNING STRIKE.

2. IF THE BUILDER WERE TO ASSERT THAT THE YACHT WERE LIGHTNING PROTECTED, IT COULD INSTILL A FALSE SENSE OF CONFIDENCE IN THE OWNER OR OPERATOR, LEADING TO LESS THAN PRUDENT ACTIONS WHEN LIGHTNING THREATENED.

3. LIGHTNING SYSTEMS ARE "OUT OF SIGHT, OUT OF MIND", EXCEPT WHEN LIGHTNING THREATENS. GENERALLY, THEY ARE NOT CHECKED AND MAINTAINED ON A REGULAR BASIS. A DEFECT IN THE SYSTEM (I.E., A BREAK IN A GROUND LINE) COULD, IN SOME CASES, INCREASE THE RISK OF PERSONAL HARM AND DAMAGE TO THE YACHT, AS COMPARED TO A YACHT WITH NO PROTECTION. THE REASON FOR THIS IS THAT MANY LIGHTNING PROTECTION SYSTEMS DISTRIBUTE THE HIGH VLOTAGE THROUGHOUT THE YACHT BEFORE ALLOWING IT TO EXIT THROUGH THE GROUND.

4. IT IS IMPOSSIBLE FOR CATALINA YACHTS TO CONTROL CHANGES, YOU THE OWNER, MAY MAKE TO THE YACHT, WHICH COULD AFFECT LIGHTNING PROTECTION SYSTEM.

YOU, THE OWNER, MUST DECIDE WHETHER YOU WISH TO EQUIP YOUR YACHT WITH LIGHTNING PROTECTION, AND IF SO, THE METHOD OF DOING SO. FOR YOUR GUIDANCE, A COPY OF ABYC RECOMMENDATIONS IS ATTACHED. THE FOLLOWING SUGGESTIONS AND COMMENTS ARE ALSO OFFERED:

1. KEEP THE SYSTEM AS SIMPLE AS POSSIBLE. THIS WILL FACILITATE BOTH INSTALLATION AND INSPECTION/MAINTENANCE. PERHAPS A SINGLE OVERSIZE GROUND (BATTERY CABLE) FROM THE MAST BASE TO THE ENGINE, COUPLED WITH EXTERNAL SHROUD GROUNDS (SEE 2 BELOW), WILL MAXIMIZE RELIABILITY.

2. ABYC RECOMMENDS STRAIGHT LINE WIRE RUNS,WHICH IS VIRTUALLY IMPOSSIBLE WITHIN THE YACHT. FOR GROUNDING THE SHROUDS, A BATTERY CABLE, WHICH CLIPS TO EACH SHROUD AND EXTENDS OUTSIDE THE YACHT TO THE WATER, CAN MINIMIZE THE NUMBER OF BENDS REQUIRED. THIS METHOD HAS THE ADDED ADVANTAGES OF KEEPING THE POWER SURGE OUTSIDE THE BOAT AND ALLOWING EASY AND ROUTINE INSPECTION. THE OBVIOUS DISADVANTAGE IS THAT THE CLIP ON CABLES ARE NOT A PERMANENT INSTALLATION AND MAY NOT BE IN PLACE WHEN AN UNEXPECTED LIGHTNING STRIKE OCCURS.

3. USE ONLY TOP QUALITY MATERIALS AND GO OVERSIZE WHERE POSSIBLE.

4. KEEP ALL PERMANENT ATTACHMENT POINTS AND CONNECTIONS WHERE THEY ARE READILY AVAILABLE FOR INSPECTION, YET PROTECTED FROM DAMAGE OR INADVERTANT DISCONNECTION.

FACTORY INSTALLED METAL TANKS, 110 VOLT SYSTEMS AND MAJOR COMPONENTS ARE GROUNDED TO THE ENGINE. THE ENGINE IS GROUNDED VIA THE SHAFT AND PROP TO THE WATER. THE PURPOSE OF THE INTERNAL GROUNDING IS FOR STATIC CHARGE CONTROL AND ACCIDENTAL SHORTS IN THE INTERNAL SYSTEMS--NOT TO PROVIDE LIGHTNING PROTECTION. HOWEVER, YOU CAN INCORPORATE THE GROUND LINES PRESENT IN A LIGHTNING PROTECTION SYSTEM YOU MAY WISH TO ADD.

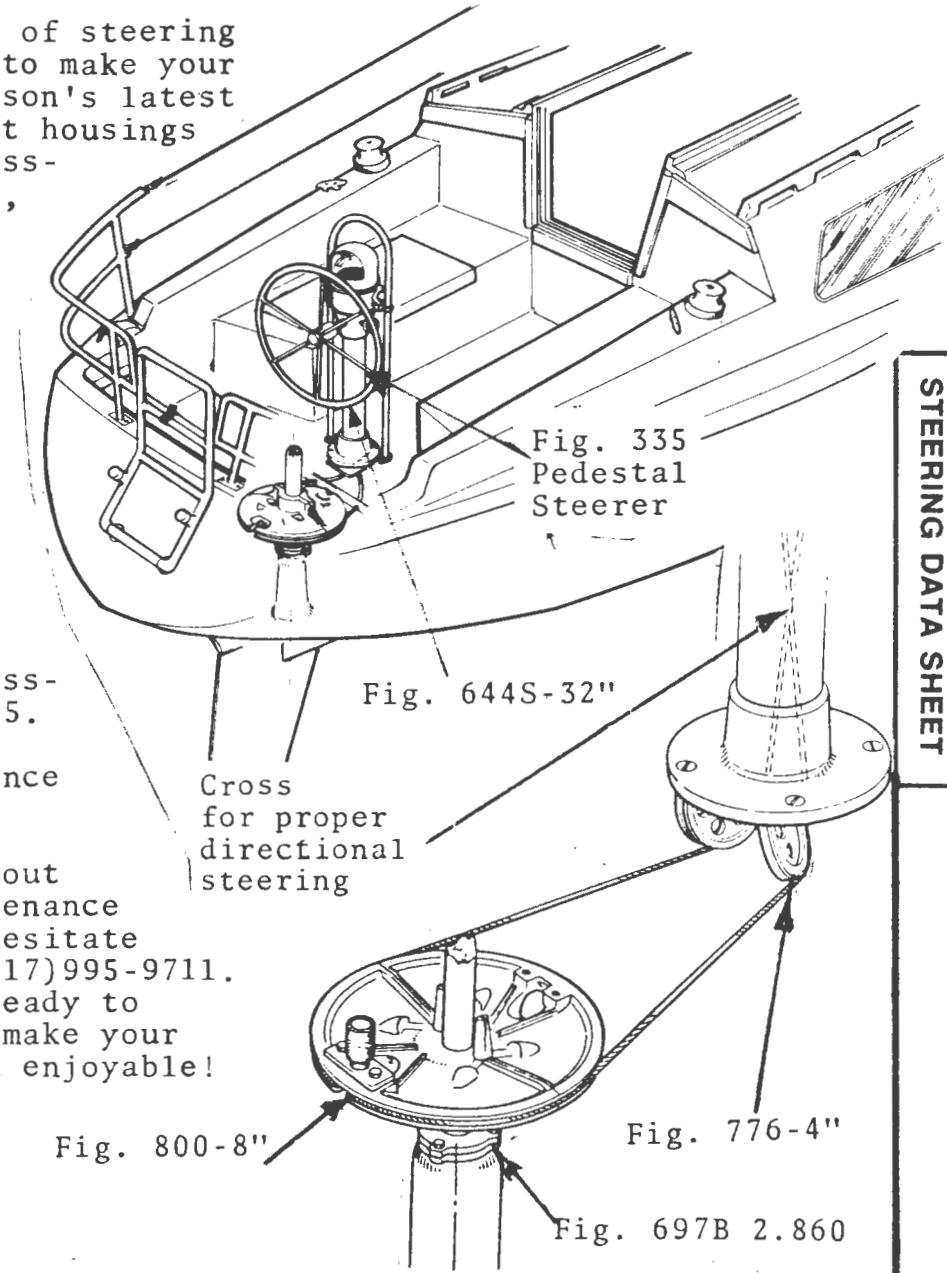
BY FAR,THE MOST IMPORTANT CONSIDERATION REGARDING LIGHTNING IS OBSERVING COMMON SENSE SAFETY PRECAUTIONS WHEN LIGHTNING THREATENS. THE KEY CONSIDERATIONS ARE LISTED IN THE AMERICAN BOAT AND YACHT COUNCIL(ABYC).

EDSON manufactures a variety of steering system accessories designed to make your cockpit more functional. Edson's latest catalog is full of instrument housings cockpit luncheon tables, glass-holders, auto-pilot adapters, and more.

WHEN ordering additional accessories for your Catalina, please note the following size designations. All accessories that fasten to the top of an Edson 335 Pedestal carry the size of 45; this would include items such as instrument housings.

WHEN ordering accessories to fit on your Edson Pedestal Guard, such as tables or glass-holders, please order size 95. All Edson Pedestal Guard are 9½" between pipe centers, hence the 95 size designation.

IF you have any questions about recommended options or maintenance information, please do not hesitate to contact Edson directly (617)995-9711. Our knowledgeable staff is ready to assist you. Edson wants to make your Catalina experience safe and enjoyable!



PARTS LIST

1	Fig. 335C	5-211	Edson Pedestal Steerer with Chrome Nut
1	Fig. 644S	32"	Edson Destroyer Wheel
1	Fig. 775	2S15B9	Chain & Wire Rope Assembly
1	Fig. 776	4"	Adjustable Crossed Wire Idler
1	Fig. 800	8"	Heavy Hub Radial Drive Wheel
			VERIFY BORE: 2.860 PINNED
2	Fig. 618	#1	Wire Take Up Eyes
4	Fig. 646A	½x4"	Pedestal Mounting Bolts
4	Fig. 665	3/16"	Wire Rope Clamps
1	Fig. 697B	2.860	Rudder Stuffing Box

FACTORY INSTALLED OPTIONS

	Fig. 689L	456	Edson Friction Brake
1	Fig. 662	45	Edson Narrow Pedestal Guard
1	Fig. 870	45	Clutch & Throttle Control

STEERING DATA SHEET

The Edson Corporation
460 Industrial Park Road
New Bedford, Mass. 02745
Telephone 617-995-971

Call and Order Today - We'll Ship Your Order Within 24-72 Hours
Mastercard and Visa Welcome

NSTRUMENT DISPLAYS

Edson has now designed housings and pods for one, two, three, or four Pedestal Instrument isplays. All are designed with the Edson Pedestal Guard, which not only protects the crew and the nstruments, but also permits the owner to have a table and other pedestal accessories. The uards are positioned 2" forward of the pedestals to allow the top housing or pod to be well forwa f the compass lubber line, giving the helmsman a clear view of the compass.

All Edson housings and pods are molded and coated with white polyurethane finish. The ods swivel around to be easily viewed by other crew members in the cockpit. The Black Lexan aceplates will accept virtually all instruments (up to 5-1/2" OD bezel and 4" total depth) and are asily cut to suit the instrument with a fine tooth sabre saw.

All of the Pedestal Instrument displays shown come complete with a Stainless Steel Guard, uard Mounting Feet, Top Plate, Housing/Pods Mounting Platform, Housing/Pods, Black Adapter aceplate, all necessary hardware, and an installation instruction sheet.

Fig. 722 - WHEN ORDERING, BE SURE TO SPECIFY GUARD SIZE AND STYLE OF EDSON DISPLAY DE- IRED. (For round or square instruments: for two or four instruments)

OTE: If your Edson Steerer was installed by Catalina, it will have a pedestal guard already. If his is the case, be sure to order your instrument housings less guard.

PARE CHAIN/WIRE REPLACEMENT KITS

Edson now offers both Chain Replacement Kits and Wire/Rope Replacement Kits. The ire/Rope Replacement Kit consists of the appropriate size and length of non-magnetic 7x19 SS Wire ope complete with thimble, nico press, chain adapter, and clear heat-shrink tubing. The prudent ailor will keep a spare aboard.

The Chain Replacement Kit consists of the appropriate size and length of non-magnetic SS oller Chain with adapters and the appropriate number of master links. Both are recommended spares or the serious offshore cruiser or racer. Both Chain and Wire/Rope Replacement Kits are supplied n a heat shrink package to protect from dirt and moisture.

Fig. 775 SPARE CHAIN & WIRE ROPE ASSEMBLY

Size 2S 15 B6 Fits Catalina 27
Size 2S 15 B6 Fits Catalina 30
Size 2S 15 B6 Fits Catalina 34/36
Size 2S 15 B9 Fits Catalina 38

UTOPILOT ADAPTERS

Edson's newest member of the Manganese Bronze Tiller Arm family is designed to be used ith the Auto Helm Linear Drive Auto Pilots. Two sizes are available to fit either the Auto Hel- ype I or Type II Auto Pilots. Both sizes are supplied with a 12mm Clevis Pin. Size 10, which esigned for the Auto Helm Type I Linear Drive, measures 10" from the rudderpost to the centerli.. f the pin and allows 70 degrees of rudder travel, a second at 11-1/2" allows 90 degrees of rudder ravel.

PLEASE VERIFY THAT YOUR RUDDERPOST DIAMETER IS:

CATALINA 27 - 1.660" CATALINA 30 - 2.358" CATALINA 34/36 - 2.860" CATALINA 38 - 2.875"

EAK COCKPIT TABLES

Edson offers Teak Cockpit Tables to increase the versatility of your pedestal steerer. ll tables are constructed of natural teak and have teak fiddle rails. Edson tables are supplied with a natural finish; ready to accept a good varnish or oil application. Although Edson's larger dining cockpit tables are well represented in the latest Edson Catalog, the Fig. 761 size 95 measur- ing 13-1/2" x 24" is recommended for your Catalina. Fold-Down Tables are ideal for those who want to stow their table right at the pedestal guard. It folds against the guard when not in use and can oe quickly put into service by clipping the brackets into place. These tables are also supplied with a "quick-release" hinge pin for fast removal and stowage. See Page 28C in Edson's K-18 Catalog for a complete description of Edson's new Traybles.

FIG. 761 EDSON FOLD-DOWN, THE 24" LENGTH FORE & AFT (OUR MOST POPULAR COCKPIT TABLE)
FIG. 784 EDSON FOLD-DOWN, SAME AS A FIG 761, BUT WITH 24" LENGTH ATHWARTSHIPS.
FIG. 928 EDSON TRAYBLES - ORDER TWO SIZE 24 TO FIT FIG. 761-SZ. 95 TABLE

Slide on tables require no mounting hardware, but slide on and off the guard with ease. The slide-on brackets are constructed of black epoxy-coated aluminum and will come assembled to the table. Easy to stow and leaves no hardware on the pedestal guard.

FIG.850 EDSON SLIDE-ON WITH 24" DIMENSION ATHWARTSHIPS
FIG.849 EDSON SLIDE-ON WITH 24" DIMENSION FORE & AFT

EFLON LUBRICANT

Inert-base oils (non-petroleum) combined with Teflon. This is the very best for conduit and pedestal lubricants. For information with regard to the care and maintenance of your entire steering system, refer to the Edson Pedestal Maintenance Guide: EB-204. Call or write us today.

FIG. 827 SIZE 4 Is a 4 OUNCE JAR FIG. 827 SIZE 75 Is a 3/4 OUNCE TUBE

EAK GLASS HOLDERS

See Pages 28D and 29 of Edson's K-18 Catalog.

CALL (617) 995-9711 FOR EDSON'S SUDDEN SERVICE MASTERCARD AND VISA ACCEPTED

CERTIFICATE

of the electrically operated ships lantern

AQUA SIGNAL 25

for Sailing or Powerdriven vessels of less than 12 meters (39.4 ft) in length.

Combined sidelights Lantern

Bulb: 12v/10w Volt/Watt Minimum Visibility(k=0,8): 1 nm

Manufacturer: AHLEMANN + SCHLATTER . D-2800 BREMEN 44 . GERMANY

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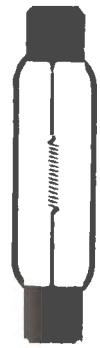
FINLAND * (M.K.H.)	NORWAY * (N.M.D.)
DENMARK * (N.P.)	SWEDEN * (S.V.)
ICELAND * (S.R.)	POLAND (P.R.S.)
ITALY (RINO)	BELGIUM (B.Z.I.)
SOUTH AFRICA (D.O.T.)	U.S.S.R. (R.O.S.)
GREECE (MDMM)	NEW ZEALAND (M.O.T.)
ARGENTINE (P.N.A.)	

BULB TO BE USED



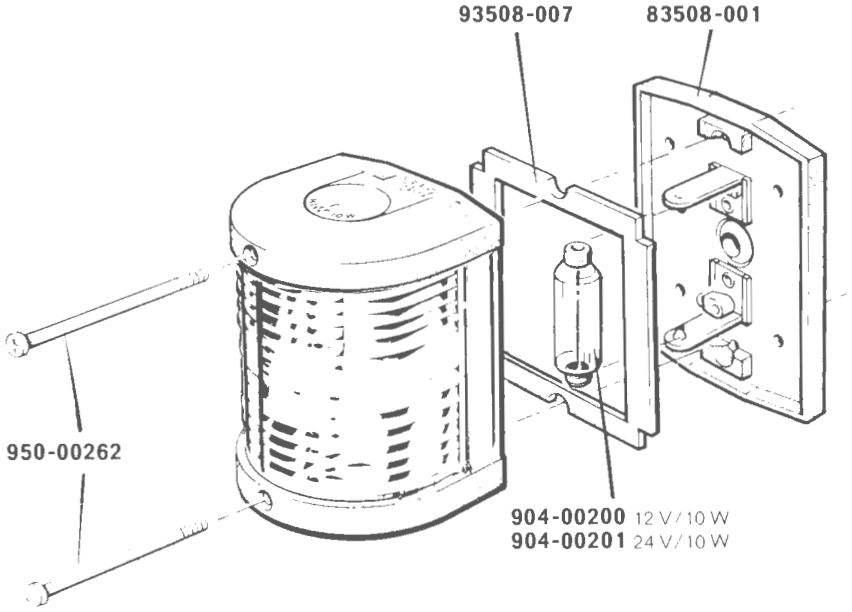
* less than 7m (23 ft.) in length for these countries.

In case of difficulty for replacement bulbs contact (312) 232-6425 or TLX 910 230 3110

The lantern is manufactured in compliance with the international regulations for preventing collisions at sea 1972 (IMCO 72).

This certificate becomes invalid when a bulb other than indicated above or a lens of different properties is used.

Installed _____



COMBINED SIDELIGHT

(BI-COLOR: Red 112.5°, Green 112.5°)

S. INLAND NAV. ACT 1980 (Previously "Inland", "Western River's", "Great Lakes" Rules) All vessels complying with the construction and equiptment quirements of the international Regulations are considered to be in compliance. Rule 1 (b)(ii) U.S. Inland Nav. 1980.

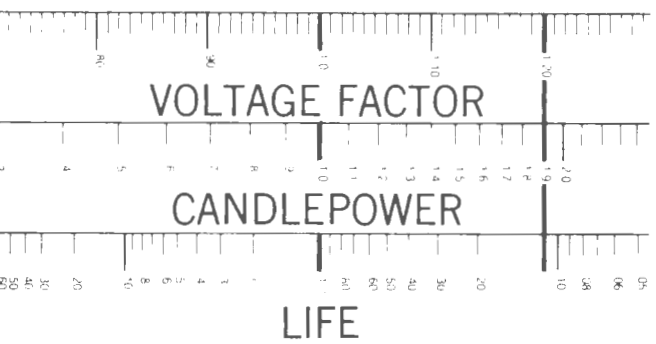


Fig. A (Graph courtesy of U.S. lampbulb manufacturers)

Bulb Life and Rating

In all incandescent bulbs regardless of manufacturer the filament resistance, temperature, current, watts and light output are all closely interelated and effected by voltage. For example, a small decrease in voltage will greatly extend life but the light output will decrease as the fourth power of that voltage. Similarly an increase in voltage increases output but shortens life,for example: 20% voltage increase, 190% more light but 88% reduction of lamp life (fig. A).

These Nav. Bulbs (unlike similar auto bulbs) are manufactured to close tolerances of filament position (necessary for optical enhancement and cut-off) and to give 1000 hrs at 13.2 volts and yet meet IMCO (72COLREGS) requirements at 12 volts. Necessary for boats with engines shut down at anchor or due malfunction or for a boat under sail.

If you experience very short bulb life in operation and this usually only occurs in commercial work boats with 14-16 volts in a 12v system (or similar increase in 24v or 32v system) contact Browning Marine Inc., 33W480 Fabyan Parkway, Suite 105, West Chicago, IL 60185, and we will advise you on corrective action. (As it is possible to get a much higher voltage in the electrical system than the voltage set or measured at the alternator/generator, we will need to know the actual voltage at the Nav. light.)

LIMITED WARRANTY

QUA-SIGNAL® warrants to the original consumer purchaser of its oducts that these products are guaranteed to be free from defects in aterial and workmanship for a period of five years after retail purchase om an authorized AQUA-SIGNAL® dealer, or where said product is corporated as part of new equipment from the date of purchase of the uipment in question. All warranties given hereunder are and shall be bject to the following terms and conditions.

1. Where the product has been subjected to abuse, neglect, accident, use conjunction with faulty equipment, use in violation of instructions rnished by AQUA-SIGNAL® incorrectly wired or where any repair or eration has been made by an unauthorized service agency, then, and in at event, all warranties given hereunder shall be immediately void.

2. AQUA-SIGNAL® specifically quarantees for the life of the product that e lens color will not fade, provided, however, AQUA-SIGNAL'S sponsibility regarding this shall be limited to replacement of these mponents at AQUA-SIGNAL® cost. As to all other defects AQUA-GNAL will replace the defective product subject to the following quirements.

a. All shipping must be paid by consumer.

b. Notification and shipment of any defective product must be made omptly by consumer.

c. Consumer must show reasonable proof of purchase.

d. All expenses regarding removal of defective product and installation of a replacement, if any, must be borne by the consumer.

3. It shall be the sole responsibility of the purchaser of AQUA-SIGNAL® products to determine if the product purchased has been appropriately tested for the particular application concerned including merchantability or fitness for any particular purpose.

4. AQUA-SIGNAL® has designated bulbs for approved use in its products that are of a high quality as furnished by AQUA-SIGNAL, however, AQUA-SIGNAL makes no warranty as to bulb life.

5. AQUA-SIGNAL® does not give any other warranties than those contained in this warranty, nor does AQUA-SIGNAL® authorise any person, corporation or company to issue additional warranties. This AQUA-SIGNAL limited warranty is given in lieu of all other warranties express or implied

6. AQUA-SIGNAL® shall not be liable for any other incidental or consequenential costs, expenses or damages incurred by the original consumer purchaser or by any other person, firm or corporation, and their responsibility shall, as to warranty claims be limited to repair or replacement of any defective product as set out above, provided, however, some states do not allow the exclusion of limitations or incidental or consequential damages, so the above limitation or exclusion may not apply to you.

7. In that some states do not allow limitation as to how long an implied warranty lasts, the above time limitation may or may not apply to you. Also, this warranty gives you specific legal rights and you may also have other rights which vary from state to state.

AQUA-SIGNAL® Ahlemann & Schlatter D-2800 Bremen 44 West Germany