

HUNTER OWNER'S MANUAL

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Welcome To

THE HUNTER MARINE FAMILY

Congratulations on your new sailing yacht manufactured by Hunter Marine. We have engineered and constructed your boat to be as fine a yacht as any afloat. In order to get the best performance and most enjoyment from your boat you should be familiar with its various elements and functions. Please take the time to study this manual and its recommendations for your sailing pleasure.

We stand behind the quality of your boat with a warranty which you should also review. To insure your warranty is valid, please fill out the attached card and send it to us within ten (10) days of the purchase date. Section 15 of the U.S. Federal Boat Safety Act requires first owners to be registered. The warranty data should also be recorded in the space below for your own reference.

This manual has been compiled to help you to operate your craft with safety and pleasure. It contains details of the craft, the equipment supplied or fitted,

its systems, and information on its operation and maintenance. Please read it carefully, and familiarize yourself with the craft before using it.

If this is your first craft, or you are changing to a type of craft you are not familiar with, for your own comfort and safety, please ensure that you obtain handling and operating experience before assuming command of the craft. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools, or competent instructors.

PLEASE KEEP THIS MANUAL IN A SECURE PLACE, AND HAND IT OVER TO THE NEW OWNER WHEN YOU SELL THE CRAFT.

You also need to fill out and mail the warranty cards on your diesel auxiliary, stove, head, electric water pump and other accessories. These are enclosed in the manufacturers' manuals which are included with your owner's manual.

OWNER INFORMATION CARD

HULL IDENTIFICATION NUMBER IS ON THE STARBOARD AFT SIDE OF THE HULL OR TRANSOM
THIS NUMBER MUST BE GIVEN IN ALL NECESSARY COMMUNICATIONS.

HULL NO.		DATE DELIVERED TO OWNER	
YACHT NAME			
OWNER NAME			
STREET ADDRESS			
CITY	STATE/COUNTRY	ZIP CODE	
HOME PORT			
ENGINE MODEL	SERIAL NO.	PROPELLER SIZE	
DEALER	PHONE		
STREET ADDRESS			
CITY	STATE/COUNTRY	ZIP CODE	

A copy of *Chapman's Piloting, Seamanship and Small Boat Handling* is provided with your Hunter Marine boat as part of the standard equipment. Any questions regarding the meaning of terminology used in this manual may be referenced in your *Chapman's*.

HUNTER MARINE LIMITED WARRANTY

LIMITED ONE YEAR WARRANTY

Hunter Marine warrants to the first-use purchaser and any subsequent owner during the warranty period, that any part manufactured by Hunter will be free of defects caused by faulty workmanship or materials for a period of twelve (12) months from

the date of delivery to the first-use purchaser under normal use and service. During this period, Hunter will repair or replace any part judged to be defective by Hunter.

LIMITED FIVE YEAR HULL STRUCTURE AND BOTTOM BLISER WARRANTY

Hunter warrants to the first-use purchaser and any subsequent owner during the warranty period that the hull of each boat will be free from structural defects in materials and workmanship for a period of five (5) years from the date of delivery to the first-use purchaser under normal use and service.

This limited warranty applies only to the structural integrity of the hull and the supporting pan/grid or stringer system. Hulls, pan/grid or stringers modified in any way or powered with engines other than the type and size installed or specified by Hunter are not covered by this limited warranty. The obligation of Hunter under this limited warranty is limited to the repair or replacement of hulls, that it determines to be structurally defective. This is your sole and exclusive remedy.

Hunter also warrants to the first-use purchaser and any subsequent owner during the warranty period that the boat will be free from gel-coat blistering on underwater surfaces of the hull, excluding the keel and rudder, for a period of five (5) years from the date of delivery to the first-use purchaser under normal use and service. During this period, Hunter will

supply or reimburse an authorized Hunter dealer for all of the parts and labor required to repair a blistered underwater surface of the hull. The labor cost reimbursement will be based on the Labor Allowance Schedule established by Hunter from time to time. However, if the repair is performed by a non-Hunter dealer, the repair cost must be authorized by Hunter in advance and be based on a reasonable number of hours as determined by Hunter. Transportation, hauling, launching, bottom paint, storage, dockage, cradling rental, rigging and derigging, or other similar costs will not be paid by Hunter. It is recommended that the repair be done during a seasonal haul out for service or storage.

The following circumstances will void the bottom blister limited warranty:

(1) If the gel-coat has been sanded, sand-blasted, or subjected to abrasion or impact.

(2) If the instructions provided in the Hunter Owner's Manual are not followed according to Hunter's required bottom preparation procedures.

RESTRICTIONS APPLICABLE TO WARRANTIES

These limited warranties do not cover:

(1) Paint, window glass, gel-coat, upholstery damage, plastic finishes, engines, engine parts, bilge pumps, stoves, blowers, pressure water pumps, propellers, shafts, rudders, controls, instruments, keels and equipment not manufactured by Hunter. Any warranty made by the manufacturer of such items

will be, if possible, given on to the first use purchaser.

(2) Problems caused by improper maintenance, storage, cradling, blocking, normal wear and tear, misuse, neglect, accident, corrosion, electrolysis or improper operation.

HUNTER MARINE LIMITED WARRANTY

RESTRICTIONS APPLICABLE TO WARRANTIES (continued)

THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER REMEDIES AND WARRANTIES EXPRESSED AND IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS. SOME STATES OR COUNTRIES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THE PURCHASER ACKNOWLEDGES THAT NO OTHER REPRESENTATIONS WERE MADE TO HIM OR HER WITH RESPECT TO THE QUALITY AND FUNCTION OF THE BOAT.

ANY CONSEQUENTIAL DAMAGES WHICH MAY BE INCURRED ARE EXCLUDED AND JUDGED DEFECTIVE BY HUNTER. SOME STATES OR COUNTRIES 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 GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE OR COUNTRY TO COUNTRY.

WARRANTY REGISTRATION

These limited warranties shall not be effective unless the Hunter Warranty Registration Form and Pre-Delivery Service Record, which are furnished with each new boat, are filled out completely and returned to Hunter within fifteen (15) days of delivery. Responsibility for sending the completed Registration Form remains with the dealer.

Return to the Warranty Registration Form to Hunter, signed by both Dealer and Owner, is critical. Warranty coverage cannot be initiated until the completed form is received at Hunter.

All repairs and/or replacements will be made by an authorized Hunter dealer, or at the option of Hunter, at the Hunter plant. If the repairs are of such a nature that the warranty work must be performed at the Hunter plant, transportation costs to and from the Hunter plant shall be paid by the owner. The labor cost reimbursement will be based on a Labor allowance Schedule established by Hunter and where not applicable, on a reasonable number of hours as determined by Hunter. Any repairs and replacements must be approved in advance by an authorized Hunter service representative.

TRANSFER OF LIMITED WARRANTIES

Limited warranties will be transferred to a subsequent purchaser of the boat if:

(1) A notice of the transfer of ownership of the boat is given by the subsequent purchaser in writing to Hunter within thirty (30) days of the transfer.

(2) The notice shall include the name, address and telephone number of the subsequent purchaser,

the date of purchase, the hull number and the name of the seller of the boat.

Hunter will mail to the subsequent purchaser notice of the expiration dates of the limited warranties. The transfer of the ownership of the boat will not extend the expiration dates of the limited warranties.

HUNTER MARINE LIMITED WARRANTY

EPOXY BARRIER COAT

Should a customer wish to have an epoxy barrier coat applied to his hull, example Interlux Interprotect 1000, 2000 or West Systems or Vc Tar, this will not void the Five Year Blister Warranty.

Hunter Marine refers to epoxy barrier coatings as mentioned above, not epoxy primer paints.

If an epoxy barrier coat is applied to a Hunter vessel, it must be registered with the Warranty Department prior to application of the product. If the dealer applies bottom paint only, sanding will not be allowed and the no sanding system must be used.

CUSTOMER SATISFACTION SURVEYS

During the first year of ownership, the first purchaser will receive two Customer Satisfaction Surveys - the first (CSS#1) will be received shortly after taking delivery and focuses on the dealer's ability to sell and commission the boat, and the Owner's initial satisfaction. The second survey (CSS#2), nine to ten

months into ownership, "measures" dealer service capability and allows the owner to evaluate most of the boat's functional systems and characteristics. Both surveys are dependent upon receipt of the first purchaser's Warranty Registration Form.

HUNTER MARINE'S OWNER AND FOUNDER

WARREN R. LUHRS

BRIEF HISTORY

Born in 1944 in East Orange, New Jersey, Warren R. Luhrs' ancestry goes back to his great-grandfather, Henry, who helped pioneer railroading and clipper ships in America, and to his great-uncle, John, who helped build the famous St. Petersburg-to-Moscow railroad for Czar Alexander II.

Henry Luhrs owned shares in twenty-two different ocean-going vessels - barks, brigs and schooners - and was principal owner of the bark, *Sophia R. Luhrs*, named after his wife. He was also a partner with Albert Sprout, who managed a shipyard in Melbridge, Maine, where the *Sophia R. Luhrs* was built.

The Luhrs' family sea tradition was carried on during the great depression by Warren Luhrs' father, Henry, who worked at a small boat manufacturer in Morgan, New Jersey, and later started his own company. When war broke out in Europe, the Coast Guard asked Henry Luhrs to repair their boats and install ice sheathing on their bows.

After World War II, Henry built 27-foot fishing boats and in 1948 began to construct custom-built pleasure craft. He then turned to skiffs and in 1952 incorporated as Henry Luhrs Sea Skiffs. He constructed lap strake sea skiffs using assembly-line techniques. Henry personally "shook down" his prototypes with family trips up the Hudson River to Lake Champlain.

The sea skiff is a class of boat which has been very popular, owing to its seaworthiness. It features a sharp bow, which reduces pounding in surf or choppy seas, and a hull whose forward section is rounded

below the water line to increase stability in rough water or a following sea. Such skiffs can either be smooth-sided or of lapstrake construction.

Henry Luhrs' basic philosophy was to emulate the late Henry Ford in building an inexpensive boat for the average man, thus enabling him to enjoy the luxury of boating. He was both designer and engineer, creating innovative and progressive new models. He designed the change in the line of the bow from straight to curved at a time when all boats were being built with the straight square effect. It is believed he was also the first designer-builder to popularize a small boat with a fly-bridge.

In 1960, Luhrs acquired the Ulrichsen Boat Company, Marlboro, New Jersey. It was here, too, that the Luhrs' Alura fiberglass Division was located. In 1965, Henry sold his company to Bangor Arrostock Railroad, which was to become the recreational conglomerate, Bangor-Punta. It was also during this period that Silverton of Tom's River, New Jersey was purchased by John and Warren Luhrs.

Today, Warren R. Luhrs and his brother John, own Hunter Marine Corporation, Silverton Marine Corporation, Mainship Motor Yachts and Luhrs Fishing Boats with its Alura division. Hunter Marine produces sailboats while the other companies produce powerboats.

In January of 1996, Warren and John transferred a portion of the Luhrs Group to its employees through an ESOP program.

GLOSSARY OF SAILING TERMS

A

Aback: describes a sail when the wind strikes it on its lee side.

Abaft: towards the boat's stern.

Abeam: at right angles to the *center-line* of the boat.

Aft: at or near the stern.

Amidships: the center of the boat, *athwartships* and fore and aft.

Anti-fouling: a poisonous paint compound used to protect the underwater part of a hull from marine growths.

Apparent wind: the direction and speed of the wind felt by the crew. It is a combination of *true wind* and that created by the movement of the boat.

Astern: behind the boat; to go astern is to drive the boat in reverse.

Athwartships: at right angles to the fore and aft line of the boat.

B

Back: when a wind backs, it shifts anticlockwise.

Back a sail: to sheet it to windward so that the wind fills on the side that is normally to *leeward*.

Backstay: a stay that supports the mast from aft and prevents its forward movement.

Ballast: extra weight, usually lead or iron, placed low in the boat or externally on the keel to provide stability.

Ballast keel: a mass of ballast bolted to the keel to increase stability and prevent a keel boat from capsizing.

Batten: a light, flexible strip fed into a batten pocket at the *leech* of the sail to support the *roach*.

Beam: 1, the maximum breadth of a boat; 2, a transverse *member* which supports the deck; 3, on the beam means that an object is at right angles to the *center-line*.

Bear a way: to steer the boat away from the wind.

Bearing: the direction of an object from an observer, measured in degrees true or magnetic.

Beat: to sail a *zigzag course* towards the wind, *close-hauled* on alternate *tacks*.

Belay: to make fast a rope around a *cleat*, usually with a figure-of-eight knot.

Bend: 1, to secure a sail to a *spar* before hoisting; 2, to moor a boat; 3, a sleeping place on board.

Bight: a *bend* or loop in a rope.

Bilge: the lower, round part inside the hull where water collects.

Block: a pulley in a wooden or plastic cas, consisting of a *sheave* around which a rope runs. It is used to change the direction of pull.

Boot-topping: a narrow colored stripe painted between the bottom paint and the *topside* enamel.

Bottlescrew: see Rigging screw.

Broach: when a boat *running* downwind slews broadside to the wind and *heels* dangerously. It is caused by heavy following seas or helmsman's error.

Broad reach: the point of sailing between a beam *reach* and a *run*, when the wind blows over the *quarter*.

Bulkhead: partition wall in a boat normally fitted *athwartships*.

C

Caulk: to make the seams between wooden planks watertight by filling with cotton, oakum or a compound.

Cavitation: the formation of a vacuum around a propeller, causing loss in efficiency.

Center-board: a board lowered through a slot in the *keel* to reduce *leeway*.

Center-line: center of the boat in a fore and aft line.

Center of effort (COE): the point at which all the forces acting on the sails are concentrated.

Center of lateral resistance (CLR): the underwater center of pressure about which a boat pivots when changing *course*.

Chain pawl: a short lug which drops into a toothed rack to prevent the anchor chain running back.

Chain plate: a metal plate bolted to the boat to which the *shrouds* or *backstays* are attached.

Chart datum: reference level on a chart below which the tide is unlikely to fall. Soundings are given below chart datum. The datum level varies according to country and area.

Chine: the line where the bottom of the hull meets the side at an angle.

Cleat: a wooden, metal or plastic fitting around which rope is secured.

Clevis pin: a locking pin through which a split ring is passed to prevent accidental withdraw.

Clew: the after, lower corner of a sail where the foot and *leech* meet.

Close-hauled: *the point of sailing* closest to the wind; see also *beat*.

Close reach: *the point of sailing* between *close-hauled* and a beam *reach*, when the wind blows forward of the *beam*.

Close-winded: describes a boat able to sail very close to the wind.

Coamings: the raised structure surrounding a *hatch*, cockpit etc., which prevents water entering.

Cotter pin: soft, metal pin folded back on itself to form an eye.

Course: the direction in which a vessel is steered, usually given in degrees: true, magnetic or compass.

Cringle: 1, a rope loop, found at either end of a line of *reef* points; 2, an eye in a sail.

D

Dead run: running with the wind blowing exactly aft, in line with the *center-line*.

Deviation: the difference between the direction indicated by the compass needle and the magnetic *meridian*; caused by object aboard.

Displacement: 1, the weight of water displaced by a boat is equal to the weight of the boat; 2, a displacement hull is one that displaces its own weight in water and is only supported by buoyancy, as opposed to a planing hull which can exceed its hull, or displacement, speed.

Downhaul: a rope fitted to pull down a sail or spar.

Draft: the vertical distance from the *waterline* to the lowest point of the *keel*.

Drag: 1, an anchor drags when it fails to hole; 2, the force of wind on the sails, or water on the hull, which impedes the boat's progress.

Drift: 1, to float with the current or wind; 2, US the speed of a current (rate UK); 3, UK: the distance a boat is carried by a current in a given time.

GLOSSARY OF SAILING TERMS

Drogue: a sea anchor put over the stern of a boat or life raft to retard *drift*.

Drop keel: a retractable *keel* which can be drawn into the hull, when entering shallow waters and recovering on to a trailer.

E

Eye of the wind: direction from which the true wind blows.

F

Fair: well-faired line or surface is smoother with no bumps, hollows or abrupt changes in direction.

Fairlead: a fitting through which a line is run to alter the direction of the lead of the line.

Fathom: the measurement used for depths of water and lengths of rope. 1 fathom = 6 ft. = 1.83 m.

Fid: a tapered tool used for *splicing* heavy rope and for sail-making, often hollow.

Fiddle: a raised border for a cabin table, chart table etc., to prevent objects falling off when the boat *heels*.

Fix: the position of the vessel as plotted from two or more *position lines*.

Forestay: the foremost stay, running from the masthead to the stemhead, to which the headsail is hanked.

Freeboard: vertical distance between the *waterline* and the top of the deck.

G

Genoa: a large headsail, in various sizes, which overlaps the mainsail and is hoisted in light to fresh winds on all *points of sailing*.

Gimbals: two concentric rings, pivoted at right angles which keep objects horizontal despite the boat's motion, e.g. compass and cooker.

Go about: to turn the boat through the *eye of the wind* to change *tack*.

Gooseneck: the fitting attaching the boom to the mast, allowing it to move in all directions.

Goosewing: to boom-out the headsail to *windward* on a *run* by using a *whisker pole* to hold the sail on the opposite side to the mainsail.

Ground tackle: general term used for anchoring gear.

Guard rail: a metal rail fitted around the boat to prevent the crew falling overboard.

Gudgeon: a rudder fitting. It is the eye into which the *pintle* fits.

Guy: a steadying rope for a spar; a spinnaker guy controls the fore and aft position of the spinnaker pole; the foreguy holds the spinnaker pole forward and *gown*.

Gybe: to change from one *tack* to another by turning the stern through the wind.

H

Halyard: rope used to hoist and lower sails.

Hank: fitting used to attach the *luff* of a sail to a stay.

Hatch: an opening in the deck giving access to the interior.

Hawse pipe: see Navel pipe.

Head-topwind: when the bows are pointing right into the wind.

Headfoil: a streamlined surround to a *forestay*, with a groove into which a headsail *luff* slides.

Heads: the toilet.

Headway: the forward movement of a boat through the water.

Heave-to: to *back* the jib and lash the tiller to *leeward*; used in heavy weather to encourage the boat to lie quietly and to reduce *headway*.

Heaving line: a light line suitable for throwing ashore.

Heel: to lean over to one side.

I

Isobars: lines on a weather map joining places of equal atmospheric pressure.

J

Jackstay: a line running fore and aft, on both sides of the boat, to which safety harnesses are clipped.

Jury: a temporary device to replace lost or damaged gear.

K

Keel: the main backbone of the boat to which a *ballast keel* is bolted or through which the *centerboard* passes.

Kicking strap: a line used to pull the boom down, to keep it horizontal, particularly on a *reach* or *run*.

L

Lanyard: a short line attached to one object, such as a knife, with which it is secured to another.

Leech: 1, the after edge of a triangular sail; 2, both side edges of a square sail.

Leehelm: the tendency of a boat to *bear away* from the wind.

Lee shore: a shore on to which the wind is blowing.

Leeward: away from the wind; the direction to which the wind blows.

Leeway: the sideways movement of a boat off its *course* as a result of the wind blowing on one side of the sails.

Lifeline: a wire or rope rigged around the deck to prevent the crew falling overboard.

Limber holes: gaps left at the lower end of frames above the *keel* to allow water to drain to the lowest point of the *bilges*.

List: a boat's more or less permanent lean to one side, owing to the improper distribution of weight, e.g., *ballast* or water.

Log: 1, an instrument for measuring a boat's speed and distance travelled through the water; 2, to record in a book the details of a voyage, usually distances covered and weather.

Luff: the forward edge of a sail. To luff up is to turn the boat's head right into the wind.

Luff groove: a groove in a wooden or metal spar into which the *luff* of the headsail is fed.

Lurch: the sudden roll of a boat.

M

Marlin spike: a pointed steel or wooden spike used to open up the strands of rope or wire then *splicing*.

Mast Step: the socket in which the base of the mast is located.

Measured mile: a distance of one nautical mile measured between buoys or *transits/ranges* ashore, and marked on the chart.

Member: a part of the skeleton of the hull, such as a *stringer* laminated into a fiberglass hull to strengthen it.

GLOSSARY OF SAILING TERMS

Meridian: an imaginary line encircling the Earth which passes through the poles and cuts at right angles through the Equator. All lines of longitude are meridians.

Mizzen: 1, the shorter, after-mast on a *ketch* or *yawl*; 2, the fore and aft sail set on this mast.

N

Navel pipe: a metal pipe in the foredeck through which the anchor chain passes to the locker below.

Noon sight: a vessel's latitude can be found, using a sextant, when a heavenly body on the observer's *meridian* is at its greatest altitude. The sight of the sun at noon is the one most frequently taken.

O

Off the wind: with the *sheets* slacked off, not *close-hauled*.

One the wind: *close hauled*.

Outhaul: a rope used to pull out the foot of a sail.

Overall length (LOA): the boat's extreme length, measured from the foremost part of the bow to the aftermost part of the stern, excluding bowsprit, self-steering gear etc.

P

Painter: the bow line by which a dinghy, or *tender*, is towed or made fast.

Pintle: a rudder fitting with a long pin which slips into the *gudgeon* to form a hinged pivot for the rudder.

Pitch: 1, the up and down motion of the bows of a boat plunging over the waves; 2, the angle of the propeller blades.

Point of sailing: the different angles from the wind on which a boat may sail; the boat's *course* relative to the direction of the wind.

Port: the left-hand side of a boat, looking forward (opp. of *starboard*).

Port tack: a boat is on a port tack when the wind strikes the port side first and the mainsail is out to *starboard*. A boat on the port tack gives way to a boat on a *starboard tack*.

Position line/line of position: a line drawn on a chart, as a result of taking a bearing, along which the boat's position must i.e.. Two position lines give a *fix*.

Pulpit: a metal *guard rail* fitted at the bows of a boat to provide safety for the crew.

Pushpit: a metal *guard rail* fitted at the stern.

Q

Quarter: the portion of the boat midway between the stern and the beam; on the quarter means about 45 degrees *abaft* the beam.

R

Rake: the fore and aft deviation from the perpendicular of a mast or other feature of a boat.

Range: 1, see **Transit**; 2, of tides, the difference between the high and low water levels of a *tide*; 3, the distance at which a light can be seen.

Rating: a method of measuring certain dimensions of a yacht to enable it to take part in handicap races.

Reach: to sail with the wind approximately on the *beam*; all sailing points between running and *close-hauled*.

Reef: to reduce the sail area by folding or rolling surplus material on the boom or *forestay*.

Reefing pennant: strong line with which the *luff* or leech *cringle* is pulled down to the *boom* when reefing.

Rhumb line: a line cutting all *meridians* at the same angle; the *course* followed by a boat sailing in a fixed direction.

Riding light to anchor light: an all-round white light, usually hoisted on the *forestay*, to show that a boat under 50 ft. (15m) is at anchor. It must be visible for 2 mls. (3km).

Rigging screw: a deck fitting with which the tension of *standing rigging*, e.g. *stays*, *shrouds*, is adjusted.

Roach: the curved part of the *leech* of a sail which extends beyond the direct line from head to *clew*.

Run: to sail with the wind *aft* and with the *sheets* eased well out.

Running rigging: all the moving lines, such as *sheets* and *halyards*, used in the *setting* and *trimming* of sails.

S

Scope: the length of rope or cable paid out when *mor* anchoring.

Scuppers: holes in the *toe rail* which allow water to drain off the deck.

Seacock: a valve which shuts off an underwater inlet or outlet passing through the hull.

Seize: to bind two ropes together, or a rope to a *spar*, with a light line.

Serve: to cover and protect a *splice* or part of a rope with twine bound tightly against the lay.

Serving mallet: tool with a grooved head, used when serving a tope to keep the twine at a constant and high tension.

Set: 1, to hoist a sail; 2, the way in which the sails fit; 3, the direction of tidal current or steam.

Shackle: a metal link with a removable bolt across the open end; of various shapes: D, U.

Sheave: a grooved wheel in a *block* or *spar* for a rope to run on.

Sheet: the tope attached to the *clew* of a sail or to the boom, enabling it to be controlled or *trimmed*.

Shrouds: ropes or wires, usually in pairs, led from the mast to *chain plates* at deck level to prevent the mast falling sideways; part of the *standing rigging*.

Sloop: a single-masted sailing boat with a mainsail and one head sail.

Spar: a general term for any wood or metal pole, e.g., mast or boom, used to carry or give shape to sails.

Spindrift: spray blown along the surface of the sea.

Spinnaker: a large, light, balloon-shaped sail set when *reaching* or *running*.

Splice: to join ropes or wires by unlaying the strands and interweaving them.

Split pin: see **Cotter pin**.

Spreaders: horizontal struts attached to the mast, which extend to the *shrouds* and help to support the mast.

Stall: a sail stalls when the airflow over it breaks up, causing the boat to lose way.

Stanchion: upright metal post bolted to the deck to support *guard rails* or *life-lines*.

Standing part: the part of a line not used when making a knot; the part of a rope which is made fast, or around which the knot is tied.

Standing rigging: the *shrouds* and *stays* which are permanently set up and support the masts.

GLOSSARY OF SAILING TERMS

Starboard: right-hand side of a boat looking forward (opp. of *port*).

Starboard tack: a boat is on the starboard tack when the wind strikes the starboard side first and the boom is out to *port*.

Stay: wire or rope which supports the mast in a fore and aft direction; part of the *standing rigging*.

Steerage way: a boat has steerage way when it has sufficient speed to allow it to be steered, or to answer the helm.

Stem: the timber at the bow, from the *keel* upwards, to which the planking is attached.

Sternway: the backward, stern-first movement of a boat.

Stringer: a fore and aft *member*, fitted to strengthen the frames.

T

Tack: 1, the lower forward corner of a sail; 2, to turn the boat through the wind so that it blows on the opposite side of the sails.

Tacking: working to windward by sailing *close-hauled* on alternate *courses* so that the wind is first on one side of the boat, then on the other.

Tack pennant: a length of wire with an eye in each end, used to raise the tack of a headsail some distance off the deck.

Tackle: a purchase system comprising of rope and *blocks* which is used to gain mechanical advantage.

Tang: a strong metal fitting by which *standing rigging* is attached to the mast or other spar.

Tender of dinghy: a small boat used to ferry stores and people to a yacht.

Terminal fitting: fitting at the end of a wire rope by which a *shroud* or *stay* can be attached to the mast, a *tang* or a *rigging screw/turnbuckle*.

Tide: the vertical rise and fall of the oceans, caused principally by the gravitational attraction of the moon.

Toe rail: a low strip of metal or moulding running around the edge of the deck.

Topping lift: a line from the masthead to a *spar*, normally the boom, which is used to raise it.

Topsides: the part of a boat's hull which is above the *waterline*.

Track: 1, the *course* a boat has made good; 2, a fitting on the mast or boom into which the slides on a sail fit; 3, a fitting along which a *traveller* runs; used to alter the tension of the *sheets*.

Transit: two fixed objects are in transit when seen in line; two transits give position *fix*.

Traveller: 1, a ring or hoop which can be hauled along a *spar*; 2, a fitting which slides in a *track* and is used to alter the angle of the *sheets*.

Trim: 1, to adjust the angle of the sails, by means of *sheets*, so that they work most efficiently; 2, to adjust the boat's load, and thus the fore and aft angle at which it floats.

True wind: the direction and speed of the wind felt when stationary, at anchor or on land.

Turnbuckle: see *Rigging screw*.

U

Under way: a boat is under way when it is not made fast to the shore, at anchor or aground.

Uphaul: a line used to raise something vertically, e.g., the spinnaker pole.

V

Veer: 1, the wind veers when it shifts in a clockwise direction; 2, to pay out anchor cable or rope in a gradual, controlled way.

W

Wake: the disturbed water left *astern* of a boat.

Waterline: the line along the hull at which a boat floats.

Waterline length (WL): the length of a boat from *stem* to *stern* at the *waterline*. It governs the maximum speed of a *displacement hull* and affects a boat's *rating*.

Weather helm: (opp. of *lee helm*).

Weather side: the side of a boat on which the wind is blowing.

Wetted surface: the area of the hull under water.

Whisker pole: a light pole used to hold out the *clew* of a headsail when *running*.

Winch: a mechanical device, consisting usually of a metal drum turned by a handle, around which a line is wound to give the crew more purchasing power when hauling taut a line, e.g., a *jib sheet*.

Windage: those parts of a boat which increase *drag*, e.g., *rigging*, *spars*, crew, etc.

Windlass: a *winch* with a horizontal shaft and a vertical handle, used to haul up the anchor chain.

Windward: the direction from which the wind blows; towards the wind (opp. of *leeward*).

Y

Yawl: a two masted boat with a *mizzen* stepped *aft* of the rudder stock/post.

EXPLANATION OF SAFETY PRECAUTIONS

This book contains safety precautions which must be observed when operating or servicing your boat. Review and understand these instructions.



DANGER

Denotes an extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not taken.



WARNING

Denotes a hazard exists which can result in injury or death if proper precautions are not taken.



CAUTION

Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.

SAFE BOATING TIPS

BE PREPARED

Take a safe boating course. In the U.S., contact your local Coast Guard office for information. Outside the U.S., contact your local Boating Industry for details.

Carry all safety equipment required by the laws that apply to your area. Requirements are generally available from the Coast Guard or your local Boating Industry.



WARNING

As the owner of the craft, obtaining and maintaining necessary safety equipment is your responsibility. For more information about equipment required, contact your local boating authorities.

MINIMUM RECOMMENDED SAFETY EQUIPMENT

- Required life saving equipment including life vests and throwables
- Required fire extinguishing equipment
- First Aid kit
- Emergency Position Indicating Radio Beacon (EPIRB)
- Manual bailing device
- Anchor with sufficient line and/or chain
- Flashlight with good batteries
- Binoculars
- VHF radio
- Navigational charts for the appropriate areas
- Flares
- Fog bell
- Noise emitting device
- Radar reflector
- Sufficient food and water provisions
- Auxiliary starting battery
- Spare fuses and bulbs
- Sunglasses and sunblock
- Blanket

The required safety equipment you must have on board may vary by region or body of water. Therefore, please check with the local boating authorities prior to leaving on your trip for a safety examination.

LIFE JACKETS

A life jacket may save your life, but only if you wear it. Keep jackets in a readily accessible place — not in a closed compartment or stored under other gear. Remove them from their packaging, if so provided. In addition, throwable floatation devices must be immediately available for use.



WARNING

LIFE SAVING HAZARD: It is especially important that children, handicapped people and non-swimmers wear a life jacket at all times. Children and non-swimmers need special instruction in the use of life jackets.

FIRE EXTINGUISHERS

Approved fire extinguishers are required on most boats, therefore check with your local authorities. All passengers should know the location and operating procedure of each fire extinguisher. Fire ex-

tinguishers are normally classified according to fire type. Be familiar with what type of fire extinguishers are on board.

SAFE BOATING TIPS

FLARES

Most boats operating on coastal waters are required to carry approved visual distress signals, therefore check with your local authorities as to which type are required.



WARNING

FIRE/EXPLOSION HAZARD; Pyrotechnic signaling devices can cause injury and property damage if not handled properly. Follow manufacturer's directions regarding the proper use of signaling devices.

DRUGS AND BOATING

Do not drink alcohol while boating. The combination of noise, sun, wind and motion all combine to produce fatigue on the water. The effects of alcohol are greater on the water than on land.



WARNING

IMPAIRED OPERATION HAZARD; Operating any boat while intoxicated or under the influence of other drugs is both dangerous and illegal. Impaired vision or judgment on the water may lead to accidents and personal injury.

BEFORE GETTING UNDERWAY

- Leave a Float Plan (example included).
- Perform a Pre-Departure Checklist (example included).
- Check the weather. Do not venture out if the weather is, or will be, threatening.

WHILE UNDERWAY

- Keep a good lookout. This is especially true of sailboats. Keep a watch to leeward under the headsail. Keep away from swimmers, divers, and skiers.
- Know and obey local boating laws.
- Respect bad weather, and be prepared for quickly changing conditions.



WARNING

COLLISION HAZARD; Use extra caution in shallow water or where underwater/floating objects may be present. Hitting an object at speed or severe angle can seriously injure people and damage your boat.

PRE-DEPARTURE CHECKLIST

- Check bilge for excess water
- Check weather conditions and tides**
- Check food supply
- Foul weather gear
- Linen, sleeping bags
- Fuel
- Water
- Sunscreens and sunglasses
- Tools
- Docking and anchor gear
- Check radio operations
- Navigation charts and instruments
- Float plans to a friend or Coast Guard** (*See next page*)
- Fuel for stove
- Cooking and eating utensils
- Check battery water level
- Oil level, tight Vp-belts
- Check for loose electrical connections in engine compartment
- Secure tools or any loose equipment in engine compartment so as not to get fouled in engine
- AC systems off; electrical cord stowed
- Doors and drawers secured
- Check steering lock to lock
- Check mast for rigging irregularities and tightness
- Halyards and sheets are clear and ready to run
- No lines or other obstructions near the propeller or bow
- Anchor ready to run
- Check lifelines for tightness
- Turn on fuel and water lines
- Stow all loose gear
- Open engine cooling water intake thru-hull valve

FLOAT PLAN

1. Name of person reporting and telephone number:

2. Description of boat:

NAME		TYPE
MAKE	LENGTH	REGISTRATION #
HULL COLOR	STRIPE COLOR	DECK COLOR
OTHER DISTINGUISHING MARKS		

3. Persons aboard:

NUMBER

NAME	AGE	PHONE #
ADDRESS		
NAME	AGE	PHONE #
ADDRESS		
NAME	AGE	PHONE #
ADDRESS		

4. Engine:

TYPE

H.P.

FUEL CAPACITY

5. Safety Equipment:

PFDs
 Food

Flares
 Water

Mirror
 EPIRB

Flashlight
 Raft/Dinghy

6. Radio:

TYPE

FREQUENCIES

7. Trip Expectations:

DEPARTING AT (APPROX. TIME)	ON (DATE)	FROM (LOCATION)
GOING TO (LOCATION)	RETURNING (DATE)	IN NO EVENT LATER THAN (TIME & DATE)

8. Automobile:

LICENSE #

STATE

MAKE

COLOR

PARKED AT

9. If not returned by _____, call the Coast Guard or:

at: _____

AFTER SAILING CHECKLIST

When leaving your Hunter at the dock for more than a short time, it is a good idea to review the following checklist to make sure everything is in order.

This will help protect the various parts of your boat and add considerably to their attractiveness and usable life.

- Flake or furl mainsail and cover, or remove and bag.
- Remove and stow all portable deck hardware such as snatch blocks, winch handles, etc.
- Secure the boom to the topping lift and set it firmly amidships with the mainsheet purchase. (It is also a good idea to rig a line from the steering wheel or tiller to a convenience cleat to keep the rudder from swinging back and forth with the motion of the water or employ the wheel brake if so equipped.
- Attach the shackle ends of all halyards to convenient fittings and take up slack. Find a location leading away from the mast to keep the halyard from slapping the mast.
- Coil and stow all lines in line lockers
- Cover the winches and steering pedestal when leaving the boat for several days or more.
- Close all fuel lines and seacocks.
- Switch off the electrical system.
- Pump out the bilge.
- Check air vents, secure ports and hatches, swab the deck, and clean deck stainless, particularly if you have operated in saltwater.
- Make a final check of mooring lines, chafing gear, fenders, etc.

SAFE BOATING TIPS

DOCKING

Docking your boat should be handled carefully to avoid potential damage. Under normal wind and water conditions, the following considerations should be made:

1. Whenever possible, your approach should be made against the prevailing wind and current to assist in stopping the boat. Where these conditions are contrary, the strongest should be used to determine approach.

2. Approaching the dock: Dock lines and fenders should be at ready, loose gear stowed and decks cleared. Determine the direction of wind and current, and, once you decide which side of the boat will be against the dock, rig dock lines and fenders

on the appropriate side. One dock line should be attached to the bow cleat, another to the stem cleat opposite the side that will lie against the dock. *NOTE: If the boat is to lie against a piling, rig a fender board across two or more fenders.*

3. Tying up: Attach bow and stern lines to dock, hauling boat in with fenders against dock. Rig crossing spring lines to limit motion forward and aft. Be sure to allow some slack in all lines to compensate for tidal activity if present. Never use bow rail, stern rail or stanchions to secure vessel, even for brief periods. For other types of moorings, or for abnormal wind or water conditions, consult your *Chapman's* or other approved boating guide.

ANCHORING

Your Hunter comes with an on-deck anchor well and a Danforth type anchor as standard equipment. The anchor is selected to suit the size and weight of your boat under normal anchoring conditions, and provides its best holding characteristic in muddy or sandy bottoms.

When anchoring, pay particular attention to the scope of your anchor rode (i.e., the relationship between the depth of the water and the length of the rode). A good rule of thumb is to allow a scope of about 7:1 (a rode seven times as long as the vertical distance from the bow to the bottom). A helpful aid is to mark the rode every 20 feet or so with knots or other types of indicators. Before dropping anchor, make sure the bitter end is secured to the cleat in the anchor well.

Also, be sure to consider wind direction, currents, mean low tide depths and other local conditions when anchoring, as well as the positions of any boats already anchored nearby.



CAUTION

Anchoring in unusual water and/or weather conditions will require additional precautions. Consult your *Chapman's* or other approved guide for suggestions.

To weigh anchor, motor or sail (under main only) forward slowly. When at a point directly above the anchor, a quick tug should free it from the bottom. Take care not to damage the topsides when hauling.

SAFE BOATING TIPS

DIESEL ENGINE

An engine owner's manual is supplied with your boat and should be read thoroughly. The manual contains technical specifications, running instructions and a maintenance schedule on lubricants and fluids. For long engine life, follow routine maintenance schedules.

You should check engine oil, transmission fluid and coolant levels. Water, rust, scale and dirt will cause serious damage to the injectors on diesel engines. You should check your filters frequently and change when necessary. Check fuel line connections for proper tightness.

WARNING

EXPLOSION/FIRE HAZARD - Fuel system connections that are too loose or too tight can leak, resulting in fuel loss, environmental pollution and explosion/fire hazard.

FUELING YOUR DIESEL ENGINE

WARNING

EXPLOSION/FIRE HAZARD

- Store flammable material in safety-approved containers. Keep containers in a locker designed by the boat manufacturer for that purpose. Never store flammable material in a non-vented space.
- Observe "No-Smoking" while fueling.
- Run exhaust blower at least 4 minutes before starting engine. Check bilge and engine compartment for fumes.
- Keep ventilation system free of obstructions. Never modify the vent system.
- Fill less than rated capacity of tank. Allow for fuel expansion.
- If fuel enters bilge, do not start engine. Determine cause and severity. Contact a knowledgeable marine service to remove fuel. Do not pump bilge overboard. Contact Coast Guard for additional advice. (See *Environmental Considerations - Fuel & Oil Spillage*.)
- Inspect fuel system regularly for leaks.

DANGER

EXTREME HAZARD: Carbon monoxide gas (CO) is colorless, odorless and extremely dangerous. All engines and fuel burning appliances produce CO as exhaust. Direct and prolonged exposure to CO will cause **BRAIN DAMAGE** or **DEATH**. Signs of exposure to CO include nausea, dizziness and drowsiness. Refer to **BOATING SAFETY** for more information.

When you start your engine, run it a minimum of 15 minutes to bring it up to operating temperature. This insures that any condensation is evaporated. Your engine should "run-out" at 3/4 throttle at least once a month to clean out carbon buildup and moisture.

CAUTION

Follow engine manufacturer's recommendations for types of fuel and oil. Use of improper products can damage the engine and void the warranty.

Notice: Use fresh fuel. Fuel that has been in a tank too long can form gum and varnish, which may affect performance.

Inspect diesel fuel filters regularly. Diesel fuel must be kept as clean as possible.

SAFE BOATING TIPS

STARTING YOUR DIESEL ENGINE

1. Visually check engine compartment to see that the throttle linkage, shifting controls, electrical connections and fuel lines are properly secured.
2. *Before each start* check oil in engine and transmission.
3. Insure that engine shut-off cable is properly secured and operating.
4. Place the shift lever in the neutral position. Pull out the button beside the shift lever to disengage the shift. On single lever controls, lift the collar under the shift lever knob and move the lever forward to advance the throttle for neutral warm-up.
5. Insert the starter key and turn to the "on" position.
6. Press the starter button and hold until engine starts, then release. The buzzer and/or light should then go off. **Press the starter button no longer than 5 seconds continuously.**
7. Allow cold engine to warm up a minimum of five minutes.
8. When warm-up is completed, return the hand le-

ver to neutral position, and push the button back in to re-engage the shift. The shift is ready for shift and throttle operation.

9. Check that the lube oil pressure warning light and the charge lamp go off. If any of the warning lamps do not go off above 1,000 rpm, the engine is malfunctioning and should be stopped immediately. Consult your nearest engine dealer.

NOTE: To stop engine at any time, pull "engine stop" lever all the way out.



CAUTION

Follow engine manufacturer's recommendations for types of fuel and oil. Use of improper products can damage the engine and void the warranty.

MOTORIZING YOUR DIESEL ENGINE

Upon departure, remember to unplug the shorepower. When the engine is warm, but prior to releasing the dock lines, move the shift lever to forward and to reverse to insure that it engages properly. To increase RPMs, push throttle lever forward and pull back to decrease RPMs.

IMPORTANT: When sailing, it is best to start the engine before the sails are lowered. This way, it is still possible to maneuver if the engine should not start.



CAUTION

Your rigging will conduct electricity. Always check for overhead high tension wires before proceeding. Once clear, you may increase your speed in a reasonable and safe manner as desired.

ELECTRICAL SYSTEM

Your Hunter is fitted with an electrical system designed for both AC and DC. While in port, you can operate any tool, appliance or other device designed to function on regular house current simply by plugging your dockside power cord into a convenient outlet on shore and turning your AC main breaker on.



WARNING

ELECTROCUTION HAZARD: If polarity is reversed, **DO NOT** use the shore power source. Immediately turn off the power source and disconnect the shore power cord. Reversed polarity is a dangerous and potentially lethal condition which may cause shock, electrocution, or death.

SAFE BOATING TIPS

ELECTRICAL SYSTEM (continued)

To minimize shock hazard, connect and disconnect cable as follows:

1. Turn off the boat's shore connection switch before connecting or disconnecting shore power cable.
2. Connect shore power cable at the boat first.
3. If polarity warning indicator is activated, immediately disconnect cable and have the fault corrected by a qualified electrician.
4. Disconnect shore power cable at shore outlet first.
5. Close inlet cover tightly.

DO NOT ALTER SHORE POWER CABLE CONNECTORS.

Storage: Your shore power cable set is intended for use outdoors. To prolong the life of the set, store indoors when not in use.

General: The metallic parts of your cable set are made to resist corrosion. In salt water environment, life of the product can be increased by periodically wiping the exposed parts with fresh water, drying and spraying with a moisture repellent.

A soiled cable can be cleaned with grease cutting household detergent. A periodic application of vinyl protector will help both ends and cable maintain their original appearance.

In case of salt water immersion, rinse plug end and/or connector end thoroughly in fresh water, shake or blow out excess water and allow to dry. Spray with a moisture repellent before re-use.

WARNING

Do not allow your dockside power cord to come in contact with the water. Never operate any AC power tool or other electrical equipment while you or the device are in contact with the water, as this may cause electrocution resulting in shock or death.

When leaving port, disconnect the dockside power cord and turn the main DC breaker on. This allows

you to use the ship's lights and other equipment designed to operate on direct current. Keep in mind that your DC power source is a 12-volt battery, just as with your automobile, and it must be charged regularly by operating the engine (or by running the battery charger, if you have that option installed). Unless a state of charge is maintained, there may not be enough power to operate the starter motor. Dangerous situations can result if the engine cannot be started when needed.

Make a regular visual check of batteries to insure proper water level and inspect terminals for signs of corrosion. If your boat sits for long periods without use, it is often a good idea to remove the batteries and attach them to a trickle charger to keep them fully charged and ready to use.

WARNING

EXPLOSION/FIRE HAZARD - Ensure adequate ventilation of battery to prevent buildup of gases, especially hydrogen.

WARNING

WHEN CHARGING THE BATTERY:

- Battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and get prompt medical attention, especially if your eyes are affected.
- Batteries generate hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near a battery, especially during charging.
- Charge the battery in a fully ventilated place.

SAFE BOATING TIPS

COOKING STOVE

LPG is a popular choice in cooking fuel aboard sailboats. LPG is an explosive gas however, and should be treated with great care. Please refer to the stove manual for detailed instructions.

WARNING

EXPLOSION/FIRE/ASPHYXIATION HAZARD

- Open flame cooking appliances consume oxygen. This can cause asphyxiation or death.
- Maintain open ventilation.
- Liquid fuel may ignite, causing severe burns.
- Use fuel appropriate for type of stove.
- Turn off stove burner before filling.
- Do not use stove for comfort heating.

FIRE/ASPHYXIATION HAZARD

Use special care with flames or high temperatures near urethane foam, if used in construction of your boat. Burning, welding, lights, cigarettes, space heaters and the like can ignite urethane foam. Once ignited, it burns rapidly, producing extreme heat, releasing hazardous gases and consuming much oxygen.

TOILET

IMPORTANT; When not in use, lever must be left in the “dry” position to prevent flooding.

Before using, place the lever in the “wet” position and pump slowly to partly fill and wet the inside of the bowl. Return to “dry” position.

After using, return the level to the “wet” position for flushing and pump until the bowl is thoroughly cleaned. Continue with several more full strokes to flush discharge lines. Return lever to the “dry” position and pump slowly until bowl is empty.

NOTICE:

- There is a possibility of being fined for having an operable direct overboard discharge of waste in some waters. Removing seacock handle, in closed position, or other means must be used to avoid fine.
- It is illegal for any vessel to dump plastic trash anywhere in the ocean or navigable waters of the United States.

CAUTION

Do not place facial tissue, paper towels or sanitary napkins in head. Such material can damage the waste disposal system and the environment.

SAFE BOATING TIPS

PUMPS

All pumps should be checked frequently to insure proper operation. This is an especially important regular maintenance item since functioning of a pump could save your vessel from serious damage at some future time.

Bilge pump — Inspect all hoses for chafing and dry rot. See that the hose clamps are tight. Check the the bilge pump impeller area is clean and free of obstructions. Inspect electrical wiring for corrosion. Make sure float switch moves freely and is making an electrical connection.



WARNING

SINKING HAZARD - Ensure proper bilge pump operation.



CAUTION

Run pump only as long as necessary to remove water. Running dry can damage pump motor.

WATER SYSTEM OPERATION

Fill fresh water tank at deck fill. The tank filler cap will be marked "water". When tank is full, water will back up through the vent hose and exit through a vent located on the side of the hull.

To activate the water system, flip the "water pressure" switch on the electrical panel. This will start the pump and pressurize the system. When the pressure builds, the pump will shut off. With continued use of fresh water the pressure in the system is reduced, automatically restarting the pump. Make sure there is water in the system while pump is in operation to prevent damage to the motor.

The water heater operates either on 120 or 240 volts AC or when the engine is running. To obtain hot water from the engine, it must run a minimum of one-half hour.

Pressure water pumps are the demand type. Once the circuit breaker switch is on, opening the faucet will produce water flow.

NOTE: Intermittent operation of the freshwater pump while all faucets are closed usually indicates a leak somewhere in the lines. Trace the lines to locate the leak and repair.

To operate shower, turn on hot and cold faucets until desired temperature is reached, while shower head is retracted at sink. Pull the shower head out and use. The faucets must be turned off to prevent system drainage.

Opening the faucet will allow the pump to empty the tank. Flushing the tank and lines will be necessary for winterization. Refer to Maintenance & Winterization section for more information.



CAUTION

Run pump only as long as necessary to remove water. Running dry can damage pump motor.

SAFE BOATING TIPS

WASTE DISCHARGE

The Hunter is equipped with a head waste holding tank, hose lines, and thru-hull fittings for either overboard discharge, using the standard equipped handpump, or deck pumpout at dockside. Tank levels will be indicated on the gauge located below the main electrical panel. Familiarize yourself with the

locations of the deck pumpout, overboard discharge thru-hull, and vent locations pictured in the Waste Water System section, as well as your local boating regulations concerning the overboard discharge of raw sewage.



Model 45510-1000

TWO POSITION Y-VALVE

FEATURES

- Corrosion Resistant Polyester and Stainless Construction
- Includes Stainless Steel Locking Ring to secure valve in Holding Tank position
- Ideal for Marine Sewage and Bilge Pumpout Systems
- Full Port Openings

SPECIFICATIONS

Ports:	1-1/2" ID Hose
Body Material:	Polyester
Shipping Weight:	1.1 lb (0,5 kg)
Mounting:	No. 10 Screw (4)

APPLICATION

The Jabsco Y-Valve was designed for installation in on-board sewage handling systems and bilge evacuation systems.

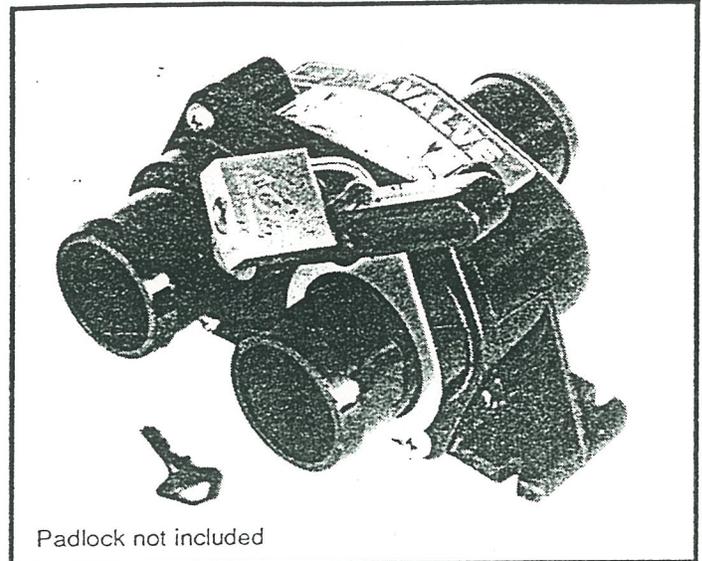
SEWERAGE SYSTEMS: Current U.S. Coast Guard Marine Sanitation Regulations allow the boat operator to discharge untreated human waste when outside the 3 mile coastal limit. When the Y-Valve is installed in the holding tank discharge line (diagram 1), it allows the operator to choose between pumpout through a deck fitting or directly through the seacock.

IT IS IMPORTANT TO NOTE THAT IT IS ILLEGAL TO DISCHARGE SEWAGE EFFLUENT THAT IS NOT TREATED TO U.S. COAST GUARD STANDARDS WITHIN THE 3 MILE COASTAL LIMIT. IT IS NOT ILLEGAL TO HAVE A SYSTEM THAT ALLOWS OVERBOARD DISCHARGE OF UNTREATED SEWAGE INSTALLED ON BOARD A BOAT AS LONG AS OVERBOARD SYSTEM IS NOT USED WITHIN THE 3 MILE COASTAL LIMIT.

Be environmentally responsible. Do not discharge waste in discharge restricted areas. Do not discharge bilge water contaminated with oil or fuel.

When the Y-Valve is installed in the marine toilet discharge line (diagram 2) it allows the operator to choose between storing the toilet discharge effluent in the holding tank, or discharging directly overboard (when legal).

BILGE SYSTEMS: For boats with 2 separate bilge areas, the Y-Valve allows the operator to pump out either bilge section with only one pump. By simply selecting the appropriate valve selector lever either of the 2 bilges can be evacuated. (Diagram 3.)



Padlock not included

Model 45510-1000

INSTALLATION

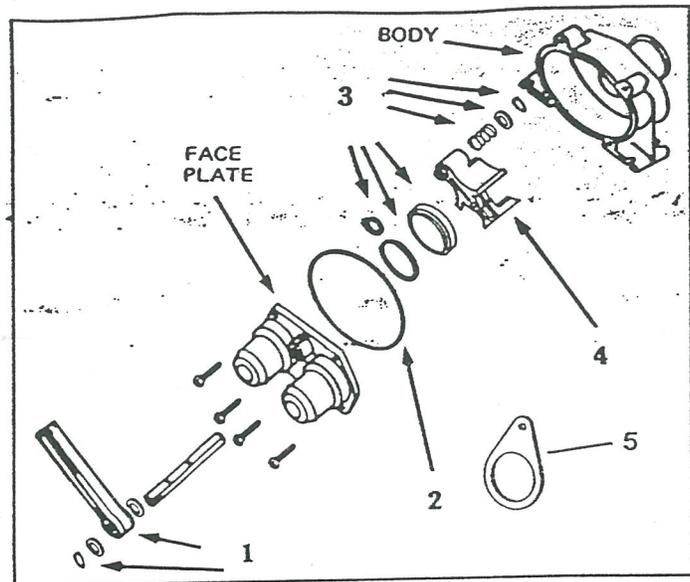
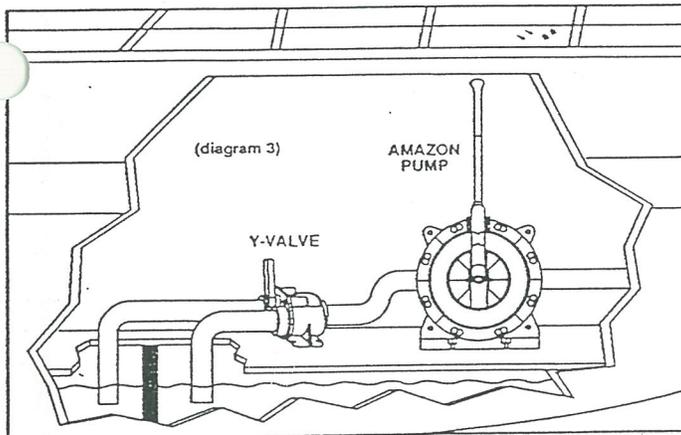
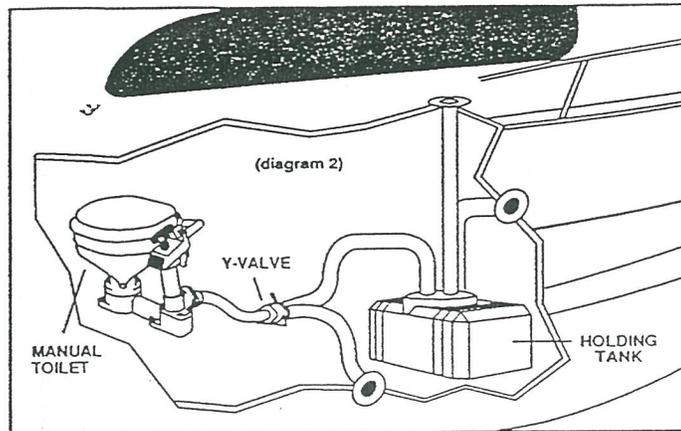
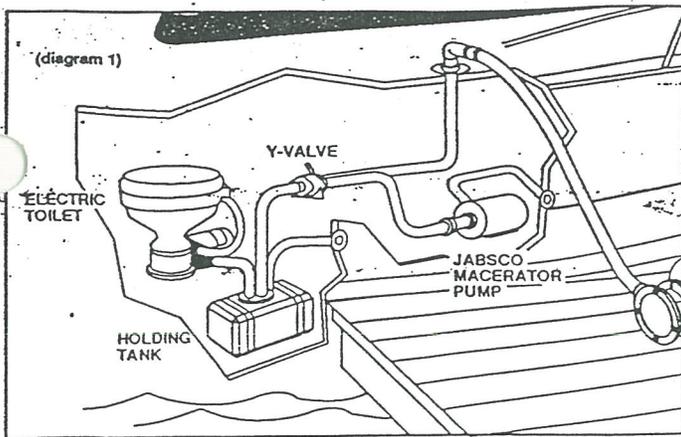
Lay out the system that the Y-Valve will be installed in so that all hoses can be installed without sharp bends, kinks or loops that trap fluids. After choosing a convenient, accessible location for the Y-Valve, be sure that there is adequate room to swing the selector lever. Mark locations for mounting screw holes. Be sure to choose a mounting location which is as flat as possible to prevent damage to the Y-Valve from mounting on uneven surfaces. Fasten the Y-Valve using #10 stainless steel fasteners. Before connecting hoses to the Y-Valve, position the selector lever locking ring on the port that is to be connected with the waste holding tank. This will allow the valve to be secured in the holding tank position with either a small padlock or wire seal when operating in no-discharge zones. Attach inlet and outlet hoses to the appropriate ports and secure with stainless steel band clamps.

It is recommended that all hoses used in waste systems should be the heavy, non-collapsible fabric reinforced hose. Vacuum cleaner type hose and vinyl hoses will collapse under the vacuum of a dockside pumpout system, or will allow sewer gas to permeate into the boat. All hoses should be double clamped with stainless steel band type clamps. Generally, sealing compounds are not necessary when making hose connections.

OPERATION

The Y-Valve is designed with a simple and positive diverter mechanism. When choosing the discharge hose system to use, simply orient the selector lever on the Y-Valve over the hose desired to be open to flow. When selecting the particular hose for flow, be sure that the lever is securely positioned against the positive stop. This will prevent bypass into the hose that has been chosen to be shut off. When fitted with a selector lever locking ring, the lever may be secured in the holding tank position by inserting a small padlock* (with 1/4" or smaller shackle) through the hole in the locking ring and the hole in the selector lever.

* padlock not included



PARTS LIST

Key	Description	Part Number	Qty.
1	Selector Lever ¹	45559-0000	1
2	O-Ring Gasket	45559-0001	1
3	Valve Seal Mechanism ²	45559-0002	1
4	Swivel Block	45559-0003	1
5	Locking Ring ³	45507-0001	1

¹ Includes Shaft Spring Retainer

² Includes Seal Disk and O-Ring, Shaft O-Ring, Shaft Spring, Shaft Snap Ring

³ To update an old style Y-Valve, order both a locking ring and selector lever-part numbers 45507-0001 and 45559-0000.

MAINTENANCE

If the Y-Valve becomes damaged or clogged with debris during service, it will be necessary to disassemble the unit. Empty all hoses and the Y-Valve of waste liquids and thoroughly flush the system with clean water. Re-flush the system with a water and bactericide mixture and flush again with clean water.

Remove all hoses from the Y-Valve and remove the Y-Valve to an area where it can be conveniently disassembled. Remove the 4 screws located on the face plate. Remove face plate and shaft/handle assembly from body. Remove all debris from the valve and inspect for damaged components.

If any parts of the shaft/handle, or port seal assembly need to be replaced, the shaft/handle assembly must be disassembled. **DO NOT REMOVE THE RETAINING RING AT THE SPRING END OF THE SHAFT.** Remove the retaining ring at the handle end of the shaft. SLIDE the handle and washers off the shaft and slide shaft and swivel block out of the bore in the face plate. Replace all damaged parts and reassemble items on the shaft. The spring must be compressed to allow the retainer ring to snap into the slot on the shaft. Reassemble the Y-Valve and reinstall in the waste system. **CHECK SYSTEM FOR LEAKS.**

THE PRODUCT DESCRIBED HEREIN IS SUBJECT TO THE JABSCO ONE YEAR LIMITED WARRANTY, WHICH IS AVAILABLE FOR YOUR INSPECTION UPON REQUEST.

ITT Jabsco

Unit of ITT Fluid Technology Corporation

U.S.A. ITT Jabsco, 1485 Dale Way, P.O. Box 2158, Costa Mesa, CA 92628-2158; Tel: (714) 545-8251; Fax: (714) 957-0609

UNITED KINGDOM
ITT Jabsco
Hoddesdon, Herts.

CANADA
ITT Fluid Products
Guelph, Ontario

JAPAN
NHK Jabsco Co., LTD
Yokohama, Kanagawa

GERMANY
Mintec. GmbH
Norderstedt

ENVIRONMENTAL CONSIDERATIONS

FUEL AND OIL SPILLAGE

The spilling of fuel or oil into our waterways contaminates the environment and is dangerous to wildlife. Never discharge or dispose of fuel or oil into the water as it is prohibited and you could be fined. Two common, accidental types of discharge are — overfilling the fuel tank, and pumping contaminated bilge water into the sea.

 **WARNING**

EXPLOSION/FIRE/POLLUTION HAZARD: Fill fuel tank to less than rated capacity. Overfilling forces fuel out the tank vents which can cause explosion, fire, or environmental pollution. Also, allow for fuel expansion.

DISCHARGE AND DISPOSAL OF WASTE

Waste means all forms of garbage, plastics, recyclables, food, wood, detergents, sewage, and even fish parts in certain waters. We recommend that you bring back everything you take out with you for proper disposal ashore.

Your marine toilet holding tank must, in many areas, be pumped out by an approved pump-out facility, normally found at marinas.

EXHAUST EMISSIONS

Hydrocarbon exhaust emissions pollute our water and air. Keep your engine properly tuned to reduce emissions and improve performance and economy.

ANTI-FOULING PAINTS

The use of anti-fouling paints is common for boats kept in the water. Be aware of environmental regulations that may govern your paint choice. These regulations may affect which paint may be used, and also the application or removal. Contact your local boating authorities for information.

 **WARNING**

EXPLOSION/FIRE/ HAZARD: Ventilate when painting or cleaning. Ingredients may be flammable and/or explosive.

CLEANING CHEMICALS

Cleaning chemicals should be used sparingly and not discharged into waterways. Never mix cleaners and be sure to use plenty of ventilation in enclosed areas. Do not use products which contain phosphates, chlorine, solvents, non-biodegradable or petroleum based products.

Common household cleaning agents may cause hazardous reactions. Fumes can last for hours, and chemical ingredients can attack people, property and the environment.

INSTRUCTIONS FOR PREPARATION FOR BOTTOM PAINTING

WARNING!

Do not use any sanding, sandblasting or other abrasive preparation of the bottom as this will void your hull blistering warranty. More information on the warranty is available in this owner's manual.

BOTTOM PAINTING

Choose a bottom paint system that suits the environment in your area.

Follow the procedure recommended by the manufacturer of the paint, while making sure not to void

the Hunter Hull Blistering Warranty. The procedure for preparing for and painting the bottom varies between paint manufacturers, but should always include dewaxing, etching and sometimes priming of the surface.

EPOXY BARRIER COAT

Sanding of the gel-coat bottom surface will be permitted should a customer wish to have an epoxy barrier coat applied to the hull, (example Interlux Interprotect 1000, 2000, West System or VCTar). This will not void the five Year Blister Warranty.

Hunter Marine refers to epoxy barrier coatings as mentioned above, not epoxy primer paints.

If an epoxy barrier coat is applied to a Hunter vessel, it must be registered with the Warranty Depart-

ment prior to application of the product. If the dealer applies bottom paint only, sanding will not be allowed and the no sanding system must be used.



WARNING

Cleaning agents and paint ingredients may be flammable and/or explosive, or dangerous to inhale. Be sure to use adequate ventilation, and appropriate safety clothing (gloves, safety glasses, respirator, etc.).

ENGINE, TRANSMISSION and DRIVETRAIN

ENGINE

Follow the fuel and lubrication requirements in the Engine Manual. Check the engine oil level before and after operation and use quality motor oil (refer to Engine Manual). Be certain the proper amount of oil is in the crankcase at all times.

Engine Alignment: The engine should be aligned by experienced marine service personnel. Final alignment should be done after launching, with all normal gear aboard. A description of the procedure follows:

The coupling flanges must come together evenly at all points, a feeler gauge is used to check the gap. If adjustment is necessary, the engine is tilted up or down and/or side to side until the flanges meet equally. Severe vibration will result from misalignment and can cause strut bearing and shaft damage. Alignment should be checked again after several weeks of use. Routine checks of coupling bolts are a must to ensure they are tight.

Shaft alignment:

1. Separate the coupling, move the shaft end back

to clear the pilot in the center.

2. Establish the shaft in the center of the shaft log by raising the shaft until it touches the top of the log — note position — lower the shaft until it touches bottom of the log — note position — repeat side-wise and locate shaft in the center; block shaft in this position, using a block of wood under the shaft packing gland.

3. Now, adjust the engine mounts to allow the pilot on the coupling halves to slip together without moving shaft up, down, or sideways.

4. Adjust the engine mounts as necessary until a 0.004" feeler gauge will not enter anywhere along the edge of the flange between the faces.

5. Tighten the locks on the adjustable mounts.

6. Recheck coupling with feeler, readjust if necessary.

7. Check stuffing box (allow to drip 3 to 5 drops per minute).

Any questions or problems concerning the engine, please contact the U.S. distributor, Mack Boring at (201) 964-0700, or your local Yanmar service agent.

TRANSMISSION

Follow the lubrication requirements of the Engine Manual. The oil level should be checked immediately after operation.

STUFFING BOX

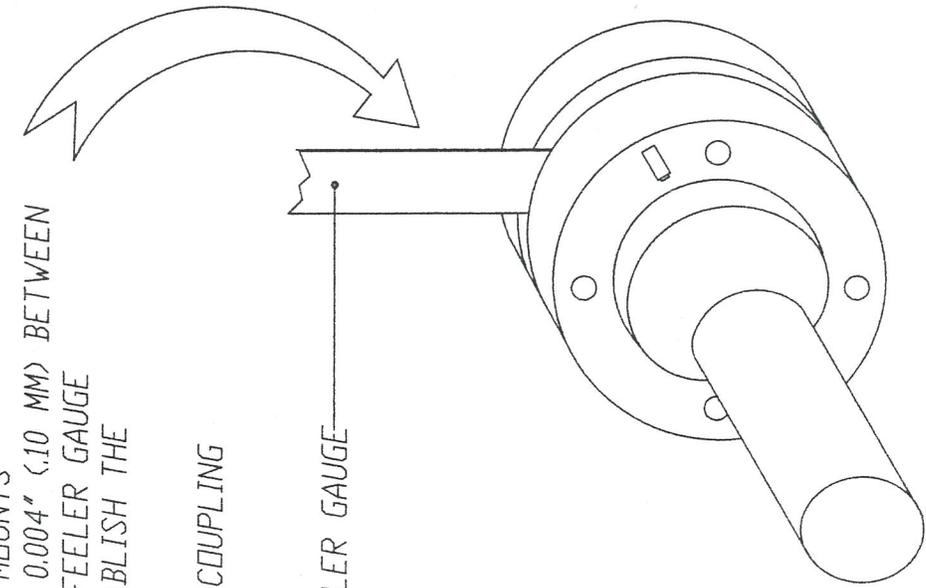
The stuffing box is held to the stern bearing by a rubber hose secured with hose clamps. (See the Shaft and Propeller section) The clamps should be tight and no water should leak from this location. While underway a slight drip from the stuffing box at the shaft exit is necessary (three to five drops a minute) and is normal.

To adjust, loosen the locknut, tighten the gland nut one quarter turn, and retighten the lock nut. If excessive water flow persists after adjustment, replace the packing with 3/16" (or 5mm) square flax packing and then adjust as above.

NOTE: Some models use a packless sealing system. Page 56 or Pages 56A, B, C reflects the type of stuffing box used on this model.

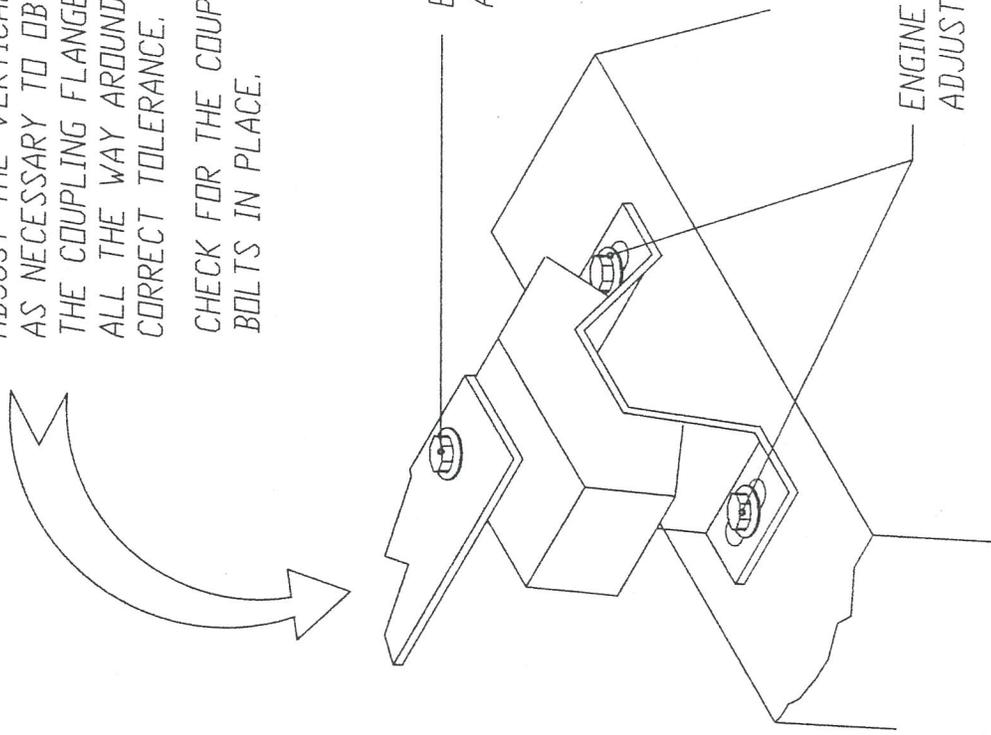
ADJUST THE VERTICAL & HORIZONTAL ENGINE MOUNTS AS NECESSARY TO OBTAIN A MAXIMUM GAP OF 0.004" (0.10 MM) BETWEEN THE COUPLING FLANGE FACES. USE A 0.004" FEELER GAUGE ALL THE WAY AROUND THE COUPLING TO ESTABLISH THE CORRECT TOLERANCE.

CHECK FOR THE COUPLING GAP WITHOUT THE COUPLING BOLTS IN PLACE.



ENGINE VERTICAL ADJUSTMENT

ENGINE HORIZONTAL ADJUSTMENT



STEERING

Refer to the manufacturer's instructions for maintaining pedestal steering system. Cables should be routinely inspected for proper tension. Lightly oil all cables.



WARNING

CONTROL HAZARD - Inspect and maintain steering system regularly. An improperly maintained system may fail, causing sudden loss of steering control, resulting in personal injury and property damage.

ELECTRICAL SYSTEMS

The electrical system is a 12-volt, negative ground installation, plus a shore power system of either 110V or 240V. The owner should inspect batteries, terminals and cables weekly for signs of corrosion, cracks, and electrolyte leakage. Battery terminals are to be kept clean and greased. Refer to separate instructions on batteries, wiring diagram, and electronics.



WARNING

SHOCK/FIRE HAZARD - Replace breaker or fuse with same amperage device. Never alter overcurrent protection.



WARNING

SHOCK/FIRE HAZARD

- Disconnect electrical system from its power source before performing maintenance. Never work on the electrical system while it is energized.
- Electrical appliances must be within the rated amperage of the boat circuits.
- Observe boat carefully while the electrical system is energized. The only electrical components which can be left unattended are the automatic bilge pump, fire protection and alarm circuits.
- Only a qualified marine electrical technician may service the boat's electrical system.



CAUTION

- Turn off engine before inspecting or servicing battery.
- Disconnect battery cables before working on electrical system to prevent arcing or damage to alternator.

COMPASSES:

A BOAT COMPASS RARELY EXISTS IN AN ENVIRONMENT THAT IS COMPLETELY FREE FROM MAGNETIC MATERIALS OR INFLUENCES.

THE COMPASS ON YOUR BOAT SHOULD BE ADJUSTED BY A CERTIFIED COMPASS ADJUSTER, AND HAVE A DEVIATION TABLE MADE FOR IT.

IF YOU MUST DEPEND SOLELY ON YOUR COMPASS FOR NAVIGATION, MAKE A QUICK CHECK FOR ANY OBJECTS NEAR THE COMPASS THAT MAY CAUSE ADDITIONAL, UNMEASURED DEVIATION. TYPICAL OBJECTS THAT MAY FALL IN THIS CATEGORY INCLUDE: KNIVES, SMALL RADIOS, FLASHLIGHTS OR OTHER TOOLS.

PLUMBING SYSTEMS

All pumps should be checked frequently to insure proper operation. This is an especially important regular maintenance item since proper functioning of a pump could save your vessel from serious damage in the future.

Inspect all hoses for chafing and deterioration. See that hose clamps are tight. Check that the pump impeller area is clean and free of obstructions.

Inspect electrical wiring for corrosion. Make sure float switches move freely and are making an electrical connection.

The owner should become familiar with the layout

of the water and waste systems by walking through the boat with the diagrams provided in this manual. It is especially important that the owner knows all thru-hull valve locations and inspects for leaks frequently. Refer to plumbing diagrams in Specifications and Technical section of this manual.

General Thru-hull List (varies from boat to boat — see diagrams in Systems and Circuits section).

- 1) Engine cooling system
- 2) Galley sink
- 3) Head sink
- 4) Head toilet (water intake)
- 5) Holding tank discharge
- 6) Scupper drains

FUEL SYSTEM

The owner should inspect the condition of fuel lines for cracks or leaks. A primary source of fuel-related problems is water in the system. The owner should use only well maintained fueling facilities and make sure fuel fill caps are tightly secured after filling. Check and maintain fuel filters periodically. Refer

to your Engine Manual for additional information. Periodically, add biocide to prevent bacteria and fungi from contaminating diesel fuel which may contain some water. Carefully follow manufacturer's instructions and clean filters regularly.

GENERAL CARE

CLEANING FIBERGLASS SURFACES:

Fiberglass surfaces should be cleaned regularly. Normal accumulations of surface dirt can be removed simply by occasional rinsings with water. If your boat is operated in salt water, more frequent rinsing will be required. To remove stubborn dirt, grease or oil, use a mild detergent and a soft brush. Rinse with clean fresh water. Avoid the plexiglass companionway slider, windshield, deck hatches and fixed ports when using a deck brush, since these surfaces can scratch.

It is a good idea to wax the fiberglass once or twice a year to maintain a deep, glossy appearance. Your

local marine supply should be able to provide an appropriate wax.



WARNING

Cleaning agents and paint ingredients may be flammable and/or explosive, or dangerous to inhale. Be sure to use adequate ventilation, and appropriate safety clothing (gloves, safety glasses, respirator, etc.).

CLEANING ACRYLIC:

Use only mild soap and water to clean acrylics. Do not use products containing solvents such as ammonia, which is found in many window cleaners.



CAUTION

Use care when cleaning acrylic. Dry cloth and many glass cleaners will scratch. Solvents will attack the surface.

GENERAL CARE (continued)

Sail Care

Sunlight is a sail's worst enemy, so **cover the main sail when not in use**. (An ultraviolet guard, fitted down the leech of a roller headsail, will protect the exposed part from the weathering effect of the sun and from dirt and grit). Mildew, which discolors, is prevented by storing sails dry and by hand washing twice a season. Check all sails regularly for chafe, particularly where they chafe on deck fittings or rigging, at reef points, batten sleeves and the foot of

the headsail. Sail batten pockets should be inspected on a regular basis.

To stow the mainsail, start at the leech and flake it on to the boom, left and right, in about 18-in. (46-cm) folds, while pulling the leech aft. Secure with a sail tie and continue to the luff. Lash to the boom with sail ties or shock cord.

FABRIC CARE

Vinyl: Clean with mild soap and water. Wipe with vinyl or upholstery cleaner monthly, and especially before and after storage.

Leather: Mild soap and water. Blot dry. Do not scrub as this will stretch and scratch. Wipe with leather cleaner/oil to preserve and help prevent cracks before and after storage.

Fabric: Blot dry. Do not machine wash. Use only mild soap and water. Wipe with a clean white cloth. If stain persists, dry clean. Be sure to treat cleaned

surfaces with Scotch Guard. Stretched or loose covers may be steam cleaned. If foam is removed they will restuff easier if wrapped with thin plastic.

Storage: Cover with airflow fabric to reduce dust built up. Do not use plastic as this will cause cushions to sweat and mildew.

Cushions: If wet, prop cushions vertically to promote airflow around each cushion. Cushions can be cleaned by most dry cleaners. **Dry clean only.**

GENERAL HARDWARE MAINTENANCE

Check all fittings regularly to be sure screws are tight. Occasionally lubricate (use silicone lubricants) all moving parts on such fittings as blocks, turnbuckles and cam cleats, as well as the locking pins of snatch blocks, track slides, spinnaker poles, etc. Inspect cleats and fairleads for roughness and smooth

with fine grained emery paper if necessary. Also, replace any missing or damaged cotter pins in turnbuckles and shackles, and either tape them or use protective covers manufactured for that purpose. Grease winches a minimum of once yearly.

MAINTENANCE

ELECTROLYSIS AND GALVANIC PROTECTION

Salt water allows electric current to flow from anodic to cathodic material. Any two metals from two components, and their relative positions in the galvanic rating table, will determine which loses material (the anode) and which remains largely undisturbed (the cathode). The rate of wear is determined by the distance apart on the galvanic table of two metals. Thus a sacrificial zinc anode is often fitted to the underwater area of a boat to attract any destructive currents away from bronze or steel propeller shafts, for example.

It is not enough to know that your boat does not suffer from electrolysis: a newcomer in the adjacent

marina berth may start a too-friendly association with metal components on it. An easy place to fit an anode is on the propeller shaft, or covering the propeller nut. The anode should not be painted because this will only defeat the purpose.

To prevent electrolysis in sea water, the difference between the voltage of two adjacent metals should not exceed 0.20V. Zinc and carbon steel, for example, used together, risk corrosion, while lead and active stainless steel are compatible. Metals with a high voltage corrode faster and need a larger area to diffuse the electrochemical reaction.

TEAK CARE

Teak wood is a high quality, extremely durable wood with a high oil content. In order to help you protect the original beauty of your teak interior, we have sealed the beauty of your interior with a 3 to 4 coat finish system of high quality Seafin Teak Oil, manufactured by *Dalys* (wood finishing products). This material is a penetrating oil that dries to a low sheen to seal and protect the wood from moisture and

weathering. It creates a durable, nonslip surface to repel water and resist wear. It won't chip, peel or blister. It reduces work and maintenance cost because it is easy to maintain and repair. With proper maintenance it will outlive urethane varnish on interior and even exterior surfaces. (Floor, bulkheads, trim wood and furniture).

MAINTENANCE

When oiled surfaces require renewing, simply wipe the surface area free of loose dirt, dust or other contaminants. Dampen a cloth with the Seafin Teak Oil

and wipe on. Let stand for 5-15 minutes, then polish dry. If your dinette table has an epoxy finish, simply clean with furniture polish.

REPAIRS

When woodwork is damaged from scrapes or abrasions that go into or thru the finish, take the following steps:

1. Take 180 to 200 grit wet/dry sand paper to smoother out rough spots.
2. Wipe clean of dust and dirt with a clean rag. Note — before applying oil, wood surface must be dry.
3. Wipe or brush on oil, allow to penetrate 5-15 minutes while surface is still wet.
4. Sand until smooth with a 400A wet/dry sandpaper.
5. Wipe dry with a clean rag. Allow 8-12 hours drying time.

6. Apply second coat, sand, repeat above procedure.

This process may be repeated as many times as needed to bring damaged area back up to its original finish. If you have trouble with getting the same sheen, you may apply with a completely dampened/rung out cloth, a very light coat over this area and/or whole surface area to get an even sheen.

Dalys
3525 Stoneway North
Seattle, WA 98103
(206) 633-4200

STORAGE/WINTERIZATION

IMPORTANT

Winter storage is recommended to be done in one of the following three ways, either: 1) by blocking the boat via a cradle; or 2) with chained stands on level ground; or 3) by storing the boat in the water with a bubbler system to prevent icing. Damage to your boat, including engine misalignment caused by twisting, is not covered by the warranty.

SAILS

Sails should be properly folded and stowed in a dry, well ventilated place. Many sailboat owners send their sails back to the sail manufacturer at the end of each season. The sailmaker will check the stitching and sailcloth for wear and store the sails until the start of the next season.

ELECTRICAL

Remove battery from boat. (Refer to Engine Manual) and charge. It is a good idea to also remove the electronics (radio, radar, etc.) and store in a safe place.

CUSHIONS

Cushions should be removed and stored at home if possible. If not, prop them vertically to promote airflow around each cushion. *Dry Clean Only!*

HATCHES

Tenting the deck during storage will help prevent ice from forming and damaging hatches and deck fittings. The installation of a passive vent will help with ventilation while the boat is in storage.

WATER SYSTEM

Open a faucet and allow the pump to empty the tank. Then add approximately two gallons of nontoxic antifreeze solution to the tank and repeat the pumping out procedure.

A second method is to disconnect the hoses at the pump, allowing them to drain. Find the lowest point in the system and disconnect the fitting. Open all faucets to allow the lines to drain. If possible, use a short piece of hose on the faucet to blow through the lines to clear all water. A diluted solution with baking soda will help freshen the system.

WATER HEATER

Open valve and drain fully. Leave valve open during lay-up time.

TOILET AND HOLDING TANK

Drain and flush toilet. Using non toxic antifreeze in a 50/50 mixture with water, pump through toilet and into holding tank.

OUTBOARD ENGINE

Take it home and store it in a safe place. Be very careful storing the gas tank as the gasoline is very flammable. Refer to "Engine Manual" for specific maintenance schedule.

INBOARD ENGINE

Winterizing Fresh Water Cooled Diesel Engines

Step

1. Drain crankcase and transmission and refill with fresh lubricant as specified in owner's manual. Change oil filters.
2. Drain and clean all fuel filters and change elements, gaskets and seals. Bleed all air from fuel systems.
3. Start engine and bring up to operating temperature. Slowly remove the radiator cap on expansion tank. Using an antifreeze hydrometer, check the antifreeze for proper protection (add antifreeze to lower the freezing point of the antifreeze solution). If the antifreeze solution is dirty, more than 2 years old, or weak it should be completely drained and replaced with proper mixture of permanent antifreeze and water.
4. Close the sea cock, remove the raw water pick up hose from the raw water pump and immerse one end into a 5 gallon bucket of antifreeze solution. Start engine and run till antifreeze solution comes out exhaust stack or until bucket is empty. Attach the raw water pick up hose to the raw water pump. Tighten all clamps. **Note: This procedure bypasses the sea strainer to prevent antifreeze from crystallizing sea strainer which warranty will not cover.**
5. Loosen water pump and alternator belts to lessen tension on belts during winter.
6. For engines equipped with a hand crank - pull compression release levers and turn engine slowly with the hand crank. Slowly pour about 2 ounces of engine oil into the intake pipe or manifold while hand cranking the engine. This will allow for a thin coat of oil on the valves

STORAGE/WINTERIZATION (continued)

and upper cylinder. **DO NOT USE** the starter to turn engine or serious engine damage may result.

7. Tape the openings of the intake and exhaust manifolds with duck tape to help prevent corrosion of the upper cylinder during lay up.

8. Scrape all rust or corrosion from exposed metal parts and surfaces. Scrub all metal surfaces with detergent and rinse thoroughly. Paint any bare metal.

9. Place a dust cover over engine. Do not leave the engine exposed to rain and sea breeze.

10. Disconnect the battery cables, remove the battery from the boat. Clean the terminal ends and battery with a solution of baking soda and water, rinse thoroughly with clean water. Apply a light coat of grease on the terminal end of the battery and cables. Store the battery in a cool dry place. Use a trickle charger to keep battery charged. Do not charge battery near any open flame or in a confined area.

CAUTION: Wear safety goggles and rubber gloves to protect your eyes and skin.

Winterizing Raw Water Cooled Diesel Engines

Step

1. Drain crankcase and transmission and refill with fresh oil as specified in owner's manual. Change oil filters.

2. Close sea cock, remove raw water pick up hose from water pump, attach a 4-foot length of hose to water pump and immerse in a 5 gallon bucket of antifreeze solution. Remove hose from engine or manifold that leads to exhaust elbow. Attach about a 4-foot length of hose and immerse one end in the bucket of antifreeze solution. Start engine and run until water begins to warm up (about 3 to 5 min.) and thermostat opens. Stop engine. Replace hose that leads to exhaust elbow. Start engine and let run till water comes out exhaust pipe. Stop engine, remove hose from water pump to bucket, attach hose from sea cock to water pump and tighten all hose clamps. **Note: This procedure bypasses the sea strainer to prevent antifreeze from crystallizing sea strainer, which warranty will not cover.**

3. Loosen water pump and alternator to lessen tensions on belts during winter.

4. Drain and clean all fuel filters and change elements, gaskets and seals. Bleed all air from fuel systems.

5. Pull compression release lever and turn engine slowly with hand crank. Slowly pour about 2 ounces of engine oil into the intake pipe or manifold while engine is turning. **DO NOT USE** the starter to turn engine or serious engine damage may result.

6. Tape the openings of the intake and exhaust manifolds with duck tape to help prevent corrosion of the upper

cylinder during lay up.

7. Scrape all rust or corrosion from exposed metal parts and surfaces. Scrub all metal surfaces with detergent and rinse thoroughly. Paint any bare metal.

8. Place a dust cover over engine. Do not leave the engine exposed to rain and sea breeze.

9. Disconnect the battery cables, remove the battery from the boat. Clean the terminal ends and battery with a solution of baking soda and water, rinse thoroughly with clean water. Apply a light coat of grease on the terminal end of the battery and cables. Store the battery in a cool dry place. Use a trickle charger to keep battery charged. Do not charge battery near any open flame or in a confined area. **CAUTION: Wear safety goggles and rubber gloves to protect your eyes and skin.**

DEPARTURE FROM THE BOAT

The check list for leaving a boat unattended is very important because items overlooked often will not be remembered until you are far from the boat and corrective actions are impractical or impossible. Primary choices for this list are items relating to the safety and security of the unattended craft—turning off fuel valves, the proper settings for electrical switches, pumping out the bilge and leaving the switch on automatic (or arranging for periodic pumping out). Other departure check list items are securing ports, windows, hatches, and doors.

ROUTINE MAINTENANCE

Routine maintenance check lists should include items based on how much the boat is used (usually in terms of engine hours) and on calendar dates (weekly, monthly, or seasonal checks). Typical of the former are oil level checks and changes, and oil and fuel filter changes.

On a calendar basis the lists should note such matters as electrolyte levels in storage-batteries, pressure gauges on dry-chemical fire extinguishers, and all navigation lights. Check the operation of automatic bilge alarms or pump switches by running water into the boat. Periodically close and open sea cocks several times to ensure their free and easy operation in case they are needed in an emergency. Equipment and supplies carried on board for emergencies should be inspected for any signs of deterioration.

CERTIFICATION DETAILS

CE CERTIFIED

Your Hunter has been manufactured in the United States and has been certified by IMCI to be in compliance with the relevant parts of the Recreational Craft Directive 94/25/EC from the European Parliament. The CE mark means your craft meets or exceeds all current International Organization for Standardization (ISO) standards and directives in effect at the time of manufacture. The builder's plate (copy provided on page 35 of this manual), affixed to your boat, describes various parameters involved in the design of your boat. Please refer to it regularly when operating your boat.

Following are the Design Categories, established by the Recreation Craft Directive, which is to be considered a guideline of use application as per the Directive's criteria. This criteria is NOT established by Hunter Marine Corporation, and the category assigned is only a reference to the assigned category. The safety of the captain and crew of any vessel is not measurable by such categories, and you should not interpret these categories as an indication of your safety in such conditions. The skill of the captain and crew, together with proper preparation, appropriate safety equipment for the given conditions, and a well maintained vessel are critical to safe sailing.

CE CRAFT DESIGN CATEGORIES

Category A - "Ocean": Craft designed for extended voyages where conditions experienced may exceed wind force 8 (Beaufort Scale) and include significant wave heights of 4 m, for vessels that are largely self-sufficient.

Category B - "Offshore": Craft designed for offshore voyages where conditions up to and including wind force 8 and significant wave heights up to and including 4 m may be experienced.

Category C - "Inshore": Craft designed for voyages in coastal waters, large bays, estuaries, lakes and rivers, where conditions up to and including wind force 6 and significant wave heights up to and including 2 m may be experienced.

Category D - "Sheltered waters": Craft designed for voyages on small lakes, rivers and canals, where conditions up to and including wind force 4 and significant wave heights up to and including 0.5 m may be experienced.

For additional information, contact: International Marine Certification Institute (IMCI)
Treves Centre, rue de Treves 45
1040 Brussels, Belgium
FX: (32) 2238-7700

NMMA CERTIFIED

Your Hunter has been judged by the National Marine Manufacturers Association (NMMA) to be in compliance with the applicable federal regulations and American Boat and Yacht Council (ABYC) standard and recommended practices in effect at the time of manufacture.

For additional information, contact: National Marine Manufacturers Association
200 E. Randolph Dr., Suite 5100
Chicago, IL 60611
PH: (1) 312-946-6200 FX: (1) 312-946-0388

BUILDER'S INFORMATION PLATE

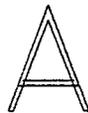
HUNTER MARINE CORPORATION

H380

HUNTER MARINE CORP.



0609



MAXIMUM

$$10 \text{ (crew)} + \text{ (luggage)} = \underline{1655\text{kg}}$$

LIGHTSHIP DISPLACEMENT = 7,351Kg (16,172Lb)

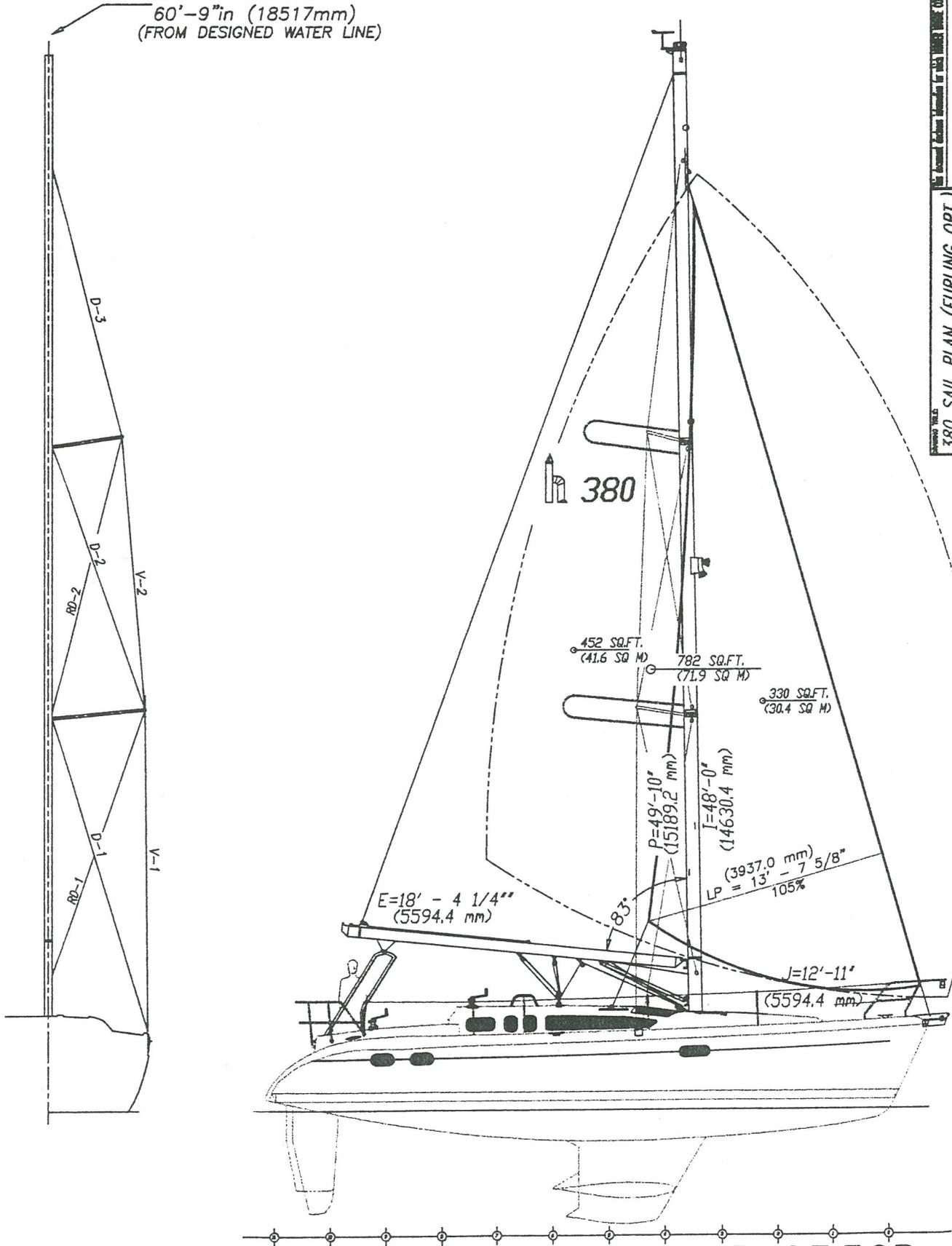
FULL LOAD DISPLACEMENT = 9,006Kg (19,813Lb)

SINK @ FULL LOAD = 78mm (3.07")

EACH HUNTER 380 MODEL WITH THE CE MARK IS AND WILL CONTINUE TO BE IDENTICAL TO THE INDIVIDUAL UNIT OF THAT MODEL WHICH WAS OFFICIALLY INSPECTED AND APPROVED

MODEL YEAR 1998

BRIDGE CLEARANCE
 60'-9" in (18517mm)
 (FROM DESIGNED WATER LINE)



HUNTER & COMPANY
 380 SAIL PLAN (FURLING OPT.)
 DRAWING NO. 3808036B
 SCALE NONE
 DATE 5/29/98
 ENGINEERING DEPT.

MENSIONS, CAPACITIES, ETC.

HUNTER 380

LENGTH OVERALL (LOA).....	37'3"	11.35m
LENGTH OF WATERLINE (LWL).....	32'0"	9.75m
BEAM (MAX).....	12'7"	3.84m
DRAFT (SHOAL/DEEP).....	5'0 (SHOAL) 6'6" (DEEP)	1.52m 1.98m
DISPLACEMENT.....	16,172 lbs.	7351 kg
BALLAST (SHOAL KEEL).....	5,400 lbs.	2449 kg
BALLAST (DEEP KEEL).....	4,700 lbs.	2131 kg
SAIL AREA (100% TRAIANGLES).....	740 sq. ft.	68.8 sq.m
SAIL AREA (ACTUAL W/STANDARD SAILS).....	811 sq. ft.	75.4 sq.m
I.....	48'0"	14.63m
J.....	12'11"	3.94m
P.....	49'1"	14.94m
E.....	15'3"	4.65m
MAST HEIGHT (FROM WATERLINE).....	60'1"	18.31m
HEADROOM.....	6'6"	1.98m
WATER CAPACITY.....	75 U.S. gal.	284 liters
HOLDING TANK CAPACITY.....	35 U S gal.	132 liters
FUEL TANK CAPACITY.....	30 US gal.	113 liters
LPG TANK CAPACITY.....	20 lbs.	9.09 kg
BATTERY CAPACITY.....	DEALER SUPPLIED	
ELECTRICAL VOLTAGES.....	12 V.D.C.	110 A.C.
INBOARD ENGINES.....	36 hp	26.8 kw
OPTIONAL GENERATOR.....		6 kw
MAXIMUM LOADING.....	10 PEOPLE	1655 kg
		(INCLUDING LUGGAGE)
LIFTING POINTS.....	INDICATED BY "SLING" LABELS ON HULL	

LOW PROFILE
COASTLINE
HATCHES →

LOW PROFILE

380 STANDARD DECK HARDWARE

No.	HARDWARE	MFG#	HUN#	QTY.
1	BOW RAIL		HW2408	1
2	STEM HEAD		307555	1
3	FWD STANCHIONS P&S		304332	2
5	AFT STANCHIONS P&S		305140	2
6	FWD GATE STANCHIONS P&S		304975	2
7	AFT GATE STANCHIONS P&S		304975	2
8	STERN RAIL P&S		306785	2
9	AFT HOUSE TOP HAND RAIL 48"		HW2440	2
10	FWD HOUSE TOP HAND RAIL		HW2440	2
11	COMPANIONWAY GRAB RAIL		HW2330	2
12	TRANSOM GRAB RAIL		HW2404	2
13	SWIM LADDER		308835	1
14	ANCHOR LOCKER CLEAT 10"		308835	1
15	BOW CLEATS 10"		308835	2
16	MID DECK CLEATS 10"		308835	2
17	STERN CLEATS 10"		HW0977	2
18	FURLING CLEATS 4"		HW0383	1
19	ANCHOR LOCKER HINGE		HW4172	2
20	EUROSEAT HINGE		HW4172	2
21	SWIM SEAT HINGE		HW4172	2
22	GULLWING SEAT HINGE		HW4172	2 EA.
23	HELMSMAN SEAT HINGE		304311	2 EA.
24	CHAINPLATES UPPERS		304533	2
25	ANCHOR LOCKER HANDLE		HW4479	2
26	STRIKER PLATES		HW2122	1
27	ANCHOR LOCKER DRAIN		PL1480	1
28	ANCH. LCKR. DRAIN THRU HULL		PL0840/50	1
29	ROPE LOCKER DRAIN		HW4055	1
30	PROPANE LOCKER DRAIN		PL0520	2
31	PROP. LCKR. DRAIN THRU HULL		PL0840/50	1
32	GULLWING SEAT BUMPERS		FM0283	1
33	SWIM SEAT BUMPERS		FM0283	4
34	HELMSMAN SEAT BUMPERS		FM0283	4
35	EUROSEAT BUMPERS		FM0283	4
36	SWIM SEAT LATCHES		HW4358	2
37	GULLWING SEAT LATCHES		HW4358	2
38	HELMSMAN SEAT LATCHES		HW4358	2
39	SWIM SEAT STRAP ASSEMBLY		HW4358	2
40	EURO SEAT STRAP ASSY.		HW2240	2
41	GULLWING SEAT STRAP ASSY.		HW2240	2
42	HELMSAN SEAT LANYARD		999999	1
43	HELMSMAN SEAT EYE STRAPS		HW4450	2
44	SLIDER TRACK		HW0160	1 PR.
45	ALU. COMPANIONWAY EXTRUS.		HW0146	1
46	RUB RAIL 85'		HW2460	1
47	RAIL INSERT 85'	HW2452	HW2455	1
48	ANCHOR LOCKER U BOLT		HW5512	1
49	BOW STRAP U BOLT		HW5510	1
51	FRESH WATER DECK FILL		PL1130	1
52	DIESEL DECK FILL PLATE		PL1126	1
53	WASTE DECK FILL PLATE		PL1140	1
54	TANK VENTS	503-4	PL0520	3
55	FWD HATCH COASTLINE	SIZE 60	300950	1
56	MID VENT HATCH COASTLINE	SIZE 40	300260	2
58	AFT VENT HATCH COASTLINE	SIZE 40	300260	4
59	WINDSHEILD		HW0056	1
60	FIXED HOSE SIDE PORTS-P&S		PX0375/376	2
61	VERT OPENING HOUSE SIDE PTS		HW0043	4
62	HORIZ. OPENING HSE. PORTS	39899915	HW0084	2
63	COCKPIT OPENING PORTS	398129993	HW0049	1

SIZE 57
QTY 2

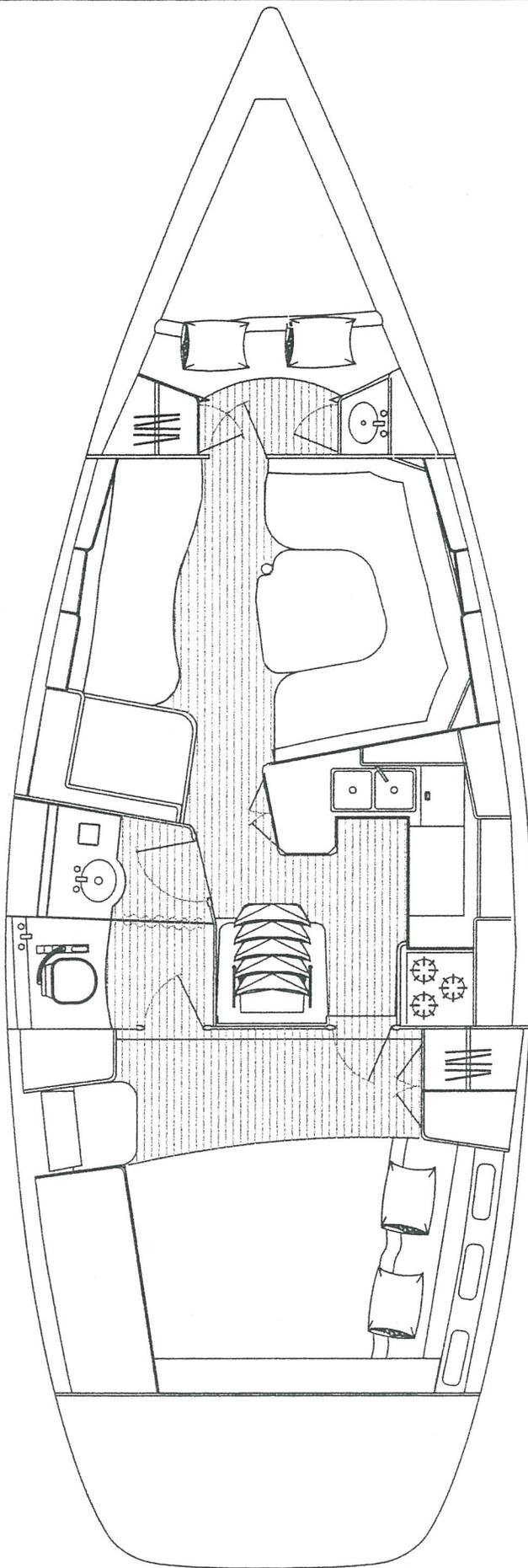
SIZE 03
LOW PROFILE

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HUNTERA
 380 STANDARD DECK HARDWARE LIST
 PART NO. 38080039
 NONE
 2/11/98
 ENGINEERING DEPT.

380 DECK HARDWARE CONT

No.	HARDWARE	MFG#	HUN#	QTY.
65	HULL SIDE FIXED PORTS		PX0297	4
66	PLEXI COMPANIONWAY HATCH		QF920001	1
67	PIN BOARDS		QF850001	1 SET
68	FRP STEERING CONSOLE	QA270100	QA270150	1
69	FRP ANCHOR LOCKER LID		QA270010	1
70	FRP EUROSEAT		QA270065	1
71	FRP HELMSMAN SEAT (2 PARTS)	QA270190	QA270192	1
72	FRP GULLWING SEAT P&S	QA270180	QA270185	2
73	FRP SWIM SEAT	QA270195	QA270215	2
74	FRP QUAD COVER		QA270085	1
75	FRP PORT ROPE LOCKER LINER		QA270051	1
76	FRP STBD ROPE LOCKER LINER		QA270053	1
77	FRP PROPANE LOCKER LINER		QA270295	1
78	FRP EURO SEAT LINER		QA270068	1
79	FRP SPRAY HOOD (2 PARTS)	QA270040	QA270042	1
80	MAST STEP	SELDEN	401175	1
81	COMPRESSION POST/DECK PLATE		304924	1
82	DEFLECTOR BLOCKS	504-30	HW0104	4
83	CHEEK BLOCKS	705-10	HW0277	2
84A	WINCH LEWMAR (HALYARDS, MNSHTS.)	44CST	HW2521	1
84B	JB.SHT., WINCHES, JIB SHTS	40CST	HW2520	3
85	SHEET STOPPER QUAD		304030	2
86	JIB TRACKS 24" X 1 1/4 X 3/16 SCHAEF.		HW0274	2
87	JIB TRACKS STOPS SCHAEFER	74-36G	HW0215	4
88	LEAD CARS SILVER SCHAEFER	32-98	HW0217	2
89	HARKEN CONTROL BLOCK PORT		HW0334	1
90	HARKEN TRAVELER TRACK		HW0336	1
91	HARKEN TRAVELER CAR		HW0332	1
92	HARKEN CONTROL BLOCK STBD		HW0335	1
94	ANCHOR US #22	#1209	LGO320	1
95	STEERING SHEAVES		HW3289G	1
96	STEERING QUADRANTS		HW3283	1
97	QUAD STOPS		HW3131	2
98	STEERING WHEEL 42"		HW3279	1
99A	LOWER MAINSHEET BLOCK	HARKEN 1560	HW0333	1
99B	MAINT & VANG BLOCK @ MAST STEP	SCFR SC705-45	HW0232	1
100	UPPER MAINSHEET BLOCK	HARKEN 1540	HW0330	3
101	UPPER VANG BLOCK (SCHAEFER)	SCHAEFER 701-46	HW0227	1
102A	LOWER VANG BLOCK (SCHAEFER)	SCHAEFER 701-56N	HW0229	1
102B	LOWER VANG BLOCK SHACKLE	SCHAEFER 93-61	HW0302	1
103	SHORE POWER INLET		LG0100	1
104	ENGINE PANEL YANMAR		HW3400-A	1
105	BOW LIGHT BICOLOR		EL0380	1
106	STERN LIGHT		EL0390	1
107	LIFE LINES		RL1253	2 PAIR
108	SOLAR PANEL	HW2452	EL1180	1
109	SHIFT CONTROL BOX (BERKLEY)		HW3572	1
110	COMPASS	FN-201	LG0130	1
111	COCKPIT SPEAKERS W/ GRILL, WHITE		EL0101-A	2
112	VHF RADIO	APELCO 5160	EL0119	1
113	KNOT METER AUTO HELM		EL0088	1
114	DEPTH GUAGE AUTO HELM		EL0086	1
115	FUEL GUAGE		HW3406	1
116	SPRING SWIVEL BLOCK	SCHAEFER 300-35	HW0267	1
118	COCKPIT SHOWER		PL0189	1
119	BILGE PUMP		PL0371	1
120	HARKEN TVL TRACK END STOP	HARKEN632	HW0331	2
121	HALYARD ROLLER		HW1072	1
122	HALYARD ROLLER BRKT.		HW3888	1 SET
123	DORADE VENTS		HW4856	2
124	S.S. PEDESTAL GUARD FWD.		HW2305	1
125	WINCH-MAINSHEET- JIB HALY.- JIB SHT.		HW2520	3
126	COCKPIT CONSOLE AFT RAIL		HW2121	1
127	LPG LOCKER LIDS P&S		PC030285	2
128	ARCH		PA270533	1
129	CHAINPLATES LOWERS		304311	2
130	ANCHOR WINCLASS (OPTIONAL)		999999	1

HUNTERC
 380 STANDARD DECK HARDWARE CONT
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 PROJECT NO. 3808040
 DEPT. ENGINEERING DEPT.



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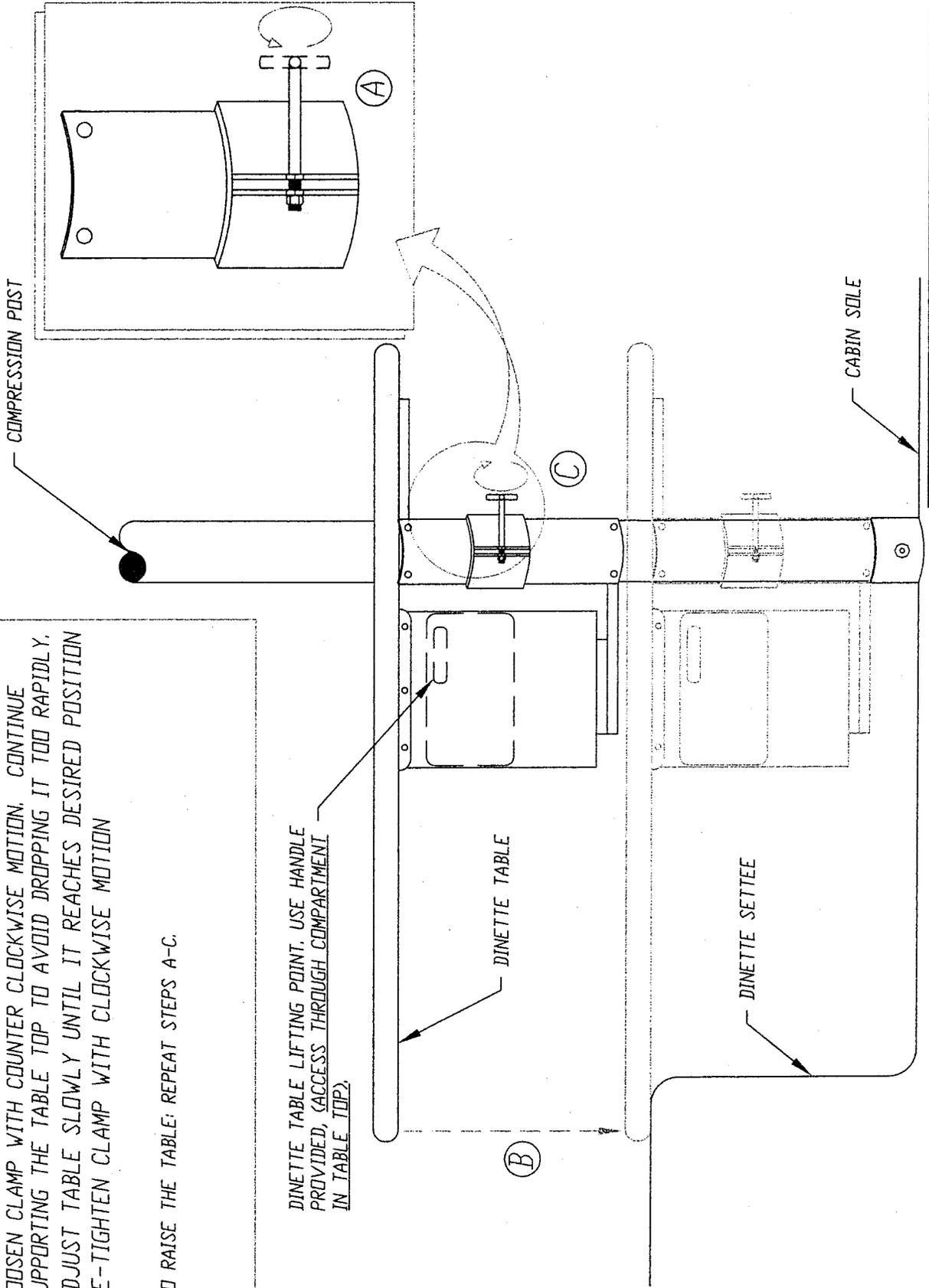
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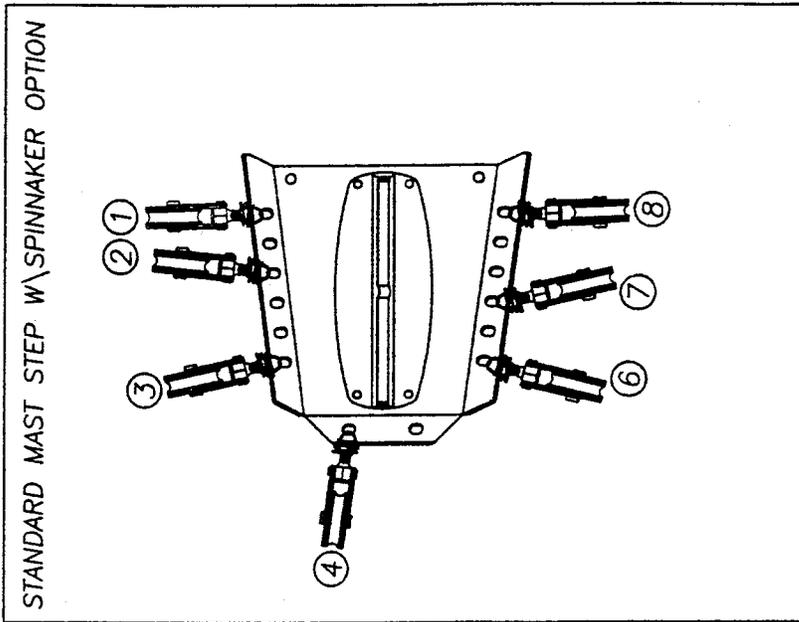
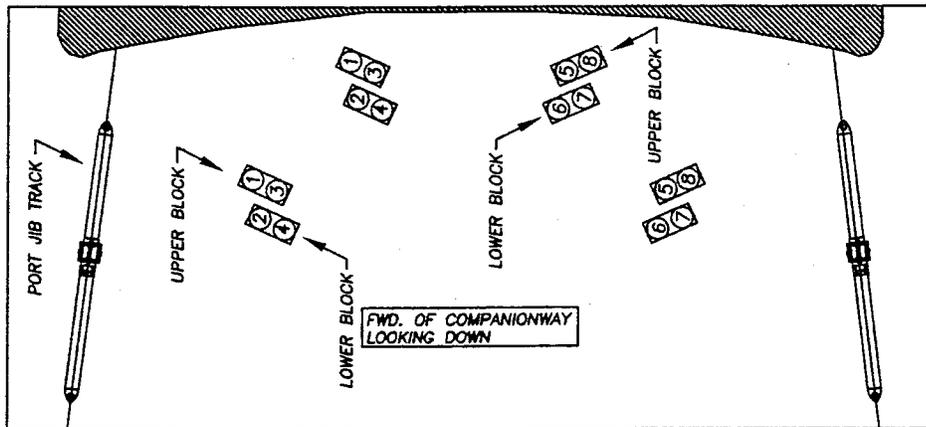
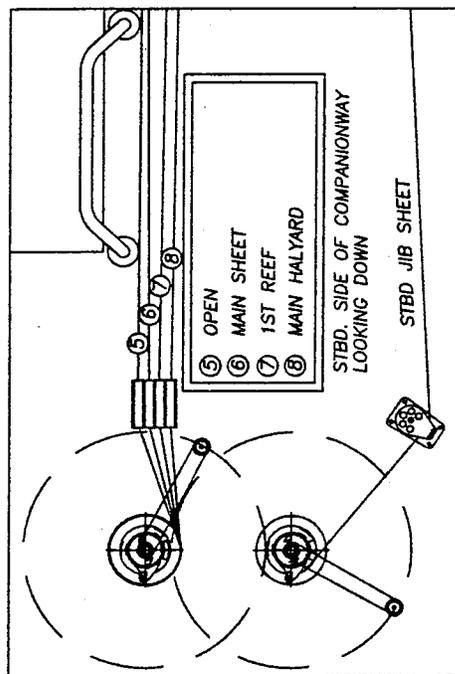
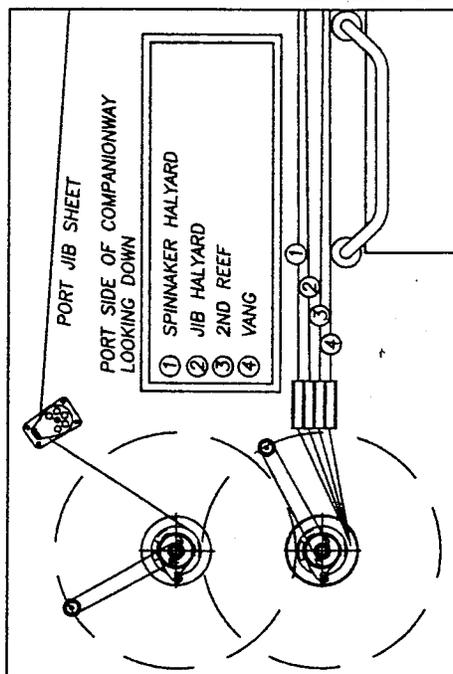
EXAMPLE: LOWERING THE TABLE

- Ⓐ LOOSEN CLAMP WITH COUNTER CLOCKWISE MOTION. CONTINUE SUPPORTING THE TABLE TOP TO AVOID DROPPING IT TOO RAPIDLY.
- Ⓑ ADJUST TABLE SLOWLY UNTIL IT REACHES DESIRED POSITION
- Ⓒ RE-TIGHTEN CLAMP WITH CLOCKWISE MOTION

* TO RAISE THE TABLE: REPEAT STEPS A-C.

DINETTE TABLE LIFTING POINT. USE HANDLE PROVIDED, (ACCESS THROUGH COMPARTMENT IN TABLE TOP).





NOTE:

BLOCK NUMBERS 3,4,7 ... RUTGERSON SERIES 500 W/ SPRINGS
 BLOCK NUMBERS 1,2,6,8 ... RUTGERSON SERIES 600 W/ SPRINGS

380 STD. RUN. RIG & MAST STEP DETAIL

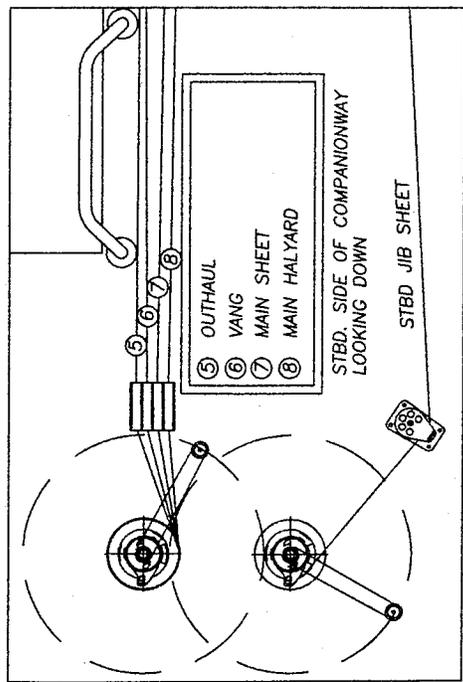
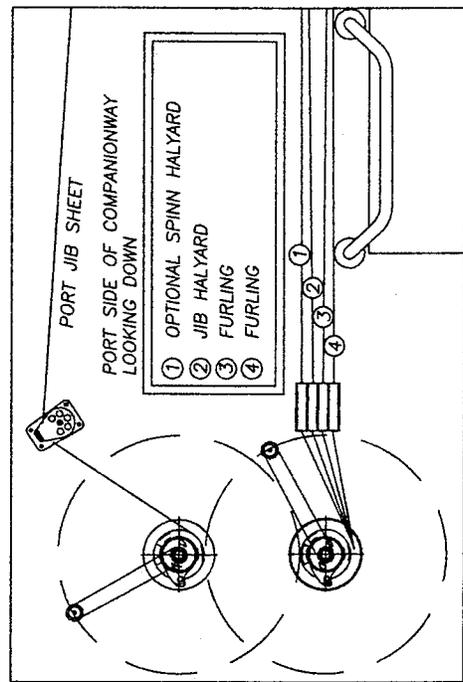
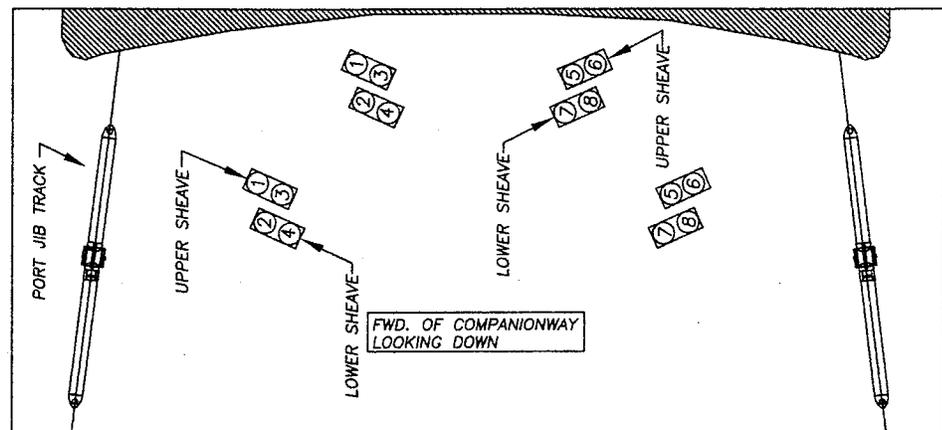
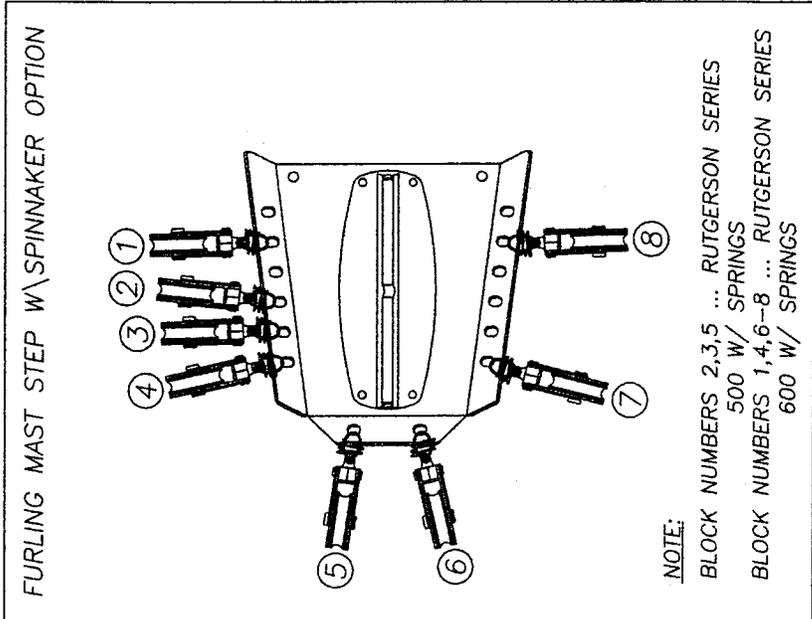
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ENGINEERING DEPT.

NONE

2/11/98

HUNTER



FURLIN'

595-063-E

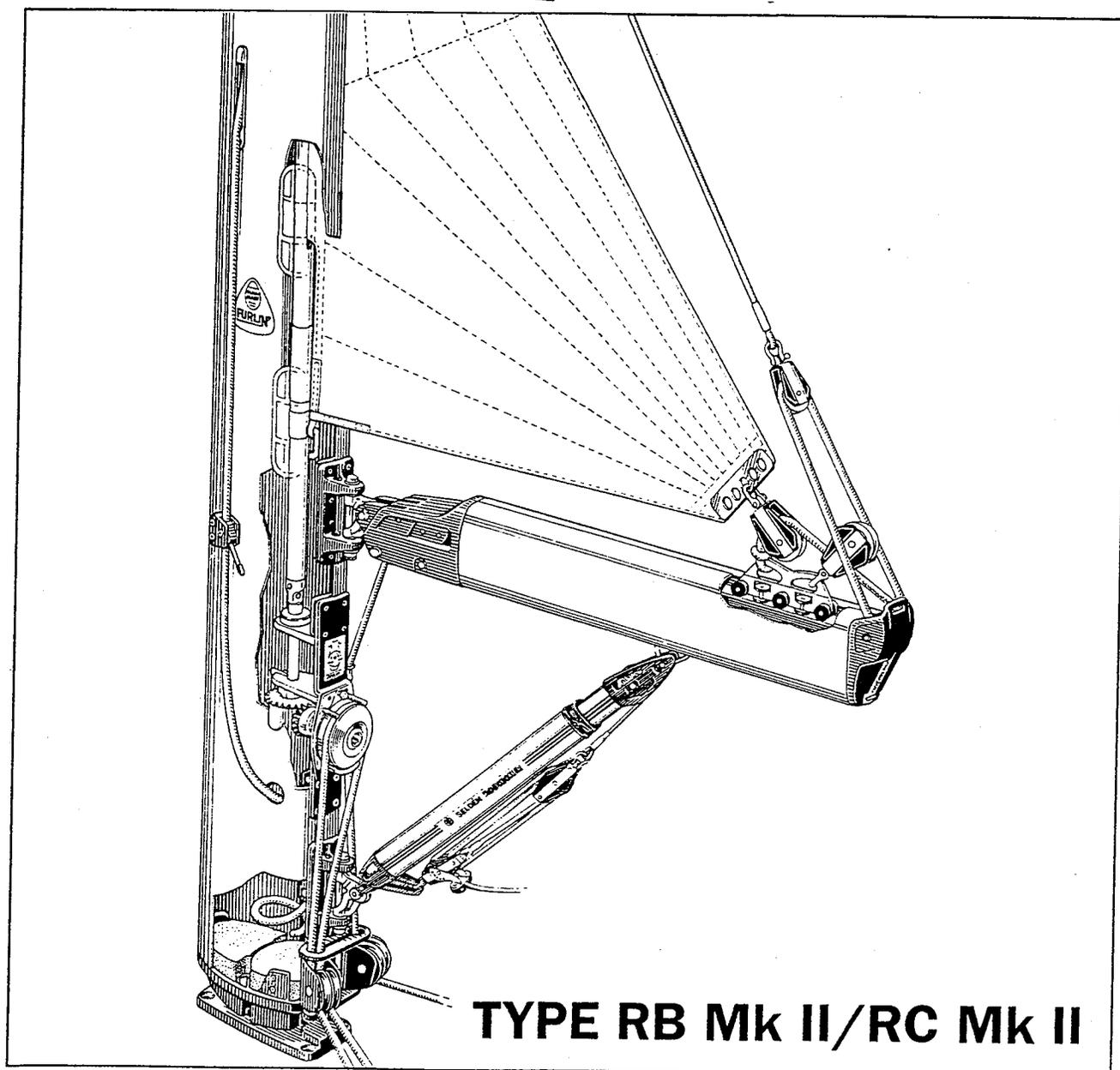
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MAIN FURLING & REEFING SYSTEM



SELDÉN

Manual



TYPE RB MK II/RC MK II

Contents:	Page:	Contents:	Page:
Product Description	2	The Sail	10
Checks and Adjustments Before Stepping	4	Spare Mainsail	10
Operation & Operational Hints	6	Running Cables	11
Fitting and Hoisting the Sail	8	Maintenance	12
Before Sailing	9	Dismantling	12/14

- FURLIN' is a mainsail reefing and furling system.
- FURLIN' has been developed from experience gained from FURLEX foresail roller-reefing, and is dimensioned for the toughest conditions.
- The unique design of the halyard swivel bearing distributes the load over the whole ball-race to give smoother furling and the lowest possible friction, even under high loads.
- The entire reefing mechanism can be easily removed from the mast for service. Stainless steel thread inserts are used for all screws, so that dismantling is easy even after many years usage in a corrosive environment.
- The mast extrusion has an additional luff groove for a storm trysail or spare main. In an emergency even a foresail with rope luff could be hoisted.
- This Instruction Manual has been compiled to give you information on the FURLIN' in-mast reefing system. Study it and follow the instructions carefully, and we guarantee you many years of pleasurable use from your FURLIN'.
- Follow the relevant rigging instructions in our booklet "HINTS AND ADVICE" for tuning the rig.

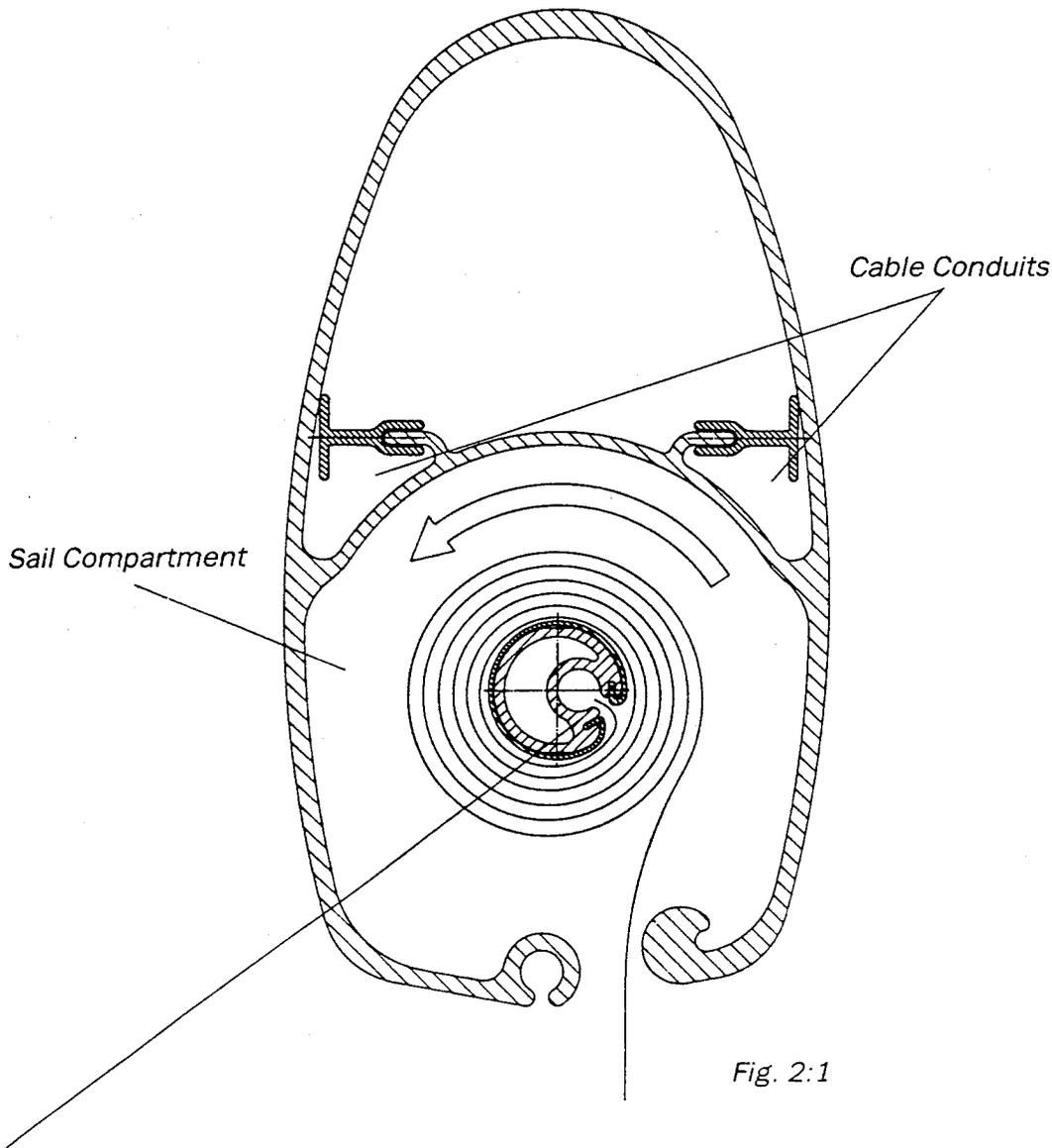


Fig. 2:1

Asymmetric luff extrusion giving reduced initial resistance to reefing due to easier bending of the luff.

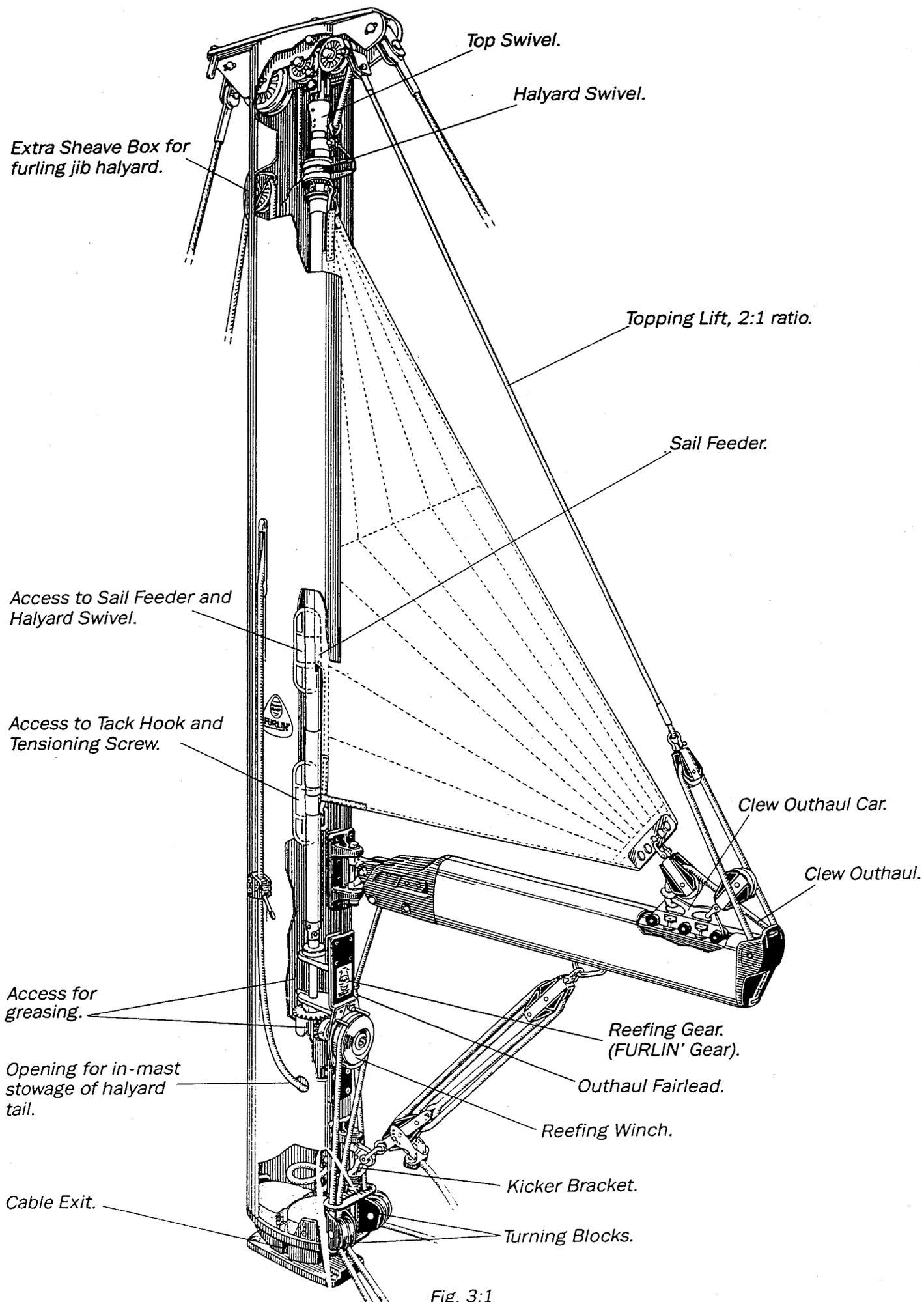


Fig. 3:1

CHECKING LUFF EXTRUSION TENSION PRIOR TO STEPPING THE MAST.

The luff extrusion is correctly tensioned before leaving the factory, but tension can be re-checked before stepping the mast in the following manner.

Lay the mast horizontally, and check that the extrusion is just clear of the mast wall at its mid point. If adjustment is necessary see points 1-5 below.

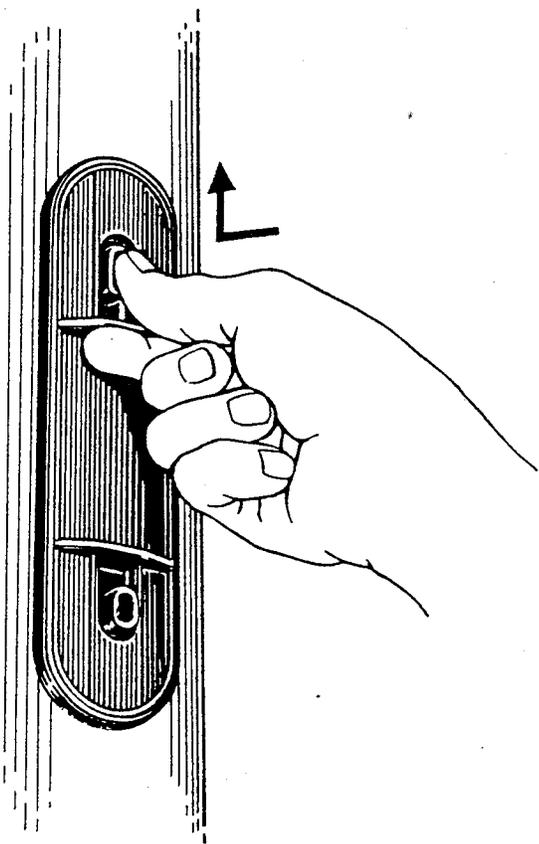
If adjustment has to be made after the mast has been stepped, then the luff extrusion should be so tensioned that it does not beat against the mast wall when you grasp it through the upper access hole and shake it.

Most of the extrusion will be resting on the aft face of the sail compartment when sailing.

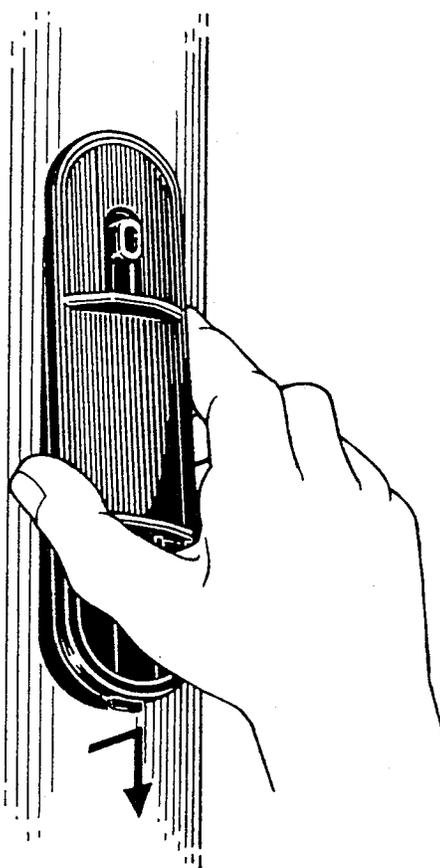
DO NOT OVER-TENSION! A luff extrusion that is over-tensioned will require increased furling effort.

LUFF EXTRUSION ADJUSTMENT.

1 Remove the Access Covers.

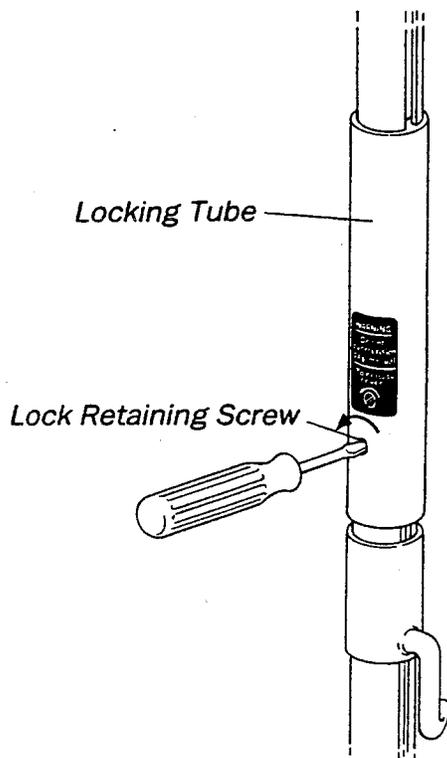


Depress one button and push.



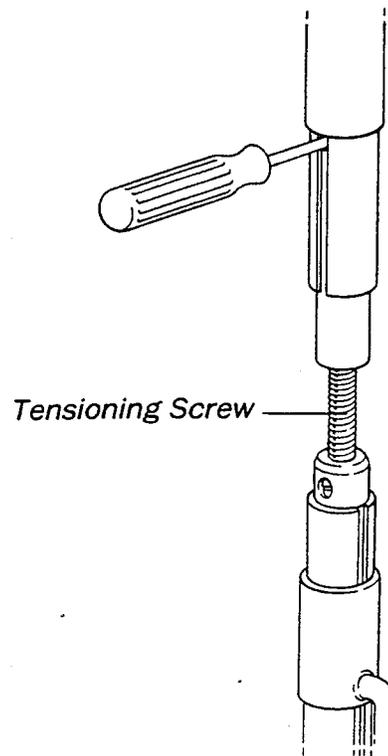
Lift the opposite end and remove.

2



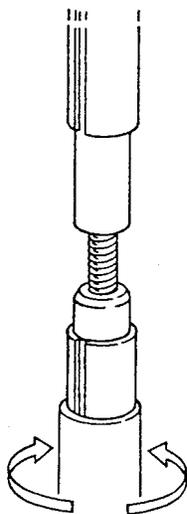
Undo the Lock Retaining Screw and free the Locking Tube.

3



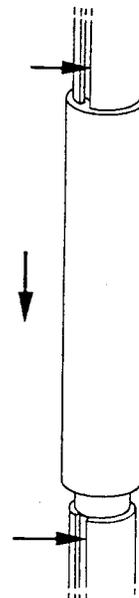
Push the Locking Tube upwards above the Sail Feeder. Lock the Tube in this position by putting a screwdriver through the hole at the lower end of the Sail Feeder. The screwdriver will also stop the luff Section from turning while tensioning (step 4).

4



Turn the Reefing winch using the winch handle until the luff is correctly tensioned.

5



Adjust so that the Locking Tube fits over the lower part of the Luff Section. Lower the Locking Tube to locking position. Replace the Lock Retaining Screw.

Reefing and unreefing is accomplished with a reefing line and an outhaul operated either from the cockpit or by working at the mast. In the latter case the outhaul is also taken to the boom or mast near the gooseneck. (See Fig. 7:1).

Operating at the mast is recommended with FURLIN' RC. This is due to the friction in the control lines system from mast to cockpit on a large yacht.

Endless line.

If FURLIN' is to be operated from the cockpit then a reefing line in the form of an endless loop in combination with a self-tailing winch is recommended. The endless loop must have surplus length to allow it to be easily removed from the winch. The tail-end of the loop must also be belayed on a cleat or Clam-cleat.

A rope-stopper can also be used, but it should be of a type that can be dismantled so that a pre-spliced loop can be fed into it. The line would otherwise first have to be passed through the stopper before splicing.

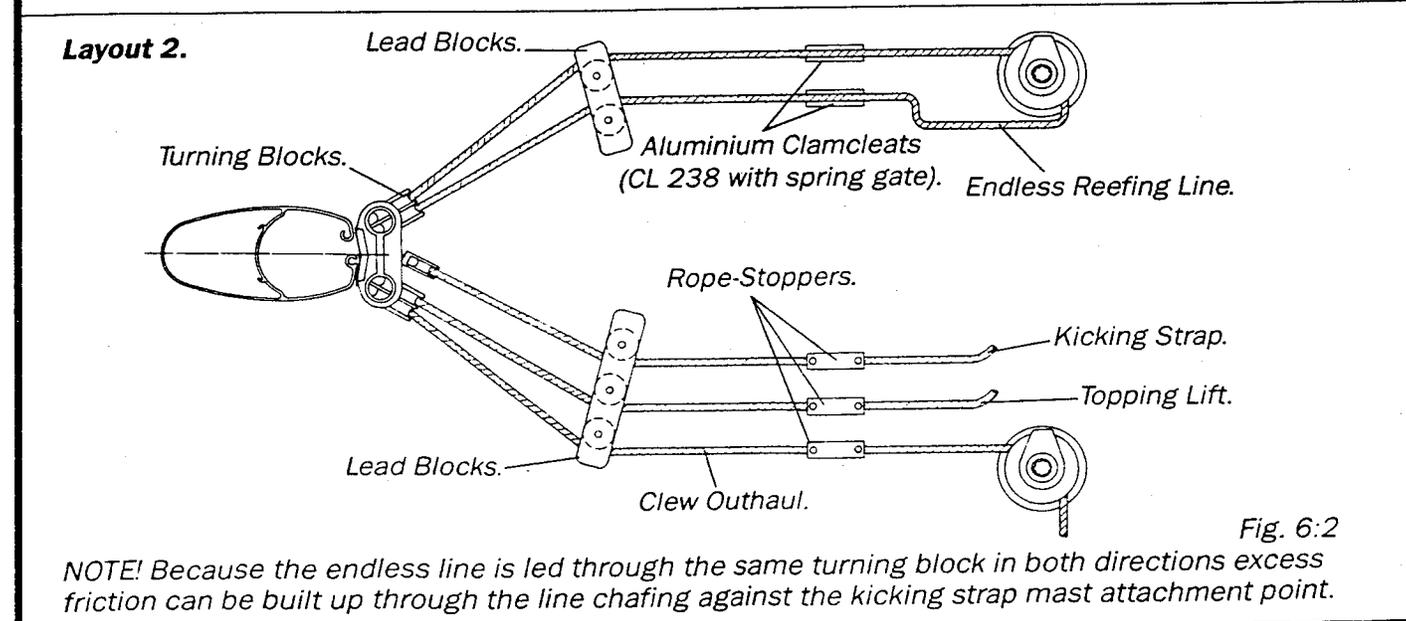
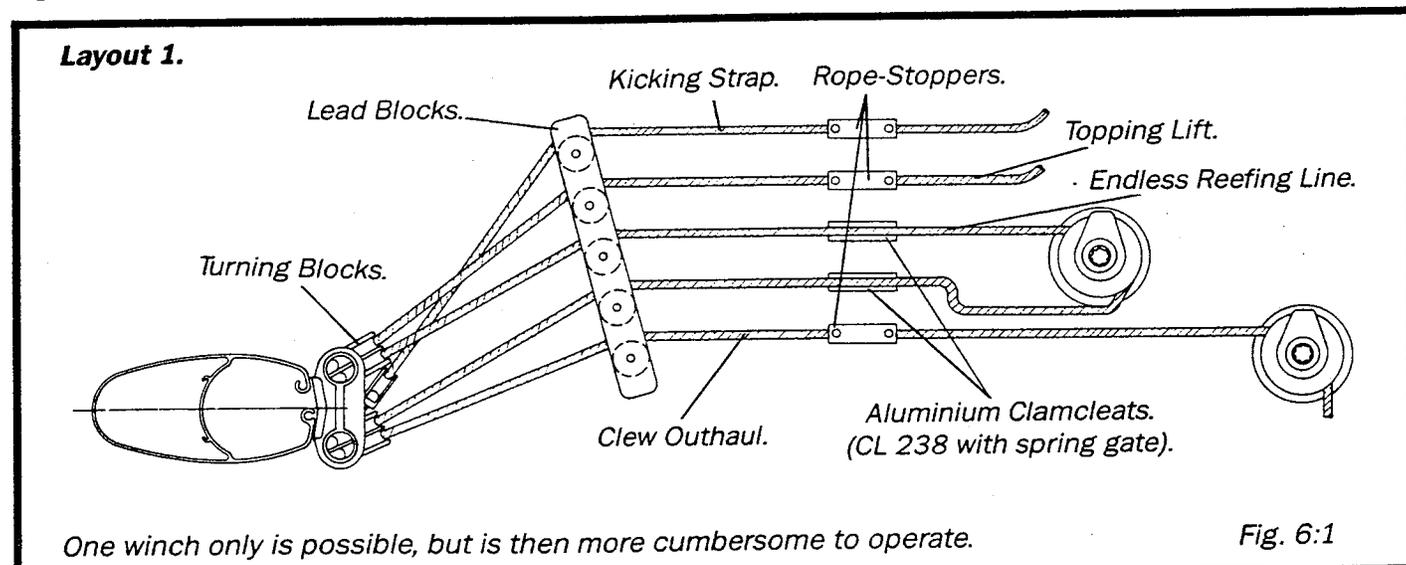
Clew Outhaul line.

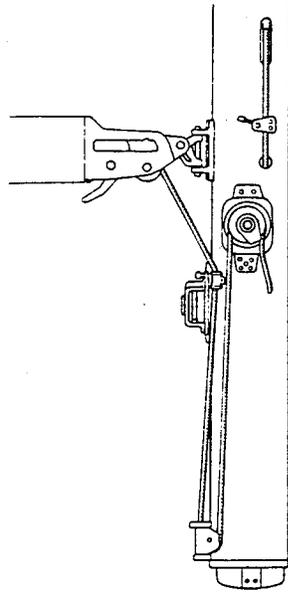
A self-tailing winch is also recommended for the clew outhaul line. A rope-stopper that permits controlled paying out, such as a Rutgerson RAM-JAM, is recommended for this purpose.

Topping lift & kicking strap.

We recommend that the topping lift and kicking strap also be handled from the cockpit. These lines are best belayed with rope-stoppers. The topping lift should be ended with a figure-of-eight stopper knot to prevent it inadvertently running out. This stopper-knot should be placed where the rope exits from the boom, and in such a position that it will prevent the boom from dropping below its lowest necessary level. (NOTE. This is not necessary if a rod type kicking strap is used).

Figs. 6:1 och 6:2 show two suggested arrangements.





Alternative Clew Outhaul Arrangement. Fig. 7:1

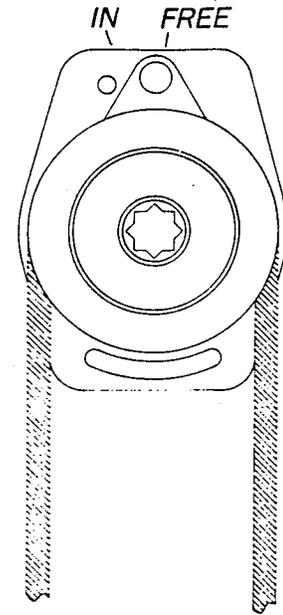


Fig. 7:2

- When reefing from the cockpit the Reefing Winch must be set to "FREE". (See Fig. 7:2).
- Use 10 mm diameter double plaited line for the endless loop.
- The mast Turning Block has removable sheaves and a slot to allow the endless loop to be fitted even when pre-spliced.
NOTE. THIS TYPE OF TURNING BLOCK IS DESIGNED FOR REEFING SYSTEM CONTROL LINES EXCLUSIVELY!
- If deck lead blocks are used we recommend those with removable sheaves from SELDÉN MAST. (Part No. 538-809-01, three sheaves; or 538-810-01, 4 sheaves). A pre-spliced endless loop can be threaded through them.
- If fittings from other suppliers are used they should have similar features to the foregoing. Fittings with permanent sheaves will entail splicing in situ.

OPERATING HINTS.

Unfurling.

- 1 Free both sides of the endless loop from the winch and Clam-Cleat. It will then slide on the Reefing Winch.
- 2 Pull out the sail with the outhaul line.

Furling.

- 1 The leech should be kept fairly tight when reefing or furling. Adjust the topping lift to achieve this, and the sail will form a good tight roll around the luff extrusion.
- 2 Use the winch to take up on the endless loop.
- 3 Keep slight tension on the outhaul while doing this. This applies especially when the wind is abaft the beam or in light air.
- 4 Always lock the Reefing Winch when leaving the boat.

Reefing.

- 1 Carefully slacken off the outhaul line.
- 2 Whilst continuing to ease off the outhaul, roll in the desired amount of sail. The leech should be kept fairly taught. Keep slight tension on the outhaul while doing this. When working at the mast: activate the lock on the Reefing Winch ("IN") before reefing the sail.
- 3 When the desired amount of sail is rolled in, use the outhaul to stretch the foot of the sail. When operating from the cockpit: make both "sides" of the reefing line fast to prevent slip on the Reefing Winch. Finally, tension the outhaul.

WARNING! Never leave the handle in the Reefing Winch!
It will rotate very rapidly when the sail is unfurled.

FITTING AND HOISTING SAIL.

- 1 Check that the Tack and Head of the sail are made as illustrated on Page 10. An incorrectly made tack can cause wrinkles in the sail and make smooth furling difficult.

- 2 Remove the covers.

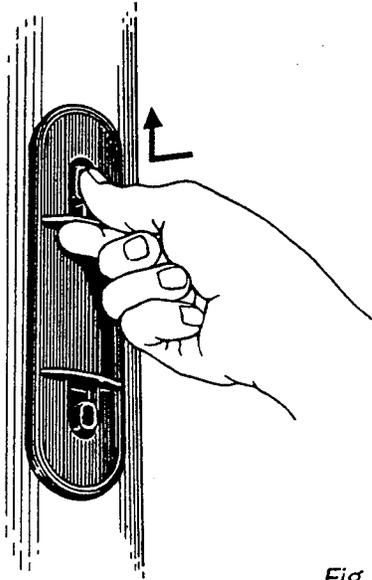


Fig. 8:1

Depress one button and push.

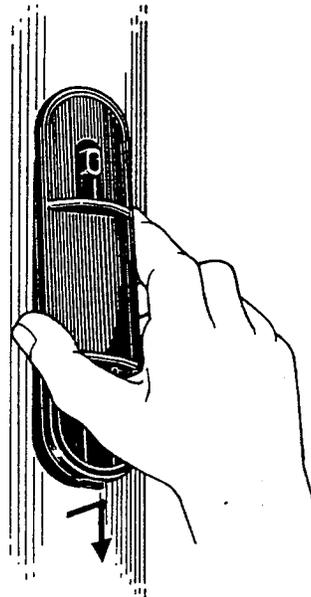


Fig. 8:2

Lift the opposite end and remove.

- 3 Join the Head to the halyard swivel.

- 4 Join the Tack to the tack hook.

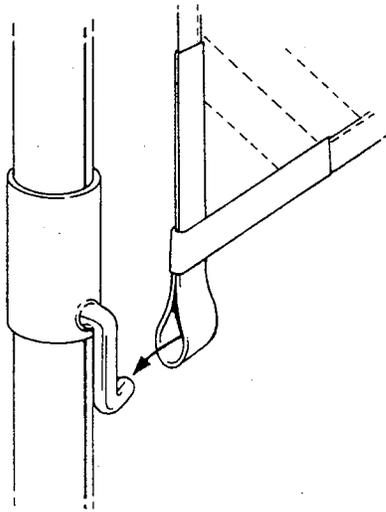


Fig. 8:3

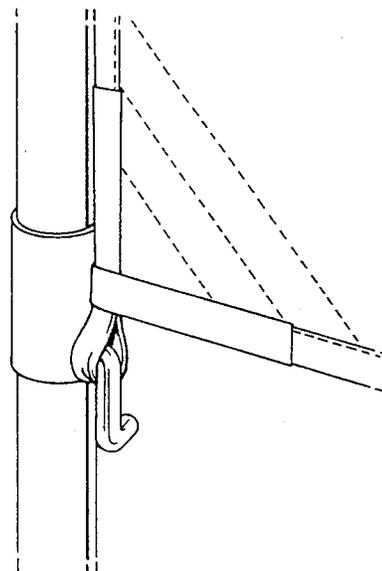


Fig. 8:4

- 5 Attach the clew to the Outhaul Car.
- 6 Hoist the mainsail whilst simultaneously ensuring that it is feeding correctly into the luff extrusion.
- 7 Set the halyard and cleat it with the rope stopper. The halyard tail can be stowed in the mast by feeding it through the hole just below the halyard winch.
- 8 Furl the sail until only the clew is exposed. The luff extrusion is asymmetrical to facilitate rolling in one direction, and the sail should always be rolled onto the starboard side of the luff extrusion. The Reefing Winch should be turned clockwise. See Fig. 9:1.

NOTE. TURN THE REEFING WINCH CLOCKWISE FOR CORRECT FURLING.

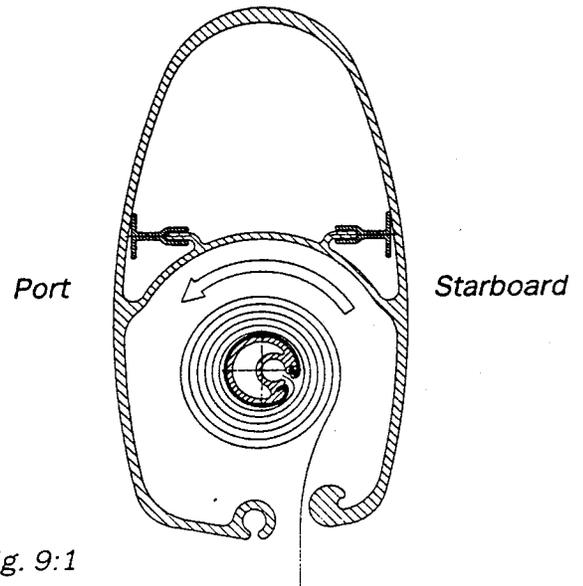


Fig. 9:1

BEFORE SAILING.

- 1 Check that the sail is correctly furled on the STARBOARD SIDE of the luff extrusion. (See Fig. 9:1).
- 2 Furl and unfurl the sail a couple of times to ensure that the system works as it should, and to familiarise yourself with its operation, and also to check that the sail is to correct size.
- 3 The area aft of the mast must be free from halyards etc. or these can be caught by the sail during the furling procedure.

ANTI-VIBRATION STRIP.

Vibration can occur in any aluminium mast of normal design. With wind coming from approximately abeam at speeds of 4–12 knots the mast oscillates longitudinally at a rate of 3–6 cycles per second. As an optional item an "anti-vibration strip" is available for hoisting in the integral sail groove at the aft face of the mast to prevent vibration starting. It will also reduce wind noise.

For further information, contact Seldén Mast AB.

THE SAIL.

The luff extrusion is asymmetrically shaped to help overcome initial resistance when starting to furl. To improve sail shape when reefed and to reduce draft, "Luff Foam" may be used along the luff. The foam should not be placed closer than 50 mm (2") from the front edge of the luff as it will then increase initial reefing resistance. To further reduce resistance use as light cloth as possible in the luff tape.

SAIL DIMENSIONS.

- We recommend maximum 8 mm (5/16") diameter luff-rope/luff-tape (maximum 7 mm (9/32") hard line). Luff groove dimensions are shown in fig. 10:2.
- Head and tack tapes should be of soft quality which can fold easily. Do not use metal eyelets on them.
- The clew cringle must not be thicker than 14 mm (35/64") in order to fit the outhaul block. As an alternative a so called "clew board" can be fitted. This will considerably reduce the distance between the sail and the boom.

Extrusion	A	B	T	
			80 mm	120 mm
R 232/126	600	400	80	125
R 260/136	600	400	80	125
R 290/150	700	500	90	135

*Boom Brackets No. 508-151 and 508-153

Boom Extrusion	OS
128/90	250
150/105	250
162/125	250
189/132	350
206/139	350
143/76	150
171/94	150
200/117	200
250/140	200

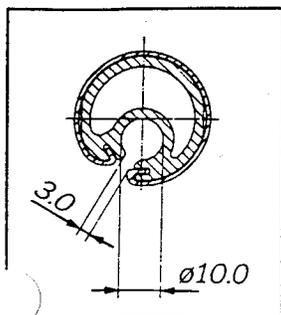


Fig. 10:2

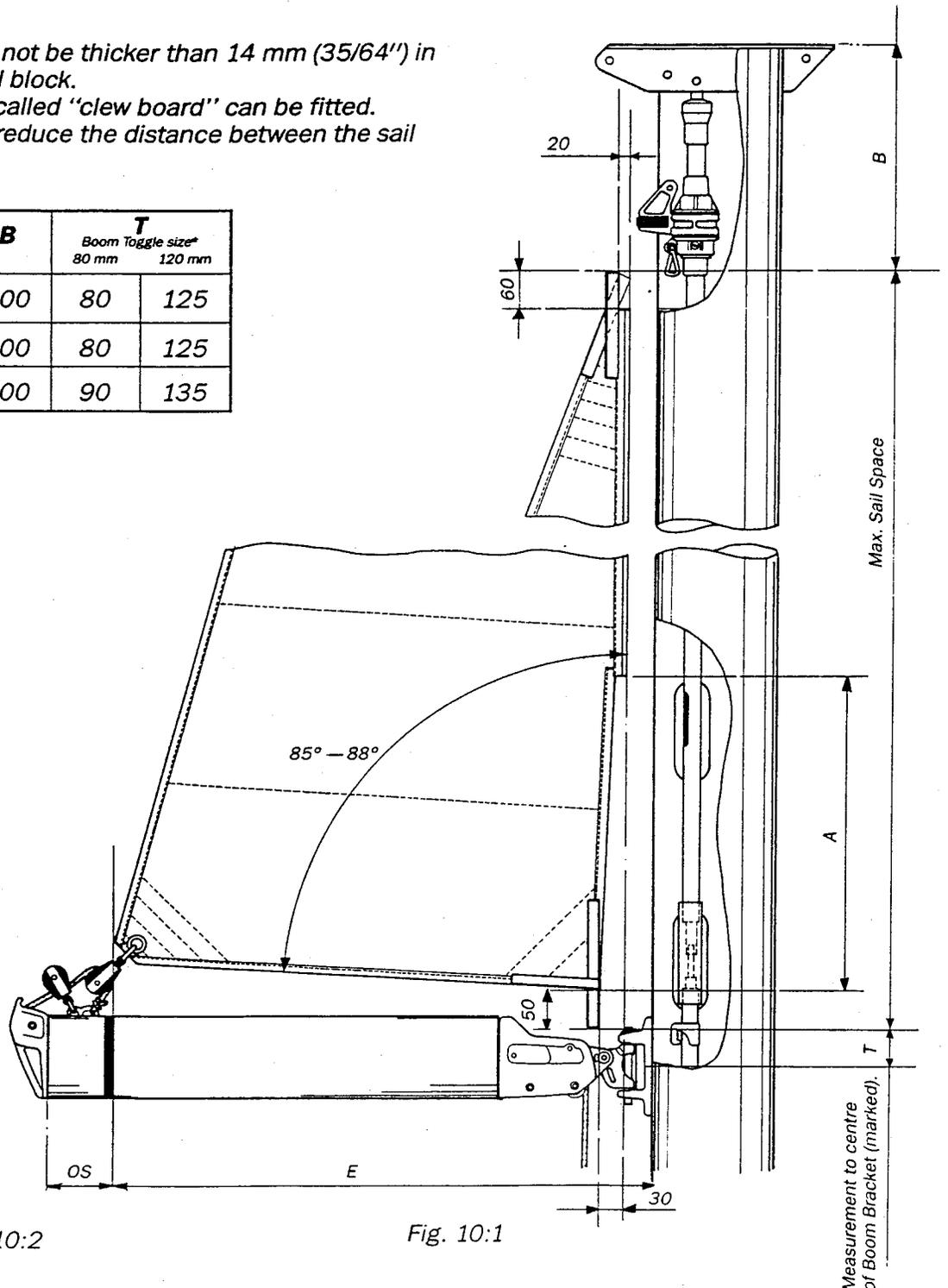


Fig. 10:1

SPARE MAINSAIL.

The spare Mainsail, which should be carried on board every yacht, can be hoisted in the integrated sail groove at the aft face of the mast.

We recommend Aquabatten A032 or Rutgeron 101 sail-slides for this sail.

A foresail made for a luff extrusion for a FURI FX for example, can be used in an emergency.

RUNNING CABLES.

All FURLIN' mast extrusions have one or more cable conduits. These run uninterrupted to the mast heel even on keel stepped masts.

A messenger is threaded through all empty conduits at the factory to facilitate cable drawing.

A new messenger should be drawn through a conduit at the same time as a cable is drawn through. This will facilitate the running of additional cables..

If an existing cable should prevent a new one being run, it should be extracted after first having attached a new messenger to it to take its place in the conduit. That messenger can then be used to pull two or more cables through the conduit simultaneously.

Cables are led into a conduit at the masthead through a hole in the side of the mast extrusion. Cables should be over-length. The head box can then later be removed without the need to disconnect electric installations.

Cable exits are located in the mast heel casting.

Extrusion:

232/126

260/136

290/150

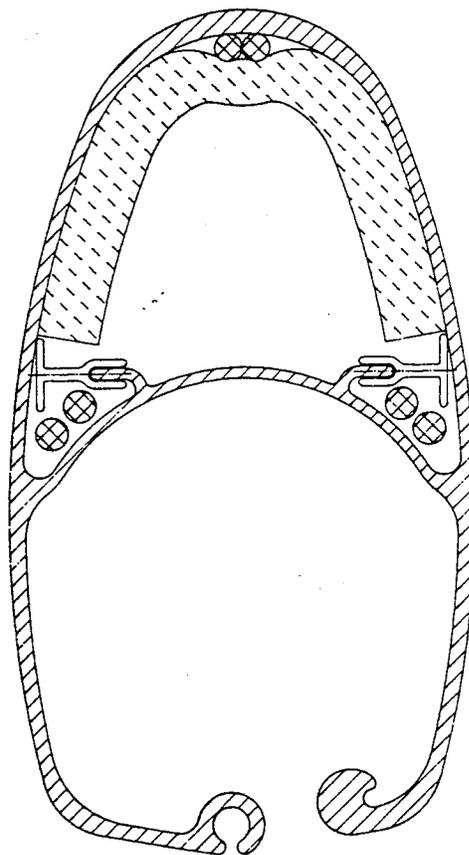


Fig. 11:1

Cables for forward-facing electrical installations are held in place with an "ETHAFOAM" pad to eliminate slapping.

If additional cables from mid-mast installations are required, proceed as follows.

- 1 Lay the mast with forward face uppermost so that the cables will rest in one corner of the conduit.
- 2 Drill the exit hole for the cable through the other corner and forward of the cable. Use great caution when drilling so as not to damage the cable.
- 3 Carefully burr the hole to eliminate any sharp edges that could cause chafe. Some tape around the cable will give added protection.

MAINTENANCE OF THE FURLIN'.

Periodic Maintenance.

Maintenance should be undertaken at least once a year. All bearings should be greased with FURLIN' GREASE (Part No. 312-501), a tube of which is delivered with the mast. Read the following instructions and Fig. 13:1.

When greasing bearings and gears, do not over-grease. A thin coating of evenly applied grease is sufficient.

TOP SWIVEL:

The bearing has a lubrication hole ① marked "GREASE" where the grease should be injected. Access through the sail slot.

HALYARD SWIVEL:

Lubricate the swivel by injecting grease into the gaps ② & ③ in the ring. This is best done through the upper access hole.

FURLIN' GEAR:

Remove the upper, oval plastic plug ④.

Lift the rubber boot and grease the upper shaft bearing ⑤.

Remove the lower oval plastic plug ⑥ on a level with the Reefing winch.

Grease the bevel gears ⑦ and ball-bearings ⑧ & ⑧.

All grease points are shown in Fig. 13:1

Complete Service.

It is a good idea after some years use to dismantle the gear for thorough cleaning and re-greasing. The FURLIN' is built so that servicing will be easy even after protracted use. Stainless steel thread inserts for all screw fastenings ensure that corrosion is eliminated.

REMOVAL OF THE FURLIN' GEAR FROM THE MAST.

- 1 Lay the mast horizontally on trestles.
- 2 Relieve tension on the Luff Extrusion by slackening the Tensioning Screw. (The Tensioning Screw is described on page 4).
- 3 Remove the upper plastic plug ④. Detach the Luff Extrusion from the FURLIN' Gear through the Grease Hole. The lower split pin and clevis pin ⑨ are removed.
- 4 Remove the FURLIN' Gear from the mast by undoing the eight holding screws and taking it away from the mast. (The FURLIN' Gear can be removed even when the mast is stepped).
- 5 Remove the headbox by undoing the nuts on top ⑩. The box can then be lifted off. Detach the Top Swivel from the head box.
- 6 The luff section and the Halyard Swivel can now be pulled out of the mast.

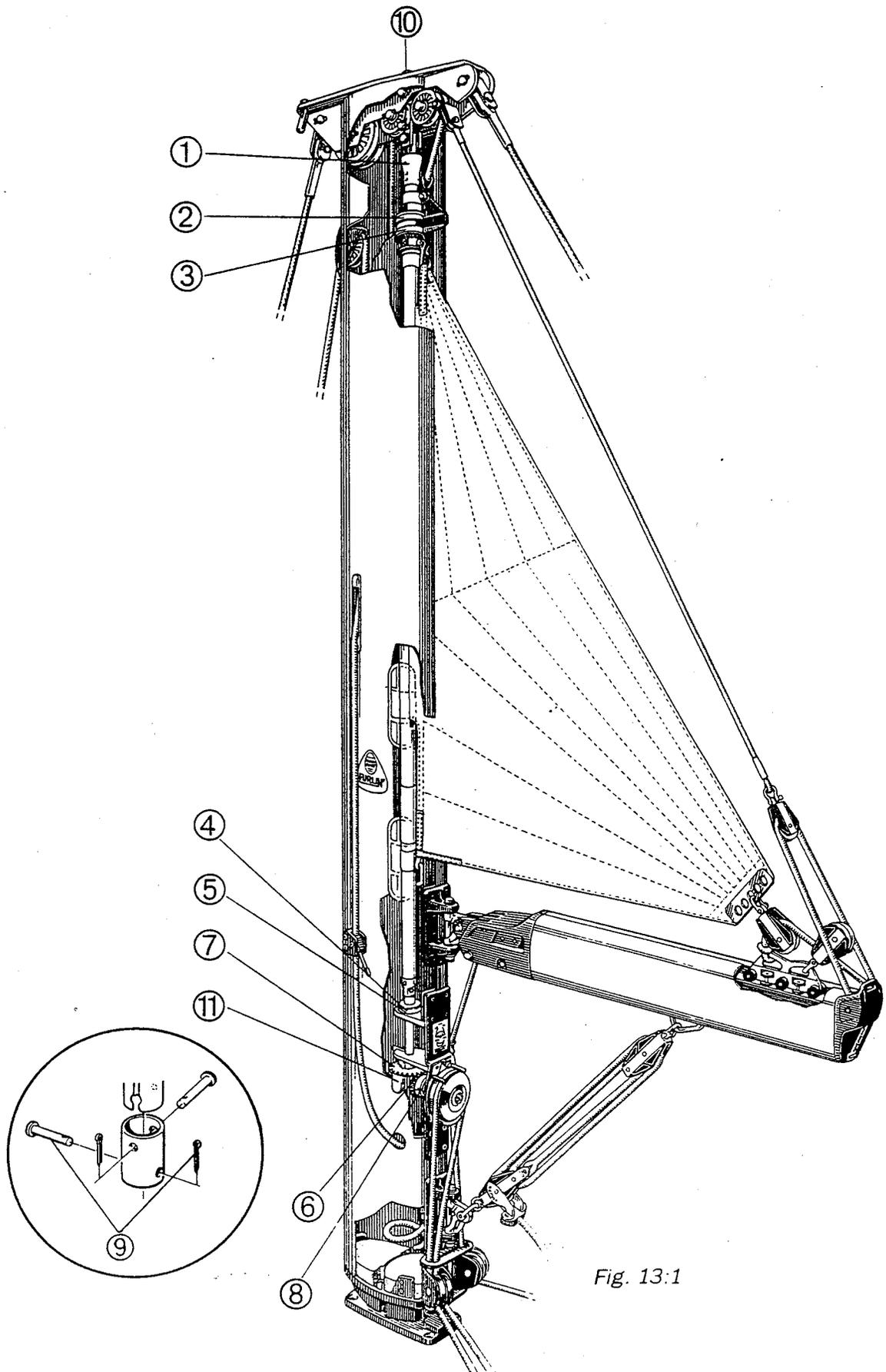


Fig. 13:1

DISMANTLING UNITS WITH BALL BEARINGS.

All dismantling should be undertaken on a clean unbroken surface. The various ball bearing units contain many small parts that fall apart when dismantling. Lay the dismantled components out in an orderly manner.

Dismantling the FURLIN' Gear:

Tools required:

- Hammer
- Punch (6-8 mm) (1/4-5/16")
- Allen key, 6 mm
- Screwdriver, small

- 1 Drive out the spring-pin ① from the large bevel gear. Use the hammer and punch.
- 2 Draw the shaft ② up and out of the FURLIN' Gear.
Take care of the balls and races, which will fall apart.
- 3 Drive out the spring-pin ③ from the small bevel gear. Draw the gear and ball bearings off the shaft.
Take care of ball bearings and races, which will fall apart.
- 4 Undo the four screws holding the Reefing Winch, and remove the winch from the holding bracket.
Remove loose components from the reverse side of the winch, and remove the locking ring from the shaft. The winch can then be dismantled.
- 5 Clean ball bearings, their races, gears, and winch components in a solvent bath.
- 6 Reassemble the components in the reverse order. The winch must be greased before reassembly. A layer of grease in the cupped half of a ball-race will hold the balls in place during assembly. Grease the bevel gear teeth.

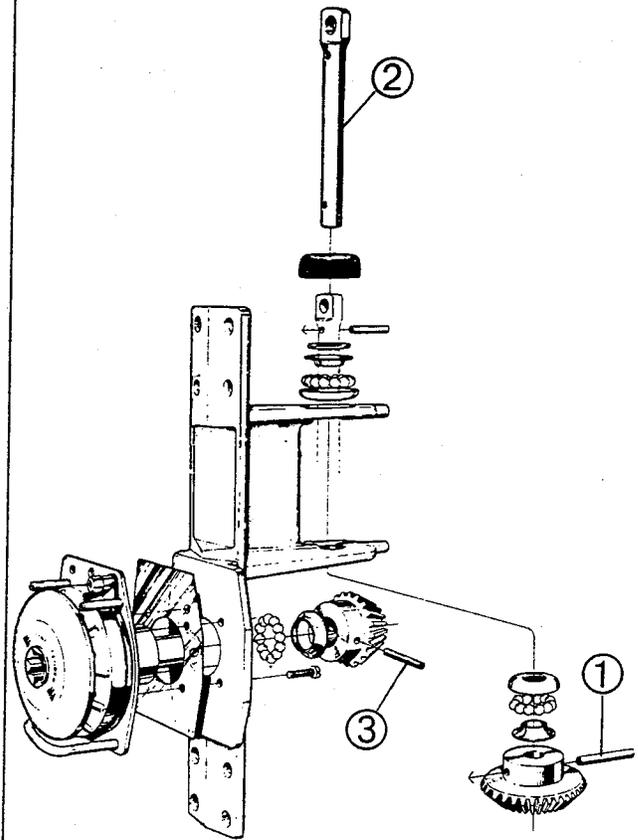


Fig. 14:1

Dismantling the halyard Swivel:

Tools required:

— Phillips screw-driver

- 1 RB/540-107 Remove both screws ①
- 1 RC/540-209 Remove both screws ① and the four screws in the stainless steel ring.
- 2 Turn item ② 90° to free the bayonet fitting, and remove it.
- 3 Lift item ③ off together with one ball bearing, then lift off the second ball bearing.

NOTE.
Ball bearings may fall apart. Take care not to lose any parts.

- 4 Clean ball bearings and their races in a solvent bath.
- 5 reassemble the components in the reverse order.
A layer of grease in the cupped half of a ball-race will hold the balls in place during assembly.

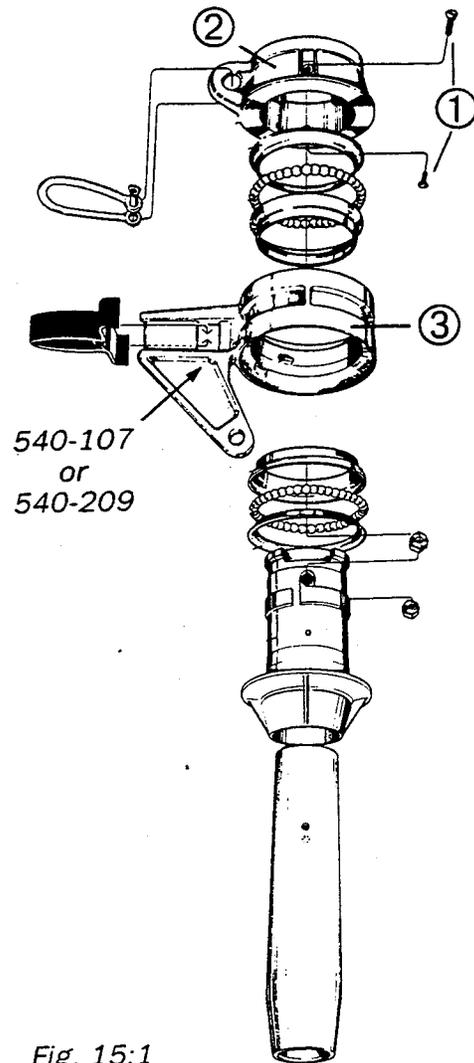
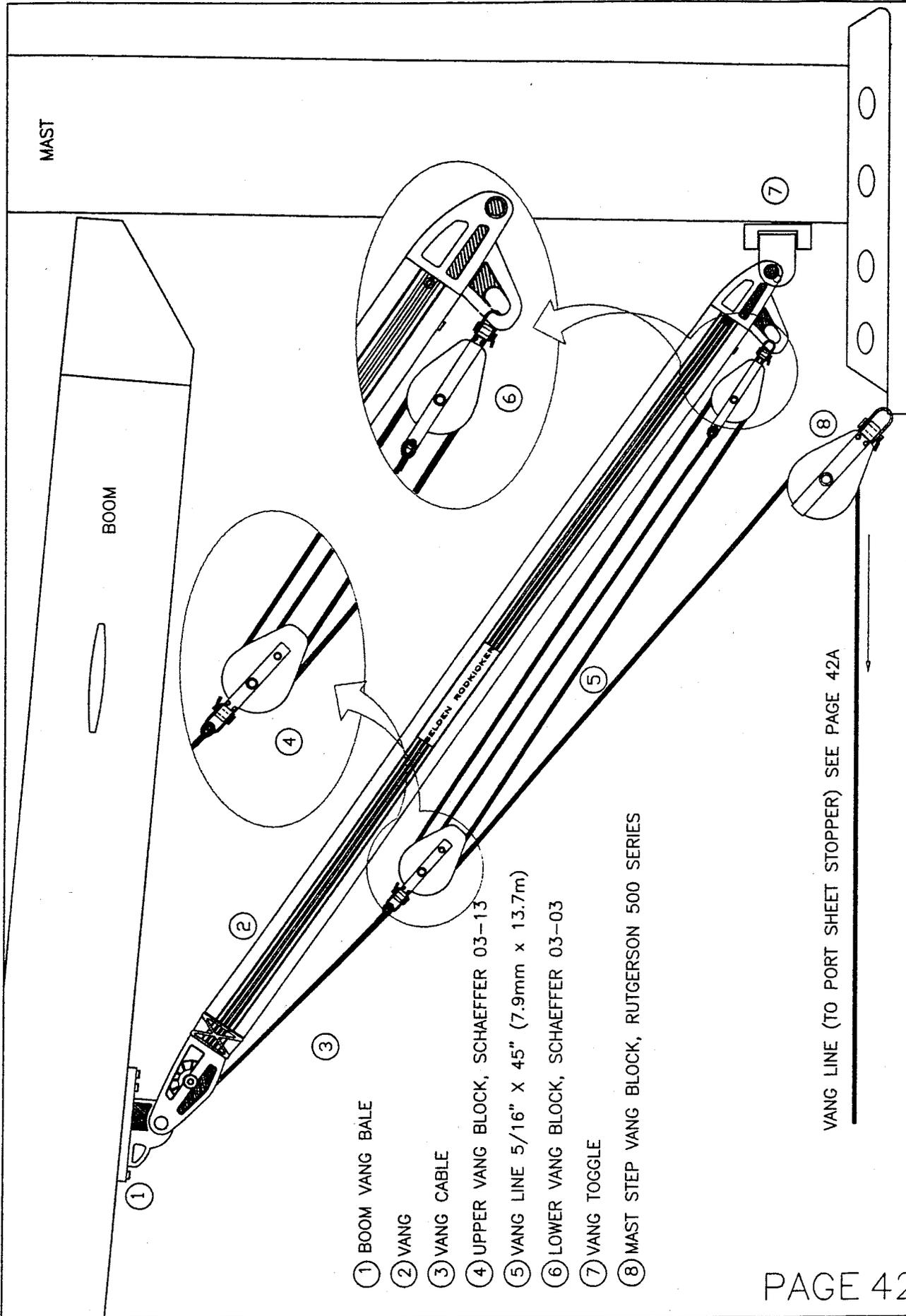


Fig. 15:1



MAST

BOOM

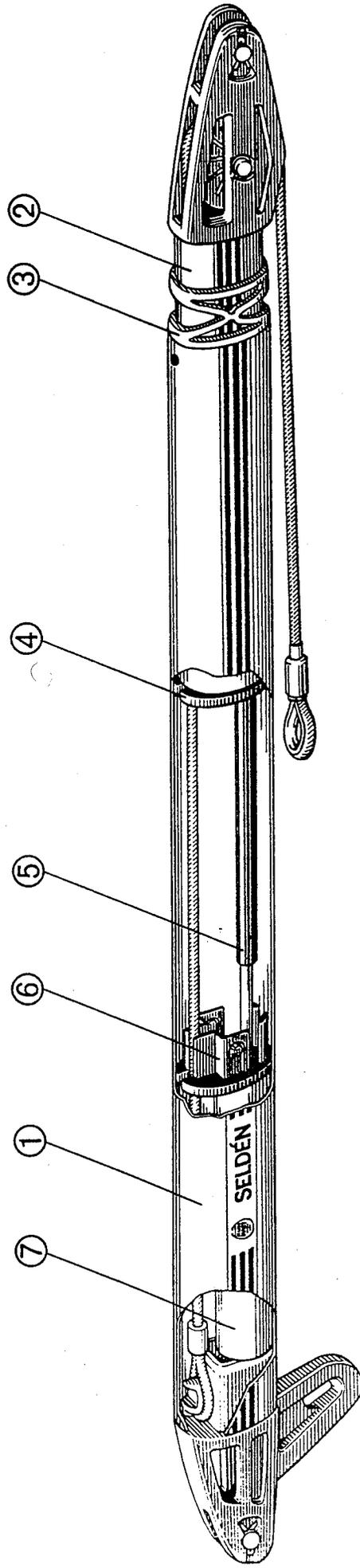
- ① BOOM VANG BAILE
- ② VANG
- ③ VANG CABLE
- ④ UPPER VANG BLOCK, SCHAEFFER 03-13
- ⑤ VANG LINE 5/16" X 45" (7.9mm x 13.7m)
- ⑥ LOWER VANG BLOCK, SCHAEFFER 03-03
- ⑦ VANG TOGGLE
- ⑧ MAST STEP VANG BLOCK, RUTGERSON 500 SERIES

VANG LINE (TO PORT SHEET STOPPER) SEE PAGE 42A

FOR VANG DETAILS SEE FOLLOWING PAGES

HUNTER®
 360 RIGID VANG DETAILS FURLING/OPT.
 DRAWING NO. 36080-42B
 PARTS ENGINEERING DEPT.
 DATE 2/12/98
 NONE

RODKICKER 10/20/30



A. Montage Gasfjäder

För Rodkicker utan gasfjäder, gå direkt till avdelning B.

1. Ta ut gasfjäder ③ och tillhörande ändplugg ④ ur sin förpackning.
2. Gånga på ändpluggen ⑥ på gasfjäders kolvsätångsände (den smala delen). Om ändpluggen har flänsar, skall dessa vändas mot gasfjäders.
3. Lossa den övre bussningen ③, monterad med två snäppfästen, genom att trycka in båda fästena samtidigt.
4. Det smala röret ② går nu att dra ut. Ta loss ändpluggen ④.
5. I ändpluggen ④ finns ett gängat hål. Gånga på gasfjäders

A. Fitting the gas cylinder

For Rodkickers without gas cylinders go direct to B.

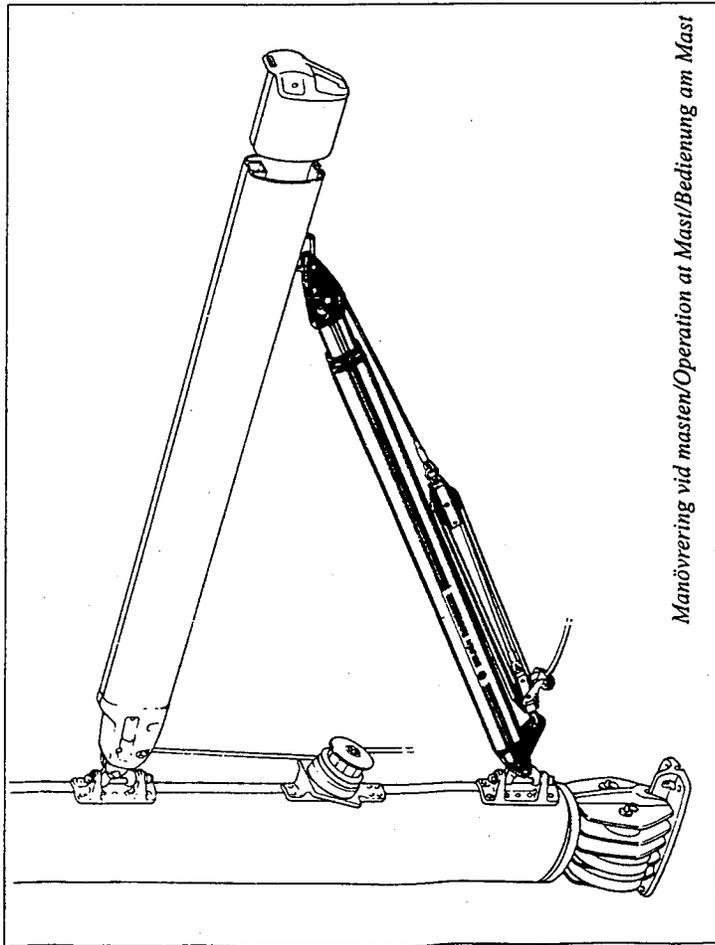
1. Remove the gas cylinder ⑥ with its end plug from its wrappings.
2. Screw the end plug ⑥ on to the thin end of the gas cylinder. Ensure that the flat end of the plug faces away from the cylinder.
3. Remove the upper bushing ③ by pressing in both snap-fasteners simultaneously.
4. Withdraw the small tube ②. Remove the endplug ④.

A. Montage der Gasfederung

Für Rodkicks ohne Gasfederung, lesen Sie bitte unter Abschnitt B weiter.

1. Nehmen Sie die Gasfederung ③ und den dazugehörigen Plastik-Endbeschlag ④ aus seiner Verpackung.
2. Schrauben Sie den Endbeschlag ⑥ auf das Kolbenstangende (das dünne Ende). Wenn der Plastik-Endbeschlag Flanschen hat, sollen diese zur Gasfeder gerichtet werden.
3. Lösen Sie die obere Buchse ③ des Rodkicks. (Die Buchse ist mit zwei Schnappverschlüssen befestigt) durch gleichzeitiges drücken der Verschlüsse.
4. Das schmale Rohr ② läßt sich jetzt herausziehen. Nehmen Sie den Endbeschlag ④ ab.

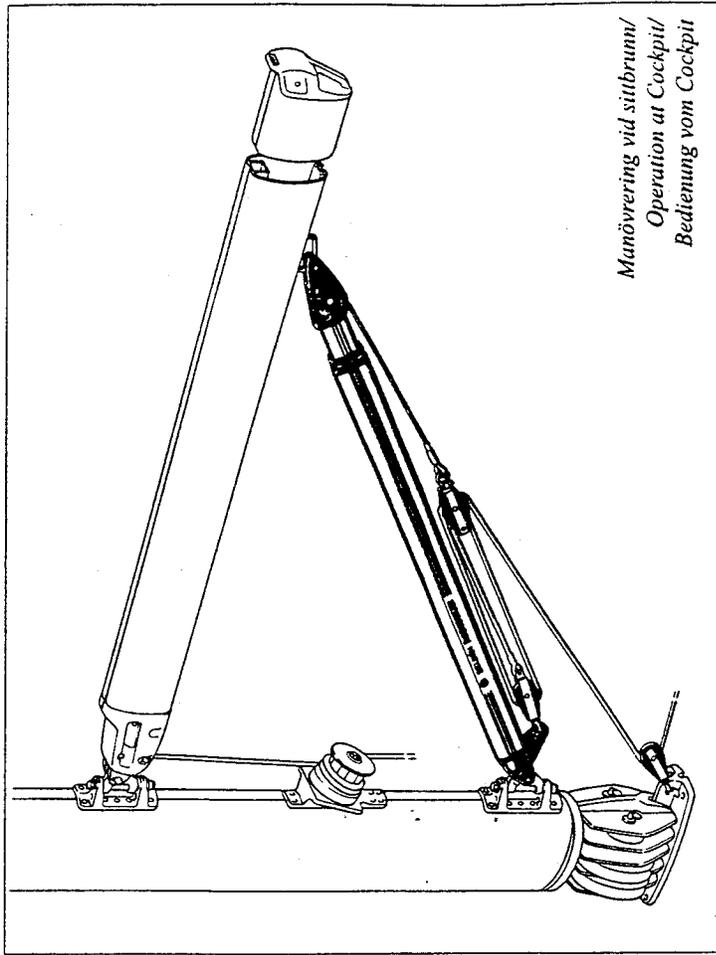
RODKICKER 10/20/30



Manövrering vid masten/Operation at Mast/Bedienung am Mast

B. Montage av Rodkick

1. Montera/lossa bomtravaren så att den är rörlig i bommens längdriktning. Om bommen är försedd med en fast bomtravare, som ej går att flytta, måste montagepunkt B3 utföras med stor försiktighet så att Rodkicken ej skadas. Rodkickens längd i hoptryckt läge kan ändras genom att kapa/byta ut det nedre röret. Tag kontakt med återförsäljaren.
2. Montera Rodkicken på bom och mastfäste. Kontrollera att bomtravaren kan glida så att kicken ej utsätts för några tryckkrafter under moment B 3.
3. Hissa storseglet och skota hem hårt. Kontrollera att



*Manövrering vid stitbrunn/
Operation at Cockpit/
Bedienung vom Cockpit*

B. Montage des Rodkicks

1. Fit the boom-slider so that it is moveable along the boom. If the boom has a fitting that cannot be moved, great care must be taken to avoid damaging the Rodkicker when executing point B 3 below. The length of the Rodkicker in its compressed state can be altered by shortening or replacing the larger tube. Contact your dealer.
2. Fit the Rodkicker to the boom and the mast fittings. ensure that the boom slider can slide so that the Rodkicker is not subjected to any compression forces during point B 3 below.
3. Hoist the mainsail, and sheet home hard whilst ensuring that the Rodkicker does not "bottom".

1. Monteren Sie oder lösen Sie den Baumrutscher, damit er in der Längsrichtung beweglich ist. Sollte der Baum mit einer starren Baumniederholer-Befestigung versehen sein, welche sich nicht verschieben läßt, so muß unter Punkt 3 in der Montageanleitung mit größter Vorsicht vorgegangen werden um den Rodkick nicht zu beschädigen. Die Länge des Rodkicks in zusammengedrücktem Zustand kann verändert werden durch Kürzen oder Tauschen des unteren Rohres. Bitte sprechen Sie mit unserem Wiederverkäufer.
2. Montieren Sie den Rodkick am Baum- und Mastbeschlag. Kontrollieren Sie, daß der Baumrutscher gleitet, sodaß der Niederholer keinen Druckbelastungen ausgesetzt wird

cylinderdelen (den tjocka änden). Rikta in ändpluggarna ④ och ⑤ på linje t.ex. med hjälplapp av en bordsskiva. I vissa gasfjädersatser av typ HARD (hård) och EXTRA HARD (extra hård) måste den befintliga ändpluggen ersättas med en med större gängat hål. En sådan extra ändplugg finns i gasfjädersatsen. VAR FÖRSIKTIG SÅ ATT DE HOPKOPPLADE DELARNA EJ BRÖTES.

6. Håll undan wiren och skjut in distansröret ⑦ i det grövre röret ända ner till ändbeslaget.
7. Skjut försiktigt ner de hopkopplade delarna, med ändpluggen ④ först, i det grövre röret ⑦ tills gasfjäders ändplugg när distansröret ⑦. Håll wiren sträckt, och kontrollera att den kommer i ändpluggarnas slitser.
8. Skjut ner bussningen ③ och tryck den på plats med snäpprästena.
9. Montera dekalerna "GAS" ovanpå dekorränderna på det grövre röret, nära övre bussningen ③.

C. Rodkicker kan kortas.

Med hänsyn till gasfjäders längd kan kortningen maximalt göras:
Rodkicker 10: 190 mm
Rodkicker 20: 300 mm
Rodkicker 30: 570 mm

En kortning av wiren kan bli nödvändig för att taljan skall få plats.

1. Demontera Rodkicker enl. punkt A.3 och A.4, första meningen.
2. Korta det grövre röret ⑦ genom att kapa i den övre ände där bussningen ③ satt.
3. Borra två nya hål, \varnothing 8,5 mm, för bussningen vid den kapade änden med placering som på den avkapade biten. (21.0 + 0, -0,5 mm). Grada hål och kappyt.
4. Kapa distansröret ⑦ lika mycket som det grövre röret ⑦ (endast för Rodkicker med gasfjäder.)
5. Återmontera Rodkicker enligt punkterna A.6 - A.8.

5. There is a threaded hole in the endplug ④. Carefully screw on the thick end of the gas cylinder. By placing the assembly on a bench, correct alignment of ④ and ⑤ is greatly facilitated. With some HARD and EXTRA HARD type gas springs the end-plug must be replaced by one with a larger threaded hole. This is supplied with the gas spring kit. BE CAREFUL NOT TO DAMAGE THE PARTS.

6. Hold the wire clear and push the spacer tube ⑦ in the larger tube down to the end fitting.
7. Ensuring that the wire is tight and runs in the slots of end plugs, push the assembled components carefully into the larger tube ⑦, with the end-plug ④ foremost, until the gas cylinder end-plug bottoms on the spacer tube ⑦. Check that the wire runs in the slots of the end-plugs.
8. Push the bushing ③ down, and lock it in place with its snapfasteners.
9. Apply the "GAS" labels over of the striped labels on the larger tube near the upper bushing ③.

C. Rodkicker can be shortened

Depending on the length of the gas spring the maximum length reduction is:

Rodkicker 10: 190 mm
Rodkicker 20: 300 mm
Rodkicker 30: 570 mm

It may be necessary to shorten the wire to make space for the tackle.

1. Dismantle the rodkicker acc. to items A.3 and A.4, first sentence.
2. Shorten the larger tube ⑦ by cutting the end where the bushing ③ was fitted.
3. Drill two new holes (\varnothing 8,5 mm) for the bushing at the newly cut end, to match the previous holes (21.0 + 0, -0,5 mm). Remove burrs and chamfer cut end.
4. Cut the circular spacer tube ⑦ by the same amount as the larger tube ⑦ (only valid for Rodkickers with a gas spring).
5. Reassemble the Rodkicker acc. to items A.6 - A.8.

5. In dem unteren Endbeschlag dieses Rohres ④ befindet sich ein Loch mit Gewinde. Schrauben Sie hier vorsichtig den Zylinderenteil der Gasfederung fest (das dickere Ende). Montieren Sie die Endbeschläge ④ und ⑤ so, daß sie fluchten, z.B. mit Hilfe einer Tischkante. Bei einigen Gasfeder-Bausätzen vom Typ HARD (hart) unter EXTRA HARD (extra hart) muß der vorhandene Endbeschlag gegen einen mit größerem Loch ausgetauscht werden (mit Gewinde versehen). Dieser extra Endbeschlag ist in dem Gasfederbausatz enthalten. VORSICHT BITTE, DAMIT DIE ZUSAMMENGESCHRAUBTEN TEILE NICHT GEKNICKT WERDEN.

6. Halten Sie das Drahtseil fern und schieben Sie das Distanzrohr ⑦ bis zum Endbeschlag in das dickere Rohr.
7. Halten Sie das Drahtseil gestreckt und kontrollieren Sie, daß es in den Schlitzten der Endbeschläge liegt. Schieben Sie die zusammengesetzten Teile vorsichtig, mit dem Endbeschlag ④ zuerst, in das dickere Rohr ⑦ bis der Endbeschlag der Gasfederung das Distanzrohr ⑦ erreicht. Kontrollieren Sie, daß das Drahtseil in den Schlitzten der Endbeschläge liegt.
8. Schieben Sie die Buchse ③ nach unten, bis die Schnappverschlüsse einrasten.
9. Kleben Sie das Bild "GAS" auf die Dekorationsränder des dickeren Rohres, nahe der oberen Buchse ③.

C: Der Rodkicker kann verkürzt werden.

In Hinsicht auf die Länge der Gasfeder kann die Verkürzung maximal beim:

Rodkicker 10: 190 mm
Rodkicker 20: 300 mm
Rodkicker 30: 570 mm werden.

Eine Verkürzung der Drahtseils kann notwendig werden, damit die Talje Platz hat.

1. Demontieren Sie den Rodkicker laut Punkt A.3 und A.4 erster Satz.
2. Verkürzen Sie das dickere Rohr ⑦ wo die Buchse ③ saß.
3. Bohren Sie zwei neue Löcher für die Buchse, \varnothing 8,5 mm, am abgeschnittenen Rohrende mit dem abgeschnittenen Teil als Vorlage (21.0 + 0, -0,5 mm). Entgraten Sie die Löcher und die Schnittkanten.
4. Schneiden Sie das Distanzrohr ⑦ wie das dickere Rohr ⑦ ab. (gilt nur für Rodkicker mit Gasfeder).
5. Montieren Sie den Rodkicker wieder laut Punkt A.6 - A.8.



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Rodkicken ej går "i botten".

4. Skjut ihop kicken så att övre beslaget vilar mot den fjädrande bussningen. Använd kicktäljan. Om en gasfjäder är monterad fordras en kraft på 600–5000 N ("60–500 kg") beroende på vilken fjäder som är monterad.

5. Marktera travarens läge på bommen.
6. Montera travaren provisoriskt ca 5 mm AKTER OM markeringen.

7. Hissa storseglet igen och kontrollera att Rodkicken ej går "i botten". Upprepa kontrollen för revat storsegel (alla rev).

8. Kontrollera hur bommen, i sitt viloläge, kommer i förhållande till vindrutor, sprayhood, mantåg etc.
9. Montera bomtravaren permanent.

I hamn och vid motörgång bör bommen säkras i sitt höjdläge med hjälp av storfallet eller dirkstropp. Beträffande olika arrangemang av kicktäljan, se ovan.

Rodkicker kan kortas. Se omstående sida, rubrik C.



OBS. För att gasfjädersnårens kolvstångspackning ej skall torka måste gasfjädern användas/förvaras med kolvstångsänden lägre än den tjockare cylinderrändens d.v.s. Rodkicken användes/förvaras med den grövre profilen lägre än den smalare.

4. Compress the Rodkicker until the upper fitting just rests against the upper bushing. Use the kicking strap. If a gas cylinder is fitted, a force of between 600–5000 N (60–500 kg) is required depending upon which cylinder is fitted.

5. Mark the position of the slider on the boom.
6. Provisionally fix the slider approximately 5 mm (3/16") AFT OF the mark.

7. Again hoist the mainsail and check that the Rodkicker does not "bottom". Repeat hoisting and checking with the mainsail reefed – go through all reefs.

8. Allow the boom to rest, and check its level in relation to the sprayhood, wind screen, lifelines etc.
9. Secure the boom-slider in its permanent position.

When in harbour, or under power, the boom level should be maintained by using a topping lift strap or the main halyard. Re alternative kicking strap arrangements see above.

The Rodkicker can be shortened. See overleaf, heading C.



NOTE. To prevent the gas cylinder piston packing drying out, the cylinder must be used, parked, and stored with the piston rod end lower than the end of the thicker cylinder (i.e. the larger end of the Rodkicker lower than the smaller end.)

(siehe Punkt B 3).

3. Heißen Sie das Großegel und holen Sie hart dicht. Kontrollieren Sie, daß der Rodkick dabei nicht bis zum Anschlag zusammengeschoben wird.

4. Schieben Sie den Rodkick soweit zusammen, bis der obere Beschlag die federnde Buchse erreicht. Verwenden Sie die Talfje. Die benötigte Kraft bei einer vorhandenen Gasfeder ist 600–5000 N (60–500 kg) abhängig von der montierten Federung.

5. Markieren Sie die Position des Rutschers im Baum.

6. Montieren Sie den Rutscher provisorisch, ca 5 mm achtern der Markierung.

7. Heißen Sie das Großegel wieder und kontrollieren Sie, daß der Rodkick nicht bis zum Anschlag zusammengeschoben werden kann. Wiederholen Sie die Kontrolle mit sämtlichen Reffs.

8. Kontrollieren Sie den Baum in der Ruhestellung im Verhältnis zur Windschutzscheibe, Sprayhood, Seereling u.s.w.

9. Montieren Sie danach den Baumrutscher permanent.

Im Hafen und bei Fahrt mit Maschine sollte der Baum in seiner Stellung durch das Großfall oder der Dirk gesichert werden.

Beitr. verschiedener Arrangements des Niederholers, siehe oben. Der Rodkicker kann verkürzt werden. Siehe nächste Seite, Überschrift C.



ACHTUNG: Damit die Kolbenstangen-Dichtung in der Gasfederung nicht trocknet, muß die Gasfederung beim Gebrauch sowie bei der Lagerung mit dem Kolbenstangenende tiefer als das dickere Zylinderringende aufbewahrt werden. Das besagt, der Rodkick soll mit dem dicken Teil nach unten verwendet bzw. gelagert werden.



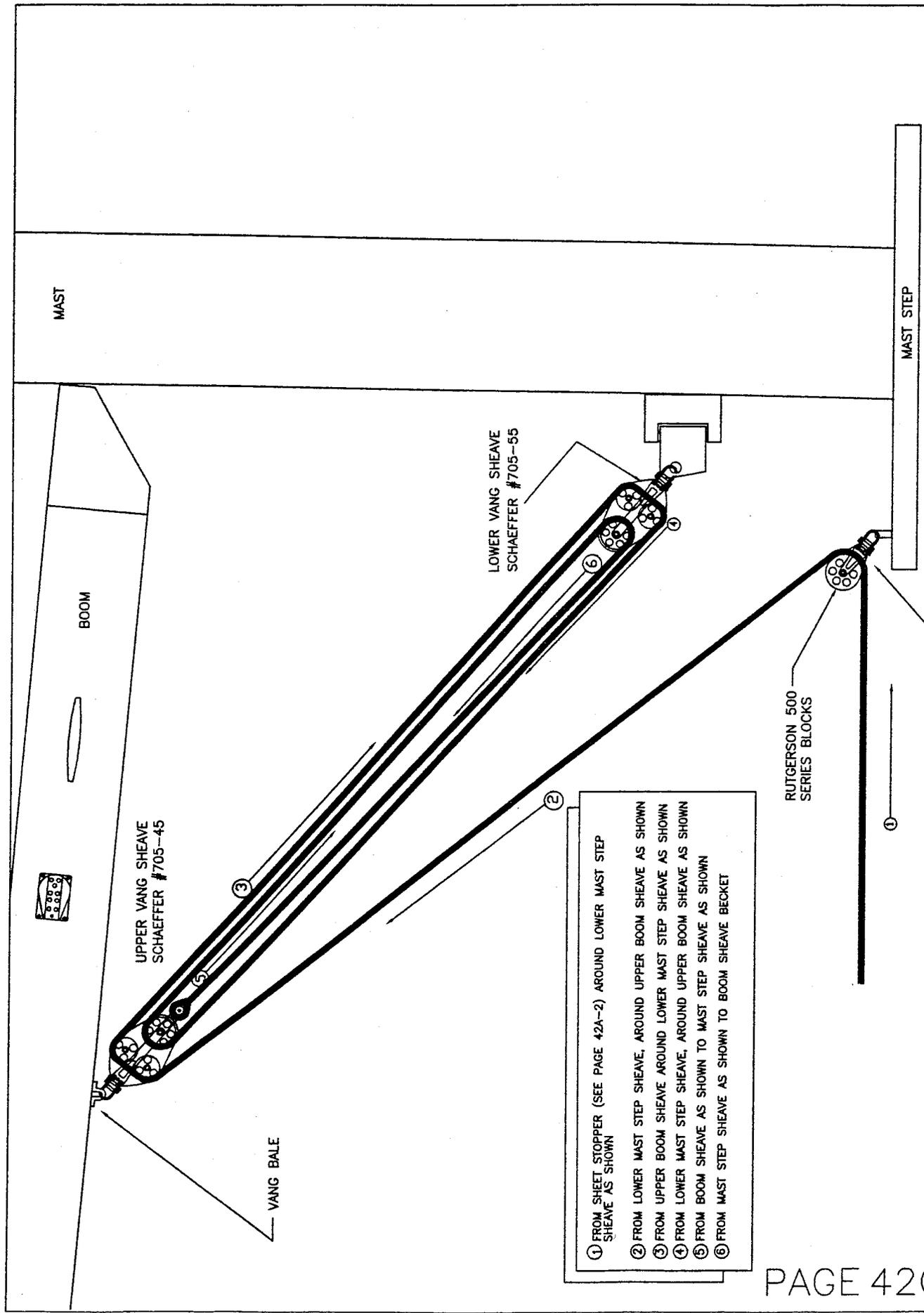
SELDEN

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Tel +44 (0)1489 48 40 00. Fax +44 (0)1489 48 74 87. e-mail selden.ltd@btinternet.com. Internet www.seldenmast.com



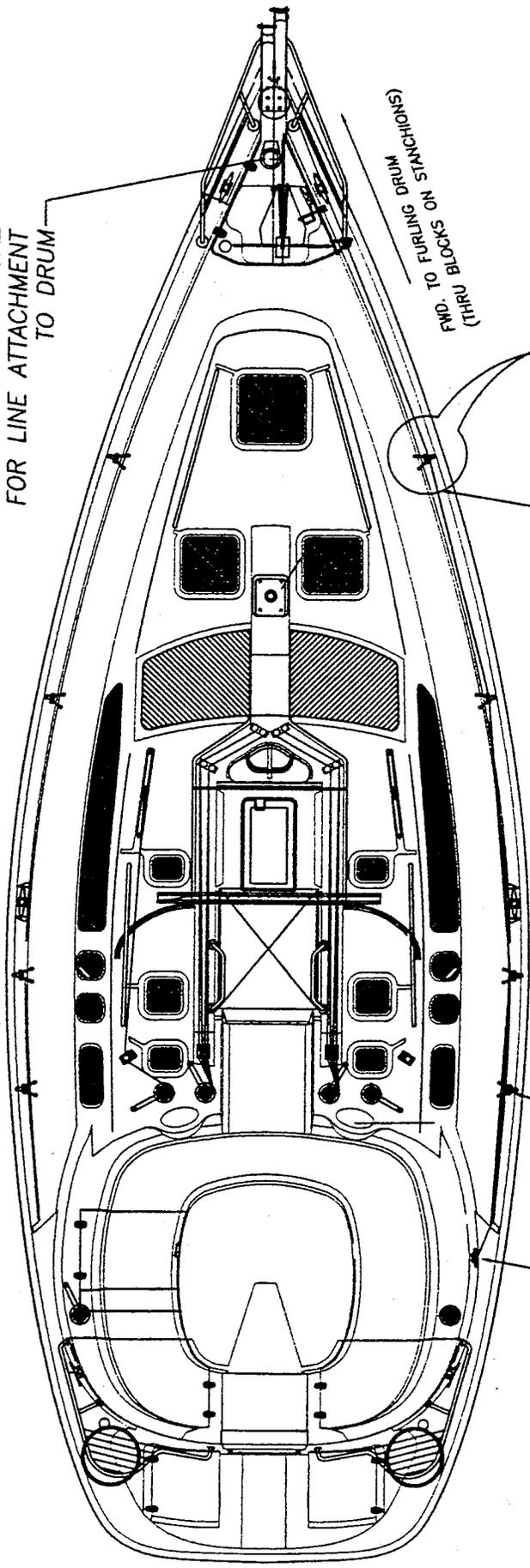
- ① FROM SHEET STOPPER (SEE PAGE 42A-2) AROUND LOWER MAST STEP SHEAVE AS SHOWN
- ② FROM LOWER MAST STEP SHEAVE, AROUND UPPER BOOM SHEAVE AS SHOWN
- ③ FROM UPPER BOOM SHEAVE AROUND LOWER MAST STEP SHEAVE AS SHOWN
- ④ FROM LOWER MAST STEP SHEAVE, AROUND UPPER BOOM SHEAVE AS SHOWN
- ⑤ FROM BOOM SHEAVE AS SHOWN TO MAST STEP SHEAVE AS SHOWN
- ⑥ FROM MAST STEP SHEAVE AS SHOWN TO BOOM SHEAVE BECKET

HUNTER

380 VANG DETAILS (STANDARD)

PROJECT NO. 3808042C
 DRAWING NO. NONE
 DATE 6/28/87
 ENGINEERING DEPT.

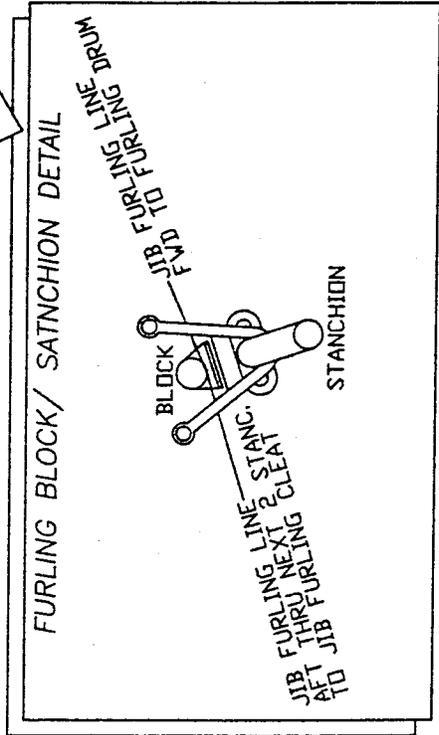
SEE FURLING MANUAL
FOR LINE ATTACHMENT
TO DRUM



FND. TO FURLING DRUM
(THRU BLOCKS STANCHIONS)

JIB FURLING LINE
SPRING BLOCK ON AFT STANCHION,
ALL OTHERS STATIONARY

AFT TO CLEAT



FURLING BLOCK / STANCHION DETAIL
BLOCK
STANCHION
JIB FURLING LINE
AFT THRU NEXT 2 STANCHIONS
FND TO FURLING DRUM

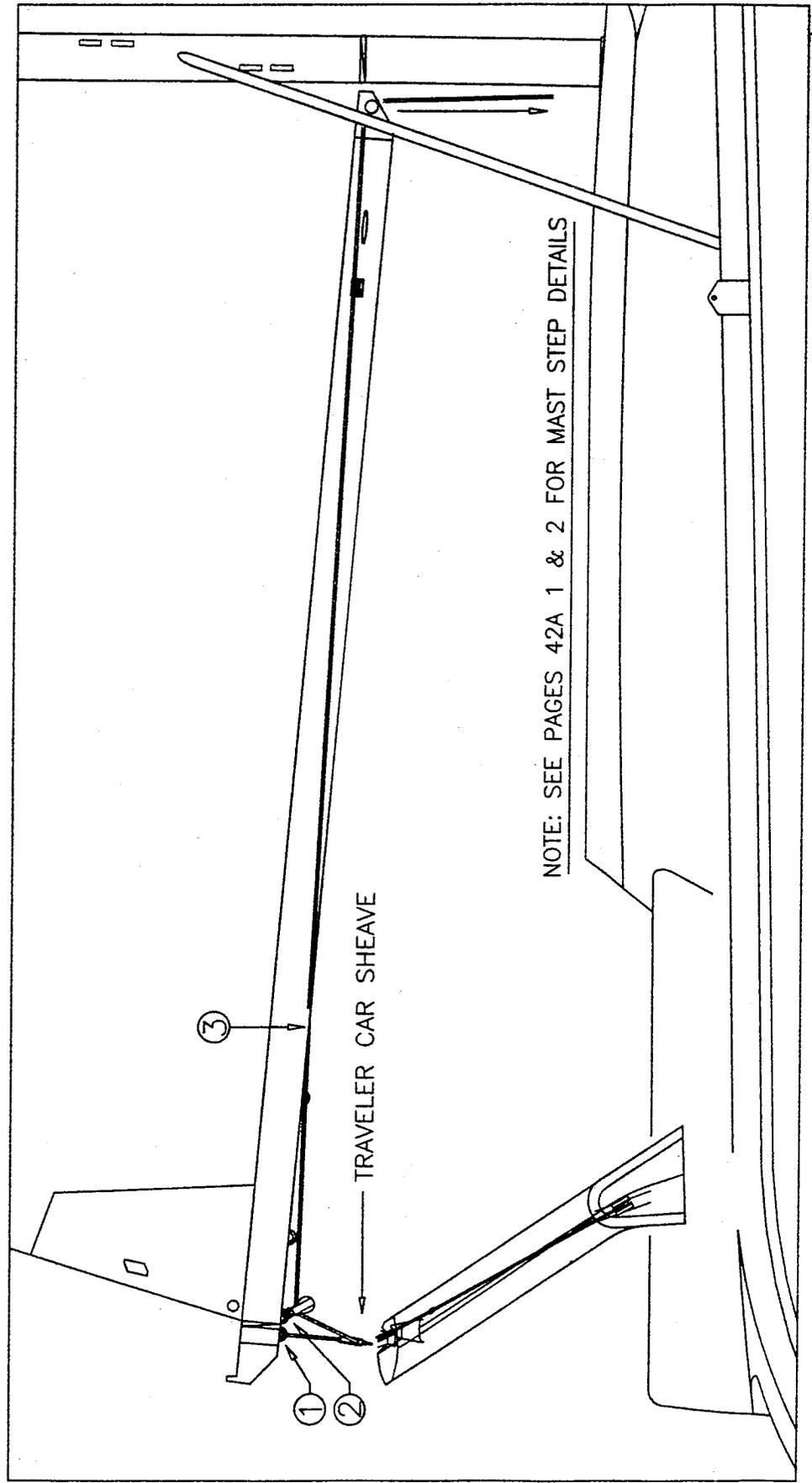
380 JIB FURLING LINES LAYOUT
 HUNTERA
 ENGINEERING DEPT.
 DATE: 2/12/98

JIB FURLING SYSTEM

STANDARD MAINSHEET PURCHASE (ENDBOOM)

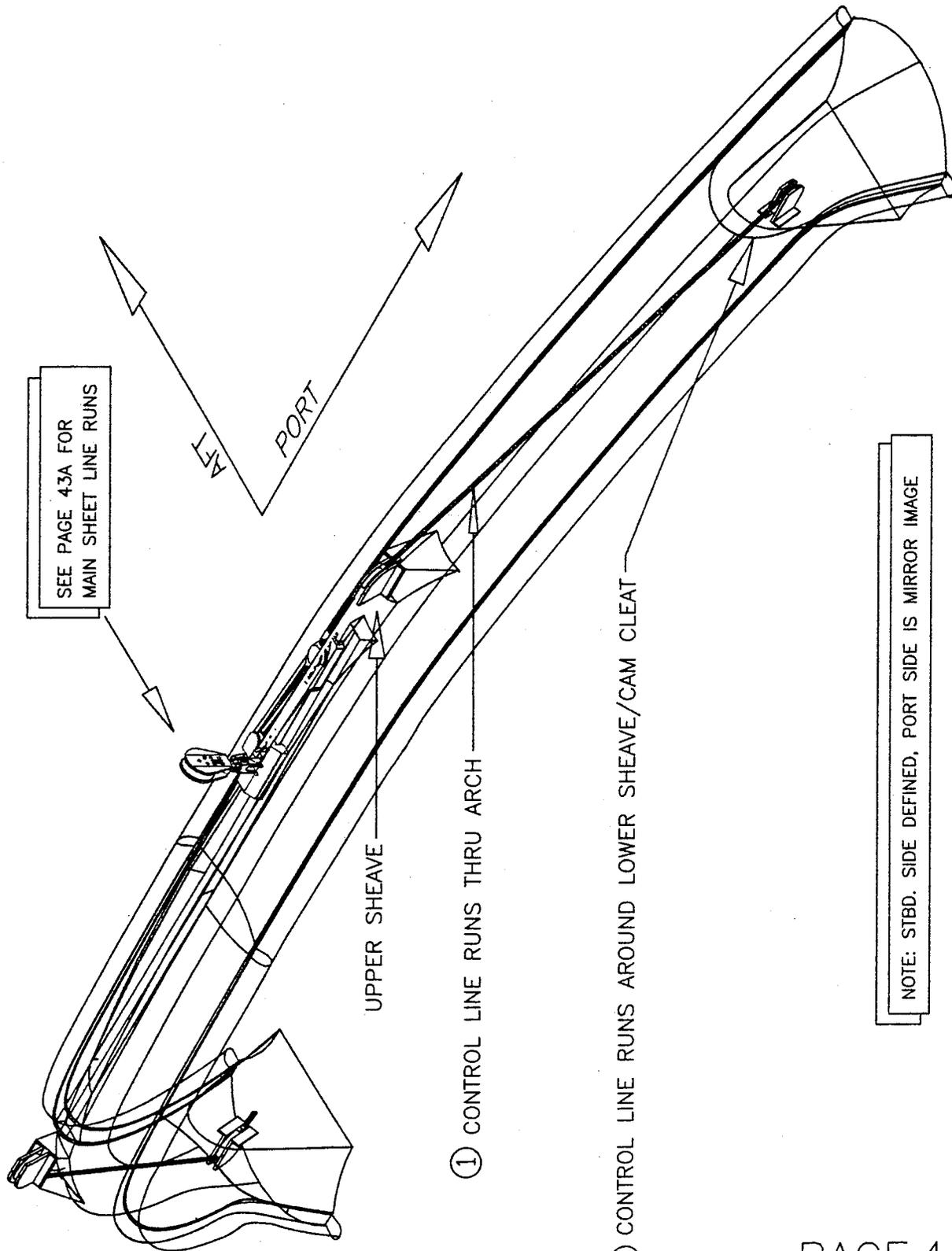
- ① BALE, MAINSHEET END
- ② BALE, MAINSHEET BLOCK
- ③ EXIT, MAINSHEET

NOTE: SEE PAGE 43C FOR ENDBOOM TRAVELER DETAILS



NOTE: SEE PAGES 42A 1 & 2 FOR MAST STEP DETAILS

380 MAINSHEET PURCHASE	
PROJECT NO. 3808043A	DATE 5/28/88
ENGINEERING DEPT.	NONE
HUNTER	



SEE PAGE 43A FOR
MAIN SHEET LINE RUNS

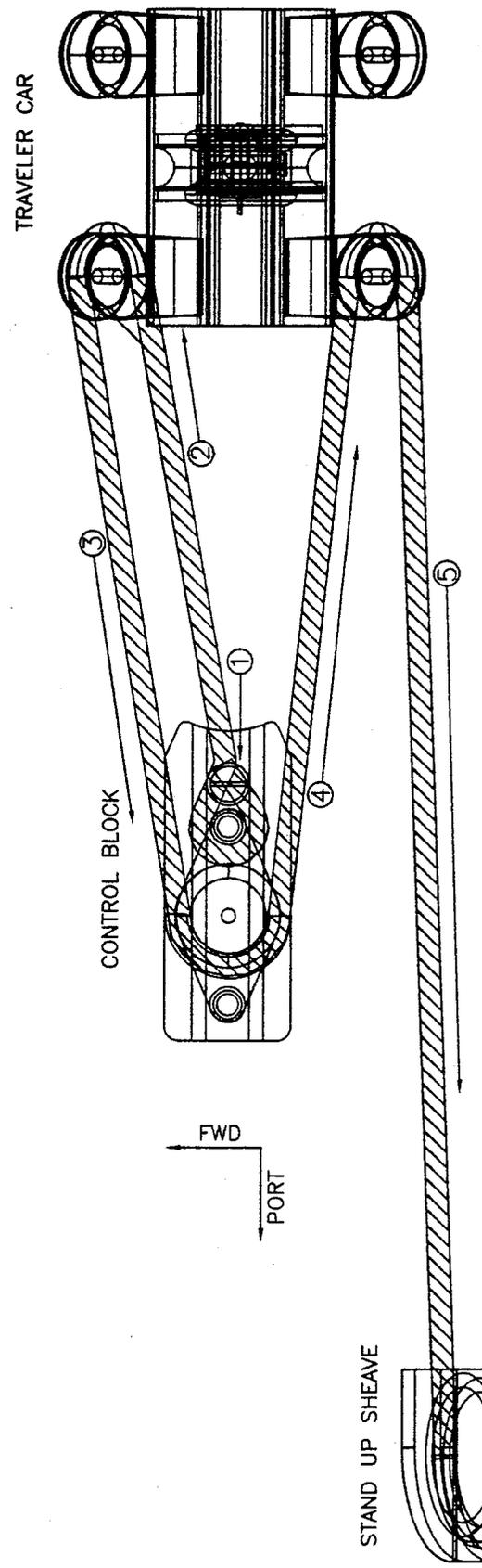
UPPER SHEAVE

① CONTROL LINE RUNS THRU ARCH

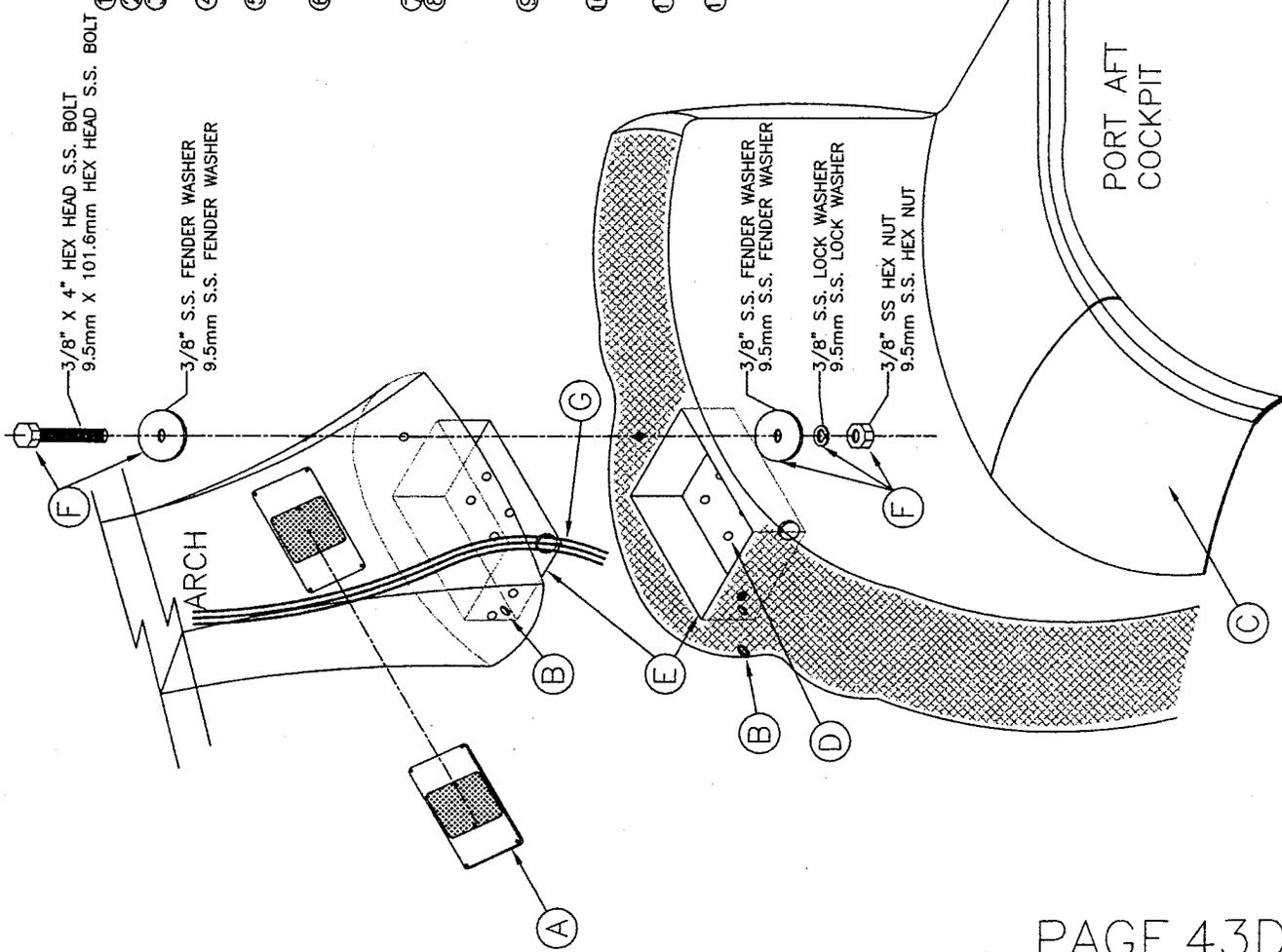
② CONTROL LINE RUNS AROUND LOWER SHEAVE/CAM CLEAT

NOTE: STBD. SIDE DEFINED, PORT SIDE IS MIRROR IMAGE

NOTE:
 ARCH & TRAVELER BAR NOT SHOWN FOR CLARITY.
 PORT SIDE SHOWN, STARBOARD SIDE IS MIRROR IMAGE
 SEE FOLLOWING PAGE FOR MORE DETAILS



- ① SECURE END OF CONTROL LINE TO BECKET ON CONTROL BLOCK
- ② LEAD LINE AROUND FWD. SIDE OF AFT TRAVELER CAR SHEAVE AS SHOWN
- ③ LEAD LINE FROM AFT SIDE OF AFT TRAVELER CAR SHEAVE TO AFT SIDE OF CONTROL BLOCK SHEAVE
- ④ LEAD LINE FROM FWD. SIDE OF CONTROL BLOCK SHEAVE TO AFT SIDE OF FWD. TRAVELER CAR SHEAVE
- ⑤ LEAD LINE FROM FWD. SIDE OF FWD. TRAVELER CAR SHEAVE TO STAND UP SHEAVE
- ⑥ LEAD LINE AROUND STAND UP SHEAVE THEN DOWN THRU ARCH AND AROUND LOWER SHEAVE TO CAM CLEAT



PROCEDURE REQUIRES 3 PEOPLE

- 1 REMOVE ARCH BASE ACCESS COVERS. (A)
- 2 ENSURE DRAINS IN ARCH RECEIVERS ARE FREE AND CLEAR. (B)
- 3 ACCESS UNDERSIDES OF ARCH DECK RECEIVERS THROUGH THE AFT COCKPIT LOCKERS, PORT AND AFT STBD. (C)
- 4 APPLY DOW CORNING 999 WHITE SEALANT AROUND MOUNTING BOLT HOLES IN DECK. (D) 6 PER SIDE
- 5 PLACE ARCH BASE INTO ARCH RECEIVERS. (E) NOTE: TO AVOID POSSIBLE INJURY, ORIENT THE DIRECTION OF THE ARCH (LEANING FORWARD) PRIOR TO INSTALLING INTO RECEIVERS.
- 6 LOOSELY INSTALL MOUNTING BOLTS, WASHERS AND NUTS. NOTE: TO PREVENT "GALLING" THREADS, A SMALL AMOUNT OF NEVER SEIZE SHOULD BE APPLIED TO THE THREADS OF ALL BOLTS. (F) 6 ASSEMBLIES PER SIDE
- 7 CHECK FIT OF ARCH INTO RECEIVERS AND ADJUST ACCORDINGLY.
- 8 SECURELY TIGHTEN ALL ARCH MOUNTING BOLTS AND NUTS USING A CROSS TIGHTENING PATTERN. THIS WILL ALLOW BOTH SIDES OF THE ARCH TO TIGHTEN EVENLY AGAINST THE COAMING. CONTINUE HOLDING THE ARCH UPRIGHT UNTIL IT HAS BEEN FULLY SECURED. IMPORTANT: WHILE TIGHTENING, CHECK TO ENSURE THE RUBRAIL ENDS NESTS PROPERLY AGAINST THE COAMING. SOME TRIMMING MAY BE NECESSARY.
- 9 CLEAN OFF EXCESS SEALANT FROM ARCH AND DECK AREAS. APPLY A BEAD OF DOW CORNING 999 WHITE SEALANT AROUND BASE OF ARCH.
- 10 ROUTE SPEAKER AND LIGHT WIRING FROM THE ARCH TO DECK AND CONNECT ACCORDINGLY. (G) (SEE PAGE 43E)
- 11 CLEAN ARCH DRAINS OF ANY EXCESS CAULK OR OTHER DEBRIS AFTER COMPLETING INSTALLATION.

IMPORTANT: CHECK ALL ARCH BOLTS AFTER INITIAL SEA TRAIL RE-TIGHTEN AS NEEDED.

- SUGGESTED TOOL LIST**
- 3/8" DRIVE RATCHET
 - 6" EXTENSION
 - 9/16" SOCKET
 - 9/16" WRENCH
 - SCREW DRIVERS
 - *FLAT HEAD
 - *PHILLIPS HEAD
 - CAULK GUN
 - TUBE SEALANT
 - (DOW CORNING 999)
 - NEVER SEIZE (BOLT LUBE)
 - RAZOR KNIFE
 - ALCOHOL / CLEANUP

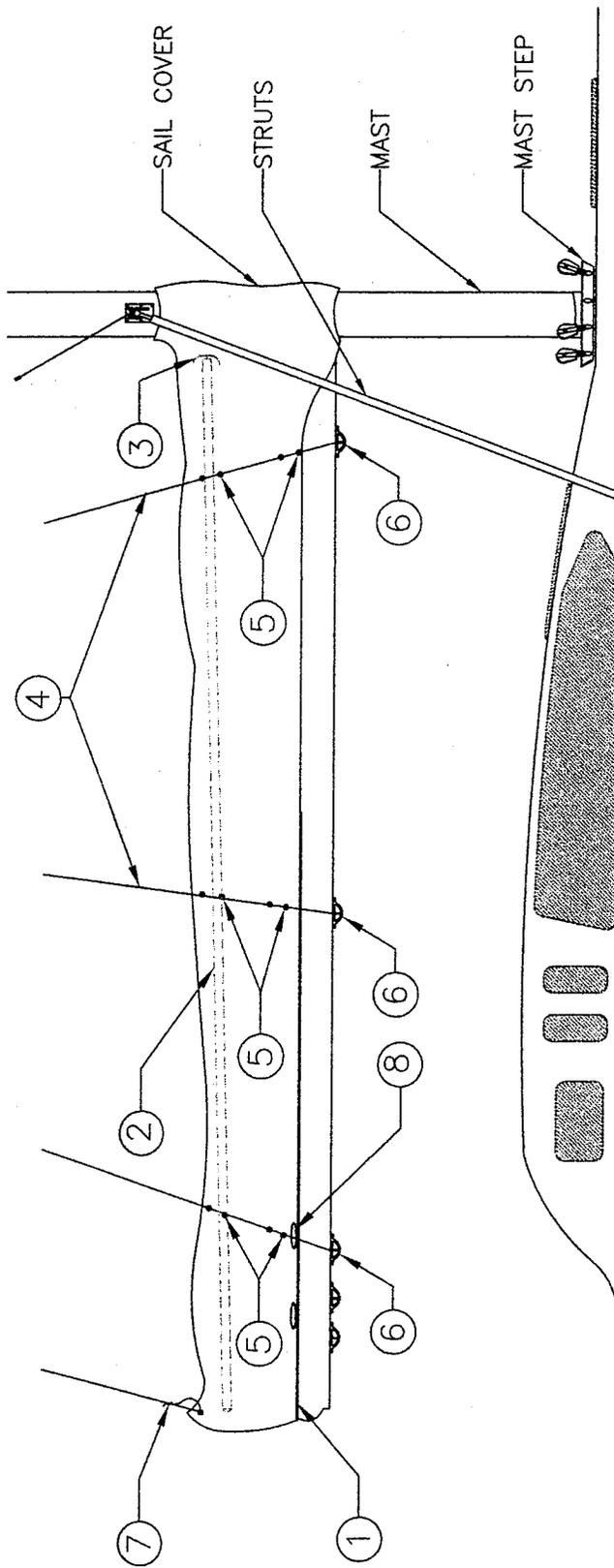
NOTE: ONCE THE ARCH HAS BEEN SET INTO PLACE, CONTINUE HOLDING IT UPRIGHT UNTIL IT HAS BEEN SECURED COMPLETELY.

SLIDE THE BOLTROPE ON THE TWO HALVES OF THE COVER INTO THE BOLTROPE TRACKS (1) ON BOTH SIDES OF THE BOOM. START FROM THE AFT END AND MAKE YOUR WAY FORWARD.

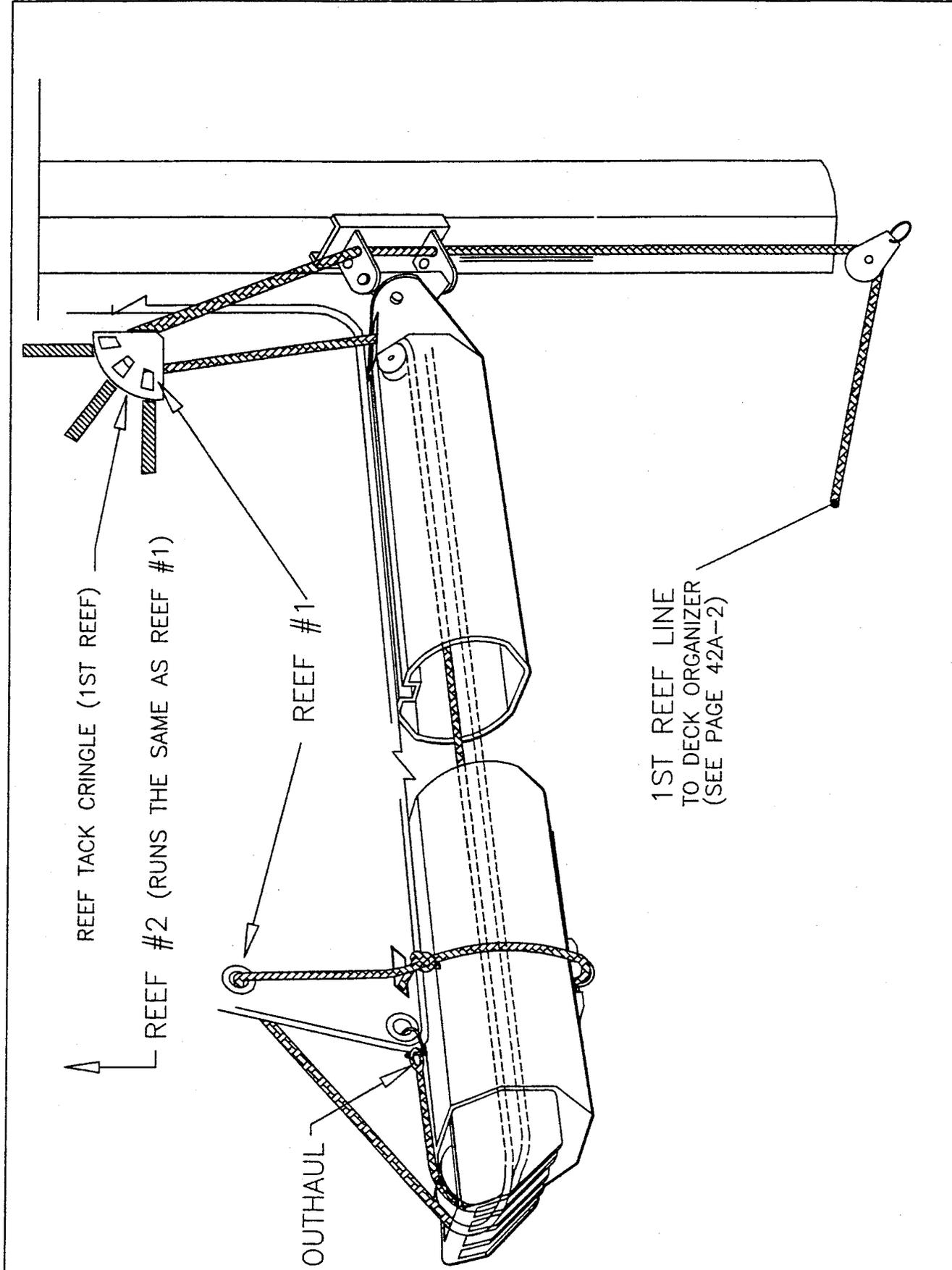
INSTALL THE 18' PVC BATTENS (2) INTO EACH HALF OF THE SAIL COVER. THERE ARE POCKETS (3), THAT OPEN TOWARDS THE FRONT, ON THE INSIDE OF THE COVER. SLIDE THE BATTENS INTO PLACE FROM THE FRONT, AND ROLL THE INSIDE LIP OF THE POCKET BACK IN ORDER TO HOLD THE BATTENS STATIONARY.

FEED THE LAZYJACK LINES (4) DOWN THROUGH THE GROMMETS (5) IN THE SAIL COVER, STARTING AT THE TOP AND COMING OUT AT THE BOTTOM OF THE COVER. DEAD END THE LINES TO THE BAILS ON THE UNDERSIDE OF THE BOOM (6).

TIE THE AFT END OF THE SAIL COVER UP TO THE TOPPING LIFT LINE USING THE PIECE OF STRING PROVIDED (7). USE HALF HITCH KNOTS TO SECURE THE COVER IN PLACE AT THE OUTER END OF THE BOOM. THE REEF LINES RUN OUT THROUGH THE COVER SLOTS (8) AND TIE OFF.



FOR COMPLETE DETAILS REFER TO THE HUNTER WORK BOOK FOR PROPER FIT
HUNTER
380 HUNTER LAZYJACK SAIL COVER
 DRAWING NO. 380B043F SCALE NONE
 DRAWN BY: ENGINEERING DEPT DATE 9/11/98



REEF TACK CRINGLE (1ST REEF)
 REEF #2 (RUNS THE SAME AS REEF #1)

REEF #1

OUTHAUL

1ST REEF LINE
 TO DECK ORGANIZER
 (SEE PAGE 42A-2)

380 BOOM AND REEF LAYOUT

PROJECT NO.	3808044A	DESIGNED BY	NONE
ENGINEERING DEPT.		DATE	2/12/98

HUNTER

REEFING

- 1. Release tension on vang.**
- 2. Ease main sheet out a couple of feet.**
- 3. Wrap main halyard on winch.**
- 4. Open main halyard clutch.**
- 5. Ease main halyard down while simultaneously pulling in on both reef lines.**
- 6. When desired reef tack is about a foot above the boom, lock off the main halyard.**
- 7. Put desired reef line on the winch and tension until the tack and clew are in position.**
- 8. Tension main halyard until horizontal wrinkles are gone from the luff of the sail.**
- 9. Adjust main sheet and vang to suit your desired course.**
- 10. Pull in extra line from the reef you are not using just to straighten up.**

UN-REEFING

- 1. Ease tension on vang and mainsheet.**
- 2. Release reef line clutches.**
- 3. Wrap main halyard on winch and tension until reef is removed.**
- 4. Readjust mainsheet and vang to suit course.**

380/dwg/8ownman/reef.doc (m.s.word)

REEFING INSTRUCTIONS

PRE-MARK THE MAIN HALYARD FOR EACH REEF

1. Shackle tack reef blocks to first and second reef tack cringles.
2. Run both reefing lines as illustrated in the Boom & Reef layout. Both portions of the reefing line leading to the reef tack block must run through the stainless steel eye on the side of the spar. The shorter reef line will be used on the first reef (starboard side, GREEN) the longer reef line on the second reef (port side, RED,).
3. Raise the main sail.
4. Ease the mainsheet and vang.
5. Lower the main sail to approximately the first reef position.
6. Take up the slack in the first reefing line.
7. Adjust the main halyard so that the tack reef block is not contacting the stainless steel eye on the side of the spar and is applying tension to the luff of the main above the reef, not below. There will be approximately 6" (150 mm) of stretch in the main luff and main halyard when the reefing line is tensioned, so make sure that this is allowed for when adjusting the main halyard to locate the tack reef block.
8. Tension the reef line with the appropriate self-tailing winch until the clew reef cringle is brought down to the boom.
9. Confirm that the tack reef block is still clear of the stainless steel eye and that only the main luff above the reef cringle is tensioned, not the luff between the cringle and the top stacked sail slide. Ease the reef line and readjust the halyard if necessary.
10. Mark the halyard at the stopped with a 1" (25mm) single band of indelible marker ink. By dropping the halyard to this mark every time a reef is required the halyard is automatically in the correct position for the reef.
11. Repeat the procedure for the second reef, using double bands to mark the halyard in the correct position.

REEFING PROCEDURE

1. Head up into the wind.
2. Ease the mainsheet and vang.
3. Check the topping life for adequate boom support.
4. Lower the main halyard to the appropriate mark, and snub the line with the stopper.
5. Tension the reefing line with the self-tailing winch until the reef clew is brought down to the boom. Apply stopper. Ease the topping lift.

SHAKING OUT A REEF

1. Head up into the wind.
2. Ease the mainsheet and vang. Tension to topping lift.
3. Release the reef stopper and remove reef line from winch.
4. Tension the main halyard to raise sail, making sure reef lines run freely while sail is being raised. Apply stopper to main halyard.
5. Re-tension vang and mainsheet. Ease the topping lift.

RUNNING RIGGING SPECIFICATIONS

BOAT: HUNTER 380
 BY: KJC
 CHECKED BY:

FILE NAME: A
 REVISION: A
 DATE: 7/9/98
 DATE: 7/9/98
 DATE: UPDATED LENGTHS, AS PER S. PETTINGILL

OPT/STD	ITEM	QUANTITY	LINE SIZE	LINE TYPE	COLOR	END 1	LENGTH	END 2
1 STD	MAIN HALYARD	1	7/16" (11mm)	XLS EXTRA	BLUE	HEADBOARD SHACKLE	37.3 m	123 ft BARE
2 STD	JIB HALYARD	1	7/16" (11mm)	XLS EXTRA	RED	EYE	35.4 m	116 ft BARE
3 STD	MAIN TRAVELER LINE	2	5/16" (8mm)	LS	WHITE	SMALL EYE	7.9 m	26 ft BARE
4 STD	MAINSHEET	1	1/2" (12.5mm)	XLS	BLUE FLECK	SMALL EYE	24.5 m	80 ft BARE
5 STD	REEFING LINE #1	1	7/16" (11mm)	LS	GREEN FLECK	BARE	25.8 m	85 ft BARE
6 STD	REEFING LINE #2	1	7/16" (11mm)	LS	RED FLECK	BARE	33.4 m	110 ft BARE
7 STD	JIB SHEET	2	1/2" (12.5mm)	LS	RED FLECK	BARE	12.0 m	40 ft BARE
8 OPT	CRUISING SPINN. SHEET	2	7/16" (11mm)	LS	BLACK FLECK	BARE	25.3 m	83 ft BARE
9 OPT	SPINNAKER HALYARD	1	7/16" (11mm)	XLS	BLACK	SNAP SHACKLE NF11000s	35.4 m	116 ft BARE
10 STD	VANG	1	7/16" (11mm)	LS	WHITE	SMALL EYE	15.2 m	50 ft BARE
STD	BOOM TOPPING LIFT	1	3/8" (9.5mm)	LS	WHITE	SMALL EYE, 3/16" D-SHACKLE	33.9 m	111 ft BARE
11 STD	LAZY JACK WIRE	2	1/8" (3.2mm)	PLASTIC COATED 7x7 WIRE	WHITE	EYE & THIMBLE, SMALL SHACKLE	5.5 m	18 ft EYE & THIMBLE, HARKEN 125 OR EQUIVALENT
12 STD	FIXED LAZY JACK LINE	2	3/8" (9.5mm)	LS	WHITE	BARE	6.3 m	21 ft BARE
13 STD	ADJUSTABLE LAZY JACK LINE	2	3/8" (9.5mm)	LS	WHITE	SS THIMBLE SPLICED	8.4 m	28 ft BARE

380 RUNNING RIGGING SPECIFICATIONS (STD)
 HUNTER 380
 ENGINEERING DEPT
 6/29/88

HUNTER

380 FURLING RUNNING RIGGING SPECIFICATIONS

BOAT: H380
 BY: KJC
 CHECKED BY:

FILE NAME: 380 SELDEN FURLING RUNNING
 DATE: 6/24/88

REVISION: UPDATED LENGTHS 7/15/88

OPT/STD	ITEM	QUANTITY	LINE SIZE	LINE TYPE	COLOR	END 1	LENGTH	END 2
1 STD	MAIN HALYARD	1	7/16" (11mm)	XLS EXTRA	BLUE	SMALL EYE	37.6 m	BARE
2 STD	JIB HALYARD	1	7/16" (11mm)	XLS EXTRA	RED	SMALL EYE	36.1 m	BARE
3 STD	MAIN TRAVELER LINE	2	5/16" (8mm)	LS	WHITE	SMALL EYE	7.9 m	BARE
4 STD	MAINSHEET	1	7/16" (11mm)	XLS	BLUE FLECK	SMALL EYE	24.5 m	BARE
5 STD	JIB SHEET	2	1/2" (12mm)	LS	RED FLECK	BARE	12.3 m	BARE
6 OPT	SPINN. SHEET	2	7/16" (11mm)	LS	BLACK FLECK	BARE	24.5 m	BARE
7 STD	MAIN FURLING LINE	1	3/8" (9.5mm)	LS	BLUE	BARE	11.9 m	BARE
8 OPT	SPINNAKER HALYARD	1	7/16" (11mm)	XLS	BLACK	SNAP SHACKLE NF11000s	38.7 m	BARE
9 STD	BOOM TOPPING LIFT	1	3/8" (9.5mm)	LS	WHITE	SMALL EYE W/D-SHACKLE	31.9 m	BARE

h380 B&R RIG WITH STRUTS DESCRIPTION

The B&R rig, utilized on the Hunter 380, eliminates the need for a backstay to allow for a more efficient mainsail shape. Fixed backstays are commonly being designed out of today's performance-oriented boats to allow the mainsail to incorporate a full roach design - a more aerodynamic shape both for racing and cruising performance.

To accomplish this, the B&R rig has 30 degree swept spreaders, creating 120 degrees between each rigging point. This tri-pod arrangement has excellent strength for sailboat rigs, and has been used for years to support huge radio towers.

The latest advancement to the B&R rig is the addition of mast struts. These struts stabilize the lower section of the mast, allowing compression loads to be spread, reducing the point loading at the mast base. They also create a strong point for the boom and spinnaker pole loadings. The struts function also allow us to use a smaller mast section reducing weight aloft to decrease the heeling and pitching moments, making for a more comfortable ride. Additionally, they provide a secure handhold when going forward.

The struts perform an important structural function, **therefore never sail your boat without the struts properly fitted.** If your 380 is equipped with the in-mast furling option, the mast is a larger section size and the struts are not utilized.

Additional support is given to the B&R rig (and is unique to it) with the

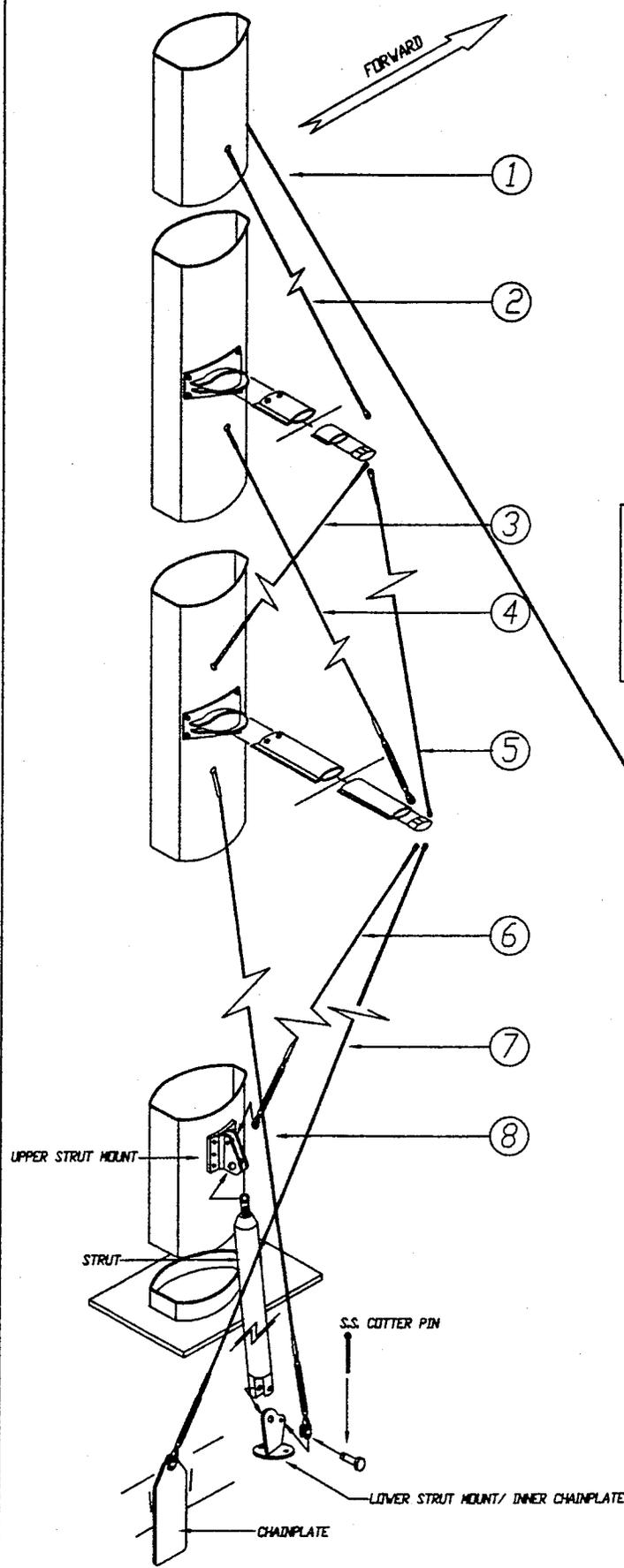
addition of reverse diagonal rigging. For example, the diagonals that you see beginning by the top of the mast strut, ending at the tip of the spreader, supports and stabilizes the upper section of the mast as it creates a triangle with the upper shroud.

The B&R rig is designed to be pre-bent to further add rigidity to the mast section and eliminate the need for adjustable rigging (like backstay adjusters). This design should prove more reliable than a rig with adjustable backstays or runners, as there is less chance for error.

The large main, small jib, sail plan on the 380 also eliminates the need for large overlapping headsails (genoas), as the driving power comes from the much improved shape and size of the mainsail. This allows for an easier tacking small jib, creating good performance and more comfortable sailing as it is less work for the crew.

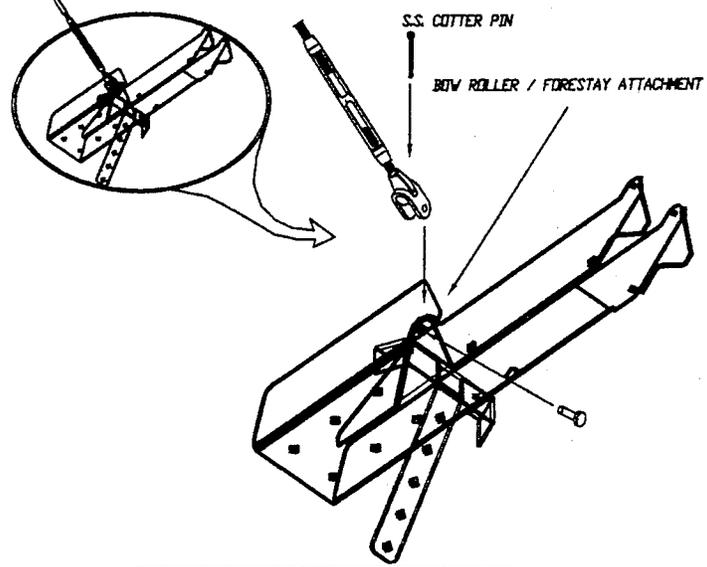
As the large main is creating additional mainsheet and leech loading, Hunter has included a cockpit arch whereby the mainsheet and leech loads are directed to the strong part of the boom (the outboard end) and is located at the heaviest loading point of the mainsail. The cockpit arch serves addition safety and comfort functions as handholds and cockpit canvas attachment points.

B&R rigs have been used on thousands of sailboats, and we are proud to incorporate this successful design on your new Hunter.

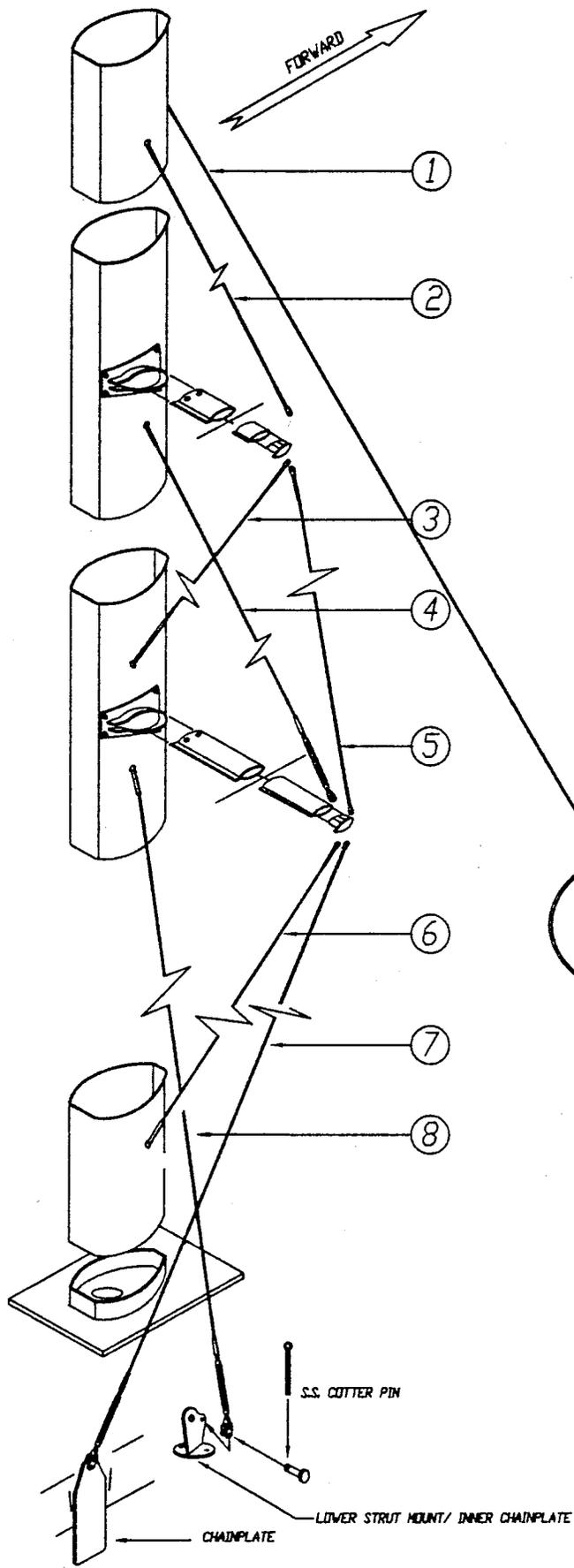


- ① FORESTAY 5/16 (7.9mm) 1 X 19
- ② D3 9/32" (7mm) 1 X 19
- ③ RD2 3/16" (4.8mm) 1 X 19
- ④ D2 7/32" (5.5mm) 1 X 19
- ⑤ V2 9/32" (7mm) 1 X 19
- ⑥ RD1 3/16" (4.8mm) 1 X 19
- ⑦ V1 5/16" (7.9mm) DYFORM
- ⑧ D1 3/8" (10mm) 1 X 19

NOTE: SEE PAGES 49A & B FOR SPREADER TIP DETAILS.
 SEE PAGE 50A FOR STANDARD RIG STANDING RIG LENGTHS.
 SEE PAGE 51 FOR FITTINGS DESC.

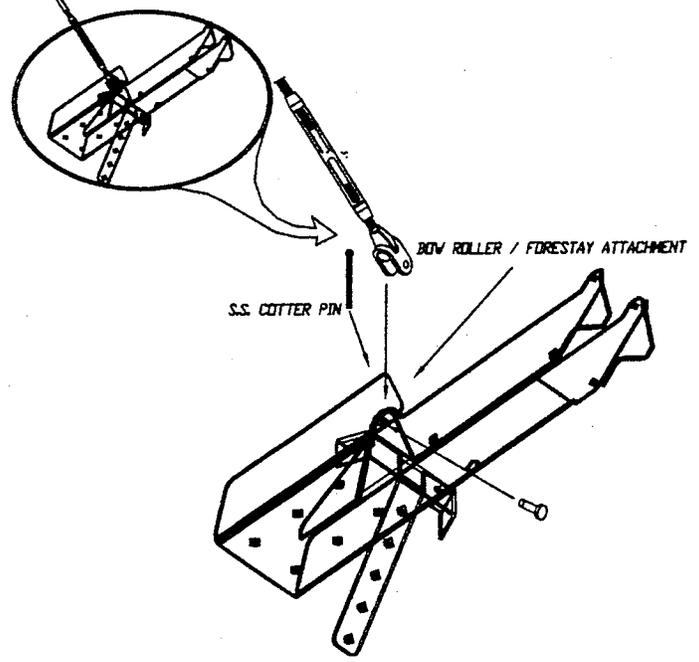


NOTE: NEVER TRY TO SAIL THE VESSEL WITHOUT THE STRUTS IN PLACE AND PROPERLY FASTENED (SEE PAGE 48B)
 NOTE: IN-MAST FURLING OPTION USES A LARGER MAST SECTION AND THE STRUTS ARE NOT UTILIZED. SEE FOLLOWING PAGE



- ① FORESTAY 5/16 (7.9mm) 1 X 19
- ② D3 9/32" (7mm) 1 X 19
- ③ RD2 7/32" (5.5mm) 1 X 19
- ④ D2 9/32" (7mm) 1 X 19
- ⑤ V2 9/32 (7mm) 1 X 19
- ⑥ RD1 7/32" (5.5mm) 1 X 19
- ⑦ V1 5/16" (7.9mm) 1 X 19
- ⑧ D1 5/16" (7.9mm) 1 X 19

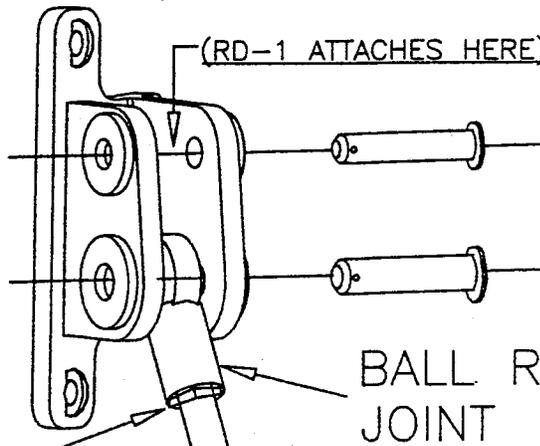
NOTE: SEE PAGES 49A & B FOR SPREADER TIP DETAILS.
 SEE PAGE 50B FOR FURLING RIG LENGTHS.
 SEE PAGE 51 FOR FITTINGS DESC.



NOTE: IN-MAST FURLING OPTION USES A LARGER MAST SECTION AND THE STRUTS ARE NOT UTILIZED.

(UPPER STRUT MOUNT
ON EA. SIDE OF MAST)

(RD-1 ATTACHES HERE)



BALL ROD
JOINT

STEP TWO
ADJUST THREADS UNTIL BALL ROD JOINT
IS ABLE TO BE EASILY PINNED IN
STRUT BRACKET

STEP THREE
PIN BALL ROD JOINT AND TIGHTEN JAM
NUT AGAINST END OF STRUT & BALL
JOINT ROD

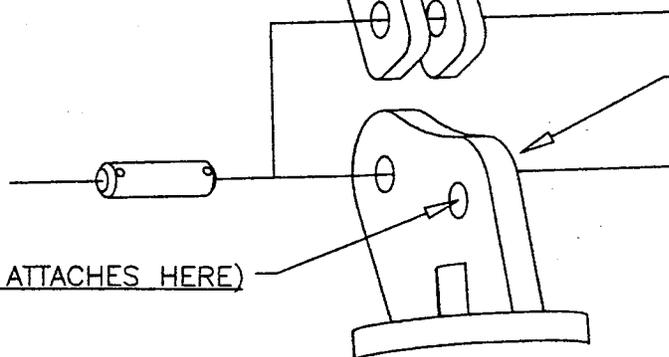
JAM NUTS

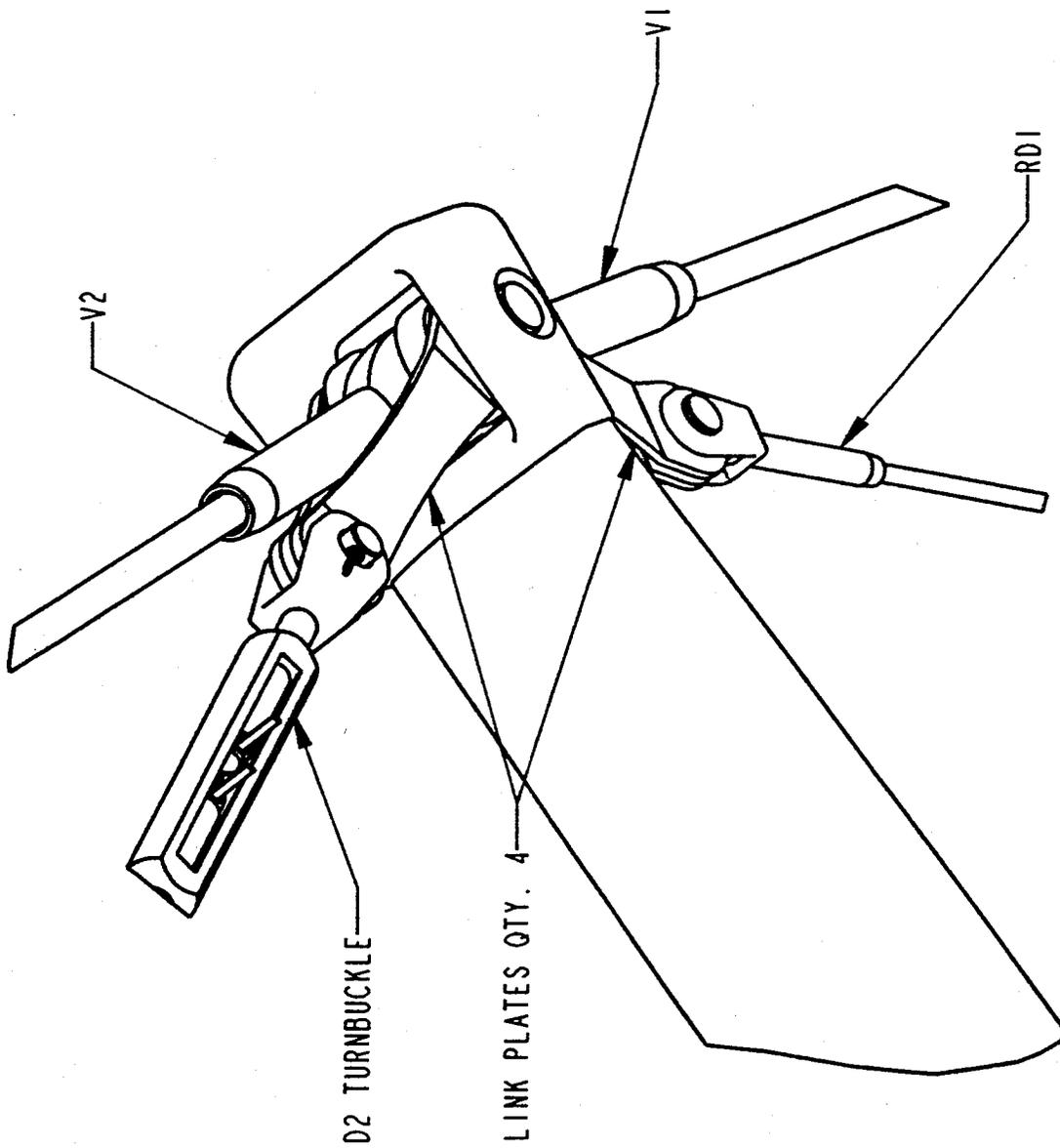
STRUT

STEP ONE
PIN LOWER END OF STRUT TO
CHAINPLATE AND ADD SPLIT
RINGS

LOWERS
CHAINPLATE

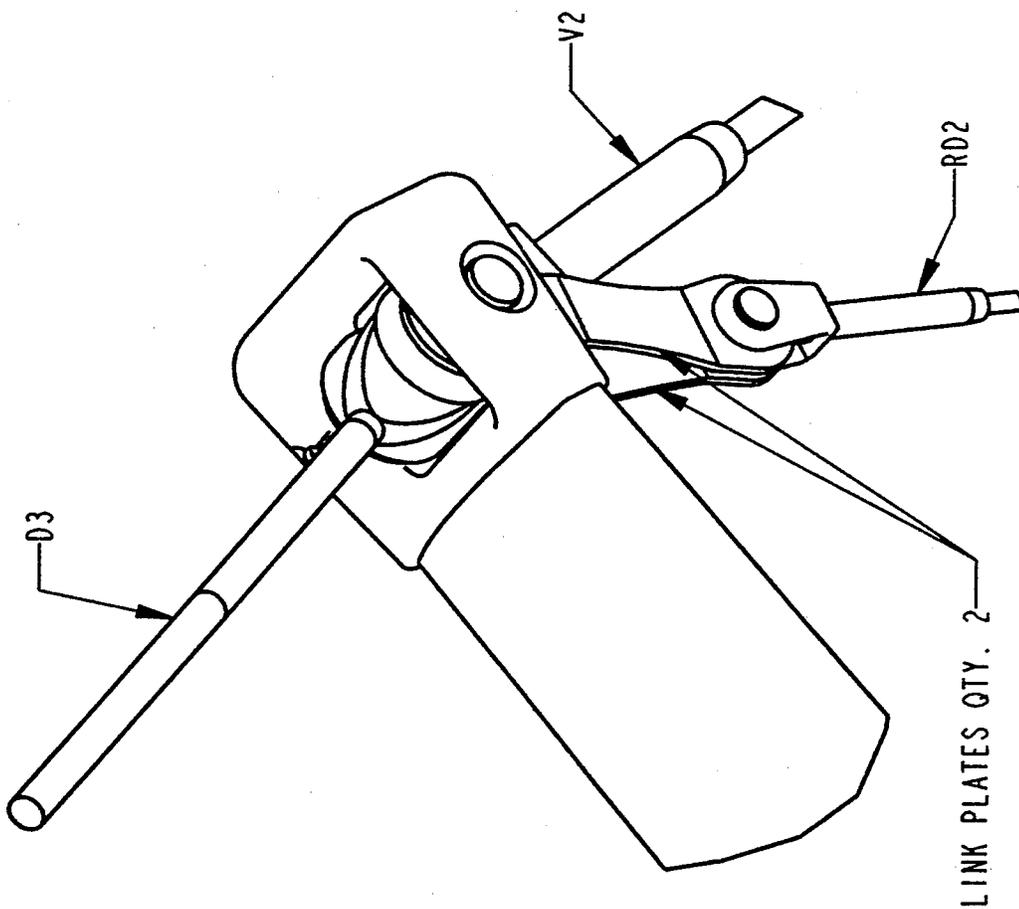
(D-1 ATTACHES HERE)





ISSUED 11/81
SLIDER MAST LOWER SPREADER TIP
Approved by: _____
Revised by: _____
Drawn by: _____
Checked by: _____
DATE: 02-24-89

For detailed fabric identification for each item, refer to the applicable ICF.
HUNTER



HUNTERA
 11/11/11
 SLIDER MAST UPPER SPREADER TIP
 REVISED BY: [blank]
 DATE: [blank]
 DRAWN BY: [blank]
 DATE: [blank]

h380 SELDEN STANDARD STANDING RIGGING SPECIFICATIONS

BY: KJC DATE: 7-May-98 REVISION:

OPT/STD	ITEM	QUANTITY	WIRE SIZE	UPPER END	LENGTH	LOWER END
1	D3	2	9/32" (7mm) 1x19	840 SERIES GIBB TANG	3.880 m 12 ft. 8 3/4 in.	ME
2	V2	2	9/32" (7mm) 1x19	TOGGLE JAW	3.969 m 13 ft. 1/4 in.	ME
1	D2	2	7/32" (5.5mm) 1x19	840 SERIES GIBB TANG	3.759 m 12 ft. 4 in.	TURNBUCKLE WITH JAW TOGGLE 3/8" PINS
2	V1	2	5/16" (8mm) 1x19	TOGGLE JAW	6.934 m 22 ft. 9 in.	10-20-20 TURNBUCKLE
3	D1	2	5/16" (8mm) 1x19	840 SERIES GIBB TANG	6.521 m 21 ft. 4 3/4 in.	10-16-16 TURNBUCKLE
3	UPPER DIAMOND, RD2	2	3/16" (4.75mm) 1X19	TOGGLE JAW WITH 10mm PIN	3.994 m 13 ft. 1 1/4 in.	TURNBUCKLE WITH 740 SERIES GIBB TANG
4	LOWER DIAMOND, RD1	2	3/16" (4.75mm) 1X19	TOGGLE JAW WITH 10mm PIN	4.782 m 15 ft. 8 1/4 in.	TURNBUCKLE WITH EYE FOR 3/8" PIN
5	FORESTAY	1	5/16" (8mm) 1x19	ME ***1/8" CHAMFER BOTH SIDES***	15.011 m 49 ft. 3 in.	GIBB 10-16-16 TURNBUCKLE W/ JAW TOGGLE LOOSE

ALL ADJUSTABLE RIGGING IS DIMENSIONED WITH TURNBUCKLES 2/3 OPEN
 ALL TURNBUCKLES TO HAVE RIGHT HAND THREADS ON SWAGED FITTING
 LENGTHS HAVE 110mm DEDUCTED FOR LINK PLATES ON D2 AND RD1, RD2

380 STANDING RIG SPECS (STD)
 PROJECT NO. 3808050A
 DRAWING NO. NONE
 ENGINEERING DEPT. 2/13/98



h380 SELDEN FURLING STANDING RIGGING SPECIFICATIONS

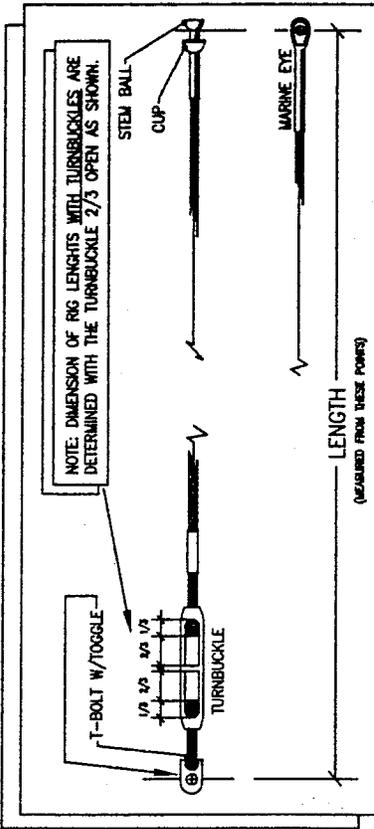
BY: KJC DATE: 4-May-98 REVISION:

OPT/STD	ITEM	QUANTITY	WIRE SIZE	UPPER END	LENGTH	LOWER END
1	D3	2	9/32" (7mm) 1x19	840 SERIES GIBB TANG	4.547 m 14 ft. 11 in.	ME
2	V2	2	9/32" (7mm) 1x19	TOGGLE JAW	4.636 m 15 ft. 2 1/2 in.	ME
1	D2	2	9/32" (7mm) 1x19	840 SERIES GIBB TANG	4.572 m 15 ft. 0 in.	TURNBUCKLE WITH 3/8" PINS
2	V1	2	5/16" (8mm) 1x19	TOGGLE JAW	7.620 m 25 ft. 0 in.	10-20-20 TURNBUCKLE
3	D1	2	5/16" (8mm) 1x19	840 SERIES GIBB TANG	7.620 m 25 ft. 0 in.	10-16-16 TURNBUCKLE
3	UPPER DIAMOND, RD2	2	7/32" (5.5mm) 1X19	TOGGLE JAW WITH 10mm PIN	4.877 m 16 ft. 0 in.	TURNBUCKLE WITH 740 SERIES GIBB TANG
4	LOWER DIAMOND, RD1	2	7/32" (5.5mm) 1X19	TOGGLE JAW WITH 10mm PIN	4.877 m 16 ft. 0 in.	UPSET EYE TOGGLE FOR 3/8" PIN ON STRUT BRACKET
5	FORESTAY	1	5/16" (8mm) 1x19	ME	15.240 m 50 ft. 0 in.	GIBB 10-16-16 TURNBUCKLE W/ JAW TOGGLE LOOSE

ALL ADJUSTABLE RIGGING IS DIMENSIONED WITH TURNBUCKLES 2/3 OPEN
ALL TURNBUCKLES TO HAVE RIGHT HAND THREADS ON SWAGED FITTING

PROJECT TITLE: h380 STANDING RIGGING SPECIFICATIONS (FURL)
 DRAWING NO.: 3808050B
 DATE: 6/29/98
 ENGINEERING DEPT: NONE

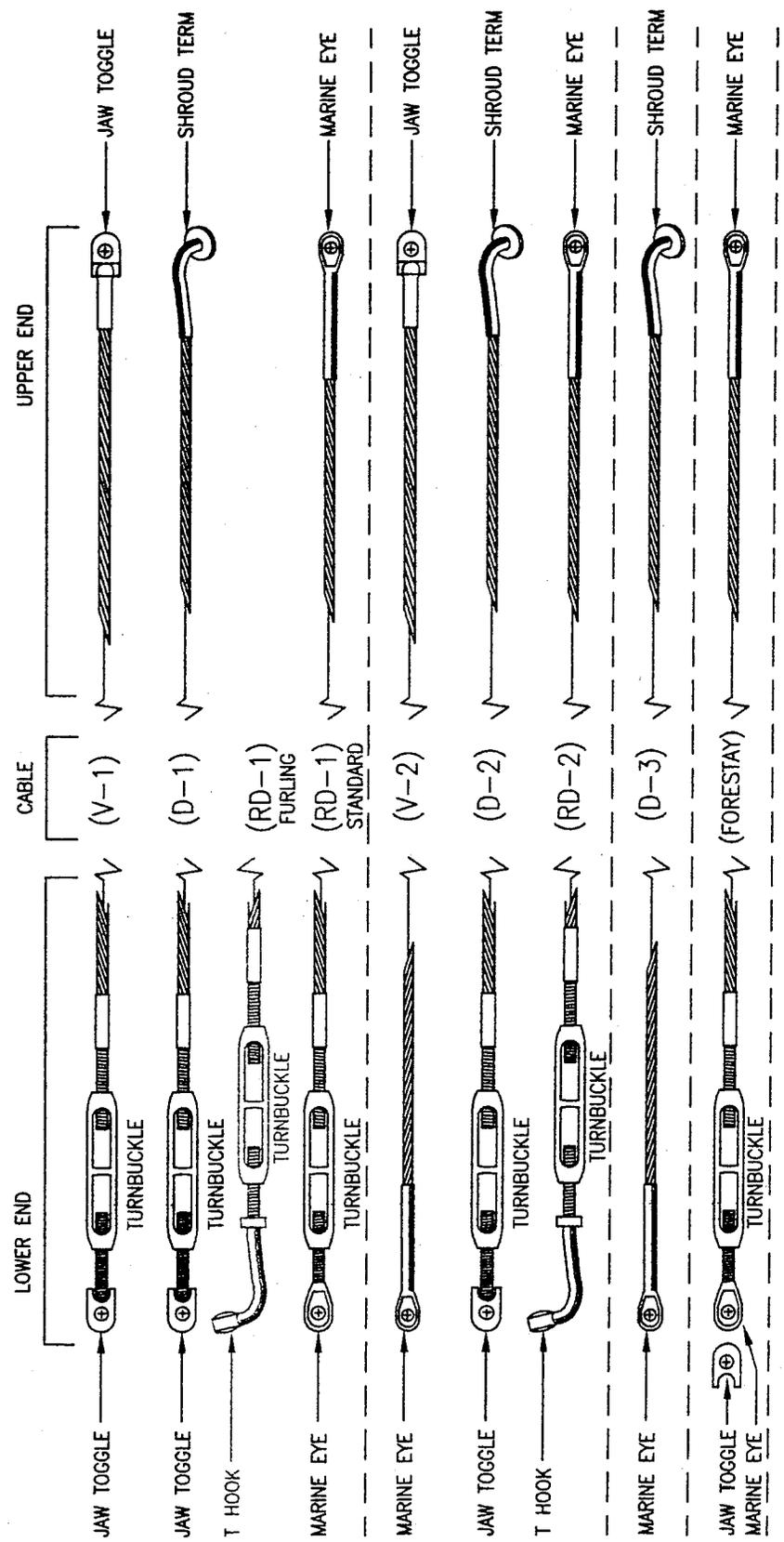
HUNTER



V = VERTICAL
 D = DIAGONAL
 RD = REVERSE DIAGONAL

1 = LOWER
 2 = INTER.
 3 = UPPER

NOTE: SEE PAGES 50A & 50B FOR ACTUAL RIG LENGTHS.



TUNING THE 380 B&R RIG

The easiest method for tuning the B&R rig is to perform step one as follows before the mast is stepped, with it lying aft side down on two sawhorses. Begin with all rigging slack. If the mast is already stepped, loosen all the rigging, and then proceed to step one.

1. Start with all the rigging slack. Then induce the mast bend by tightening the reverse diagonals (diamonds). Measure the bend by tensioning a line or the main halyard between the masthead and the gooseneck. The maximum amount of bend should be no more than 8" (203 mm) for the standard rig and no more than 2" (50 mm) for the furling mast measured perpendicular from the aft face of the mast to the halyard at the deepest part of the bend. It can be less than that based on the sail shape and your own preference. The bend should also be evenly distributed along the mast to give a smooth shape. Keep in mind that bending a furling mast may make it more difficult to furl and will not do much to flatten the sail as in a standard rig. It is very important that the mast also be straight from side to side at this time. Tighten or loosen the reverse diagonals to achieve this.
2. Step the mast with all shrouds attached but with the turnbuckles completely loosened (if the mast was not already stepped).
3. Attach the jib halyard to a cleat on the bow to support the mast in a raked position (the masthead should be about 2-1/2' behind the step). Attach the verticals and tighten them until you can just see the hole for the cotter pin in the turnbuckle. Tighten the jib halyard until you can attach the forestay. At this point the masthead should be raked so that a weight hung on the main halyard hangs about 1' behind the mast step.
4. Use the main halyard to check that the mast is centered from side to side. Pull it tight and mark the halyard next to the verticals chainplate. Now do the same to the other side to see if the marks line up. If not, tighten and/or loosen the verticals until the marks line up. Once the masthead is centered, begin tightening the verticals until the turnbuckles are approximately half closed. While tightening the verticals you may notice the bend in the mast increasing. Now you can tighten the lowers which will tend to straighten the lower part of the mast. Be sure to tighten port and starboard sides evenly.
5. Now you should tighten the headstay until it is approximately half closed as well. This should induce the appropriate amount of headstay tension. *Never* use anything more than a pair of wrenches to tighten your rigging. If you use an extended piece of pipe on the handle of a wrench you can over tighten the rigging and do damage to the mast or rigging.
6. On the Hunter 380 it is necessary to go up the mast in a bosun's chair to tighten the number 2 diagonal shroud (D2 or intermediate shroud). Always use caution when "going aloft". You should always use a mountain climbing harness or Bosun's Chair intended for this use. Always tie into the harness with the halyard using a bowline and then secure the shackle as a back up as the knot is more reliable than a mechanical fastener. The person hoisting you aloft should keep the halyard stopper closed to prevent falls. Good communication between the two of you is also important. Tighten the D2 until it has just become tight and then add two complete turns. While at the first spreader, look up the back of the mast to see if it is straight. If not then adjust the appropriate D2 to straighten it.
7. Have the person on deck carefully lower you. They should keep the halyard wrapped at least twice around the winch and should always have one hand able to stop the halyard from running free. Once on deck look up the back of the mast and see if it is straight. If not then adjust the lowers (D1) until it is.
8. If you have the standard rig you need to attach the struts at this time. Attach the lower end of the strut to the smaller hole in the chainplate. Adjust the length by turning the ball joint bearing in the upper end of the

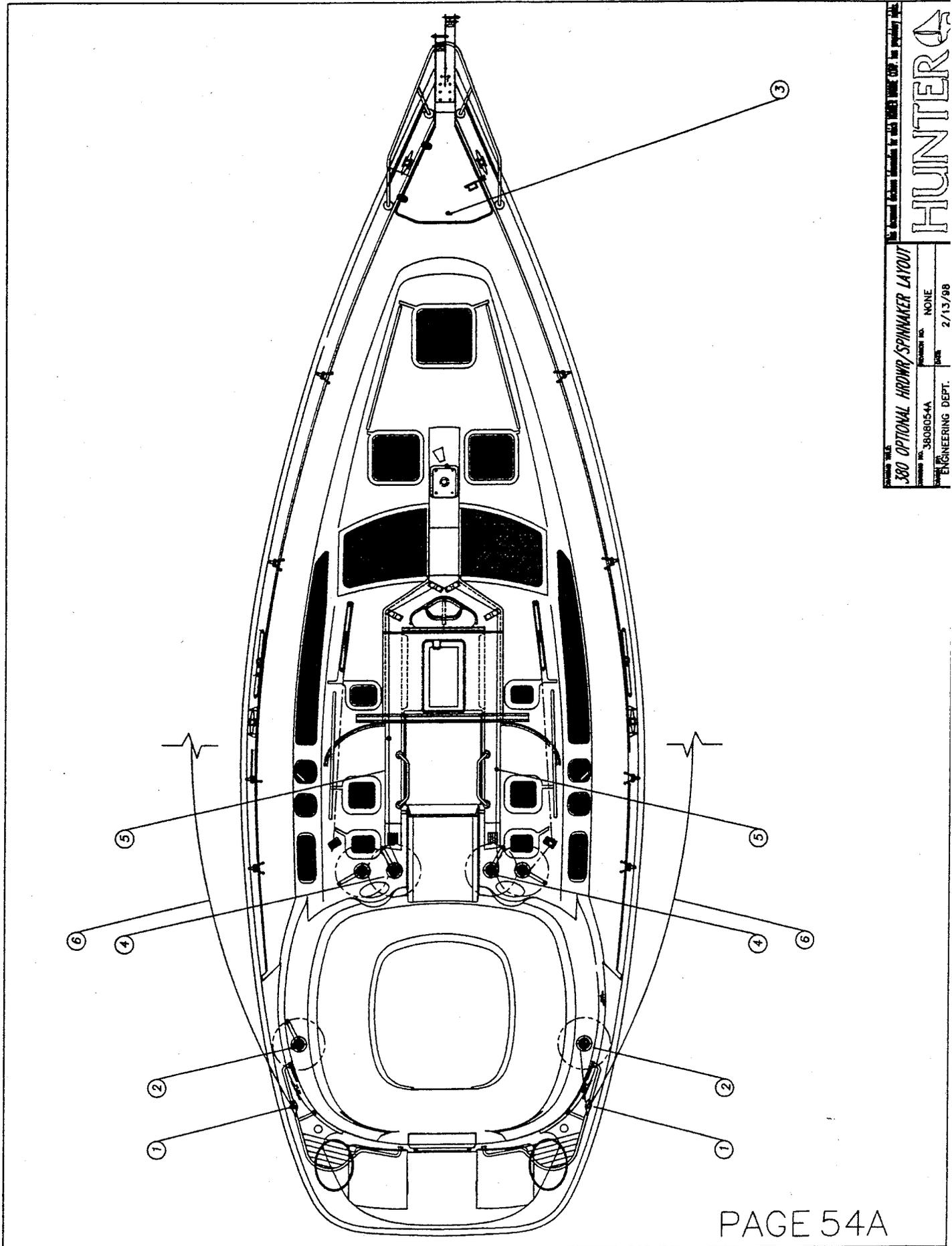
TUNING THE 380 B&R RIG

strut until the holes in the pin can be attached. It is normal to have some play between the strut and the chainplate and strut bracket

compared to every 10 for the great lakes. You should consult a professional rigger for advice.

9. The final test is to go sailing in 10-15 knots of wind. First, adjust the tension in the shrouds. If when sailing upwind, the shrouds on the leeward side are slack then tighten them to remove about half the slack keeping note of the number of turns. Then tack and do the same to the other side. Do this until you are happy with the tension and the leeward side does not get loose when the boat is heeled. Now sight up the mast to be sure it is still relatively straight from side to side. If it is not then adjust to appropriate rigging to correct it. For example: if the mast is straight until the upper spreader and then hooks to the windward side then you will have to revisit steps 6 and 7 above. Remember to always tighten the leeward shroud, tack and tighten the new leeward shroud the same amount. This prevents damage to the turnbuckles and is also much easier to do. Keep in mind it is also possible to have something too tight such as a diagonal shroud.
10. At this point you should have adequate headstay tension. The sails are built for about 14" of headstay sag, the bend in the standard mast should be about 1' and 4" in the furling mast and it should be nearly straight from side to side when sailing upwind. If any of these are not true then revisit the appropriate step above to correct it. If the sag in the headstay is too much then adding tension to the verticals will fix it.
11. Once the rig is tuned you should make sure to add the cotter pins to all the rigging bending back the ends and taping them to prevent snagged lines sails and fingers.

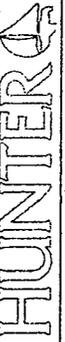
Remember that rigging, like everything else, can age. As it gets older it may need to be replaced. The frequency for which this becomes necessary depends on the climate and conditions in which the boat is sailed. For example: if you sail in the Caribbean it should be replaced every 2-3 years



380 OPTIONAL DECK GEAR

#	QTY	OPTIONAL DECK HARDWARE	MFG #	HUN#
1	2	SPINNAKER BLOCKS	705-15	302920
2	2	SPINNAKER WINCHES LEWMAR	40CST	HW2520
3	1	WINDLASS	ANCHORMAN 800	-
4	1	ELECTRIC HALYARD WINCH	44CEST	HW2569
5	1	SPINNAKER HALYARD	SEE RUNNING RIGGING SHEETS	
6	2	SPINNAKER SHEET	SEE RUNNING RIGGING SHEETS	

ISSUED BY:
380 OPTIONAL DECK HARDWARE LIST
ISSUED NO: 380805-4B REVISION NO: NONE
ISSUED BY: ENGINEERING DEPT DATE: 2/13/98

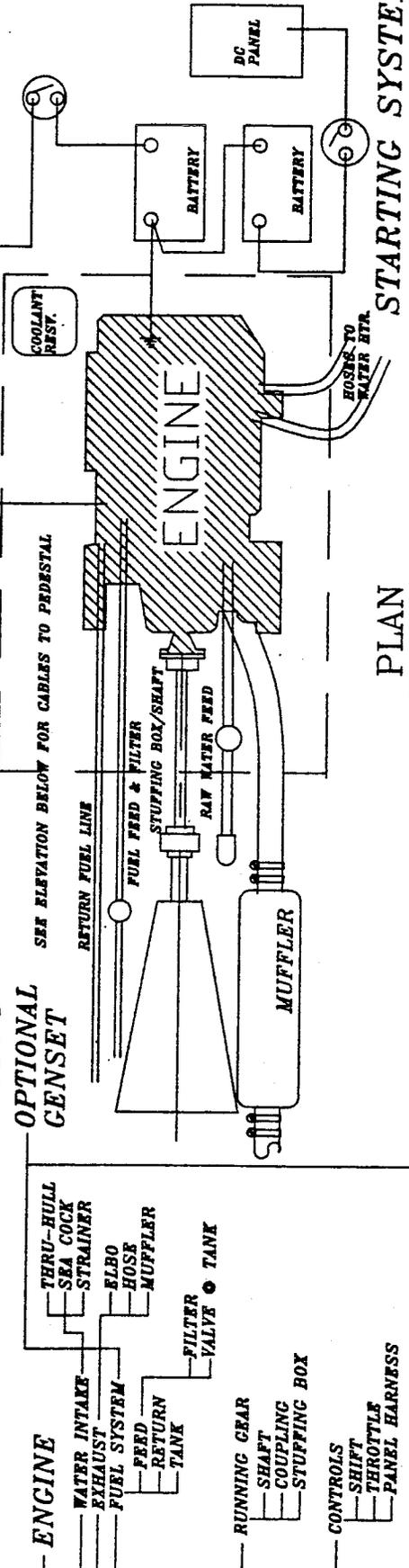


ENGINE OPERATING INSTRUCTIONS:

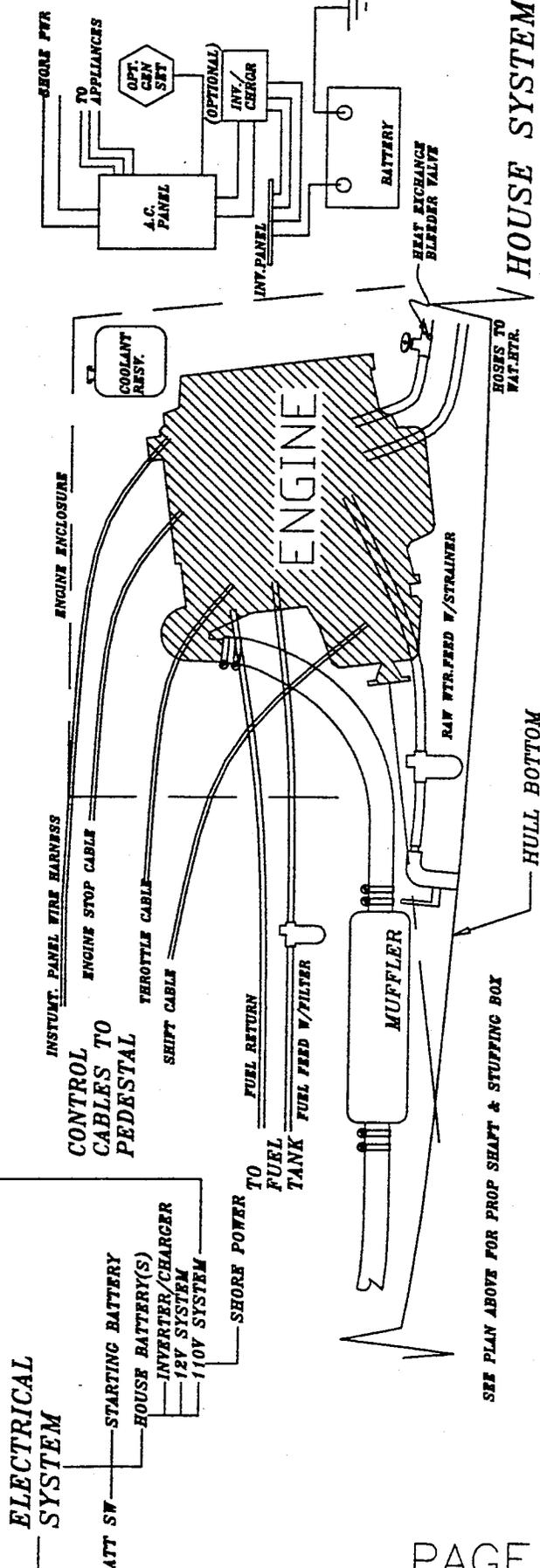
- ① FILL DIESEL TANK WITH DIESEL FUEL
- ② CHECK ENGINE OIL LEVEL <SEE YANMAR MANUAL>
- ③ OPEN ENGINE RAW WATER PICKUP SEACOCK <SEE PAGE 60>
- ④ TURN ON "START BATTERY SELECTOR SWITCH" <LOCATED AT NAV. STATION>
- ⑤ TURN KEY TO START POSITION, RELEASE WHEN ENGINE STARTS
NOTE: IF ENGINE APPEARS TO HAVE TROUBLE STARTING, SEE YANMAR MANUAL
- ⑥ TO SHUT ENGINE DOWN: PUSH RED BUTTON AT KEY SWITCH PANEL
UNTIL ENGINE STOPS RUNNING THEN TURN KEY TO OFF POSITION.

WARNING: DO NOT LEAVE AFT HATCHES OPEN WHILE ENGINE IS RUNNING. THERE EXISTS A POSSIBILITY OF EXHAUST POISONING, OR EVEN DEATH.

SYSTEMS SCHEMATIC



PLAN



ELEVATION

NOTE: THIS DWG IS SCHEMATIC FORM
SEE SPECIFIC SYSTEM DWGS FOR
BATTERIES/SWITCHES/CHARGER ETC. LOCATIONS
AND WIRE RUNS.

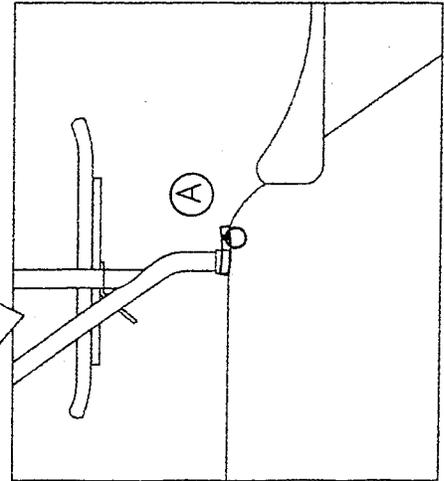
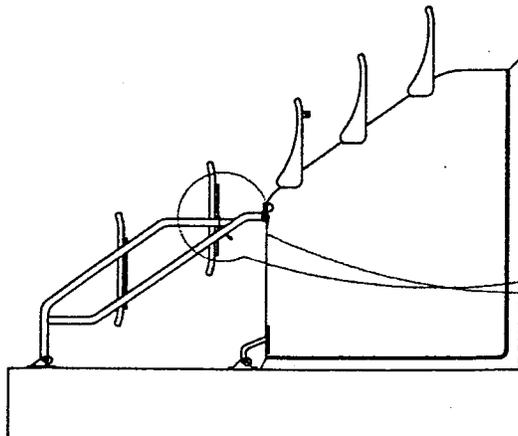
SEE PLAN ABOVE FOR PROP SHAFT & STUFFING BOX

380 ENGINE COMPARTMENT LAYOUT

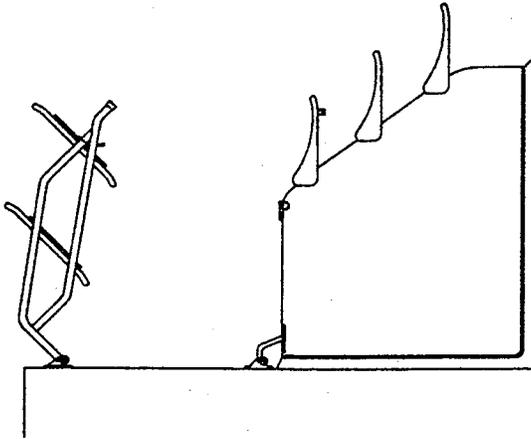
NO. 3809035B
ENGINEERING DEPT.
DATE: 2/17/88

HUNTER

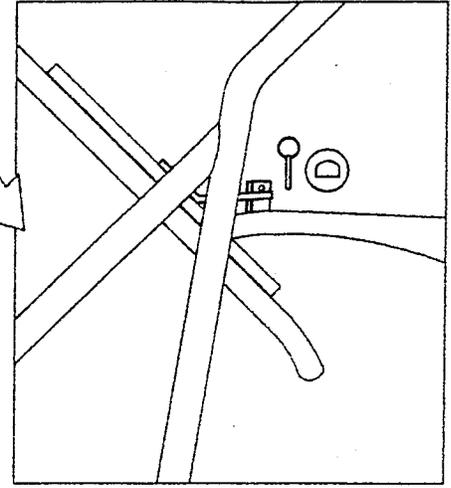
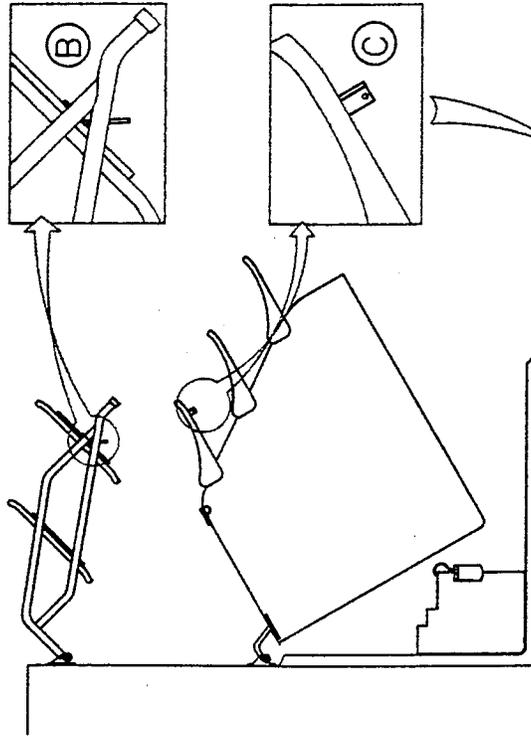
①



②



③

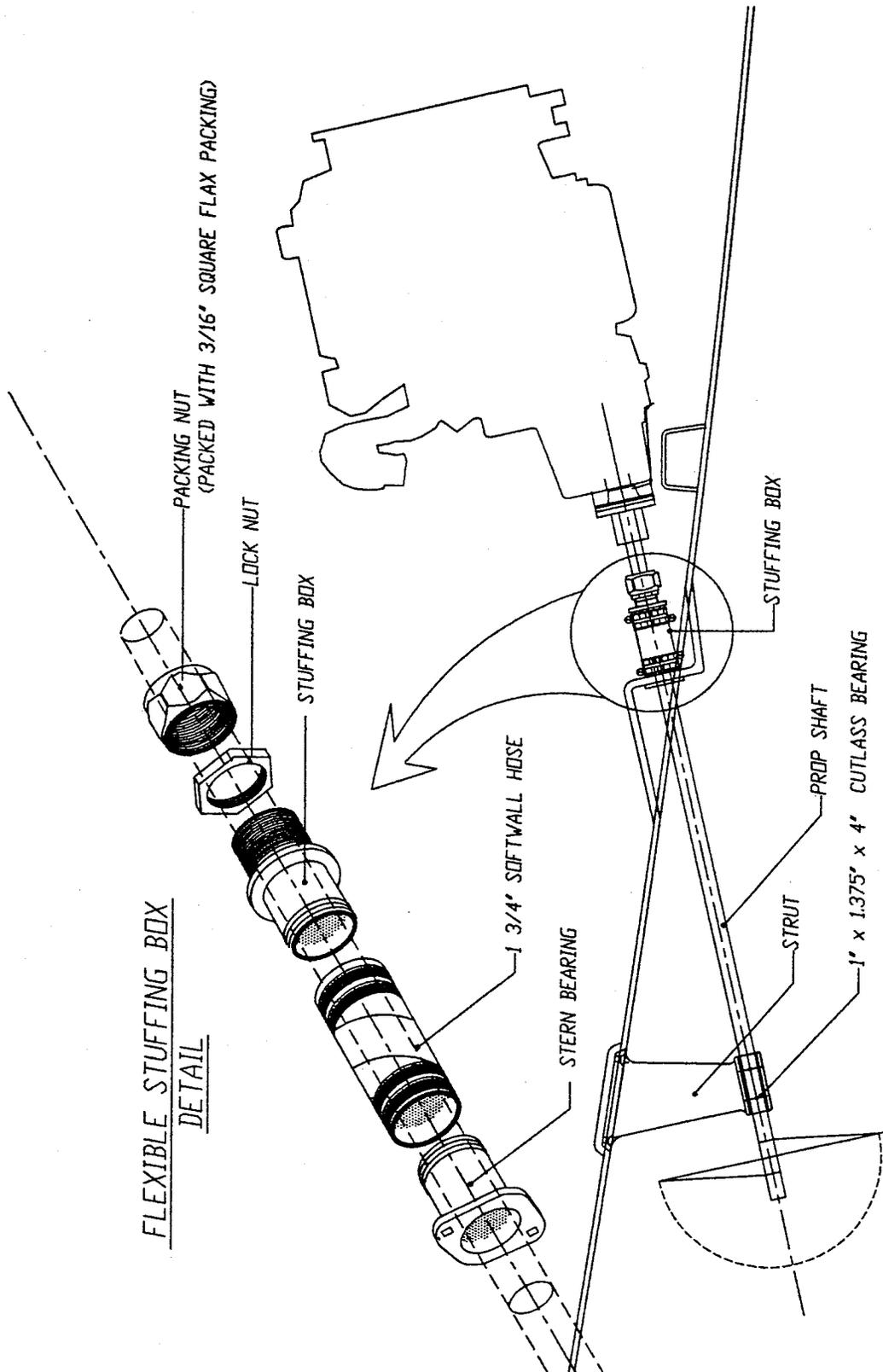


1. REMOVE QUICK PIN (A) FROM FOOT OF COMPANIONWAY LADDER

2. ROTATE COMPANIONWAY LADDER UPWARDS AS SHOWN

3. ROTATE ENGINE BOX COVER UPWARDS AS SHOWN. LOCK TANGS (C) INTO (B) AND INSTALL QUICK PIN (D)

NOTE: ALWAYS REMEMBER TO REINSTALL QUICK PINS AFTER CLOSING. AND NEVER WORK UNDER AN OPEN ENGINE BOX COVER UNLESS QUICK PIN (D) IS ENGAGED



FLEXIBLE STUFFING BOX
DETAIL

380 STUFFING BOX DETAIL
 PART NO. 3808056
 REV. 2/17/98
 NONE
 ENGINEERING DEPT.

HUNTER

FRESH WATER SYSTEM OPERATION:

- ① FILL TANK WITH FRESH WATER (SEE PAGE 60B FOR FILL LOCATION)
 - ② OPEN ON/OFF VALVE (SEE PAGE 57C FOR VALVE LOCATION)
 - ③ TURN HOUSE BATTERY SELECTOR SWITCH TO THE "ON" POSITION
 - ④ TURN ON "D.C. MAIN" BREAKER ON MAIN BREAKER PANEL
 - ⑤ TURN ON "WATER PRESSURE" BREAKER ON MAIN BREAKER PANEL
 - ⑥ "HOT WATER" IS ATTAINABLE BASICALLY IN TWO WAYS...
 - Ⓐ BY HEATING THE WATER THRU THE DIESEL ENGINE
 - Ⓑ BY SUPPLYING 110V.A.C. BY "DOCKSIDE SHORE POWER" OR GENERATOR POWER
 - ⑦ TO HEAT BY "ENGINE" SEE PAGE 55A FOR ENGINE OPERATING INST.
- NOTE: WHEN COOLANT IS INSTALLED, BLEED AIR FROM HEAT EXCHANGER LINES TO WATER HEATER. CRANK ENGINE, OPEN BLEEDER VALVE (SEE PAGE 55B) UNTIL AIR IS GONE FROM LINES
- ⑧ TO HEAT BY "SHORE POWER"
 - Ⓐ HOOK UP SHORE POWER CABLE/S
 - Ⓑ TURN ON A.C. MAIN BREAKER ON MAIN BREAKER PANEL
 - Ⓒ TURN ON "WATER HEATER BREAKER" ON MAIN BREAKER PANEL
 - ⑨ TO HEAT BY "OPT. GENERATOR POWER"... SEE PAGE 63E-1 FOR GEN. OPER. INST. THEN FOLLOW STEPS #1-#6 & #8 B,C ABOVE.

NOTE: AS WITH ALL WATER HEATERS, BE SURE WATER TANK IS FULL BEFORE APPLYING POWER TO UNIT, TO AVOID DAMAGE TO HEATING ELEMENT

AFT HEAD (SEE PAGE 57F)

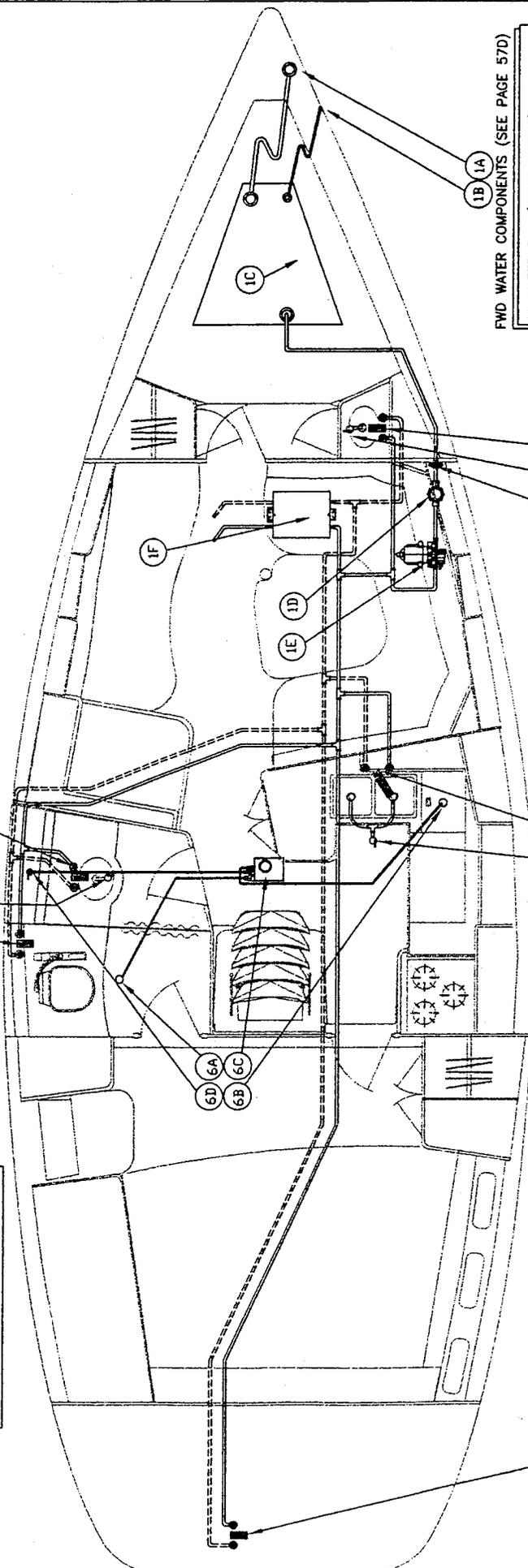
HOT WATER QUEST LINES

COLD WATER QUEST LINES
=====

5A AFT SHOWER HEAD
5B AFT VANITY SEACOCK
5C AFT VANITY FAUCET

SUMP BOX COMPONENTS (SEE PAGE 57E)

6A AFT SHOWER DRAIN
6B GALLEY ICEBOX DRAIN
6C SUMP PUMP BOX
6D SUMP PUMP DISCHARGE
(HULL FITTING) 3/4" (19.1mm)
SEACOCK



FWD WATER COMPONENTS (SEE PAGE 57D)

1A WATER FILL (DECK FITTING)
1B WATER VENT (HULL FITTING)
1C WATER TANK (75 GAL 280 L)
1D WATER FILTER
1E WATER PUMP
1F WATER HEATER (6 GAL 23L)

FWD VANITY (SEE PAGE 57D)

2A VANITY FAUCET
2B VANITY SEACOCK
2C FRESH WATER ON/OFF VALVE

GALLEY (SEE PAGE 57E)

3A GALLEY FAUCET
3B GALLEY SEACOCK

AFT COCKPIT SHOWER (SEE PAGE 57G)

4A COCKPIT SHOWER

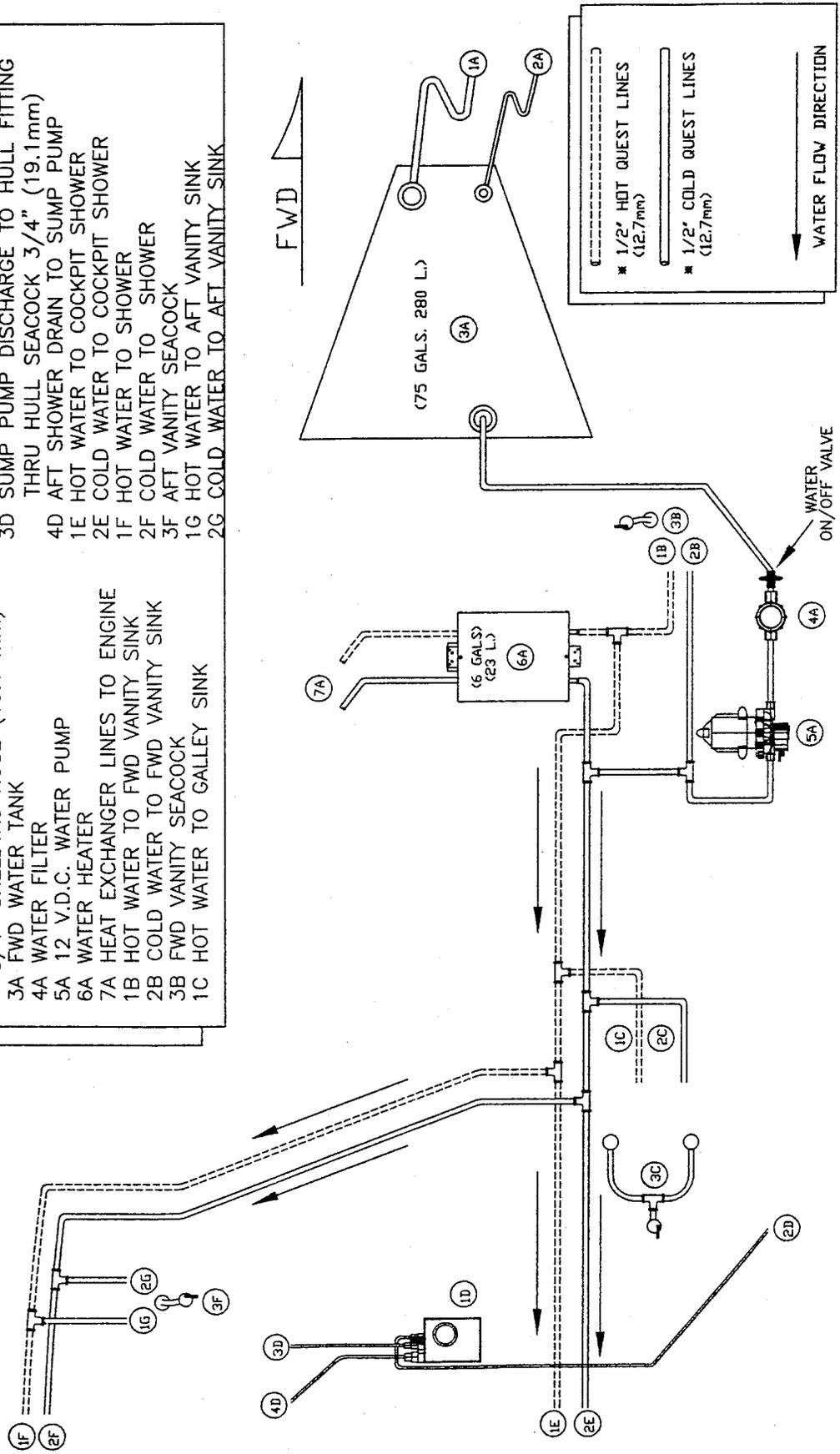
380 FRESH WATER SYSTEM DRAIN LAYOUT

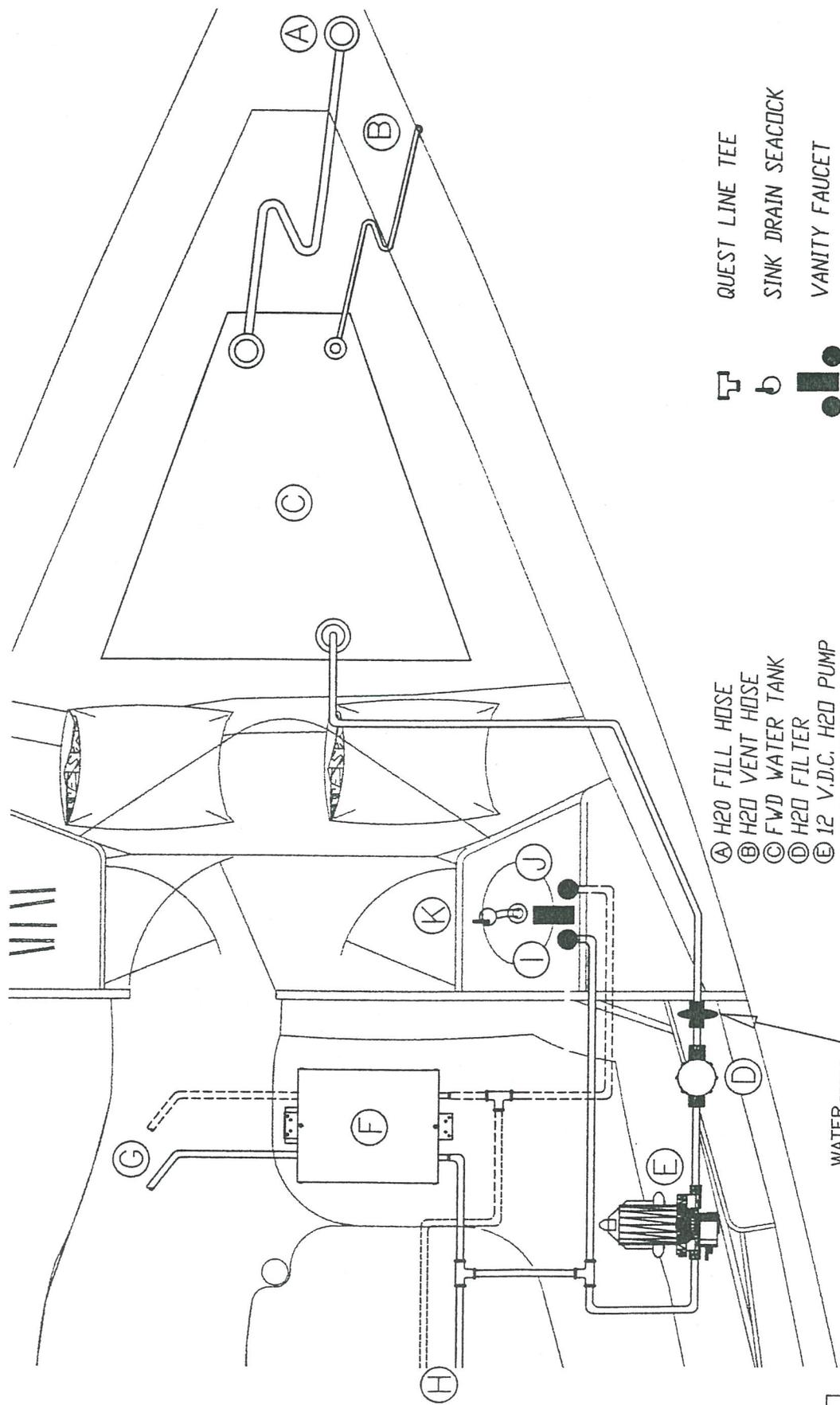
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ENGINEERING DEPT

HUNTER

- 1A FILL HOSE (TO DECK FITTING)
- 1 1/2" SHELVDAC HOSE (38.1 mm)
- 2A VENT HOSE (TO HULL FITTING)
- 3/4" SHELVDAC HOSE (19.1 mm)
- 3A FWD WATER TANK
- 4A WATER FILTER
- 5A 12 V.D.C. WATER PUMP
- 6A WATER HEATER
- 7A HEAT EXCHANGER LINES TO ENGINE
- 1B HOT WATER TO FWD VANITY SINK
- 2B COLD WATER TO FWD VANITY SINK
- 3B FWD VANITY SEACOCK
- 1C HOT WATER TO GALLEY SINK
- 2C COLD WATER TO GALLEY SINK
- 3C GALLEY SEACOCK
- 1D SUMP PUMP
- 2D FREEZER DRAIN TO SUMP PUMP
- 3D SUMP PUMP DISCHARGE TO HULL FITTING
- THRU HULL SEACOCK 3/4" (19.1mm)
- 4D AFT SHOWER DRAIN TO SUMP PUMP
- 1E HOT WATER TO COCKPIT SHOWER
- 2E COLD WATER TO COCKPIT SHOWER
- 1F HOT WATER TO SHOWER
- 2F COLD WATER TO SHOWER
- 3F AFT VANITY SEACOCK
- 1G HOT WATER TO AFT VANITY SINK
- 2G COLD WATER TO AFT VANITY SINK



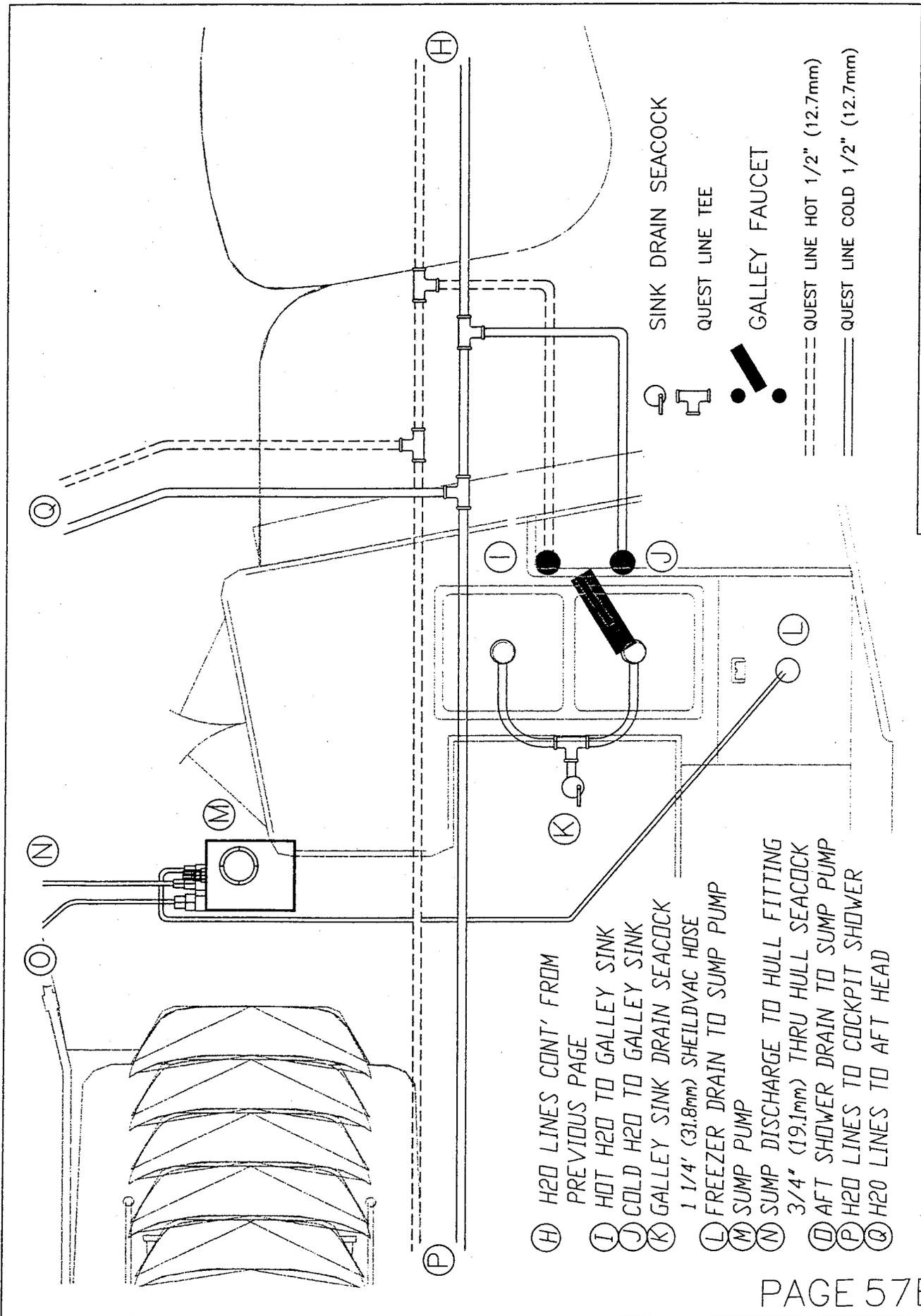


- Ⓐ H2O FILL HOSE
- Ⓑ H2O VENT HOSE
- Ⓒ FWD WATER TANK
- Ⓓ H2O FILTER
- Ⓔ 12 V.D.C. H2O PUMP
- Ⓕ H2O HEATER
- Ⓖ HEAT EXCHANGER LINES TO ENG.
- Ⓗ H2O LINES TO GALLEY AND COCKPIT SHOWER
- Ⓘ HOT H2O TO VANITY SINK
- Ⓝ COLD H2O TO VANITY SINK
- Ⓚ FWD VANITY SEACOCK
- 1 1/4" (31.8mm) SHIELDVAC DRAIN HOSE

- Ⓣ QUEST LINE TEE
- Ⓛ SINK DRAIN SEACOCK
- Ⓜ VANITY FAUCET
- Ⓝ QUEST LINE HOT 1/2" (12.7mm)
- Ⓞ QUEST LINE COLD 1/2" (12.7mm)

FOR VESSEL DESIGN PURPOSES, SEE HUNTER'S SPECIFICATIONS
HUNTER

380 FWD VANITY H2O DETAIL	
<small>DESIGN NO.</small> 3808057D	<small>REVISION NO.</small> NONE
<small>ENGINEERING DEPT.</small>	<small>DATE</small> 3/12/88



- (H) H2O LINES CONT' FROM PREVIOUS PAGE
- (I) HOT H2O TO GALLEY SINK
- (J) COLD H2O TO GALLEY SINK
- (K) GALLEY SINK DRAIN SEACOCK 1 1/4" (31.8mm) SHEILDVAC HOSE
- (L) FREEZER DRAIN TO SUMP PUMP
- (M) SUMP PUMP
- (N) SUMP DISCHARGE TO HULL FITTING 3/4" (19.1mm) THRU HULL SEACOCK
- (O) AFT SHOWER DRAIN TO SUMP PUMP
- (P) H2O LINES TO COCKPIT SHOWER
- (Q) H2O LINES TO AFT HEAD

SINK DRAIN SEACOCK
 QUEST LINE TEE
 GALLEY FAUCET
 QUEST LINE HOT 1/2" (12.7mm)
 QUEST LINE COLD 1/2" (12.7mm)

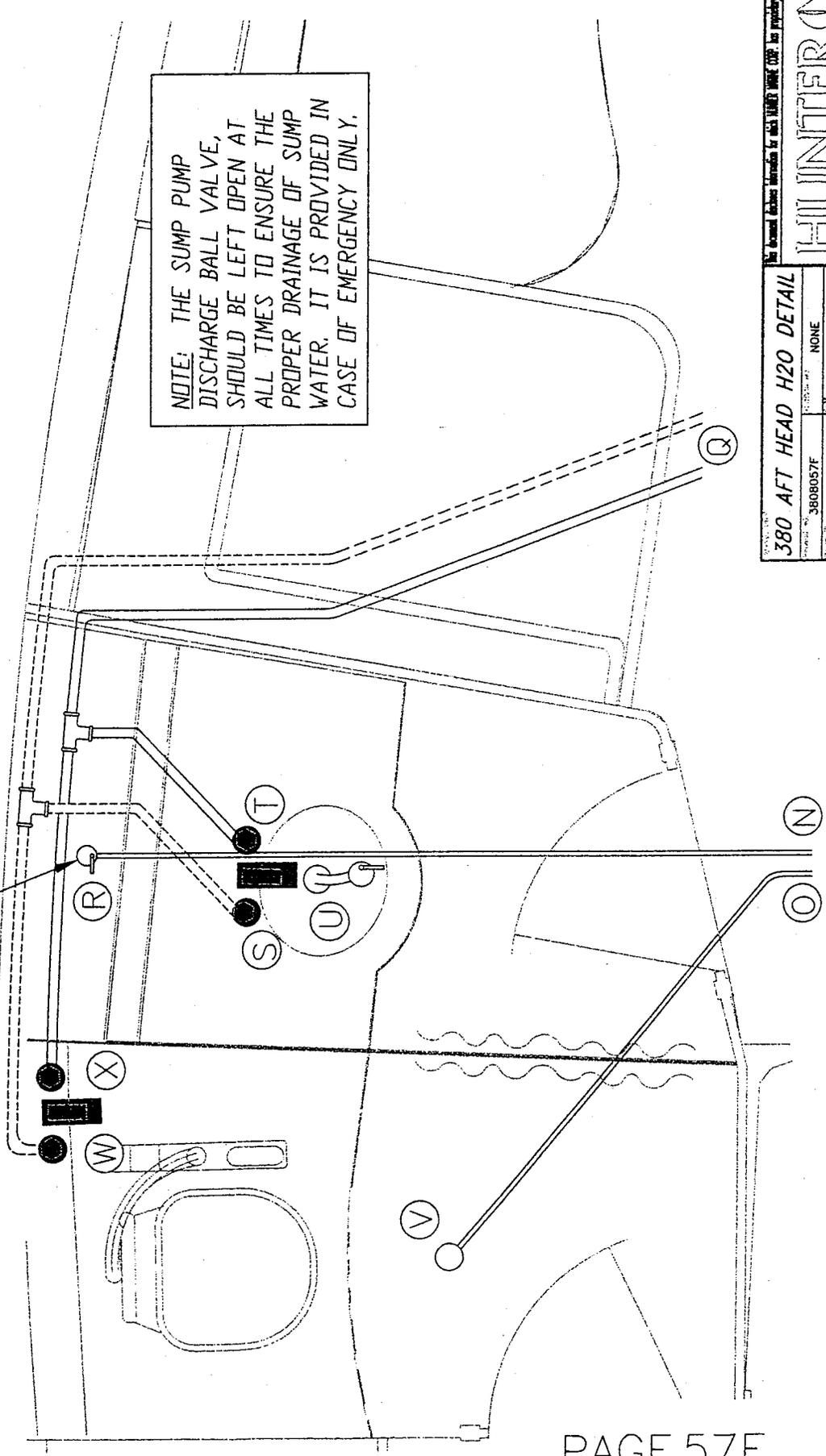
380 GALLEY H2O DETAIL
 3808057E
 NONE
 3/12/98
 ENGINEERING DEPT.
HUNTER

- Ⓡ SUMP PUMP DISCHARGE (TO SEACOCK) SEE NOTE
- 3/4" (19.1 mm) SHEILDVAC DRAIN HOSE
- Ⓢ HOT H2O TO AFT VANITY SINK
- Ⓣ COLD H2O TO AFT VANITY SINK
- Ⓤ VANITY SINK SEACOCK
- 1' (25.4mm) SHEILDVAC HOSE
- Ⓥ AFT SHOWER DRAIN (TO SUMP PUMP)
- 3/4" (19.1mm) SHEILDVAC DRAIN HOSE
- Ⓦ HOT H2O TO AFT HEAD SHOWER
- Ⓧ COLD H2O TO AFT HEAD SHOWER

- Ⓡ QUEST LINE TEE
- Ⓢ AFT VANITY FAUCET/SHOWER
- Ⓣ AFT VANITY/SUMP PUMP DIS. SEACOCKS
- Ⓤ QUEST LINE HOT (1/2" 12.7mm)
- Ⓥ QUEST LINE COLD (1/2" 12.7mm)

ACCESS SEACOCK BY REMOVING PANEL IN BETWEEN THE UPPER VANITY AND THE SINK.

NOTE: THE SUMP PUMP DISCHARGE BALL VALVE, SHOULD BE LEFT OPEN AT ALL TIMES TO ENSURE THE PROPER DRAINAGE OF SUMP WATER. IT IS PROVIDED IN CASE OF EMERGENCY ONLY.



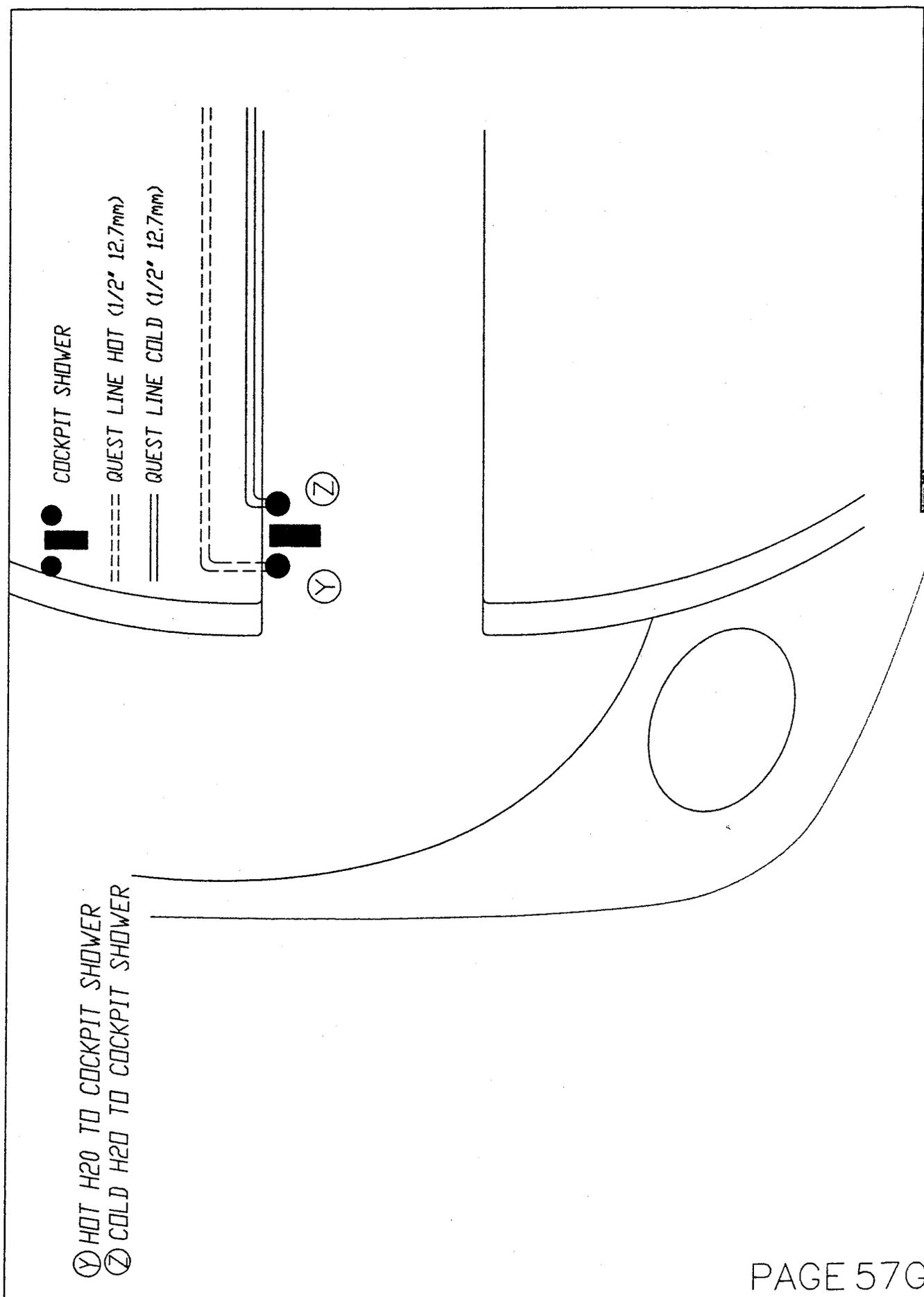
380 AFT HEAD H2O DETAIL

380B057F

ENGINEERING DEPT.

3/12/98

HUNTER



- Ⓨ HOT H2O TO COCKPIT SHOWER
- Ⓩ COLD H2O TO COCKPIT SHOWER

COCKPIT SHOWER

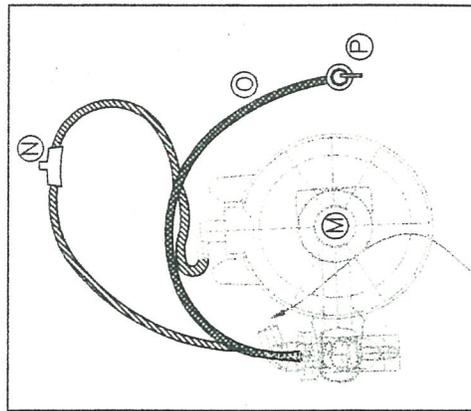
==== QUEST LINE HOT (1/2" 12.7mm)

==== QUEST LINE COLD (1/2" 12.7mm)

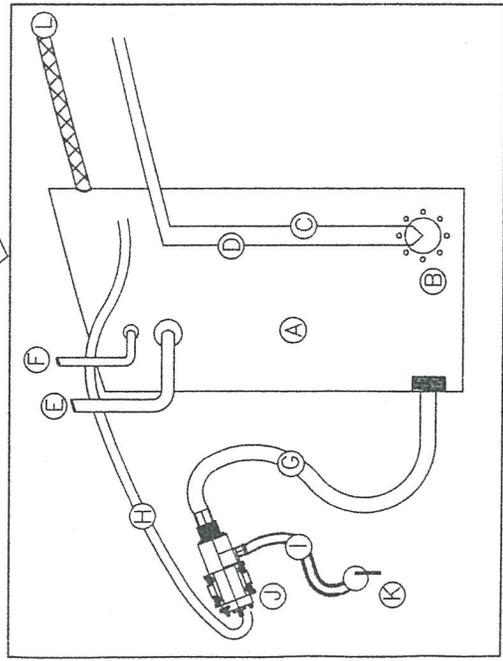
<small>THE HUNTER GROUP, INCORPORATED, 10000 WILSON BLVD., SUITE 100, WILSON, CA 94094</small>	
380 COCKPIT SHOWER H2O DETAIL	
<small>PROJECT NO.</small> 3808057G	<small>REVISION NO.</small> NONE
<small>DEPT.</small> ENGINEERING DEPT.	<small>DATE</small> 3/12/88

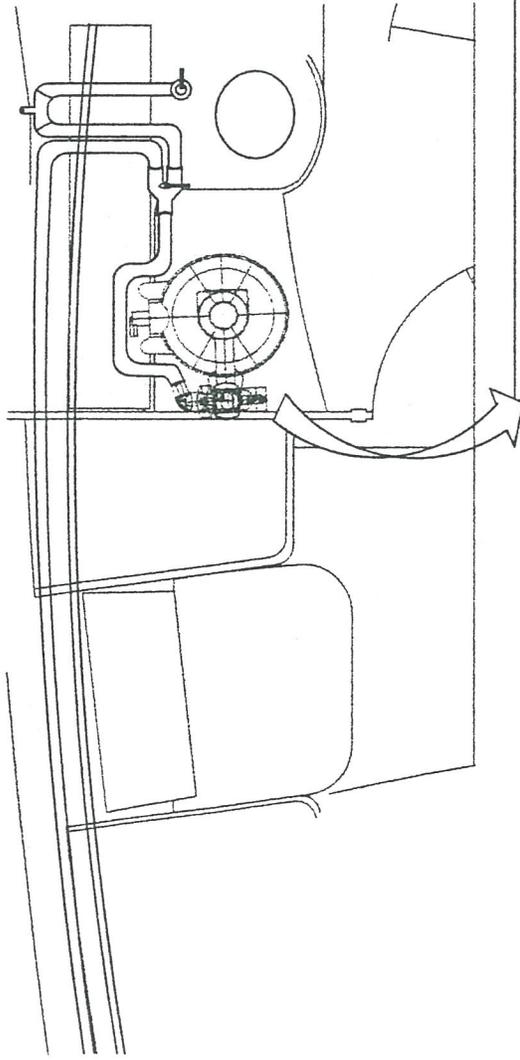


- A) HOLDING TANK 32 gallons (121 liters)
- B) WASTE TANK SENDING UNIT (SEE PG 58B)
- C) SENDING UNIT POWER LEAD TO SW. PANEL (WHITE 16 ga. & BLACK 16ga.)
- D) SENDING UNIT GROUND TO BUSS BAR
- E) WASTE PUMPOUT (TO DECK FITTING) 1.5" (38.1 mm) SANITATION HOSE
- F) WASTE TANK VENT (HULL FITTING) 3/4" (19.1 mm) SANITATION HOSE
- G) FROM HOLDING TANK TO MACERATOR 1 1/2" (38.1 mm) SANITATION HOSE
- H) POWER LEADS TO MACER. FROM SW. PANEL
- I) 1" (25.4mm) MACERATOR DISCHARGE HOSE
- J) 12 V.D.C. MACERATOR
- K) MACER. DISCHRG. SEACOCK (HULL FITTING)
- L) WASTE HOSE INTO TANK FROM COMMODE 1 1/2" (38.1mm) SANITATION HOSE
- M) HEAD
- N) VENTED LOOP
- O) RAW WATER PICKUP TO HEAD 3/4" (19.1 mm) SANITATION HOSE
- P) HEAD RAW WATER PICKUP SEACOCK

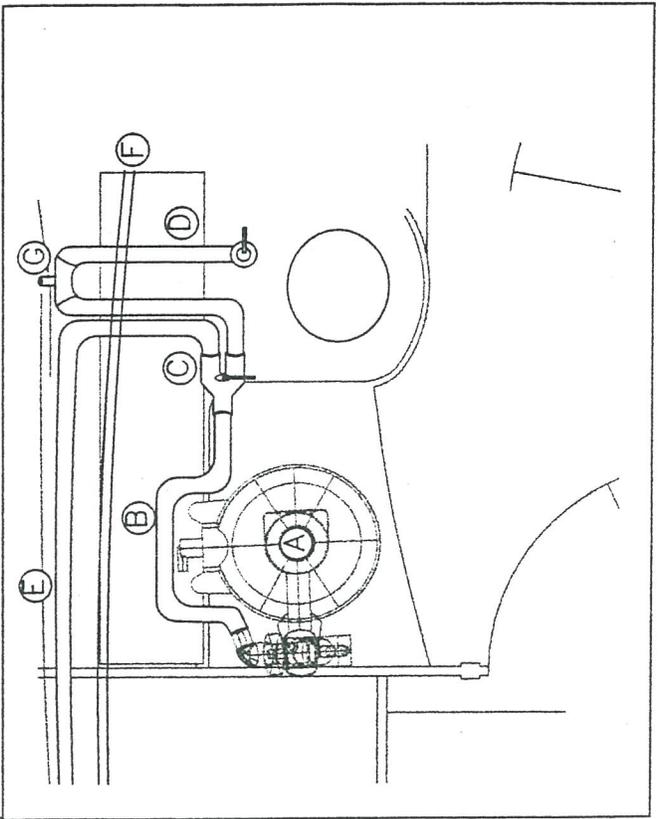


NOTE: TO OPERATE THE HEAD
SEE MARINE HEAD OWNER'S MANUAL



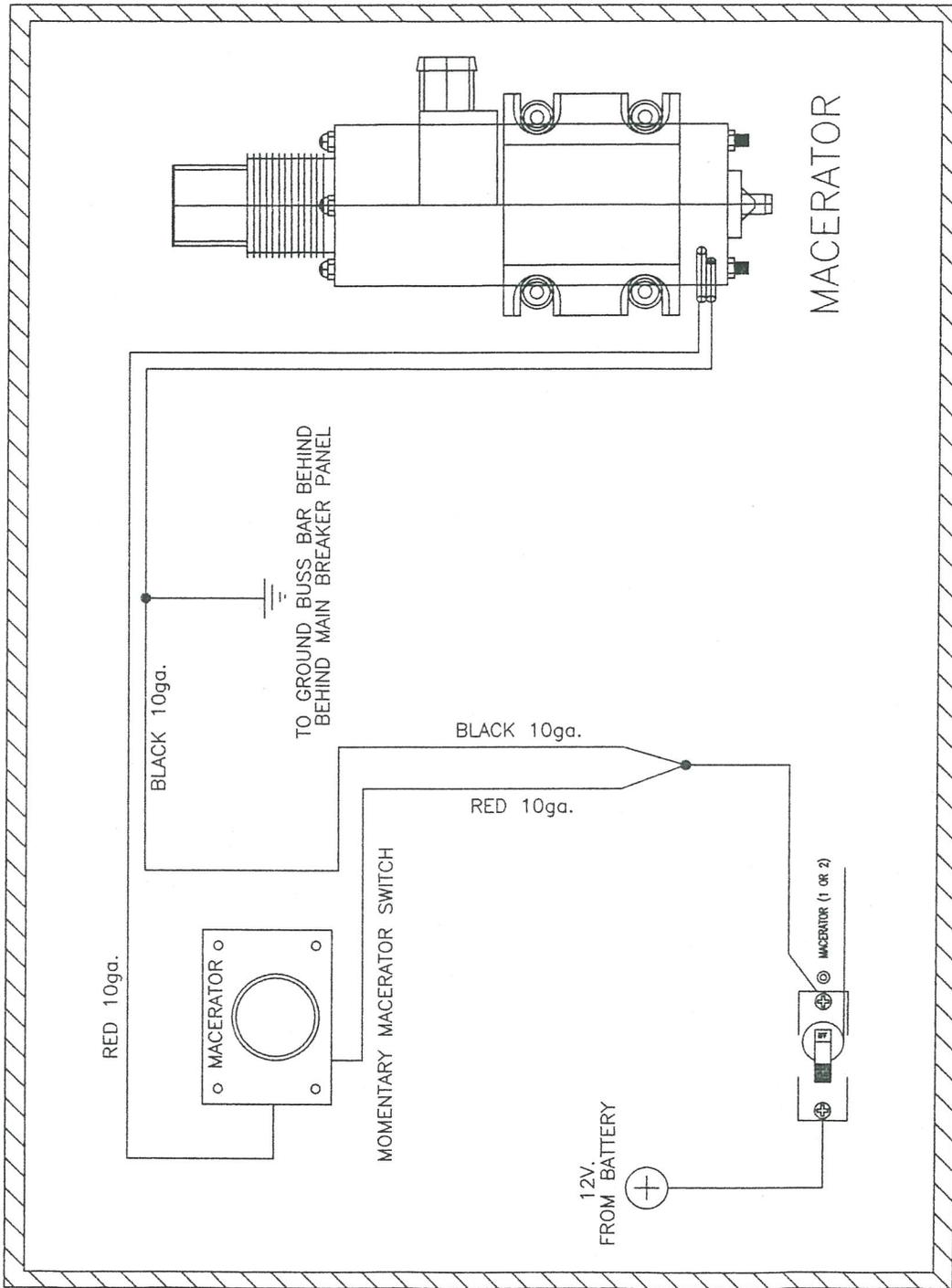


- (A) HEAD
- (B) 1 1/2" (38.7) SANITATION HOSE TO "Y" VALVE
- (C) 1 1/2" (38.7mm) Y-VALVE. SEE PAGE 22B FOR Y-VALVE OPERATING INSTRUCTIONS
- (D) SANITATION HOSE FROM Y-VALVE TO THRU HULL FITTING (1 1/2") (38.7mm)
- (E) 1 1/2" (38.7mm) SANITATION HOSE TO WASTE HOLDING TANK (SEE PREVIOUS PAGE)
- (F) POWER LEADS TO MAIN DISTRIBUTION PANEL
- (G) Y-VALVE VENTED LOOP LOCATED BEHIND VANITY

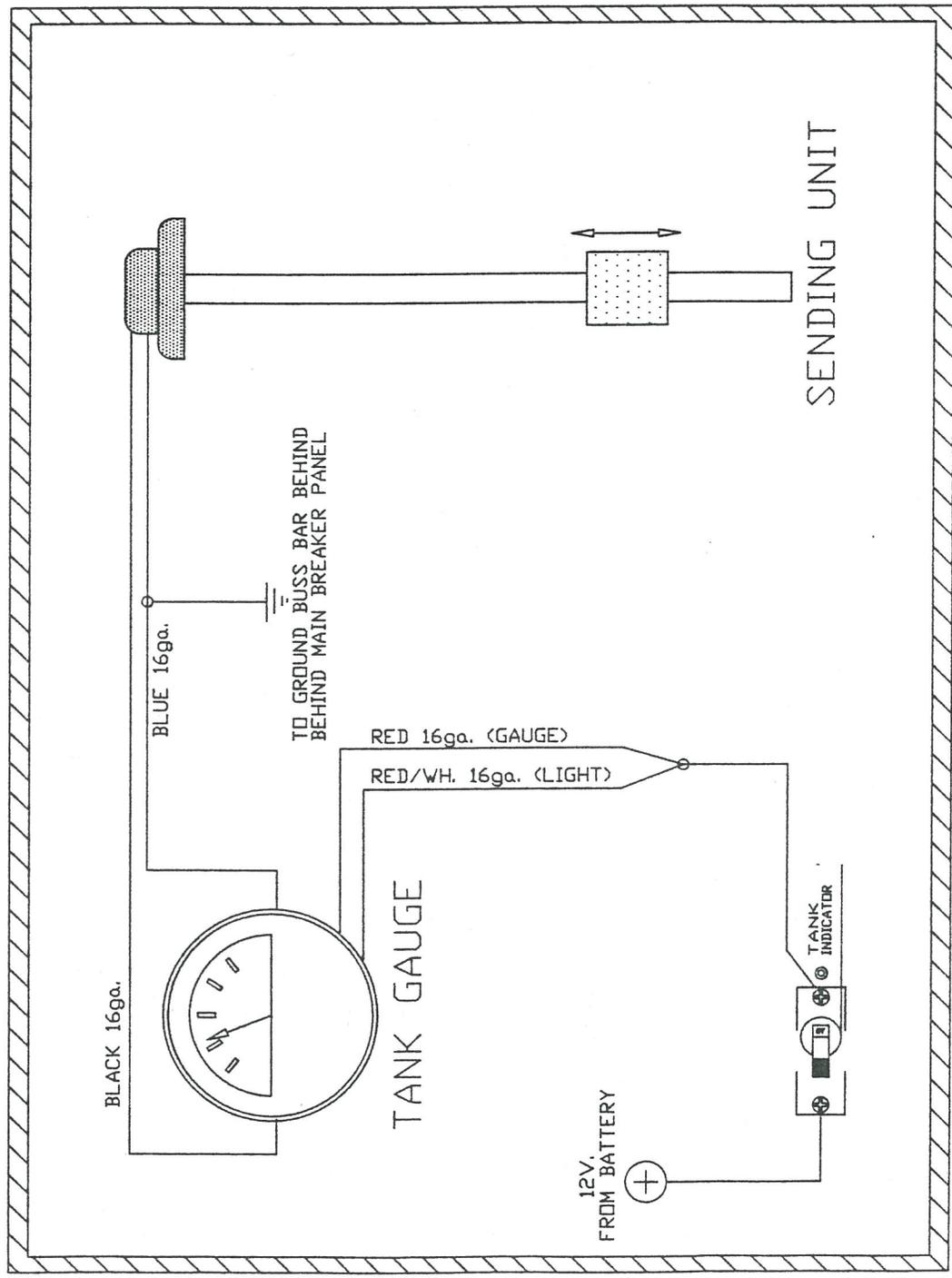


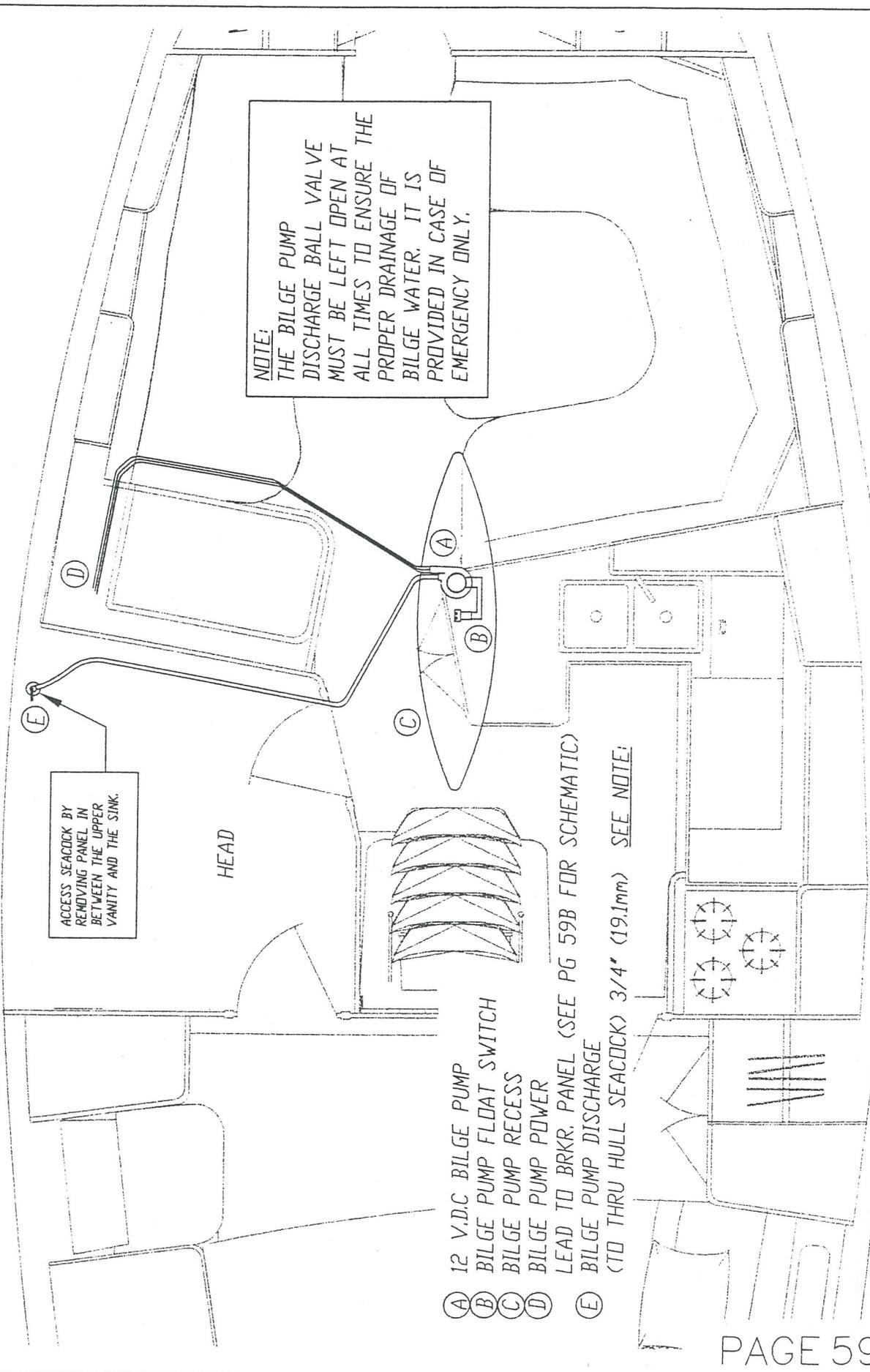
NOTE: TO OPERATE THE HEAD
SEE MARINE HEAD OWNER'S MANUAL

SEE PREVIOUS PAGE FOR WIRE LEADS,
WATER PICKUP, ETC.



THE MACERATOR MOMENTARY SWITCH IS PROVIDED TO PROHIBIT THE "DRY RUNNING" OF THE MACERATOR. TO OPERATE THE MACERATOR, TURN THE MACERATOR BREAKER TO THE "ON" POSITION. WHILE EITHER WATCHING THE WASTE TANK LEVEL INDICATOR, OR LISTENING TO THE PITCH OF THE PUMP, PUSH THE MOMENTARY SWITCH IN. THIS WILL ACTIVATE THE MACERATOR. ONCE THE TANK LEVEL INDICATOR REACHES "EMPTY", OR THE PITCH CHANGES NOTICEABLY, RELEASE THE MOMENTARY SWITCH AND TURN THE BREAKER TO THE "OFF" POSITION. NOTE: OCCASIONALLY THE TANK SENDING UNIT BECOMES STUCK, THEREFORE IT IS MORE EFFECTIVE AND SAFER FOR THE PUMP IF THE OPERATOR USES THE "LISTENING" METHOD TO DETERMINE IF THE TANK HAS BEEN EMPTIED.

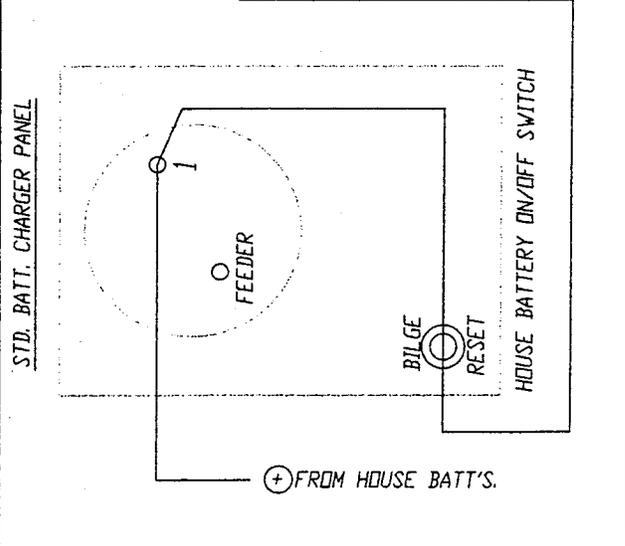
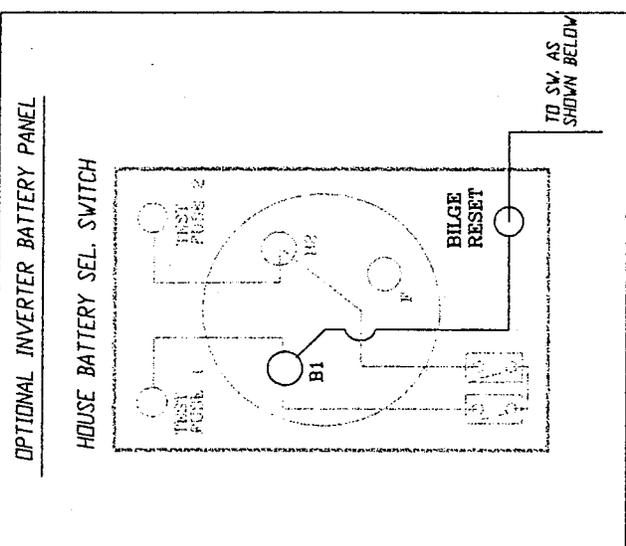
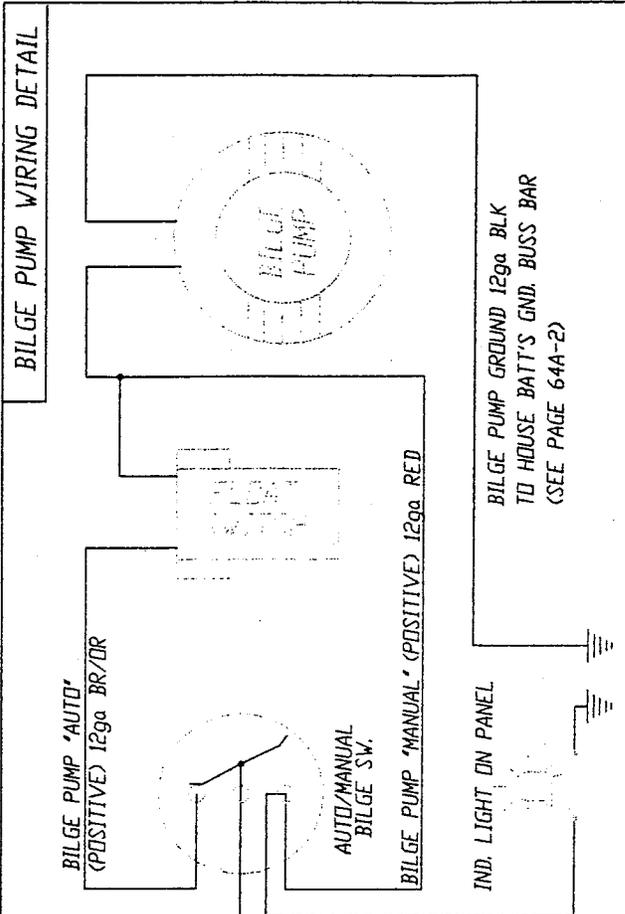
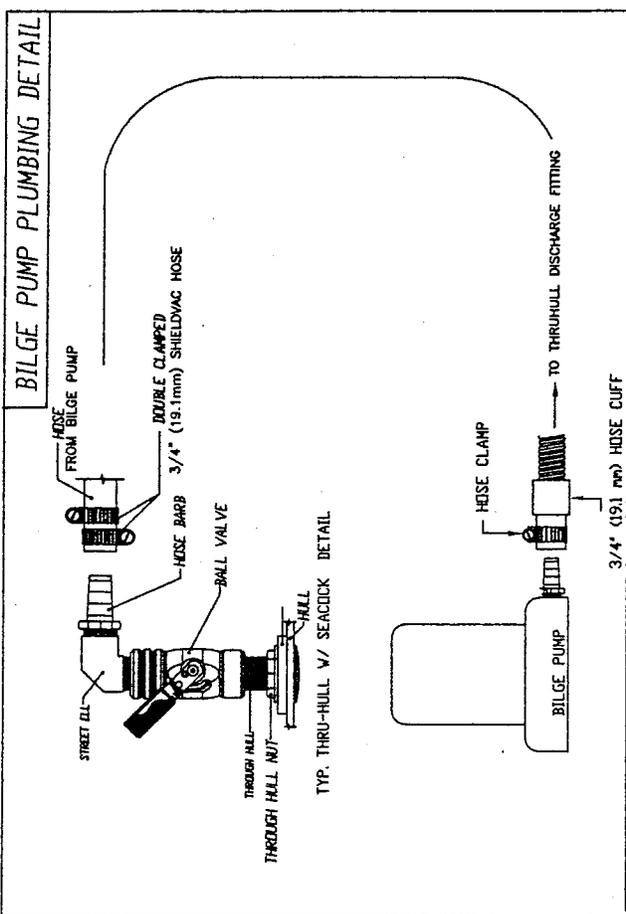




NOTE:
 THE BILGE PUMP
 DISCHARGE BALL VALVE
 MUST BE LEFT OPEN AT
 ALL TIMES TO ENSURE THE
 PROPER DRAINAGE OF
 BILGE WATER. IT IS
 PROVIDED IN CASE OF
 EMERGENCY ONLY.

ACCESS SEACOCK BY
 REMOVING PANEL IN
 BETWEEN THE UPPER
 VANITY AND THE SINK.

- (A) 12 V.D.C BILGE PUMP
- (B) BILGE PUMP FLOAT SWITCH
- (C) BILGE PUMP RECESS
- (D) BILGE PUMP POWER
 LEAD TO BRKR. PANEL (SEE PG 59B FOR SCHEMATIC)
- (E) BILGE PUMP DISCHARGE
 (TO THRU HULL SEACOCK) 3/4" (19.1mm) SEE NOTE:



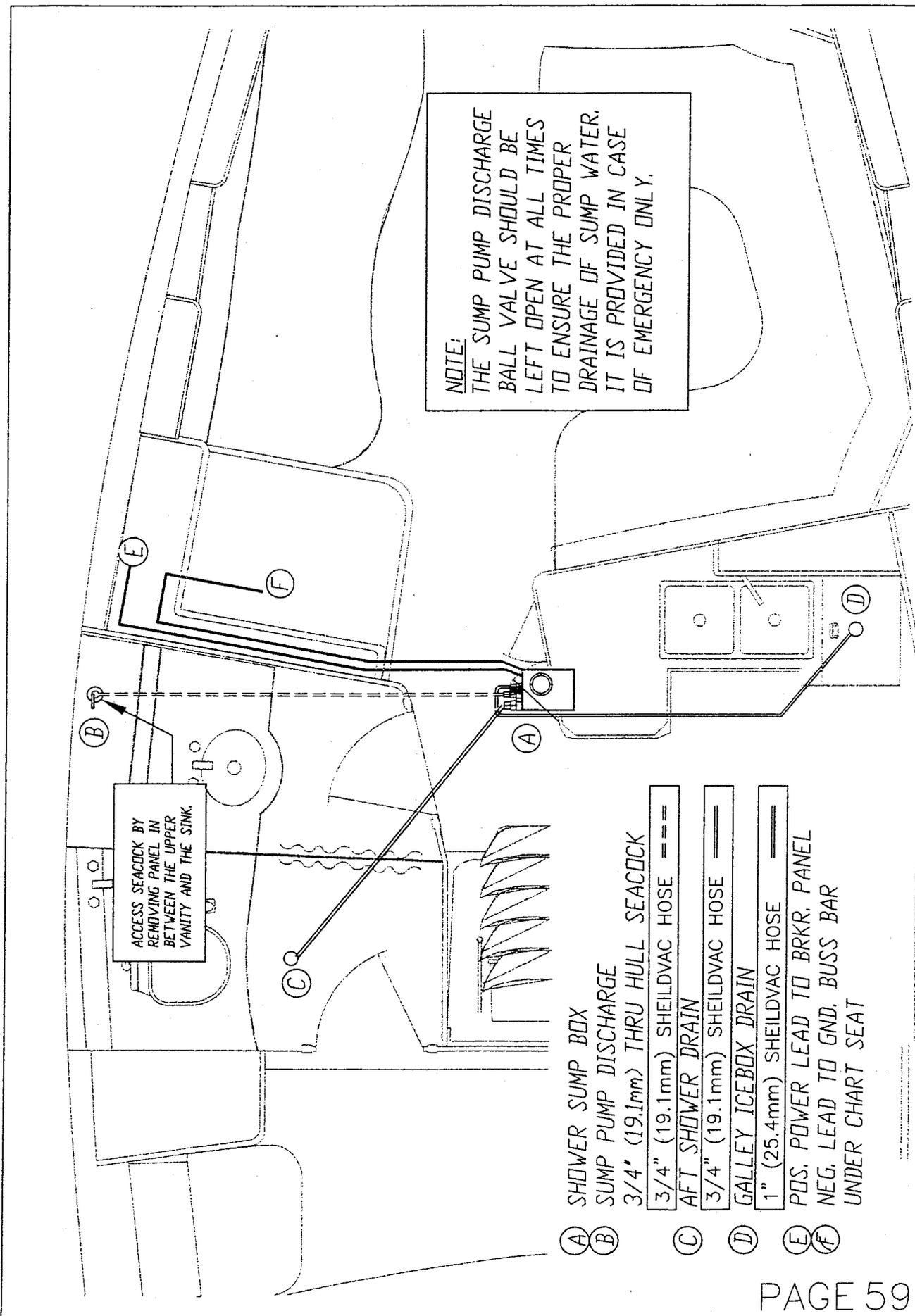
NOTE: THOUGH TWO TYPES OF PANELS ARE USED
 1 FOR STD. BATT. CHARGER MODEL &
 1 FOR THE OPTIONAL INVERTER MODEL
 THE WIRING FOR THE BILGE RESET IS THE SAME

380 BILGE SYSTEM DETAILS

DATE: 3/17/98

ENGINEERING DEPT.

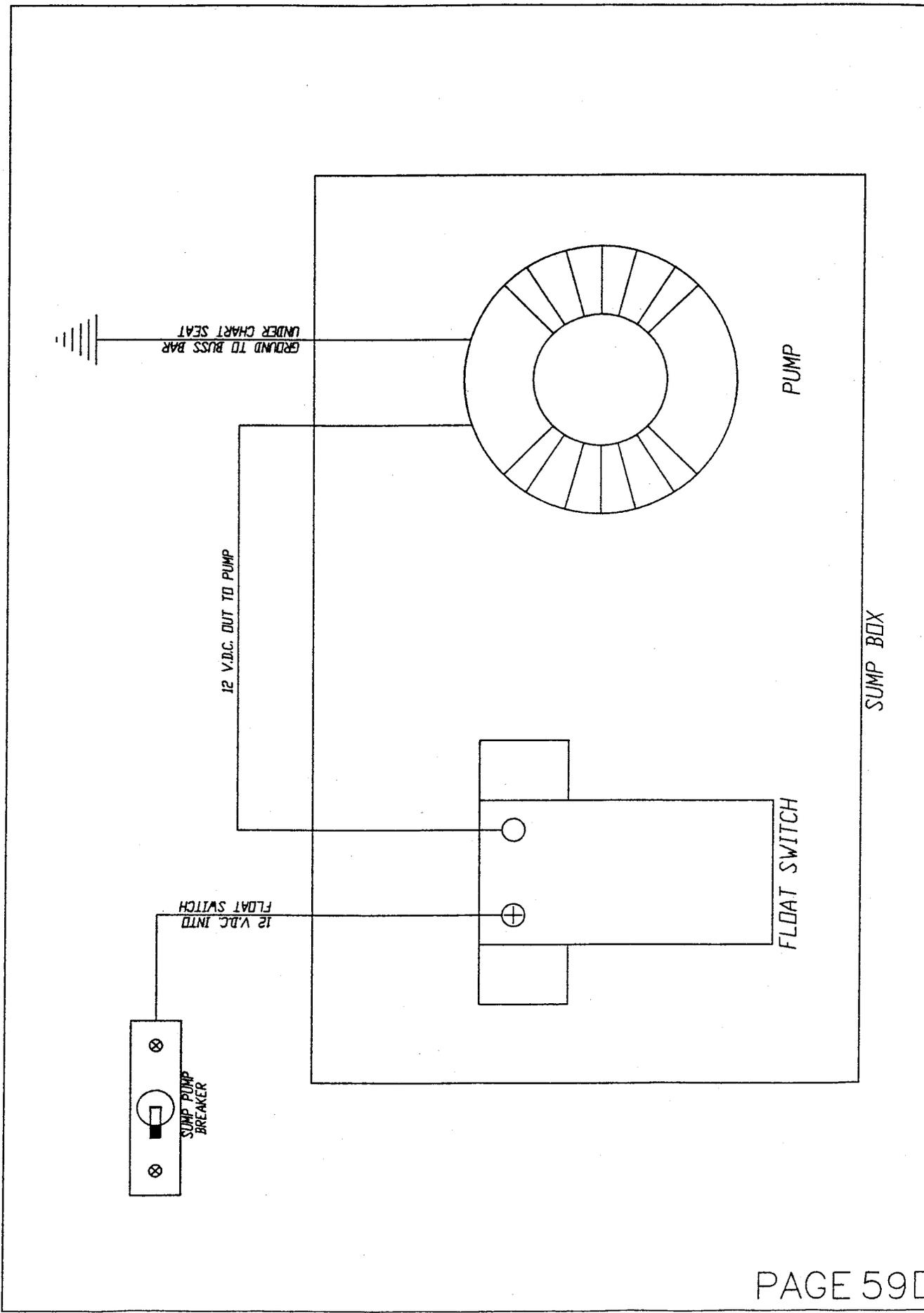
HUNTERA



NOTE:
 THE SUMP PUMP DISCHARGE BALL VALVE SHOULD BE LEFT OPEN AT ALL TIMES TO ENSURE THE PROPER DRAINAGE OF SUMP WATER. IT IS PROVIDED IN CASE OF EMERGENCY ONLY.

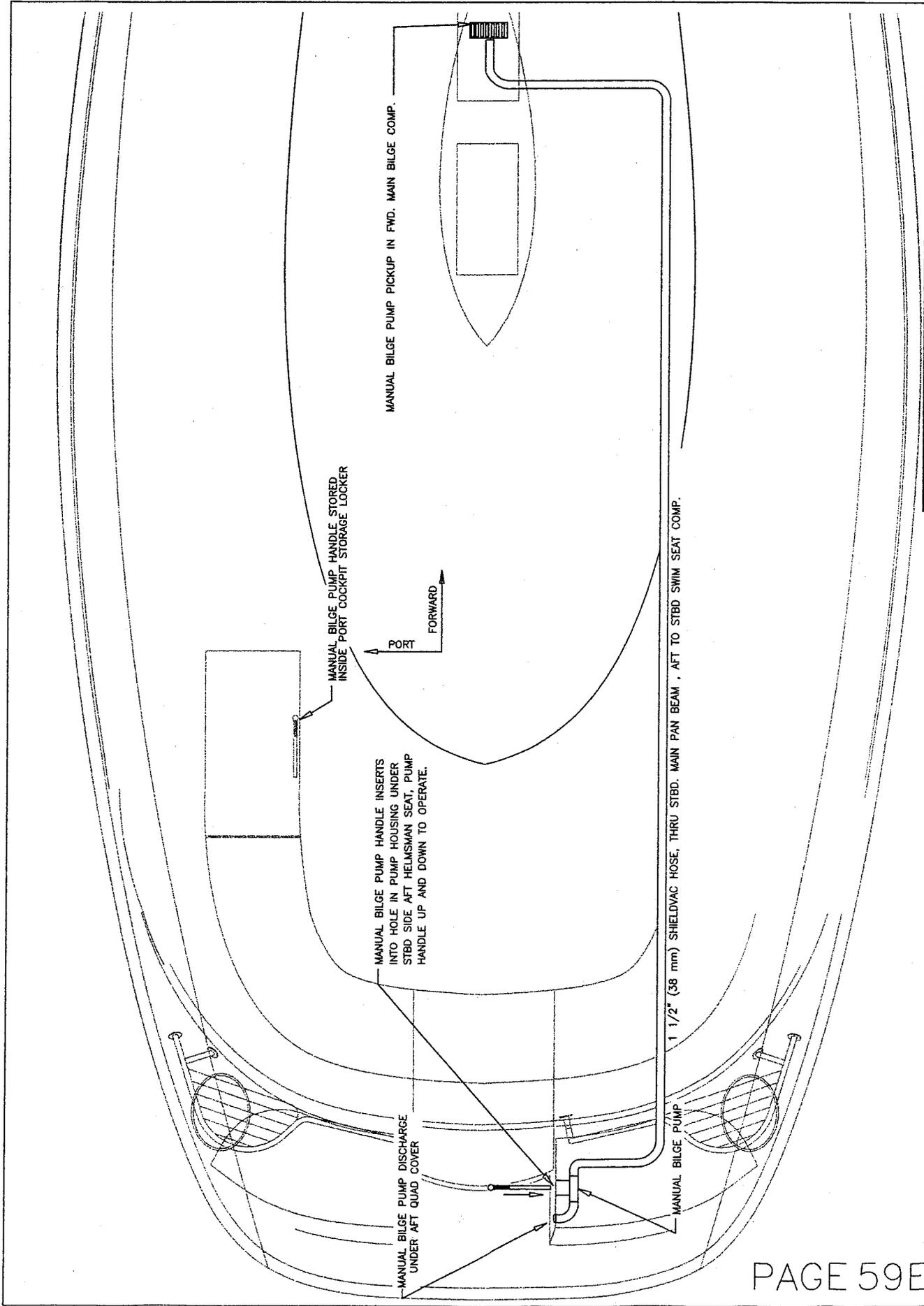
ACCESS SEACOCK BY REMOVING PANEL IN BETWEEN THE UPPER VANITY AND THE SINK.

- (A) SHOWER SUMP BOX
- (B) SUMP PUMP DISCHARGE
3/4" (19.1mm) THRU HULL SEACOCK
3/4" (19.1mm) SHEILDVAC HOSE
- (C) AFT SHOWER DRAIN
3/4" (19.1mm) SHEILDVAC HOSE
- (D) GALLEY ICEBOX DRAIN
1" (25.4mm) SHEILDVAC HOSE
- (E) POS. POWER LEAD TO BRKR. PANEL
- (F) NEG. LEAD TO GND. BUSS BAR UNDER CHART SEAT



REVISED 12/88
380 SUMP PUMP SCHEMATIC
 DRAWING NO. 3800059D
 PROJECT NO. NONE
 DATE 3/16/98
 ENGINEERING DEPT.

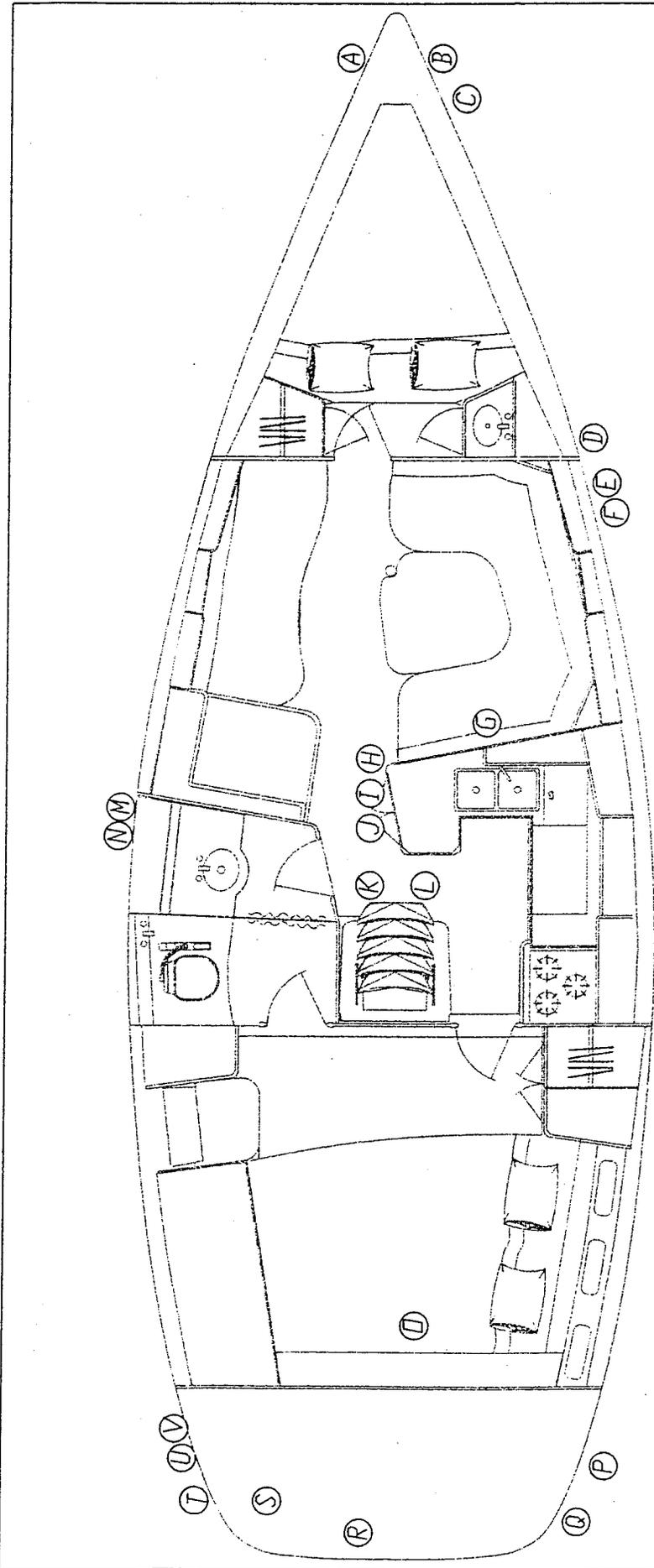




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380 MANUAL BILGE PUMP LAYOUT	
DRAWING NO. 380B059E	REVISION NO. NONE
DRAWN BY: ENGINEERING DEPT	DATE: 3/17/98

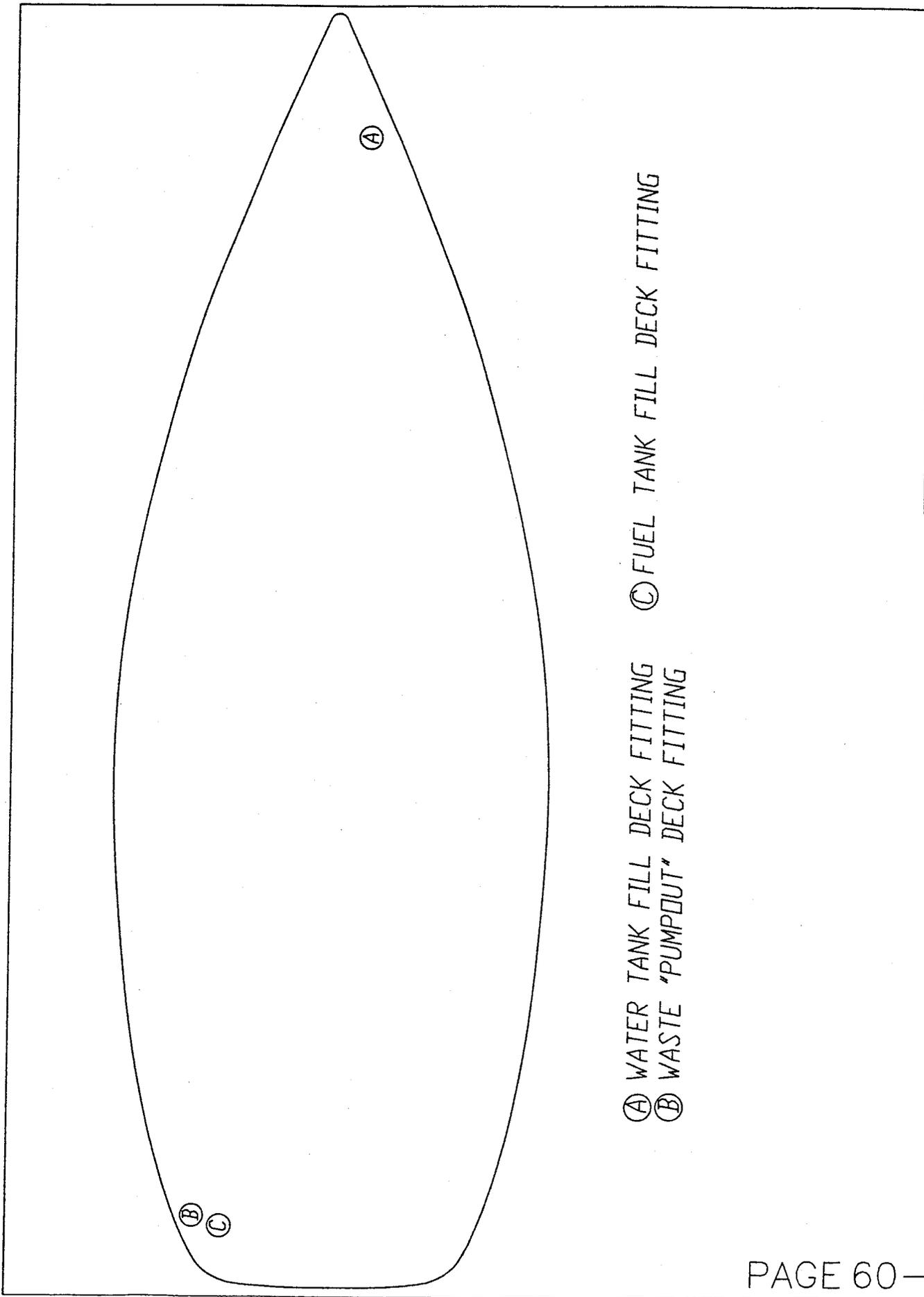
HUNTER



- A PORT ANCHOR WELL DRAIN
- B STARBOARD ANCHOR WELL DRAIN
- C WATER TANK VENT
- * D FWD VANITY DRAIN
- * E AIR CONDITIONER DISCHARGE
- * F REFRIGERATION DISCHARGE
- * G GALLEY DRAIN
- * H AIR CONDITIONER RAW WATER INTAKE
- * I HEAD RAW WATER INTAKE
- * J VANITY SINK DRAIN
- * K ENGINE RAW WATER INTAKE

- * L REFRIGERATION RAW WATER INTAKE
- * M SUMP PUMP DISCHARGE
- * N BILGE PUMP DISCHARGE
- * O GENERATOR RAW WATER INTAKE
- P LPG LOCKER DRAIN
- Q GENERATOR EXHAUST
- R ENGINE EXHAUST
- * S MACERATOR DISCHARGE
- T LPG LOCKER DRAIN
- U HOLDING TANK VENT
- V FUEL TANK VENT

NOTE: * = SEACOCK



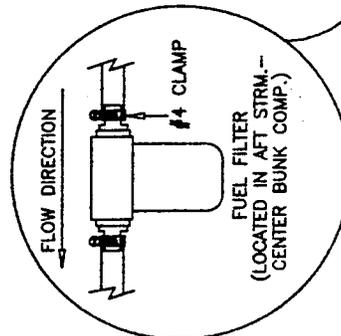
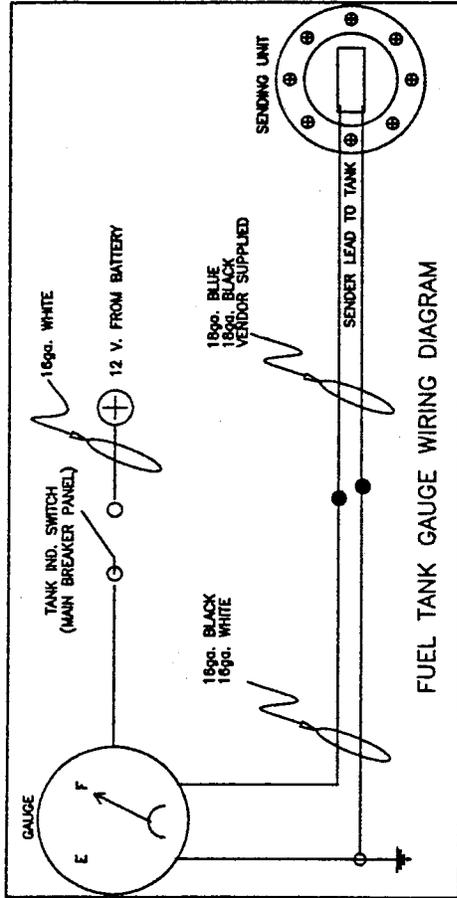
- Ⓐ WATER TANK FILL DECK FITTING
- Ⓑ WASTE "PUMPOUT" DECK FITTING
- Ⓒ FUEL TANK FILL DECK FITTING

PROJECT TITLE: 380 THRU DECK LOCATIONS

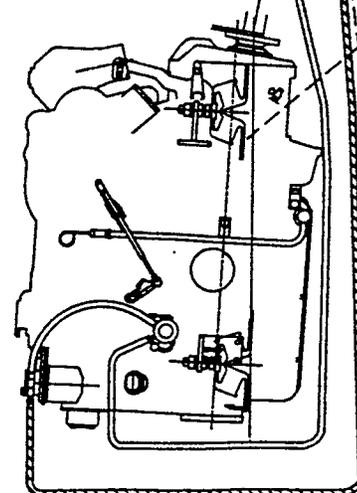
PROJECT NO.	3808060-B	REVISION NO.	NONE
ENGINEERING DEPT.		DATE	3/17/98

HUNTER & COMPANY

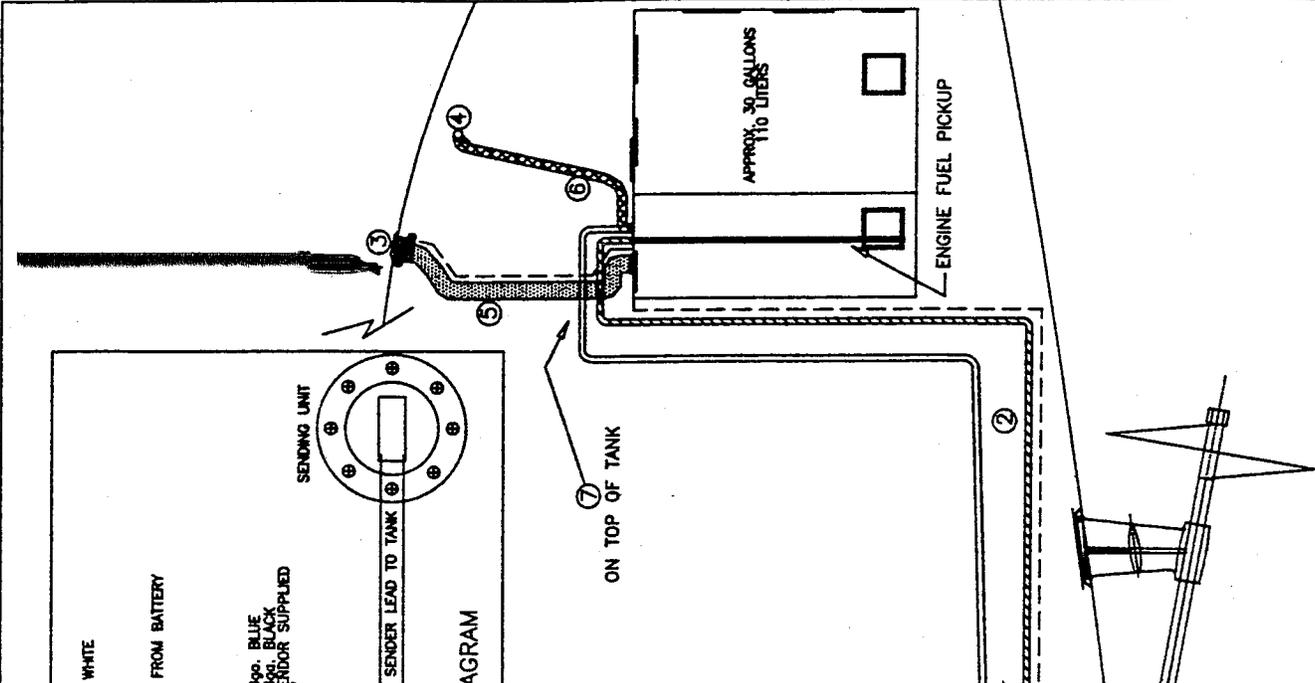
ITEM #	DESCRIPTION
1	ENGINE FUEL FILTER
2	ENGINE FUEL HOSE
3	DIESEL FILL (DECK FITTING)
4	DIESEL TANK VENT (HULL FITTING)
5	DIESEL FILL HOSE
6	DIESEL VENT HOSE
7	SENDING UNIT



FORWARD



- ===== FUEL FEED LINE 5/16" (7.9 mm)
- ===== FUEL RETURN 5/16" (7.9 mm)
- FUEL VENT HOSE 3/4" (19.1 mm)
- FUEL FILL HOSE 1 1/2" (38.1 mm)
- OVERSEAS/CHTR SPEC ALUM. TANK STATIC GND.



HUNTER

376 ENGINE FUEL SYSTEM

FUEL SYSTEM 8061A

ENGINEERING DEPT

DATE: 7/22/97

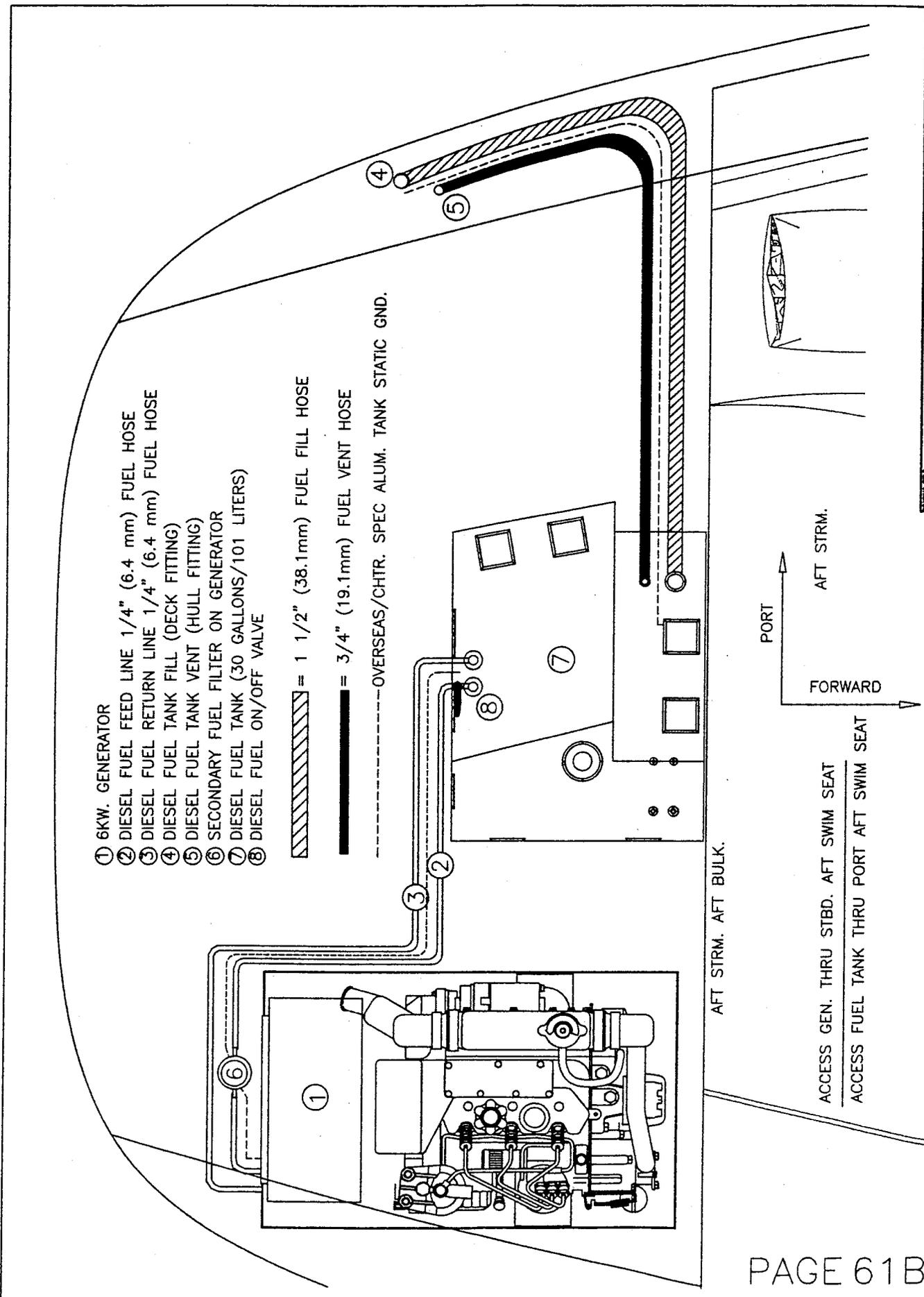
REVISION NO. NONE

- ① 6KW. GENERATOR
- ② DIESEL FUEL FEED LINE 1/4" (6.4 mm) FUEL HOSE
- ③ DIESEL FUEL RETURN LINE 1/4" (6.4 mm) FUEL HOSE
- ④ DIESEL FUEL TANK FILL (DECK FITTING)
- ⑤ DIESEL FUEL TANK VENT (HULL FITTING)
- ⑥ SECONDARY FUEL FILTER ON GENERATOR
- ⑦ DIESEL FUEL TANK (30 GALLONS/101 LITERS)
- ⑧ DIESEL FUEL ON/OFF VALVE

 = 1 1/2" (38.1mm) FUEL FILL HOSE

 = 3/4" (19.1mm) FUEL VENT HOSE

 ---OVERSEAS/CHTR. SPEC ALUM. TANK STATIC GND.



AFT STRM. AFT BULK.

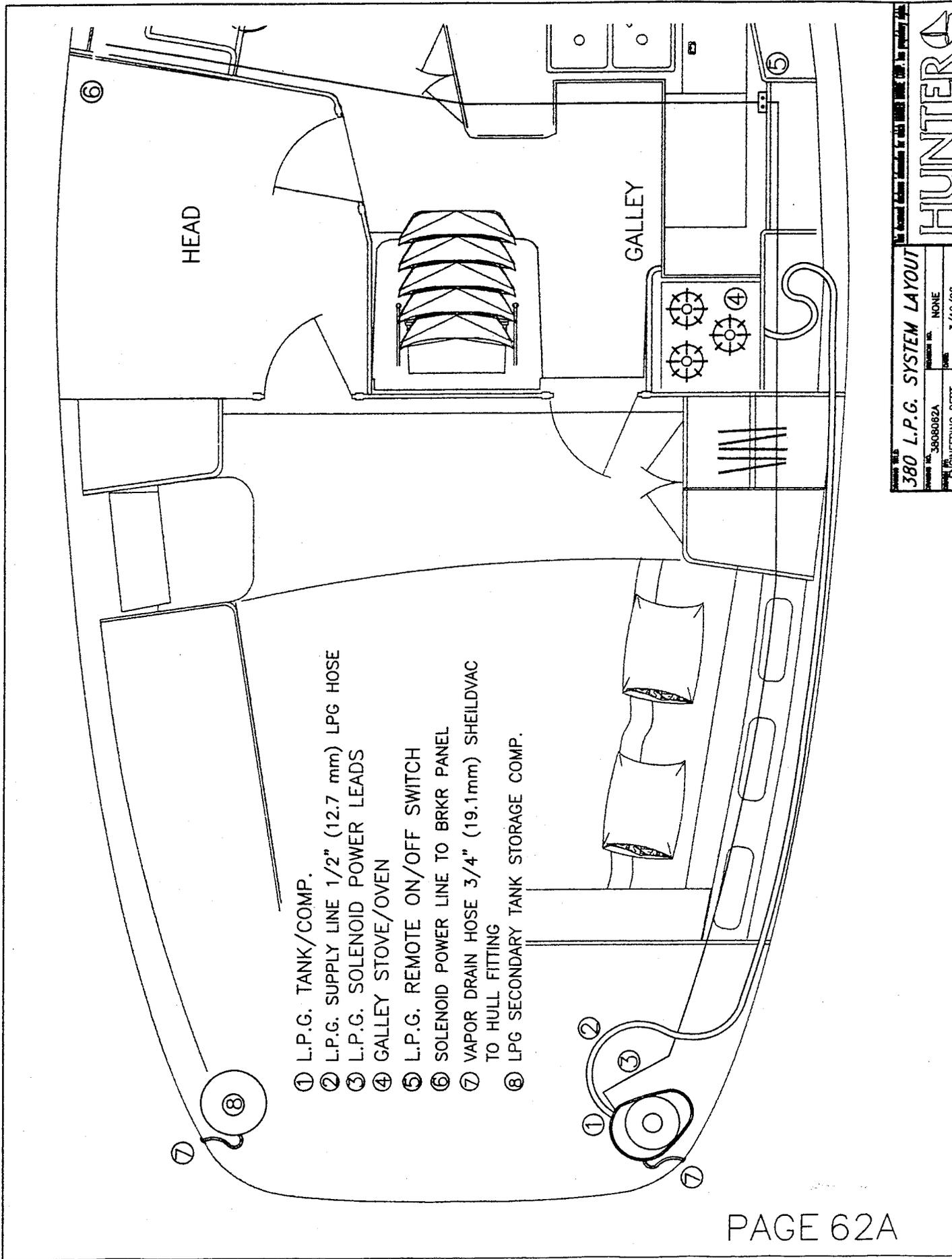
ACCESS GEN. THRU STBD. AFT SWIM SEAT

ACCESS FUEL TANK THRU PORT AFT SWIM SEAT

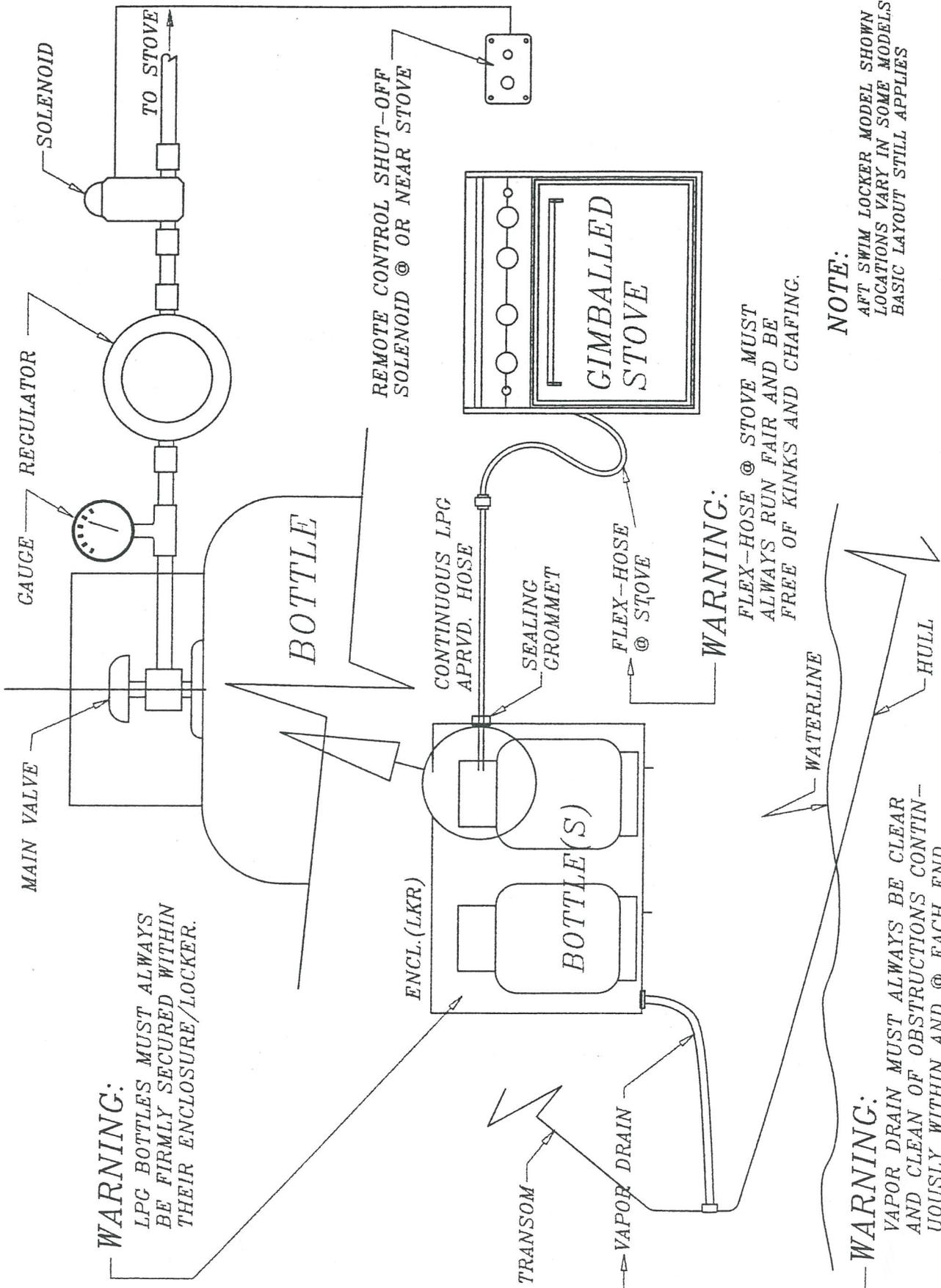
380 GENERATOR FUEL SYSTEM

NO.	3808081B	ISSUE	NONE
DATE		DATE	7/22/87
ENGINEERING DEPT.			

HUNTER



- ① L.P.G. TANK/COMP.
- ② L.P.G. SUPPLY LINE 1/2" (12.7 mm) LPG HOSE
- ③ L.P.G. SOLENOID POWER LEADS
- ④ GALLEY STOVE/OVEN
- ⑤ L.P.G. REMOTE ON/OFF SWITCH
- ⑥ SOLENOID POWER LINE TO BRKR PANEL
- ⑦ VAPOR DRAIN HOSE 3/4" (19.1mm) SHEILDVAC TO HULL FITTING
- ⑧ LPG SECONDARY TANK STORAGE COMP.



WARNING:
LPG BOTTLES MUST ALWAYS
BE FIRMLY SECURED WITHIN
THEIR ENCLOSURE/LOCKER.

WARNING:
FLEX-HOSE @ STOVE MUST
ALWAYS RUN FAIR AND BE
FREE OF KINKS AND CHAFING.

NOTE:
AFT SWIM LOCKER MODEL SHOWN
LOCATIONS VARY IN SOME MODELS
BASIC LAYOUT STILL APPLIES

WARNING:
VAPOR DRAIN MUST ALWAYS BE CLEAR
AND CLEAN OF OBSTRUCTIONS CONTIN-
UOUSLY WITHIN AND @ EACH END.

HUNTER
 380 L.P.G. SYSTEM LAYOUT (BASIC)
 REVISION NO. NONE
 DRAWN BY: ENGINEERING DEPT.
 DATE: 3/19/98
See document database information for valid HUNTER MODEL (L.P.G.) for proprietary rights.

NOTE TO CONSUMER

THE FOLLOWING PAGES PROVIDE DETAILED INFORMATION, SCHEMATICS ETC. PERTAINING TO THE H380 **STANDARD** ELECTRICAL SYSTEMS AS WELL AS THE **OPTIONAL** ELECTRICAL SYSTEMS.

BE SURE TO READ THE DRAWING TITLE IN THE TITLE BLOCK TO BE SURE YOU ARE REFERRING TO THE CORRECT SYSTEM FOR YOUR MODEL.

MAJOR DIFFERENCES EXIST FOR EXAMPLE IN THE CHARGING SYSTEM SCHEMATICS WHERE THE STANDARD MODEL IS EQUIPPED WITH A BATTERY CHARGER AND THE OPTIONAL MODEL IS EQUIPPED WITH AN INVERTER/CHARGER.

H380 ELECTRICAL SYSTEM CONTENTS

PAGES 63A-2 THRU 63G CONTAINS A.C. POWER SYSTEMS (110 V.A.C.) (220 V.A.C. ON OVERSEAS MODELS)

BASIC POWER SYSTEMS / MAIN DIST. PANEL DESCRIPTION	PAGES 63A-2 THRU 63A-8
POWER SYSTEMS TROUBLESHOOTING GUIDE	PAGES 63A-9 THRU 63A-12
A.C. POWER PANEL SCHEMATICS: STD AND W/OPT. GEN. & INV.....	PAGES 63A-13 & 63A-14
SELECTOR SWITCH PANELS.....	PAGES 63A15 & 63A-16
A.C. POWER WIRING.....	PAGES 63B & 63C
OPTIONAL AIR CONDITIONING SYSTEM	PAGES 63D-1 THRU 63D-3
OPTIONAL GENERATOR SYSTEM	PAGES 63E-1 THRU 63E-3
OPTIONAL INVERTER/STANDARD BATTERY CHARGER SYSTEM	PAGES 63F-1 THRU 63F-4
AC CONSUMER NOTES.....	PAGE 63G

PAGES 64A-1 THRU 64J CONTAINS D.C. POWER SYSTEMS (12 VOLT D.C.)

D.C. PANEL SCHEMATICS AND GROUNDING SYSTEM	PAGES 64A-1 THRU 64A-3
12 VOLT LIGHTING / SPEAKERS / STEREO	PAGES 64B-1 THRU 64B-3
12 VOLT DECK WIRING	PAGES 64C
OPTIONAL WINDLASS	PAGES 64D-1 THRU 64D-2
OPTIONAL ELECTRIC HALYARD	PAGES 64E-1 & 64E-2
HEADLINER WIRE CHASE LOCATION	PAGE 64F
COURTESY LIGHT WIRING	PAGE 64G
REFRIGERATION SYSTEM.....	PAGE 64H-1 THRU 64H-3
PAN WIRE CHASE LOCATIONS.....	PAGE 64I
DC CONSUMER NOTES.....	PAGE 64J

SHORE POWER WIRING.....PAGE 65A

ELECTRIC WIRING COLOR / GUAGE CHART.....PAGE 65B

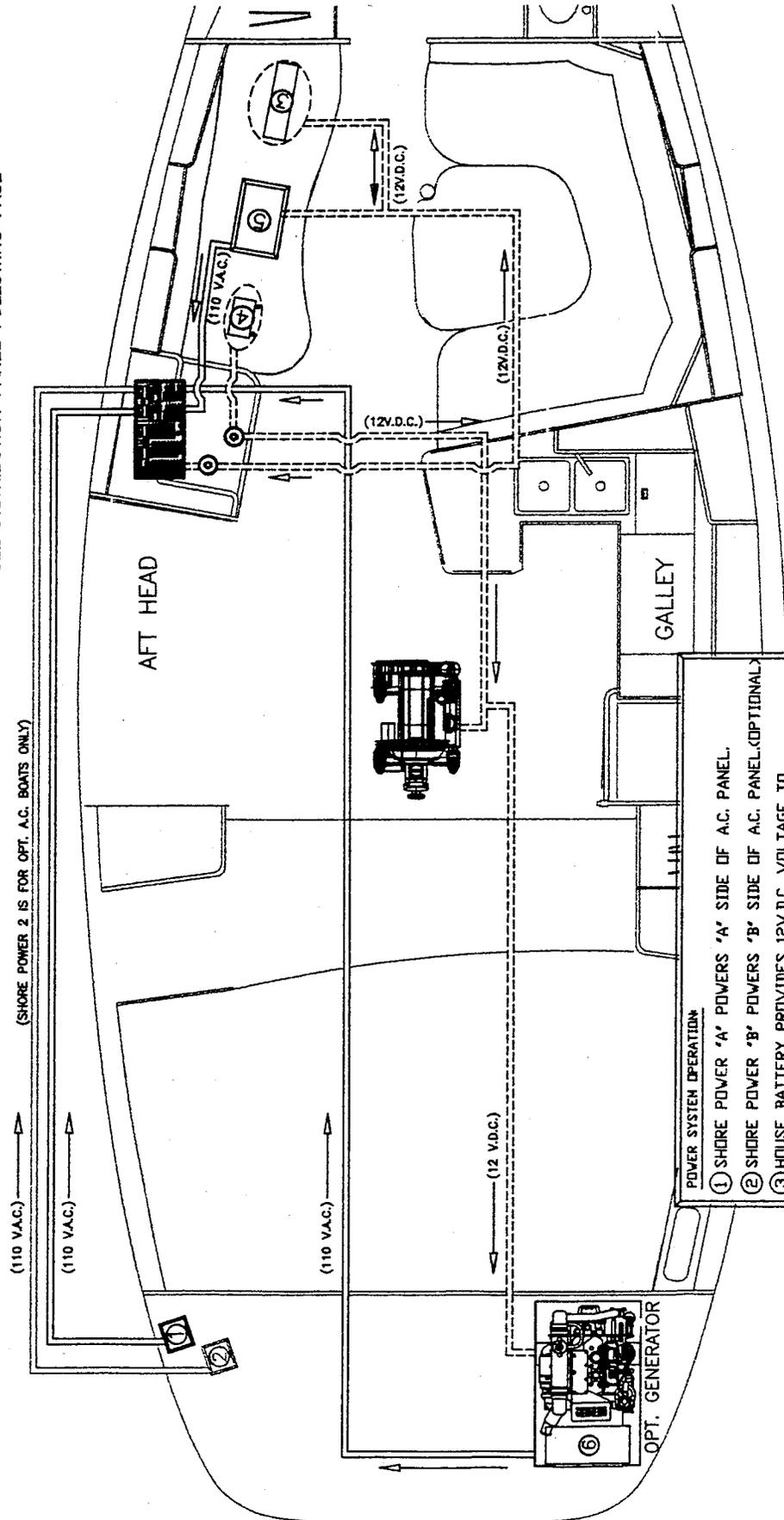
H380 POWER SYSTEMS OPERATION PROCEDURES

POWER SOURCE:	TO OPERATE:
D.C. MAIN	<p>STD. BATTERY CHARGER MODEL: TURN BATTERY SWITCH (LOCATED UNDER CHART TABLE) TO THE "ON" POSITION, THEN TURN ON "D.C. MAIN" BREAKER ON D.C. SIDE OF MAIN DISTRIBUTION PANEL.</p> <p>IF NO POWER: CHECK 50a. RESET ON "HOUSE" BATTERY SWITCH PANEL AND/OR BATTERY CONNECTIONS IF NECESSARY.</p>
D.C. MAIN	<p>OPTIONAL INVERTER MODEL: TURN ON "D.C. MAIN" BRKR. ON D.C. SIDE OF MAIN DISTRIBUTION PANEL. IT IS NOT NECESSARY TO TURN ON THE HOUSE BATTERY ON/OFF SW. TO THE "ON" POSITION. THIS PORTION OF THE HOUSE BATTERY ON/OFF SW. IS FOR THE CHARGING/INVERTING SYSTEM (AND ISOLATION OF) ONLY. IT IS NECES. HOWEVER TO TURN ON EITHER THE HOUSE BATTERY BREAKER LOCATED ON THE BOTTOM OF THE HSE. BATTERY ON/OFF SW. PANEL TO PROVIDE POWER TO D.C. PANEL FROM THE HOUSE BATT. (#1=HOUSE BATTERY #1)</p> <p>IF NO POWER: CHECK 300 amp IN LINE FUSE AT HOUSE BATTERY IN HOUSE BATTERY COMPARTMENT, AND/OR BATTERY CONNECTIONS IF NECESSARY.</p>
SHORE POWER "A"	<p>1. CONNECT SHORE POWER CABLE #1. TO SUPPLY POWER TO "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL</p> <p>2. TURN ON MAIN BREAKER ON SHORE POWER "A" SIDE OF PANEL</p> <p>3. "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL SHOULD NOW BE OPERABLE (NOTE: APPROX. 15 SECOND DELAY ON OPT. INV. MODELS)</p> <p>IF NO POWER TO "A" SIDE OF PANEL CHECK THE FOLLOWING:</p> <ol style="list-style-type: none"> 1. BREAKER AT DOCKSIDE POWER SUPPLY BOX 2. BREAKER #1 INSIDE PORT COCKPIT SEAT LOCKER
SHORE POWER "B"	<p>1. CONNECT SHORE POWER CABLE #2. TO SUPPLY POWER TO "B" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL</p> <p>2. TURN ON MAIN BREAKER ON SHORE POWER "B" SIDE OF PANEL</p> <p>3. "B" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL SHOULD NOW BE OPERABLE</p> <p>IF NO POWER TO "B" SIDE OF PANEL CHECK THE FOLLOWING:</p> <ol style="list-style-type: none"> 1. BREAKER AT DOCKSIDE POWER SUPPLY BOX 2. BREAKER #2 INSIDE PORT COCKPIT SEAT LOCKER <p style="text-align: right;">NOTE: #2 SHORE POWER IS SUPPLIED WITH OPTIONAL AIR COND. EQUIPPED MODELS.</p>
NOTE:	<p>THE OPT. AIR COND IS POWERED BY THE "SHORE POWER B" CABLE OR THE OPT. GENERATOR. NOTE: IF ANY OTHER APPLIANCES ARE TO BE USED WITH AIR COND RUNNING WHEN ON SHORE POWER BOTH "SHORE POWER A" AND "SHORE POWER B" CABLES MUST BE HOOKED UP.</p>
OPTIONAL INVERTER WHEN IN INVERT MODE (CONVERTS 12V.D.C. TO 110V.A.C.)	<p>1. TURN THE HOUSE BATTERY SELECTOR SWITCH UNDER CHART TABLE TO THE "ON" POSITION</p> <p>2. TURN THE INVERTER REMOTE SW. (LOCATED AT INB. END OF CHART SEAT) TO THE "ON" POSITION</p> <p>3. TURN ON DESIRED BREAKER (EX. OUTLETS) ON "A" SIDE OF A.C. MAIN DISTRIBUTION PANEL</p> <p>NOTE: IT TAKES 10D.C. AMPS TO CREATE 1A.C. AMP. IF THE BATTERY VOLTAGE DROPS BELOW 10.5V. THE INVERTER WILL AUTOMATICALLY SHUT DOWN. (SEE "SEL SW" & "METERS" ON PAGE 63A-7) ALSO THE OUTPUT OF THE INVERTER IS NOT CAPABLE OF POWERING THE WATER HEATER OR AIR COND. SYSTEM, THE WATER HEATER IS POWERED BY "SHORE POWER A" CABLE OR OPT. GENERATOR. TO POWER D.C. SIDE OF PANEL AND "A" SIDE OF A.C. PANEL SIMULTANEOUSLY USING INVERTER:</p> <ol style="list-style-type: none"> 1. TURN ON D.C. MAIN BREAKER ON D.C. SIDE OF MAIN DISTRIBUTION PANEL 2. TURN THE SELECTOR SWITCH TO THE "ON" POSITION 3. TURN INVERTER REMOTE SWITCH TO THE "ON" POSITION <p>THIS PROCEDURE ALLOWS INVERTER TO SUPPLY 110V.A.C. POWER TO "A" SIDE OF A.C. PANEL BY DRAWING POWER FROM HOUSE BATTERY</p> <p>(THIS APPLIES WHEN THERE IS NO SHORE OR GENERATOR POWER BEING SUPPLIED TO PANEL)</p>
POWERS "A" SIDE OF A.C. PANEL ONLY WHEN INVERTING	<p>1. TURN ON D.C. MAIN BREAKER ON D.C. SIDE OF MAIN DISTRIBUTION PANEL</p> <p>2. TURN THE SELECTOR SWITCH TO THE "ON" POSITION</p> <p>3. TURN INVERTER REMOTE SWITCH TO THE "ON" POSITION</p> <p>THIS PROCEDURE ALLOWS INVERTER TO SUPPLY 110V.A.C. POWER TO "A" SIDE OF A.C. PANEL BY DRAWING POWER FROM HOUSE BATTERY</p> <p>(THIS APPLIES WHEN THERE IS NO SHORE OR GENERATOR POWER BEING SUPPLIED TO PANEL)</p>
USED WHEN NO SHORE POWER OR GEN. POWER BEING USED.	<p>THIS PROCEDURE ALLOWS INVERTER TO SUPPLY 110V.A.C. POWER TO "A" SIDE OF A.C. PANEL BY DRAWING POWER FROM HOUSE BATTERY</p> <p>(THIS APPLIES WHEN THERE IS NO SHORE OR GENERATOR POWER BEING SUPPLIED TO PANEL)</p>
BUILT IN INVERTER-TRANSFER SWITCH.	<p>THE INVERTER AUTO. TRANSFERS SHORE POWER TO THE A.C. PANEL WHEN "SHORE POWER A" CABLE CONNECTED AND DOCKSIDE POWER PRESENT AT A.C. PANEL BYPASSING THE INVERT MODE CAPABILITIES.</p>
OPTIONAL GENERATOR	<ol style="list-style-type: none"> 1. TURN (START) BATTERY SW. (LOCATED UNDER CHART TABLE) TO THE "ON" POSITION 2. CHECK SEA STRAINER AND OPEN RAW WATER SEACOCK. SEE PAGE 60 FOR LOCATION 3. START GENERATOR (FOLLOW STARTING INSTRUCTIONS PROVIDED IN THE "GENERATOR MANUAL") 3. RAISE SLIDE BAR ON "A" SIDE OF A.C. PANEL AND TURN GENERATOR BREAKER TO THE "ON" POSITION 4. TO POWER "B" SIDE OF A.C. PANEL (TO USE AIR COND'S) RAISE SLIDE BAR ON "B" SIDE OF A.C. PANEL AND TURN PARALLEL BREAKER TO THE "ON" POSITION

H380 BATTERY CHARGING SYSTEMS OPERATION PROCEDURES

STD. BATT. CHARGER	<p>1. CONNECT SHORE POWER CABLE #1 TO POWER "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL AND TURN ON "SHORE POWER A" MAIN BREAKER</p> <p>2. TURN "BATTERY CHARGER" BREAKER (LOCATED ON "A" SIDE OF A.C. PANEL) TO THE "ON" POSITION</p> <p>NOTE: IT IS NOT NECESSARY TO TURN ON THE "HOUSE" OR THE "START" BATTERY SWITCHES TO PROVIDE CHARGING POWER TO THE HOUSE & START BATTERIES.</p>
ENGINE ALTERNATOR	<ol style="list-style-type: none"> 1. TURN (START) BATTERY SELECTOR SWITCH TO THE "ON" POSITION 2. CHECK SEA STRAINER & OPEN RAW WATER SEACOCK. SEE PAGE 60 FOR LOCATION 3. START SHIP'S ENGINE (FOLLOW STARTING INSTRUCTIONS IN THE "ENGINE MANUAL") 4. TURN (HOUSE) BATTERY SWITCH TO THE "ON" POSITION
OPTIONAL INVERTER INVERTER HAS A BUILT IN AUTO. CHARGING SYSTEM	<p>1. CONNECT SHORE POWER CABLE #1 TO POWER "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL AND TURN ON "SHORE POWER A" MAIN BREAKER</p> <p>2. TURN INVERTER REMOTE SWITCH TO THE "OFF" POSITION</p> <p>3. TURN HOUSE BATTERY ON/OFF SWITCH TO THE "ON" POSITION</p> <p>NOTE: IT IS NOT NECESSARY TO TURN ON THE "START" BATTERY SWITCH TO PROVIDE CHARGING POWER TO THE START BATTERY.</p> <p>NOTES: WHEN LEAVING BOAT UNATTENDED, BE SURE INVERTER REMOTE SWITCH IS IN THE "OFF" POSITION. THIS WAY IF SHORE POWER IS LOST FOR ANY REASON, THIS WILL PREVENT THE INVERTER FROM CONVERTING 12V.D.C. TO A.C. VOLTAGE CAUSING HOUSE BATTERY TO BE DRAINED. WHEN THE INVERTER REMOTE SWITCH IS IN THE "OFF" POSITION THE INVERTER AUTOMATICALLY GOES INTO CHARGE MODE INVERTER CHARGE MODE WORKS ONLY WHEN THERE IS POWER TO THE "A" SIDE OF THE A.C. PANEL</p>
OPT. GENERATOR	<ol style="list-style-type: none"> 1. TURN (START) BATTERY SWITCH TO THE "ON" POSITION 2. CHECK SEA STRAINER & OPEN RAW WATER SEACOCK SEE PAGE 60 FOR LOCATION 3. START GENERATOR (FOLLOW STARTING INSTRUCTIONS IN THE "GENERATOR MANUAL") 4. ON STD. BATTERY CHARGER MODEL: TURN ON THE "GENERATOR" MAIN BREAKER ON THE A.C. SIDE OF MAIN DISTRIBUTION PANEL TURN ON "BATTERY CHARGER" BREAKER ON THE "A" SIDE OF A.C. PANEL IT IS NOT NECESSARY TO TURN ON THE HOUSE BATTERY SW. 5. ON OPT. INVERTER MODEL: TURN THE INVERTER REMOTE SWITCH TO THE "OFF" POSITION, AND THE HSE. BATTERY ON/OFF SWITCH TO THE "ON" POSITION.

(NOTE: OVERSEAS MODELS ARE 220V.A.C. INSTEAD OF 110V.A.C.)
SEE DISTRIBUTION PANEL FOLLOWING PAGE



- POWER SYSTEM OPERATION**
- ① SHORE POWER 'A' POWERS 'A' SIDE OF A.C. PANEL.
 - ② SHORE POWER 'B' POWERS 'B' SIDE OF A.C. PANEL (OPTIONAL).
 - ③ HOUSE BATTERY PROVIDES 12V.D.C. VOLTAGE TO D.C. SIDE OF DISTRIBUTION PANEL AND OPTIONAL INVERTER.
 - ④ START BATTERY PROVIDES 12 V.D.C. POWER TO ENGINE & GEN. STARTERS (NOTE: ISOLATOR PREVENTS OPT. INVERTER FROM DRAWING POWER FROM START BATTERY).
 - ⑤ OPT. INVERTER CONVERTS 12 V.D.C. TO A.C. VOLTAGE AND POWERS 'A' SIDE OF A.C. PANEL ONLY. (WITH THE EXCEPTION OF THE WATER HEATER)
 - ⑥ OPT. GENERATOR PROVIDES A.C. POWER TO BOTH 'A' & 'B' SIDES OF PANEL WHEN GENERATOR AND PARALLEL BREAKERS ARE IN THE "ON" POSITION WHILE GENERATOR RUNNING.
- ⊖ = BATTERY SELECTOR SWITCHES
 = POWER FLOW DIRECTION
 - - - - - = 12 V.D.C.
 = = = = = = 110 V.A.C. (220 V.A.C. OVERSEAS MODELS)

NOTE: THIS LAYOUT IS INTENDED TO PROVIDE A BASIC UNDERSTANDING OF THE VARIOUS POWER SYSTEMS ONLY. IT IS NOT A SCHEMATIC! SEE FOLLOWING PAGES FOR MORE DETAILED INFO. SCHEMATICS, ETC.

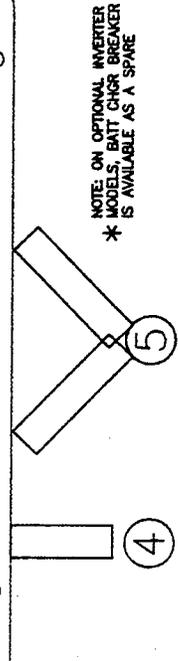
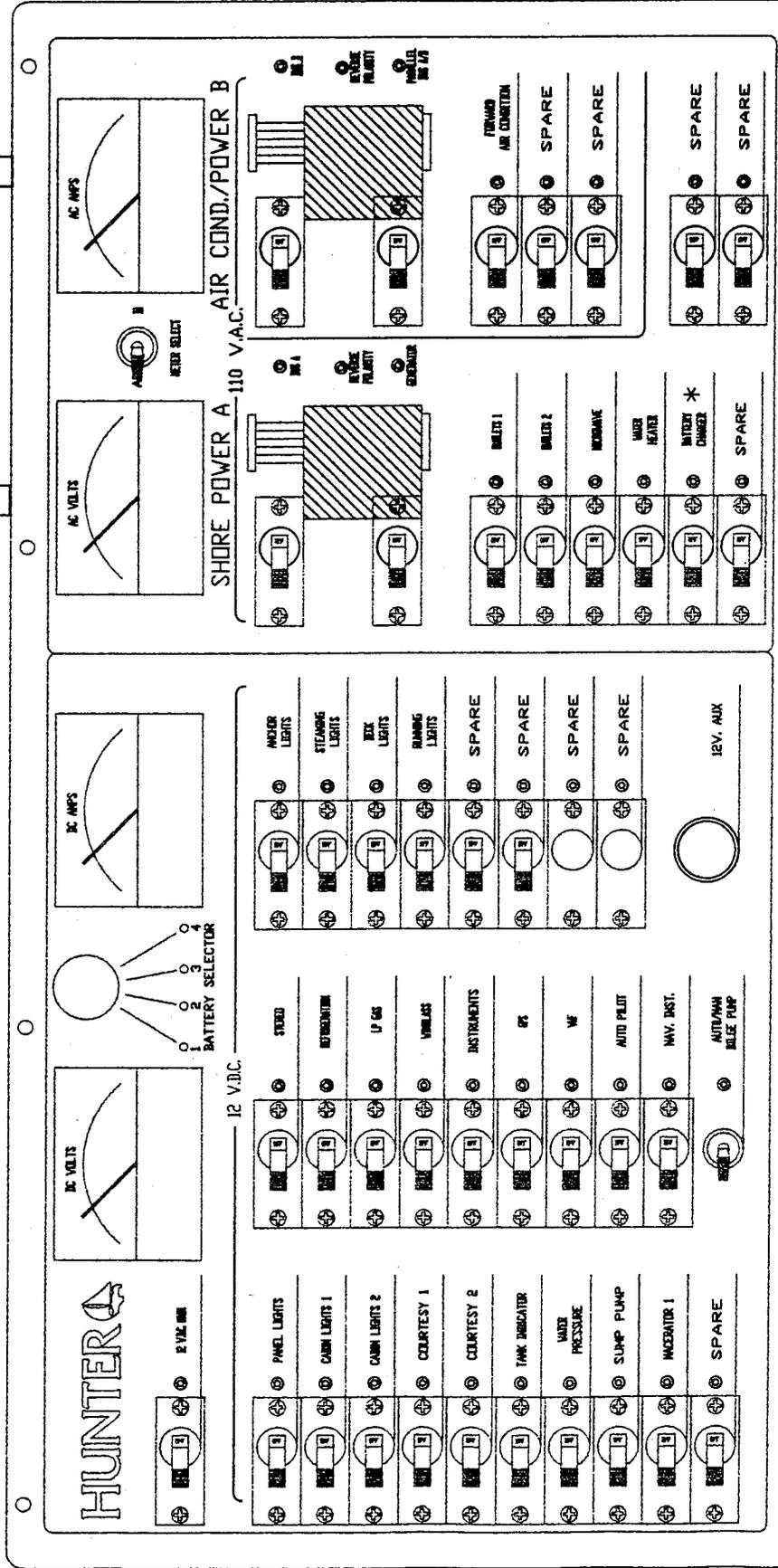
380 BASIC POWER SYSTEM LAYOUT

380B063A-3

ENGINEERING DEPT. DATE: 3/19/88

HUNTERA

- ① SHORE POWER "A" TO "A" SIDE OF A.C. PANEL
- ② SHORE POWER "B" TO "B" SIDE OF A.C. PANEL
- ③ HOUSE BATTERY "1" TO D.C. SIDE OF PANEL
- ④ OPTIONAL INVERTER TO "A" SIDE OF A.C. PANEL
- ⑤ OPTIONAL GENERATOR POWER TO "A" AND "B" SIDE OF A.C. PANEL



NOTE: ON OPTIONAL INVERTER MODELS, BATT CHGR BREAKER IS AVAILABLE AS A SPARE

380 MAIN DISTRIBUTION PANEL LAYOUT

HUNTER

3800063A-4

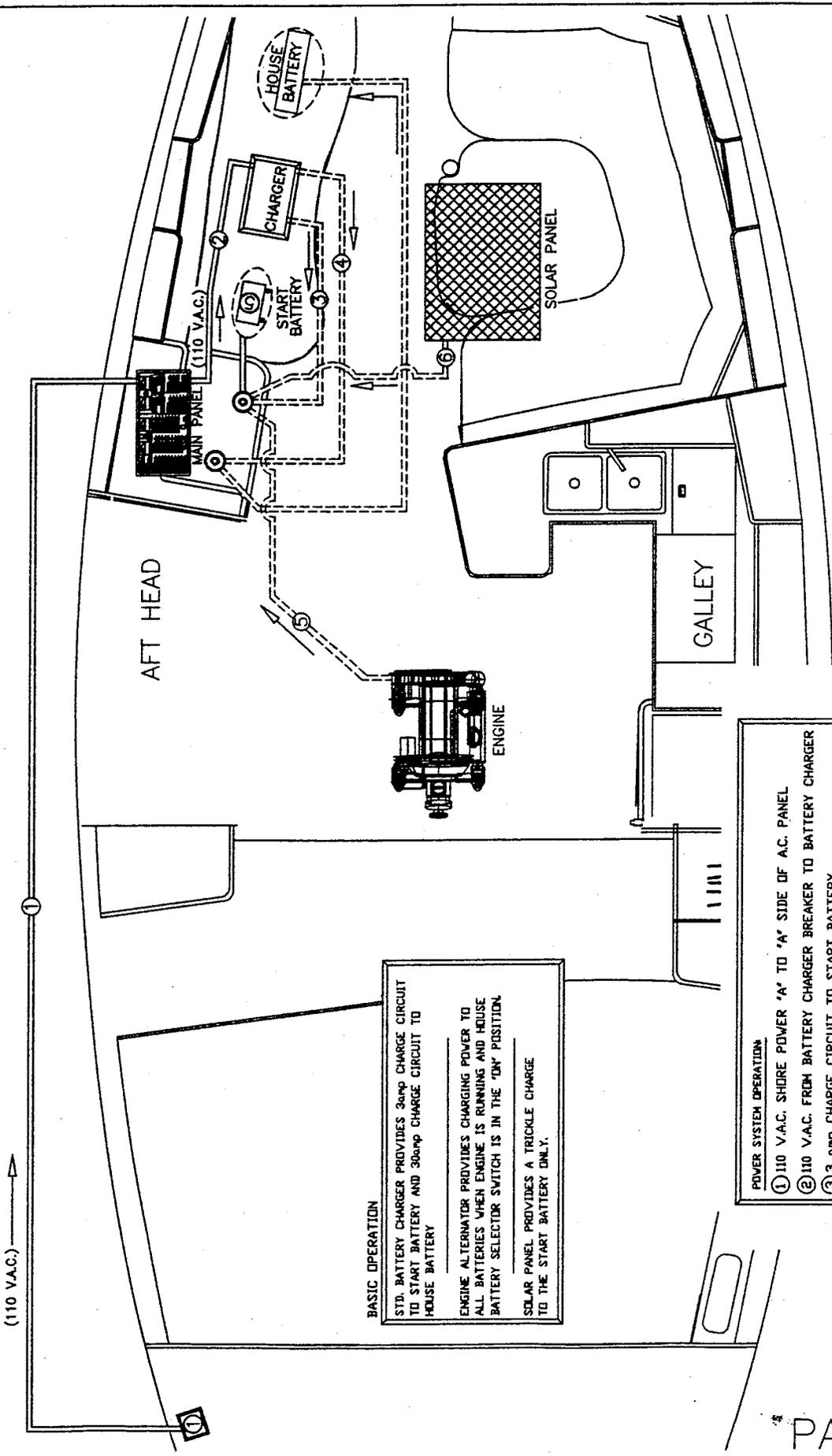
ENGINEERING DEPT.

3/19/88

NONE

SEE PAGES 63A-7 & 8 FOR BREAKER DESCRIPTIONS

(NOTE: OVERSEAS MODELS ARE 220V.A.C. INSTEAD OF 110V.A.C.)



BASIC OPERATION

STD. BATTERY CHARGER PROVIDES 3amp CHARGE CIRCUIT TO START BATTERY AND 30amp CHARGE CIRCUIT TO HOUSE BATTERY

ENGINE ALTERNATOR PROVIDES CHARGING POWER TO ALL BATTERIES WHEN ENGINE IS RUNNING AND HOUSE BATTERY SELECTOR SWITCH IS IN THE 'DN' POSITION

SOLAR PANEL PROVIDES A TRICKLE CHARGE TO THE START BATTERY ONLY.

POWER SYSTEM OPERATION

- ① 110 V.A.C. SHORE POWER 'A' TO 'A' SIDE OF A.C. PANEL
- ② 110 V.A.C. FROM BATTERY CHARGER BREAKER TO BATTERY CHARGER
- ③ 3 amp CHARGE CIRCUIT TO START BATTERY
- ④ 30amp CHARGE CIRCUIT TO HOUSE BATTERIES
- ⑤ ENGINE ALTERNATOR CHARGE CIRCUIT TO 'ALL' BATTERIES
- ⑥ TRICKLE CHARGE CIRCUIT FROM SOLAR PANEL TO START BATTERY

- ⊙ = BATTERY SELECTOR SWITCHES
- = POWER FLOW DIRECTION
- ===== = CHARGE CIRCUITS
- ===== = 110 V.A.C. (220 V.A.C. OVERSEAS MODELS)

NOTE: THIS LAYOUT IS INTENDED TO PROVIDE A BASIC UNDERSTANDING OF THE VARIOUS POWER SYSTEMS ONLY. IT IS NOT A SCHEMATIC! SEE FOLLOWING PAGES FOR MORE DETAILED INFO. SCHEMATICS, ETC.

REVISED TITLE: 180 CHARGING SYSTEM LAYOUT W/ STD. BATT. CHARGER

DRAWING NO. 308083A-5

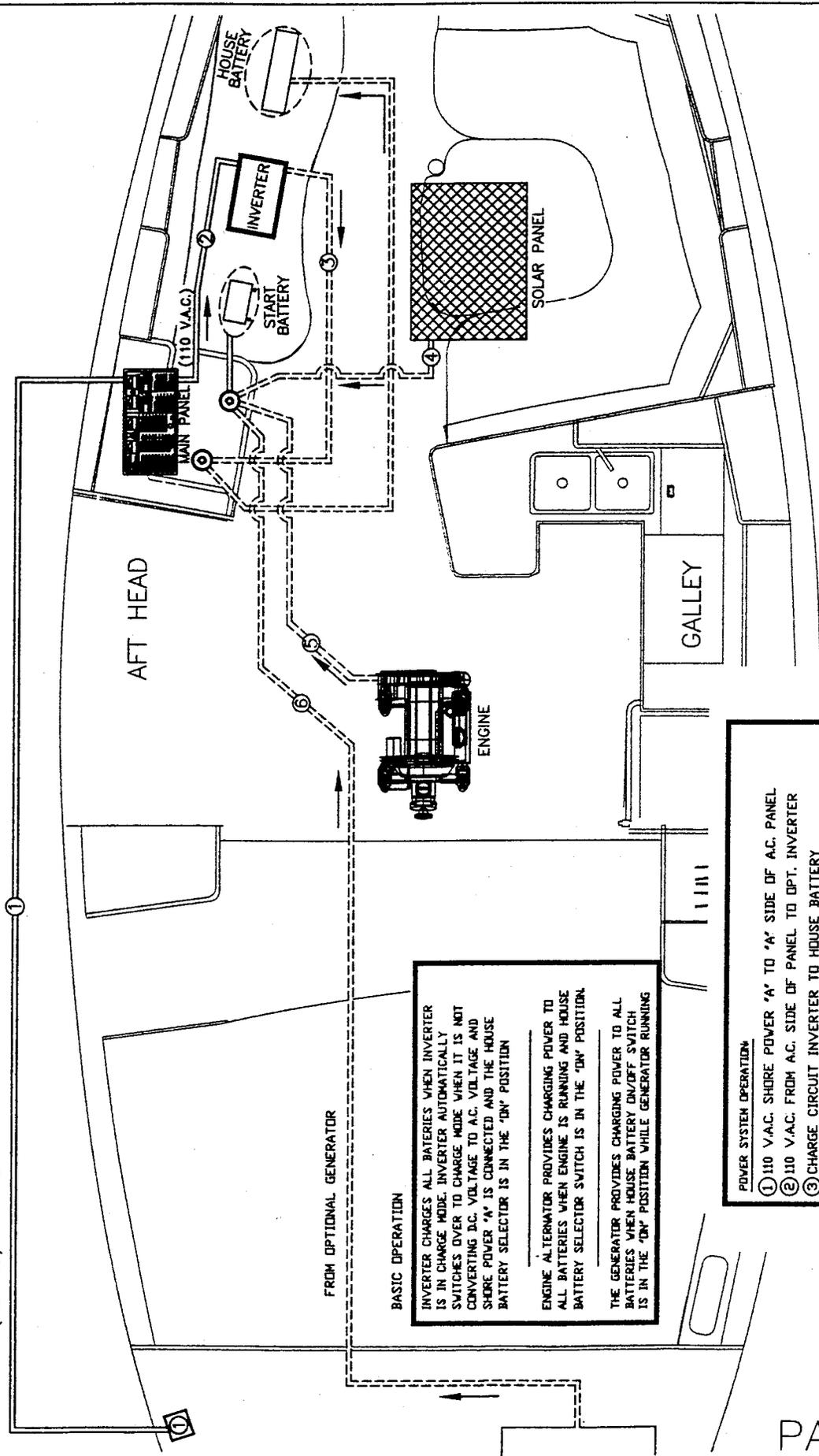
REVISION NO. NONE

DATE 3/19/98

ENGINEERING DEPT.

HUNTER

(NOTE: OVERSEAS MODELS ARE 220V.A.C. INSTEAD OF 110V.A.C.)
 SINCE INVERTER IS HARDWIRED TO PANEL BATT. CHGR. BREAKER IS AVAIL. AS A SPARE



BASIC OPERATION
 INVERTER CHARGES ALL BATTERIES WHEN INVERTER IS IN CHARGE MODE. INVERTER AUTOMATICALLY SWITCHES OVER TO CHARGE MODE WHEN IT IS NOT CONVERTING D.C. VOLTAGE TO A.C. VOLTAGE AND SHORE POWER 'A' IS CONNECTED AND THE HOUSE BATTERY SELECTOR IS IN THE 'ON' POSITION
 ENGINE ALTERNATOR PROVIDES CHARGING POWER TO ALL BATTERIES WHEN ENGINE IS RUNNING AND HOUSE BATTERY SELECTOR SWITCH IS IN THE 'ON' POSITION.
 THE GENERATOR PROVIDES CHARGING POWER TO ALL BATTERIES WHEN HOUSE BATTERY ON/OFF SWITCH IS IN THE 'ON' POSITION WHILE GENERATOR RUNNING

- POWER SYSTEM OPERATION**
- ① 110 V.A.C. SHORE POWER 'A' TO 'A' SIDE OF A.C. PANEL
 - ② 110 V.A.C. FROM A.C. SIDE OF PANEL TO OPT. INVERTER
 - ③ CHARGE CIRCUIT INVERTER TO HOUSE BATTERY
 - ④ TRICKLE CHARGE CIRCUIT FROM SOLAR PANEL TO START BATTERY
 - ⑤ ENGINE ALTERNATOR CHARGE CIRCUIT TO 'ALL' BATTERIES
 - ⑥ GENERATOR CHARGE CIRCUIT TO 'ALL' BATTERIES
- ⊙ = BATTERY SELECTOR SWITCHES
 - = POWER FLOW DIRECTION
 - = CHARGE CIRCUITS
 - = 110 V.A.C. (220 V.A.C. OVERSEAS MODELS)

NOTE: THIS LAYOUT IS INTENDED TO PROVIDE A BASIC UNDERSTANDING OF THE VARIOUS POWER SYSTEMS ONLY. IT IS NOT A SCHEMATIC! SEE FOLLOWING PAGES FOR MORE DETAILED INFO. SCHEMATICS, ETC.

300 OPT. INVERTER/GENERATOR CHARGING SYSTEM LAYOUT
 3808063A-5
 3/20/98
 HUNTERC

H380 12 V.D.C. DISTRIBUTION PANEL

BREAKER	DESCRIPTION
12 V. D.C. MAIN	SUPPLIES 12 V.D.C. POWER TO ALL BREAKERS ON D.C. SIDE OF PANEL.
PANEL LIGHTS	ILLUMINATES BOTH A.C. & D.C. SIDES OF THIS PANEL FOR NIGHT USE
CABIN LIGHTS 1	SUPPLIES POWER TO ALL OVERHEAD LIGHTS FROM MAIN CABIN FWD. INCLUDING THE MAP LIGHT
CABIN LIGHTS 2	SUPPLIES POWER TO CABIN LIGHTS IN THE GALLEY, AFT HEAD, AND AFT STATEROOM. (NOTE: CABIN LIGHTS ARE CONTROLLED BY THEIR OWN INDEPENDENT SWITCH.)
COURTESY 1	SUPPLIES POWER TO COCKPIT AND ENGINE BOX COURTESY LIGHTS
COURTESY 2	SUPPLIES POWER TO THE COURTESY LIGHTS IN THE SHIP'S HEADLINER
TANK INDICATOR	SUPPLIES POWER TO WASTE AND WATER TANK GUAGES
WATER PRESSURE	SUPPLIES POWER TO FRESH WATER PUMP TO PRESSURIZE WATER SYSTEM.
SHOWER SUMP	SUPPLIES POWER TO SHOWER SUMP BOX. (SELF CONTAINED FLOAT SWITCH IN SUMP ACTIVATES PUMP INSIDE SUMP BOX. (SEE PAGE 59 FOR SUMP LOCATION)
MACERATOR 1	SUPPLIES POWER TO MACERATOR (LOCATED INSIDE PT AFT SWIM LOCKER), NOTE: THESE DEVICES ARE USED FOR DIRECT OVERBOARD DISCHARGE OF RAW SEWAGE, BE AWARE OF YOUR LOCAL BOATING REG. BEFORE USING.
SPARE	*SEE NOTATION BELOW
STEREO	SUPPLIES POWER TO STEREO UNIT
REFRIGERATION	SUPPLIES POWER TO REF. COMPRESSOR, ADJUST THERMOSTATS INSIDE FRIDGE/FREEZER TO DESIRED TEMP.
L. P. GAS	SUPPLIES POWER TO L.P. GAS SWITCH AT GALLEY. SEE "L.P. GAS MANUAL" FOR OPER. & SAFETY INST.
WINDLASS	SUPPLIES POWER TO UP/DOWN CONTROLS AT ANCHOR WELL. NOTE: BECAUSE THE WINDLASS DRAWS IT'S POWER FROM THE START BATTERY, IT IS GOOD PRACTICE TO START THE SHIPS ENGINE PRIOR TO OPERATING WINDLASS TO PREVENT BATTERY DRAIN. (IF NO POWER CHECK RESET ON REMOTE PANEL @ NAV STATION)
INSTRUMENTS	SUPPLIES POWER TO DEPTH, & SPEED REPEATERS LOCATED ON HELM CONSOLE.
G.P.S.	THIS BREAKER PROVIDED FOR AN OPTIONAL GLOBAL POSITIONING SYSTEM. (WITH THE EX. OF CERTAIN CE MODELS)
VHF	SUPPLIES POWER TO THE VHF RADIO
AUTOPILOT	THIS BREAKER PROVIDED FOR AN OPTIONAL AUTOPILOT SYSTEM.
NAV. INST.	THIS BREAKER PROVIDED FOR OPTIONAL NAVIGATION INSTRUMENTS . (EX: RADAR)
BILGE PUMP	TOGGLE SWITCH STAYS IN THE "AUTO" POSITION, THIS ALWAYS FEEDS POWER TO THE FLOAT SWITCH (AS LONG AS BATTERY IS CONNECTED AND HAS AMPLE CHARGE). FOR MANUAL USE, PUSH SWITCH TO "MANUAL" ILLUMINATED LIGHT INDICATES POWER TO PUMP, THUS PUMP SHOULD BE RUNNING. PRIOR TO LEAVING VESSEL "MANUALLY" TEST PUMP AND CHECK BATTERY LEVEL. SEE BATTERY SELECT SWITCH BELOW.
ANCHOR LIGHT	SUPPLIES POWER TO 360 DEGREE LIGHT AT TOP OF MAST, USE WHEN ANCHORED AT NIGHT.
STEAMING LIGHT	SUPPLIES POWER TO STEAMING LIGHT LOCATED ON FWD. SIDE OF MAST APPROXIMATELY AT THE HEIGHT OF THE LOWER SPREADERS. USE AT NIGHT (WITH RUNNING LIGHTS) WHEN VESSEL UNDERWAY BY ENGINE POWER.
DECK LIGHT	SUPPLIES POWER TO DECK LIGHT (IS COMBINATION WITH STEAMING LIGHT) PROVIDES LIGHT TO DECK BELOW.
RUNNING LIGHTS	SUPPLIES POWER TO THE BOW, STERN , & COMPASS LIGHT. USE AT NIGHT UNDER SAIL AND/OR ENGINE POWER.
SPARE/S	*SEE NOTATION BELOW
BATT. SEL. SW.	USE TO REVIEW STATUS OF EA. BATTERY ROTATE SWITCH TO #1 FOR HOUSE BATTERY #2 FOR START BATTERY
METERS	D.C. VOLTS DISPLAYS AVAILABLE VOLTAGE FROM SELECTED BATTERY D.C. AMPS DISPLAYS AMPERAGE BEING DRAWN FROM SELECTED BATTERY.
12V.D.C. AUX.	THIS POWER PLUG PROVIDED FOR CELLPHONE, LAPTOP COMPUTER, ETC.
YELLOW INDICATORS	INDICATORS ILLUMINATE WHEN 12 V.D.C. POWER PRESENT.
NOTES:	IF THE OPTIONAL AUTOPILOT WAS INSTALLED AT THE FACTORY, THE "INSTRUMENTS" POWER LEADS ARE WIRED TO THE AUTOPILOT BREAKER. (THIS APPLIES TO THE OPTIONAL G.P.S. AS WELL) THIS ALLOWS THESE UNITS TO WORK SIMULTANEOUSLY OFF THE AUTOPILOT BREAKER. THE BREAKER/S IN MENTION ARE NOW SPARE/S*. SEE PAGE 64A-1 FOR BREAKER AMPERAGES. SEE NOTATION BELOW. *NOTE THE SPARE BREAKERS ON THIS PANEL EXIST BECAUSE OTHER MODELS MAY USE THIS SAME PANEL. FOR EXAMPLE, ON THIS PANEL, THE MACERATOR 2 BREAKER BECOMES A SPARE DUE TO THE FACT THAT THIS MODEL HAS ONLY ONE MACERATOR. BE AWARE OF THE BREAKER'S AMPERAGES TO BE SURE THAT IT IS COMPATABLE WITH ANY DEVICE THAT IS TO BE CONNECTED TO IT. (ADDITIONAL " SPARE BRKRS" LOCATION PROVIDED ONLY)

110V.A.C. (220 OVERSEAS MODELS) DISTRIBUTION PANEL

BREAKERS

DESCRIPTION

"A" SIDE OF A.C. PANEL

BUS "A" BREAKER	PROVIDES A.C. VOLTAGE TO THIS SIDE OF PANEL WHEN SHORE POWER CORD "A" IS CONNECTED TO OUTLET AT DOCKSIDE POWER SUPPLY.
GENERATOR	SUPPLIES POWER FROM GENERATOR TO BOTH SHORE POWER "A" AND SHORE POWER "B" (AIR COND.) SIDES OF PANEL. NOTE: TO PROVIDE POWER TO SHORE POWER "B" SIDE OF PANEL MOVE SLIDE BAR UP AND TURN ON THE PARALLEL BREAKER ON THE SHORE POWER "B" SIDE OF PANEL.
OUTLETS 1	PROVIDES A.C. POWER TO THE OUTLETS ON THE PORT SIDE OF BOAT.
OUTLETS 2	PROVIDES A.C. POWER TO THE OUTLETS ON THE STBD. SIDE OF BOAT.
MICROWAVE	SUPPLIES POWER TO OUTLET BEHIND MICRO. IN WHICH MICROWAVE IS PLUGGED INTO.
WATER HEATER	SUPPLIES POWER TO WATER HEATER. BE SURE TANK IS FULL AND SYSTEM IS FREE FROM AIR BEFORE APPLYING POWER TO HEATER TO PREVENT ELEMENT BURNOUT. NOTE DO NOT TRY TO POWER WATER HEATER OFF OF THE OPTIONAL INVERTER, IT IS NOT CAPABLE OF SUPPLYING ENOUGH POWER TO POWER UNIT.
BATT. CHARGER	PROVIDES POWER TO BATTERY CHARGER WHICH IN TURN PROVIDES CHARGING POWER TO BATTERIES. NOTE: IF OPTIONAL INVERTER CHOSEN THIS BREAKER IS NOT UTILIZED AND IS AVAILABLE AS A "SPARE" BREAKER. *SEE BELOW

"B" SIDE OF PANEL

BUS "B" BREAKER	PROVIDES A.C. VOLTAGE TO THIS SIDE OF PANEL WHEN SHORE POWER CORD "B" IS CONNECTED TO OUTLET AT DOCKSIDE POWER SUPPLY.
PARALLEL	PROVIDES POWER FROM GENERATOR TO THIS SIDE OF PANEL.(MOVE SLIDE BAR UP TO TURN BREAKER ON.)
FWD AIR COND.	PROVIDES POWER TO AIR COND. UNIT (SEE "AIR COND. MANUAL" FOR OPER. INSTRUCTIONS.
SPARE	15amp BREAKER MAY BE USED AS AN ACCESSORY BREAKER. *SEE BELOW
SPARE	10amp BREAKER MAY BE USED AS AN ACCESSORY BREAKER. *SEE BELOW

MISC. INFO

SPARE BREAKERS	*SEE BELOW
RED INDICATORS	ILLUMINATE WHEN A.C. POWER PRESENT.
METER SEL. SWITCH	ALLOWS VOLTAGE BEING SUPPLIED AND AMPERAGE BEING DRAWN TO BE DISPLAYED ON VOLT & AMP METERS SWITCH POSITION "A" = "A" SIDE OF PANEL. SWITCH POSITION "B" = "B" SIDE OF PANEL.
REV. POLARITY	IF REVERSED POLARITY INDICATOR ILLUMINATES AFTER CONNECTING SHORE POWER HAVE DOCKSIDE POWER CHECKED BY QUALIFIED PERSONELL.
NOTE:	SEE PAGE 63A-13 & 14 FOR BREAKER AMPERAGES
SPARE BREAKERS	BE AWARE OF THE SPARE BREAKER'S AMPERAGE TO BE SURE THAT IT IS COMPATABLE WITH ANY DEVICE CONNECTED TO THESE BREAKERS (ADDITIONAL "SPARE BREAKER" LOCATIONS PROVIDED ONLY)

NOTE: A PRUDENT MARINER REALIZES THAT THE RESOURCES TO POWER A VESSEL ARE LIMITED. WHEN USING THE INVERTER OR GENERATOR ONE SHOULD BE CONSERVATIVE AND AWARE OF THE AMOUNT OF POWER BEING SUPPLIED VERSES POWER BEING DRAWN. THIS IS ESPECIALLY IMPORTANT WHEN USING OPTIONAL INVERTER POWER. CONSULT THE "INVERTER MANUAL" FOR POWER OUTPUT CAPABILITIES.

12V.D.C. SYSTEM TROUBLESHOOTING GUIDE

TO POWER D.C. PANEL:	STD. BATTERY CHARGER MODEL TURN (HOUSE) BATTERY SWITCH TO	
THIS IS TO POWER PANEL FOR CHARGING, SEE PAGE 63A-2	THE "ON" POSITION, THEN TURN ON "D.C. MAIN" BREAKER ON MAIN DIST. PANEL. IF NO POWER TO PANEL: CHECK "RESET" (ON (HOUSE) BATTERY SWITCH PANEL AND/OR BATT. CONNECTIONS IF NECESSARY.	
TO POWER D.C. PANEL:	OPTIONAL INVERTER MODEL, TURN ON "D.C. MAIN" BREAKER ON PANEL, IT IS NOT	
THIS IS TO POWER PANEL FOR CHARGING, SEE PAGE 63A-2	NECESSARY TO TURN ON THE HOUSE BATTERY SWITCH TO THE "ON" POSITION TO SUPPLY POWER TO D.C. PANEL IF NO POWER TO PANEL: CHECK THE 50amp RESET BREAKER AND/OR THE 300 a. IN LINE FUSES AT THE HOUSE BATT OR BATT. CONNECTIONS IF NECESSARY.	
COMPONENT	SYMPTOM	POSSIBLE SOLUTION/S
D.C. MAIN	NO POWER TO PANEL	SEE "TO POWER PANEL" ABOVE BATTERY/S CHARGED?
PANEL LIGHTS	PANEL WON'T ILLUMINATE	SEE "TO POWER TO PANEL" ABOVE BATTERY TERMINALS CLEAN? SEEK QUALIFIED PERSONELL
CABIN LIGHTS	WON'T ILLUMINATE	SEE "TO POWER PANEL" ABOVE BULB/S NEED REPLACING?
COURTESY LIGHTS (AT CRTSY. LIGHTS MAIN SALON)	WON'T ILLUMINATE	SEE "TO POWER PANEL" ABOVE BULBS/S NEED REPLACING?
COURTESY LIGHTS ENGINE BOX COMP. COCKPIT CONSOLE	WON'T ILLUMINATE	SEE "TO POWER PANEL" ABOVE PLUNGER SWITCH STUCK? IS SWITCH @ CONSOLE "ON"?
TANK INDICATOR	TANK LEVEL GAUGES DON'T ILLUMINATE TANK LEVEL DISPLAYED IS INCORRECT	SEE "TO POWER PANEL" ABOVE TANK SENDING UNIT NEEDS CLEANING
WATER PRESSURE	NO POWER CYCLES ON/OFF EXCESSIVELY	SEE "TO POWER PANEL" ABOVE FAUCETS OFF? LEAK IN SYSTEM SEE PAGE C 57C-H FOR CONNECTION LOC.
SHOWER SUMP	WON'T PUMP WHEN SUMP BOX FILLED (PUMP WON'T QUIT RUNNING) PUMP MAKES NOISE, DOESN'T PUMP PUMP RUNS BUT DOESN'T PUMP	SEE "TO POWER PANEL" ABOVE IS FLOAT SWITCH STUCK? DEBRIS IN PUMP IMPELLER? DISCHARGE HOSE CLOGGED? SEACOCK DISCHARGE VALVE CLOSED?
MACERATOR	RUNS BUT DOESN'T DISCHARGE PUMP MAKES NOISE, DOESN'T PUMP	IS DISCHARGE SEACOCK OPEN? IS WASTE DECK FITTING SECURE, IS IT PULLING AIR THRU? IF SO REPLACE O- RING ON CAP. IS TANK VENT (HULL FITTING) CLOGGED? SEE PAGE 60 FOR LOCATIONS LODGED DEBRIS, TURN OFF POWER TO PUMP, INSERT SCREWDRIVER INTO PUMP ARMATURE AT END OF PUMP AND TURN TO DISLodge DEBRIS
STEREO	WON'T TURN ON STEREO TURNS ON, NO SOUND VCP WON'T PLAY	SEE "TO POWER PANEL" ABOVE IS STEREO UNIT ON? ARE VOLUME CONTROLS TURNED DOWN? SEE VIDEO PLAYER OWNERS MANUAL
TV/ VCP	WON'T TURN ON TV TURNS ON, NO SOUND	SEE "TO POWER PANEL" ABOVE ARE TV / VCP UNITS ON? ARE VOLUME CONTROLS TURNED DOWN TURNED DOWN?
REFRIGERATION	WON'T GET COLD UNIT KEEPS TURNING OFF	SEE "TO POWER PANEL" ABOVE. IS THERMOSTATS TURNED ON? IS RAW WATER INTAKE VALVE CLOSED? IS SEACOCK DISCHARGE VALVE CLOSED? IS FILTER CLEAN? IS THRU HULL CLOGGED? SEEK QUALIFIED PERSONELL
L.P. GAS	NO POWER TO SWITCH AT GALLEY SYSTEM TURNS ON, NO GAS PRESENT	SEE "TO POWER PANEL" ABOVE IS TANK VALVE OPEN? IS TANK EMPTY? SEE STOVE/OVEN MANUAL
NOTE: COMPONENT/S FAILURE COULD ALSO BE THE RESULT OF A POOR "GROUND" CONNECTION. SEE PAGE 64A-2 FOR GROUND SYSTEM LAYOUT AND GROUND STUD/BUSSBAR LOCATIONS. DUE TO VIBRATION, WEATHER CONDITIONS, ECT. OCCASIONAL INSPECTION, CLEANING AND TIGHTENING OF THESE TERMINALS (BY QUALIFIED PERSONELL) MAY BE NECESSARY.		

12V. D.C. SYSTEM TROUBLESHOOTING GUIDE CONT:

COMPONENT	SYMPTOM	POSSIBLE SOLUTION/S
WINDLASS	UP/DOWN CONTROLS DON'T OPERATE WINDLASS	SEE "TO POWER PANEL" PREV. PAGE WINDLASS SWITCH AT WINDLASS RESET PANEL ON? IS RESET TRIPPED?
INSTRUMENTS	REPEATERS DON'T OPERATE	SEE "TO POWER PANEL" PREV. PAGE DO TRANSDUCERS NEED CLEANING? SEE INSTRUMENTS MANUAL
VHF RADIO	WON'T OPERATE TURNS ON, WON'T TRANSMIT/RECEIVE	SEE "TO POWER PANEL" PREV. PAGE RADIO TURNED ON? ANTENNA CONNECTED PROPERLY?
OPTIONAL AUTO PILOT	WON'T OPERATE WON'T HOLD STEADY COURSE CONSTANTLY ADJUSTING HELM	SEE "TO POWER PANEL" PREV. PAGE IS THERE ANY METAL OBJECTS NEAR THE FLUX GATE COMPASS LOCATED IN THE STBD. AFT MAIN BUNK COMP? SENSITIVITY SETTING SET TO HIGH, SEE "AUTO PILOT MANUAL" FOR SENS. ADJ.
OPTIONAL GENERATOR BLOWER	WON'T OPERATE	SEE "TO POWER PANEL" PREV. PAGE IS UNIT "ON"?
BILGE PUMP	WON'T OPERATE AUTO OR MANUAL PUMP MAKES NOISE, DOESN'T PUMP PUMP RUNS BUT DOESN'T DISCHARGE	BATTERY LEVEL O.K.? SEE VOLT METER CHECK BILGE RESET ON STRT. BATT. SEL. SWITCH PANEL UNDER CHART TABLE. BATTERY CONNECTIONS GOOD? DEBRIS IN PUMP IMPELLER? DISCHARGE HOSE CLOGGED? SEACOCK DISCHARGE VALVE CLOSED?
ANCHOR, STEAMING, DECK, & RUNNING LIGHTS	WON'T ILLUMINATE	SEE "TO POWER PANEL" PREV. PAGE CHECK CONNECTIONS IN ACCESS PANEL TOP OF COMPRESSION POST. BULBS NEED REPLACING?
12 V.D.C. AUX. PLUG	NO POWER PRESENT	CHECK IN-LINE FUSE BACK OF PANEL
VOLT METER	NO VOLTAGE DISPLAYED	SEE "TO POWER PANEL" PREV. PAGE IS HSE. BATT. ON/OFF SW. ON #1? IS THIS POSITION AVAILABLE FOR ADDITIONAL BATTERY, USE #2,3, OR 4 POSITION. CK. FUSES ON HSE. BATT. ON/OFF PANEL ARE BATTERY CONNECTIONS GOOD? HAVE BATTERIES CHECKED HAVE METER CHECKED BY QUALIFIED PERSONELL.
AMP METER	NO AMPERAGE DISPLAYED	IS D.C. MAIN ON? IS ANYTHING IN THE 12V. SYSTEM TURNED ON & RUNNING? HAVE METER CHECKED BY QUALIFIED PERSONELL.
SOLAR PANEL	NO OUTPUT TO BATTERY/S	CK. FUSES ON BATTERY SWITCH PANEL

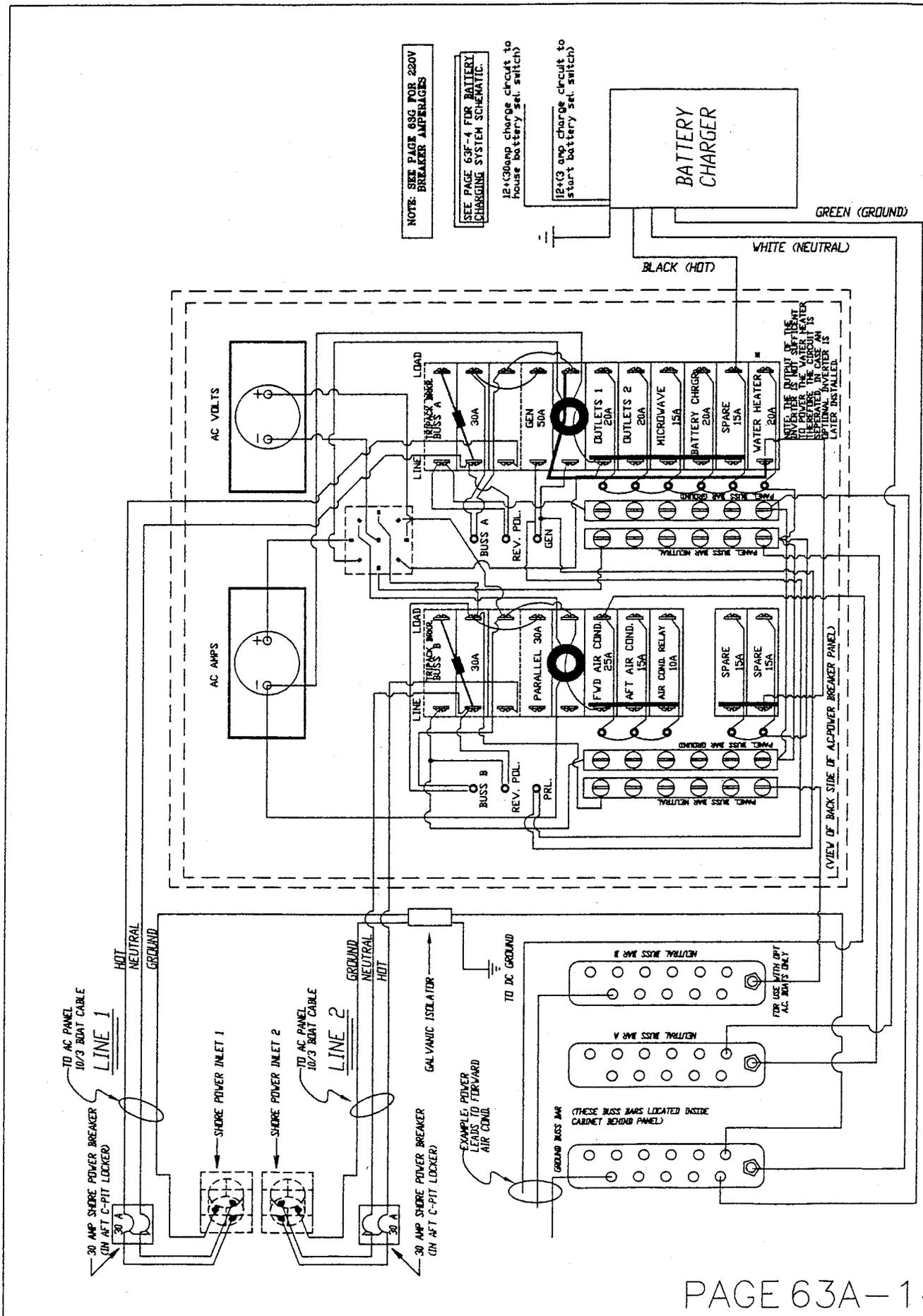
110V.A.C. (220V. OVERSEAS MODELS) SYSTEM TROUBLESHOOTING GUIDE

COMPONENT	SYMPTOM	POSSIBLE SOLUTION/S
SHORE POWER "A"	NO POWER TO PANEL	SEE "POWER SYSTEM OPERATIONS" PAGE 63A-2 CHECK DOCKSIDE BREAKER AND/OR BREAKER #1 LOCATED INSIDE PT. COCKPIT LOCKER. CHECK "RESETS" ON (OPT.) INVERTER (SEE "INVERTER MAN.")
OUTLETS #1 & 2	NO POWER	SEE "POWER SYSTEM OPERATIONS" PAGE 63A-2 IS OUTLET BREAKER/S ON? CHECK RESET ON G.F.I. OUTLETS AT GALLEY & AT NAV. STATION. CHECK RESETS ON (OPT.) INVERTER (SEE "INVERTER MAN.")
MICROWAVE	NO POWER	IS BREAKER ON? SEE "POWER SYSTEM OPERATIONS" PAGE 63A-2 IS MICROWAVE ON? SEE "MICRO MANUAL"
WATER HEATER	NO POWER WON'T HEAT WATER WATER TOO COLD/HOT	IS BREAKER ON? SEE "POWER SYSTEM OPERATIONS" PAGE 63A-2 CHECK "RESET" ON HEATER SEE "WATER HEATER MANUAL" FOR LOCATION. SEE "WATER HEATER MANUAL" FOR THERMOSTAT ADJUSTMENT AND/OR ELEMENT REPLACEMENT, SEEK QUALIFIED PERSONELL.
BATTERY CHARGER (STANDARD)	NOT CHARGING BATTERY/S	IS SHORE POWER "A" ON IS BATT. CHARGER BREAKER ON? IS RESET TRIPPED ON HOUSE BATTERY ON/OFF PANEL CHECK FUSES BEHIND HOUSE BATT. ON/OFF PANELS ARE BATTERY CONNECTIONS GOOD?
INVERTER/BATT. CHARGER (OPTIONAL) (IN INVERTER MODE)	INV. NOT SUPPLYING A.C.POWER INV. ON BUT UNABLE TO OPERATE DESIRED APPLIANCE/S	IS INVERTER REMOTE SWITCH AT NAV STATION ON? IS DESIRED APPLIANCE BREAKER ON? IS BATTERY VOLTAGE LOW? SEE VOLTAGE DISPLAY ON INVERTER REMOTE PANEL, ARE YOU ASKING THE INVERTER TO POWER MORE THAN IT IS CAPABLE? SEE "INVERTER MANUAL" FOR INFORMATION REGARDING POWER OUTPUT CAPABILITIES. CHECK "RESETS ON (OPT.) INVERTER (SEE "INVERTER MAN.")
INVERTER/BATT. CHARGER (OPTIONAL) (IN CHARGING MODE)	NOT CHARGING BATTERY/S	IS SHORE POWER "A".ON? SEE "POWER SYSTEM OPERATIONS" PAGE 63A-2 IS BATTERY SELECTOR SWITCH IN "ON" POSITION? CHECK IN-LINE 300amp FUSE AT BATTERY ARE BATTERY CONNECTIONS GOOD? INVERTER REMOTE SWITCH SHOULD BE IN THE "OFF" POSITION. (THIS IS NECESSARY IN THE EVENT YOU "LOSE" SHORE POWER, THE INVERTER DOESN'T GO INTO INVERT MODE CAUSING BATT./S TO DRAIN IF YOU LEFT AN A.C. APPLIANCE ON.

110V.A.C. (220V. OVERSEAS MODELS) SYSTEM TROUBLESHOOTING GUIDE

CONT:

COMPONENT	SYMPTOM	POSSIBLE SOLUTIONS
SHORE POWER "B"	NO POWER TO PANEL	SEE "POWER SYSTEMS OPERATION PAGE 63A-2" CHECK DOCKSIDE BREAKER AND/OR BREAKER #2 INSIDE PT. GULLWING LOCKER.
AIR COND.	<p>WON'T TURN ON</p> <p>URNS ON THEN SHUTS DOWN</p> <p>OTHER</p>	<p>IS BREAKER ON?</p> <p>SEE "POWER SYSTEMS OPERATION" PAGE 63A-2 SEE " AIR CONDITIONER" MANUAL</p> <p>IS AIR COND. RAW WATER PICK UP SEACOCK OPEN? IF SO, IS WATER CIRCULATING? SEE PAGE 60 FOR AIR COND. DISCHARGE THRUHULL LOCATION, IF NOT IS AIR COND. PICKUP BEING RESTRICTED BY DEBRIS? IS DISCHARGE SEACOCK OPEN? SEE "AIR CONDITIONER" MANUAL</p>
OPTIONAL GENERATOR (APPLIES TO BOTH "A" & "B" SIDES OF A.C. PANEL)		
GENERATOR	<p>NO POWER TO STARTER RUNNING, BUT NO POWER AT PANEL.</p> <p>WON'T START</p> <p>GEN. STARTS THEN SHUTS DOWN</p>	<p>IS START BATT. SELECTOR SWITCH ON?</p> <p>IS "GENERATOR BREAKER" ON "A" SIDE OF PANEL ON? (MOVE SLIDE BAR UP TO TURN THIS BREAKER ON). IS "PARALLEL BREAKER" ON "B" SIDE OF PANEL ON?</p> <p>SEE GENERATOR MANUAL DID YOU FOLLOW PROPER STARTING PROCEDURE AS DESCRIBED IN THE "GENERATOR MANUAL"?</p> <p>DO YOU HAVE AN AMPLE AMOUNT OF DIESEL FUEL? REMEMBER THE GENERATOR FUEL PICKUP TUBE IS SHORTER THAN THE PICKUP TUBE FOR THE ENGINE, THIS PREVENTS GENERATOR FROM DRAINING TANK SINCE ENGINE POWER IS MORE IMPORTANT THAN GENERATOR POWER. REFER TO GENERATOR MANUAL FOR <u>POSSIBLE</u> FUSE OR RESET ON GENERATOR.</p> <p>IS RAW WATER PICKUP SEACOCK OPEN, OR OBSTRUCTED?</p>



NOTE: SEE PAGE 63G FOR 220V BREAKER AMPERAGES

SEE PAGE 63F-4 FOR BATTERY CHARGING SYSTEM SCHEMATIC.

12V/30amp charge circuit to house battery set. switch)

12V/3 amp charge circuit to start battery set. switch)

BATTERY CHARGER

GREEN (GROUND)

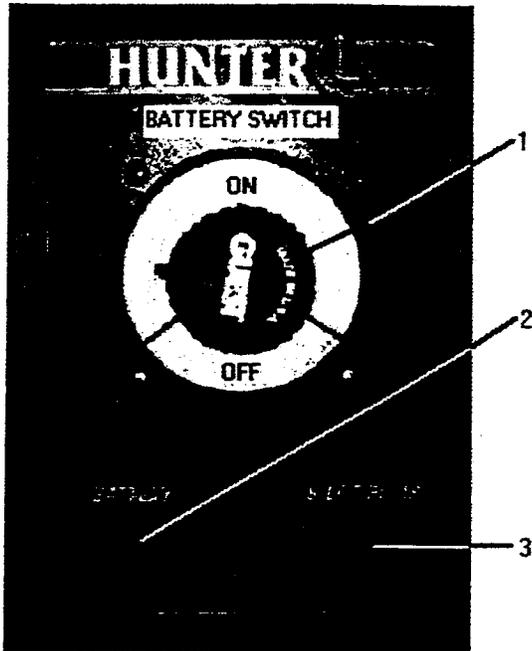
WHITE (NEUTRAL)

BLACK (HOT)

INVERTER IS NOT SUPPOSED TO POWER THE WATER HEATER OPERATING IN CIRCUIT. IF AN ADDITIONAL INVERTER IS LATER INSTALLED.

(VIEW OF BACK SIDE OF AC-POWER BREAKER PANEL)

380 SELECTOR SWITCH PANELS



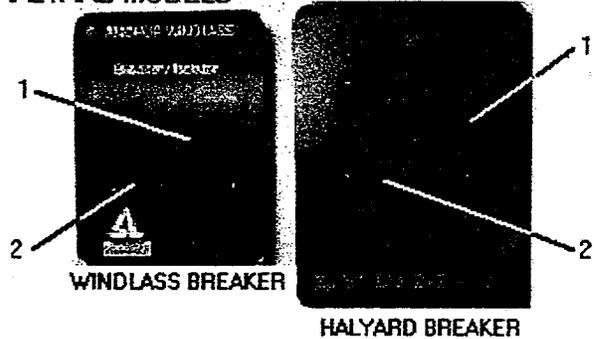
1. ON/OFF SWITCH SUPPLIES POWER FROM HOUSE BATTERIES TO MAIN D.C. PANEL
2. RESET, PUSH TO RESTORE POWER FROM HOUSE BATTERIES TO D.C. PANEL
3. BILGE PUMP RESET, PUSH TO RESTORE POWER TO BILGE PUMP

*HOUSE BATTERY ON/OFF SAFETY SWITCH PANEL
(USED ON STD. BATTERY CHARGER MODEL)*

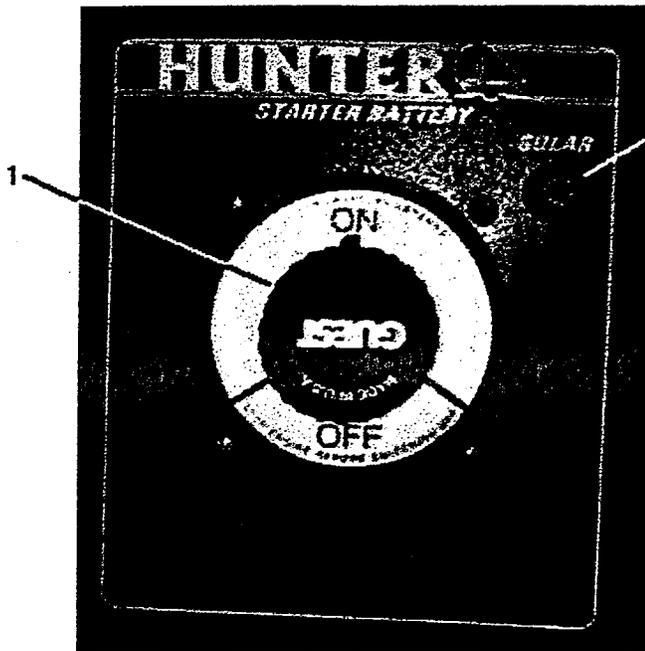
THESE PANELS USED ON (OPTIONAL) WINDLASS & ELEC. HALYARD MODELS

1. TEST (ON/OFF) BUTTON, PUSH TO TRIP RESET
2. RESET, PUSH UP TO RESET

THESE PANELS SUPPLY POWER TO THE HALYARD/WINDLASS MOTORS



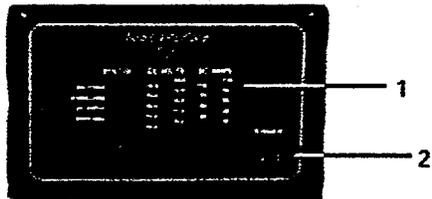
380 START BATTERY ON OFF SWITCH PANEL



1. ON/OFF SWITCH SUPPLIES POWER FROM START BATTERY TO ENGINE & OPT. GEN STARTER/S

2. SOLAR PANEL CHARGE CIRCUIT FUSE

**START BATTERY ON/OFF SAFETY SWITCH PANEL
LOCATED UNDER NAV. STATION**



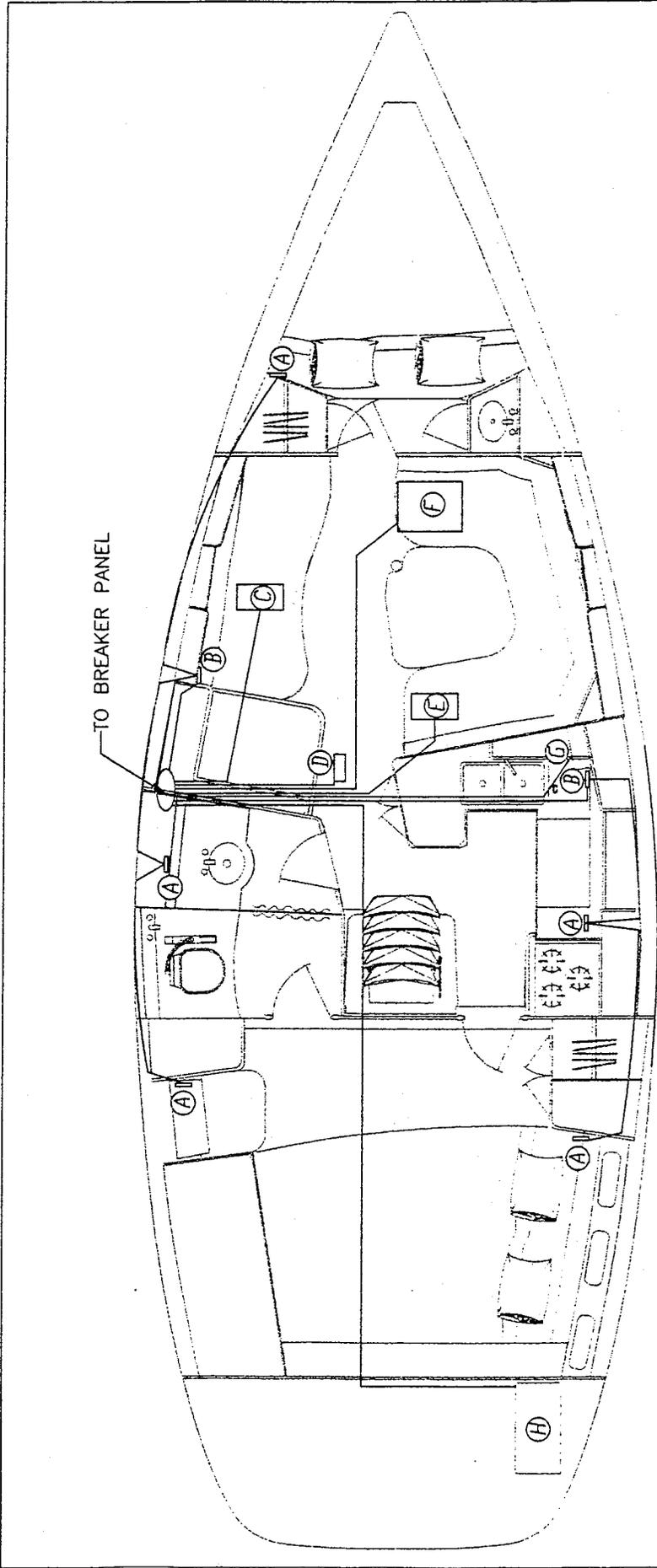
1. INVERTER STATUS DISPLAY

2. INVERTER ON/OFF SWITCH

SEE PAGE 63A-2 UNDER "INVERTER" FOR OPERATION DETAILS

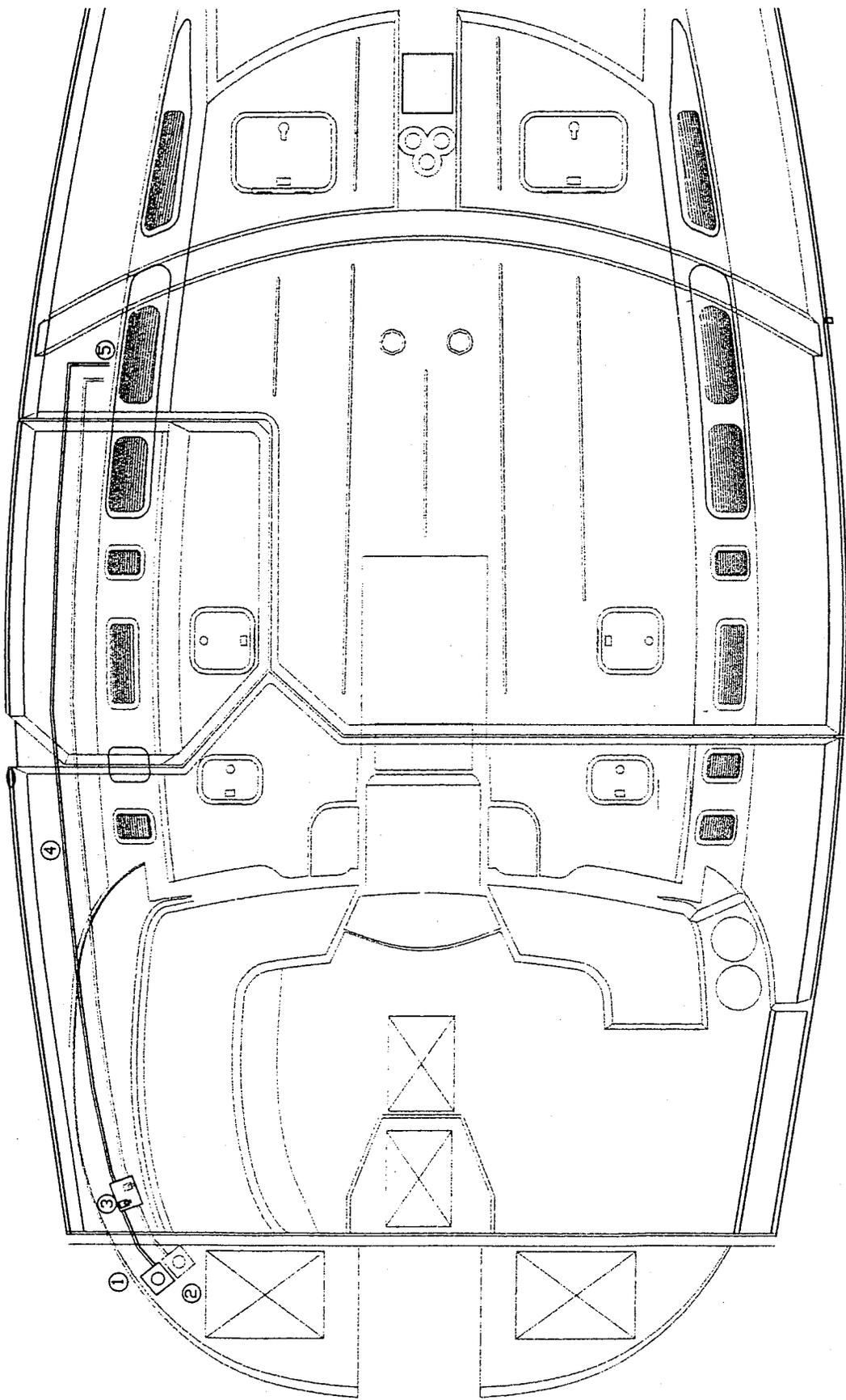
NOTE: INVERTER IS OPTIONAL

**INVERTER REMOTE ON/OFF SWITCH PANEL
LOCATED AT NAV. STATION**



- (A) OUTLETS
- (B) G.F.I. OUTLETS
- (C) OPTIONAL INVERTER/BATTERY CHARGER
- (D) AIR CONDITIONER WATER PUMP
- (E) OPTIONAL AIR CONDITIONER
- (F) WATER HEATER
- (G) MICROWAVE OVEN OUTLET
- (H) OPTIONAL GENERATOR

10/3 CABLE RUNS THRU PORT SIDE OF HEADLINER TO 30 AMP. BREAKER, RUNS FORWARD FROM BREAKER, THEN DROPS DOWN TO MAIN BREAKER PANEL (SEE PAGE 63A-13 THRU 63A-14 FOR SHORE POWER & 30 amp. BREAKER DETAILS TO PANEL)



- ① SHORE POWER #1
- ② SHORE POWER (#2 OPTIONAL)
- ③ 30 amp. SHORE POWER BREAKER(S)
- ④ 10/3 BOAT CABLE
- ⑤ TO MAIN BREAKER PANEL

NOTE: DUAL SHORE POWER INLETS PROVIDED FOR AIR COND. EQUIPPED MODELS ONLY

HUNTERCRAFT

The World's Finest Boats

380 AC WIRING HEADLINER	
Part No. 3808063C	Revision No. NONE
Drawn By: ENGINEERING DEPT.	Date: 3/27/88

SECTION 63D...OPTIONAL AIR COND. SYSTEMS

BASIC OPERATING INSTRUCTIONS:

- ① CHOOSE POWER SOURCE (SHORE POWER OR GENERATOR) SEE PAGES 63A-2
- ② CHECK AIR COND. SEA STRAINER, (AFT MAIN BILGE) CLEAN IF NECESSARY
- ③ ENSURE THE 1/2" (12.7mm) DISCHARGE SEACOCK VALVE IS OPEN.
(SEACOCK ACCESSED THRU HOLE IN SETTEE BACK, BEHIND FWD. STBD. SETTEE CUSHION)
- ⑤ TURN ON A.C. MAIN (BUS "B") BREAKER ON MAIN A.C. PANEL
- ⑥ TURN ON UNIT AT THERMOSTAT DISPLAY PANEL AND SET TEMP.

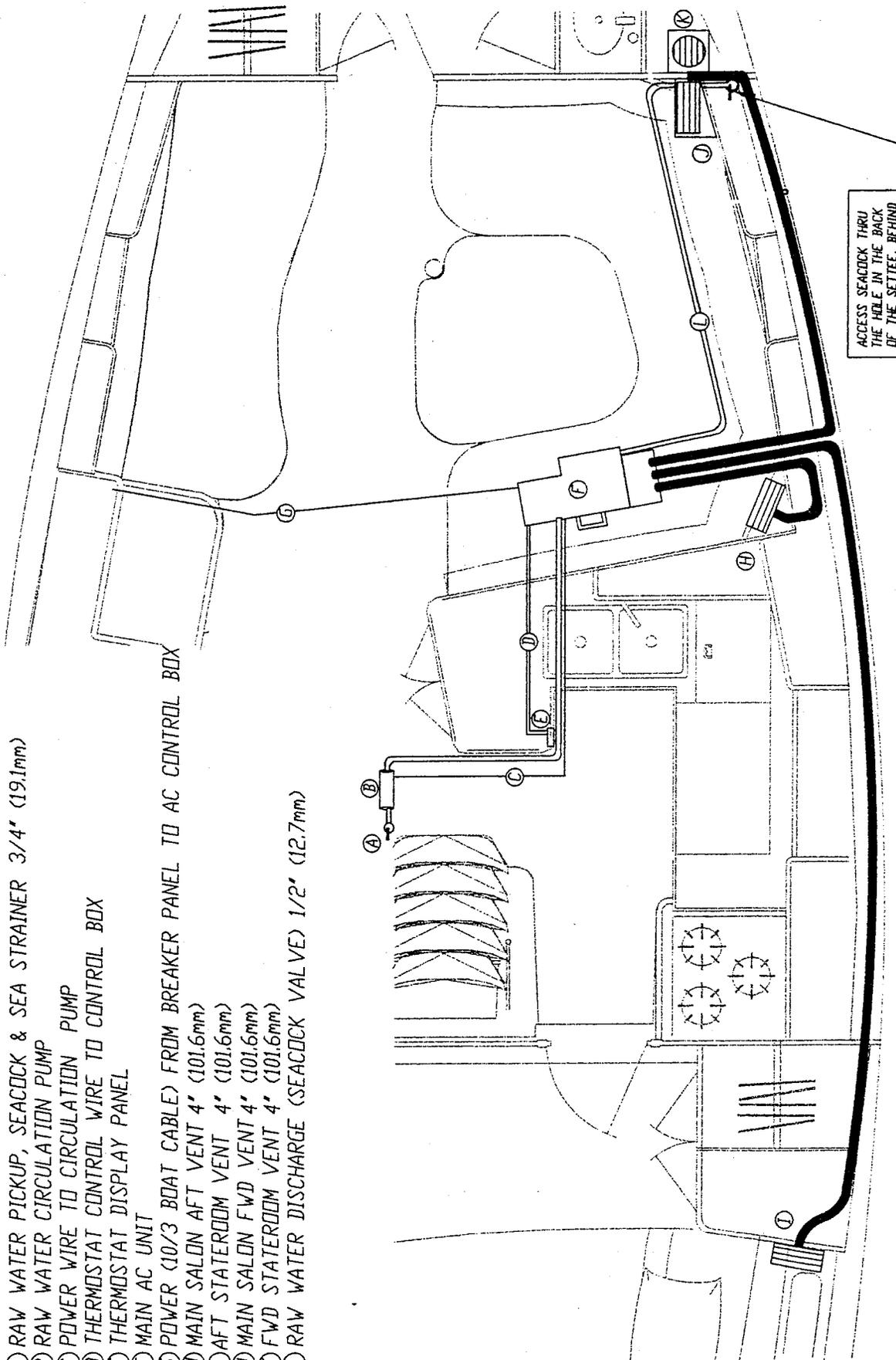
NOTE:

IF ANY OTHER APPLIANCES ARE TO BE USED WHEN AIR CONDITIONER IS RUNNING WHEN ON SHORE POWER, BOTH "SHORE POWER A" AND "SHORE POWER B" CABLES MUST BE HOOKED UP.

IF THERE IS NO POWER AT PANEL WHEN CONNECTED TO SHORE POWER, CHECK MAIN BREAKERS INSIDE PORT AFT COCKPIT LOCKER

SEE AIR CONDITION MANUAL FOR DETAILED OPERATING PROGRAMMING/TROUBLESHOOTING INSTRUCTIONS

- Ⓐ RAW WATER PICKUP, SEACOCK & SEA STRAINER 3/4" (19.1mm)
- Ⓑ RAW WATER CIRCULATION PUMP
- Ⓒ POWER WIRE TO CIRCULATION PUMP
- Ⓓ THERMOSTAT CONTROL WIRE TO CONTROL BOX
- Ⓔ THERMOSTAT DISPLAY PANEL
- Ⓕ MAIN AC UNIT
- Ⓖ POWER (10/3 BOAT CABLE) FROM BREAKER PANEL TO AC CONTROL BOX
- Ⓗ MAIN SALON AFT VENT 4" (101.6mm)
- Ⓘ AFT STATEROOM VENT 4" (101.6mm)
- Ⓛ MAIN SALON FWD VENT 4" (101.6mm)
- Ⓚ FWD STATEROOM VENT 4" (101.6mm)
- Ⓛ RAW WATER DISCHARGE (SEACOCK VALVE) 1/2" (12.7mm)



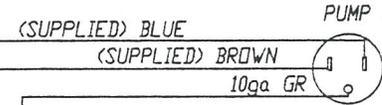
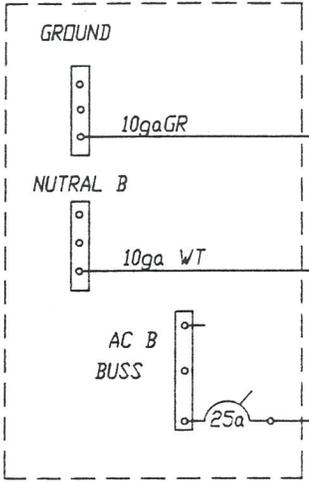
ACCESS SEACOCK THRU THE HOLE IN THE BACK OF THE SETTEE, BEHIND THE STBD FWD SETTEE CUSHION.

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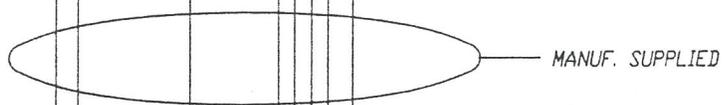
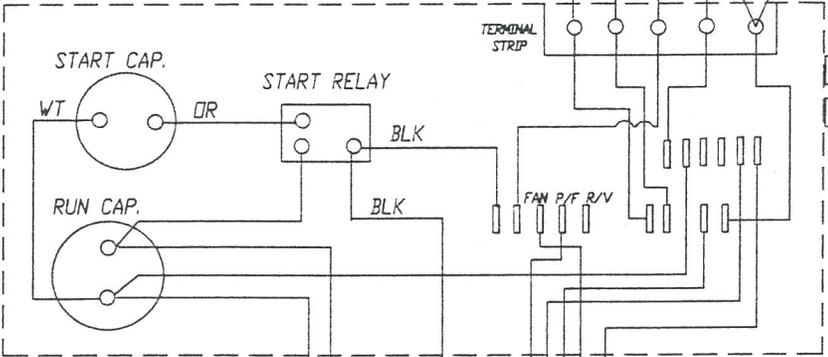
HUNTER

380 OPTIONAL A/C LAYOUT	
380B063D-2	NONE
ENGINEERING DEPT.	3/25/98

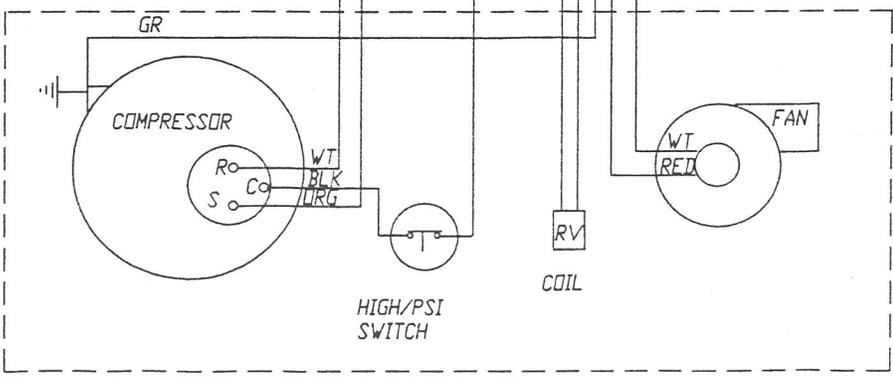
PANEL



CONTROL MODULE



CONDENSING UNIT



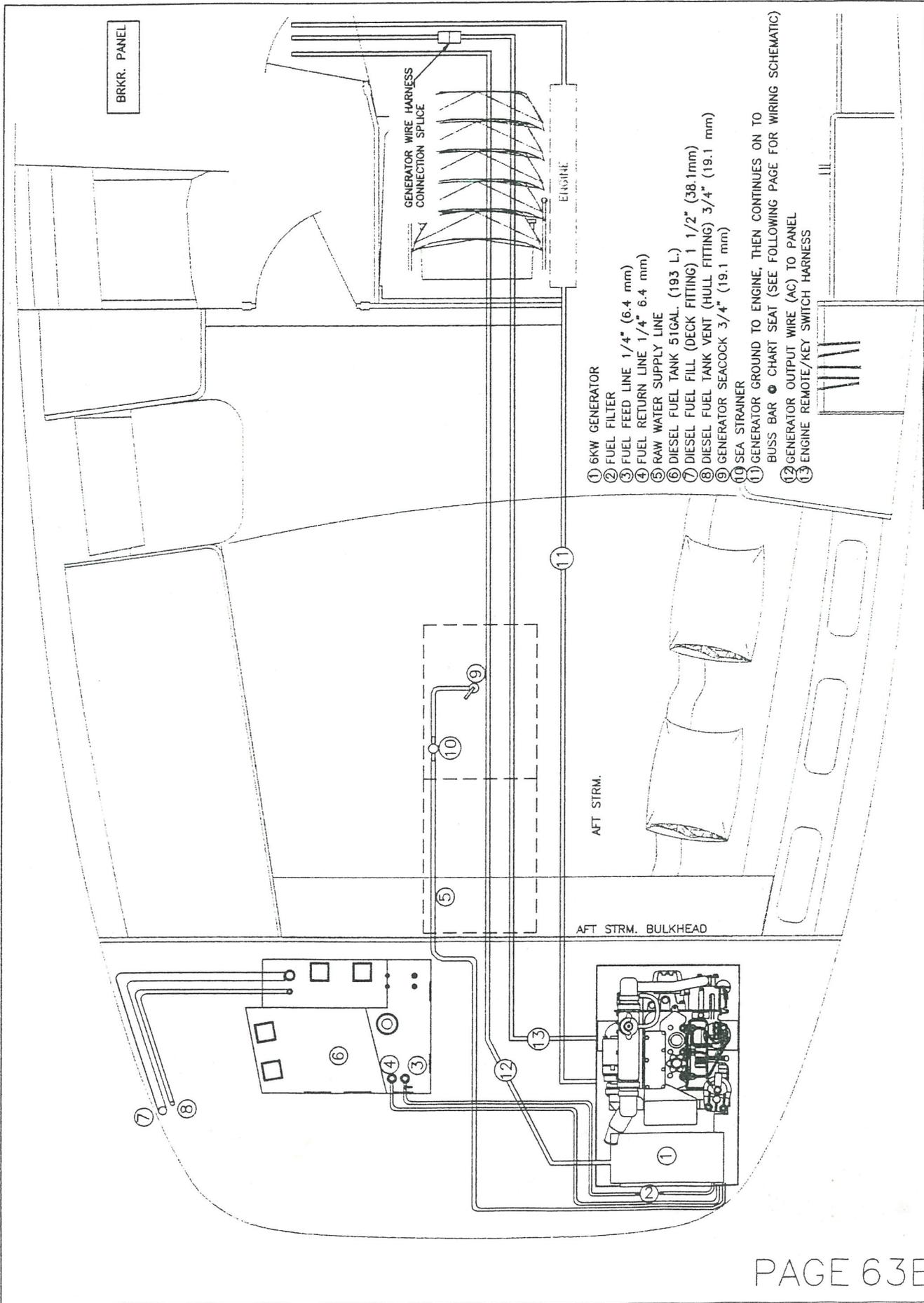
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HUNTERCO
380 AIR. COND SCHEMATIC
 Drawing No. 3808063D-3 Part No. NONE
 Project No. ENGINEERING DEPT. Date 3/27/88

SECTION 63E OPTIONAL GENERATOR SYSTEM...

BASIC OPERATING INSTRUCTIONS: (NOTE: READ GENERATOR MANUAL BEFORE OPERATING GEN.)

- ① FILL DIESEL FUEL TANK WITH DIESEL FUEL
- ② CHECK OIL LEVEL IN GENERATOR (SEE GEN. MANUAL FOR INST.)
- ③ TURN ON START BATTERY SELECTOR SWITCH (AT NAV. STA.)
- ④ CHECK SEA STRAINER UNDER (CENTER) AFT BERTH BUNK COMP. CLEAN IF NEC.
- ⑤ OPEN RAW WATER SEACOCK UNDER AFT BERTH BUNK
- ⑥ PUSH START SWITCH ON GEN. START PANEL AT NAV. STATION TO START GEN. DO NOT RUN STARTER FOR MORE THAN 10 SECONDS AT A TIME WITH 15 SECONDS INBETWEEN, IF GEN. DOESN'T START CONSULT GENERATOR MANUAL.
- ⑦ TURN ON THE "GENERATOR" BREAKER ON "A" SIDE OF MAIN A.C. PANEL. TO POWER "B" SIDE, RAISE THE SLIDE BAR ON "B" SIDE OF MAIN A.C. PANEL AND TURN "PARALLEL" BREAKER "ON". A.C. PANEL SHOULD NOW BE OPERABLE.
- ⑧ TO SHUT GEN. DOWN PUSH STOP SWITCH UNTIL GEN STOPS.

NOTE: SEE GENERATOR MANUAL FOR PROPER MAINTENANCE, TROUBLESHOOTING, ETC.



BRKR. PANEL

GENERATOR WIRE HARNESS CONNECTION SPLICE

ENGINE

- ① 6KW GENERATOR
- ② FUEL FILTER
- ③ FUEL FEED LINE 1/4" (6.4 mm)
- ④ FUEL RETURN LINE 1/4" (6.4 mm)
- ⑤ RAW WATER SUPPLY LINE
- ⑥ DIESEL FUEL TANK 51GAL. (193 L.)
- ⑦ DIESEL FUEL FILL (DECK FITTING) 1 1/2" (38.1mm)
- ⑧ DIESEL FUEL TANK VENT (HULL FITTING) 3/4" (19.1 mm)
- ⑨ GENERATOR SEACOCK 3/4" (19.1 mm)
- ⑩ SEA STRAINER
- ⑪ GENERATOR GROUND TO ENGINE, THEN CONTINUES ON TO BUS BAR ● CHART SEAT (SEE FOLLOWING PAGE FOR WIRING SCHEMATIC)
- ⑫ GENERATOR OUTPUT WIRE (AC) TO PANEL
- ⑬ ENGINE REMOTE/KEY SWITCH HARNESS

AFT STRM.

AFT STRM. BULKHEAD

HUNTERCRAFT

380 (OPTIONAL) GENERATOR SYSTEM LAYOUT

DRAWING NO. 380B063E-2	REVISION NO. NONE
DATE 4/13/98	ENGINEERING DEPT.

All HunterCraft products are made in the USA.

SECTION 63F...OPTIONAL INVERTER SYSTEM

BASIC OPERATING INSTRUCTIONS: (FOR INVERTING D.C. POWER TO A.C. POWER)

- ① TURN "ON" HOUSE BATTERY SWITCH
- ② TURN ON INVERTER REMOTE PANEL AT NAV. STATION
- ③ TURN ON APPROPRIATE APPLIANCE BREAKER ON A.C. SIDE OF PANEL

NOTE:

READ "OPTIONAL INVERTER" ON PAGE 63A-2 FOR INVERTER SYSTEM DETAILS

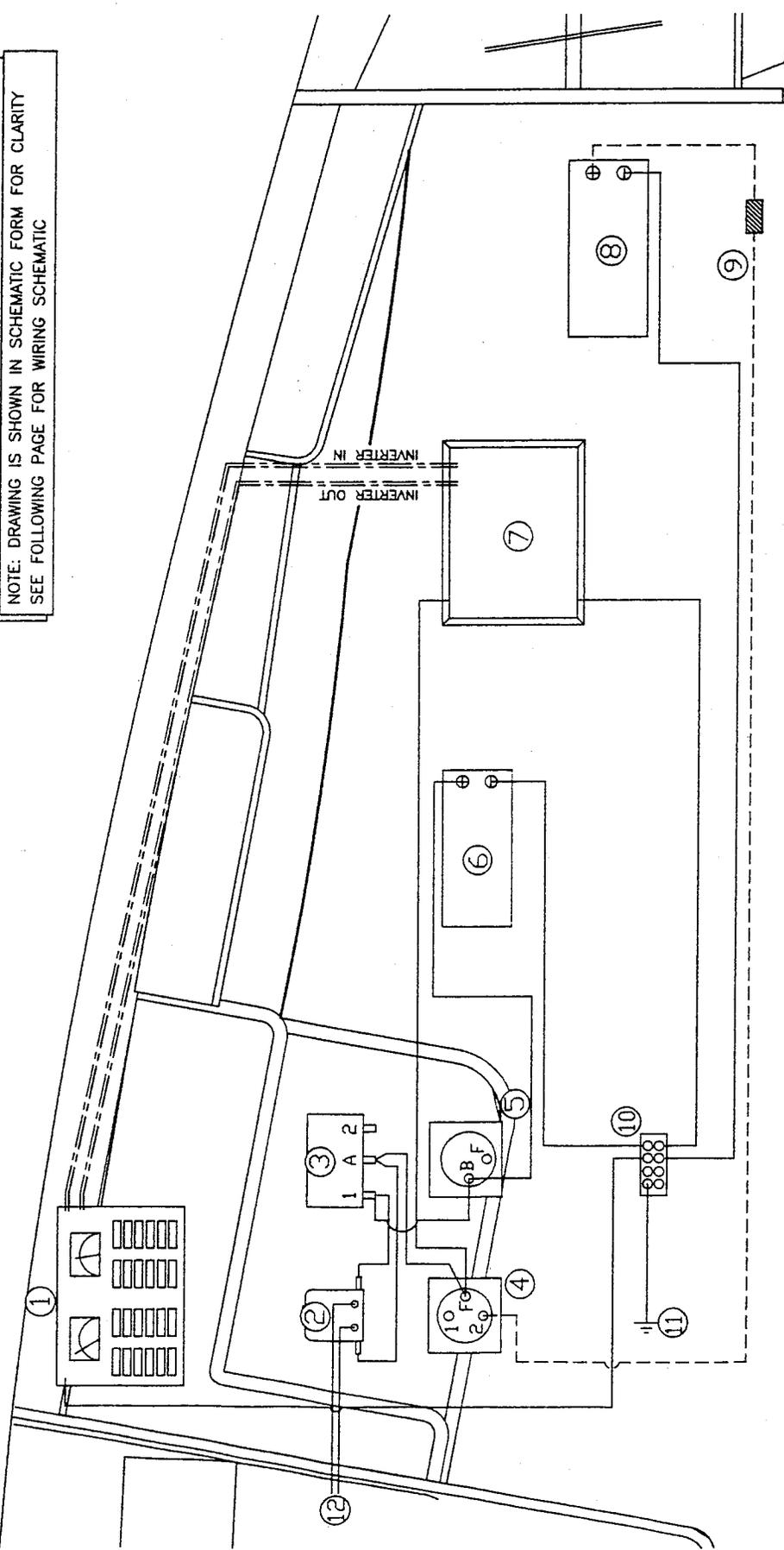
SEE INVERTER MANUAL FOR TECHNICAL DATA, TROUBLESHOOTING, ETC.
OPERATING/PROGRAMMING INSTRUCTIONS

380 OPTIONAL INVERTER OPER. INST	
380063F-1	NONE
ENGINEERING DEPT.	7/26/87

See manual for instructions for each device used. Copy for primary use.

HUNTER

NOTE: DRAWING IS SHOWN IN SCHEMATIC FORM FOR CLARITY
SEE FOLLOWING PAGE FOR WIRING SCHEMATIC



- ① MAIN BREAKER PANEL
- ② SOLENOID
- ③ ISOLATOR
- ④ HSE. BATTERY ON/OFF SW.
- ⑤ START BATTERY ON/OFF SW.
- ⑥ START BATTERY
- ⑦ INVERTER
- ⑧ HOUSE BATTERY
- ⑨ 300 AMP INLINE FUSE
- ⑩ GROUNDING BUSS BAR
- ⑪ TO ENGINE
- ⑫ TO ENGINE KEY SWITCH

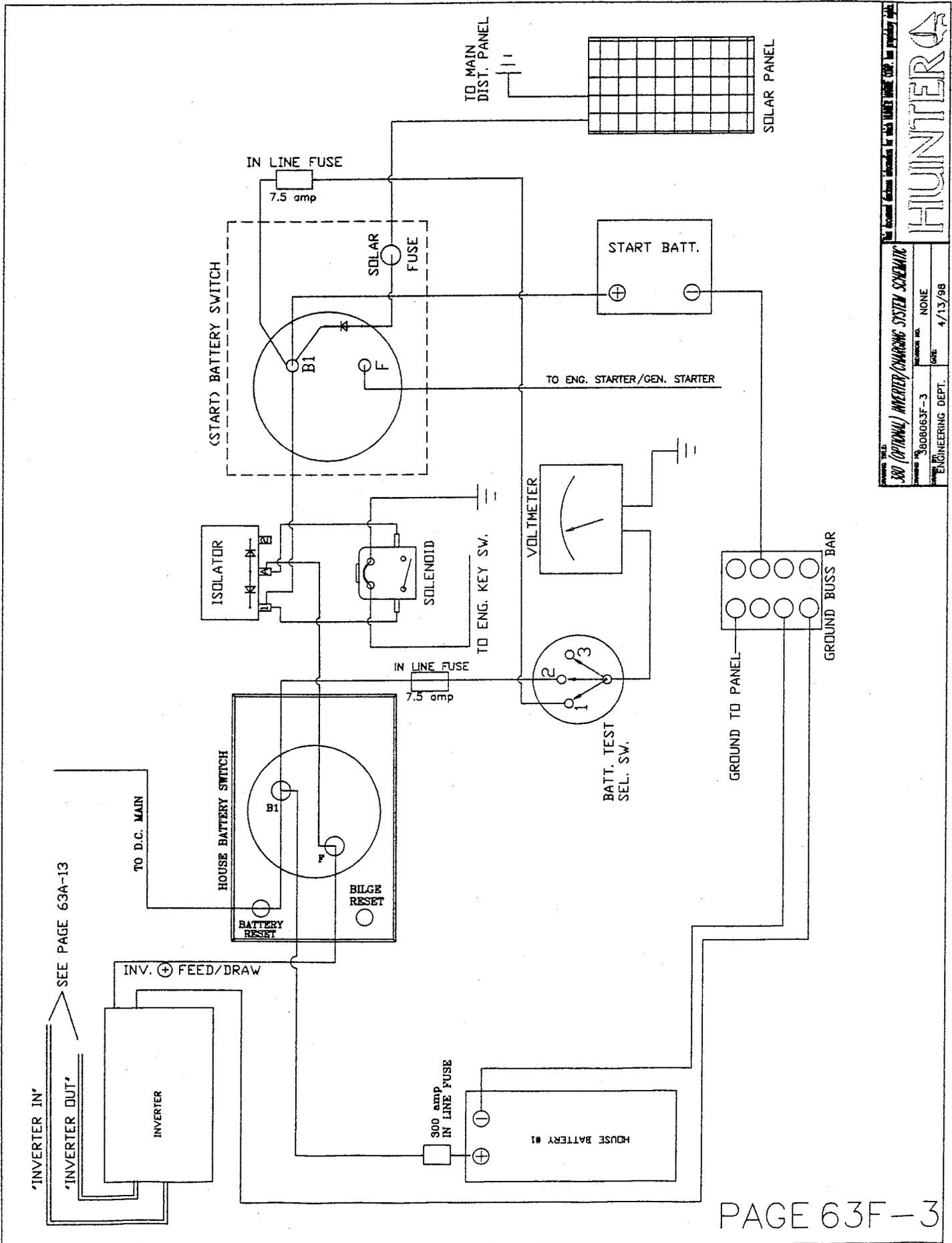
----- 10/3 BOAT CABLE
----- 2/0 RED

REVISED TITLE: 380 (OPTIONAL) INVERTER SYSTEM LAYOUT

DATE	4/13/98
DESIGNED BY	380B063F-2
ENGINEERING DEPT.	NONE

See Approved Notices Issued by the U.S. Coast Guard for Propulsion Units

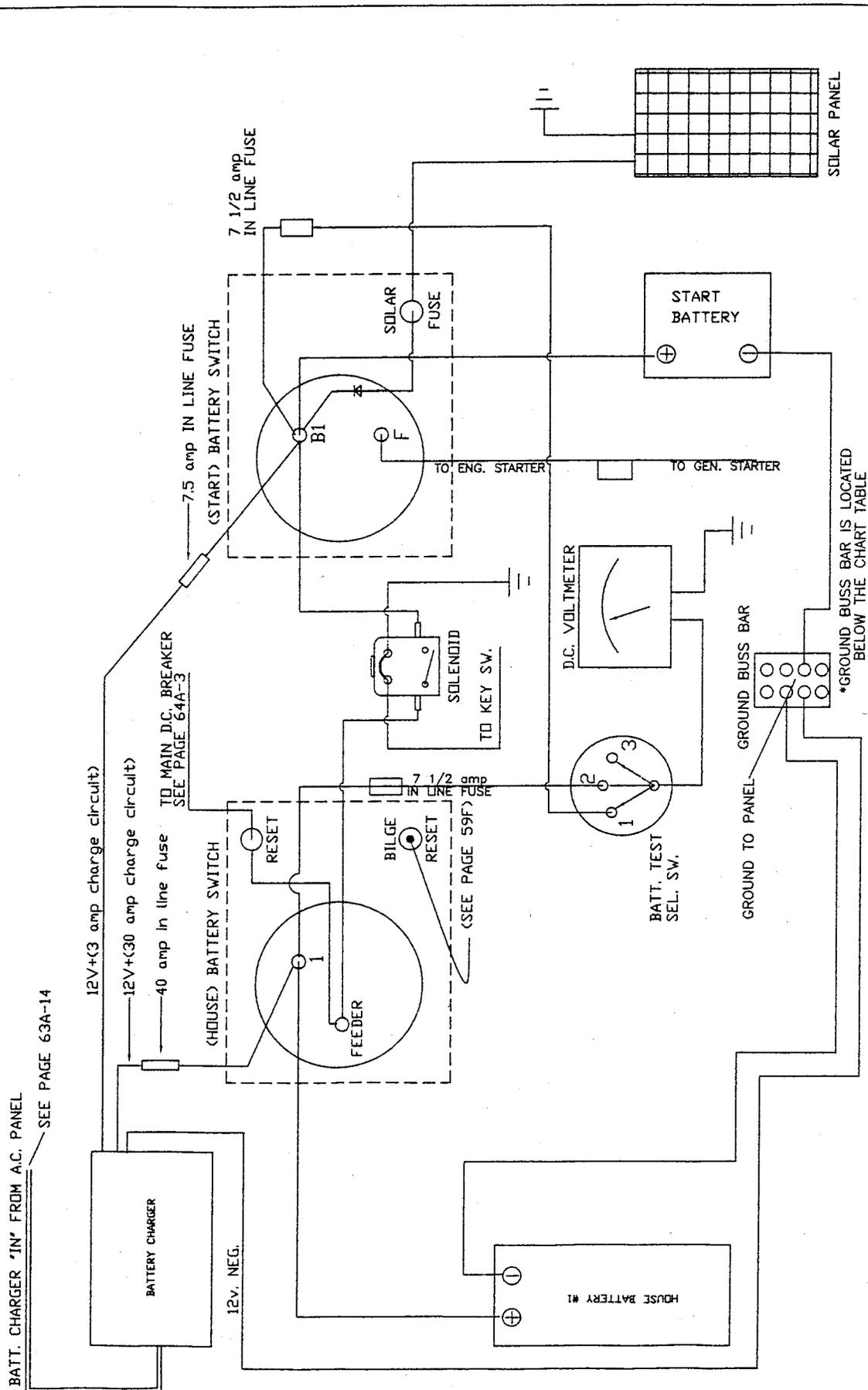
HUNTER



HUNTER

FOR ANCHORED VESSELS ONLY. NOT SUITABLE FOR NON-ANCHORED VESSELS.

300 (OPTIONAL) INVERTER/CHARGING SYSTEM SCHEMATIC	
Part No. 808063F-3	NONE
ENGINEERING DEPT.	DATE 4/13/98



FOR BATT. CHARGER OPERATION SEE PAGE 63A-2
FOR TROUBLESHOOTING SEE PAGE 63A-9

380 STANDARD BATTERY CHARGER SYSTEM
 3808063F-4
 HI INTERON

THIS PAGE IS PROVIDED FOR ANY
ADDITIONAL AC ELECTRICAL INFORMATION.

NOTE: ON 220V. OVERSEAS MODELS THE MAIN DISTRIBUTION PANEL AMPERAGES ARE AS
FOLLOWS:

SHORE POWER AC MAIN/S	15 amp
OUTLETS	10 amp
MICROWAVE OVEN	10 amp
WATER HEATER	10 amp
BATTERY CHARGER	10 amp
AIR CONDITIONING	15 amp

SEE PAGE 65B FOR FURTHER DETAILS

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HUNTERA

380 CONSUMER NOTES

ISSUANCE NO. 3808063G

REVISION NO. NONE

DATE 3/12/98

ISSUED TITLE

380 CONSUMER NOTES

ISSUANCE NO.

3808063G

REVISION NO.

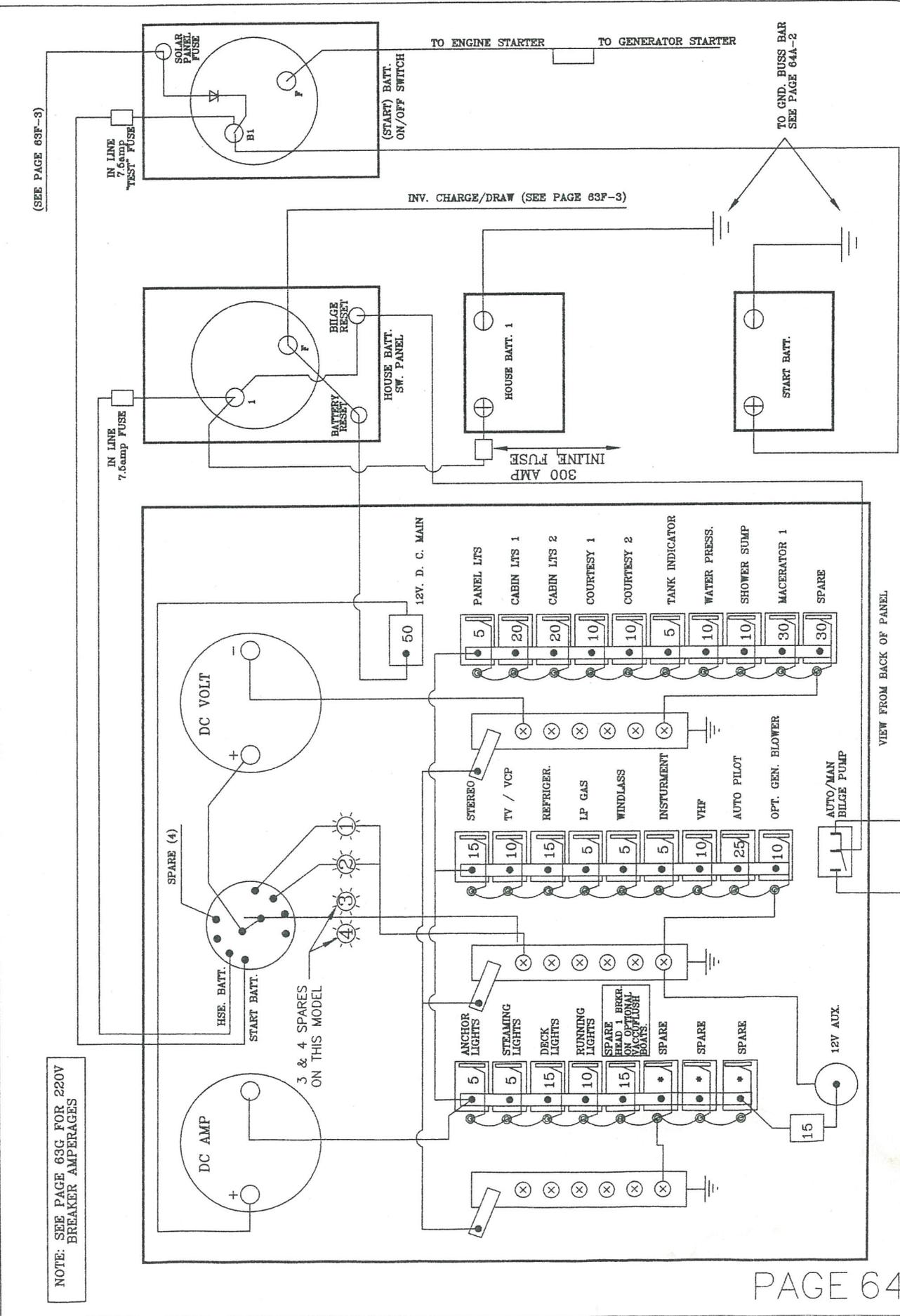
NONE

ISSUED DATE

3/12/98

ISSUED BY

ENGINEERING DEPT.



NOTE: SEE PAGE 63G FOR 220V BREAKER AMPERAGES

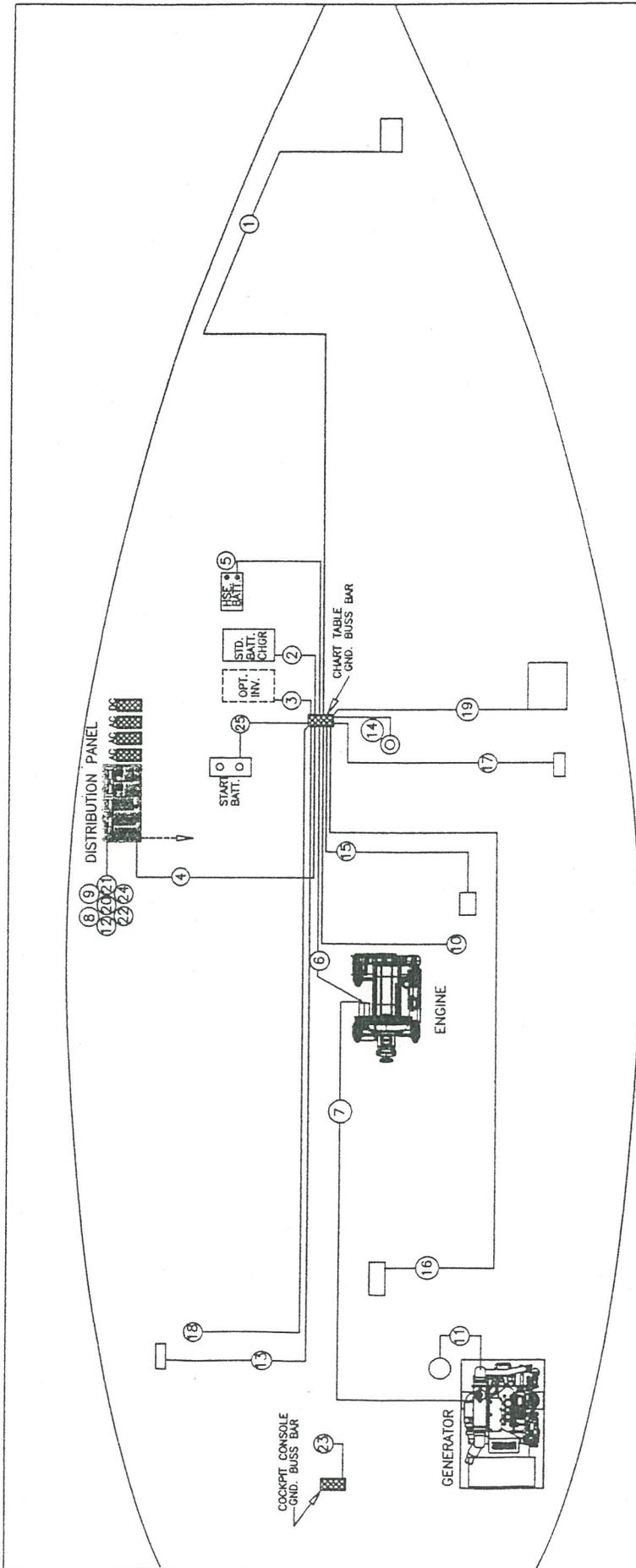
(SEE PAGE 63F-3)

INV. CHARGE/DRAW (SEE PAGE 63F-3)

VIEW FROM BACK OF PANEL

DRAWING NO. 3808064A-1
 REVISION NO. NONE
 DATE
 HUNTERDA
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(SEE PAGE 59B)
 MANUAL BILGE
 AUTO BILGE



GROUND WIRE/CABLE SPECS:

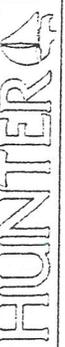
- ① WINDLASS (OPTIONAL).....2ga. WIRE
- ② STANDARD BATTERY CHARGER.....8ga. WIRE
- ③ OPTIONAL INVERTER.....2/0 CABLE
- ④ PANEL GND. TO BUSS BAR.....6ga. WIRE
- ⑤ HOUSE BATT. GND'S TO BUSS BAR.....2/0 CABLE
- ⑥ ENGINE GND. TO BUSS BAR.....2/0 CABLE
- ⑦ GENERATOR (OPTIONAL) GND. TO ENGINE.....2/0 CABLE
- ⑧ TO PORT CTSY LIGHTS.....16ga. WIRE
- ⑨ ALL CABIN LIGHTS.....16ga. WIRE
- ⑩ OPTIONAL ELEC. HALYARD.....2 ga. WIRE
- ⑪ GENERATOR BLOWER (OPTIONAL).....12ga. WIRE
- ⑫ STARBOARD CTSY. LIGHTS.....16ga. WIRE
- ⑬ MACERATOR.....10ga. WIRE

ALL WIRES NOTED BELOW ARE (BLACK) GROUND

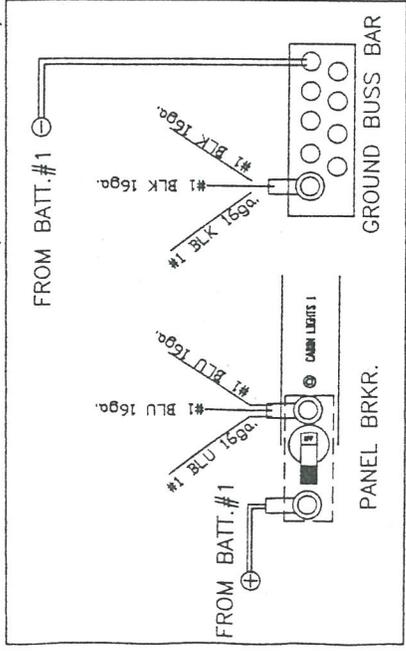
- ⑭ BILGE PUMP12ga. WIRE
- ⑮ SHOWER SUMP.....12ga. WIRE
- ⑯ OPTIONAL AUTO PILOT.....8ga. WIRE
- ⑰ WATER PRESSURE PUMP.....12ga. WIRE
- ⑱ TANK SEND UNIT.....16ga. WIRE
- ⑲ REFRIGERATION.....10ga. WIRE
- ⑳ STEREO.....16ga. WIRE
- ㉑ L.P.G. SOLENOID.....16ga. WIRE
- ㉒ INSTRUMENTS.....MANUF. SUPPLIED CABLE
- ㉓ VHF RADIO.....16ga. WIRE
- ㉔ ANC./STEAM./DECK/RUNNING LIGHTS.....16ga. WIRE
- ㉕ START BATTERY.....2/0 CABLE

NOTE: WIRE RUNS & COMPNTS. ARE SHOWN IN SCHEMATIC FORM FOR CLARITY

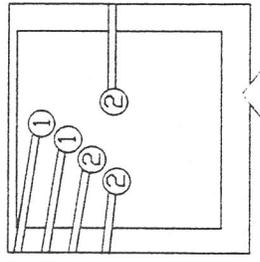
REVISED TITLE
380 D.C. GROUNDING SYSTEM LAYOUT
 DRAWING NO. 3808064A-2
 PROJECT NO. NONE
 ENGINEERING DEPT. DATE 12/11/97



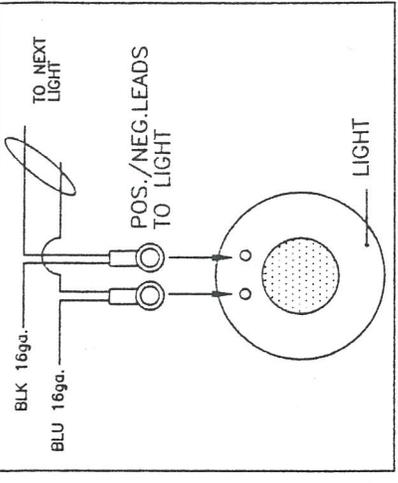
EXAMPLE SWITCH PANEL WIRING (PARALLEL CIRCUITS)



#1 & #2 = CABIN LIGHTS #1 & #2 CIRCUITS
TO MAIN DISTRIBUTION PANEL

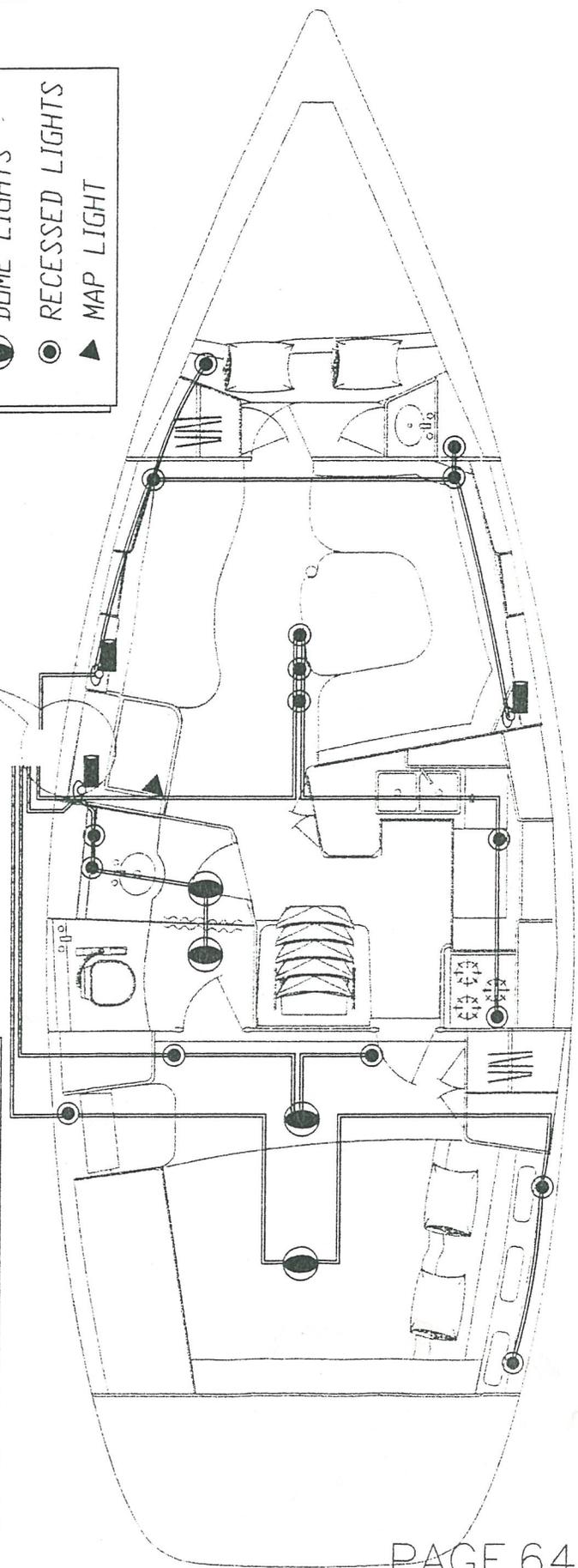


EXAMPLE LIGHT WIRING (PARALLEL CIRCUIT)

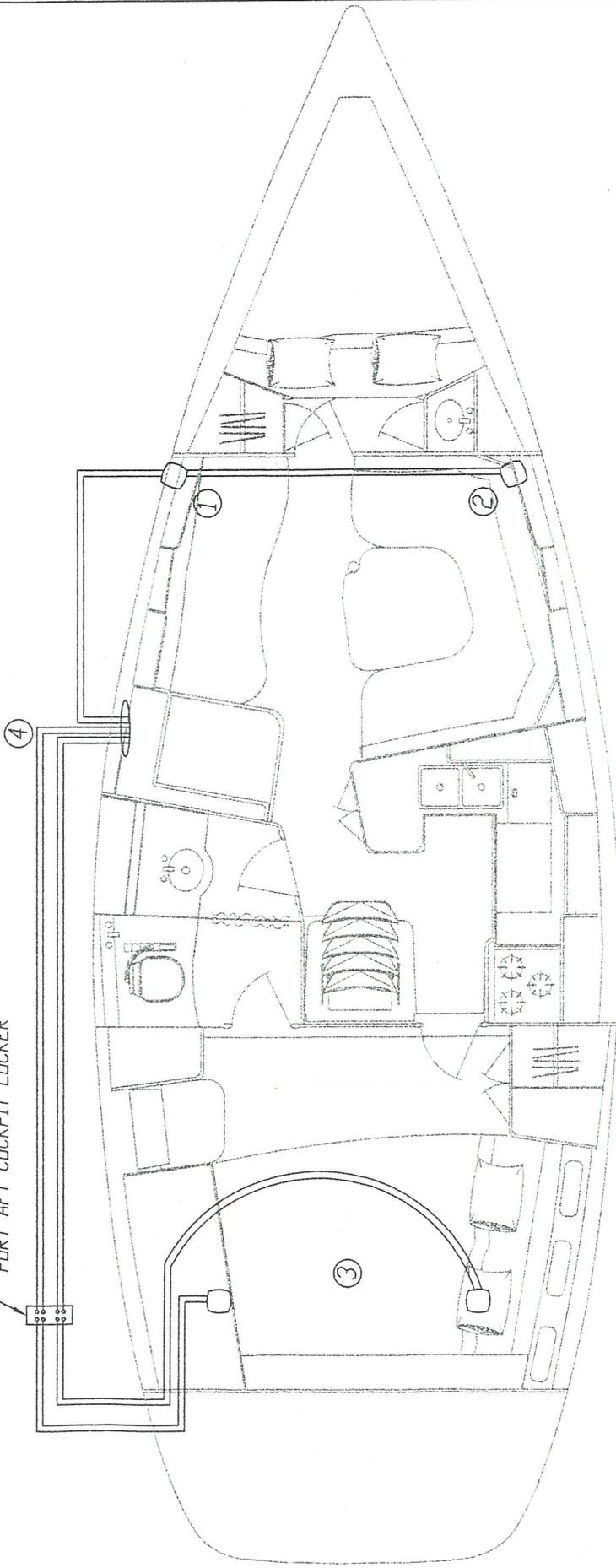


- SWIVEL LIGHTS
- DOME LIGHTS
- RECESSED LIGHTS
- MAP LIGHT

EACH CIRCUIT IN PARALLEL, 16ga. BLU (LOAD TO BREAKER) AND 16ga. BLK. GROUND TO GROUND BUSS BAR (SEE EX.)

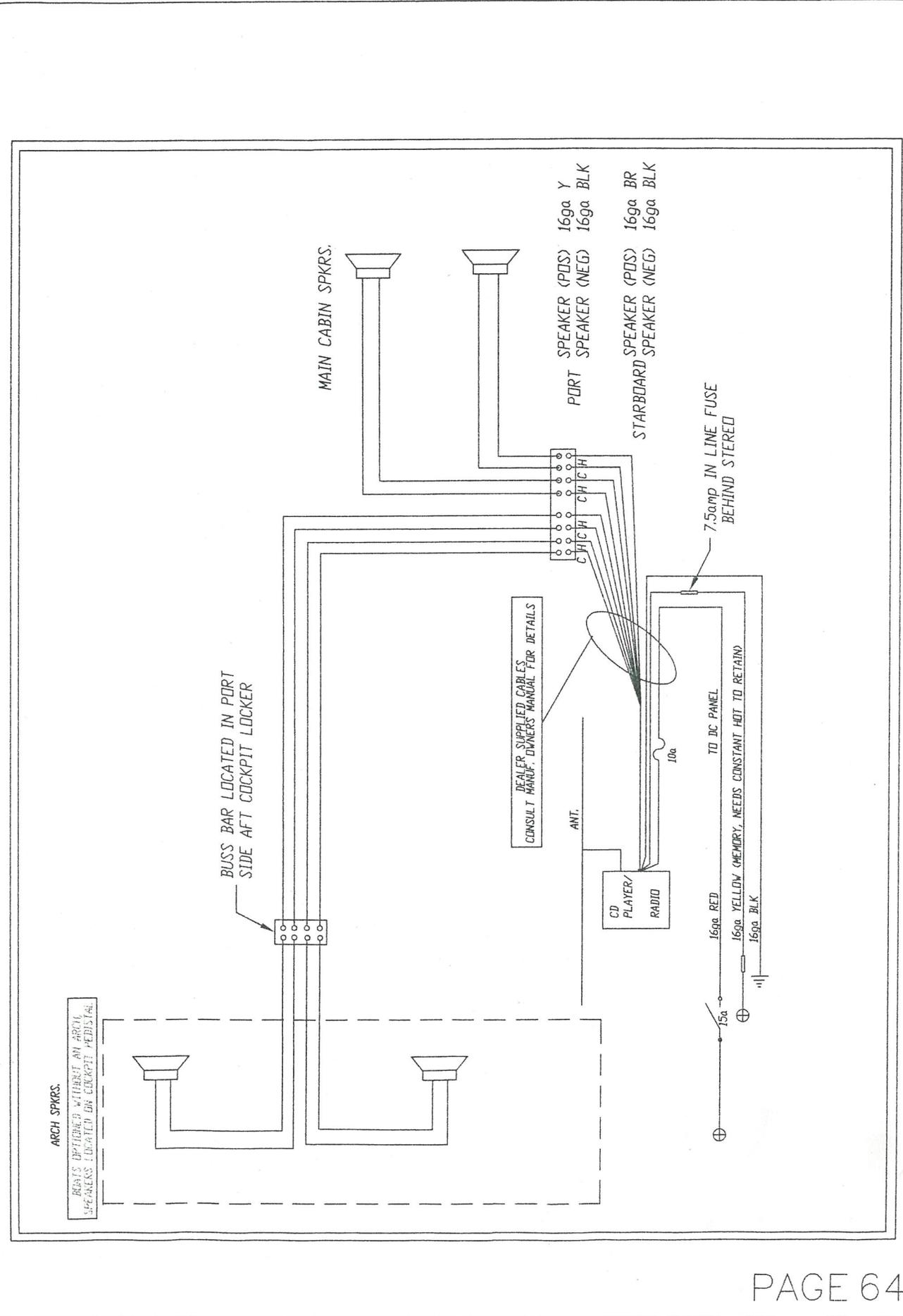


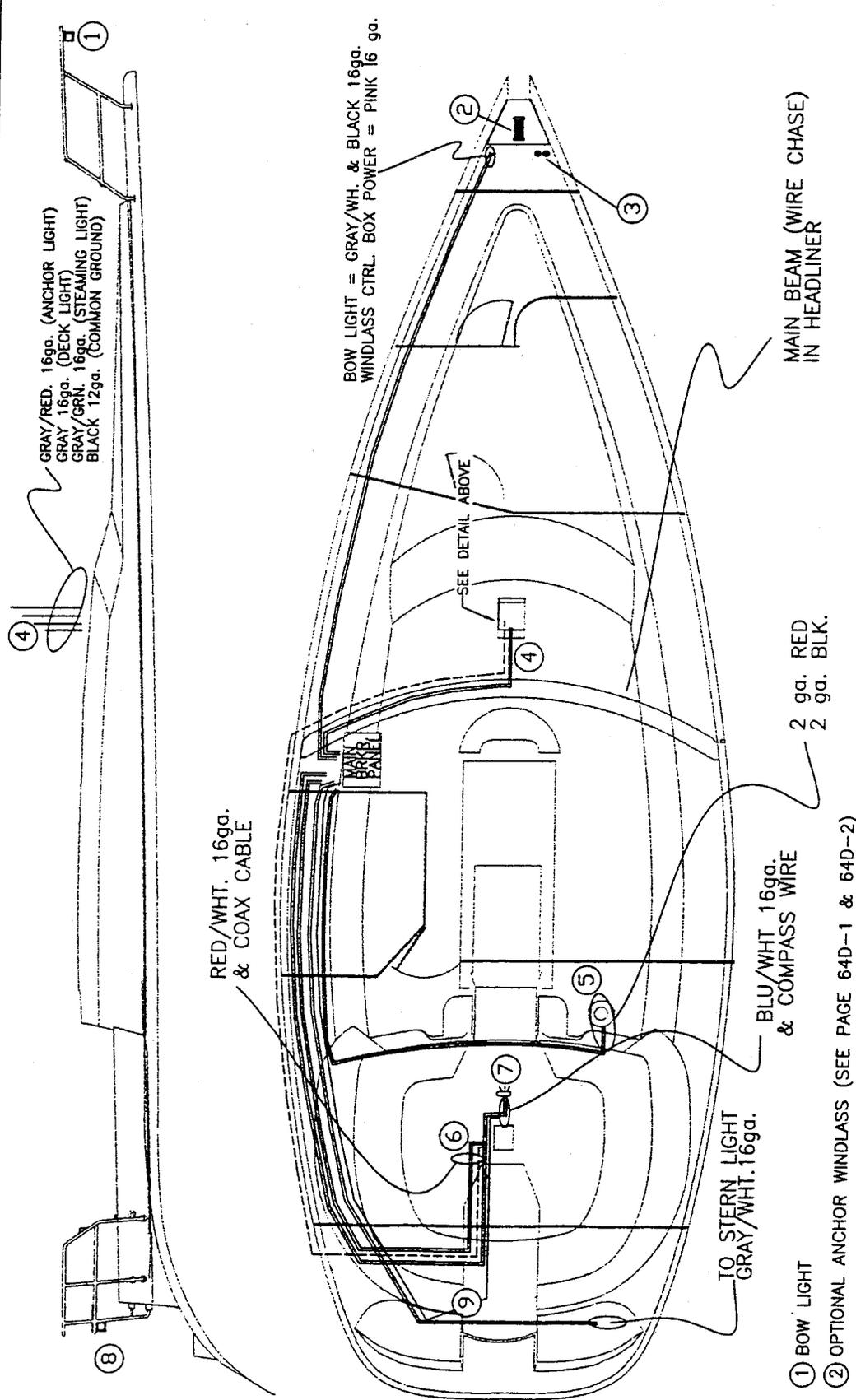
BUSS BAR LOCATED IN THE
PORT AFT COCKPIT LOCKER



- 1 PORT MAIN SALON SPEAKER
- 2 STARBOARD MAIN SALON SPEAKER
- 3 ARCH SPEAKERS
** BOATS OPTIONED WITHOUT
AN ARCH SPEAKERS LOCATED
ON COCKPIT PEDISTAL.
- 4 SPEAKER WIRES TO STEREO UNIT







GRAY/RED. 16ga. (ANCHOR LIGHT)
 GRAY. 16ga. (DECK LIGHT)
 GRAY/GRN. 16ga. (STEERING LIGHT)
 BLACK 12ga. (COMMON GROUND)

BOW LIGHT = GRAY/WH. & BLACK 16ga.
 WINDLASS CTRL. BOX POWER = PINK 16 ga.

MAIN BEAM (WIRE CHASE)
 IN HEADLINER

RED/WHT. 16ga.
 & COAX CABLE

TO STERN LIGHT
 GRAY/WHT. 16ga.

BLU/WHT 16ga.
 & COMPASS WIRE

2 ga. RED.
 2 ga. BLK.

SEE DETAIL ABOVE

NOTE: SOME WIRE RUNS SHOWN IN APPROXIMATE LOCATIONS FOR CLARITY, SEE PAGE 64F FOR WIRE CHASE LOCATIONS

- ① BOW LIGHT
- ② OPTIONAL ANCHOR WINDLASS (SEE PAGE 64D-1 & 64D-2)
- ③ WINDLASS CONTROLS
- ④ POWER LEADS TO ANCHOR, DECK, STEERING LIGHTS
- ⑤ OPTIONAL ELEC. HALYARD (SEE PAGE 64E-1 & 2)
- ⑥ VHF RADIO (IN COCKPIT CONSOLE)
- ⑦ COURTESY LIGHT (IN COCKPIT CONSOLE BASE)
- ⑧ STERNLIGHT
- ⑨ COMPASS WIRE RUN

--- = VHF COAX CABLE (CONNECTOR ABOVE MAST POST)

380 12V. WIRING DECK

PROJECT NO.	3808064C	REVISION NO.	NONE
DATE	4/14/98	ENGINEERING DEPT.	

HUNTER

SECTION 64D...OPTIONAL WINDLASS SYSTEM

BASIC OPERATING INSTRUCTIONS:

LOWERING ANCHOR....

- ① TURN ON START BATTERY SWITCH UNDER NAV. STATION.
- ② TURN ON WINDLASS BRKR. ON MAIN D.C. BRKR. PANEL.
- ③ PUSH WINDLASS "DOWN" BUTTON INSIDE ANCHOR WELL LOCKER.

NOTE: "BUMP" SWITCH UNTIL ANCHOR CLEARS ANCHOR ROLLER AND HULL BEFORE LETTING ANCHOR DOWN FREELY.

RAISING ANCHOR....

- ① START BOAT ENGINE, THIS WILL ALLOW CONTROL OF BOAT WHEN ANCHOR BECOMES FREE, AS WELL AS REDUCING LOAD ON BATTERY
- ② SAME AS STEP #1 OF LOWERING ANCHOR
- ③ SAME AS STEP #2 OF LOWERING ANCHOR
- ④ PUSH WINDLASS "UP" BUTTON (LOCATED-NEXT TO "DOWN BUTTON" BEING CAREFUL AS THE ANCHOR APPROACHES THE HULL AND ANCHOR ROLLER) UNTIL THE ANCHOR RESTS IN THE STEMHEAD PROPERLY.

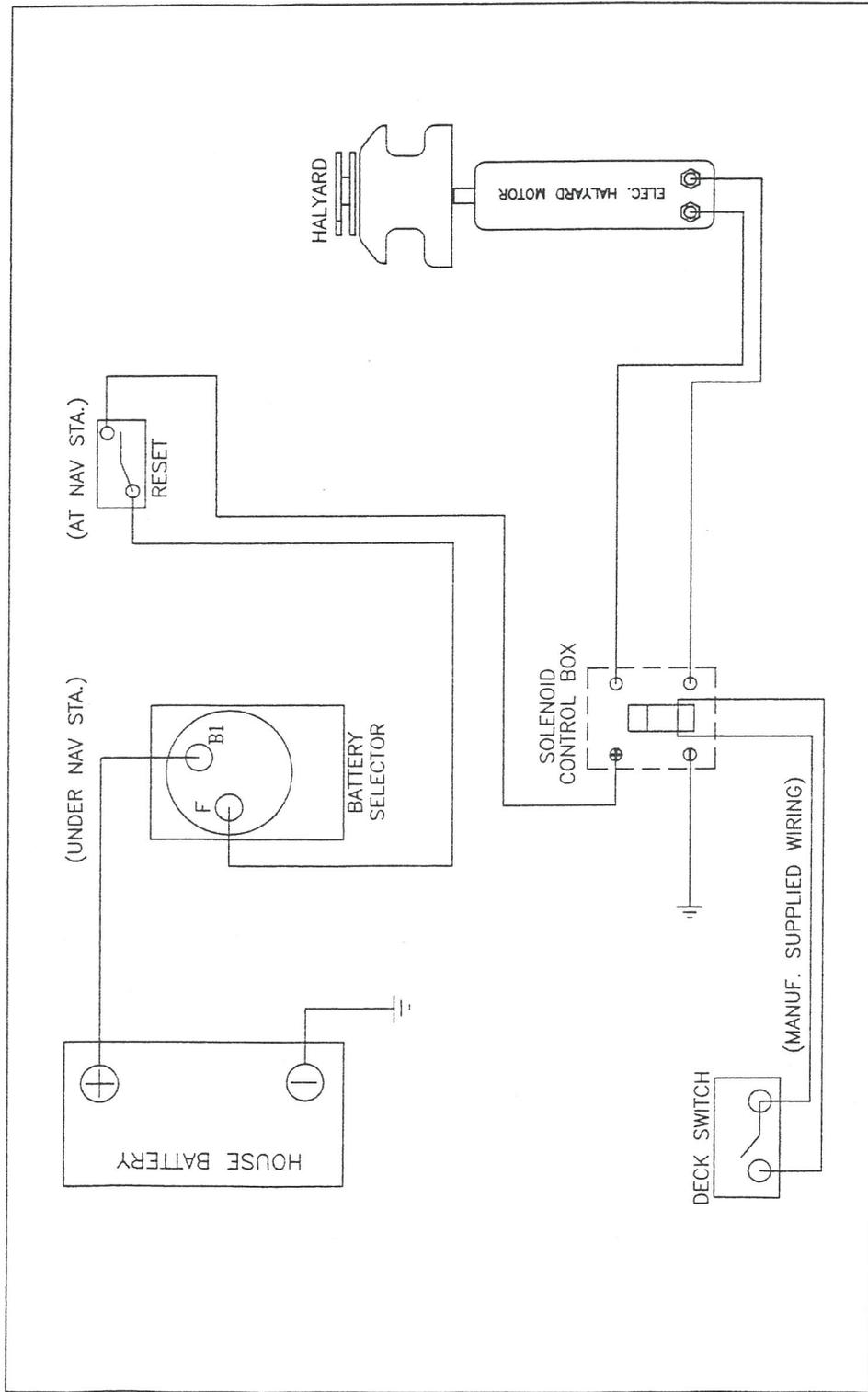
NOTE: IF IT APPEARS THERE IS NO POWER TO THE WINDLASS, CHECK RESET BRKR. AT THE NAV. STATION.
IF WINDLASS BECOMES INOPERABLE ELECTRICALLY, A MANUAL WINCH HANDLE IS SUPPLIED, SEE THE "WINDLASS MANUAL" SUPPLIED IN YOUR OWNERS MANUAL PACKAGE FOR INSTRUCTIONS.

OPTIONAL WINDLASS OPERATING INST.

3808004D-1	NONE
ENGINEERING DEPT.	4/14/88

380 OPTIONAL WINDLASS OPERATING INST. (SEE INSTRUCTIONS FOR THIS UNIT) (SEE INSTRUCTIONS FOR THIS UNIT)

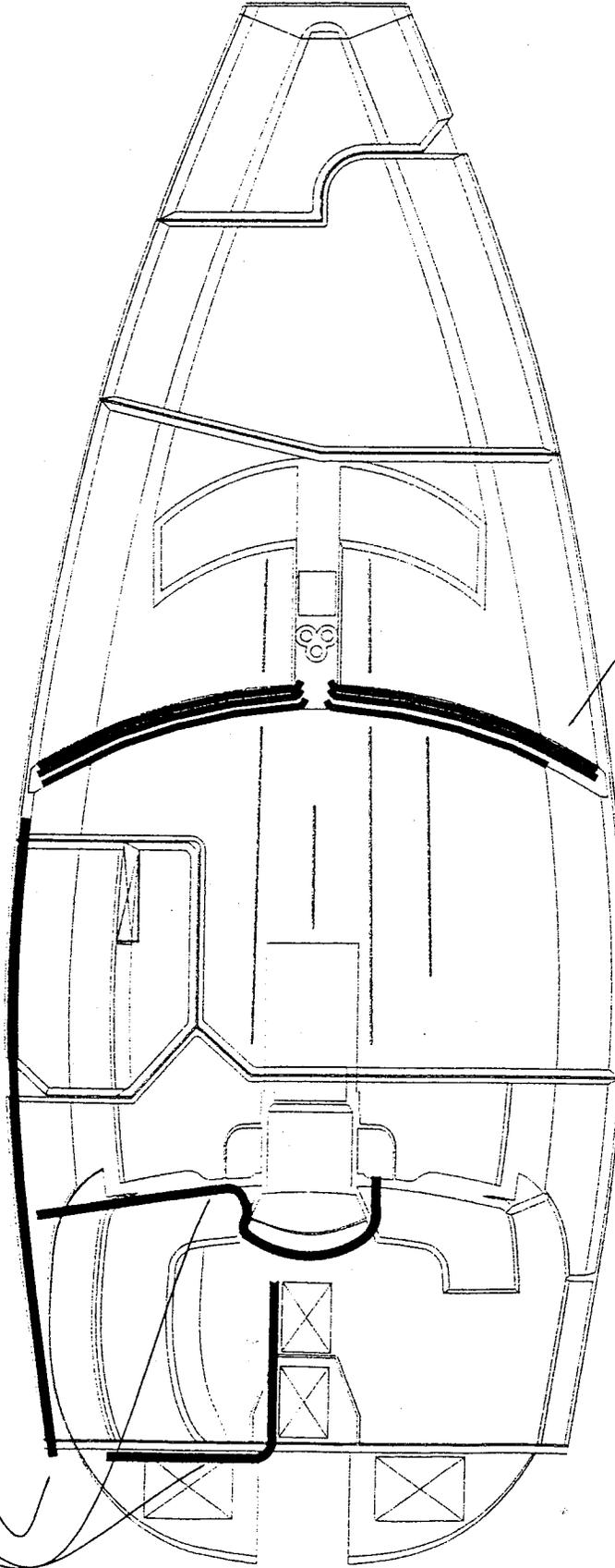
HUNTER



NOTE: SEE PAGE 64C FOR WIRE RUN LOCATIONS

TWO 2" (101.6 mm) FLEX. CONDUIT CHASE TUBES RUN

1 1/2" (38.1 mm) P.V.C. CHASE TUBE RUNS FROM PT. AFT COCKPIT LOCKER
FORWARD TO MAIN BREAKER PANEL CABINET



THREE 1" (50.8 mm) FLEX. CONDUIT CHASE TUBES RUN FROM PORT & STBD MAIN BEAM IN HEADLINER
TO ACCESS PANEL ABOVE COMPRESSION POST IN MAIN SALON
MESSENGER LINES ARE INSTALLED, AND CAN BE ACCESSED THRU CHAINPLATE
AND MAST COMPRESSION POST ACCESS COVERS

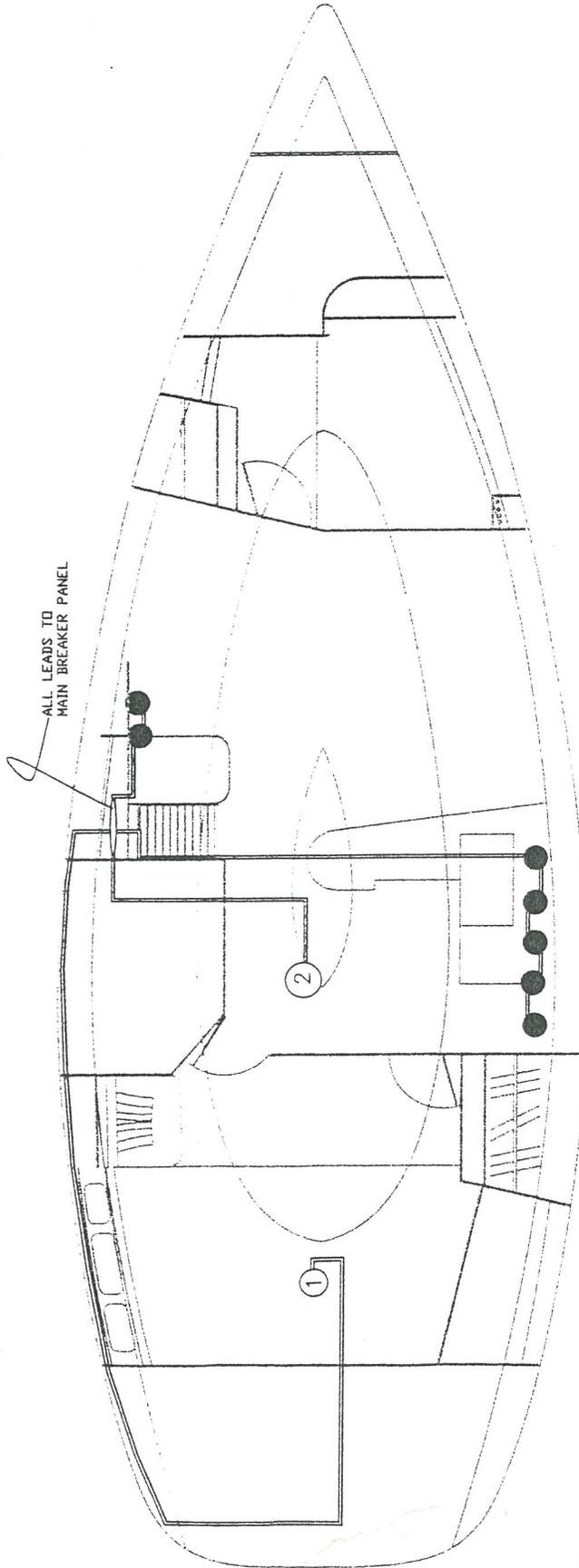
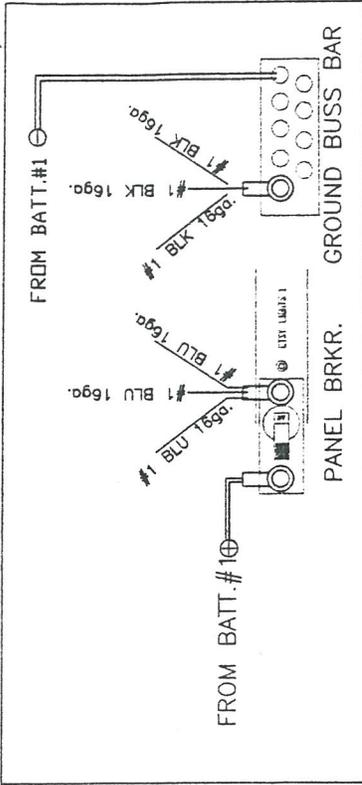
380 WIRE CHASE LOCATIONS (HEADLINER)

DESIGNED BY	3808064F	REVISION NO.	NONE
DATE	4/14/98	BY	ENGINEERING DEPT.

THE HUNTER GROUP, INC. HUNTER MARINE CORP. 10000 W. HUNTER BLVD. HUNTER, ALABAMA 35894

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EXAMPLE SWITCH PANEL WIRING (PARALLEL CIRCUITS)



- ① COCKPIT COURTESY LIGHT
- ② ENGINE BOX COURTESY LIGHT
- MAIN SALON COURTESY LIGHT
- COURTESY #1 BREAKER
- COURTESY #2 BREAKER

380 CTSY. LITE WIRING

DATE: 4/14/98

DESIGNED BY: 380B0064G

ENGINEERING DEPT

HUNTER

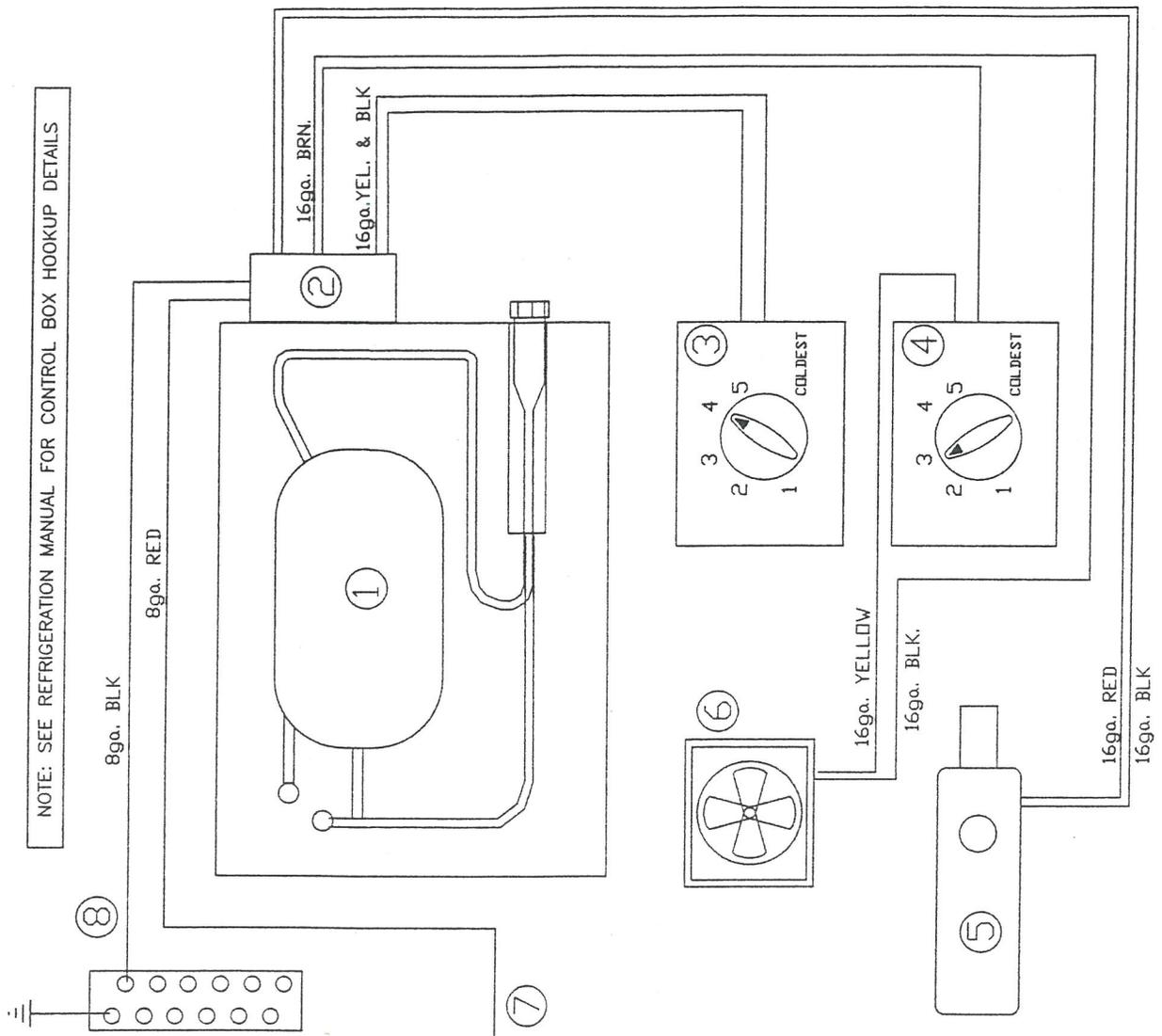
SECTION 64H...REFRIGERATION SYSTEM

BASIC OPERATING INSTRUCTIONS:

- ① CHECK SEA STRAINER & OPEN RAW WATER SEACOCK IN PORT AFT MAIN BILGE LOCKER
- ② ENSURE THE 1/2" (12.7mm) DISCHARGE SEACOCK VALVE IS OPEN.
(SEACOCK ACCESSED THRU HOLE IN SETTEE BACK, BEHIND FWD. STBD. SETTEE CUSHION.)
- ③ ON STANDARD BATTERY CHARGER MODEL, TURN ON HOUSE BATTERY SEL. SWITCH (UNDER CHART TABLE)
- ④ TURN ON MAIN D.C. BREAKER AT MAIN BREAKER PANEL
- ⑤ TURN ON REFRIG. BREAKER
- ⑥ SET THERMOSTATS TO DESIRED TEMP.

NOTE: KEEP SEA STRAINER CLEAN TO PREVENT IMPROPER CIRCULATION
IF LEAVING UNIT ON WHEN AWAY FROM BOAT
BE SURE SHORE POWER CABLES ARE CONNECTED AND
BATTERY CHARGER IS ON TO PREVENT BATTERY DRAIN.
(OPTIONAL INVERTER EQUIPPED MODELS CHARGE CIRCUIT
IS AUTOMATIC IF SHORE POWER IS CONNECTED AND HAS
POWER TO MAIN DISTRIBUTION PANEL.)

NOTE: SEE REFRIGERATION MANUAL FOR CONTROL BOX HOOKUP DETAILS



- ① REFRIG. COMPRESSOR
- ② REF. UNIT CTRL. BOX
- ③ FREEZER THERMOSTAT
- ④ FRIDGE THERMOSTAT
- ⑤ RAW WATER PUMP
- ⑥ SPILL OVER FAN
- ⑦ 12V. + FROM LOAD SIDE OF BRKR. TO REF. UNIT
- ⑧ GND. FROM REF. UNIT TO GRD. BUSS BAR BEHIND BRKR. PANEL

OPERATING INSTRUCTIONS FOR POLARMATE REFRIGERATION SPILL OVER SYSTEM

IN ORDER TO ACHIEVE THE PROPER PERFORMANCE OF THIS SYSTEM,
PLEASE FOLLOW THESE GUIDLINES.

UPON INITIAL START UP OF THIS SYSTEM, YOU MUST TURN ON THE
FREEZER THERMOSTAT FIRST TO NUMBER 6. ALLOW TIME FOR THE
FREEZER TO REACH APPROXIMATELY 25°F. ONCE THE FREEZER
REACHES 25°F, SET THE REFRIGERATOR THERMOSTAT BETWEEN NUMBER
2 AND NUMBER 3. KEEP IN MIND THAT THIS SYSTEM OPERATES
DIFFERENTLY THAN A REFRIGERATOR IN A HOME. WHEN THE SPILL
OVER FAN TURNS ON, A RISE IN FREEZER BOX TEMPERATURE IS
NORMAL UNTIL THE REFRIGERATION THERMOSTAT IS SATISFIED. ONCE THE
FAN CYCLES OFF THE FREEZER TEMPERATURE WILL GRADUALLY DROP
AGAIN.

YOU MAY EXPERIENCE LONG DUTY CYCLES DEPENDING ON WATER AND
AIR TEMPERATURES AND USAGE OF THE BOX. THIS SYSTEM IS NOT
FROST FREE AND WILL DEVELOP FROST ON THE EVAPORATOR PLATE,
WHICH WILL REQUIRE PERIODIC DEFROSTING

IF IT BECOMES NECESSARY TO DEFROST THE PLATE, TURN THE SYSTEM
OFF AT THE SHIPS PANEL, REMOVE THE DRAIN PLUG FROM THE BOTTOM
OF THE REFRIGERATOR AND POUR SOME TAP WATER OVER THE PLATE.
WIPE WITH A CLEAN CLOTH AND THEN REPLACE THE DRAIN PLUG.
(NOTE: THE DRAIN PLUG MUST BE IN PLACE FOR PROPER OPERATION
OF THE SYSTEM.) TURN THE SYSTEM ON AND REPEAT THE ABOVE
START UP PROCEDURES.

LIVE ABOARDS, MAY EXPERIENCE THE NEED FOR MORE FREQUENT
DEFROSTING DUE TO HEAVIER USE. UNDER THESE CONDITIONS THEY
MAY ALSO EXPERIENCE EXTENDED DUTY CYCLES.

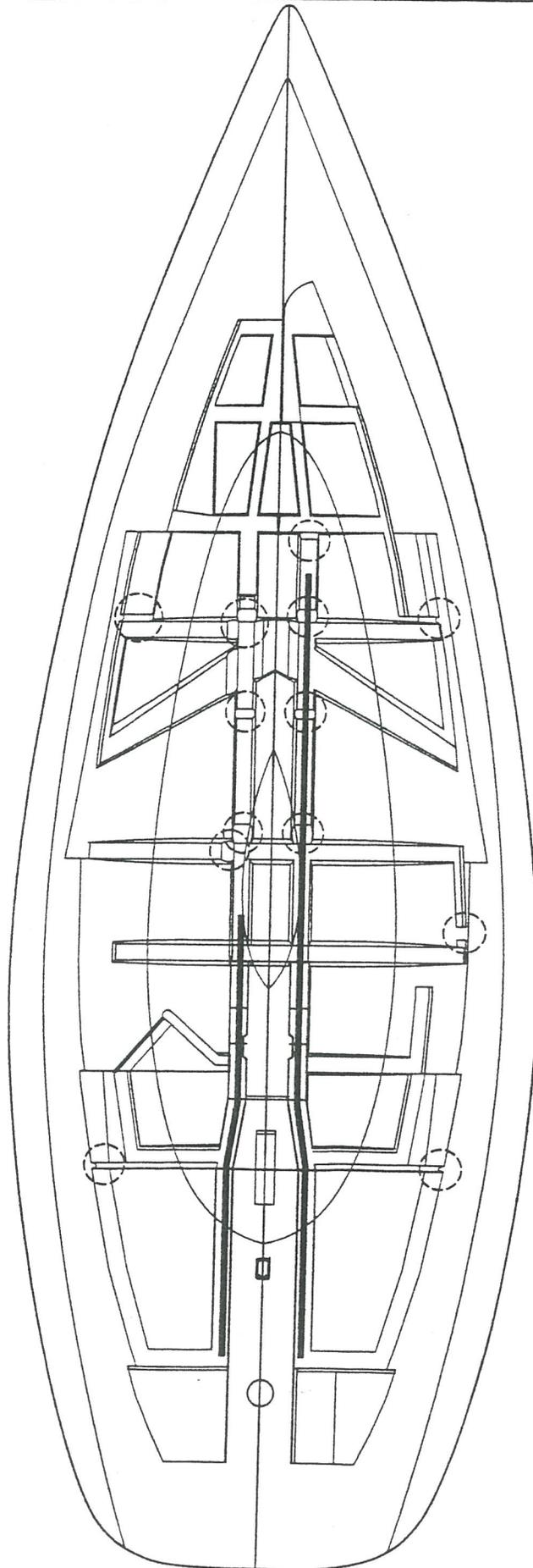
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ISSUED TITLE	SECTION NO.	DATE
H380 POLARMATE REFRIGERATION OPERATING DETAILS	NONE	3/15/99
ISSUED NO.	ISSUED BY	
808064H-4		
ISSUED TO	ENGINEERING DEPT.	

— = PVC CHASE PIPE

○ = CROSSOVER/EXIT DETAILS



For Account Balance Information for which HUNTER GROUP, Inc. assumes no liability

HUNTER

PROJECT NO.	380 WIRE CHASE LOCATIONS (PAN)
PROJECT NO.	380808-4
DESIGNER	ENGINEERING DEPT.
REVISION NO.	NONE
DATE	4/14/98

THIS PAGE IS PROVIDED FOR ANY
ADDITIONAL DC ELECTRICAL INFORMATION.

1. ALL DC WIRING WITHIN 12" OF ANY COMPASS SHALL BE TWISTED PAIRS... THAT IS THE HOT LINE AND GROUND SHALL BE TWISTED TOGETHER.

380 DC CONSUMER NOTES

PROJECT NO.	380B064J
REVISION NO.	NONE
DATE	3/12/98
DEPT.	ENGINEERING DEPT.

HUNTER

380 ELECTRICAL WIRING/CABLE DATA

12V.D.C. SYSTEM

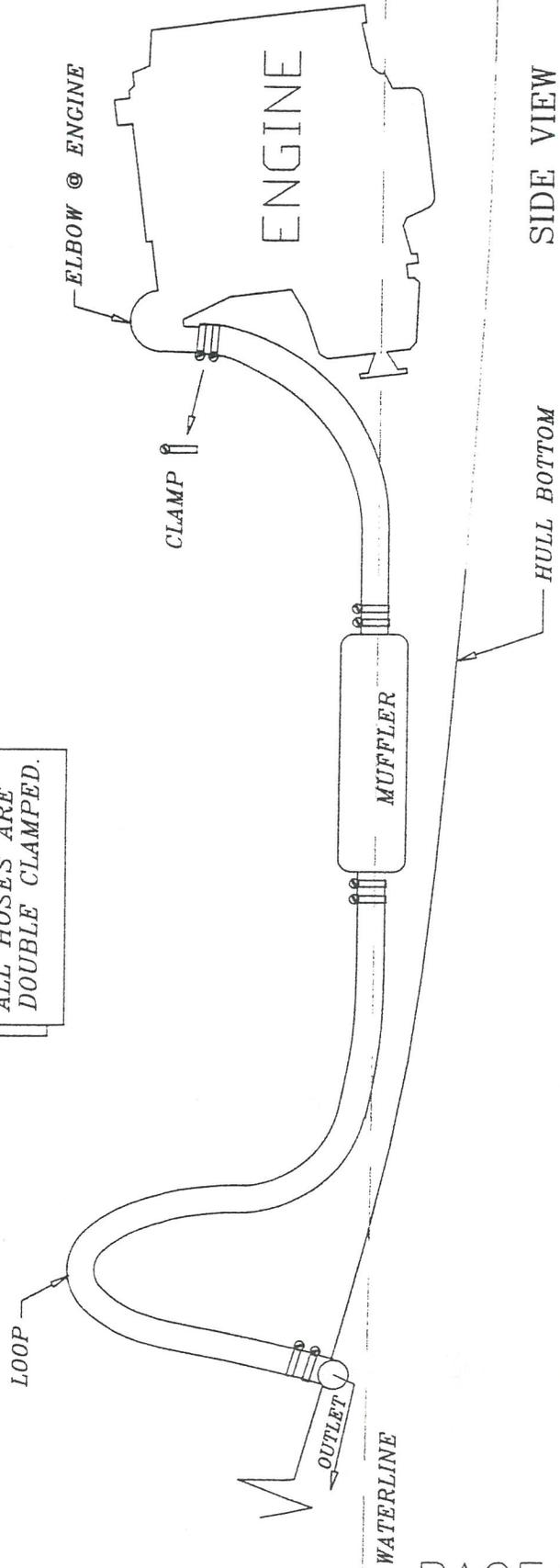
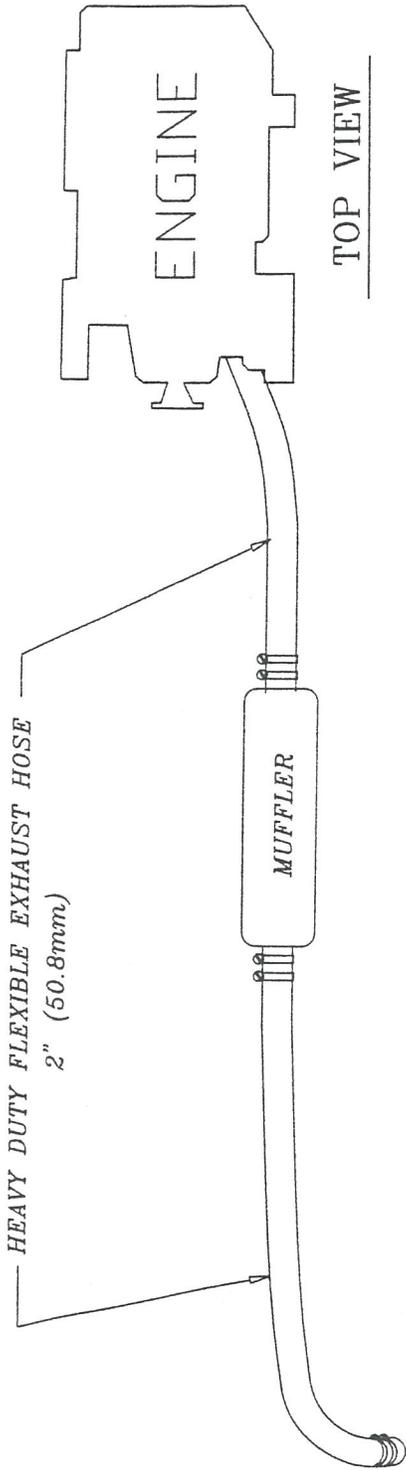
CIRCUIT/BREAKER	AMPERAGE	WIRE SIZE	WIRE COLOR
D.C. MAIN	50amp	6gauge	ORANGE/RED
PANEL LIGHTS	5amp	INTERN. WIRED	RED
CABIN LIGHTS 1	20amp	16gauge	BLUE
CABIN LIGHTS 2	20amp	16gauge	BLUE
COURTESY 1	10amp	16gauge	BLUE/WHITE
COURTESY 2	10amp	16gauge	BLUE/WHITE
TANK INDICATOR	5amp	14/2 BOAT CABLE	BLACK (NEG.) & WHITE (POS.)
WATER PRESSURE	10amp	12gauge	BROWN
FWD.SHOWER SUMP	10amp	12gauge	BROWN/YELLOW
AFT SHOWER SUMP	10amp	12gauge	BROWN/BLACK
MACERATOR 1	20amp	10gauge	BROWN/WHITE
MACERATOR 2	20amp	10gauge	BROWN/WHITE
STEREO	10amp	16gauge	RED & YELLOW
STEREO W/AMPLIFIER	20amp	12gauge	RED
REFRIGERATION	15amp	8gauge	RED
L.P. GAS	5amp	14/2 BOAT CABLE	BLACK (NEG.) & WHITE (POS.)
WINDLASS (SWITCH)	5amp	16gauge	RED/WHITE & RED/BLACK
INSTRUMENTS	5amp	VENDOR SUPPLIED	RED & YELLOW (SCREEN)
G.P.S.	5amp	16gauge	RED/BLACK
V.H.F.	10amp	16gauge	RED & WHITE
AUTO-PILOT	VARIES PER MODEL	8gauge	RED
ANCHOR LIGHT	5amp	16gauge	GRAY/RED
STEAMING LIGHT	5amp	16gauge	GRAY/GREEN
DECK LIGHT	15amp	16gauge	GRAY
RUNNING LIGHTS	10amp (LGR. MOD.)	16gauge	GRAY/WHITE
RUNNING LIGHTS	5amp (SM. MOD.)	16gauge	GRAY/WHITE
COMPASS (TIES TO RUN. LIGHTS)		16gauge	GRAY/WHITE
BATTERY CABLES		2/0	RED
ENGINE STARTER CABLE		2/0	RED
HALYARD WINCH		2gauge	RED
WINDLASS (MOTOR) CABLE		2gauge	RED

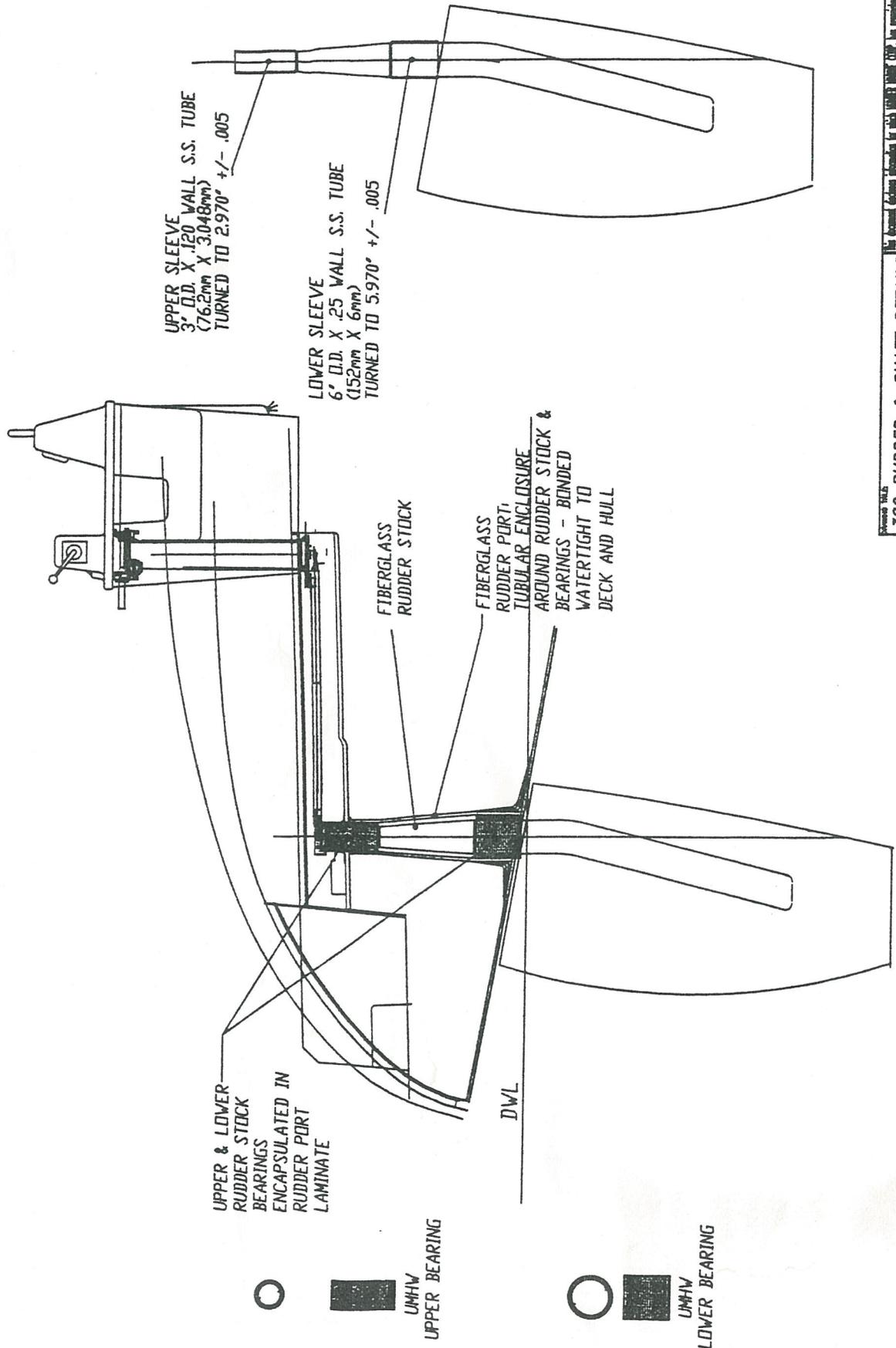
110V.A.C. SYSTEM

SHORE POWER A.C. MAIN/S	30 amp	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
OUTLETS	15amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
MICROWAVE OVEN	15amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
WATER HEATER	20amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
BATTERY CHARGER	15amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
INVERTER	INTERNAL	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
AIR CONDITIONING	25amp	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)

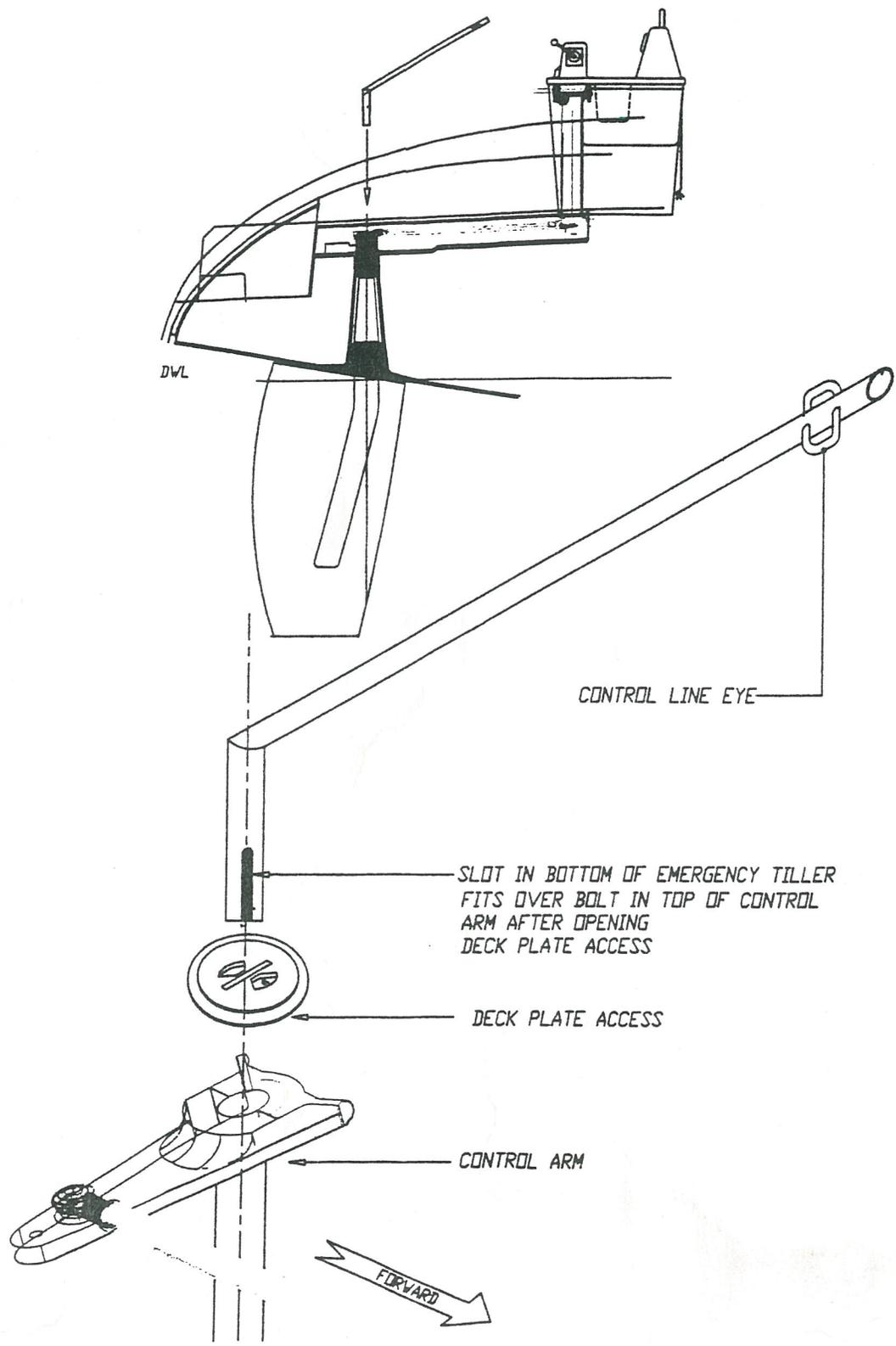
220V.A.C. SYSTEM (ON SELECT OVERSEAS MODELS ONLY)

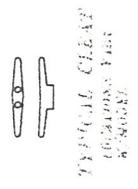
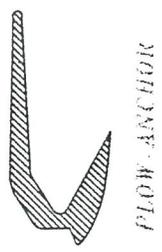
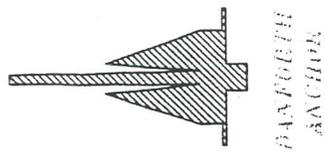
SHORE POWER A.C. MAIN/S	15 amp	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
OUTLETS	10amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
MICROWAVE OVEN	10amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
WATER HEATER	10amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
BATTERY CHARGER	10amp	14/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
INVERTER	N/A	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)
AIR CONDITIONING	15amp	10/3 BOAT CABLE	BLACK (HOT) & WHITE (NEU.)





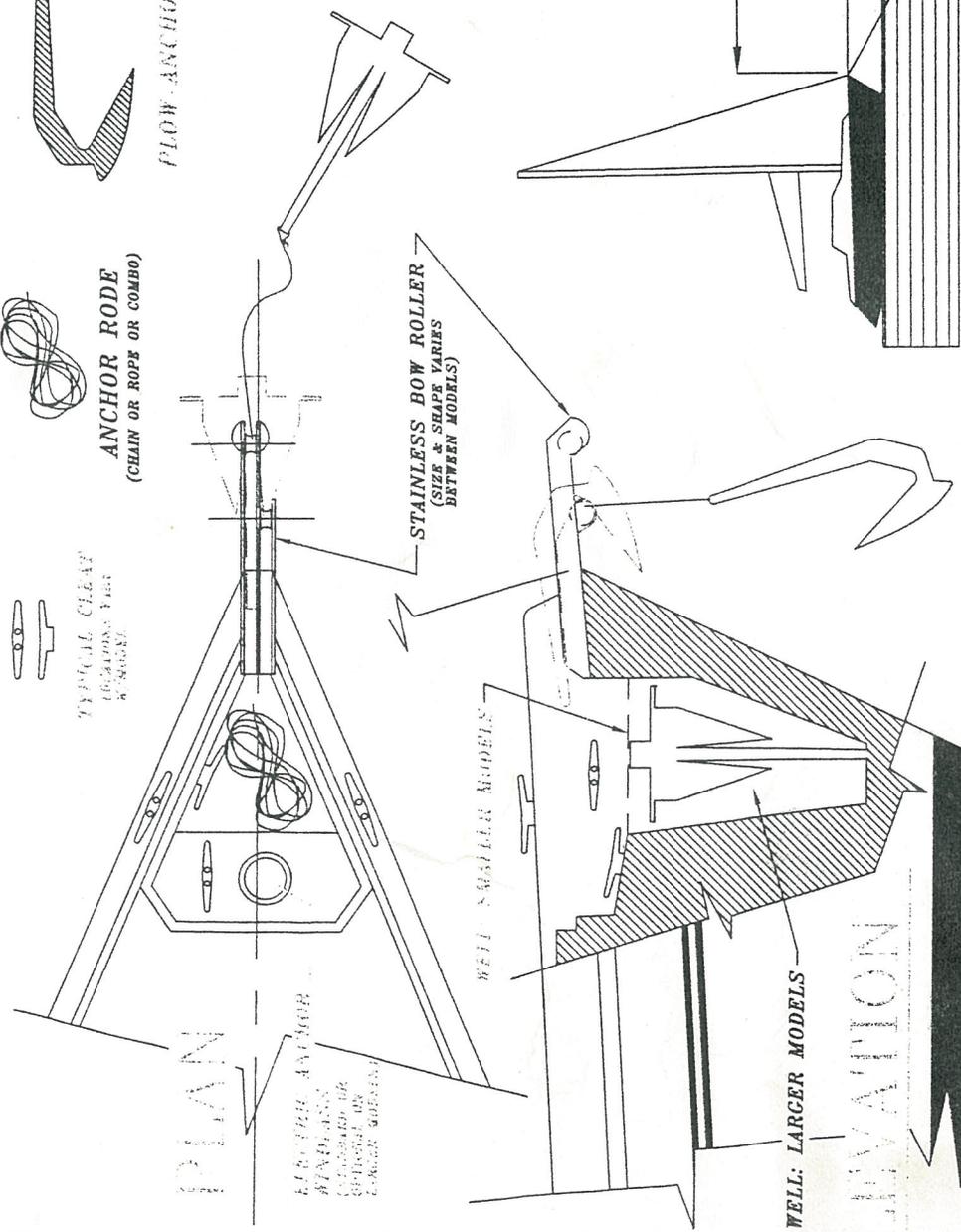
APPROVED BY: _____
 380 RUDDER & SHAFT DETAILS
 DRAWING NO. 3808088
 PARTS NO. NONE
 DATE 4/14/88
 ENGINEERING DEPT.
 HUNTER





GROUND TACKLES:

- 1.) BOW SHACKLE (W/PIN WIRED)
 • ANCHOR... FOL'D. BY...
- 2.) SWIVEL... FOL'D. BY...
- 3.) CHAIN (OPTION)... FOL'D. BY...
- 4.) D-SHAPED SHACKLE (W/PIN WIRED) • EA. 27M OF CHAIN OR • CHAIN TO ROPE RODE.



ANCHORING

HUNTERS

3808070	NONE
ENGINEERING DEPT.	1/7/99