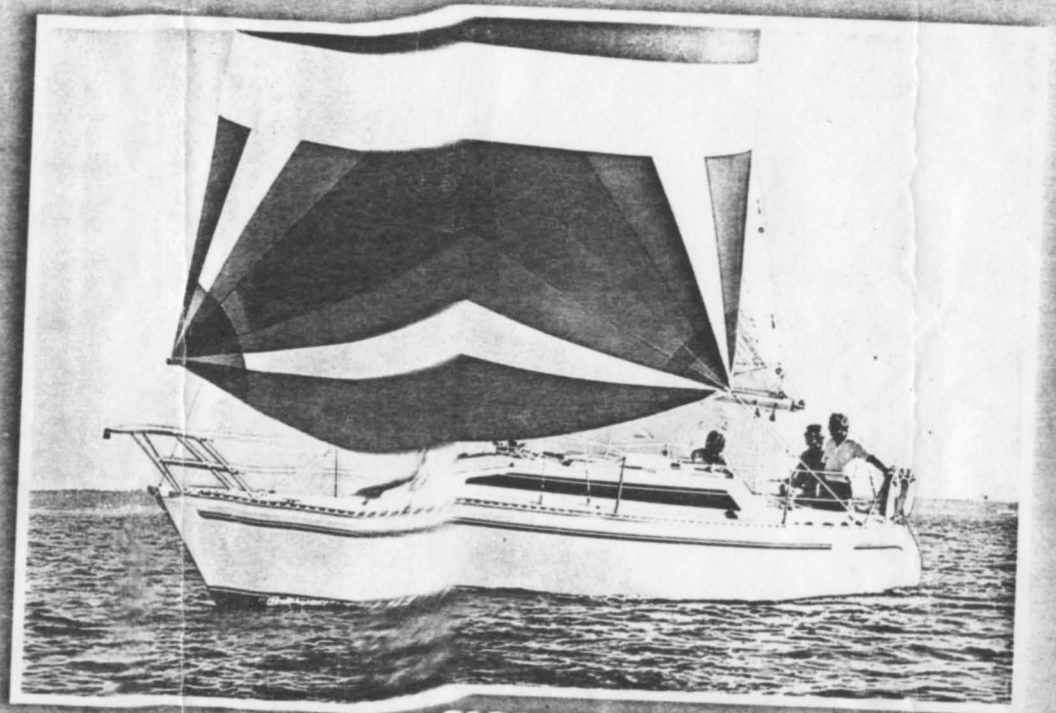
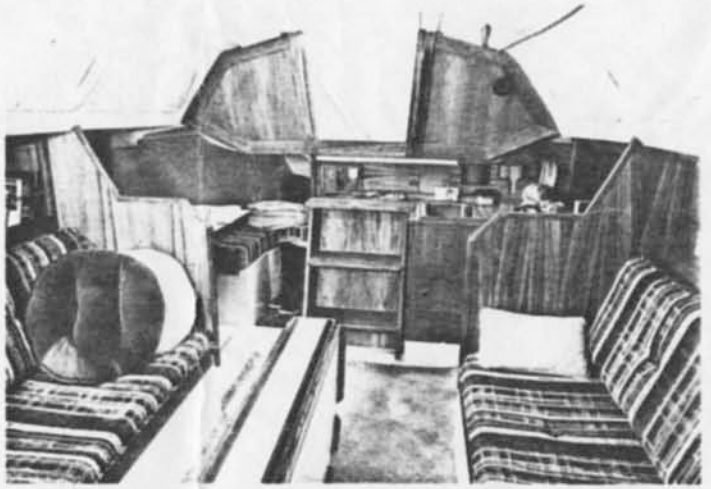
THE CAL 9.2



THE FIRST CAL DESIGNED BY RON HOLLAND

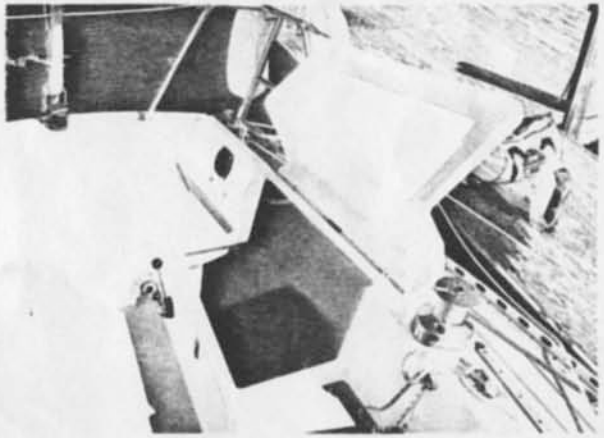
Anchor locker opens to deck.



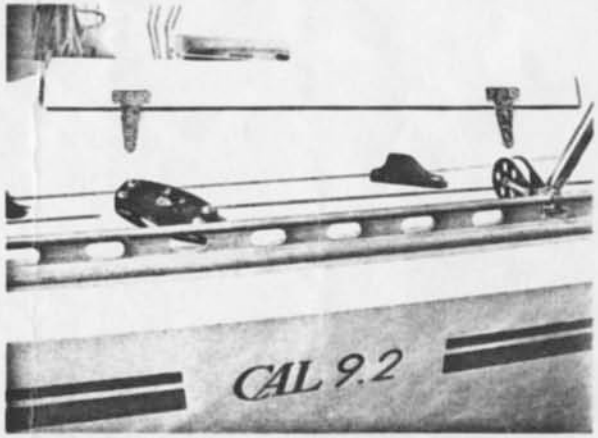
Looking aft you can see how much light there is below, and how the smoked portlights let the light through without glare.

The "lip" at the forward end of the cabin is a lateral strut that gives great strength to the mast and shrouds. This is a strongly built boat.

The seat locker opens wide so that even the largest genoa jib can be easily stuffed in. Your liferaft can stay in the cockpit, if you ever need it.



With a toe rail like this your choices of where to lead extra sheets, guys, preventers and the like are endless. The hardware you see is standard.



The forward stateroom has plenty of room for you or your crew, and plenty of privacy. It's just forward of the head, which is the full width of the boat.

Both the Navigator and the Cook have plenty of work-space to get their jobs done, and plenty of room to store the necessary gear.

Stainless steel sink, cabinet under.

Butcher block formica counter.

Two burner stove with cutting board. Cabinet under.

Fitted dish rack.

Food lockers.

Stowage bins.

Solid teak bulkhead.

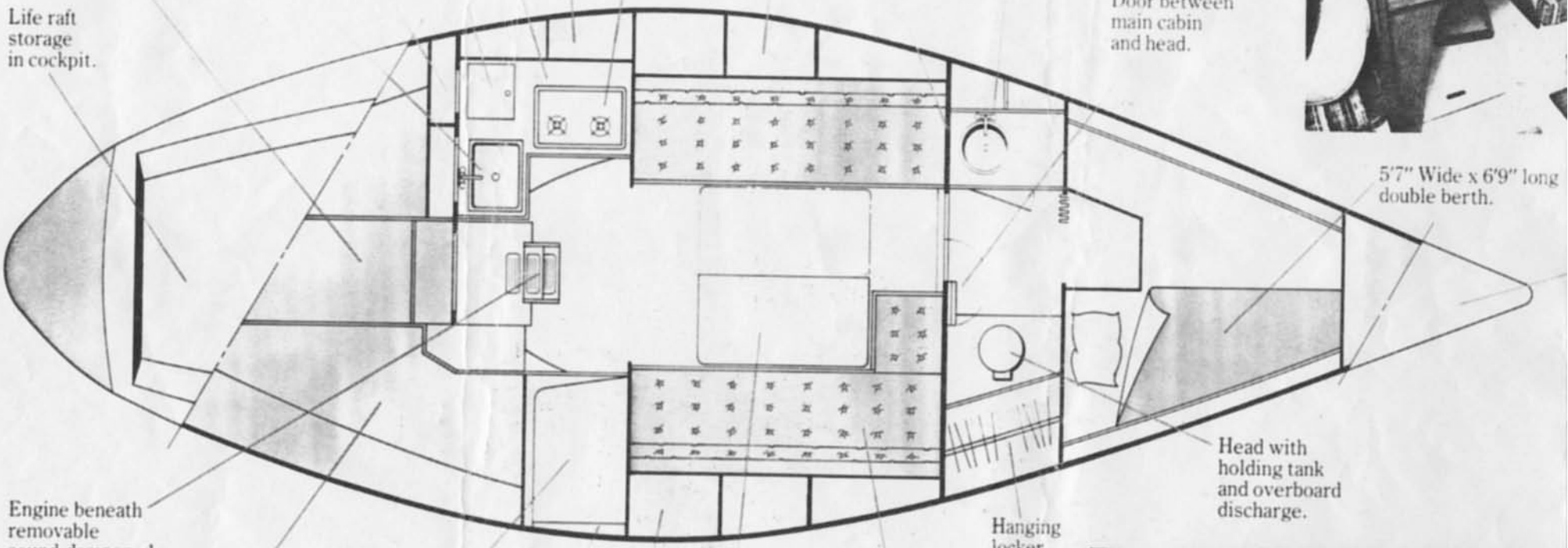
Medicine cabinet with mirror.

Universal two-cylinder diesel engine.

Ice box.

Door between main cabin and head.

Life raft storage in cockpit.



5'7" Wide x 6'9" long double berth.

Head with holding tank and overboard discharge.

Hanging locker.

Engine beneath removable sound-dampened companionway ladder.

L-shaped settee converts to double berth 4' wide x 6'3" long.

Stowage bins.

Navigator's table.

Drop leaf table on stainless steel pedestals.

Quarter berth 3'5" wide x 6'3" long.

Book and storage shelves.

The cockpit is designed for racing and relaxing, even the deck aft is sloped for comfortable sitting when the boat is heeling. Line stoppers are visible in the foreground: they make line handling easier and faster.

The very name – Cal 9.2 Meter – tells you from the beginning that this Cal is different from all others that have come before. The Cal 9.2 is a swift, secure and opulently comfortable thirty footer conceived by one of the most highly regarded designers of the new breed, Ron Holland. Ron's half-tons and one-tonners are consistent winners and his Grand Prix boats are the talk of the I.O.R. circuit. As a direct descendant of one of his half-ton designs, the Cal 9.2 will surely be one of the boats to beat in PHRF and M.O.R.C.

The Cal 9.2 has a different look from other Cals. A long smoked window runs the length of the cabin, providing tremendous amounts of light below. The transom has a curved reverse sheer reminiscent of the dockside lineup at the S.O.R.C. The cockpit is brilliantly laid out to include a molded seat locker to accommodate oversized sailbags, and a specially designed storage locker to keep your life raft out of the way and out of the wind.

The Cal 9.2's performance lives up to her tantalizing good looks. A tiger to windward and a racehorse downwind. A true fin keel and deep spade rudder cut drag and wetted surface to a minimum, while the deep hull entry gives superior climbing ability to windward and better tracking in a following breeze.

The rig is all modern, with a high aspect ratio main and generous foretriangle. Sheeting is at the after end of the boom to control the leech, while the standard boom vang is led to mid-boom for draft control. Lines are inside the mast and boom wherever possible for reduced windage and non-fouling. Decks are wide and the foredeck is uncluttered, giving the helmsman an unobstructed view

under sail or power. And power comes from a dependable two-cylinder diesel that's standard equipment on the Cal 9.2.

Look around the Cal 9.2. You'll find performance features and go-fast gear to satisfy the most dedicated racer. The cockpit is command control: color-coded halyards lead aft through line stoppers making cabin-top winches more versatile. There are five Barients in all, including one mounted on the after side of the mast to make reefing easier. Spinnaker gear and boom vang are standard as are double bow and stern pulpits and double lifelines. The genoa track has adjustable turning blocks already mounted, and the toe rail is slotted so extra blocks and shackles can be attached anywhere on the boat.

As with so many ideas that were developed for racing, these features also make your cruising faster and the boat easier to sail.

A great deal of thought has been given to the design and layout of this Cal: striking a perfect balance between high performance and easy handling for couples or small crews.

Winch bases are molded into the coamings to assure proper placement and extra strength.

An "on deck" anchor well allows for convenient stowage, yet keeps the anchor handy, if needed in a hurry. Shrouds are set well apart to give the mast added stiffness; on the wind the genoa sheets inboard of the lifelines. The Cal 9.2 is a winner through and through.

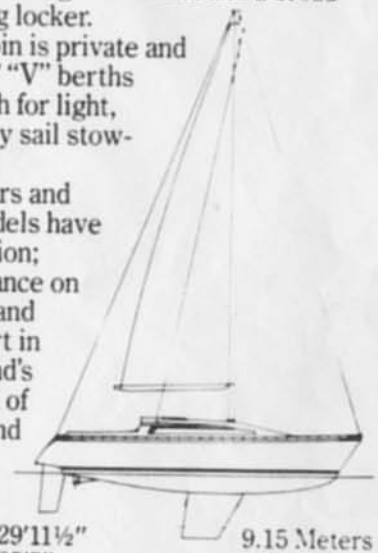
Below the machine turns into a yacht. You'll see panel after panel of glowing teak. Fabric-covered cushions are beautiful and breathable, color coordinated to highlight the warmth of a wood interior. The overhead is off-white aircraft grade plastic for brightness and durability, as well as reduced weight above the waterline.

There's the right blend of working space and relaxing space, too. The navigator's table is large enough to accommodate needed tools and charts. It's located opposite the large "L"-shaped galley and forward of the generous quarter berth. The formica and teak dining table has folding leaves to allow the starboard settee to form an oversize double berth. The main cabin is surrounded by

generous stowage spaces. Just forward is a head compartment that runs the full width of the boat. It includes ample stowage for linens and a broad-shouldered hanging locker.

The forward cabin is private and generous with 6'4" "V" berths and a skylight hatch for light, ventilation and easy sail stowage while racing.

Twenty-five years and thirty-four Cal models have built a proud tradition; awesome performance on the racing course, and exceptional comfort in quiet coves. Holland's Cal 9.2 joins a fleet of worthy legends. And legendarily good investments.



LOA	29'11½"		9.15 Meters
LWL	25'5"		7.75 Meters
Beam	10'4"		3.15 Meters
Draft	5'7" or		1.70 Meters
	4'7"		1.40 Meters
Displacement	7000 Lbs.		3175.2 Kilograms
Ballast	2730 Lbs.		1238.3 Kilograms
Ballast to Displacement Ratio			39%
Sail Area	Main	162.5'	15.1 Sq. Meters
	100% Foretriangle	225.6'	20.9 Sq. Meters
	Total	388.1'	36.0 Sq. Meters
I	38.0'	11.58	Meters
P	32.5'	9.91	Meters
E	10.0'	3.05	Meters
J	11.875'	3.62	Meters
Mast height above water		42.25'	12.87 Meters

All Cals built by Bangor Punta Marine are constantly being reviewed and improved. As a result, standard equipment and options are subject to change at any time. See your dealer for the latest specifications.

Standard Features for All Cals.

Hull, Deck, and Rigging

- One piece hand laminated fiberglass hull and deck.
- Molded-in hull, stripe, and two-tone deck colors.
- Balsa and plywood cored decks with molded non-skid pattern.
- Bronze below water thru-hulls with seacocks.
- Stainless steel chainplates bolted to bulkheads or knees bonded to hull.
- Flush anchor locker in foredeck with overboard drain.
- Stainless steel double rail bow and stern pulpits with transom gate; stainless steel stanchions.
- Barient winches and 10" winch handle.
- Mainsheet travelers.
- Painted aluminum masts and booms with luff and foot grooves.
- Double internal reef (color coded), internal outhaul, external adjustable boom topping lift.
- Standing rigging is 1 x 19 stainless steel cable with swaged terminals; stainless steel and chromed bronze turnbuckles, flush tangs and T-terminals on shrouds.
- Halyards – internal; yacht braid tails spliced to stainless steel halyard cable.
- All running rigging is color coded; main, blue; jib, green.
- Boom vang package.
- Bow light and anchor light.
- Deck hardware is chrome plated bronze, stainless steel or anodized aluminum.
- Fiberglass companionway hatches; seahoods and solid teak penboards.
- Fiberglass covered high density foam rudder with stainless steel rudder shaft.
- Bow rails with halyard bails for attaching halyards. Running lights mounted on the rails.
- Non-skid colors are available in light gray, light blue, and beige at no additional charge. Hull stripes are available in mid-watch blue (navy), chinese red, dark green, rust, and regatta blue. Two colors are available for the hulls and smooth area of the deck – white and cream.

Interior

- Fiberglass floor pan extends throughout interior, bonded to hull for added strength.
- Teak bulkheads, cabinets and trim throughout interior, except head.
- Heads finished in white laminate with teak trim.
- Foam backed fabric or vinyl hull liner for sound and moisture insulation. Fabric is treated to resist stains.
- High pressure laminate counter tops with sea rails and wipe-outs in galleys and heads.
- High sea rails on shelves, alcoves and lockers.
- Towel ring, glass and toothbrush holder, toilet paper holder, and mirrors in heads.
- Stainless steel sinks in galley and head.
- Polyurethane foamed-on insulation on iceboxes.

Machinery, Electrical and Plumbing

- 12 volt circuit breaker panels with battery volt meter, and power-on light and battery selector switch.
- FDA approved plumbing.
- Lightning ground system (no lightning ground system provides complete protection).
- Manual bilge pump accessible with all hatches closed.
- Sound insulation in engine room.

Some photos may show optional or special equipment and accessories used as photographic props.

Cal 9.2 – Additional Standard Features.

Hull and Deck

- External, epoxy coated 2730 lb. cast iron keel. Choice of drafts – 5'7" or 4'7".
- Keel coating is a recently developed 2 part epoxy, currently used by the U.S. Navy.
- Hull to deck connection is bedded, and bolted through a custom extruded aluminum toe rail.
- Cast steamhead fitting with integral anchor rollers and jib tack hooks.
- Port and starboard bow chocks and 9" mooring cleats.
- Port and starboard stern chocks and 9" mooring cleats.
- Double rail bow pulpit; split, double rail stern pulpit; stainless steel stanchions with double lifelines. Bail on bow rail for halyards; bail on stern rail for horse-shoe buoy.
- Translucent opening hatch over forward cabin.
- Translucent opening hatch over main cabin.
- Translucent sliding companionway hatch with fiberglass sea hood and teak penboards.
- Vetus UFO type ventilator mounted over head.
- Smoked plexiglass windows bolted to the cabin sides.
- Two-speed Barient #25 chrome genoa/spinnaker sheet winches with cleats.
- Two-speed Barient #18 chrome halyard winches mounted aft on cabin, on either side of hatch; cleats for each winch.
- Turning blocks and stoppers to bring all halyards and spinnaker pole lift and foreguy aft to cockpit.
- Genoa sheet turning blocks with integral line stoppers allow genoa sheets to be taken off the winches, so spinnaker can be sheeted.
- Inboard genoa tracks with blocks.
- Mainsheet traveler with controls, mounted in cockpit on bridge deck.
- Cockpit seat locker to port with large hinged hatch.
- Life raft storage well in cockpit.
- Pocket in coamings for storage.
- Toe rail, genoa tracks, stemhead, chock, cleats and hatch frames are silver finish, anodized aluminum.
- Stanchion bases that attach to the rail.

Mast, Boom and Rigging

- Tapered aluminum mast and boom with luff and foot grooves – finished silver; mainsail luff feeder on mast.
- Internal main, two genoa and one spinnaker halyard, and spinnaker pole lift; all lead aft to cockpit.
- Spinnaker pole with track and car on spar.
- Masthead anchor light and bow light.
- Internal outhaul; 2 internal reef; adjustable boom topping lift.
- Cunningham tackle.
- Complete running rigging and blocks for spinnaker.
- Single Spreader, single lower shroud mast head sloop rig with baby stay; Ronstan wheel backstay adjuster.
- Reefing winch under the gooseneck.

Interior

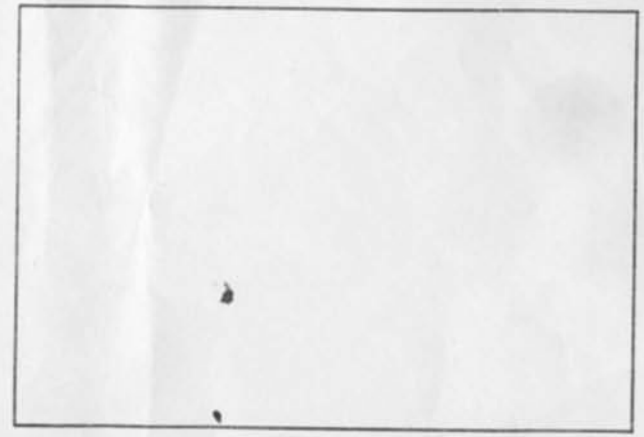
- Headliner is removable thermo-formed plastic.
- Oiled teak bulkheads and trim throughout.
- Hull sides finished in foam backed fabric.
- V-berth with 4" fabric covered foam cushions and removable insert. Storage under. Berth measures 6'9" x 5'7". One lamp.
- Head compartment runs athwartships with hanging locker and head to starboard and vanity with sink, manual fresh water faucet, storage locker and mirrored medicine cabinet to port. 5'9" headroom; one lamp.
- Teak door separates head from main cabin; accordion door separates head from v-berth.
- Main cabin has straight settee to port and "L"-shaped settee to starboard. Storage lockers and shelves outboard and over settees; cushions are pillow type 5" fabric covered foam.
- Alcoves, port and starboard, over settees.
- Starboard settee converts to double berth that is 6'3" x 4'. Port berth is 6'3" x 2'9".
- Storage under port settee.
- Pedestal mounted, double drop leaf centerline dinette table.
- Navigation table aft of settee to starboard; space outboard of table for mounting electronics.
- Quarter berth aft of chart table; shelf over berth; berth is 6'3" x 3'5"; storage under berth.
- Teak companionway ladder removes to provide access to engine.
- Lights over settees on bulkheads, over galley, and over chart table.
- Galley to port, with stainless steel sink; foot pump fresh water faucet; 3.5 cubic foot icebox; 2 burner gimballed alcohol stove; food storage locker; cutlery tray; dish racks; two storage lockers under counter.

Machinery, Electrical and Plumbing

- Universal 11 horsepower 2 cylinder diesel engine with 1" bronze shaft and 2 blade propeller.
- 11 Gallon fuel tank with remote gauge.
- 1 65 amp marine battery.
- 21-Gallon fresh water tank.
- International running lights mounted on pulpits.
- Marine Head; holding tank with deck discharge.
- Stainless steel and bronze ball valve shut-offs on the through hulls.

Cal 9.2 Options.

- *Bow Cowl Vent* – 4" flexible PVC ventilator with chromed, bronze-deck plate.
- *Carpet* – Quality carpet installed in main cabin.
- *Compass* – Bulkhead mounted Ritchie SFB-60 or equivalent, installed in cabin aft bulkhead.
- *Cradle* – Steel shipping cradle.
- *Extra Battery* – Second 65 amp marine battery connected to the battery selector/disconnect switch.
- *Overboard Discharge Head* – An addition to the standard installation that allows overboard discharge of the holding tank in uncontrolled waters.
- *Salt-Water Pump in Galley* – Foot pump installed in galley, connected to a thru-hull with shut-off.
- *Winches – Self-Tailing* – Barient #23ST chrome winches mounted in lieu of standard #25 genoa winches.
- *Raw-Water Strainer For Engine* – Raw-water strainer placed between thru-hull and engine will protect cooling system of engine from foreign particles that may be sucked in by water pump.



Cal Boats are built by

BANGOR PUNTA MARINE

A Division of Bangor Punta Corporation
Built under license from Jeanneau.
P.O. Box 991, Fall River, MA 02722 (617) 678-5291

Printed in U.S.A.

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PROFESSIONAL MARINER
CHARGER/POWER SUPPLY INSTALLATION

Units are 85 to 140 VAC 60 cycle or 230 $\pm$20% 50 cycle to 12V, 24V or 32V negative ground.

Choose a dry, safe location and through bolt or screw securely. Mount small rubber spacers between charger and mounting surface. Units mounted on a light surface toward the cabin could accent or mildly amplify transformer hum. There should be minimum of 6" space around unit for ventilation.

		10FT	20FT	A.C.
	80AMP	#4	#4	#14
Minimum wire sizes	60AMP	#6	#6	#14
(75 C (167 F)	40AMP	#8	#6	#14
or higher rated	20AMP	#10	#10	#14

All connections should be tight, wiring routed to escape injury, nonmetalic connections or plastic grommets used at wiring holes in case, and proper wire terminals used at studs and battery terminals.

(A) Wire directly from plus studs on charger to plus terminals on batteries (or battery main switch if closer or easier).

(B) Wire directly from negative stud to negative terminal on battery. (Only one ground wire is necessary if battery grounds are common).

(C) Wire from A.C. circuit breaker box to A.C. wire on charger (10 to 15 amps A.C. Breaker). We recommend A.C. ground to case.

Check battery water level. Check each 2 weeks while charging.

Read D.C. voltage at batteries before turning on A.C. to charger. (Our 'Electrical System Monitor' is an excellent companion unit to charger). Any increase in voltage when unit is activated means charger is functioning perfectly. Each unit will supply adequate voltage up to rated capacity and under a no load condition will finish at 13.8 nominal. (Correct full charge (while charging) voltage).

Check voltage of batteries after 24 hours of charging. Should any voltage be under 13.4 (no load), exceed 14.1 (except No Maintenance batteries), or after charger is shut down, voltage drops under 12V within 15 minutes (1) Check your voltmeter (2) Check your batteries.

Note: New batteries, severly discharged batteries, or batteries that have been sitting uncharged over a month should be charged for 12+ hours (or to 13.4+V) individually. Check with hydrometer for any radical difference in float reading (3/8") between cells.

Our ferro-resonant charger continues to hum even though voltage has peaked at finishing charge. The charger replaces the amount of current normally dissipating. (Counter Voltage).

Troubleshooting is simple. (1) No output with proper connections, input voltage and cycles (a) the A.C. thermal breaker has failed (no hum). (Cycles of more than 5% could cause overheating and charger shut down) or (b) a diode has shorted and blown a safety fuse inside charger. (2) 1/2 output all studs - the capacitor has failed. (3) 1/2 output one stud - a diode failed (open). Ship unit to factory for repairs. We do several inspections at the factory that are difficult in the field. (Failure rate is less than 1% over last three years).

Any rapid boiling or water loss under 14.1 volts D.C. while on a charger means your battery is probably defective.

Professional Mariner ferro-resonant units can be used as both a battery charger and converter at the same time, supplying necessary 12VDC and keeping batteries charged. This feature makes expensive A.C. fixtures and wiring unnecessary, probably saving the boat builder more than the cost of our unit. Consult factory for specifications or specialty applications.

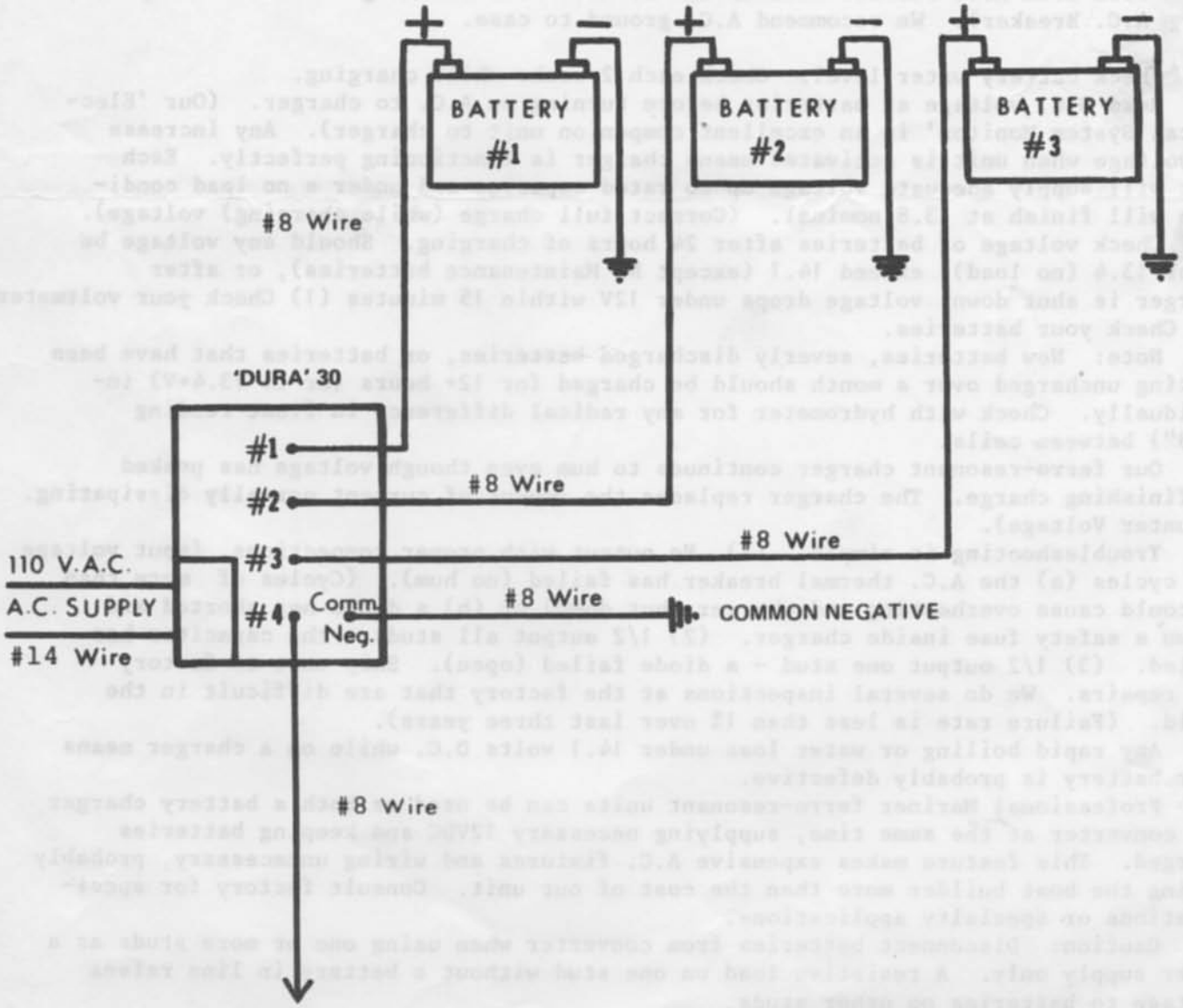
Caution: Disconnect batteries from converter when using one or more studs as a Power supply only. A resistive load on one stud without a battery in line raises voltage to batteries on other studs.

On 12V models with 2 extra studs in upper left corner of plastic panel marked '28VAC Secondary Test Terminals', one can connect a 'transformer OK' or 'charger functioning' indicator light. Maximum 15 watt (28V range) bulb. Test readings should be: 27-30VAC between these two terminals and 13.5 to 15VAC between either terminal and the D.C. negative terminal.
Service department - Call (805) 644-1886

CORRESPONDING VOLTAGES

12V	24V	32V	12V	24V	32V
8	16	22	12.8	25.6	34.1
11.2	22.4	29.9	13.2	26.4	35.2
12.2	24.4	32.5	14.8	29.6	39.5
12.5	25	33.3	16	32	42

WIRING SCHEMATIC



Professional Mariner

MARINE FULLY AUTOMATIC
MULTI-BATTERY CHARGER / CONVERTER / POWER SUPPLY / ENGINE START BOOSTER

16 x 8 x 7

4 BANK
PRO 60/80
PRO 40/60

3 BANK
DURA 30
PRO EX 40
PRO 24V/30
PRO 32V/25

12 x 8 x 7

3 BANK
NEWPRO 20
PRO 24V/15

9 x 6 x 6

2 BANK
PRO MITE 15

12 x 8 x 7

PORTABLE
SUPER 20/30
SUPER 30/50

Both include voltmeter, ammeter, D.C. leads and A.C. cord. Extra Heavy Duty

GET SOME ADVANTAGES FROM THE SPACE AGE!

Each unit is a completely solid state, fully automatic self-regulating and self-adjusting A.C. to D.C. converter that provides up to rated amps when needed — automatically.

COMPARE OUR FEATURES BEFORE BUYING ANY MARINE BATTERY CHARGER

- Fully automatic — No adjustments needed on installation
- Charges automatically over a wide range of A.C. input voltages (85-140 volts)
- Senses all batteries and charges each as necessary
- Not necessary to disconnect A.C. before starting engine
- Helps start your engine
- Can not overcharge your batteries
- 2, 3 or 4 built-in battery isolators (no voltage or amperage drop)
- Automatic reset overload protection
- Compact size
- No frail circuitry (tubes, SCR's, transistors, resistors, etc.)
- Built for Extra Heavy Duty Service
- Sturdy, simple ferro-resonant design
- Self Limiting (U.S. Coast Guard Elect. Standard 33CFR183.460[b])
- Power Supply — Can operate DC equipment without a battery in line
- Specifically designed for heavy duty marine batteries
- Complete A.C. isolation for electrolysis prevention
- Can not harm alternators
- Units rated as power supplies: E.g. NEWPRO 20 is a 20 amp power supply, a 35 amp battery charger and gives a 35 amp boost to start engine.
- Lifetime repair policy
- Ignition Proof (U.S. Coast Guard Elect. Standard 33CFR183.410)

INSTALL IT — CHECK BATTERY WATER OCCASIONALLY — FORGET IT

1210 BEACHMONT STREET — VENTURA, CALIFORNIA 93001 — (805) 644-1886

NOTES ON YOUR 12 VOLT D.C. ELECTRICAL SYSTEM

Check battery water level. Check each 2 weeks while charging.

Read D.C. voltage at batteries with an accurate voltmeter before turning on A.C. to charger. Any increase in voltage when unit is activated means charger is functioning perfectly. Each unit will supply adequate voltage up to rated capacity and under a no load condition will finish at 13.8 volts nominal (correct full charge while charging voltage) even though voltage in varies from 85 to 140 V.

Professional Mariner ferro-resonant units can be used as both a battery charger and a converter/power source over the batteries at the same time, supplying necessary 12VDC and keeping batteries charged.

CORRESPONDING VOLTAGES

12V	24V	32V		
11.2	22.4	29.9	=	'Dead' battery
12.2	24.4	32.5	=	'low' battery
12.5	25.0	33.3	=	'medium' battery
12.8	25.6	34.1	=	full battery
13.8	27.6	36.8	=	full charge on charger (no load)
14.4	28.8	38.4	=	full charge on alternator (no load)

If voltmeter reading falls below 12.8 under continuous normal house loads while a charger is functioning, you should consider changing to a larger charger.

Any rapid boiling under 14.1 volts D.C. while on a charger means your battery is probably defective.

Our ferro-resonant chargers continue to hum even though voltage has peaked at finishing charge. The charger replaces the amount of current normally dissipating (counter-voltage).

TROUBLESHOOTING YOUR CHARGER

Check voltages of batteries after 24 hours of charging. Should any voltage be under 13.4 (no load), exceed 14.1 or after charger is shut down, voltage drops under 12V within 15 minutes: (1) Check your voltmeter (2) Check your batteries.

Troubleshooting is simple. A failure of any component causes output to drop to ½ or less.

(1) No output with proper connections, input voltages and cycles
   (a) The A.C. thermal breaker has failed. (Cycles off more than 5% could cause overheating and charger shut-down.)
   (b) A diode has shorted and blown safety fuse inside charger.
(2) ½ output all studs
   (a) The capacitor has failed.
(3) No output one stud
   (a) A diode has failed. (Open)

Ship units to factory for repairs. We do several inspections at the factory that are difficult in the field. (Failure rate is less than 1% over the last 3 years.)

Note: With only one or two new lead-calcium (no maintenance) batteries in the system, the voltage will read slightly higher than 14.1 and should not be left on charger for more than 4 weeks at a time with no current being used. They should stay charged for 6 months or more with no load. We do not recommend this type of battery for deep cycle or heavy duty use.

BEST WARRANTY EVER!

PROFESSIONAL MARINER ONE YEAR LIMITED WARRANTY & LIFETIME REPAIR POLICY

Each product is guaranteed against defects in material and workmanship to the original consumer in normal usage for one full year after purchase at no charge except shipping.

Each serial numbered product has an additional repair adjustment provision after the full year limited warranty that limits the maximum amount of a factory repair to the original consumer to 1/60 of the retail price times the months after purchase to a maximum of 50% of the current retail price plus shipping.

- Warranty and repair adjustment calculated from manufacture date if not registered within 2 weeks of sale.
- Warranty void if unauthorized repairs attempted.
- Customer responsible for return shipping damage and shipping costs must be prepaid both ways.
- Cosmetic repairs done at owner's request and expense.

Purchase or other acceptance of the product shall be on the condition and agreement that Professional Mariner SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.) This warranty is made in lieu of all other obligations or liabilities on the part of Professional Mariner. Professional Mariner neither assumes nor authorizes any person to assume for it any other obligation or liability in connection with the sale of this product.

To make a claim under warranty, write directly to Professional Mariner, 1210 Beachmont St., Ventura, California 93001, identifying the product and giving its location and follow the company's return instructions which will then be provided by the company. Professional Mariner will make its best efforts to repair or replace the product, if found to be defective within the terms of this warranty within thirty (30) days after return of the product to the company. Professional Mariner will ship the repaired, or replaced product back to the purchaser at owner's expense.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty is in lieu of all others expressed or implied.

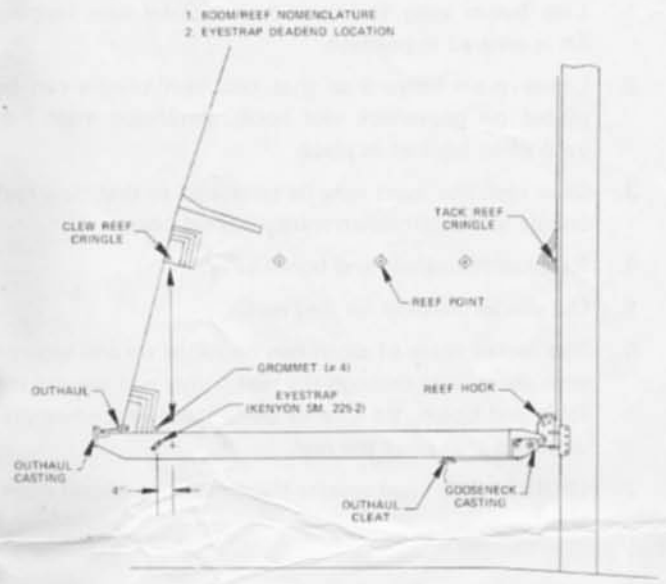
SOLD THROUGH YOUR LOCAL MARINE DEALER — NATIONWIDE.

Kenyon Marine

KENYON INTERNAL BOOM SYSTEMS

Kenyon now offers its new internal boom systems in three different sizes. Our 'D', 'E' and '3550' sections use newly designed end castings which internalize outhaul, jiffy reef lines and topping lift. The outhaul casting houses three sheaves and has a clevis pin attachment point for the topping lift. The gooseneck casting houses three internal exits for outhaul and reef lines.

The gooseneck consists of a rugged stainless steel universal block, a tack bracket with three position tack location, and welded reefing hooks. This system offers a clean, simple and efficient method of boom controls. Since this system may differ from what you have been using, follow these instructions for efficient operation.



How to Setup Boom

1. A deadend for the reef line must be installed (unless 3550 boom is being used and then you can tie the reef line around the boom in proper location). This will vary in location depending on the cut of the sail and the reef location in the sail.
2. To determine the location of the deadend, lower the mainsail at the dock to the reef position. Place tack reef cringle on reef hook provided at gooseneck. Stretch sail tight by pulling on the clew reef cringle towards the outhaul. Mark position of clew reef cringle on boom when sail is tight. From this mark, measure 4" towards outhaul and mark on boom. At this point install an eyestrap (Kenyon SM-225-2) using (2) 10-24 x ½" round head machine screws. An alternative deadend can also be a grommet installed by your sailmaker in the foot tape of the mainsail in the same location as described for the eyestrap.
3. Use similar method to locate 2nd reef deadend point.

SEE DIAGRAM

Rigging the Reef Line

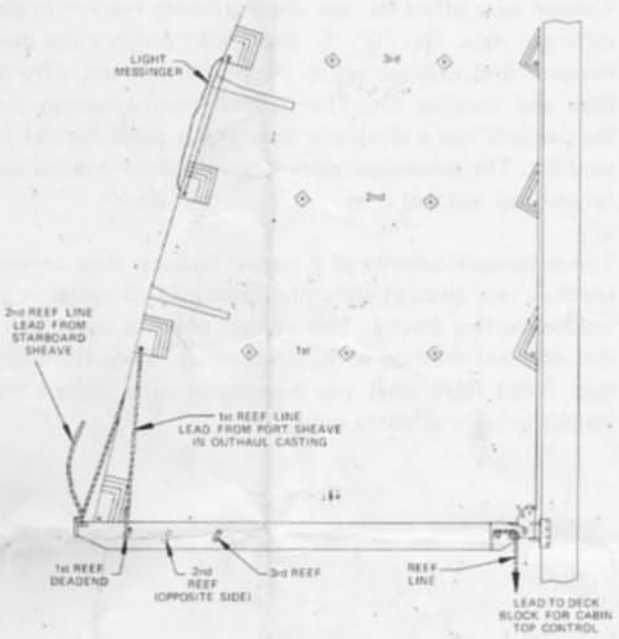
1. Take reef line from outhaul casting, up through clew reef cringle and back down to the eyestrap on boom (tie bowline in eyestrap).
   1a. Alternative method - take reef line from outhaul through clew reef cringle back down *and* around boom. Pass end line through grommet in foot tape of main and tie figure eight knot or timber hitch.
2. Use similar method to rig 2nd reef line (use available 2nd outside sheave in outhaul casting).
3. If you have a third reef point, rig an endless messenger between the 2nd and 3rd cringles with a short end loose as shown. After you've put in the 2nd reef, untie the now unused first reefing line, tie it to the messenger and pull it through the third cringle and tie to the appropriate eyestrap (or through the grommet in the foot of the sail if you prefer this method) and you are ready to set the third reef.

SEE DIAGRAM

Kenyon Marine

Reefing Procedure

1. Ease boom vang and mainsheet - make sure topping lift is secured in position.
2. Lower main halyard so that tack reef cringle can be placed on gooseneck reef hook. Retension main halyard when hooked in place.
3. Clew reef line must now be tensioned so that clew reef cringle is brought down snugly against boom.
4. Readjust mainsheet and boom vang.
5. Use similar method for 2nd reef.
6. The reefed folds of cloth can be rolled up and secured with short lines through the reef points and around the folds and boom. Be sure to untie these first when preparing to shake out the reef.
7. UNREEFING - just reverse this process to unreef mainsail.



NOTES:

Kenyon Marine
AN OUTDOOR SPORTS COMPANY
P.O. Box 308, Guilford, Connecticut 06437 (203) 453-4374
2730B South Main Street, Santa Ana, California 92702 (714) 546-1101

006 - 175 11/78

Installation and Operation Instructions

A-C LOAD CENTER MODEL 635, 224/A

Please read before installation:

EVIDENCE OF FAULTY CONNECTION RESULTING IN COMPONENT DAMAGE WILL VIOLATE WARRANTY PROVISIONS. REVIEW INSTALLATION INSTRUCTIONS CAREFULLY BEFORE STARTING INSTALLATION.

General:

The A-C Load Center serves the function of branch circuit distribution, including both control and circuit protection, for pleasurecraft 120 volt A-C circuits. For optimum personnel safety a double-pole main breaker is provided, serving five branch circuit breakers. In addition, a test circuit is included to permit convenient checkout of shore power line polarity.

The panel may be employed alone, as an A-C distribution panel when dockside power is available, or with the Marinetics Model 630 A-C Instrumentation Panel. When the vessel is fitted with an on-board A-C generator the Model 620 A-C Control Panel may be included to permit selection of either ship or shore power to feed the Model 635 A-C Load Center.

Installation:

1. Normally the control panel will be mounted in a bulkhead or on a wood or phenolic panel. Cut an opening approximately 4 5/8" wide x 6 1/4" high on which the panel will be centered and secured with #8 screws and the nylon isolating washers provided with each panel. If installation is to be made on a fiberglass surface, provide a backup frame or mahogany battens to receive the mounting screws. Attachment of the backup members may be made with recessed head screws or epoxy cement.
2. Connect the shore power connector feeders to the line terminals of the main breaker in accordance with the wiring diagram. Wiring should be sized in accordance with the main breaker rating. Connect the green safety grounding conductor to the panel grounding stud.
3. Connect each load circuit to the appropriate breaker and neutral bus per the wiring diagram.
4. If any possibility of personnel contact with the rear of the panel exists, provide a suitable cover board or enclosure to guarantee safety (optionally install the Marinetics P/N 7520-1 rear enclosure prior to Step 1).
5. When used with the Model 630 Instrumentation Panel and/or Model 620 Control Panel, refer to the appropriate wiring diagrams.

Operation:

With the main breaker in the off position, no power is supplied to the ship's A-C distribution system. If shore power is available, e.g., the shore cable is plugged in and the shore breakers are closed, first test to confirm proper polarity by depressing the polarity test switch. The green indicator light will glow if the polarity is correct. If not, reverse the shore cord connections. If the green indicator does not establish that the polarity is correct the services of a competent technician should be engaged to correct the fault.

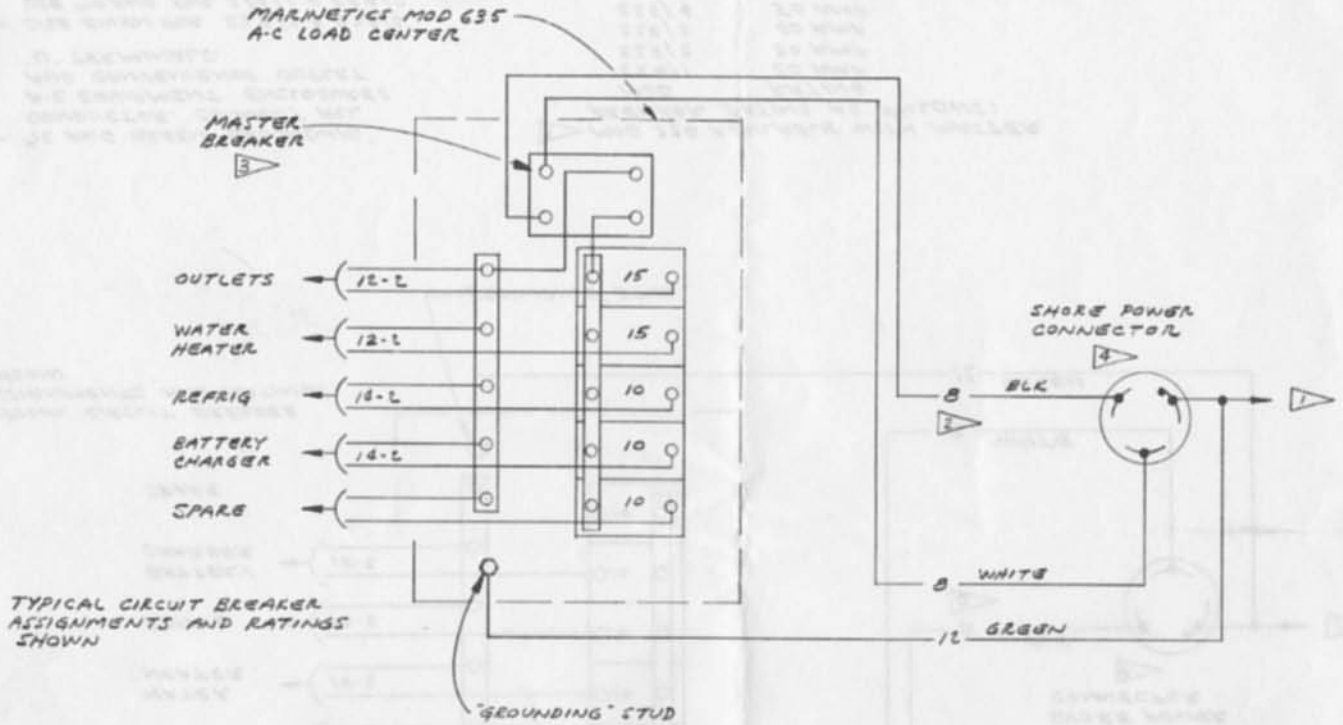
Adequate knowledge, and suitable test instruments, are essential. The fault will be determined to be either a lack of continuity in power supply or safety grounding circuits, or a defective component or broken circuit in the panel test circuitry. When a proper polarity indication is established, the panel may be placed in operation. Close the main breaker and index the desired branch circuit breakers on.

An overload in a branch circuit will automatically trip the circuit breaker off. The breaker can be reset only after the fault has been corrected. A main breaker trip indicates that a load combination which demands more power than can be permitted by the system is on line. Turn off non-essential circuits, or time share as required to permit the main breaker to be reset.

NOTE: These instructions were drafted primarily for the "600" series panels but they apply equally to the "Standard" panel series with the following counterpart Model designations and drawing references applied:

	600 Series	Standard Series
Model	635	224/A
	630	953D
	620	921
Basic Installation Drawing	635-005	7249

PANEL SHOWN FROM REAR



TYPICAL CIRCUIT BREAKER ASSIGNMENTS AND RATINGS SHOWN

1. #12 AWG GREEN "GROUNDING" CONDUCTOR. CONNECT ALL AC EQUIPMENT ENCLOSURES AND CONVENIENCE OUTLET "U" TERMINALS

2. SIZE GIVEN FOR 635/3 & 635/4 USE #10 AWG FOR 635/1 & 635/2

3. MOD 635 AVAILABLE WITH MASTER BREAKER RATINGS AS FOLLOWS:

MOD	RATING
635/1	20 AMP
635/2	30 AMP
635/3	40 AMP
635/4	50 AMP

4. FOR SERVICE TO:
30 AMPS USE HUBBELL 60CM61 OR EQUIV
50 AMPS USE HUBBELL 63CM72 OR EQUIV

TYPICAL SHORE POWER SYSTEM WITH MOD 635 AC LOAD CENTER

SCALE: —
APPROVED BY:
DRAWN
DATE: 27 MAY 77
REVISED

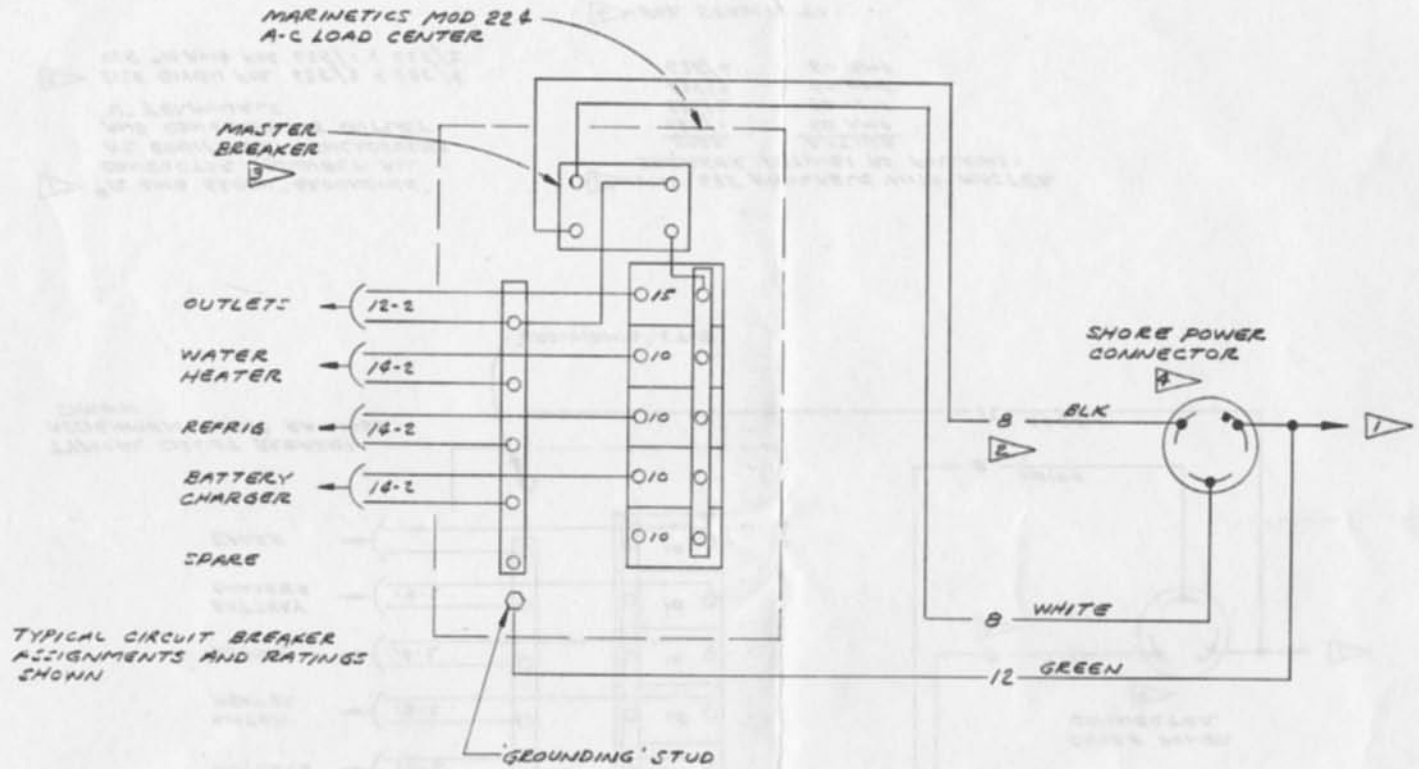
MARINETICS CORPORATION
P.O. BOX 2676 NEWPORT BEACH, CA. 92663

INSTALLATION, MOD 635 AC LOAD CENTER

DRAWING NUMBER 7635-005

LTR	REVISION	DATE	APP'D
A	ADDED GREEN GROUNDING WIRE & NOTE 4	4/14/75	

PANEL SHOWN FROM REAR



1. #12 AWG GREEN "GROUNDING" CONDUCTOR. CONNECT ALL A-C EQUIPMENT ENCLOSURES AND CONVENIENCE OUTLET "U" TERMINALS.

2. SIZE GIVEN FOR 224/3 & 224/4 USE #10 AWG FOR 224/1 & 224/2

3. MOD 224 AVAILABLE WITH MASTER BREAKER RATING AS FOLLOWS:

MOD	RATING
224/1	20 AMP
224/2	30 AMP
224/3	40 AMP
224/4	50 AMP

4. FOR SERVICE TO:
30 AMPS USE HUBBELL 60CM61 OR EQUIV.
50 AMPS USE HUBBELL 63CM72 OR EQUIV.

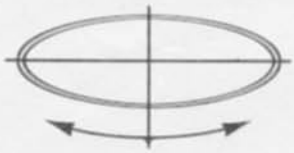
TYPICAL SHORE POWER SYSTEM WITH MOD 224 A-C LOAD CENTER

SCALE: ——	APPROVED BY:	DRAWN: [signature]
DATE: 25APR74		REV: A

MARINETICS CORPORATION
NEWPORT, CALIF.

120 VAC SHORE POWER SUPPLY & DISTRIBUTION CIRCUITS — 7249

MARINETICS CORPORATION



LIMITED PRODUCT WARRANTY

Marinetics Corporation warrants to the original retail purchaser that each product of its manufacture is free from defects in material and workmanship and will perform as specified when properly installed and operated in accordance with manufacturers instructions.

Marinetics responsibility is restricted to repair or replacement without charge any component which is defective. This warranty shall be in effect for a period of one year from the date of sale to the original user and requires submittal of a properly filled out registration form within a period of 30 days from the date of sale to be placed in effect.

This warranty does not apply to any assembly or component which has been damaged through abuse, neglect, exposure to sea spray, accident, modification, improper installation or normal wear.

Any component felt to be defective shall be mailed to Marinetics, postage charges prepaid, for inspection, repair or replacement at the following address: P.O. Box 2676 Newport Beach, California.

The foregoing one year warranty is in lieu of all warranties, expressed or implied and gives special legal rights. Marinetics will not be liable for consequential damages directly or indirectly resulting from a defect in its product. However, you may have other rights which vary from state to state.

Marinetics Model No. _____ **Serial No.** _____

Purchased From _____ **Date** _____

RETAIN THE ABOVE FOR YOUR RECORDS

THE FOLLOWING WARRANTY REGISTRATION FORM MUST BE FILLED OUT AND SUBMITTED WITHIN 30 DAYS FROM DATE OF SALE TO THE USER TO RENDER THE WARRANTY EFFECTIVE

Purchaser _____ **Date** _____

Address _____

City _____ **State** _____ **Zip** _____

Marinetics Model No. 635 **Serial No.** 2575

Boat Manufacturer _____ **Model** _____

Purchased From _____

Mail promptly to:

Marinetics Corporation
P.O. Box 2676
Newport Beach, California 92663

CAL BOATS
CAL BOATS
CAL BOATS
CAL BOATS

CAL 9.2

Owner's Manual

YACHT'S NAME

HOME PORT

REGISTRATION NO.

OWNER'S NAME & ADDRESS

RADIO CALL NUMBER

SAIL NO.

HULL IDENTIFICATION NO.

KEY NO'S.

ENGINE SERIAL NO.

BANGOR PUNTA MARINE
848 AIRPORT ROAD
FALL RIVER, MA 02722
(617) 678-5291

BANGOR PUNTA MARINE

C O N G R A T U L A T I O N S

In choosing your new yacht from the Cal line, you have selected one of the best values in today's sailboat market. The design and construction of this yacht reflect over twenty years of experience and knowledge gained in the building of over 10,000 boats.

In the early 1940's, William Lapworth designed "Dasher" and the "L-36," the forerunners of today's light displacement boats. Continuing in the traditional standards of high quality and fine workmanship, Bangor Punta Marine has commissioned over twenty models of his design.

The use of aluminum, stainless steel, teak wood, and fiberglass all combine to produce a yacht that has much lower maintenance requirements than those in the past. However, it is vital that the necessary maintenance procedures be performed faithfully.

This manual is designed to familiarize you with your boat. The location and function of each system onboard will be outlined to help make any adjustments or maintenance procedures more easily undertaken.

Bangor Punta Marine reserves the right to change specifications without notice, and this manual may not reflect all such changes. Since we are always striving to improve our product, modifications

and improvements are constantly in process and, therefore, it is possible that your boat may contain features different from those enumerated in this manual. It is impractical to revise this manual for each such modification. It is our policy to make improvements whenever it is appropriate without waiting for corresponding updates in our manual.

Full information on optional equipment may not be contained herein. Contact the option manufacturer or your Cal boat dealer for more information.

Please read and understand this manual and all others included with your boat, before operating any of the boat's systems. In addition to information contained in this manual, there are certain federal, state, and local regulations pertaining to safe and legal operation of pleasure craft that you should familiarize yourself with. Local governmental agencies and boating groups can help you become aware of these regulations.

Thank you for the confidence you have shown in Cal by selecting one of our products.

Have Fun, and Good Sailing!

BANGOR PUNTA MARINE

CONTENTS

C O N T E N T S

I GENERAL
- Standard Boat Dimensions
- Docking Plan
- Sail Plan
- Arrangement Plan
- Blank Interior Layout
- Dealer Responsibilities
- Owner's Responsibilities
- Limited Warranty
- Authorized Service Centers

II COMMISSIONING
- Commissioning
- Pre-Launch Check List
- Post-Launch Check List
- Commissioning Notes
- Kenyon Mast Collar Installation Instructions(39/35)
- Stepping and Tuning the Mast
- Rigging Dimensions
- Wire Rigging
- Rope Rigging
- Boat Storage

III OPERATION
- Engine Operating Instructions
- Flooding of Engine with Water
- Fuel System Diagram
- Fueling Procedure
- Steering Gear (39/35/31)
- Electrical
- Electrical Schematic
- Lightning Ground
- Navigation Lights
- Water Pressure System Plan
- Cooking Stoves/Propane Stove
- Alcohol Stoves
- Plumbing - Heads
- Plumbing - Fresh-Water System
- Thru-Hull Locations Plan

IV MAINTENANCE
- Periodic Maintenance
- Periodic Maintenance Schedule
- Basic Rules for Battery Care and Maintenance
- Finishes

V MANUALS

GENERAL

CAL BOATS

8/80

CAL 9.2M

STANDARD BOAT DIMENSIONS

HULL DIMENSIONS

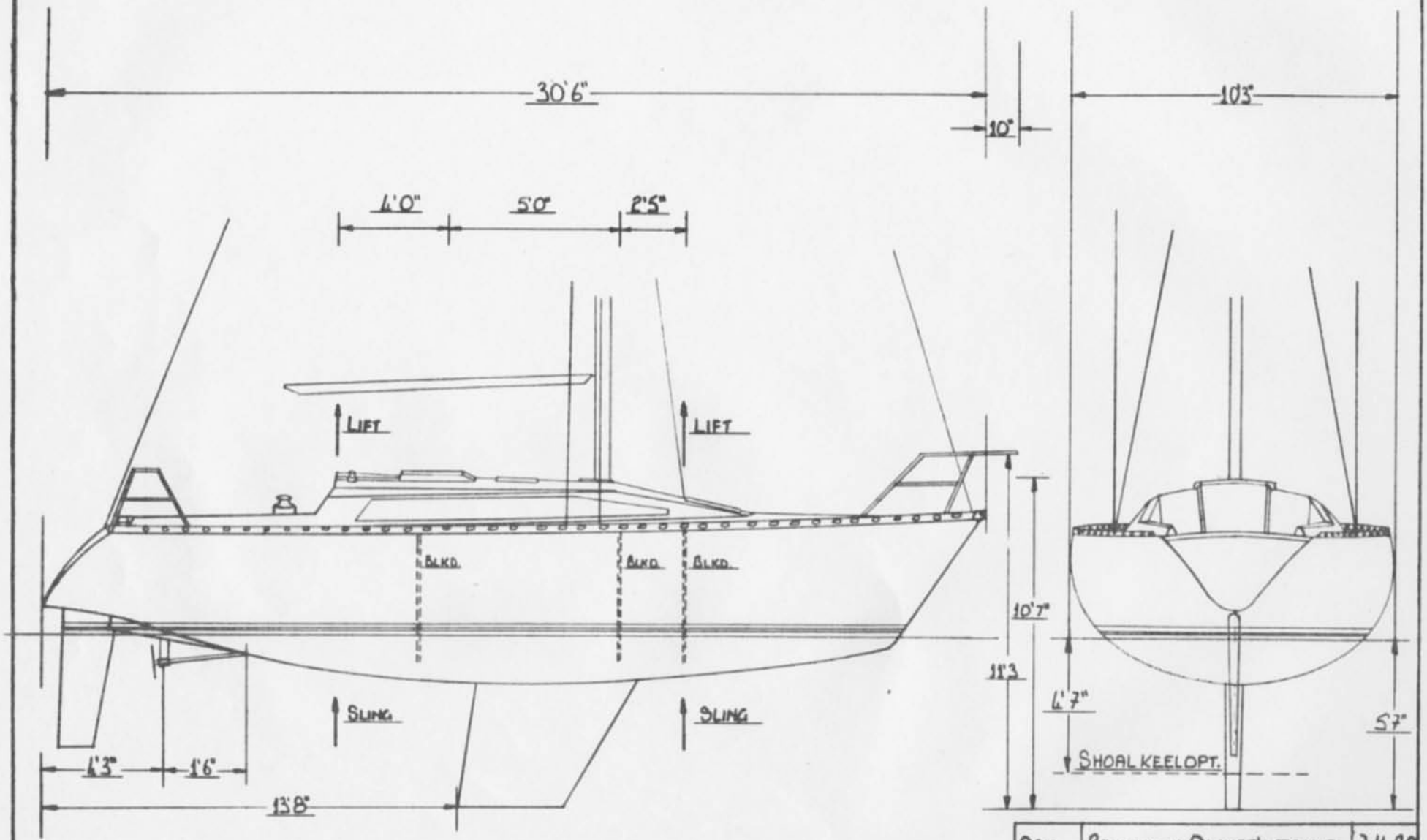
o	LOA	29'11½"	9.15 Meters
o	LWL	25'5"	7.75 Meters
o	Beam	10'4"	3.15 Meters
o	Draft	5'7" or	1.70 Meters
		4'7"	1.40 Meters
o	Displacement	7000 Lbs.	3175.2 Kilograms
o	Ballast	2730 Lbs.	1238.3 Kilograms

RIG DIMENSIONS

o	I	38.0'	11.58 Meters
o	J	11.875'	3.62 Meters
o	P	32.5'	9.91 Meters
o	E	10.0'	3.05 Meters
o	Sail Area- (100% Foretriangle)	388.1 Sq. Ft.	36 Sq. Meters
o	Mast Height Above Water	42.25 Ft.	12.87 Meters

MISCELLANEOUS

o	Berths	6	
o	Water Tank Capacity	21 Gallons	80 Liters
o	Fuel Tank Capacity	12.5 Gallons	47.5 Liters
o	Ice Box Capacity	3.5 Cubic Feet	99.2 Liters
o	Engine:	Universal 11HP, 2 cylinder diesel	



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REV	DESCRIPTION	DATE

DOCKING PLAN

CAL 9·2 METER

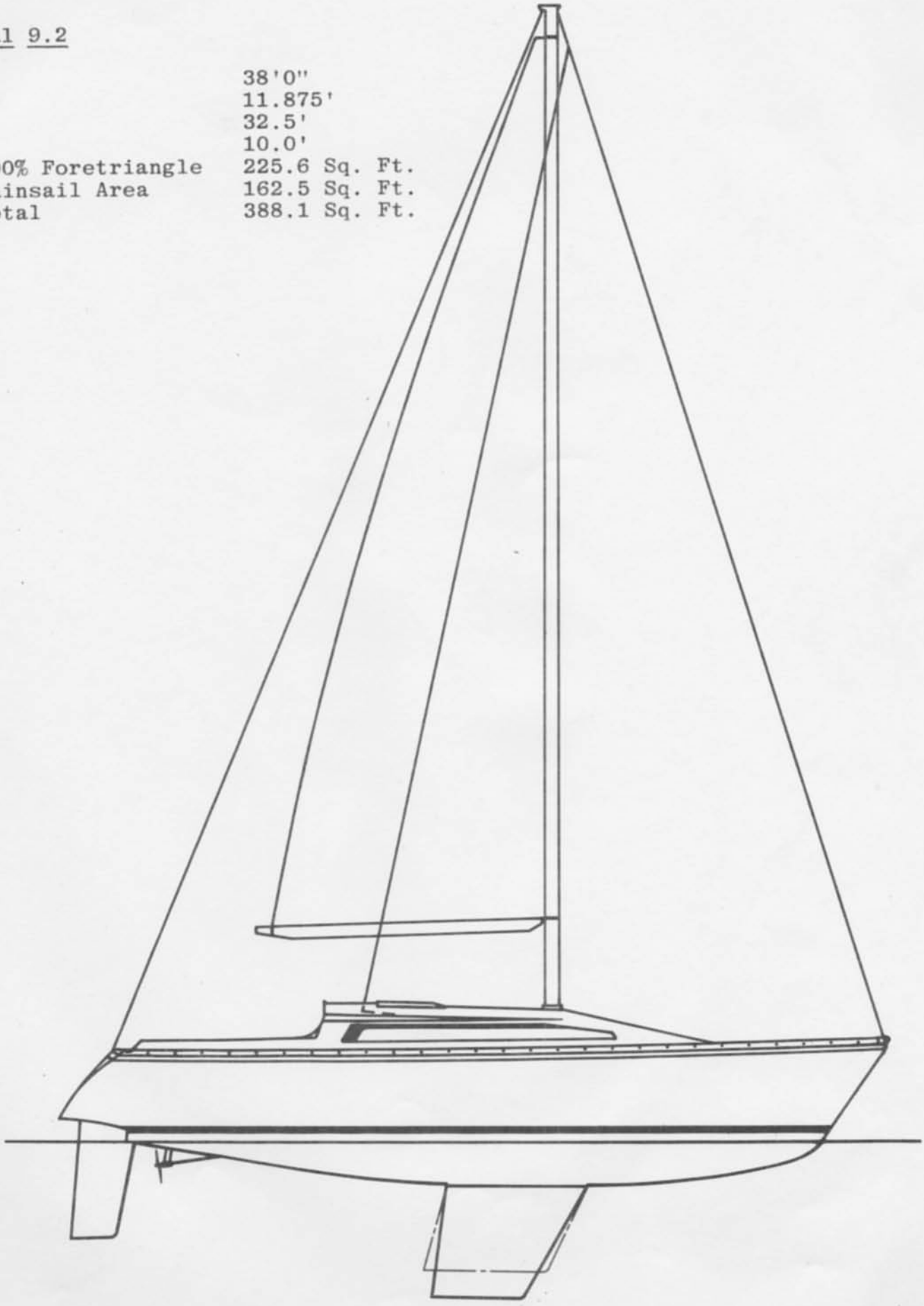
DRAWN: ROBIN BRADSHAW.

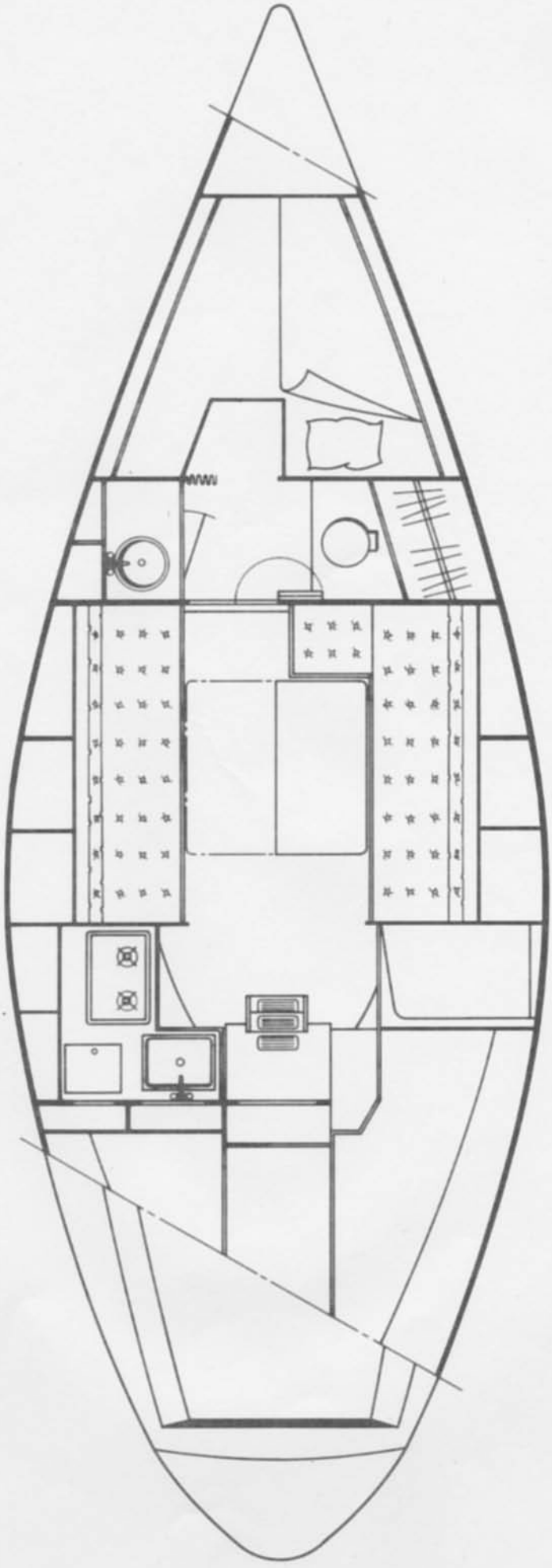
BANGOR PUNTA MARINE

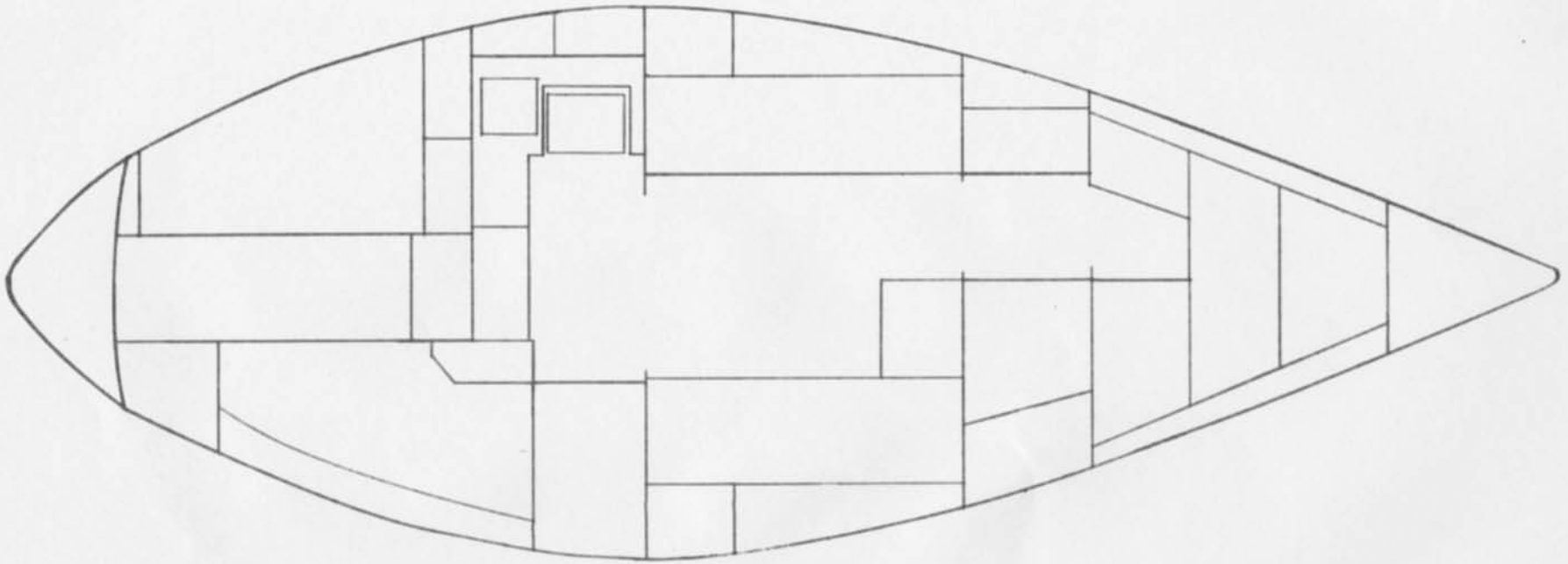
DWG NO. 319

Cal 9.2

I	38'0"
J	11.875'
P	32.5'
E	10.0'
100% Foretriangle	225.6 Sq. Ft.
Mainsail Area	162.5 Sq. Ft.
Total	388.1 Sq. Ft.







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INTERIOR LAYOUT BLANK

CAL 9·2 METER

DRAWN ROBIN BRADSHAW

BANGOR PUNTA MARINE

DRWG NO. 320

DEALER RESPONSIBILITIES

Your Cal boat dealer is a professional. He can provide you with the service and expertise that will help you to enjoy your Cal. Rely on him for assistance in selecting any additional equipment you may need and in seeing that it is properly installed.

The dealer has inspected the boat upon arrival at his yard. When the boat is commissioned, he will check all the systems and equipment and correct any problems that may arise. Should there be any defects covered by the Cal warranty, the dealer will correct them as soon as possible and file any warranty claims with Bangor Punta Marine. All warranty matters must be handled by an authorized Cal dealer.

Should you need any parts for your Cal product, contact your local dealer. He can obtain quick delivery from Cal. By utilizing his assistance, you can be assured of receiving the proper parts and of proper installation as well.

Bangor Punta Marine assumes no liability for damage incurred in transit.

OWNER'S RESPONSIBILITIES

Your Cal yacht is covered by our Limited Warranty (see next page) for a period of one year after commissioning by the original retail customer, but in no event later than two years from the date of shipment by Bangor Punta Marine. Always refer to our Limited Warranty for complete warranty information. Within 30 days of taking delivery of your boat, fill out the warranty registration card and return it to Bangor Punta Marine. The U. S. Coast Guard requires that all manufacturers keep records of people who have purchased their products. This is necessary in case a defect notification or product recall is needed. The only way Bangor Punta Marine can maintain these files is to have you send in the completed card. If you have any questions or comments, please include these with the card. We will get back to you.

When you sell your Cal product, please drop us a note with the hull number, your name, and the name of the new owner.

It is important that you contact your dealer as soon as possible when product defects are noted. This will assure prompt service and prevent the problem from worsening.

Thoroughly check your ship's paper file to insure that all manuals and warranties for your optional or additional equipment are provided.

CAL BOATS

AUTHORIZED SERVICE CENTERS

ALABAMA	
Bay Nautical Supply Co.	702 N. Section St., Fairhope 36532 205-928-2359
ALASKA	
Northern Marine	3930 Steller Drive, Anchorage 99504 907-337-3246
CALIFORNIA	
Gorman & Thomson, Ltd.	2415 Mariner Sq. Dr., Alameda 94501 415-865-3662 or 3663
Stan Miller Sailboats, Inc.	245 Marina Dr., Long Beach 90803 714-846-2754 213-598-9433
Tradewinds Sailing Center	6433 Folsom Blvd., Sacramento 95819 916-455-2682
Jack Dorsee Sailboats	1880 Harbor Island Dr.,San Diego 92101 714-291-6313
O'Neill's Yachts	2222 E. Cliff Dr., Santa Cruz 95060 408-476-5200
Sailboats Sausalito, Inc.	2660 Bridgeway Blvd.,Sausalito 94965 415-332-5400
Stockton Yacht Sales	4960 W. Brookside Rd.,Stockton 95209 209-951-7572
CONNECTICUT	
Milford Boat Works, Inc.	One High St., Milford 06460 203-877-1475
FLORIDA	
Sailboats South, Inc.	1900 S. E. 15th St. at Lauderdale Marina, Ft. Lauderdale 33316 305-525-8144
Atlantic Sailing Yachts of Florida	236 16th Ave. So., St. Petersburg 33701 813-823-3003
GEORGIA	
Sailing Atlanta	6002 Holiday Road, Buford 30518 404-945-7245

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CAL BOATS

AUTHORIZED SERVICE CENTERS

HAWAII	
Amfac Marine	1125 Ala Moana Blvd.,Honolulu 96814 808-521-3411
IDAHO	
Kaliope	Route 5, Box 762,CoeurD'Alene 83814 208-772-4715
ILLINOIS	
Chalet Marine Division	Lake Avenue at Skokie Blvd., Wilmette 60091 312-273-2250
MARYLAND	
Lippincott Sailing Yachts	Piney Narrows, P. O. Box 72, Chester 21619 301-643-2112
MICHIGAN	
Hoyles Marine, Inc.	6987 West Side, Saginaw Rd. Bay City 48706 517-686-4570
Oselka's Snug Harbor Marina, Inc.	514 W. Water St., New Buffalo 49117 616-469-2600
Sail Boats, Inc.	P. O. Box 772, 30137 S. River Rd., Mt. Clemens 48043 313-468-6622
MINNESOTA	
Sunworld Yachts, Inc.	599 Manning Ave.South ,Afton 55001 612-739-3060
NEW HAMPSHIRE	
Trexler's Marina	Star Rte. 62, Center Harbor 03226 603-253-7315
NEW YORK	
Willis Marine Center	P. O. Box 579, Mill Dam Road, Huntington 11743 516-421-3400
Wilson Boat Sales	400 River Road, No. Tonawanda 14120 716-692-2316 or 716-895-8888
NORTH CAROLINA	
Edwin Pate Bailey DBA The Ship Yard	P. O. Box 328, Foot of Neuse Drive, Oriental 28571 919-249-1051
OHIO	
Sailing, Inc.	5401 Memorial Shoreway East, N. Marginal Rd., Cleveland 44114 216-361-2897

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CAL BOATS

AUTHORIZED SERVICE CENTERS

OHIO - Continued	
Sailboat Sales Div. of Lakefront Marina, Inc.	P. O. Box 97, 1805 W. Lakeshore Dr., Port Clinton 43452 419-734-5576
Sail Boat Sales, Inc.	4731 Summit St., Toledo 43611 419-729-5522
OKLAHOMA	
Sailors Wharf of Tulsa,Inc.	8532 E. 41st St., Tulsa 74145 918-665-0045
OREGON	
I-N-I, Inc.	3409 N. E. Marine Dr., Portland 97211 503-284-8860
RHODE ISLAND	
Hawkins Yachts, Inc.	101 Narragansett Ave.,Barrington 02806 401-246-1100
TENNESSEE	
Rooke Sails	1744 Prescott So., Memphis 38111 901-744-8500
TEXAS	
The Sailboat Shop, Inc.	604 Highland Mall Blvd.,Austin 78752 512-454-7171
Coastal Bend Sailboats	1524 N. Water St.,Corpus Christi 78209 512-882-8392
Inland Sailboats	4910 Cole Ave.,Dallas 75205 214-522-0223
Inland Discount Marine,Inc.	Highway 90 West,Del Rio 78840 512-774-2547
Pleasure Island Yacht Shop	P. O. Box 3732, Port Arthur 77640 713-982-4311
Dockside Sailboats	1438-B Austin Hwy.,San Antonio 78209 512-828-3164
VIRGINIA	
Bluewater Yacht Sales, Inc.	529 Bridge St., Hampton, 23669 804-723-0793

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CAL BOATS

AUTHORIZED SERVICE CENTERS

WASHINGTON	
The Sail Loft	14th St. Yacht Basin, Everett 98201 206-259-3157
Yachts & Services, Ltd.	1331 N. Northlake Way, Seattle 98103 206-633-5521
WISCONSIN	
The Sailing Center of Mequon, Ltd.	10406 N. Cedarburg Rd., Mequon 53092 414-242-5665
PUERTO RICO	
Kiko Toro, Inc.	2165 General Del Valle St., Santurce 00913 809-726-2629
CANADA - QUEBEC	
Distin Marine, Ltd.	80 Les Chenaux, Vaudreuil J7V 1G3 514-455-4192
EUROPEAN AGENT:	
Bangor Punta Overseas S.A.	5 Rue Saint-Ours, 1205 Geneva, Switzerland 022 29 98 11

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CAL

LIMITED WARRANTY

Bangor Punta Marine warrants each new Cal boat manufactured by it to be free from defects in material and workmanship, under normal noncommercial use and service, for a period of one year after commissioning by the original retail customer, but in no event later than two years from the date of shipment by Bangor Punta Marine, subject to the terms and conditions stated below.

1) **Warrantor.** This warranty is granted by Bangor Punta Marine, a division of Bangor Punta Corporation, 848 Airport Road, Fall River, Massachusetts 02722 and 200 Kalmus Drive, Costa Mesa, California 92626.
2) **Parties to Whom Warranty is Extended.** This warranty shall extend to any buyer (other than for purposes of resale or use in the ordinary course of the buyer's business), and any noncommercial transferree to whom such product is transferred during the warranty period and who normally uses it for personal, family or household purposes. For Cal boats used commercially, this warranty also extends but it expires thirty (30) days after commissioning by the original purchaser.
3) **Parts Covered.** All parts manufactured by Bangor Punta Marine, including the hull, deck, and cabinetry are covered by this warranty; the installation work performed by Bangor Punta Marine on components not manufactured by it, is also covered by this warranty.
4) **Parts Not Covered.** The following parts are not covered by this warranty:
   a) masts, plywood, teak, external finishes (which include paint and gelcoat), and upholstery; and
   b) engines, toilets, stoves, refrigerators, batteries, ignition systems, lighting devices, blowers, propellers, and other parts and equipment manufactured by others.

   Bangor Punta Marine will forward the owner warranties, if any, extended by other manufacturers.
5) **Remedy.** If within the applicable warranty period any part or installation work covered by this warranty proves to be defective in material or workmanship, then Bangor Punta Marine shall, at its sole option, repair or replace the defective part. Parts and labor shall be at the expense of Bangor Punta Marine, but not transportation costs.
6) **Procedure for Obtaining Performance Under This Warranty.** In order to obtain performance of the obligations under this warranty, the owner must promptly (within thirty days of discovery of the defect) notify Bangor Punta Marine or an authorized Cal service center of the defect, and at Bangor Punta Marine's or the authorized Cal service center's direction, return the defective part or product to be repaired or replaced under this warranty to an authorized Cal service center. If repair or replacement by an authorized Cal service center is determined by Bangor Punta Marine to be impractical, the owner shall return the defective part or product to Bangor Punta Marine at either of the addresses stated above. All transportation costs to and from the authorized Cal service center or Bangor Punta Marine, and all haul-out, launching and rigging costs, will be at the expense of the owner.
7) **Sole Remedy.** The remedy and liability for any breach of warranty, express or implied, set forth above is the sole and exclusive remedy and the limit of liability for any such breach.
8) **Design Changes.** Bangor Punta Marine reserves the right to make changes in the design or material of its products without incurring any obligation to incorporate such changes in any product previously manufactured or advertised.
9) **Exclusions and Implied Warranties.** This warranty does not extend to any defect due to the negligence of others, failure to operate or maintain the product in accordance with the operation and maintenance instructions furnished with each new product, unreasonable use, accidents, alterations, or ordinary wear and tear. ALL IMPLIED WARRANTIES, IF ANY, ARISING UNDER STATE LAW ARE LIMITED IN DURATION TO THE DURATION OF THIS WRITTEN WARRANTY. EXCEPT FOR SUCH IMPLIED WARRANTIES, THERE ARE NO OTHER WARRANTIES WHICH EXTEND BEYOND THIS WARRANTY. BANGOR PUNTA MARINE SHALL NOT BE RESPONSIBLE FOR LOSS OF USE OF ANY PRODUCT, LOSS OF TIME, INCONVENIENCE OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES WITH RESPECT TO BUSINESS OR PROPERTY, WHETHER AS A RESULT OF BREACH OF WARRANTY, NEGLIGENCE OR OTHERWISE. Some states do not allow (a) limitations on how long an implied warranty lasts or (b) the exclusion or limitation of incidental or consquential damages, so the above limitations or exclusions may not be applicable. This warranty gives the owner specific legal rights, and there may also be other rights which vary from state to state.

Rev. 8/1/79

COMMISSIONING

COMMISSIONING

Your Cal Yacht dealer will supervise the commissioning and testing of your new boat. His knowledge and experience will insure that all systems and components will function properly when the boat is delivered to you.

We have included some guidelines and instructions in this section to aid you and your dealer.

PRE-LAUNCH CHECK LIST

1. All seacocks operational, closed, and tightened. _____

2. Accessory thru-hulls installed and tightened. _____

3. Diesel: Propeller in place; 2 nuts and cotter pin installed. _____

4. Zinc anodes installed on shaft. _____

5. Batteries secure, filled, and charged. _____

6. Rigging installed on spar; cotter pins spread and taped. _____

7. Masthead sheaves free to rotate; lubricated. _____

8. Mast lights working. _____

9. All required safety equipment on board. _____

NOTE: THIS IS A BASIC PRE-LAUNCH CHECK LIST.

POST-LAUNCH CHECK LIST

1. All seacocks open and water tight. _____
2. Shaft aligned to .003" tolerance. _____
3. Engine shaft packing nut tightened. (See Stuffing Box under Engine Operation Instructions.) _____
4. Engine oil levels checked. (Refer to Engine Manual.) _____
5. Fuel tank filled and system checked for leaks. _____
6. Engine operates and passes water thru exhaust. _____
7. Engine controls operate correctly and checked for tight nuts, bolts, and spread cotter pins. _____
8. Mast stepped and mast collar installed. (Collar on Cal 35 and Cal 39 only.) _____
9. Mast bolted to mast collar ears.* _____
10. Turnbuckles attached; cotter pins spread and taped. _____
11. Boom and running rigging installed. _____
12. Water tank filled. (See Note 2 - Water Heater.) _____
13. Faucets work and lines checked for leaks. _____
14. Stove fuel tank filled; system checked for leaks. (Refer to Propane Stove Instructions, if applicable.) _____
15. Electrical equipment operational. (See Note 1 for Shore-Power System.) _____
16. Steering gear operational. _____
17. Rudder shaft greased. _____
18. Bilge pump operational. _____
19. Toilets operational; hoses secure. _____
20. Deck hardware checked for leaks. _____
21. Warranties and manuals delivered to owner. _____

* = (After first light-air sail. See Instructions.)

COMMISSIONING NOTES

Note No. 1

If your Cal Yacht is supplied with a 110V AC shore-power system, it will have a control panel with a main breaker (30 amp) and separate (15 amp) breaker switches for the outlets and water heater. In addition, there are both audible (buzzer) and visual (yellow light on panel) reverse-polarity indicators. With all switches off, attach the power cable to the power inlet on the boat. Next, connect the power cable to the dockside outlet. WARNING: IF THE POLARITY INDICATORS LIGHT AND/OR SOUND, DISCONNECT THE CORD IMMEDIATELY. THIS INDICATES A REVERSE POLARITY SITUATION WHICH IS DANGEROUS. SEVERE INJURY OR DEATH MAY RESULT. DIAGNOSE AND CORRECT THE PROBLEM BEFORE PROCEEDING.

It is recommended that any appliances used on board be wired with three-wire grounded plug.

Note No. 2

If your Cal Yacht is equipped with a water heater, it will be installed to operate off both the engine cooling system and the 110V AC electric system. Before switching the 110V system on, be sure the water-heater tank is filled. Open the valve in the inlet water line, and be sure the check valve is installed with the arrow pointed toward the water heater. Operate the pressure-water system until you get a steady stream through the hot-water faucets.

WARNING: FAILURE TO FILL THE WATER HEATER BEFORE SWITCHING ON THE 110V CIRCUIT WILL RESULT IN DAMAGE TO THE HEATING ELEMENT.

STEPPING AND TUNING THE MAST

Before stepping the mast, be sure all running and standing rigging is properly installed, cotter pins are spread, and halyard sheaves are free to rotate. The upper shroud is run through the groove in the outboard end of the spreader; on either side of the groove is a hole. Through these holes run a stainless wire. Wrap it around the stay several times in such a manner as to prevent the shroud from jumping out of groove. After the shroud is wired in place, tape over all the wire to protect the sails, and to prevent the wire from unraveling. Check the spar lights to be sure they are operational. Open all turnbuckles to their full extension.

Cal 35 and Cal 39: Refer to Separate Sheet for Mast-Collar Instructions.

Step the spar through the deck and table (if applicable), and then onto the mast step. Be careful not to pinch the mast wires during the stepping. (Cal 35 and Cal 39 - The mast step was set at the factory to provide an aft rake. If you wish to adjust this, loosen the mast-step bolts and slide the step fore or aft.)

Attach all the shrouds, tighten the headstay, backstay, and upper shrouds to a taut condition. For now, leave the lower shrouds slack. Adjust the headstay and backstay to achieve a straight spar, when sighting up the trailing edge. Next, with the boat level athwartships, tighten the upper shrouds to get the mast straight. Finally, tighten the lowers no more than hand tight.

Final tuning must be accomplished while sailing. In a light breeze (6 - 8 knots) adjust the shrouds to achieve a straight spar on either tack. In heavier winds, any curvature should be gradual and constant from the deck to the mast head. After the initial sail, go below, and drill through the spar and install the bolt that passes through the mast collar ears and spar (Cal 35 and Cal 39). This serves to hold the deck from flexing and should not be installed until the boat has been sailed and the rig tuned, to assure proper location of the hole.

The rig will need adjustment after a few sails to compensate for the stretch in the wire. Be sure to install cotter pins in all turnbuckles and clevis pins, and tape over them to prevent injury to crew or damage to sails.

Fine tuning for the best performance will depend upon your local conditions and your sails. Consult your dealer or local sail-maker for their suggestions.

WARNING: WHEN HAULING, LAUNCHING, AND SAILING NEAR LOW OVERHEAD WIRES, CARE MUST BE TAKEN THAT THE MAST NOT COME IN CONTACT WITH SUCH WIRES. CONTACT COULD CAUSE THE MAST TO CONDUCT ELECTRICITY AND CAUSE INJURY OR DEATH.

RIGGING DIMENSIONS

The following table shows the critical dimensions and materials used for the standing and running rigging on your Cal yacht. In the event you should need to replace any of the rigging, you can order the materials through your Cal dealer. If this is not convenient, this table will allow you or a local rigger to obtain the proper materials.

The standing rigging measurements are the overall length of the stay, from the center of the hole in the upper terminal to the end of the swaged stud. If using a different turnbuckle than supplied by Bangor Punta Marine, be sure to allow for possible length difference. We would strongly recommend actually measuring any standing rigging before replacing, to assure 100% accuracy.

All running rigging should be checked periodically for chafe or damage and replaced, when necessary. If excessive wear is noted on running rigging, check all blocks and sheaves to be sure they are free to rotate and are properly aligned.

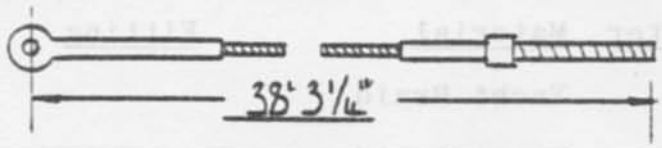
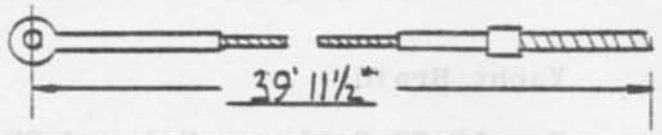
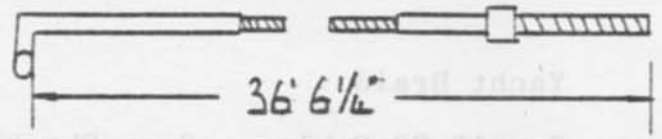
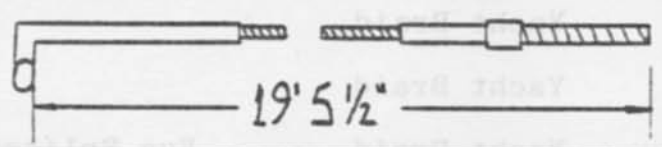
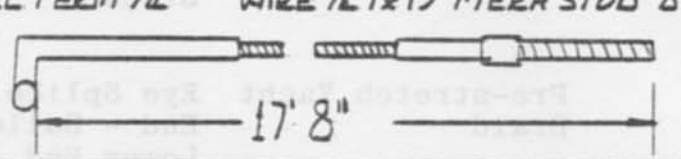
All standing rigging should be inspected for cracks in the swages, proper installation of cotter pins, and wear on clevis pins. Replace any damaged or suspect rigging.

As you may have noticed on some sailboats the swaged ends of the shrouds will ooze rust, and in severe cases, the swage will split. One way to prevent this problem is to heat up the swaged section and place a bar of beeswax against the 1 x 19 stainless steel wire. As it melts, the beeswax will run into the swaged section, sealing it from the elements.

CAL 9.2 METER

WIRE RIGGING

CAL 9.2 METER

STD	OPT	TURNBUCKLE DESCRIPTION WIRE x BODY x PIN SIZE (IN 32 NDS OF AN INCH)	NO. PER BOAT	DESCRIPTION
✓		MAR EYE 1/4 x 1/2 PIN WIRE 1/4 1x19 MERR STUD 8-16-16 	1	HEADSTAY PT # 77231
✓		MAR EYE 1/4 x 1/2 PIN WIRE 1/4 1x19 STUD ADJ. TURN. S.S. 02-108 (#67315) 	1	BACKSTAY PT # 77232
✓		BALL TERM 1/4 WIRE 1/4 1x19 MERR STUD 8-16-16 	2	UPPERS PT # 77233
✓		BALL TERM 1/4 WIRE 1/4 1x19 MERR STUD 8-16-16 	2	LOWERS PT # 77234
✓		BALL TERM 1/4 WIRE 1/4 1x19 MERR STUD 8-16-16 	1	BABYSTAY PT # 77235
✓				

ORIG	RELEASED: PROM MANUAL WIRE RIGGING SCHEDULE DRWG # A0293		6-26-80
REV	DESCRIPTION	SAT LOC	DATE

Cal 9.2

Running Rigging

Item	Length	Diameter	Material	Fitting
Main Sheet	50'	7/16"	Yacht Braid	
Jib Sheet	45'	7/16"	Yacht Braid	
Main Halyard				
Rope	49'6"	3/8"	Yacht Braid	
Wire	42'10"	5/32"	7 x 19 SS Cable	Halyard Shackle
Jib Halyard				
Rope	48'	3/8"	Yacht Braid	
Wire	42'9"	3/16"	7 x 19 SS Cable	Snap Shackle
Reef - Port	20'	5/16"	Yacht Braid	
Starboard	28'	5/16"	Yacht Braid	
Outhaul	30'	5/16"	Yacht Braid	Eye Spliced to Block
Boom Topping Lift Mast	33'4"	1/4"	Pre-stretch Yacht Braid	Eye Splice Upper End - Bullet Bloc Lower End
Boom	12'	1/4"	Yacht Braid	Eye Splice One En
Travel Control Lines	12'	5/16"	Yacht Braid	
Spinnaker Halyard	91'	3/8"	Yacht Braid	Snap Shackle
Spinnaker Sheets	60'	3/8"	Yacht Braid	Snap Shackle
Foreguy	32'	3/8"	Yacht Braid	Snap Shackle
Pole Lift	53'	3/8"	Yacht Braid	Snap Shackle

NOTE: Main and Jib Halyards are wire to rope spliced.
Dimensions given are before splicing.
Splice length is 2'2".

BOAT STORAGE

Whenever a boat is pulled from the water, for work or storage, care must be taken to provide adequate and proper support of the hull. This is especially true of fin-keel sailboats.

It is not recommended that the weight of the boat be rested solely on the keel. Because of the small area of the keel bottom, the localized loads on the hull in the area of the keel would be severe, and could result in permanent damage to the shape or structure of the boat.

If poppets are used for support, they should be located so that the pads are under bulkheads, berth fronts or pan stringers, so that the load is dispersed (See Docking Plan). Failure to properly position the poppets could result in hull depression. Be sure to use an adequate number of supports, and locate them to prevent the boat from tipping fore or aft. A storage cradle designed for this boat is available through your Cal dealer.

When hauling any boat with a propeller shaft, be sure to disconnect the coupling before lifting the boat. This will prevent bending of the shaft as the boat changes shape when lifted.

Do not careen a fin-keel sailboat. The hull, keel, and rudder should survive any accidental groundings. However, care must be taken to keep the boat as balanced and upright as possible to prevent excessive loads.

WARNING: WHEN HAULING, LAUNCHING, AND SAILING NEAR LOW OVERHEAD WIRES, CARE MUST BE TAKEN THAT THE MAST NOT COME IN CONTACT WITH SUCH WIRES. CONTACT COULD CAUSE THE MAST TO CONDUCT ELECTRICITY AND CAUSE INJURY OR DEATH.

OPERATION

ENGINE OPERATING INSTRUCTIONS

The engine installed in your yacht has already been run and all systems tested before leaving the Cal plant.

We are not going to get into a great amount of detail in this area, for we believe the manual supplied by the engine manufacturer adequately covers the subject.

Study your engine owner's manual and get to know your engine. The knowledge could be of great assistance to you. Also, some manufacturers have clinics aimed at the customer; contact them for details.

It is advisable that you follow the engine manufacturer's procedures and recommendations on run-in and maintenance.

On yachts with propeller shafts, please use the following procedure:

Alignment of Engine to Shaft

The engine must be properly and exactly aligned with the propeller shaft. No matter what material is used to build a boat, it will be found to be somewhat flexible, and when launched, the boat hull will change its shape to a greater extent than is usually realized. It is, therefore, very important to check the engine alignment at frequent intervals and to correct any errors when they appear.

Mis-alignment between the engine and the propeller shaft is the source of troubles which are often blamed on other causes. It will create excessive bearing wear, rapid shaft wear, or leakage of transmission oil through the rear seal. A bent propeller shaft will have exactly the same effect, and it is, therefore, necessary that the propeller shaft itself be perfectly straight.

The engine should be moved around on the bed and supported on the screw mounts until the two halves of the couplings can be brought together without using force and so that the flanges meet evenly all around.

Never attempt a final alignment with the boat on land. The boat should be in the water and have had an opportunity to assume its final water form. It is best to do the alignment with the fuel and water tank about half full and all the usual equipment on board and after the main mast has been stepped and final rigging has been accomplished.

Take plenty of time in making this alignment, and do not be satisfied with anything less than perfect results.

The alignment is correct when the shaft can be slipped backward and forward into the counterbore very easily and when a feeler gauge indicates that the flanges come exactly together at all points. The two halves of the coupling should be parallel within 0.003 inches.

In making the final check for alignment, the engine half coupling should be held in one position and the alignment with the propeller coupling checked in each of four positions, rotated 90° between each position. This test will also check whether the propeller half coupling is in exact alignment on its shaft. Then, keeping the propeller coupling in one position, the alignment should be checked, rotating the engine coupling as described above.

The engine alignment should be re-checked after the boat has been in service for one to three weeks and, if necessary, the alignment remade. It will usually be found that the engine is no longer in alignment. This is not because the work was improperly done at first, but because the boat has taken some time to take its final shape. It may even be necessary to re-align at a further period.

The coupling should always be opened up and the bolts removed, whenever the boat is hauled out or moved from the land to the water and during storage in a cradle. The flexibility of the boat often puts a very severe strain on the shaft or the coupling or both when it is being moved.

During the alignment procedure, check the set screws which hold the propeller half coupling to the shaft. These must be tight, in contact with the shaft, and safety wired.

Stuffing Box

The stuffing box provides a seal for the propeller shaft at the inner end of the shaft log. It is connected to the shaft log with heavy wall hose, double clamped at each end. This flex hose allows the stuffing box to maintain alignment with the prop shaft without creating excessive wear of the packing, due to mis-alignment or vibration. The packing used is wax impregnated 3/16" x 3/16" square flax.

When the shaft is turning, it is normal to have a slight leakage at the seal, about one drop per 30 seconds. This acts as a coolant, as well as a lubricant, to protect the seal and shaft surface. Should excessive leakage be apparent, release the lock nut and tighten the packing nut slightly and re-tighten the lock

nut. Re-start engine and check again with shaft turning.

When it becomes necessary to replace the packing (boat should be hauled), loosen the lock nut, back off the packing gland nut, and slide it forward on the shaft. Remove all the old packing and replace it with three rings of new packing. Stagger the ends of each ring so as not to provide a path for water to leak through. Do not wind one continuous strip spirally around prop shaft to make a seal.

Slide the packing gland back and tighten enough to create a heavy drag on the shaft. This will seat and form the packing.

Back off the packing nut until the shaft feels free and re-set the lock nut. Re-check for proper leakage when boat is returned to the water. Be sure the lock nut is secure, as operating the boat in reverse could cause the packing gland to screw off the stuffing box, allowing water into the boat.

FLOODING OF ENGINE WITH WATER

Your Cal Yacht is supplied with a water-lift (wave suppressor) type of muffler that under normal conditions, when the engine is not running, provides wave suppression and water storage to help keep water from flooding the engine.

NOTE: There is a direct path from the overboard exhaust port via the water-lift muffler to the engine and from the water pump to the muffler. Accidental conditions (sea) and operator error (prolonged starting attempts) can thus cause an excessive volume of water to fill the muffler and flood the engine.

UNDER SUCH ACCIDENTAL SEA AND/OR MISUSE CONDITIONS, ENGINE FLOODING MAY BE UNAVOIDABLE.

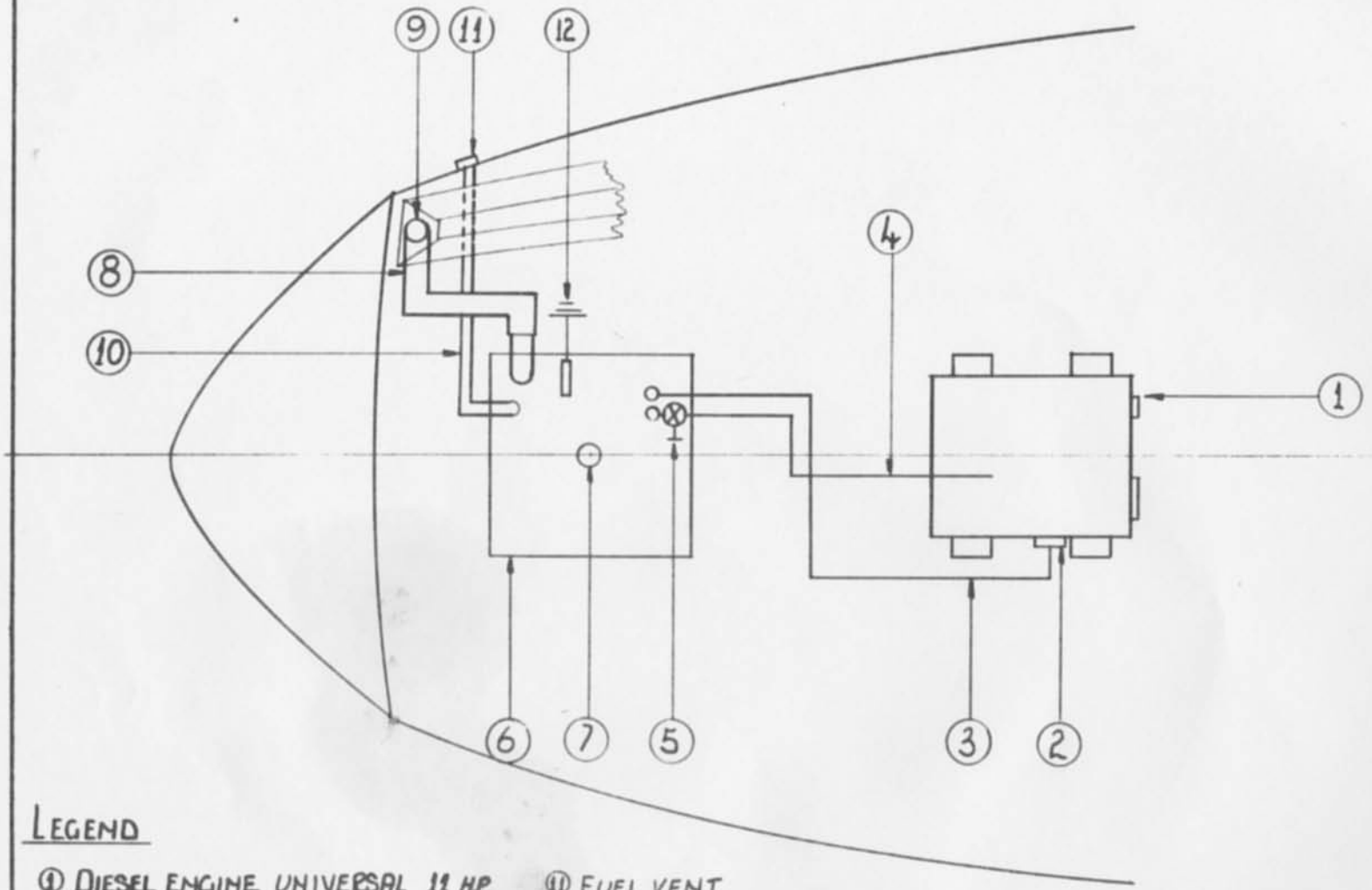
Sea Flooding:

Your Cal exhaust system is designed and installed to the highest standards, and, as stated above, could still flood under certain heavy sea conditions. The only added safety precaution you could add would be to install a rubber flap to the overboard exhaust port. This would dramatically slow the surge effect of waves hitting the port.

Operator Error:

This is a nagging source of water-in-the-engine and occurs when an operator repeatedly attempts to start an engine; i.e., he "grinds" the starter - not 2 or 3 times - but continually.

The amount of cranking time varies from engine to engine, factors being the amount of each piston's displacement, the water pump's capacity, and whether the battery is cranking a full R.P.M.



LEGEND

① DIESEL ENGINE UNIVERSAL 11 HP
② FUEL PUMP
③ FUEL LINE
④ FUEL RETURN LINE
⑤ FUEL SHUT OFF VALVE
⑥ FUEL TANK 12·5 GALS
⑦ FUEL LEVEL SENDER
⑧ FUEL FILL LINE
⑨ FUEL FILL PLATE
⑩ FUEL TANK VENT LINE
⑪ FUEL VENT
⑫ FUEL TANK G.BOUND TAB (TO ENGINE AND FILL PLATE)

NOTES:

A) ALL FUEL HOSE CONFORMS TO N.F.P.A. STANDARDS FOR MARINE FUEL SYSTEM INSTALLATIONS

ORIG	RELEASED: OWNER'S MANUAL	7-16-80
REV	DESCRIPTION	DATE

FUEL SYSTEM SCHEMATIC

CAL 9·2 METER

DRAWN ROBIN BRADSHAW

BANGOR PUNTA MARINE

DRWG. NO. 321

FUELING PROCEDURE

When preparing to fuel your boat, the following procedures should be followed to assure safety:

A. Properly secure the boat to the dock.

B. Turn off the engine, stove, heater, radio, lights, etc.

C. Turn battery switch to OFF.

D. Close all hatches, ports, etc., to prevent entry of fumes.

E. Maintain continuous contact between the nozzle and deck plate to prevent a static charge.

F. Fill tank to a maximum 95% of capacity to allow for expansion.

G. Clean any spills after replacing and tightening fuel-fill cap.

H. Before operating the engine or turning battery switch to ON, open all hatches and check for fuel leaks. On gasoline engine, check for fumes and run the blower for 5 minutes before starting the engine.

Always be sure the fuel-fill cap is tight, to prevent water and dirt from getting into the fuel tank. Periodically check the fuel filter and water separator. Those should be drained and cleaned, as needed. The filter elements should be replaced annually.

ELECTRICAL

Master AC and DC Control Panels. The master electrical control panels are located on the aft bulkhead, behind the companionway stairs. The AC master panel includes circuits for a battery charger, the water heater, and the port and starboard electrical outlets. The DC master and accessory panels handle all other electrical systems.

Circuit Breakers. Accessory loads may be selected as desired by turning on the master-control panel circuit breakers. The circuit breakers will automatically open the circuit by switching themselves to "OFF" in the event of an overload on a particular circuit. Always investigate the cause of the overload and correct any deficiencies before re-positioning the circuit breaker to "ON".

ALL WIRES, CONNECTIONS, AND TERMINALS SHOULD BE INSPECTED REGULARLY FOR LOOSE CONNECTIONS WHICH MAY CAUSE ELECTRICAL SPARKS, HIGH RESISTANCE, OR FIRES. THIS IS ESPECIALLY IMPORTANT FOR ENGINE ACCESSORY WIRING.

Battery Selector Switch

Before leaving your boat, always turn the master-battery switch to the "OFF" position to prevent power drainage. DO THIS ONLY AFTER YOU HAVE SHUT DOWN THE ENGINE, for you may burn out the alternator diodes.

CAUTION!

You may switch from one battery to another for charging, but DO NOT pass through the "OFF" position while the engine is running. This may burn out the alternator diodes. Keep the engine RPM as low as possible, when switching batteries.

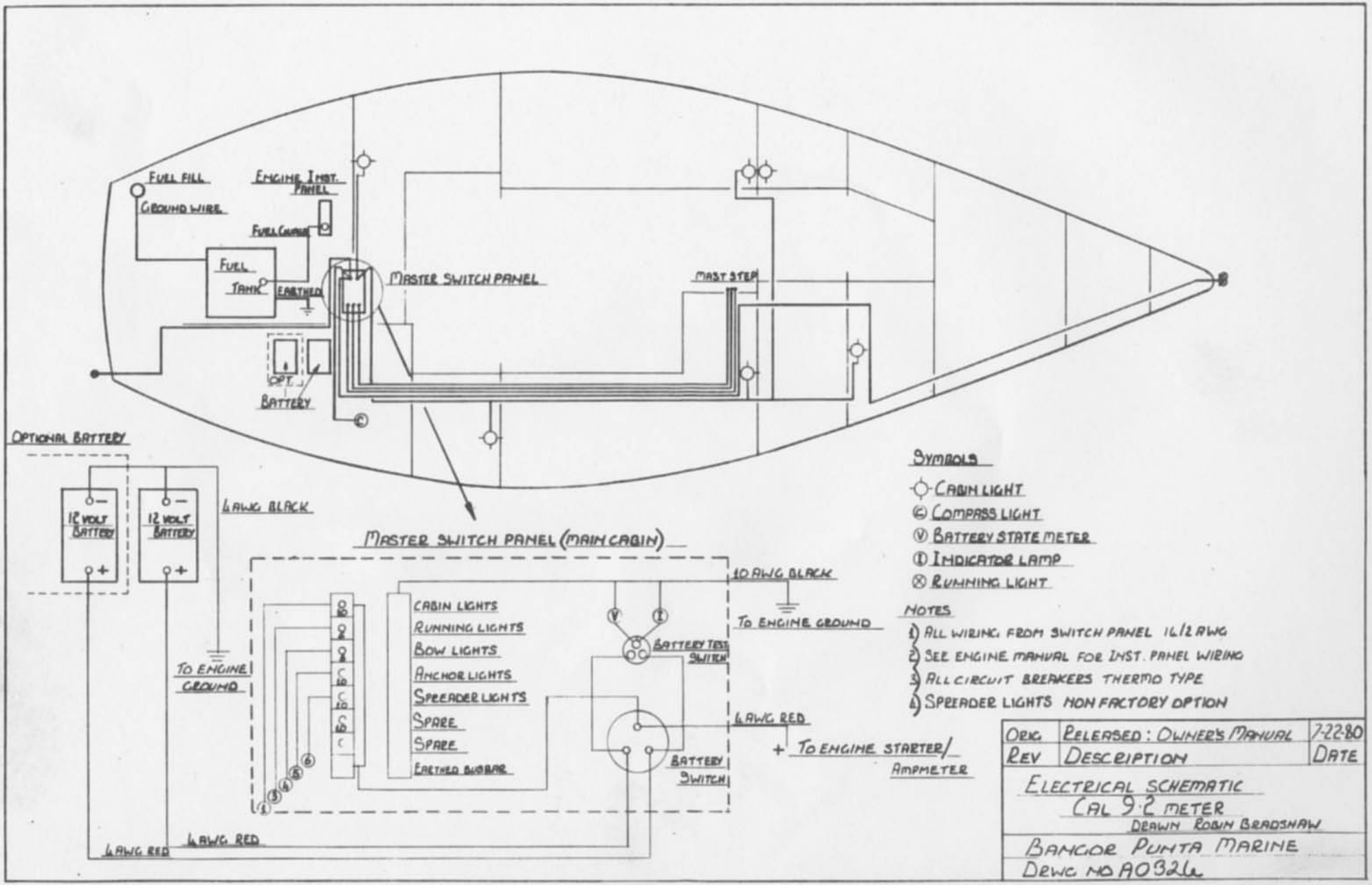
Shore-Power System. The shore-power system accepts 110V AC through a three-prong male connection located in the cockpit. There are two current carrying conductors, positive and negative, as well as a grounded non-current carrying conductor. WARNING: NEVER USE AN ADAPTER THAT ELIMINATES THE GROUNDING CONDUCTOR. SEVERE SHOCK, INJURY, OR DEATH MAY RESULT.

A master-circuit breaker is provided for the shore-power system. To activate shore power, throw the circuit-breaker switch after the shore-power line is connected to dock power.

In addition, there are both audible (buzzer) and visual (yellow light on panel) reverse polarity indicators. With all switches off, attach the power cable to the inlet. Next, attach the power cable to the dockside outlet. WARNING: IF THE POLARITY INDICATOR LIGHTS AND/OR SOUNDS, DISCONNECT THE CORD IMMEDIATELY! THIS INDICATES A REVERSE POLARITY SITUATION, WHICH IS DANGEROUS. SEVERE SHOCK, INJURY, OR DEATH MAY RESULT. DIAGNOSE AND CORRECT THE PROBLEM BEFORE PROCEEDING.

If the polarity is correct, switch on the breaker for the outlets and/or hot-water tank as desired. Be sure the hot-water tank is full before turning on the circuit, or you will damage the heating element (see plumbing and commissioning sections).

It is recommended that all appliances or lights be wired with three-prong grounded plugs.



SYMBOLS

- CABIN LIGHT
- Ⓒ COMPASS LIGHT
- Ⓥ BATTERY STATE METER
- Ⓘ INDICATOR LAMP
- ⊗ RUNNING LIGHT

NOTES

1) ALL WIRING FROM SWITCH PANEL 16/12 AWG
2) SEE ENGINE MANUAL FOR INST. PANEL WIRING
3) ALL CIRCUIT BREAKERS THERMO TYPE
4) SPREADER LIGHTS NON FACTORY OPTION

ORIG.	RELEASED: OWNER'S MANUAL	7-22-80
REV	DESCRIPTION	DATE

ELECTRICAL SCHEMATIC
CAL 9.2 METER
DRAWN ROBIN BRADSHAW

BANCOR PUNTA MARINE
DRWG NO A032L

LIGHTNING GROUND

The spars and standing rigging on all Cal Yachts are grounded, in compliance with the American Boat and Yacht Council Project E-4, to attempt to minimize damage resulting from lightning and provide a measure of safety for personnel.

Each chainplate, the mast step, and all thru-hulls are attached by means of a #8 AWG solid copper wire to the engine and/or strut. In the event lightning strikes the spar, the system is designed to carry the charge by the wire to ground.

WARNING: IN AN ELECTRICAL STORM, DO NOT TOUCH THE MAST, BOOM, OR ANY STANDING RIGGING. THESE ARE ALL ELECTRICAL CONDUCTORS, WHICH WILL CARRY HIGH VOLTAGE AND CAUSE SEVERE SHOCK, INJURY, OR DEATH. IN THE EVENT OF AN ELECTRICAL STORM, THE FOLLOWING PRECAUTIONS ARE RECOMMENDED:

1. As much as possible, stay below with the hatches closed.
2. Avoid contact with any items making contact with the electrical system and with any other metallic parts of the boat.
3. Stay out of the water.
4. If the boat is struck by lightning, compasses and electrical equipment should be checked to determine that no damage or change in calibration has occurred.

NOTE: WHILE THE GROUNDING SYSTEM SPECIFIED IN THE AMERICAN BOAT AND YACHT COUNCIL PROJECT E-4 IS THE MOST WIDELY USED LIGHTNING PROTECTION SYSTEM KNOWN TO US, WE URGE YOU TO AVOID EXPOSING YOURSELF TO LIGHTNING, SINCE NO SYSTEM WILL PROVIDE COMPLETE PROTECTION TO BOAT OR OCCUPANTS IN ALL CIRCUMSTANCES.

NAVIGATION LIGHTS

Navigation lights must be in accordance with the rules and regulations of the waters in which you intend to cruise.

In general, navigation lights are to be used from sunset to sunrise in all weather conditions. It is good practice to use the lights any time visibility is reduced by inclement weather.

Your Cal Yacht is equipped with the following navigation lights:

A) Red and green 10 point side lights mounted near the bow.

B) White 12 point stern light.

C) White 20 point bow light mounted on the mast.

D) White 32 point masthead light mounted on top of the spar.

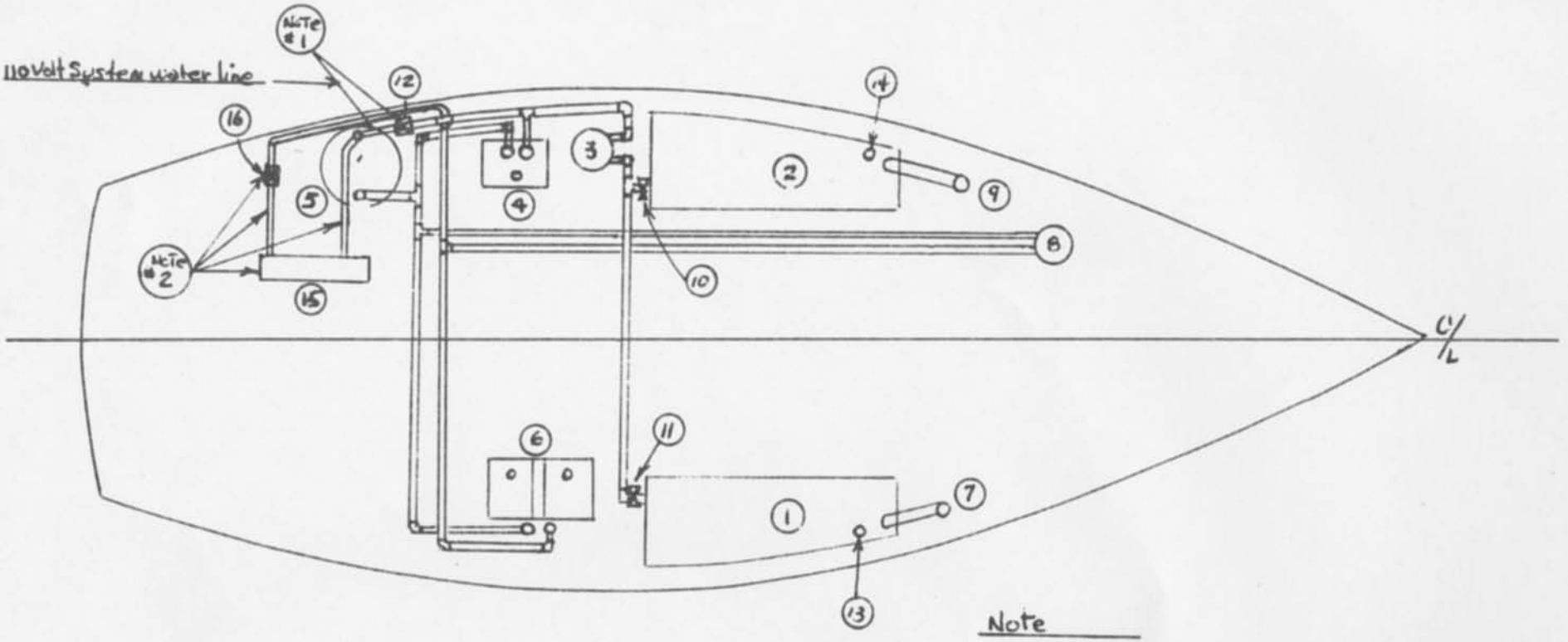
A & B are wired to the "running lights" switch on the DC panel.

C is wired to the "bow light" switch.

D is wired to the "masthead light" switch.

We recommend:

1. Underway by sail, the running lights (side lights and stern light) be on.
2. Underway by power, the running lights and bow light be on.
3. At anchor, the masthead light be on.



Note

#1 #12 Check Valve on hot water system with 110 Volt water heater boats with out engine only. Boats may Also have only one Tank

#2 Boats with Engine have water from Pressure Pump through engine heat exchanger to hot water heater #12 is moved To #16 Position And water supply is routed through heat exchanger Illuminating 110 Volt system water line. 110 System Then recieves its water supply Through heat exchanger line

(This Drawing is not for System Location)

1 #1 water Tank	9 #2 water fill
2 #2 water Tank	10 Shut off Valve
3 Pressure Pump	11 Shut off Valve
4 Head Sink	12 Check Valve one way
5 water Heater	13 Vent
6 Galley Sink	14 Vent
7 water fill	15 Engine Heat exchanger
8 Shower Mixer	16 Check Valve one way

Orig	Released Owners manual	Date
Rev	Description	11/15/80

Typical Pressure water System CAL Boats

CAL - 39-6 25
35-2 27
31 9.2

Drawn By Ed. Edgar R+D

Bangor Punta marine

DWG #

Sht 1 of 4

COOKING STOVES

PROPANE STOVES

The propane stove in your Cal yacht has been pressure tested at every joint with a special fluid at the plant prior to shipping, but we recommend that you have it checked by your own dealer after it has been launched, as boats go through some fairly heavy jars during overland travel. Details on the operation of the propane stove will be found in the manufacturer's instruction manual, which should be carefully reviewed.

To Operate:

1. Be sure the burner valves are in the OFF position.
2. Be sure the electric safety switch over the stove is in the OFF position.
3. Turn the valve on at tank.
4. Move the electric safety switch into the ON position.
   a. This switch controls a Solenoid mounted between the propane tanks. In the OFF position there is no pressure anywhere inside the boat. Please refer to Marinetics Corp., Document #609.
5. Turn on the burner valve you desire and light. If the system is new, or the tanks have just been replaced, there could be a quantity of air in the supply line. WARNING: YOU MAY GO THROUGH MORE THAN ONE MATCH, BUT DO NOT LEAVE BURNER VALVE ON WHILE GETTING ANOTHER MATCH LIT. THE GAS COULD BE COMING OUT WHILE YOU'RE GETTING THE NEXT MATCH LIT. THIS COULD CAUSE AN EXPLOSION.

When cooking has been completed, turn off the electric safety switch; and after the burner goes out, close the burner valve. This will indicate that the electric safety valve is working and will also remove pressure from the feed line inside the boat. For added safety, the manual shut-off valve at the tanks may be closed when boat is left unattended, or overnight.

The entire system should be checked out at least once a year. Pay particular attention to corroded or cracked fittings and supply lines.

ALCOHOL STOVES

Please refer to manufacturer's manual. They cover the operation of these stoves in detail.

WARNING:

1. THE FLAME DURING AN ALCOHOL FIRE IS QUITE OFTEN INVISIBLE.

2. DO NOT MOUNT THE FIRE EXTINGUISHER NEAR THE STOVE. DURING A FIRE, YOU MAY NOT BE ABLE TO GET TO IT.

3. WATER IS ONE OF THE BEST EXTINGUISHERS FOR ALCOHOL FIRES.

Plumbing

Heads - Cal 9.2, Cal 31, Cal 35, & Cal 39

Cal has passed along the manuals which cover the operation and maintenance of the toilets installed in your yacht. You should read these and familiarize yourself and crew with their details.

The standard head is a marine toilet, connected to a collapsible rubber holding tank. This tank is discharged through a line running to a deck outlet. To empty the tank, open the deck outlet and insert a dockside pump.

The optional head installation allows the holding tank to be discharged overboard or at dockside. The choice of method is controlled by a valve system on the discharge side of the holding tank. For dockside discharge, open the dockside line and deck fitting and insert the dockside pump. For overboard discharge, close the dockside line and open the overboard line and thru-hull seacock. In the discharge line is a diaphragm pump. This will discharge the holding tank through the thru-hull. FEDERAL AND STATE LAWS AND USCG REGULATIONS SHOULD BE CONSULTED REGARDING THE DISCHARGE OF HEADS IN CONTROLLED WATERS.

When not discharging the tank, both the dockside and overboard lines should be closed. Also, be sure to close the thru-hull seacock, when not in use. It is recommended that a chemical additive, such as is used in chemical heads, be pumped into the holding tank to prevent odor permeation of the tank and plumbing.

Refer to the manufacturer's instructions for maintenance and operation of the toilet.

Plumbing

Cal 25 and 9.2

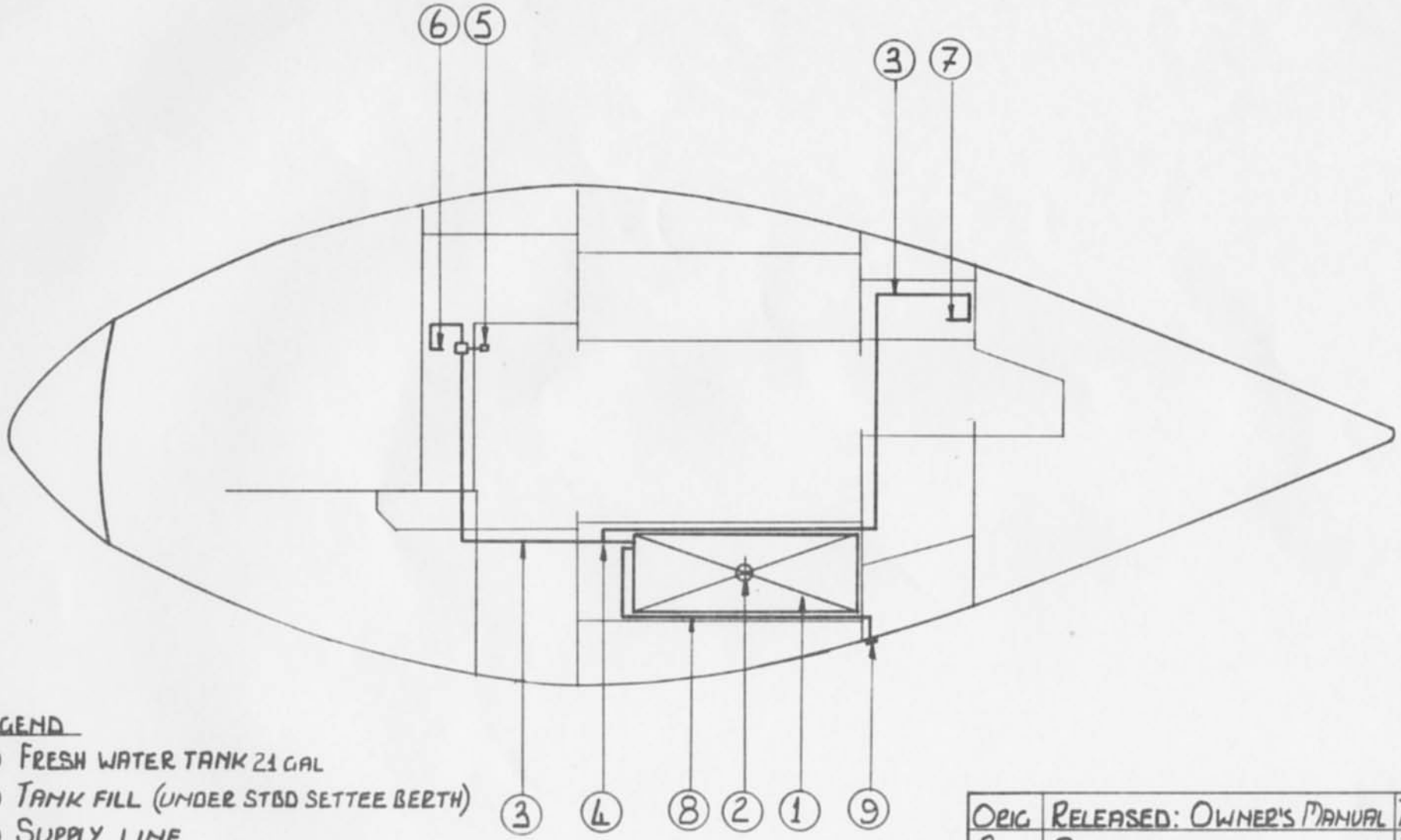
Fresh-Water System

A plastic fresh-water tank, located under the starboard settee, is filled through an inlet on the top of the tank. Do not fill the tank to more than 90% capacity, to allow for expansion. The tank may be cleaned by flushing with a vinegar and water solution (1 pint vinegar to 5 gallons of water). Manual faucets are located in the head and vanity.

The galley and vanity sinks drain through separate thru-hulls, equipped with seacocks. Whenever the boat is left for prolonged periods, be sure to close the seacocks. (See thru-hull diagram for location of all thru-hulls.)

Bilge Pump

A manual-bilge pump is located in the cockpit. The pick-up line runs to the keel sump, and the discharge line is connected to a thru-hull in the transom. To operate the pump, insert the handle provided and pump in an up and down motion.



LEGEND

1. FRESH WATER TANK 21 GAL
2. TANK FILL (UNDER STBD SETTEE BERTH)
3. SUPPLY LINE
4. 'T' CONNECTOR
5. GALLEY FOOT PUMP
6. GALLEY FAUCET
7. VANITY FAUCET W/HAND PUMP
8. VENT LINE
9. VENT FITTING (HULL SIDE)

NOTE

ALL WATER HOSE IS F.D.A. APPROVED

ORIG	RELEASED: OWNER'S MANUAL	7-17-80
REV	DESCRIPTION	DATE

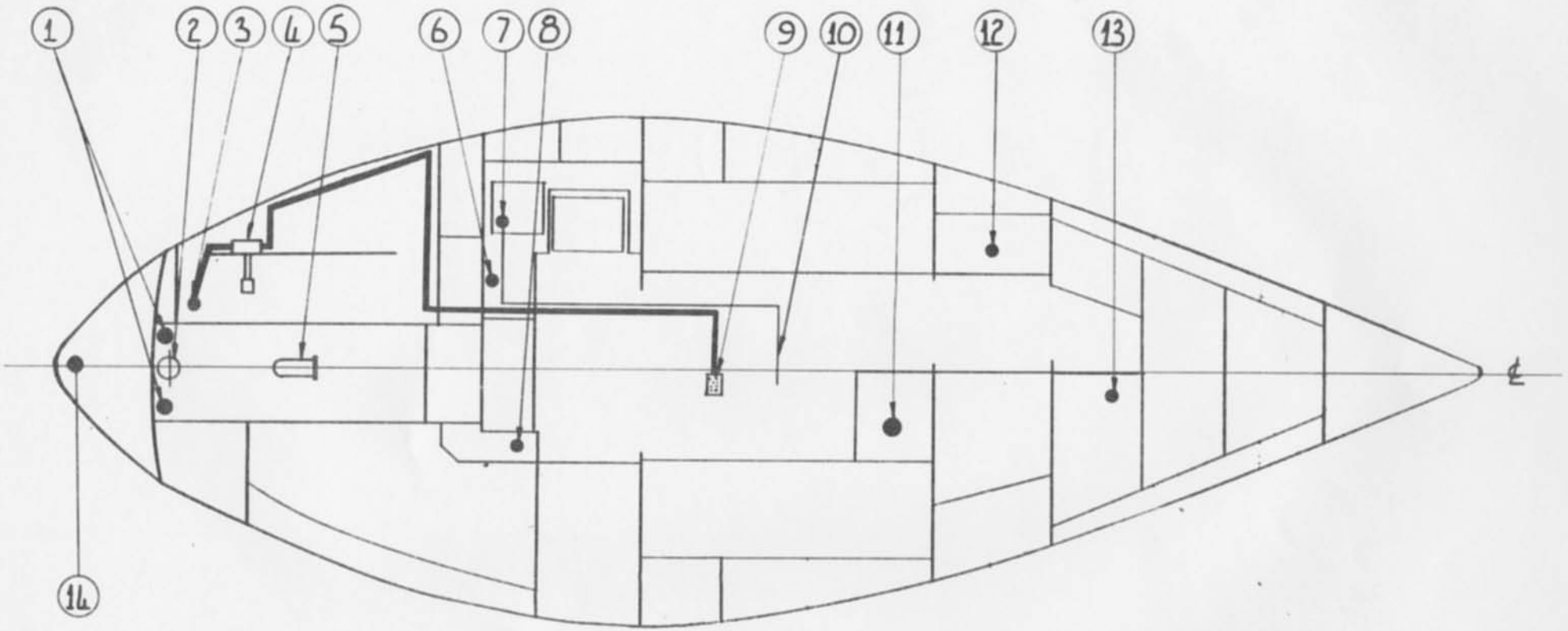
PLUMBING SYSTEM SCHEMATIC

CAL 9.2 METER

DRAWN ROBIN BRADSHAW

BANGOR PUNTA MARINE

DRWG NO. 317



LEGEND

1. COCKPIT SCUPPERS.
2. RUDDERSTOCK.
3. BILGE PUMP.
4. " " UNIT (COCKPIT).
5. PROP SHAFT STUFFING BOX.
6. GALLEY SINK DRAIN. (VALVED)
7. ICE BOX DRAIN (INTO BILGE)
8. ENGINE COOLANT INTAKE (VALVED)
9. BILGE PUMP UPTAKE
10. ICE BOX DRAIN HOSE
11. HEAD OUTLET (VALVED)
12. VANITY SINK DRAIN (VALVED)
13. HEAD INTAKE (VALVED)
14. ENGINE EXHAUST

ORIG	RELEASED: OWNER'S MANUAL	7-16-80
REV	DESCRIPTION	DATE

THROUGH HULL LOCATIONS
CAL 9·2 METER

DRAWN ROBIN BRADSHAW

BANGOR PUNTA MARINE

DRWG NO. 318

MAINTENANCE

PERIODIC MAINTENANCE

The following list of items and their accompanying numbers is in no way intended to be all that should be done to your yacht. This is only a suggested general list and is not intended to override the individual manufacturers' manual. It also is not arranged in any special order. The numbers are in numerical order and not in priority order. Some numbers and their meanings may also seem redundant, but we feel it is better to be redundant than lax.

ALWAYS FOLLOW THE OWNER'S MANUAL THAT COMES WITH THE ENGINES, HEADS, ETC.

PERIODIC MAINTENANCE

	End of First Week	Monthly	Winterizing	Remarks
Deck Fittings	5		1,4,5	
Rudder Blade		1	1	
Rudder Post	6	1,6	1,4,5,6	
Propeller Shaft	1	1	1,4	
Stuffing Box	1,2,5	1,2	1,4	
Zinc Anode		1	1	Replace at least once a year
Propeller		1	1,4,5	
Bilges			4,7	
Cockpit Drain Hoses	2	2,5	2,4,5,7,8	7,8- Some cockpit hoses have low points that hold water
Sea Cocks	1,2,3	2	1,4,6	
Pumps	1	1,2,5	1,4,5,7,8	
Water Tanks	2	2	1,4,7	
Piping, Fresh Water	2	2	1,4,7	
Lighting			1,3,4	3=WD-40 or CRC
Battery	1	1,4	1,4,8	4=Clean with baking soda & water solution
Water Filter		1,2,4	1,4,7	
Fuel Filter	1,5	1,5	1,4,5	4=Outside Only
Air Filter	1	1,5	1,5	
Exhaust System	1,2,5	1,2,5	1,4,5,7	
Engine Mounts	1,5	1,5	1,3,5	
Steering Cable	1,3,5,6	1,3,5,6	1,3,4,5,6	

PERIODIC MAINTENANCE (Cont'd.)

	End of First Week	Monthly	Winterizing	Remarks
Mast, Boom	1,3	1,3,4,5	1,3,4,5,6	
Standing Rigging	1,5	1,4	1,3,4,5,6	
Running Rigging	1	1,3,4	1,3,4,5,6	
Winches	1,5	1,3,4,5	1,3,4,5	
Engine Alignment	1,2	1,4,5	1,4,5	Disconnect coupling before hauling
Hose Clamps	5	1,5	1,3,4,5	Do not overtighten
C/B models only-Centerboard & Hoist	2	1,2,4,5	1,3,4,5,6	
Chainplates	1,2,5	1,2,4,5	1,2,4,5	Rebed at least twice a year
Tiller Strap if applicable	1,3,5	1,3,4,5	1,3,4,5	
Bilges	Check daily---more often if the boat is leaking			
Stoves, Alcohol, Propane	1,5		1,4.5	Check supply hoses for deterioration every Spring. If hose cracking is evident, replace.

1. Check condition 2. Check watertightness 3. Lubricate
4. Clean with fresh water 5. Check tightness 6. Grease
7. Drain and/or anti-freeze 8. Disconnect

BASIC RULES FOR BATTERY CARE AND MAINTENANCE

1) Check liquid level in all cells once every week or two. Add water as required. Bring liquid level to 3/8 inch above top of separators. It is much better to add water in small amounts frequently, than to put too much in and flood out the electrolyte, thus causing damage to adjacent wiring and equipment, plus loss of acid.

   Generally, the local drinking water in the United States is safe for use in batteries; but to be sure, check with your battery supplier.

   Add water only. Add no battery dopes, special liquid, or powders. These are harmful or useless.

2) Before adding water, take a hydrometer reading of one cell. (Don't use same cell each time; change around). If above 1.225 Specific Gravity, battery is sufficiently charged. If below 1.225 Specific Gravity, remove battery for bench charge. If level is too low to read, add water and take hydrometer reading the next day.

3) After adding water, examine hold-downs. Make certain battery is secure. Hold-downs should make a snug fit, but not necessarily the tightest fit, or the container may be forced out of shape.

   Examine cables and terminals for tightness, corrosion, and wear. Corrosion occurs from the spilled electrolyte getting on metal, other than lead. Lead does not corrode. To remove corrosion, scrape or brush it off. Then immerse the part in

3) an alkaline solution, such as baking soda, in the proportions of one pound soda to a gallon of water. One can tell when all the electrolyte is neutralized by observing when the bubbling stops. Wash with water, dry, and apply a prepared grease available from battery dealers.

4) Examine battery for broken or cracked covers, case, and cracks in sealing compound. If any of the above defects are present, remove battery at once and have repaired. Acid loss from any of the above defects will shorten battery life. Acid escaping through cracked covers or sealing compound will cause corrosion of terminals, cables, carrier, and adjacent parts.

5) Batteries should be re-charged, if hydrometer reading is below 1.225.

6) DO NOT LEAVE A BATTERY ON CHARGE FOR MORE THAN 48 HOURS. STOP CHARGE when two hydrometer readings recorded two hours apart show no increase, or when terminal voltage readings recorded two hours apart show no increase.

   If there is no rise in voltage or specific gravity in a period of two hours, further charging is USELESS and MAY DAMAGE BATTERY BEYOND REPAIR. Have your supplier check battery for possible acid adjustment or repair.

7) On this bench re-charge, the specific gravity is expected to read certain values before considered serviceable for continued use. The hydrometer reading should be above 1.260.

BASIC RULES FOR BATTERY CARE AND MAINTENANCE - Continued

7) The full charge gravity when new was 1.270 - 1.290. If battery does not register as above, have your battery supplier inspect it. He may be able to adjust acid or make repairs.

8) In cold weather, do not fill cells with water and let stand without running motor long enough to allow water to mix with acid, as freezing might occur.

9) Spare batteries should be re-charged at least every 4 or 5 weeks, in order that the Specific Gravity may be maintained at 1.240 or above.

10) Use a battery with sufficient ability to carry the connected load.

11) Wash dirt and corrosion off top of battery to eliminate inter-cell discharge.

12) Neutralize corrosion in battery box by washing with solution of baking soda as recommended in No. 3; rinse with water.

13) The amount of water which is needed by the different cells will be a clue to other problems. For example, if each week the water, which was put in the previous week has been used, it is reasonable to expect that too much charging current has passed through the battery; hence, the voltage regulator should be checked.

All cells in the battery should take the same amount of water. If one cell should take more than the others and does this each week, it would be expected that the container is leaking. Whether the leakage is through the bottom of the container, or from the sides of the container, can be determined by examination.

FINISHES

Gelcoat

The gelcoats used on all exterior and interior surfaces of your Cal Yacht are the highest quality materials available for marine use. These gelcoats have the best possible color retention, gloss and resistance to weathering. However, even the best gelcoats need some maintenance to preserve their finish.

- Whenever feasible, the deck and topsides should be rinsed with fresh water.
- Wash the gelcoat surfaces with a mild detergent or car wash solution. Use a sponge or towel on smooth areas, and a soft brush on non-skid surfaces. Be careful not to use abrasive cleaners or solutions containing chlorine.
- At least once a year, apply a good coat of high quality wax to all smooth surfaces. Buff down with a clean towel.

If the surface becomes dull, it can often be returned to a high gloss by hand buffing with an automotive buffing compound of a very fine grade. If a power buffer is used, extreme care must be exercised to prevent burning through the gelcoat surface. This is particularly true of corners and edges. Always apply a coat of wax after compounding.

Small scratches or abrasions which do not go through the gelcoat can be removed by wet sanding with 320 grit paper, followed by wet sanding with 600 grit, compounding and waxing. For deep scratches or holes, you should rely on your dealer or local gelcoat

repairman to provide a good cosmetic repair.

Gelcoated surfaces can be painted. However, to assure a good finish which will last, careful preparation and application is necessary. This should be done by professionals.

Teak

The interior and exterior woodwork on your Cal is primarily teak. This unique wood will not rot, and requires minimum maintenance. All the teak was treated at the factory with a high-grade teak oil.

On the interior, you should apply a new coat of oil at the beginning of each season. Use a good grade teak oil, which is available through your dealer or local marine hardware store. This will maintain the rich brown color of the wood.

The exterior teak, if left untreated, will turn a light gray, which some yachtsmen prefer. However, as the teak weathers, the grain raises, and there is a tendancy for the wood to check and/or split. Periodic cleaning with a teak cleaner will remove the gray color with a minimum of labor. A good coat of teak oil will help prevent the checking and splitting.

Teak may be varnished, which will produce a beautiful finish, and provide good protection. A varnished interior would normally last two seasons. However, on exterior teak, a new coat should be applied every four months. Before applying varnish, be sure the surface is dry, sand thoroughly, and wipe with acetone to

remove some of the oil. Before attempting to varnish teak, you should consult your local marine paint expert.

Laminated Surfaces

The non-wood cabinet surfaces are either mica or polyester laminates, chosen for their durability and ease of maintenance. They should be cleaned with a mild detergent. Avoid using abrasive cleaners, as they will leave small scratches and will dull the finish. These surfaces may be coated with household waxes to mask small scratches and maintain the original lustre.

Hull Liner and Cushion Covers

The hull liner and cabin cushions are highly durable synthetic fabrics, chosen for their appearance and low maintenance. Should they be stained, clean with a sponge dampened in a mild detergent. Upholstery cleaners may be used, but try them on a small area first. DO NOT dry clean, or use dry cleaning chemicals, as they may attack the material or its backing.

Lexan and Plexiglass

The sliding doors in the cabinets and the ports are made of lexan or plexiglass. Clean these with window cleaner or a mild detergent. Do not use chemical cleaners or abrasive cleaners, as these will damage the finish.

FINISHES (Cont'd.)

Spars and Hardware

The spars on your Cal Yacht are painted with tough and durable urethane paints that withstand the harsh effects of the elements. They should be washed with fresh water whenever possible, and thoroughly rinsed before being stored. All moving parts, such as sheaves, should be lubricated during the season.

In the event you should scratch or mar the surface, a touch-up kit is available through your Cal dealer.

The hardware and rigging are stainless steel, chrome plated brass or coated aluminum. These should be rinsed with fresh water periodically. Should you experience surface staining, which looks like rust on the stainless hardware, it can be removed with metal polish and either a rag or bronze wool. Each month a light coat of lubricant should be applied to turnbuckles, blocks and the screw or spring retaining pins on the blocks and slides to assure ease of operation and prevent sticking.

MANUALS