HUNTER OWNER'S MANUAL

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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 where 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 Arrostook 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.

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 BLISTER 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, sandblasted, or suggested 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, re 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.

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 NW 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

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 quipment. Any questions regarding the meaning of terminology used in this manual may be referenced in your *Chapman's.*

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 counter-clockwise.
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 centerline.
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 case, 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 or 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.
Coaming: 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 *centerline.*
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.
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

GLOSSARY OF SAILING TERMS

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 or 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 boats *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 down.
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.
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

GLOSSARY OF SAILING TERMS

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 past of the bow to the aftermost part of the stern, excluding bowspirt, 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: 1, holes in the toe rail which allow water to drain off the deck; 2, drain cockpit through hull.

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 rope 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 rope 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 *lifelines.*

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.

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 timer at the bow, from the *keel* upwards, to which the planking is attached.

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

GLOSSARY OF SAILING TERMS

Stringer: a fore and aft *member*, fitted to rengthen 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, aused 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 ind felt when stationary, at anchor or on and.
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 *ratting.*
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 resultinhigh probabilityof death orirreparable injuryif proper precautions are not taken.

WARNING

Denotes a hazard exists which can result in injuryor death if proper precautons are not taken.

CAUTION

Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injuryor damage tothe craft orcomponents.

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
- Space 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 flotation 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 extinguishers are normally classified according to fire type. Be familiar with what type of fire extinguishers are on boards.

EXPLANATION OF SAFETY PRECAUTIONS

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 #

NAME AGE PHONE #

ADDRESS

4. Engine: TYPE H.P. FUEL CAPACITY

5. Safety Equipment: ☐ PFDs ☐ Flares ☐ Mirror ☐ Flashlight ☐ Food ☐ Water ☐ EPIRB ☐ 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 retuned 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 usuable 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.
- ☐ Cover windshield.

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. Typing up: Attached 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.

⚠ 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.

⚠ 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.

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.

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 advise. (*See Environmental Considerations - Fuel & Oil Spillage.*)**
- **Inspect fuel system regularly for leaks.**

⚠ 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. Keep fuel tank full.

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. Only on 340 and down.
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, life 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 lever 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: The H386 and below are equipped with an "engine stop" pull lever. When pulled all the way out, this will stop the engine at any time.

⚠ CAUTION

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

MOTORING YOUR DIESEL ENGINE

Before departure, remember to unplug the shore power. 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: Themetallic parts of your cable set are made to resist corrosion. In a 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, please 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 lever 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 that 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. Use tank gauge for filling. D.C. main should be turned on first.

To activate the water system,turn on D.C. main, 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 pump will also run if there is a leak.

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.

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.

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.

⚠ WARNING

SINKING HAZARD - To ensure the safety of your vessel, always disconnect shore water and power connections when leaving your boat unattended.

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, deck pumpout at dockside or Macerator Pump. 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

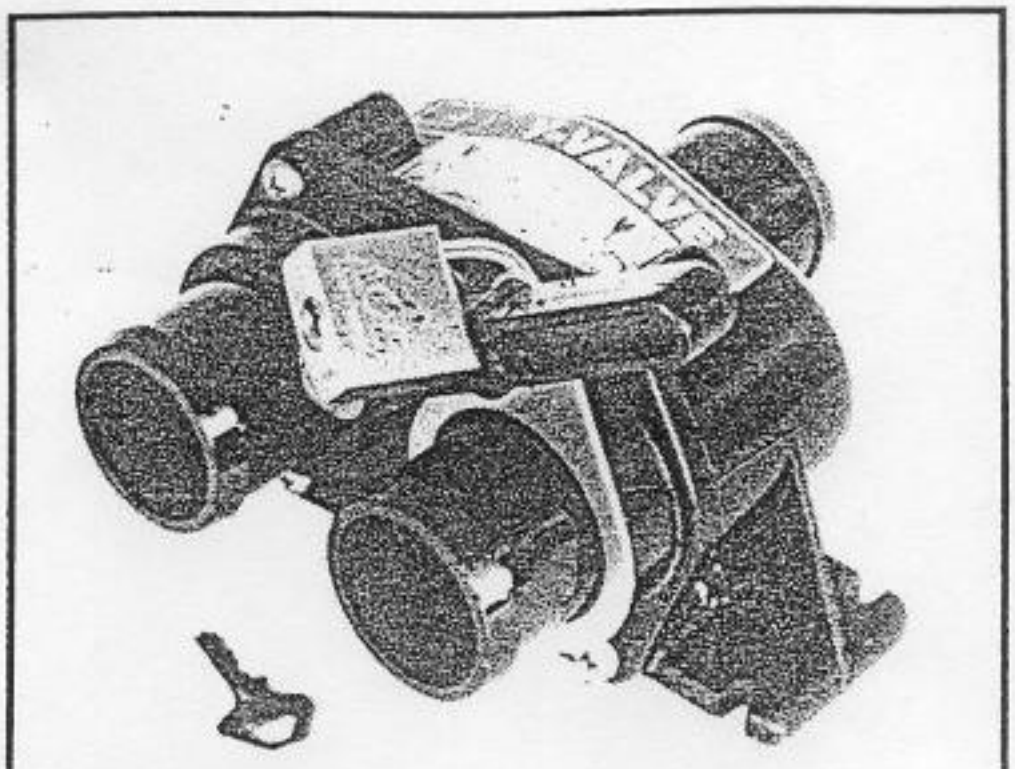
TWO POSITION Y-VALVE

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)



Padlock not included

Model 45510-1000

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.)

INSTALLATION

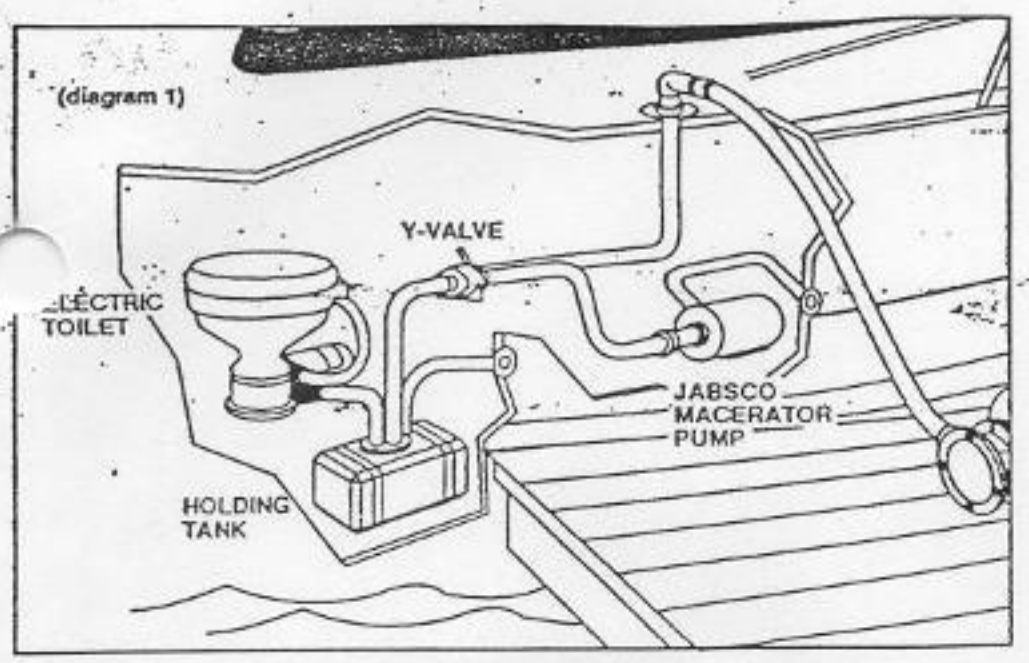
Lay out the system that the Y-Valve will be installed in so that all hoses can be installed without sharp bends, kinks or loops that trap fluids. After choosing a convenient, accessible location for the Y-Valve, be sure that there is adequate room to swing the selector lever. Mark locations for mounting 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.

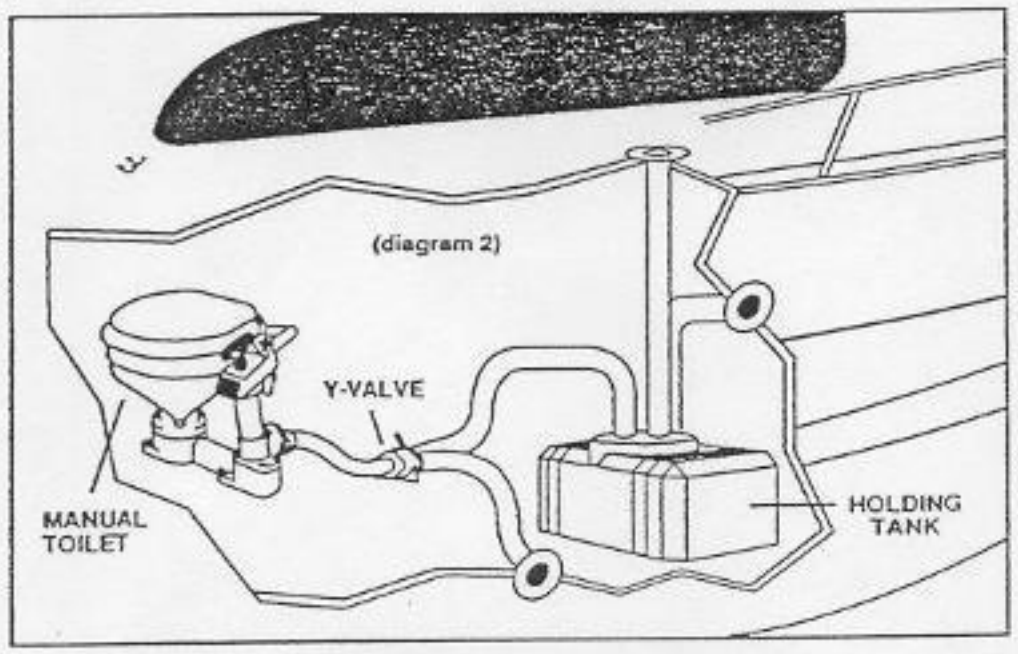
It is recommended that all hoses used in waste systems should be the heavy, non-collapsible fabric reinforced hose. Vacuum cleaner type hose and vinyl hoses will collapse under the vacuum of a dockside pumpout system, or will allow sewer gas to permeate into the boat. All hoses should be double clamped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

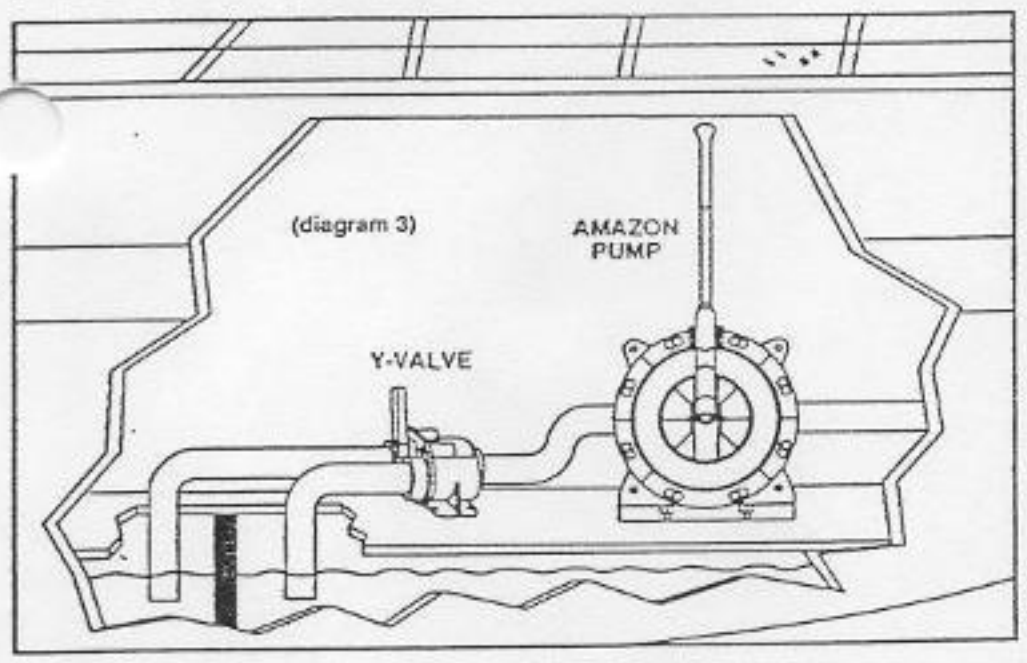
OPERATION

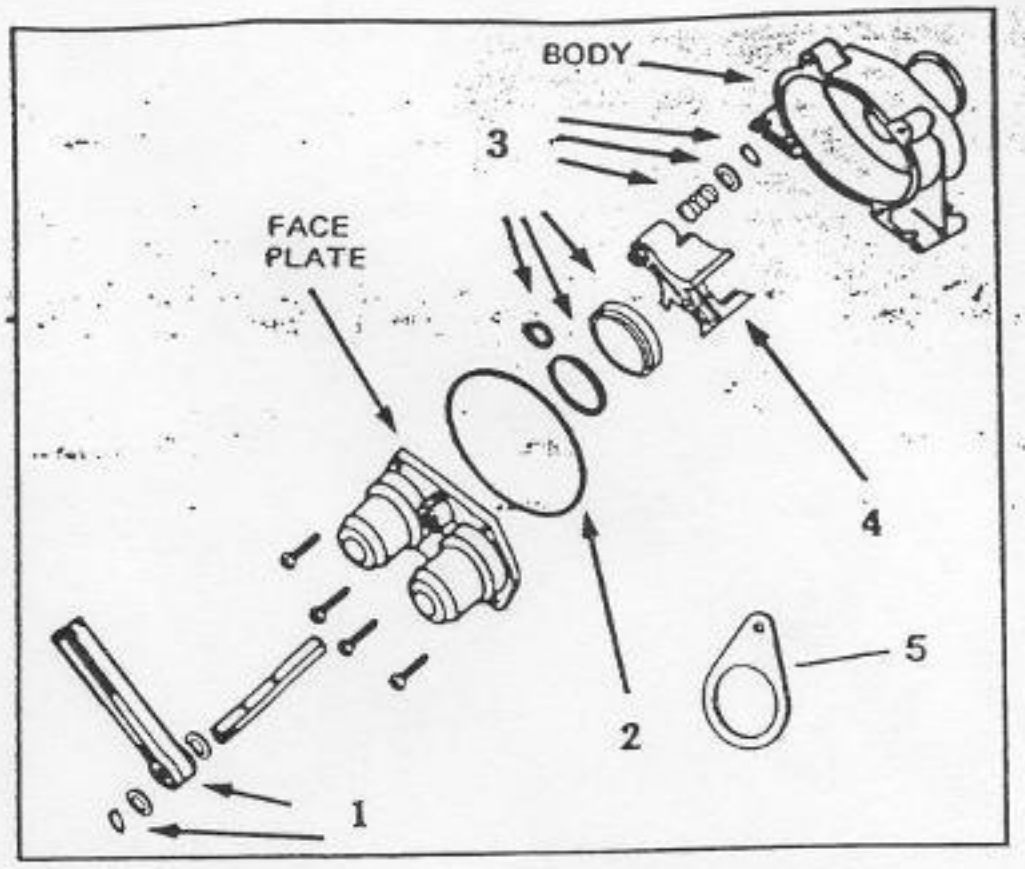
The Y-Valve is designed with a simple and positive diverter mechanism. When choosing the discharge hose system to use, simply orient the selector lever on the Y-Valve over the hose desired to be open to flow. When selecting the particular hose for flow, be sure that the lever is securely positioned against 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
nit of ITT Fluid Technology Corporation
.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

Form 43000-0589 Rev. 1/96

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 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.

⚠ 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:

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.

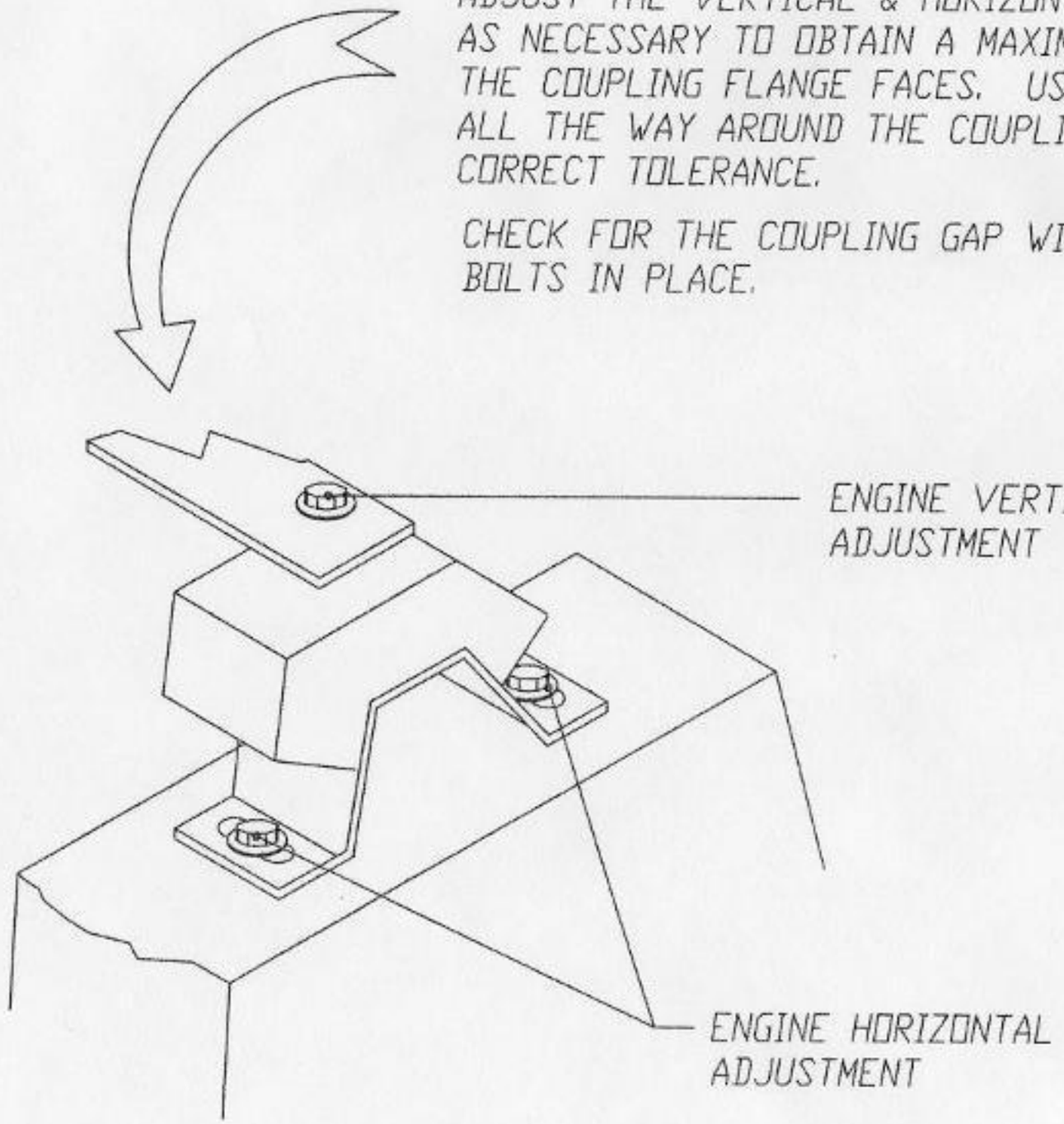
STUFFING BOX

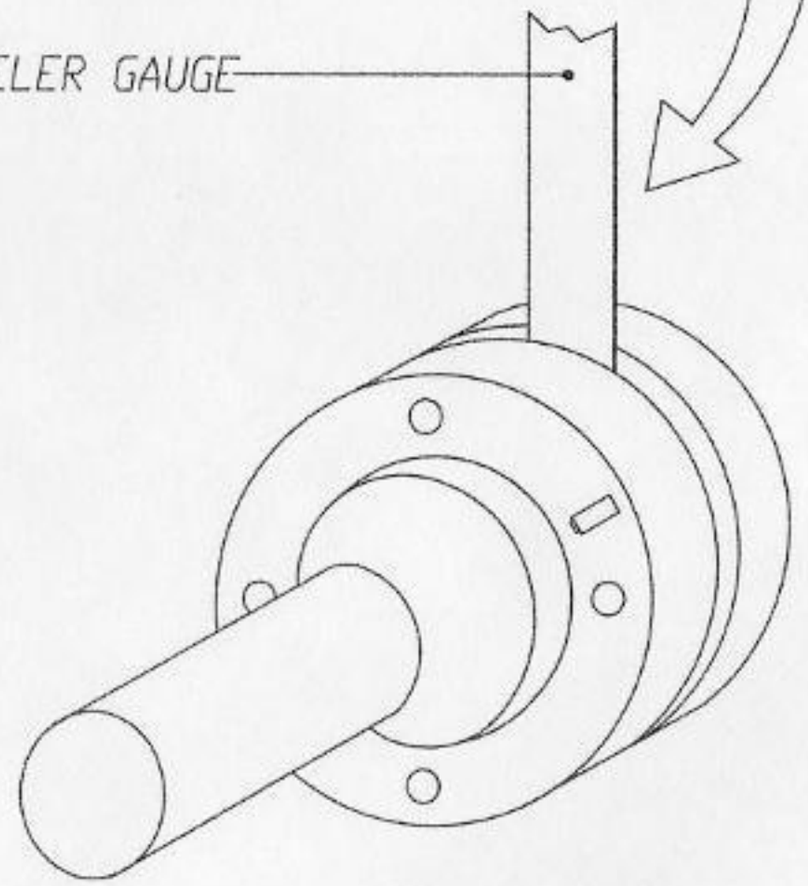
The stuffing box is held to the stern bearing by a rubber hose secured with hose clamps. (See the Shaft and Propeller section) The clamps should be tight and no water should leak from this location. While underway a slight drip from the stuffing box at the shaft exit is necessary (three to five drops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





DRAWING TITLE: STANDARD ALIGNMENT DIAGRAM FOR INBOARD ENGINES	
DRAWING NO. 3808026	REVISION NO. NONE
DRAWN BY: ENGINEERING DEPT.	DATE: 10/22/98

HUNTER

MAINTENANCE

STEERING

Refer to the manufacturer's instruction for maintaining pedestal steering system. Routinely inspect steering system components.

⚠ 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 120v or 220v. 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 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.

MAINTENANCE

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.

MAINTENANCE

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 filter 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 was 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.

MAINTENANCE

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 tot he boom, left and right, in about 18-9n. (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.

! CAUTION

DO NOT USE ACETONE OR OTHER HARSH SOLVENTS TO CLEAN THE VINYL SOFT HEADLINER. USE A MILD DETERGENT WITH WATER.

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

Interior Furniture & Bulkhead Spray Finish

Teak is a high quality, extremely durable wood with high oil content. In order to protect the original beauty of your teak interior, we have sealed it with a 3 - 4 coat spray finish using a sealer and varnish manufactured expressly for marine cabinets by Chemcraft International Inc. This material will seal and protect the wood from moisture and weathering. The ease of maintenance can also help reduce labor and time expenditures.

Maintenance

When oiled surfaces require renewing, simply wipe the surface area free of loose dirt, dust, or other contaminants. Dampen a cloth with teak oil and apply to surface. Let stand for 5-15 minutes, and then polish dry. If your dinette table has an epoxy finish, then simply clean with furniture polish.

Repairs

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

1) Use 320 grit sandpaper to smooth out the rough spots, sanding with the grain. If raw wood is exposed, wipe the spot with a rag (100% cotton) and 99% isopropyl alcohol. *(Note: alcohol only needs to be applied to raw teak)*

2) Reseal raw wood with Mohawk spray sealer (aerosol can) and allow to dry.

3) Lightly sand with 320 grit sandpaper, including the area immediately surrounding the area of repair.

4) Wipe clean of dust and dirt with a clean dry rag.

5) Using Mohawk clear lacquer spray (aerosol can), apply one even coat to the area and allow to dry.

6) Steps 3-5 may be repeated as many times as needed to bring damaged area back to its original finish. Upon your final spraying be sure to "feather" into existing finish.

CHEMCRAFT INTERNATIONAL
Tel. 910.723.1846
800.334.8556

MOHAWK FINISHING PRODUCTS, INC.
Tel. 800.545.0047

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

Venting 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 seacock, remove the raw water pick up hose from the raw water pump and immerse 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 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 seacock, 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 seacock 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 belts to lessen tension 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 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. 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 seacocks 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.

HUNTER

DESCRIPTION: *LIGHTNING WARNING*

PROGRAM NO.

DRAWING NO.

SCALE:

DRAWN BY:

LIGHTNING STORM WARNING:

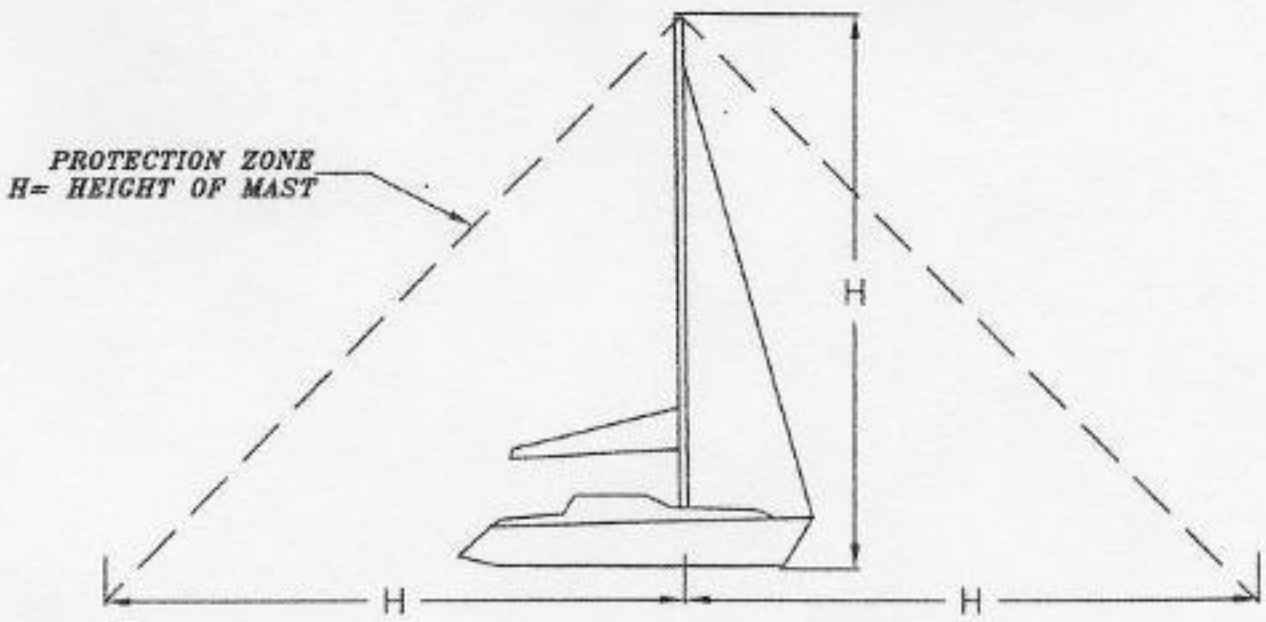
1. ALL WHIP ANTENNAS SHOULD BE TIED DURING STORM, UNLESS PART OF THE LIGHTNING PROTECTION SYSTEM.

2. PRECAUTIONS: DURING LIGHTNING STORMS: A. THE SHIPS OCCUPANTS SHOULD TAKE SHELTER INSIDE A CLOSED AREA OF THE BOAT. EXAMPLE: BELOW DECK. B. OCCUPANTS SHOULD NOT HAVE ANY BODY PARTS IN THE WATER. C. AVOID CONTACT WITH ANY COMPONENTS OF THE L.P.S. SYSTEM. AND D. AVOID ALL CONTACT WITH ANY METAL OBJECTS.

3. SEE DIAGRAM BELOW FOR INFORMATION ON THE LIGHTNING PROTECTION ZONE.

4. IF LIGHTNING SHOULD STRIKE THE SHIP, INSPECT ALL ELECTRONICS, ELECTRIC GEAR, COMPASS AND L.P.S. SYSTEM FOR POSSIBLE DAMAGE. RECALIBRATE AS NECESSARY. NOTE: BEGIN CHECKING ELECTRONICS <u>AFTER</u> THE THREAT OF LIGHTNING HAS PASSED.

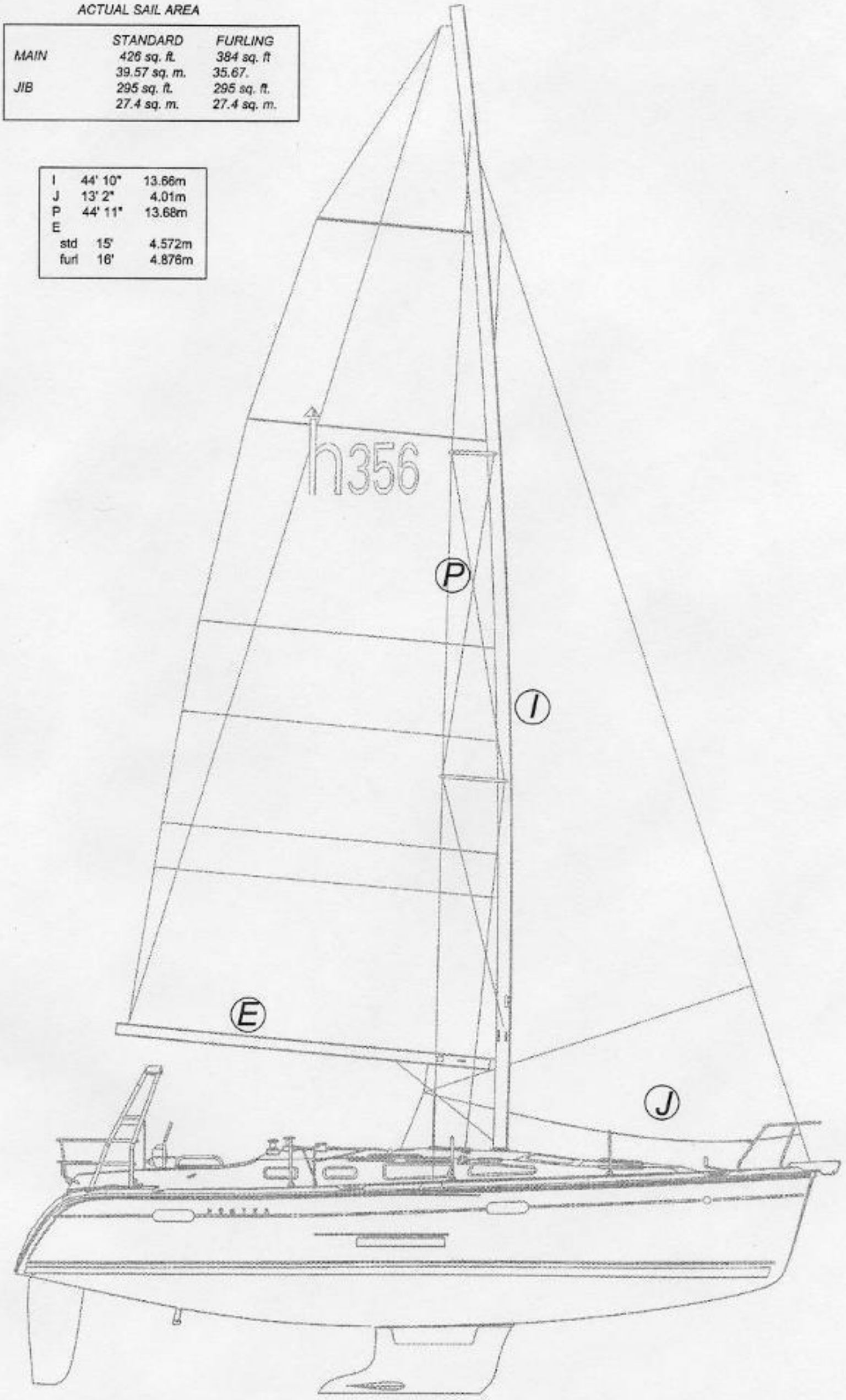
<u>FAILURE TO FOLLOW PRECAUTIONS MAY RESULT IN SEVERE INJURY OR DEATH</u>



ACTUAL SAIL AREA

	STANDARD	FURLING
MAIN	426 sq. ft.	384 sq. ft
	39.57 sq. m.	35.67.
JIB	295 sq. ft.	295 sq. ft.
	27.4 sq. m.	27.4 sq. m.

I	44' 10"	13.66m
J	13' 2"	4.01m
P	44' 11"	13.68m
E		
std	15'	4.572m
furl	16'	4.876m



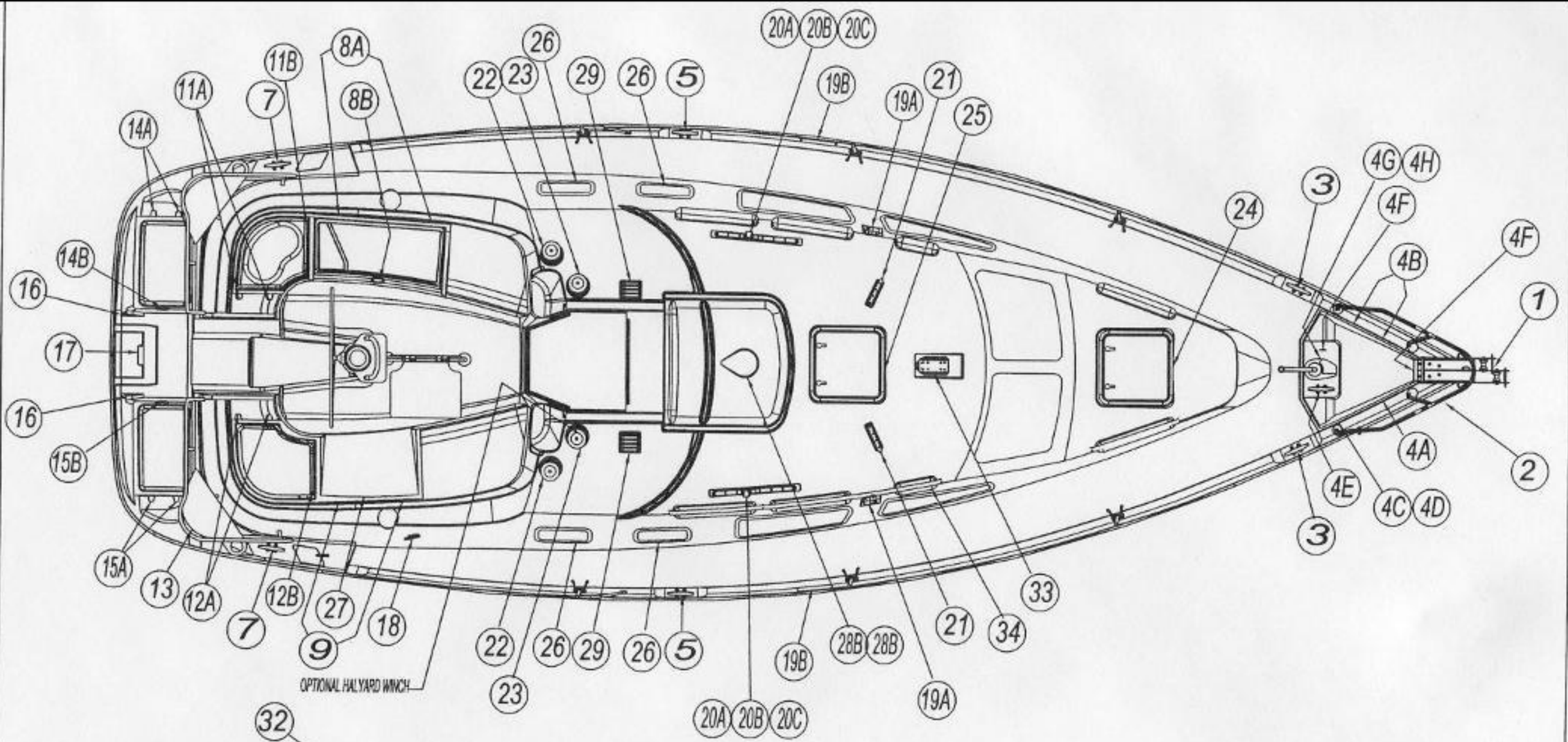
SAILPLAN

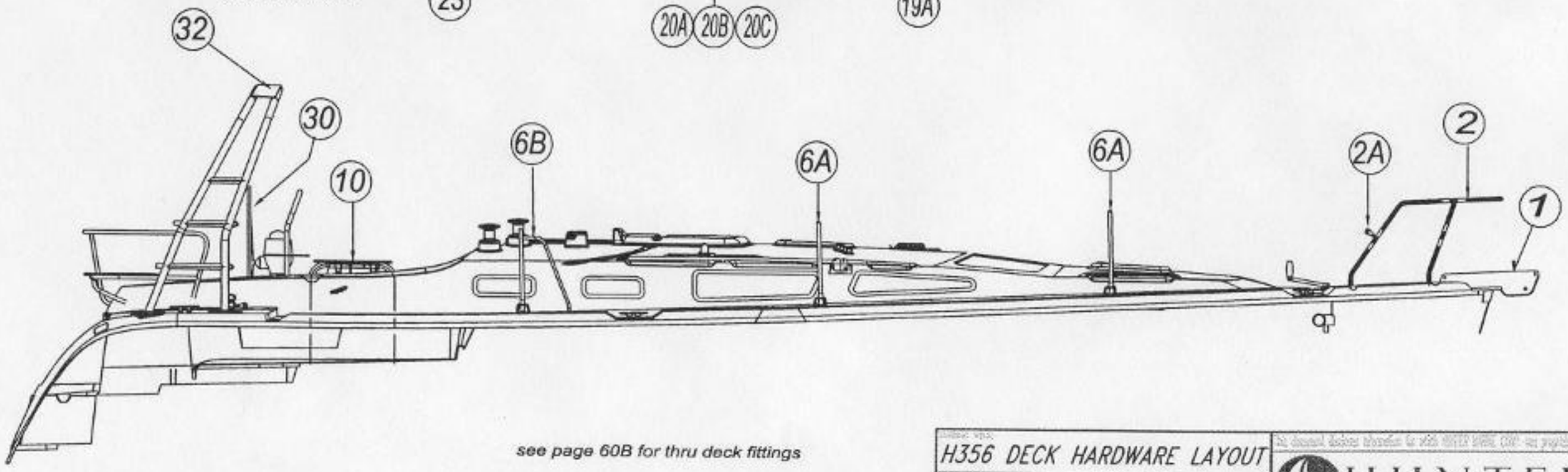
HUNTER

35680J6	NONE
ENG	8/10/01

H356 DIMENSIONS, CAPACITIES, ETC.

LENGTH OVERALL (LOA)	35' 06"	10.82m
HULL LENGTH	34' 06"	10.51m
LENGTH OF WATERLINE (LWL)	30" 07"	13.72 m
BEAM (MAX)	12' 0"	3.66 m
DRAFT		
* SHOAL	5'	1.52 m
* DEEP	6' 5"	2.08 m
DISPLACEMENT	13,900 lbs.	6,318 kg
BALLAST (LEAD KEEL)		
* SHOAL	5064 lbs.	2297kg
* DEEP	5023 lbs.	2278 kg
MAST HEIGHT (FROM WATERLINE)	55' 03"	16.85 m
SAIL AREA (ACTUAL)		
* STANDARD	721 sq. ft.	219.76 sq. m.
* FURLING	679 sq. ft.	206.96 sq. m.
SA/DISP	22.24	
DISPLACEMENT LENGTH (X 100)	211	
I	44' 10 "	13.66m
J	13' 2"	4.01 m
P	44' 11"	13.69m
E		
* STANDARD	15' 0"	4.57m
* FURLING	16' 0"	4.88m
BERTHS	SLEEPS 7	
HEADROOM	6' 05"	1.96 m
FUEL TANK CAPACITY	37 US gal.	140 liters
WATER CAPACITY	75 U.S. gal.	284 liters
WATER HEATER	6 U.S. gal.	23 liters
HOLDING TANK CAPACITY	30 U S gal.	113.5 liters
LPG TANK CAPACITY(SPARE OPT.)	4 lbs.	1.8 kg
BATTERY CAPACITY	recommended: GROUP 27 100AMP (2)	
INBOARD ENGINE	27 hp	
LIFTING POINTS	INDICATED BY "SLING" LABELS ON HULL	





see page 60B for thru deck fittings

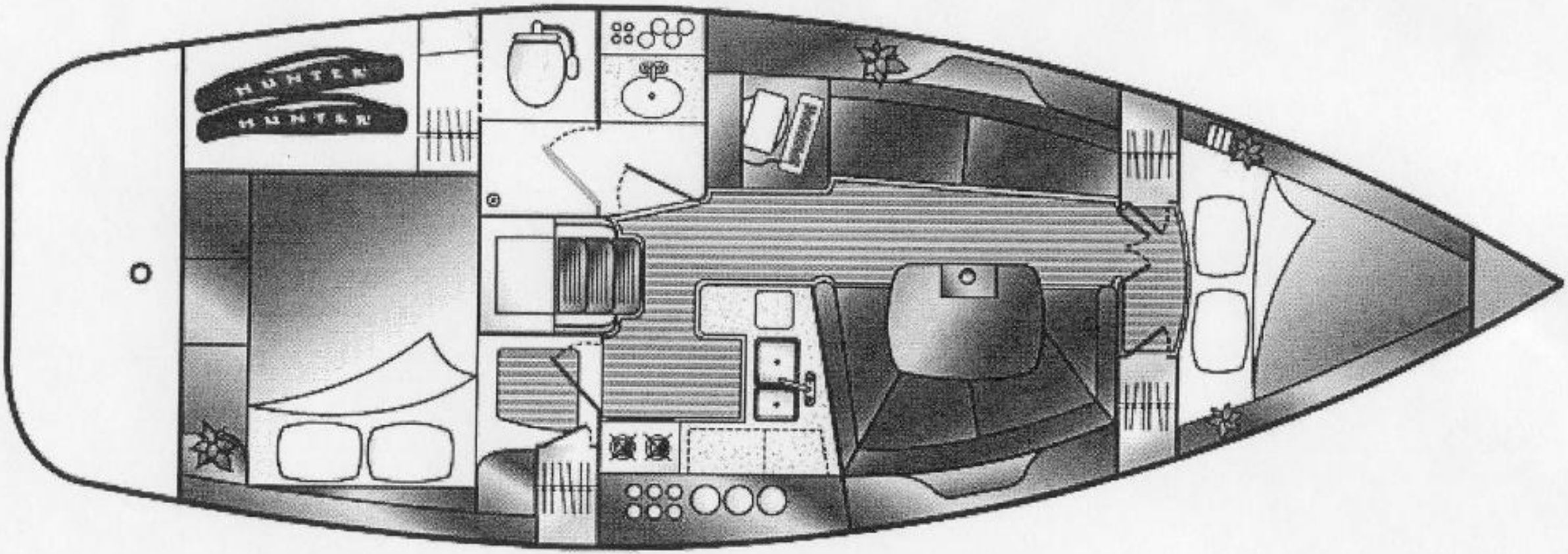
H356 DECK HARDWARE LAYOUT

3568038	NONE
ENG	

HUNTER

H356 DECK HARDWARE LIST

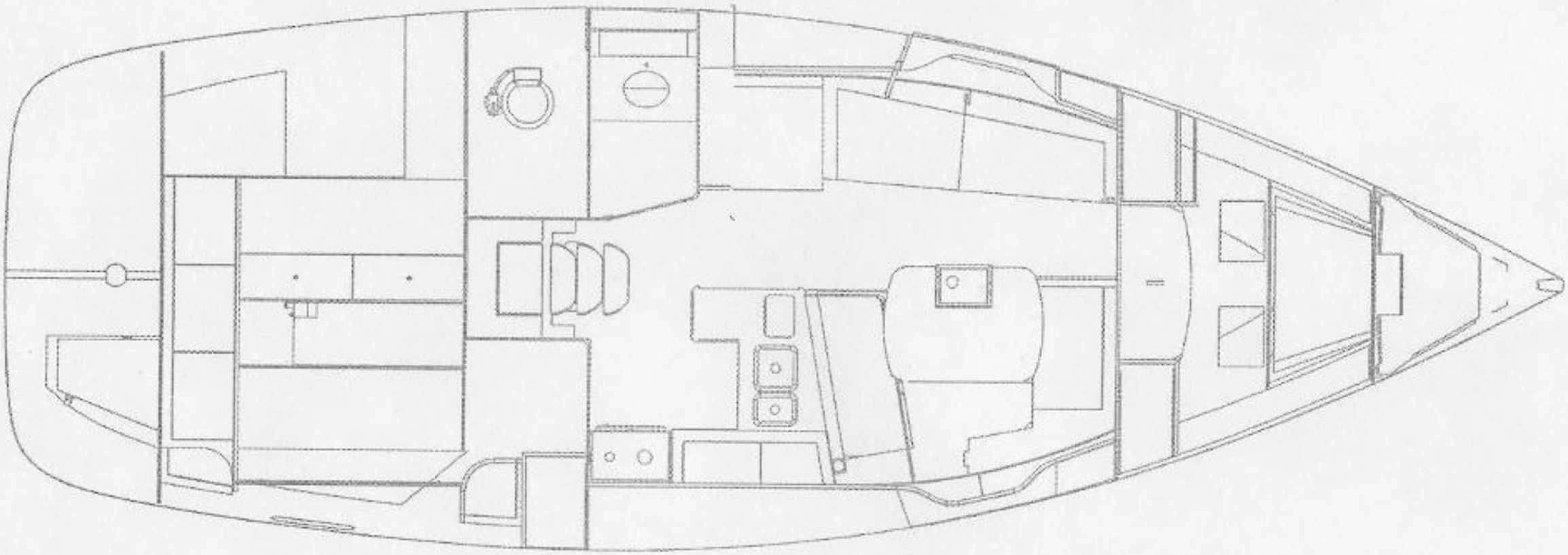
ITEM	QTY.	U.O.M.	PART NUMBER	DESCRIPTION
1	1	EA.		ANCHOR ROLLER
2	1	EA.		BOW RAIL
2A	1	EA.		JIB LINE LEAD BLOCK
3	2	EA.		FWD. DECK MOORING CLEAT
4A	1	EA.		ANCHORWELL LID
4B	2	EA.		HINGES
4C	1	EA.		ANCHOR WELL STRIKER PLATE
4D	1	EA.		ANCHORWELL HANDLE
4E	1	EA.		ANCHOR CLEAT
4F	1	EA.		ANCHORWELL U-BOLT W/NUTS
4G	1	EA.		ANCHOR WINDLASS
4H	1	EA.		ANCHOR CHAFE GUARD
5	2	EA.		MID-SHIP MOORING 4-HOLE CLEAT
6A	4	EA.		STANCHION W/BASE #3
6B	2	EA.		GATE STANCHION W/BASE #3
7	2	EA.		AFT MOORING 4-HOLE CLEATS
8A	2	EA.		HINGES
8B	1	EA.		PUSH BUTTON LATCH
9	2	EA.		HINGES
10	1	EA.		COCKPIT TABLE
11A	2	EA.		HINGES
11B	1	EA.		ANCHOR CHAFE GUARD
12A	2	EA.		HINGES
12B	1	EA.		ANCHOR CHAFE GUARD
13	2	EA.		STERN RAILS W/ SEATS
14A	2	EA.		HINGES
14B	1	EA.		PUSH BUTTON LATCH
15A	2	EA.		HINGES
15B	1	EA.		PUSH BUTTON LATCH
16	2	EA.		SWIM PLATFORM HANDRAIL
17	1	EA.		SWIM LADDER
18	1	EA.		5" CLEATS
19A	2	EA.		VERTICAL CHAINPLATES
19B	2	EA.		LOWER CHAINPLATES
20A	2	EA.		TRACK END STOPS
20B	2	EA.		LEAD BLOCKS
20C	2	EA.		GENOA TRACK
21	2	EA.		QUAD ORGANIZER
22	2	EA.		WINCH 40 CST
23	2	EA.		WINCH 30 CST
24	1	EA.		HATCH COASTLINE SIZE 60
25	1	EA.		HATCH COASTLINE SIZE 60
26	4	EA.		HATCH COASTLINE SIZE 3
27	1	EA.		HATCH, WHITE MOLDED
28A	1	EA.		DORADE, DECK PLATE
28B	1	EA.		VENT, DORADE
29	2	EA.		SHEETSTOPS XA4
30	1	EA.		STEERING SYSTEM
31	1	EA.		EMERGENCY TILLER
32	1	EA.		ARCH
33	1	EA.		MAST STEP BASE PLATE
34	4	EA.		HANDRAIL



ACCOMODATION LAYOUT

3568040A	NONE
ENG	

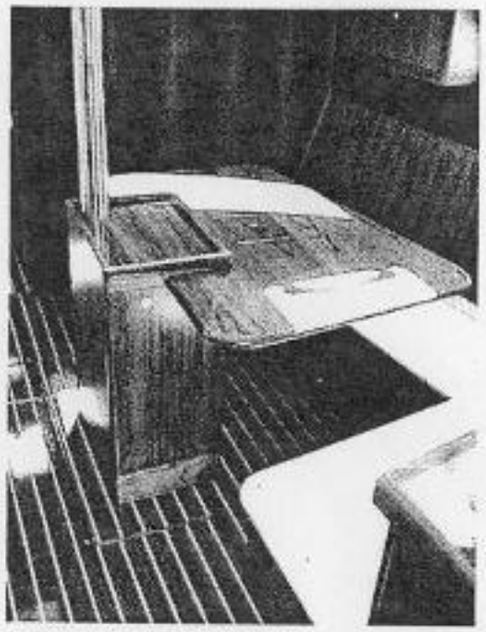
HUNTER



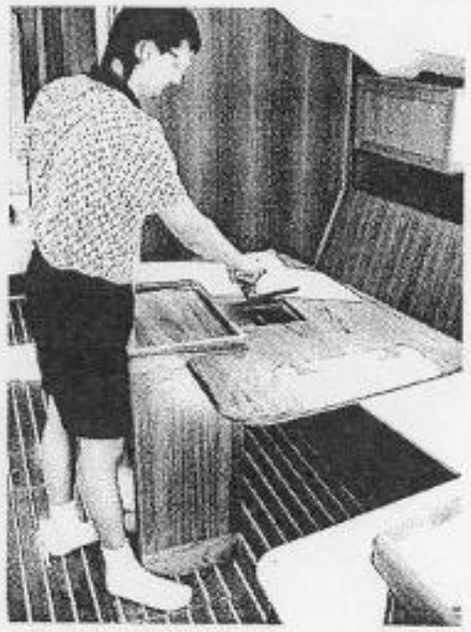
PAGE 40B

INTERIOR LAYOUT	
3568040B	NONE
ENG	

HUNTER



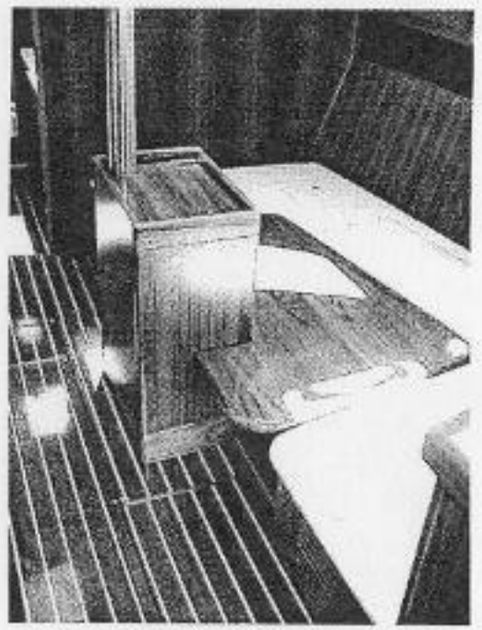
1 *DINETTE TABLE IN 'UP' POSITION*



2 *REMOVE STORAGE BOX LID*

3 *WHILE HOLDING HANDLE IN STORAGE BOX LID, RELEASE BOLT LOCATED UNDER THE AFT END OF THE TABLE*

4 *SWITCH HANDS SO YOU CAN RELEASE FORWARD BARREL BOLT, AND SLOWLY LOWER TABLE UNTIL IT RESTS ON SETTEE TOP.*

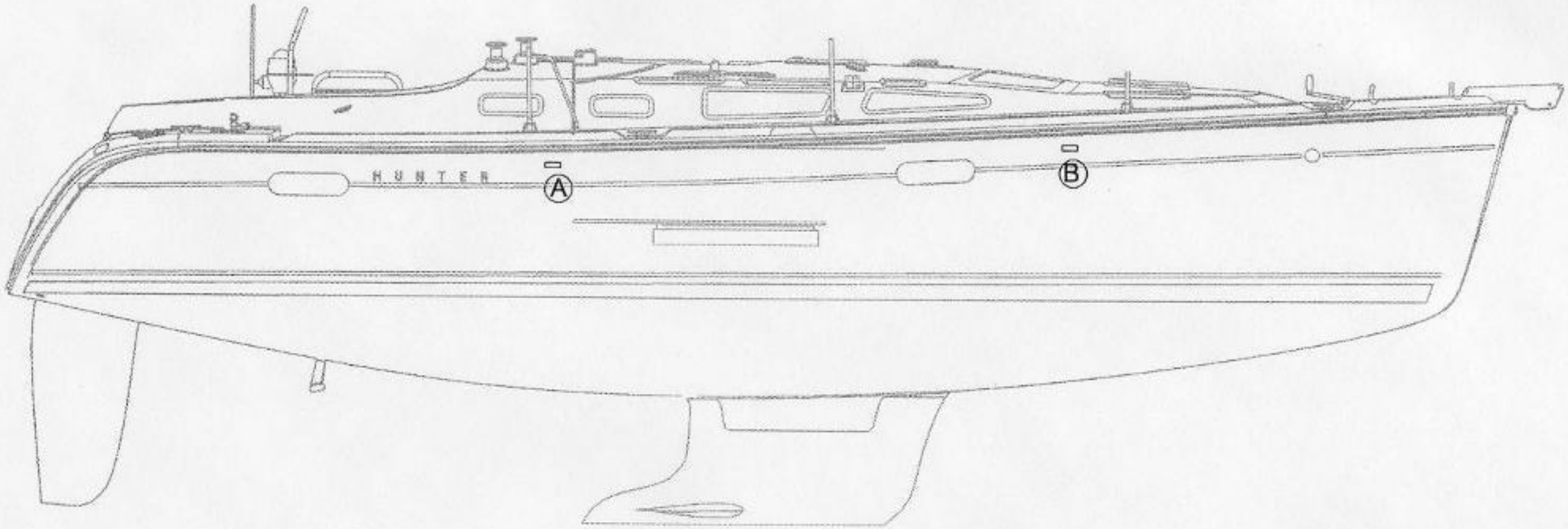


5 *TABLE IN 'DOWN' POSITION*

PAGE 41A

DINETTE TABLE OPERATION	
3568041A	NONE
ENG	8/17/01

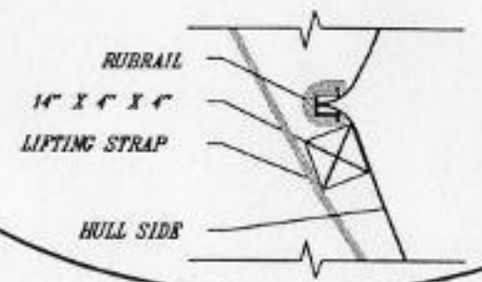
HUNTER



A AFT LIFTING POINT (INDICATED BY DECAL) PLACEMENT IS BETWEEN WINDOWS SO AS TO ALIGN WITH INTERIOR STRUCTURAL SUPPORT PROVIDED BY BULKHEAD. ALSO BE SURE YOU ARE WELL FORWARD OF PROP SHAFT

B FWD LIFTING POINT (INDICATED BY DECAL) PLACEMENT IS FWD OF WINDOWS SO AS TO ALIGN WITH INTERIOR STRUCTURAL SUPPORT PROVIDED BY FWD SALON BULKHEAD.

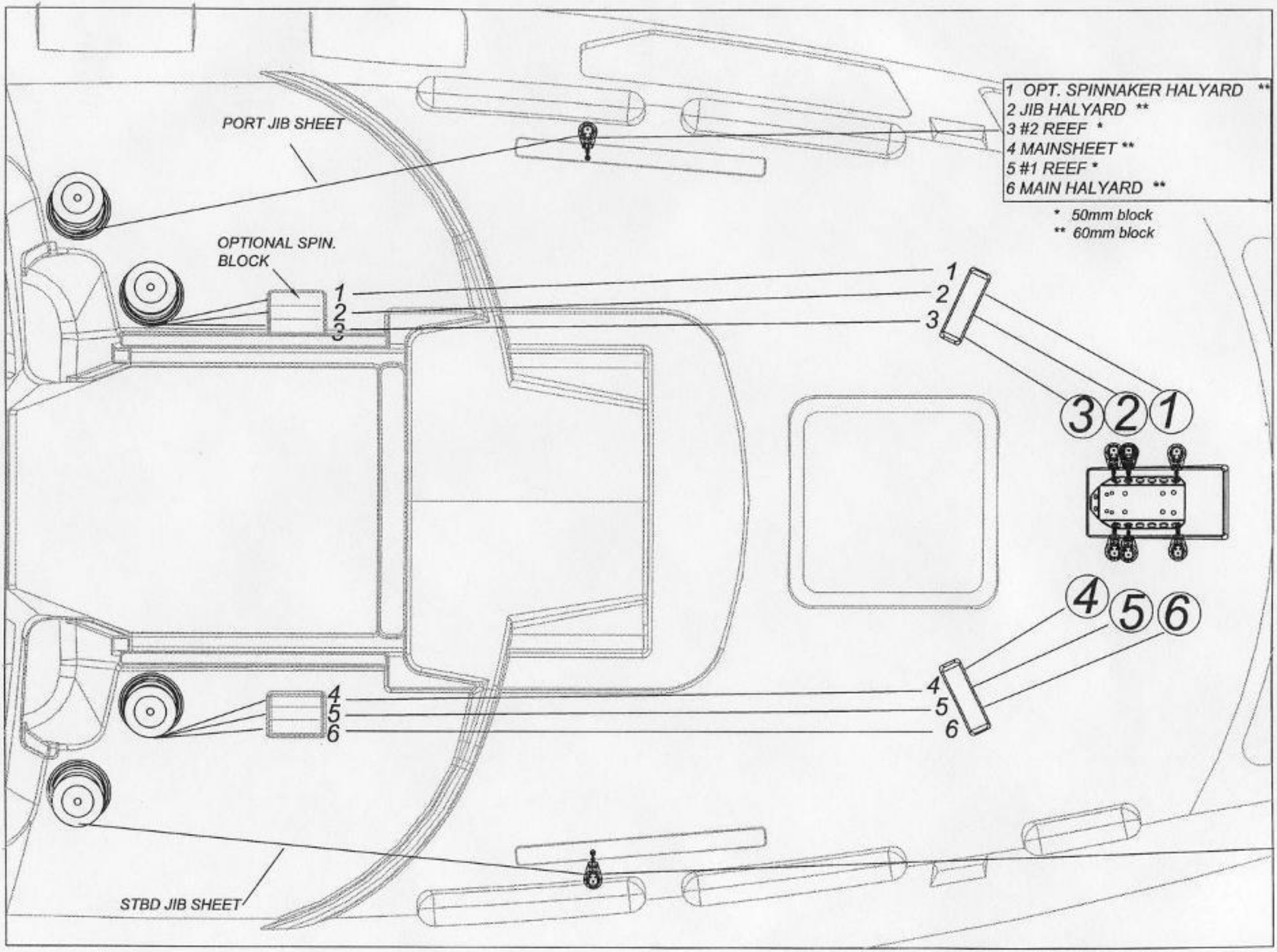
NOTE: TO AVOID DAMAGING THE RUBRAIL WHEN LIFTING THE BOAT, A 14" PIECE OF 4" X 4" WOOD SHOULD BE PLACED IN BETWEEN THE LIFTING STRAP AND THE HULL, JUST BELOW THE RUBRAIL



LIFTING POINTS LOCATIONS

3568041B	NONE
ENG	

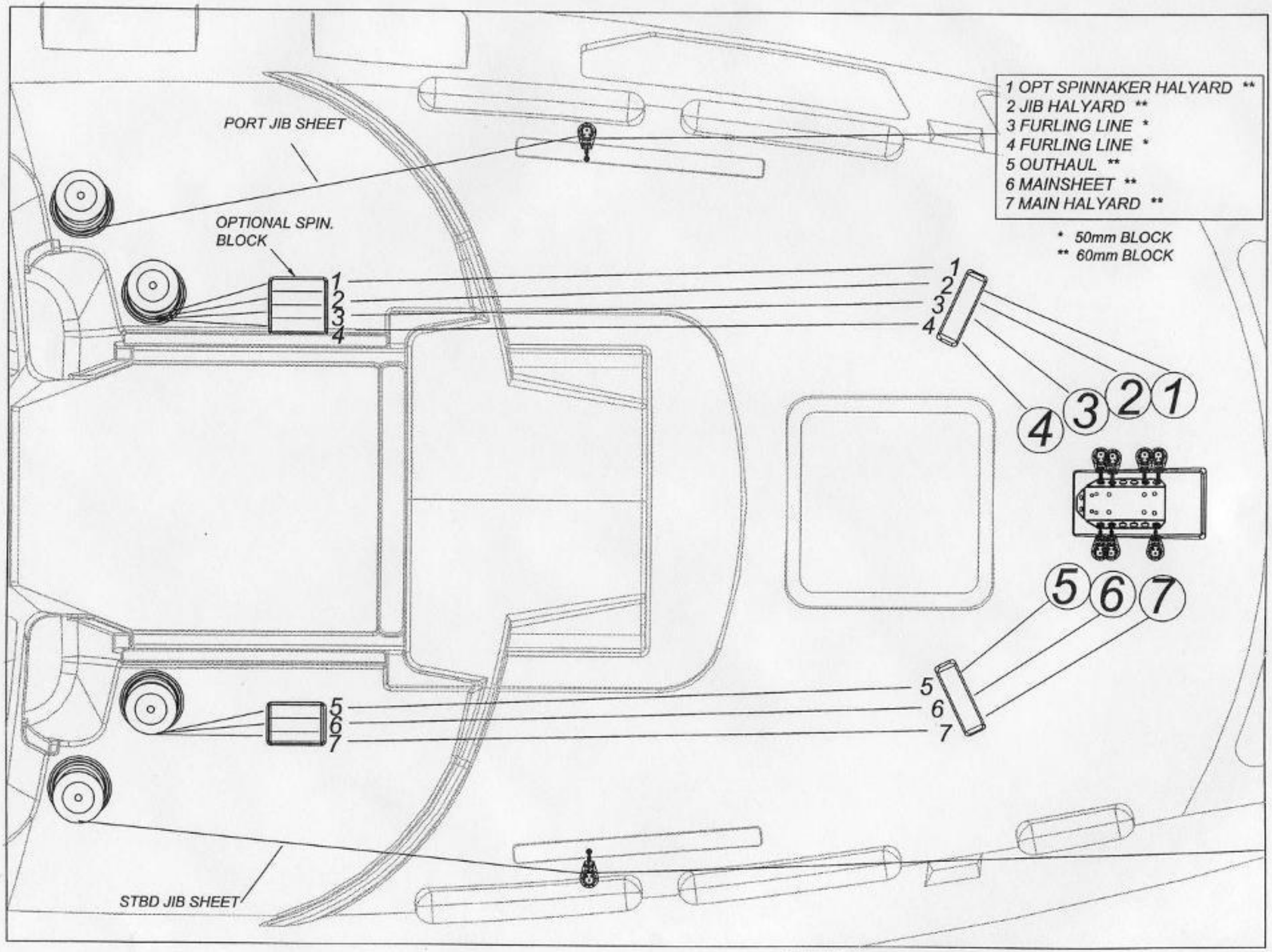
HUNTER



H356 STD RUNNING RIGGING

3568042A-1	NONE
ENG	6/18/01

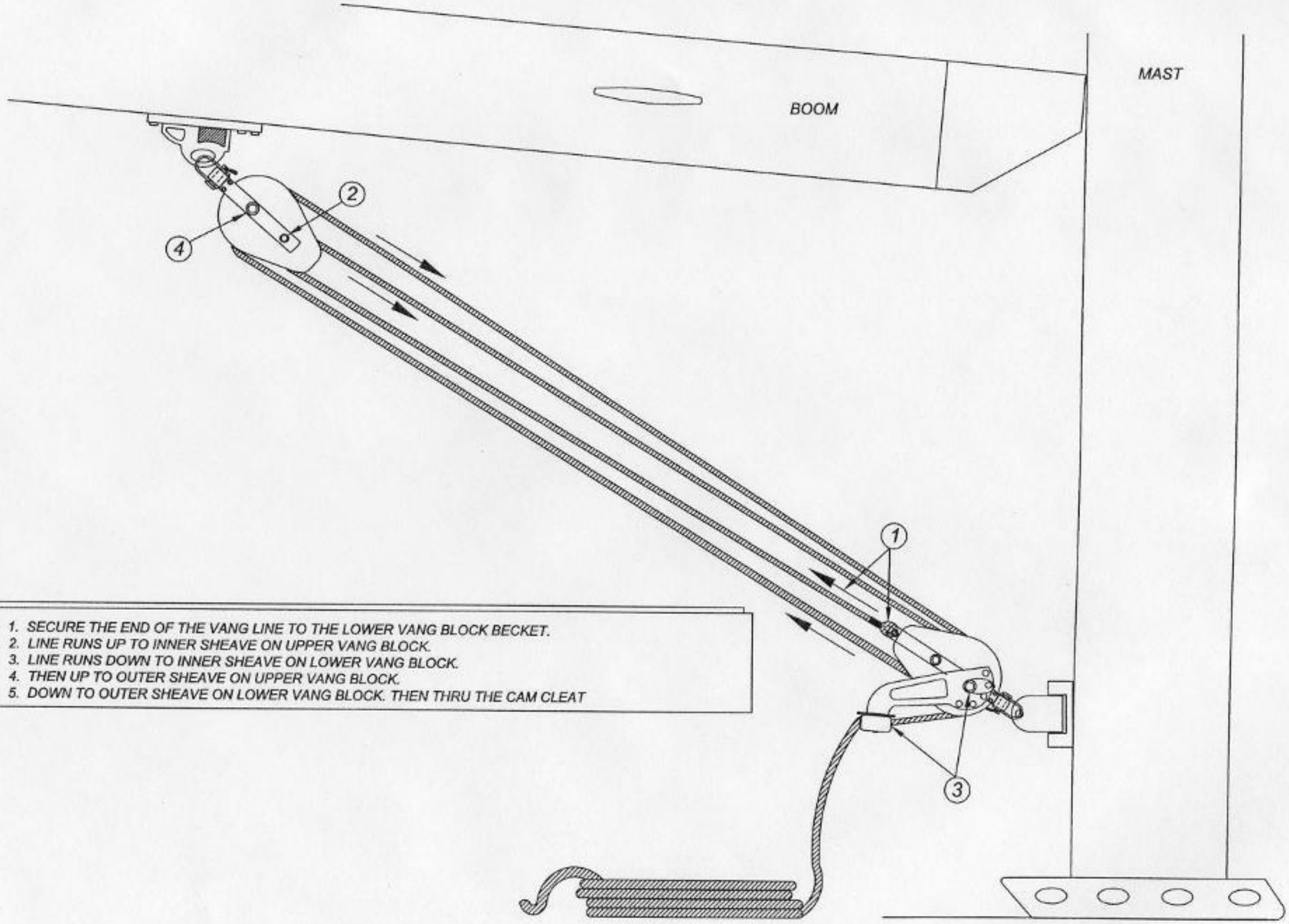
HUNTER



H356 FURLING RUNNING RIGGING

DRAWING NO.	REVISION NO.
3568042A-2	NONE
DRAWN BY	DATE
ENG	7/23/01

HUNTER



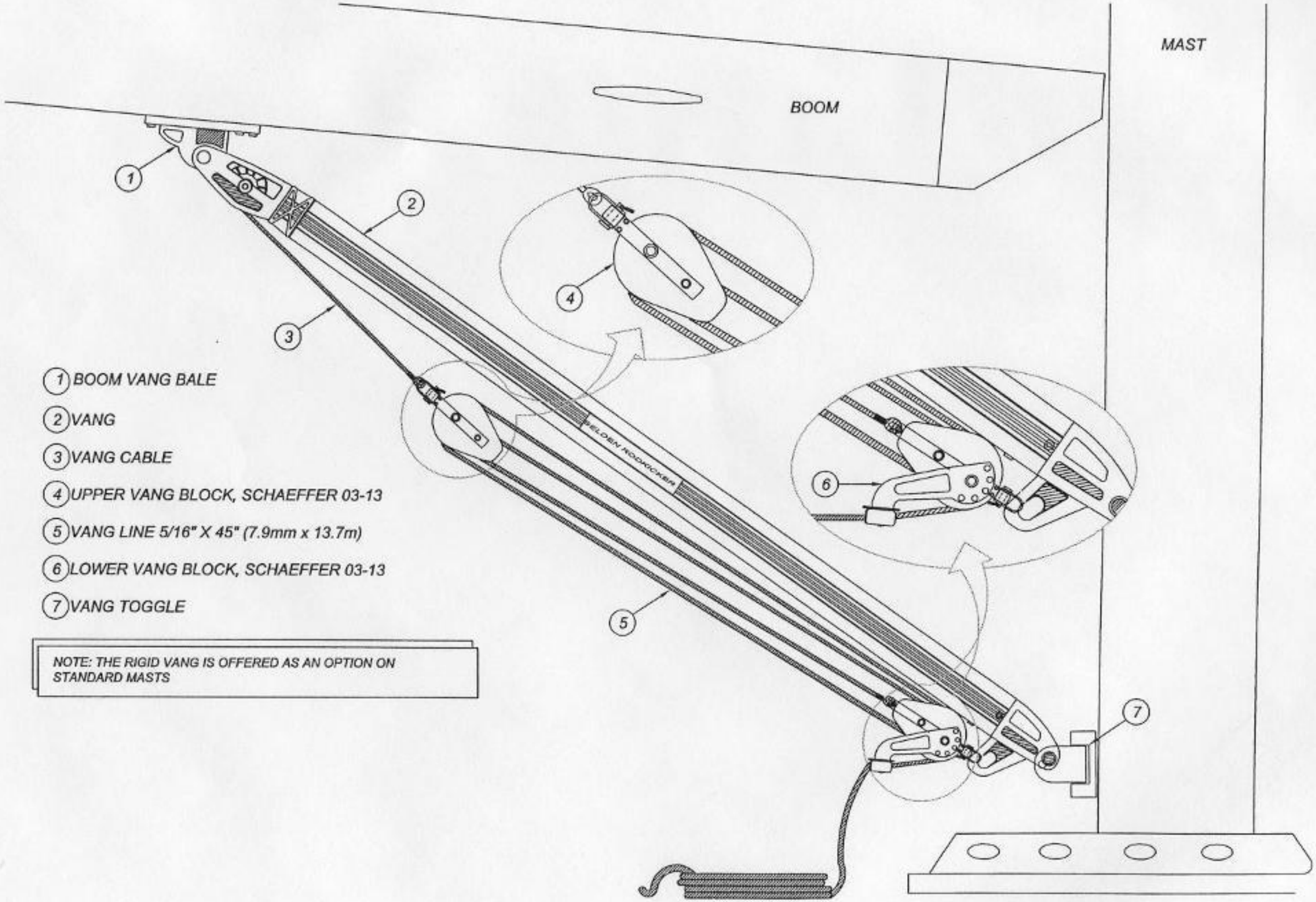
1. SECURE THE END OF THE VANG LINE TO THE LOWER VANG BLOCK BECKET.
2. LINE RUNS UP TO INNER SHEAVE ON UPPER VANG BLOCK.
3. LINE RUNS DOWN TO INNER SHEAVE ON LOWER VANG BLOCK.
4. THEN UP TO OUTER SHEAVE ON UPPER VANG BLOCK.
5. DOWN TO OUTER SHEAVE ON LOWER VANG BLOCK. THEN THRU THE CAM CLEAT

PAGE 42B

ROPE VANG DETAILS (STD)

3568042B	NONE
ENG	

HUNTER



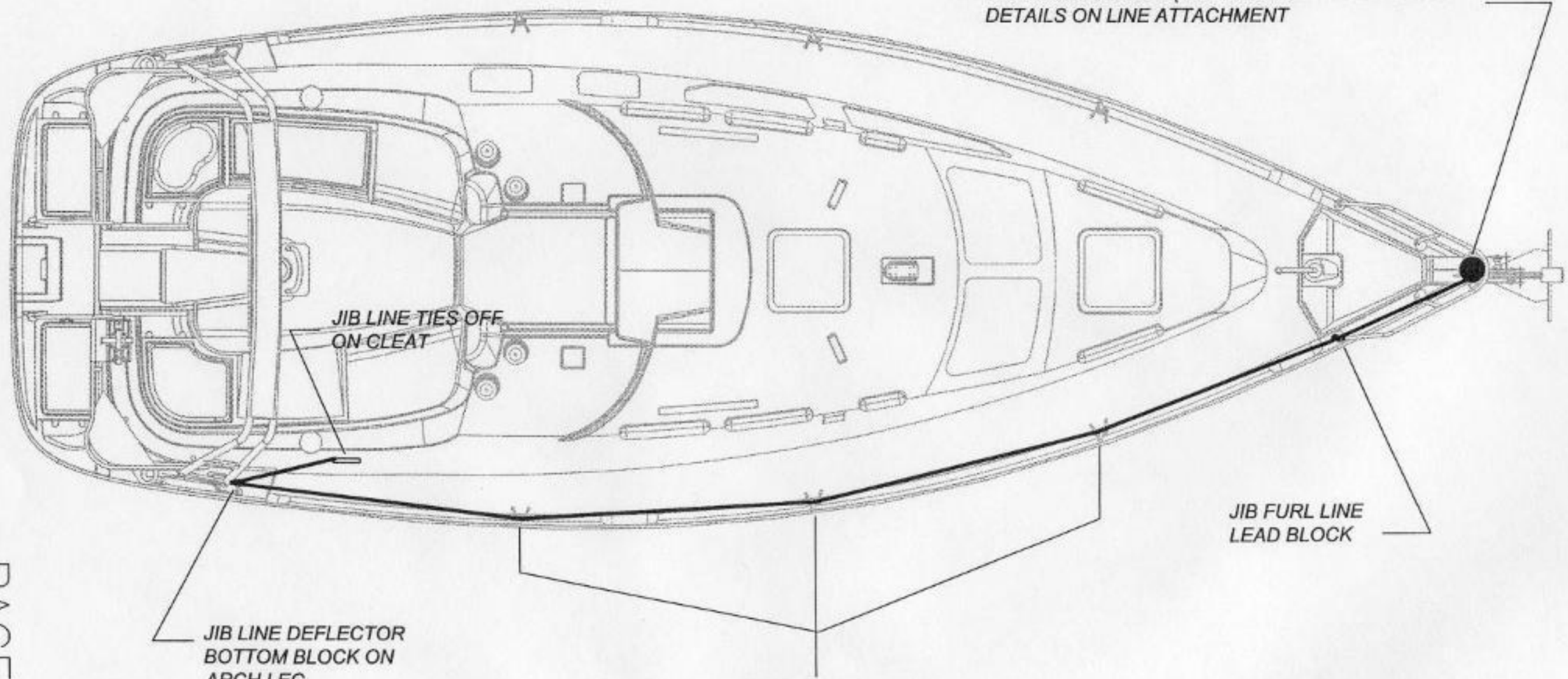
1. BOOM VANG BALE
2. VANG
3. VANG CABLE
4. UPPER VANG BLOCK, SCHAEFFER 03-13
5. VANG LINE 5/16" X 45" (7.9mm x 13.7m)
6. LOWER VANG BLOCK, SCHAEFFER 03-13
7. VANG TOGGLE

NOTE: THE RIGID VANG IS OFFERED AS AN OPTION ON STANDARD MASTS

RIGID VANG (FURLING OPTION)

3588042C	NONE
ENG	

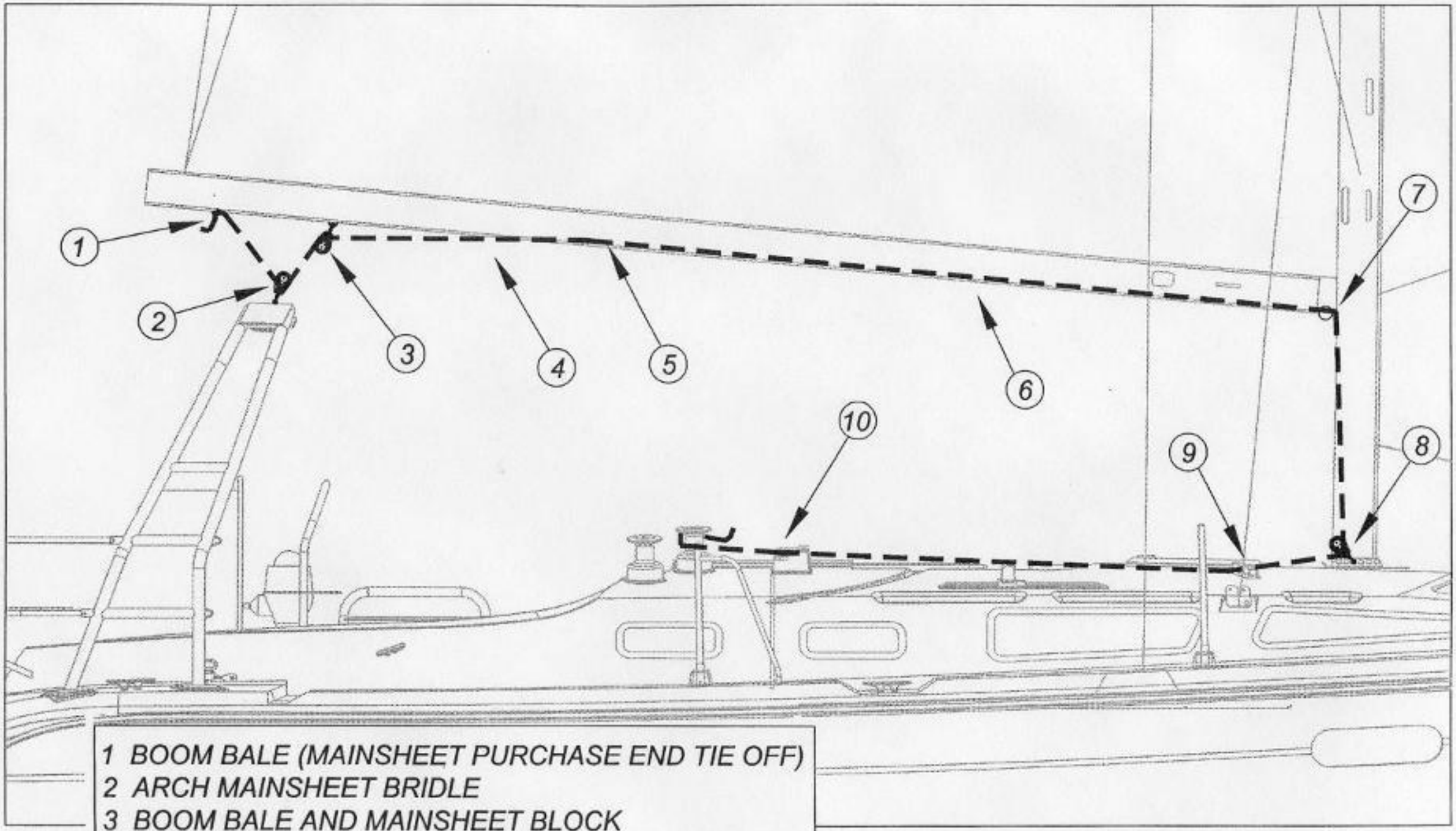
HUNTER



JIB FURLING LINE LAYOUT

35680420	NONE
ENG	

HUNTER



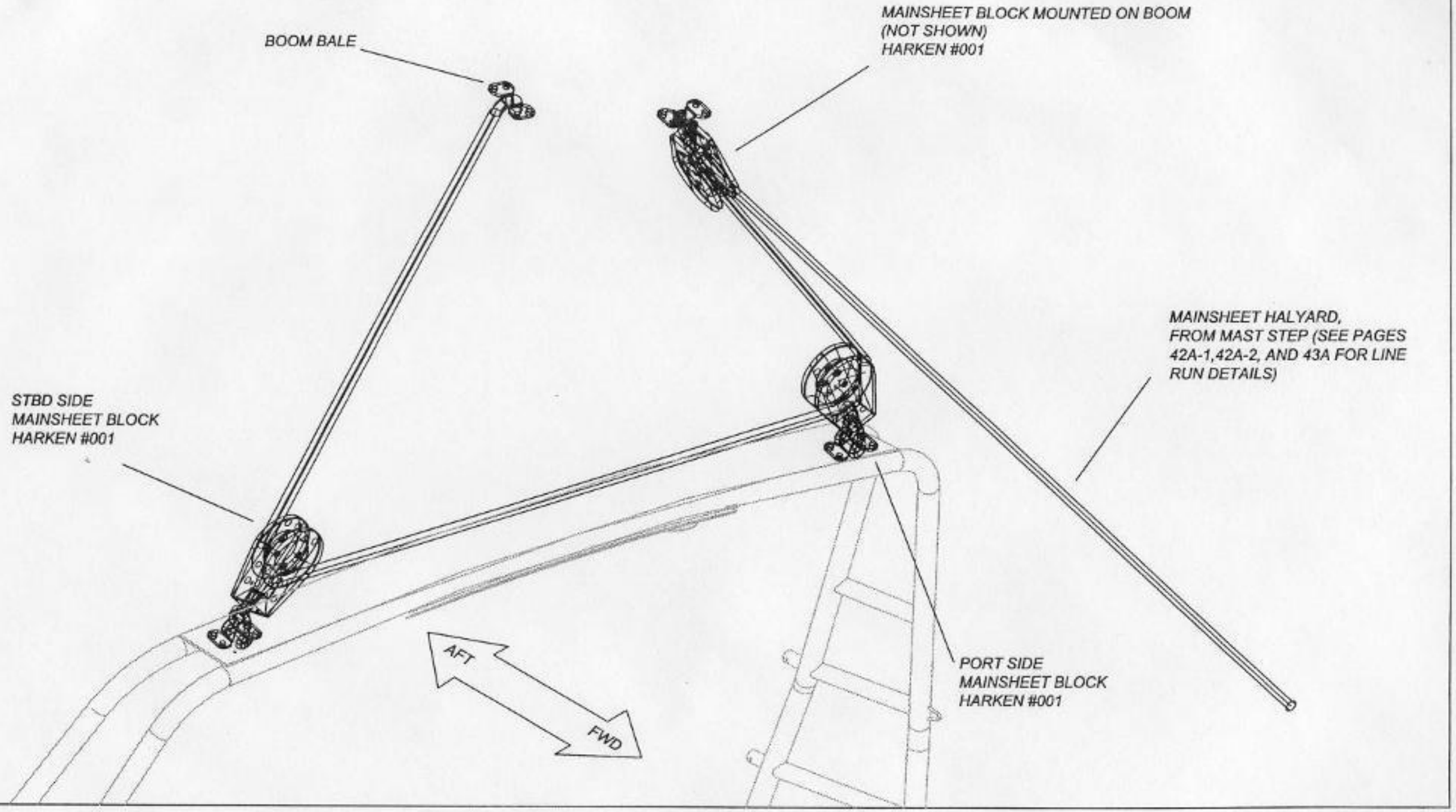
1 BOOM BALE (MAINSHEET PURCHASE END TIE OFF)
2 ARCH MAINSHEET BRIDLE
3 BOOM BALE AND MAINSHEET BLOCK
4 MAINSHEET
5 MAINSHEET BOOM EXIT
6 MAINSHEET RUN INSIDE BOOM
7 MAINSHEET SHEAVE INSIDE FWD BOOM END
8 MAINSHEET BLOCK AT MAST STEP
9 MAINSHEET THRU BLOCK DEFLECTORS
10 MAINSHEET THROUGH BLOCK ORGANIZERS TO WINCH

SEE FOLLOWING PAGES FOR DETAILS OF STANDARD BRIDLE AND OPTIONAL TRAVELER CONFIGURATIONS

MAINSHEET PURCHASE LAYOUT

3568043A	NONE
ENG	

HUNTER

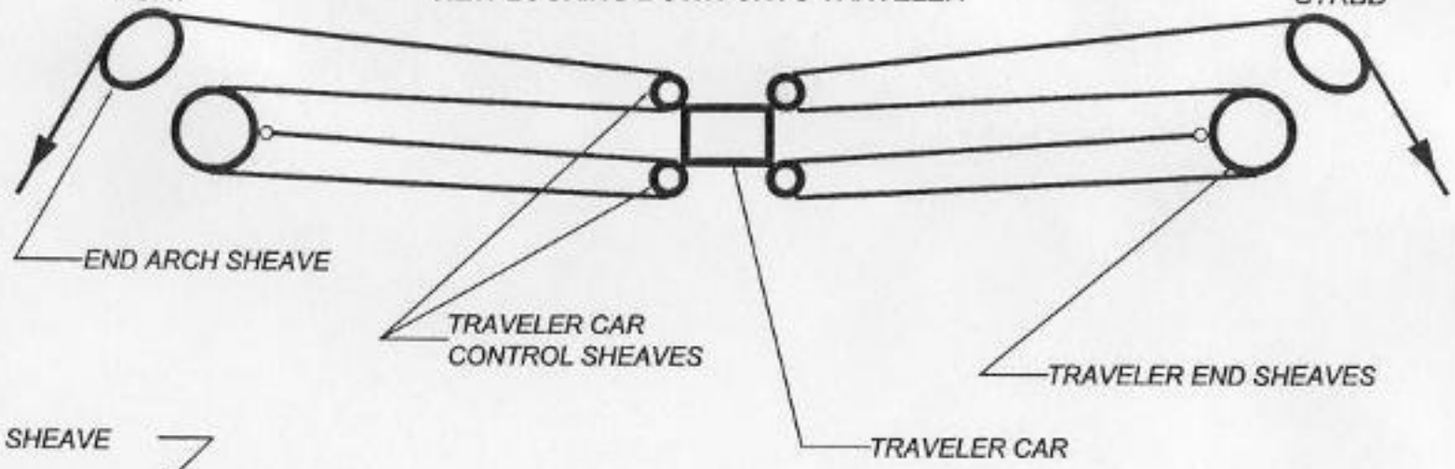


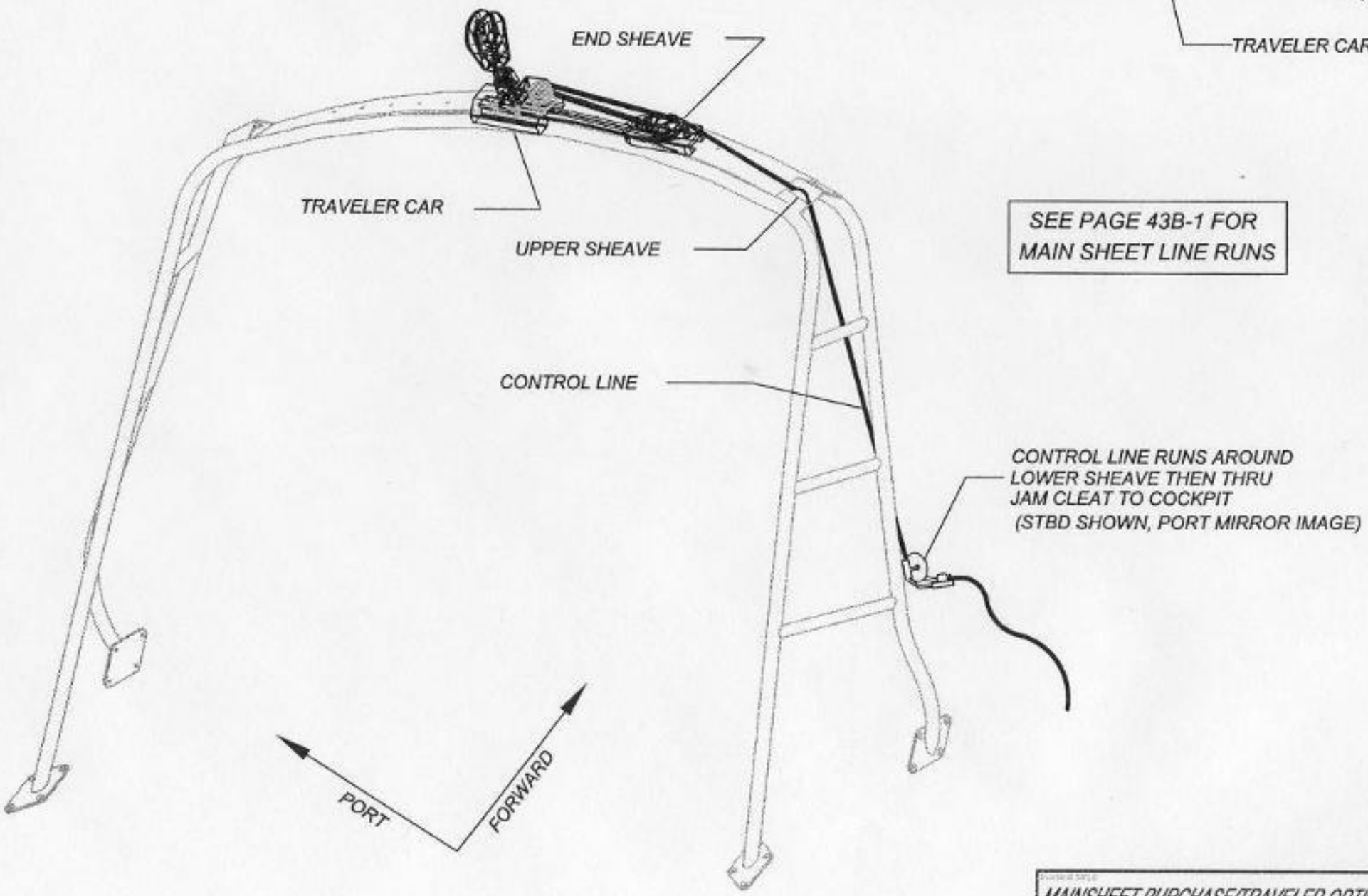
FOR CLARITY, THE BOOM IS NOT DEPICTED AND THE COMPONENTS ARE NOT SHOWN TO SCALE

MAINSHEET PURCHASE/BRIDLE CONFIGURATION	
3568043B	NONE
ENG	

HUNTER

CONTROL LINE RUN SCHEMATIC
VIEW LOOKING DOWN ONTO TRAVELER



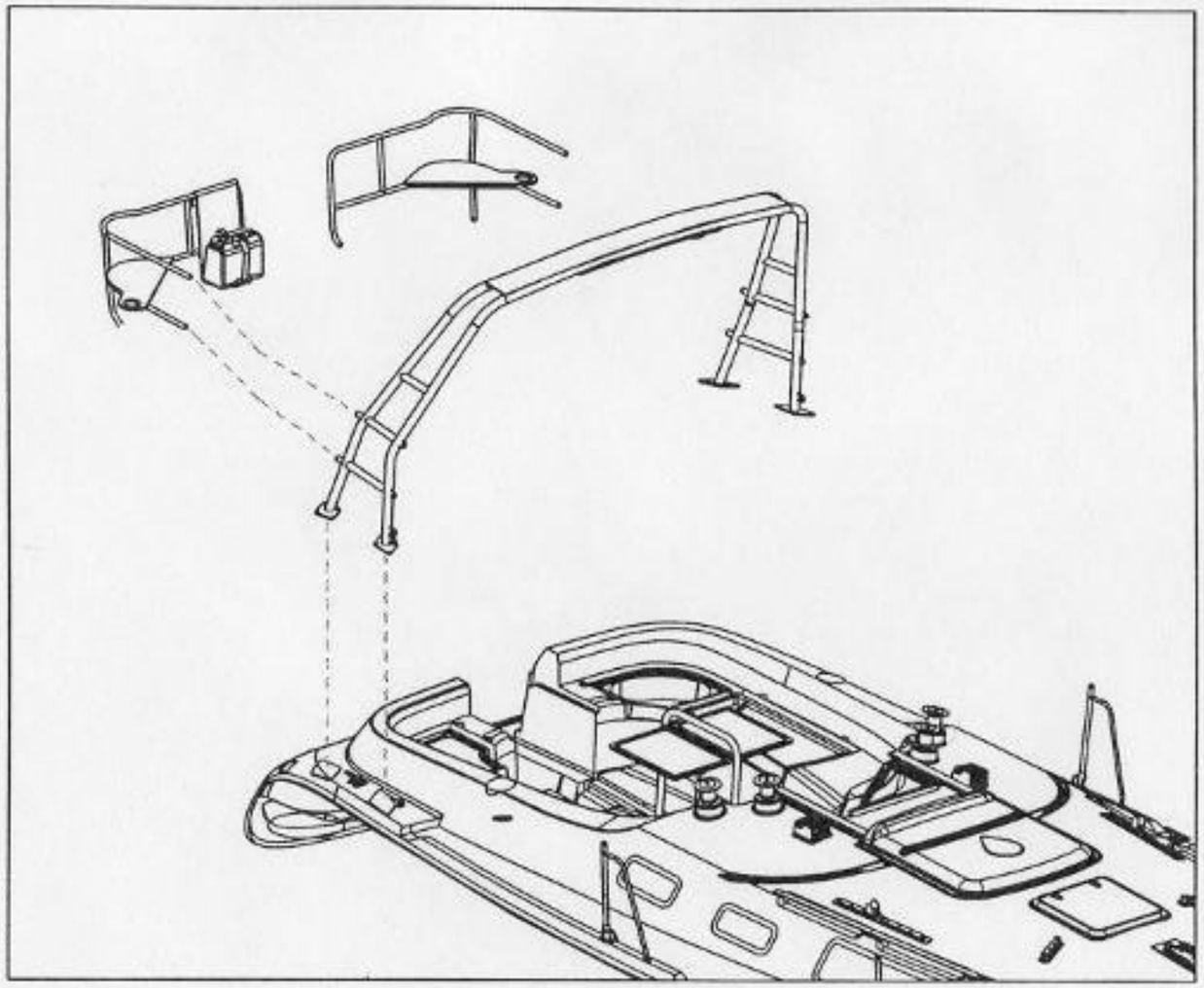


SEE PAGE 43B-1 FOR
MAIN SHEET LINE RUNS

MAINSHEET PURCHASE/TRAVELER OPTION	
3568043C	NONE
ENG	

HUNTER

ARCH INSTALLATION: NOTES AND TOOL LIST



FOR CLARITY, THE STERNRAILS ARE DEPICTED IN AN EXPLODED VIEW AND THE STEERING PEDESTAL HAS BEEN OMITTED

NOTES:

1. IMPORTANT: READ ALL OF THE INSTALLATION INSTRUCTIONS THOROUGHLY BEFORE BEGINNING.
2. THIS JOB REQUIRES TWO PEOPLE. IT IS IMPORTANT THAT THE ARCH IS FIRMLY SUPPORTED UNTIL IT IS FULLY ATTACHED TO THE DECK.
3. WHEN INSTALLING ARCH: TO AVOID POSSIBLE INJURY, ORIENT THE DIRECTION OF THE ARCH (LEANING FORWARD) PRIOR TO BEGINNING THE INSTALLATION PROCESS.
4. SEE BELOW FOR A LIST OF TOOLS SUGGESTED FOR THE INSTALLATION PROCESS.
5. IMPORTANT: REMEMBER TO CHECK ALL THE ARCH BOLTS / NUTS AFTER THE INITIAL SEA TRIAL AND RETIGHTEN AS NECESSARY

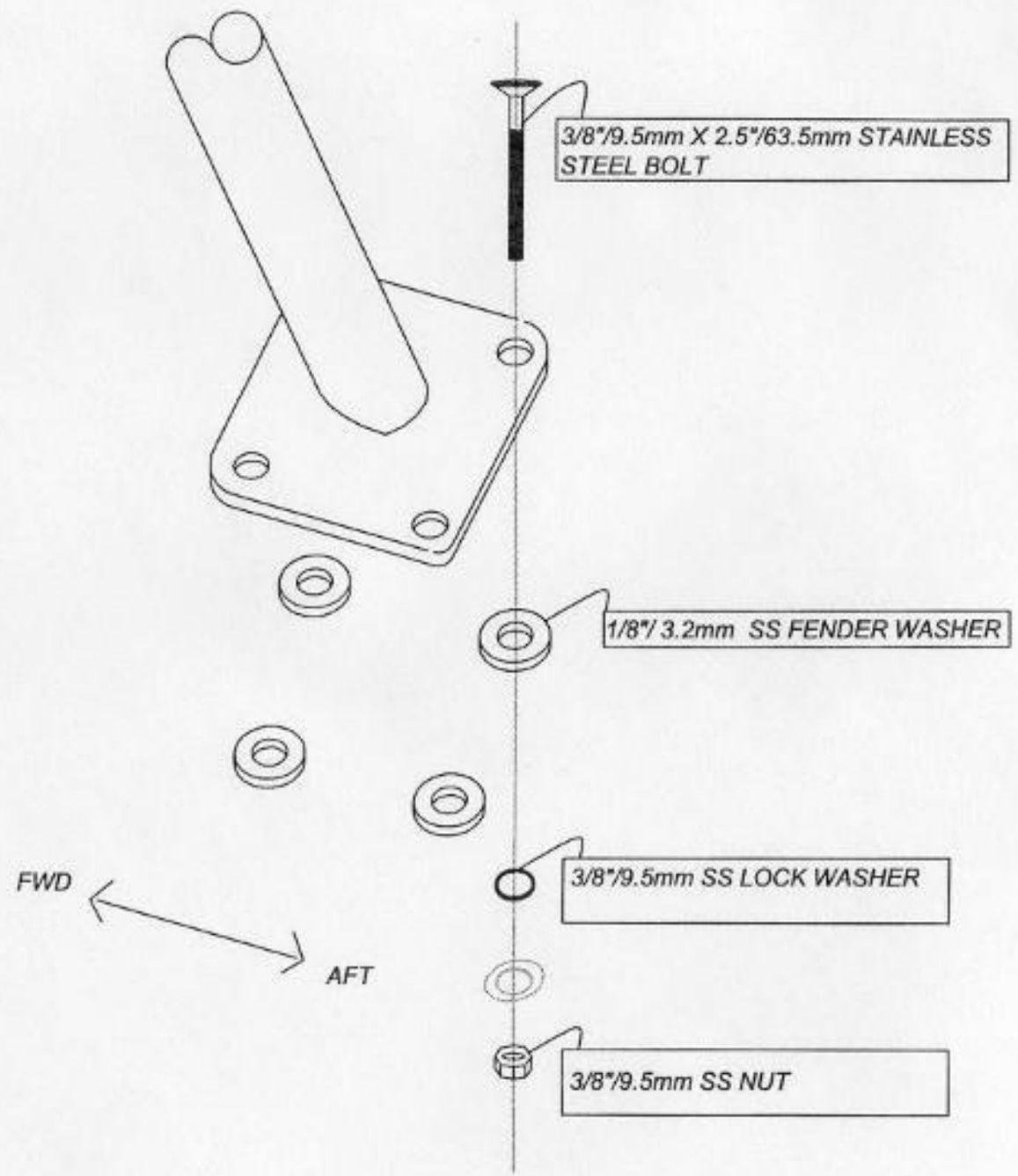
SUGGESTED TOOL LIST:

DRILL AND 3/8" DRILL BIT (TO CLEAR SEALANT FROM HOLES)
3/8" DRIVE RATCHET
6" EXTENSION
9/16" DEEP & REGULAR SOCKET
9/16" WRENCH
SCREW DRIVER--PHILLIPS HEAD (LARGE P-4)
CAULK GUN
TUBE OF SEALANT (3M 5200)
NEVER SEIZE (BOLT LUBE)
RAZOR KNIFE
WIRE STRIPPERS/CRIMPS
RAGS
ACETONE OR LACQUER THINNER / CLEAN UP

ARCH INSTALLATION	
3568044A	NONE
ENG	8/27/01

1. REMOVE ALL ACCESSORIES STOWED IN THE COCKPIT LOCKERS. THIS WILL ENABLE EASIER ACCESS WHEN FASTENING THE ARCH BOLTS.
2. WITH 3/8" DRILL BIT, REMOVE ANY SEALANT FROM PRE-DRILLED ARCH HOLES.
3. CLEAN AROUND THE MOUNTING HOLES USING ACETONE OR LACQUER THINNER.
4. APPLY A GENEROUS AMOUNT OF 3M 5200 SEALANT AT THE ARCH MOUNTING HOLE LOCATIONS ON THE FOOT DECK.
5. TO AVOID POSSIBLE INJURY, ORIENT THE ARCH (LEANING FORWARD) PRIOR TO PLACING IT ON THE BOAT.
6. BEFORE PLACING ARCH ONTO ARCH PADS, ALIGN STERNRAIL PIPES WITH RECEIVER CUPS ON ARCH AND JOIN. DO NOT BOLT UNTIL OTHER COMPONENTS ARE IN PLACE.
7. PLACE THE ARCH ON THE DECK OF THE BOAT. ALIGN THE ARCH FOOT HOLES ON ONE SIDE(EITHER PORT OR STARBOARD) WITH THE CORRESPONDING PRE DRILLED DECK HOLES.
8. INSERT 3/8"(9.5mm) STAINLESS STEEL BOLTS THRU ALL HOLES IN ARCH FOOT AND INTO THE COAMING.
9. REPEAT STEP 8 WITH OTHER ARCH FOOT.
10. ACCESS THE UNDERSIDES OF THE DECK AT THE ARCH FOOT LOCATIONS AS FOLLOWS:
    STBD : THRU ACCESS PANEL IN THE STBD BERTH HEADLINER
    PORT: THRU PORT SIDE GULLWING LOCKER
11. INSTALL THE 1/8" (3.2mm) FENDER WASHERS ON THE INSIDE OF THE COAMING AND INSTALL LOCK WASHER AND S.S. NUT ON THE BOLT WHICH HAS BEEN INSERTED. TIGHTEN BOLT COMPLETELY. (IT IS IMPORTANT TO APPLY A SMALL AMOUNT OF NEVER SEIZE TO THE BOLT TO PREVENT "GAULING" OF THE THREADS.)
12. BE SURE TO INSTALL THE ARCH GROUNDING WIRE, LOCATED IN THE HEADLINER ACCESS PANEL.
13. RECHECK THE ARCH FIT ONTO THE DECK. THE HEIGHT SHOULD MEASURE AT LEAST 6' 2" (1.88)
14. SECURELY TIGHTEN ALL THE NUTS AND BOLTS USING A CROSS TIGHTENING PATTERN. (DO NOT FORGET TO USE A SMALL AMOUNT OF LUBRICANT FOR THE BOLTS).
15. CLEAN EXCESS SEALANT FROM AROUND THE ARCH FEET AND COAMING AREAS USING ACETONE OR LACQUER THINNER..
16. RECHECK THE BOLTS AFTER THE INITIAL SEA TRIAL AND TIGHTEN AS NECESSARY.
17. AFTER ARCH IS SECURE, BOLT STERNRAIL FEET TO ARCH CUPS.

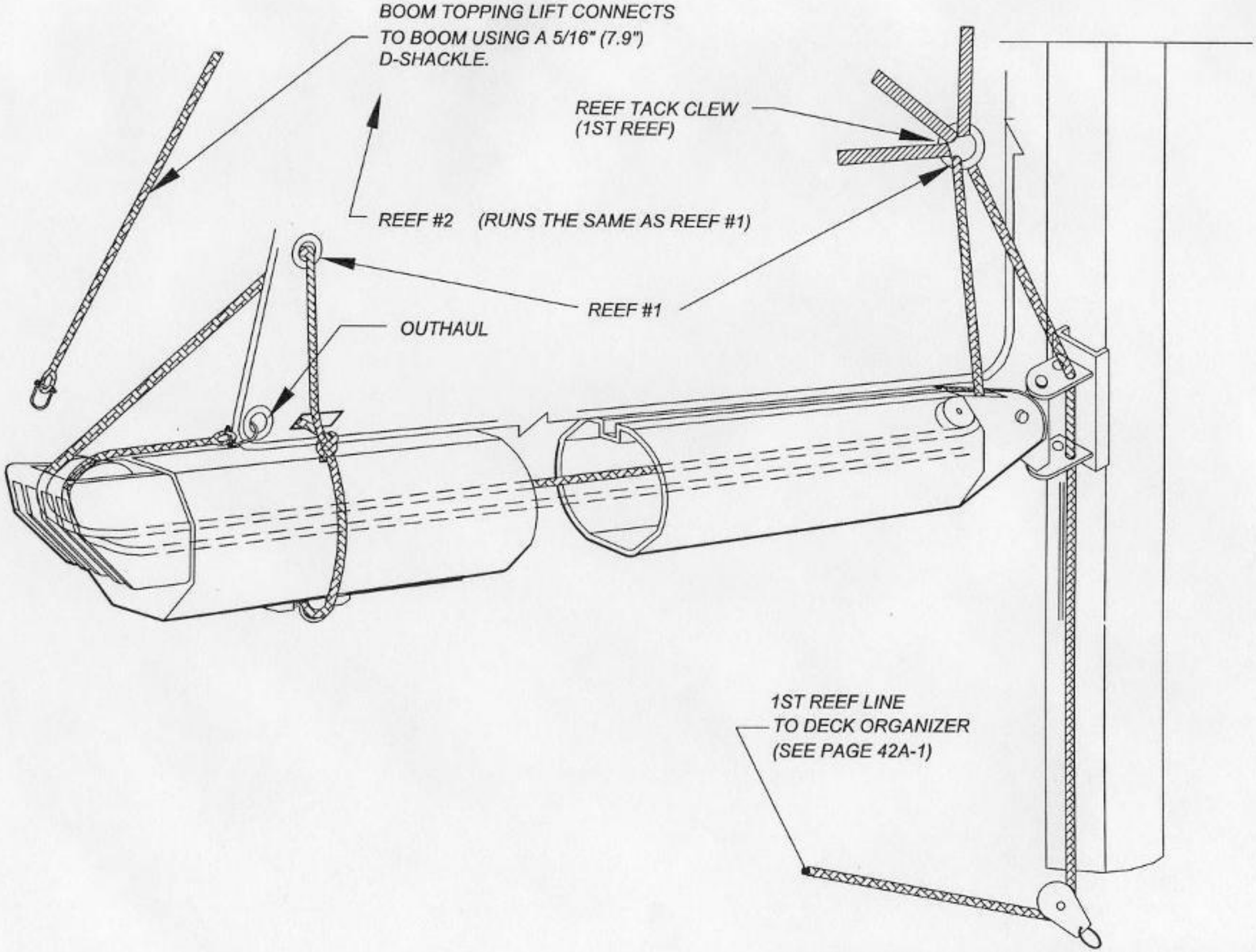
TYPICAL ARCH FOOT



ARCH INSTALLATION

3568044B | NONE | ENG | 8/27/01

HUNTER



BOOM WITH REEFING LAYOUT

3568045A	NONE

HUNTER

REEFING INSTRUCTIONS

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 GOOSE NECK ON THE AFT 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 REEF LINE UNTIL THE TACK AND THE CLEW ARE DOWN TO ABOUT 2" ABOVE THE BOOM.

7. ADJUST THE MAIN HALYARD SO THAT THE TACK REEF BLOCK IS NOT CONTACTING THE GOOSE NECK ON THE FRONT OF THE SPAR AND IS APPLYING TENSION TO THE LUFF OF THE MAIN ABOVE THE REEF, NOT BELOW. THERE WILL BE APPROXIMATELY 6" (150mm) OF STRECH 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. ALSO, 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 TACK SHACKLE 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 STOPPER 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 LIFT 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 AND TENSION THE MAIN HALYARD BACK UP. EASE THE TOPPING LIFT. (IF NEEDED)

SHAKING OUT A REEF

1. HEAD UP INTO THE WIND.

2. EASE THE MAINSHEET AND VANG. RELEASE THE TENSION ON THE TOPPING LIFT. (IF NEEDED)

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.

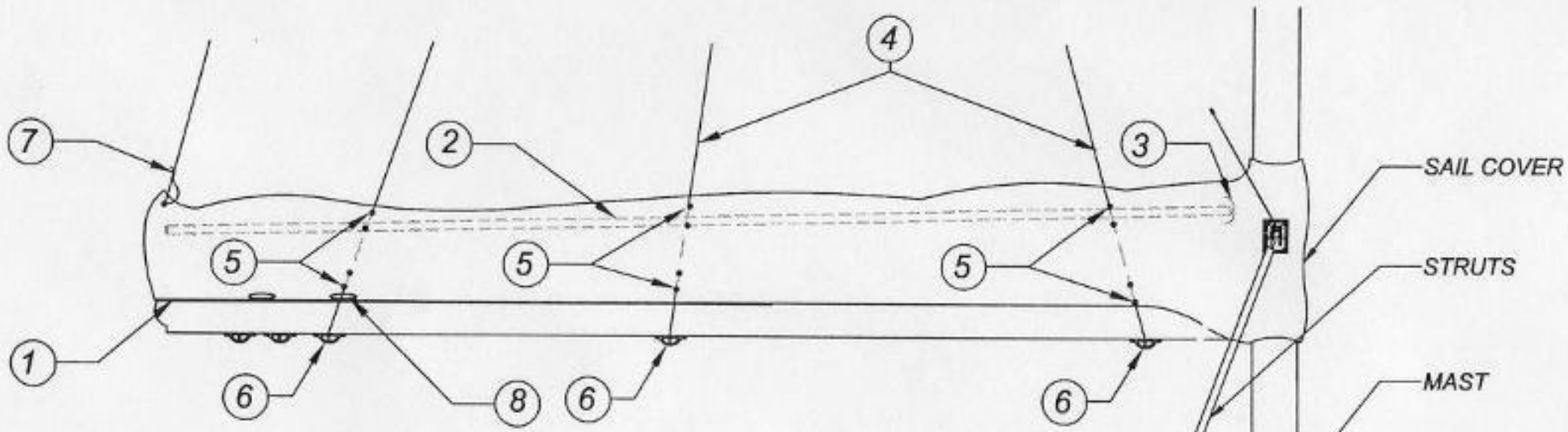
5. RE-TENSION VANG AND MAINSHEET. EASE THE TOPPING LIFT. (IF NEEDED)

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.

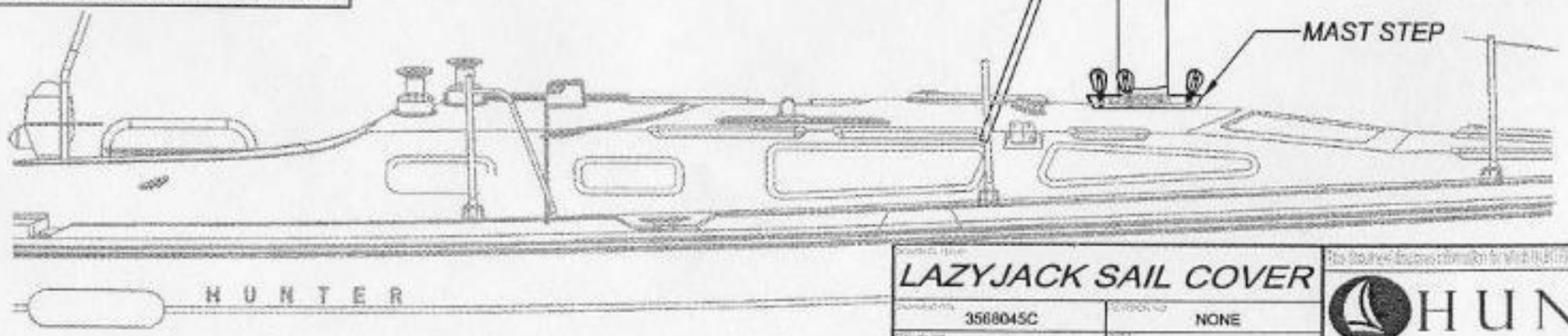
INSTALL THE PVC BATTENS (2) INTO EACH HALF OF THE SAIL COVER. THERE ARE POCKETS (3) THAT OPEN TOWARDS THE FRONT, ON THE INSIDE OF THE COVER. SLIDE THE BATTENS INTO PLACE FROM THE FRONT, AND ROLL THE INSIDE LIP OF THE POCKET BACK IN ORDER TO HOLD THE BATTENS STATIONARY.

FEED THE LAZYJACK LINES (4) DOWN THROUGH THE GROMMETS/RINGS (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.



SAIL COVER ONLY OFFERED ON STANDARD MAST BOATS



PAGE 45C

LAZYJACK SAIL COVER	
3568045C	NONE
ENG	

HUNTER

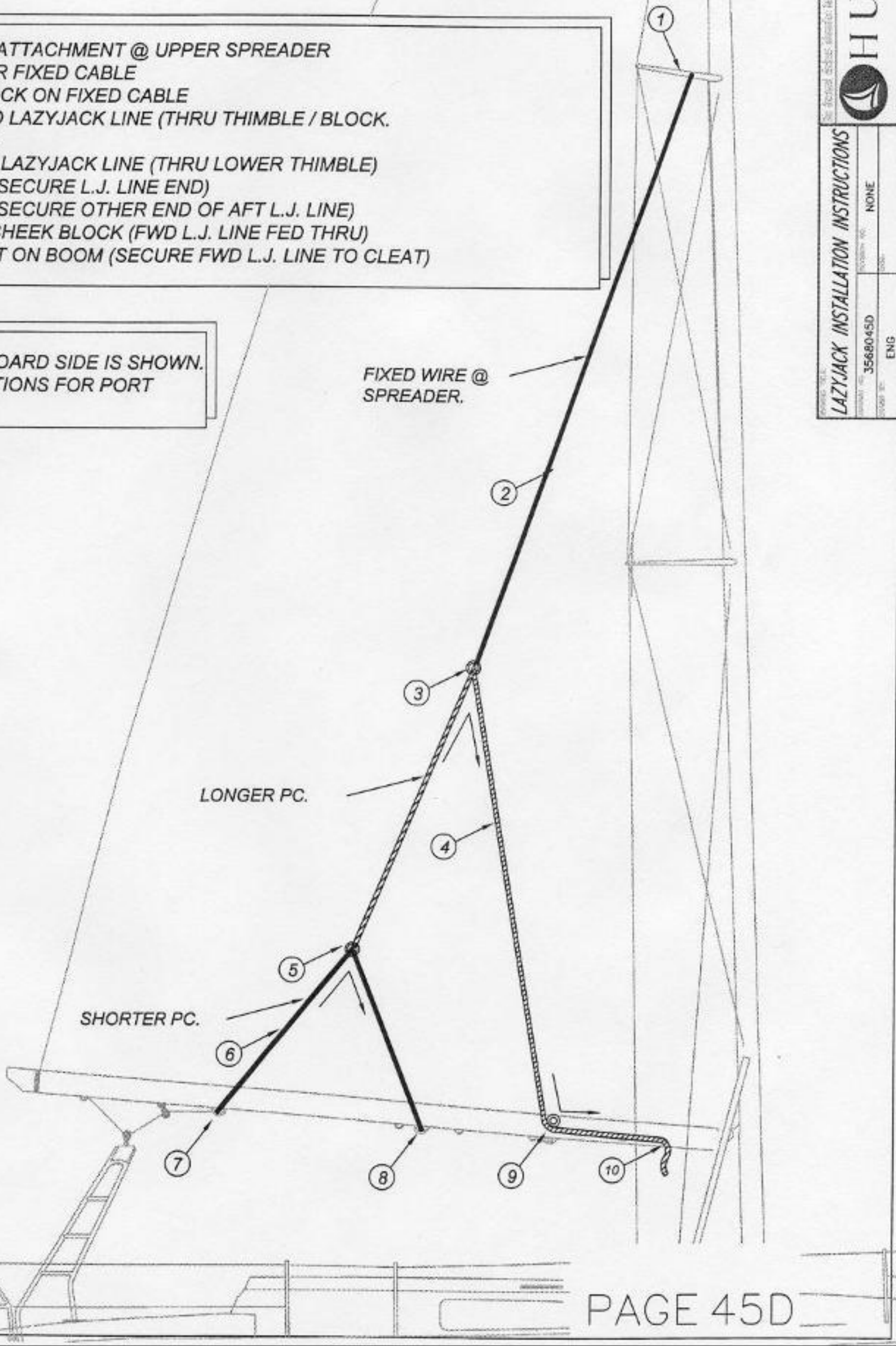
1. LAZYJACK WIRE ATTACHMENT @ UPPER SPREADER
2. LAZYJACK UPPER FIXED CABLE
3. THIMBLE OR BLOCK ON FIXED CABLE
4. 5/16" (7.9mm)FWD LAZYJACK LINE (THRU THIMBLE / BLOCK.
5. LOWER THIMBLE
6. 5/16" (7.9mm)AFT LAZYJACK LINE (THRU LOWER THIMBLE)
7. AFT BOOM BAIL (SECURE L.J. LINE END)
8. MID BOOM BAIL (SECURE OTHER END OF AFT L.J. LINE)
9. FWD BOOM L.J. CHEEK BLOCK (FWD L.J. LINE FED THRU)
10. LAZYJACK CLEAT ON BOOM (SECURE FWD L.J. LINE TO CLEAT)

NOTE: THE STARBOARD SIDE IS SHOWN.
MIRROR INSTRUCTIONS FOR PORT

FIXED WIRE @ SPREADER.

LONGER PC.

SHORTER PC.



HUNTER

LAZYJACK INSTALLATION INSTRUCTIONS

DRAWING NO.	35680450
REVISION NO.	NONE
REVISED BY	ENG

h356 RUNNING RIGGING
STANDARD MAST

	SYSTEM	ITEM	QUANTITY	LINE SIZE	LINE TYPE	COLOR	END 1	LENGTH		END 2
*	I	MAIN HALYARD	1	7/16" (11mm)	XLS EXTRA	BLUE	HEADBOARD SHACKLE	38.4 m	126 ft	BARE
	I	MAINSHEET	1	3/8" (9.5mm)	XLS	BLUE FLECK	SMALL EYE	24.4 m	80 ft	BARE
*	I	BOOM TOPPING LIFT	1	5/16" (8mm)	LS	WHITE	SMALL EYE	33.5 m	110 ft	
	I	REEFING LINE #1	1	3/8" (9.5mm)	LS	GREEN FLECK	BARE	24.4 m	80 ft	BARE
	I	REEFING LINE #2	1	3/8" (9.5mm)	LS	RED FLECK	BARE	33.5 m	110 ft	BARE
	I	VANG	1	3/8" (9.5mm)	LS	WHITE	SMALL EYE	10.7 m	35 ft	BARE
	I	LAZY JACK WIRE	2	1/8" (3.2mm)	PLASTIC COATED 7x7 WIRE	WHITE	EYE & THIMBLE,SMALL SHACKLE	5.2 m	17 ft	EYE & LARGE THIMBLE
	I	LAZY JACK LINE	2	5/16" (8mm)	LS	WHITE	BARE	4.9 m	16 ft	BARE
	I	ADJUSTABLE LAZY JACK LINE	2	5/16" (8mm)	LS	WHITE	BARE	8.5 m	28 ft	SPLICE & SS THIMBLE
*	II	JIB HALYARD	1	3/8" (9.5mm)	XLS	RED	SMALL EYE	34.1 m	112 ft	BARE
	II	JIB SHEET	2	7/16" (11mm)	LS	RED FLECK	BARE	13.7 m	45 ft	BARE
*	III	SPINNAKER HALYARD	1	3/8" (9.5mm)	XLS	BLACK	SNAP SHACKLE NF11000s	35.0 m	115 ft	BARE

SYSTEMS KEY:
I-MAINSAIL SYSTEM
II-JIB SYSTEM
III-SPINNAKER SYSTEM
* COMES WITH MAST

OPTIONS

	I	MAIN TRAVELER LINE	2	5/16" (8mm)	LS	WHITE	SMALL EYE	9.1 m	26 ft	BARE
	III	SPINN. SHEET	2	3/8" (9.5mm)	LS	BLACK FLECK	BARE	24.4 m	80 ft	BARE

h356 RUNNING RIGGING
FURLING MAST

	SYSTEM	ITEM	QUANTITY	LINE SIZE	LINE TYPE	COLOR	END 1	LENGTH		END 2
*	I	MAIN HALYARD	1	7/16" (11mm)	XLS EXTRA	BLUE	HEADBOARD SHACKLE	38.4 m	126 ft	BARE
	I	MAINSHEET	1	3/8" (9.5mm)	XLS	BLUE FLECK	SMALL EYE	24.4 m	80 ft	BARE
	I	MAIN FURLING LINE	1	3/8" (9.5mm)	LS	BLUE	BARE	12.8 m	42 ft	BARE
*	II	JIB HALYARD	1	3/8" (9.5mm)	XLS	RED	SMALL EYE	34.1 m	112 ft	BARE
*	II	JIB SHEET	2	7/16" (11mm)	LS	RED FLECK	BARE	13.7 m	45 ft	BARE
	III	SPINNAKER HALYARD	1	3/8" (9.5mm)	XLS	BLACK	SNAP SHACKLE NF11000s	35.0m	115 ft	BARE

SYSTEMS KEY:
I-MAINSAIL SYSTEM
II-JIB SYSTEM
III-SPINNAKER SYSTEM
* COMES WITH MAST

OPTIONS

	I	MAIN TRAVELER LINE	2	5/16" (8mm)	LS	WHITE	SMALL EYE	9.1 m	26 ft	BARE
	III	SPINN. SHEET	2	3/8" (9.5mm)	LS	BLACK FLECK	BARE	24.4 m	80 ft	BARE

h356 B&R RIG WITH STRUTS DESCRIPTION

The B&R rig, utilized on the Hunter 356, 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 356 is equipped with the in-mast furling option, the mast is a larger section size and the struts are not utilized.

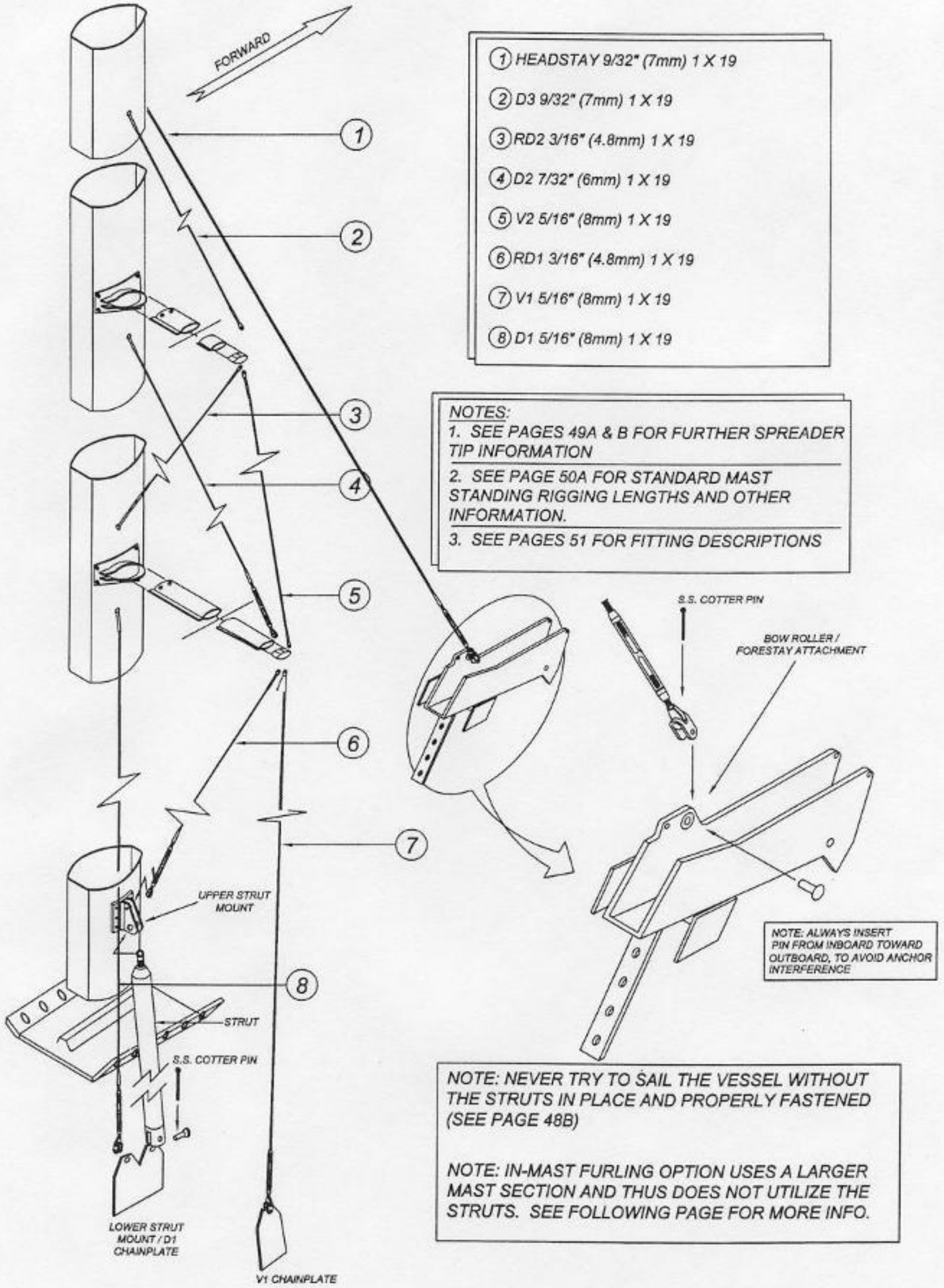
Additional support is given to the B&R rig (and is unique to it) with the addition of reverse diagonal rigging. For example, the diagonals that you see beginning by the top of the mast strut, ending at the tip of the spreader, supports and stabilizes the upper section of the mast as it creates a triangle 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 356 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 leach 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. HEADSTAY 9/32" (7mm) 1 X 19
2. D3 9/32" (7mm) 1 X 19
3. RD2 3/16" (4.8mm) 1 X 19
4. D2 7/32" (6mm) 1 X 19
5. V2 5/16" (8mm) 1 X 19
6. RD1 3/16" (4.8mm) 1 X 19
7. V1 5/16" (8mm) 1 X 19
8. D1 5/16" (8mm) 1 X 19

NOTES:

1. SEE PAGES 49A & B FOR FURTHER SPREADER TIP INFORMATION
2. SEE PAGE 50A FOR STANDARD MAST STANDING RIGGING LENGTHS AND OTHER INFORMATION.
3. SEE PAGES 51 FOR FITTING DESCRIPTIONS

NOTE: NEVER TRY TO SAIL THE VESSEL WITHOUT THE STRUTS IN PLACE AND PROPERLY FASTENED (SEE PAGE 48B)

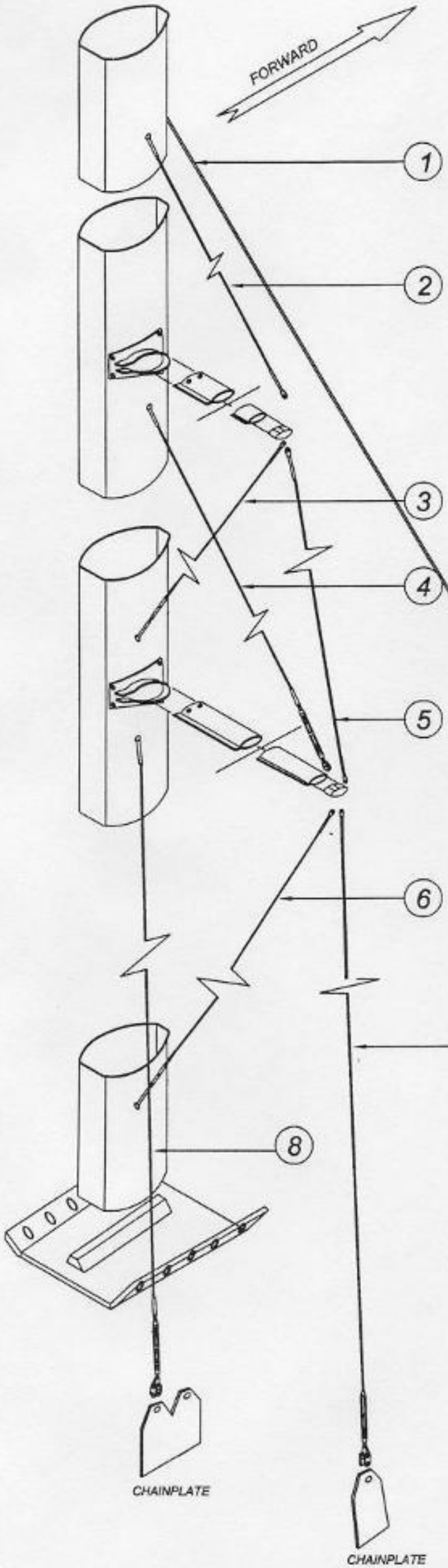
NOTE: IN-MAST FURLING OPTION USES A LARGER MAST SECTION AND THUS DOES NOT UTILIZE THE STRUTS. SEE FOLLOWING PAGE FOR MORE INFO.

HUNTER

STANDING RIGGING (STANDARD)

NONE

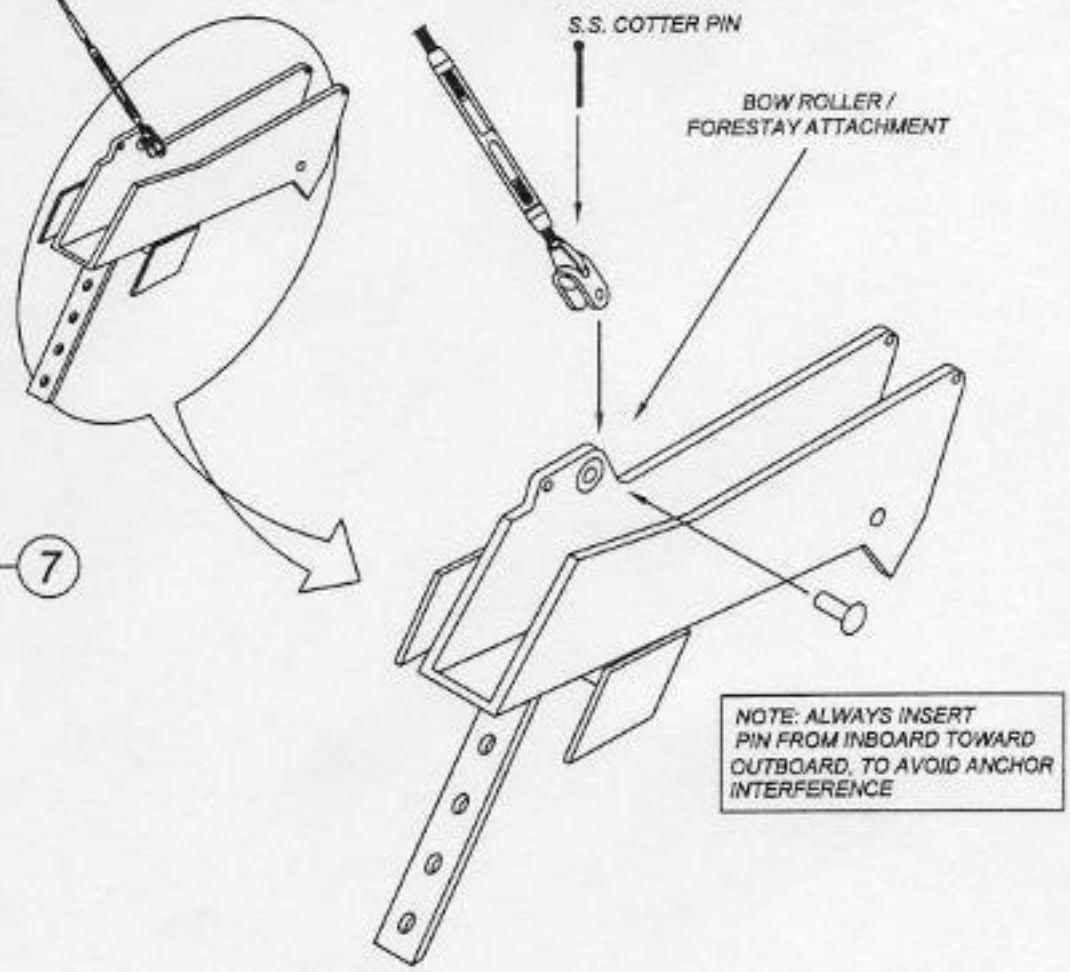
ENG



1. HEADSTAY 9/32" (7mm) 1 X 19
2. D3 9/32" (7mm) 1 X 19
3. RD2 3/16" (4.8mm) 1 X 19
4. D2 7/32" (6mm) 1 X 19
5. V2 5/16" (8mm) 1 X 19
6. RD1 3/16" (4.8mm) 1 X 19
7. V1 5/16" (8mm) 1 X 19
8. D1 5/16" (8mm) 1 X 19

NOTES:

1. SEE PAGES 49A & B FOR FURTHER SPREADER TIP INFORMATION
2. SEE PAGE 50B FOR STANDARD MAST STANDING RIGGING LENGTHS AND OTHER INFORMATION.
3. SEE PAGES 51 FOR FITTING DESCRIPTIONS



NOTE: ALWAYS INSERT PIN FROM INBOARD TOWARD OUTBOARD, TO AVOID ANCHOR INTERFERENCE

NOTE: IN-MAST FURLING OPTION USES A LARGER MAST SECTION AND THUS DOES NOT UTILIZE THE STRUTS.

HUNTER

STANDING RIGGING (FURLING)

35680484-2 | NONE | ENG

(UPPER STRUT MOUNT
ON EA. SIDE OF MAST)

(RD-1 ATTACHES HERE)

BALL ROD
JOINT

JAM NUTS

STRUT

AFT

FWD

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

(D-1 ATTACHES HERE)

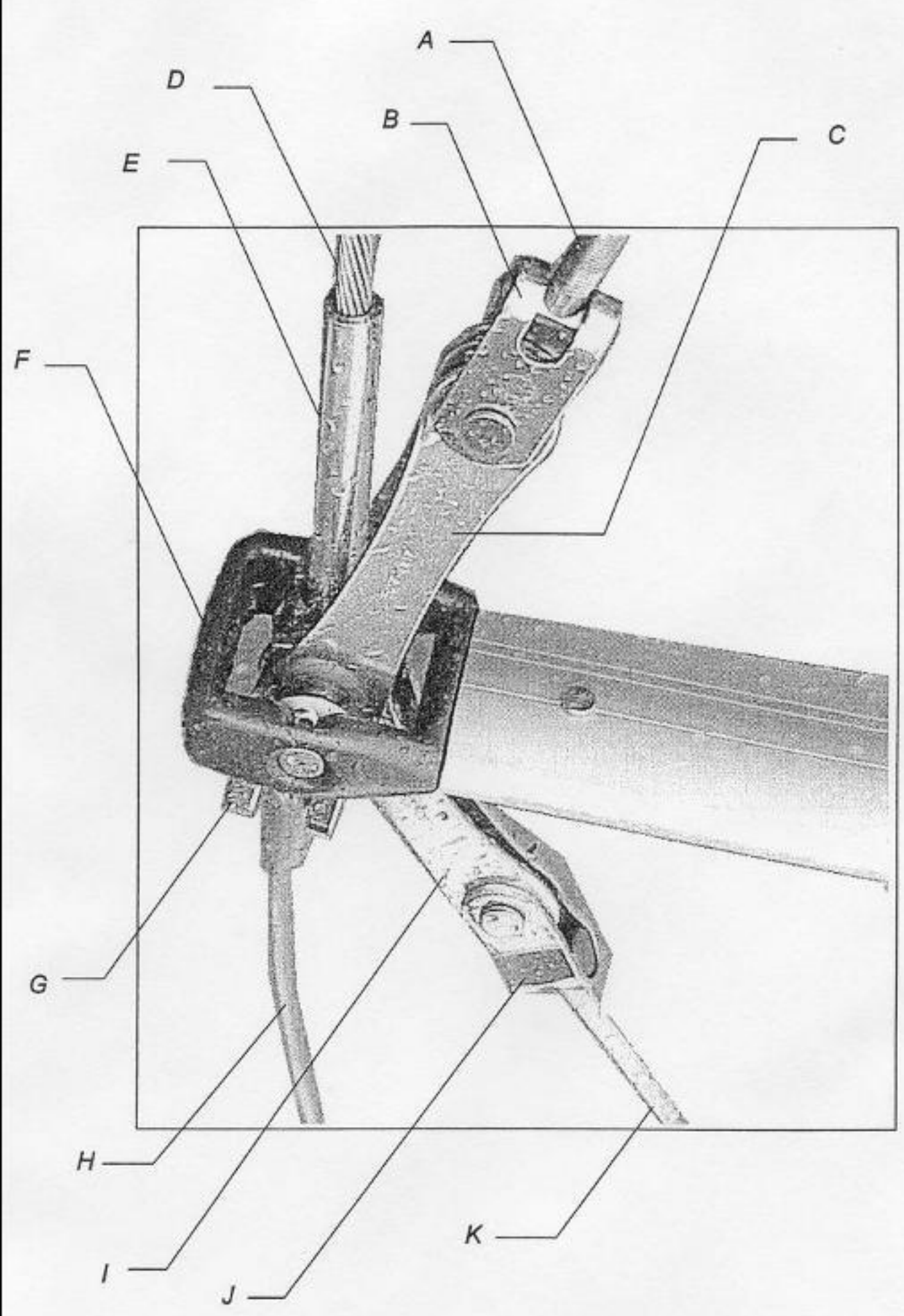
STEP TWO
ADJUST THREADS UNTIL BALL ROD JOINT IS ABLE TO BE EASILY PINNED IN STRUT BRACKET

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

HUNTER

STRUT ASSMBLY

	35680408	NONE	6/22/01
			ENG

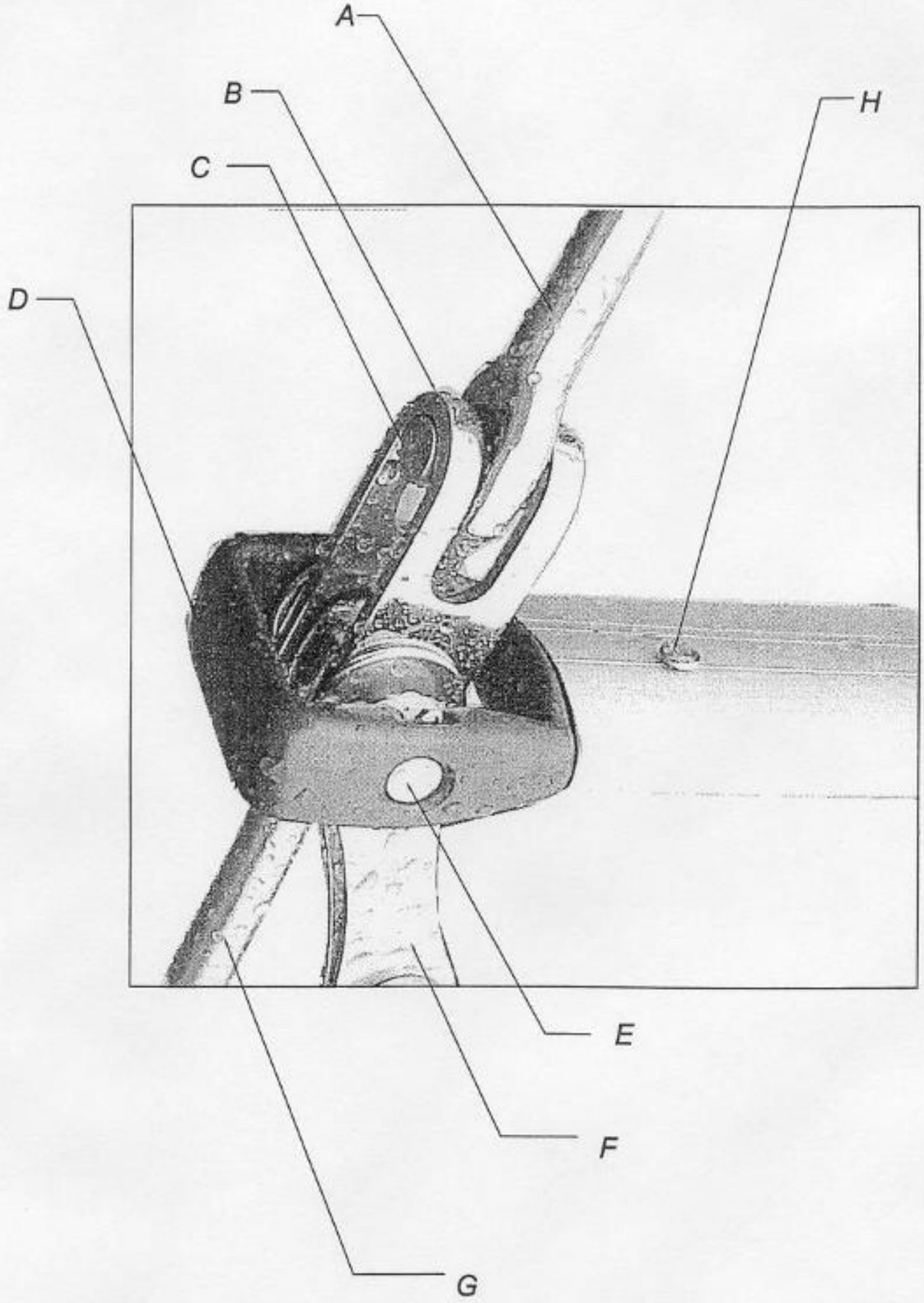


A	D2 stem T	G	jaw toggle
B	jaw toggle	H	V1
C	link plates	I	link plates
D	V2	J	jaw toggle
E	marine eye	K	RD1 stem T
F	spreader tip casting		

SELDEN LOWER SPREADER TIP

3580049A	NONE
MG	7/13/01

HUNTER



A	D3 marine eye
B	jaw toggle
C	1/2" (1.27cm) pin
D	spreader tip casting
E	3/8" (.95cm) pin
F	link plates
G	marine eye stem
H	spreader tip casting fastener

SELDEN UPPER SPREADER TIP

HUNTER

356 SELDEN STANDARD MAST STANDING RIGGING

PART NUMBER 406796			DATE		REVISION:			
OPT/STD		ITEM	QUANTITY	WIRE SIZE	UPPER END	LENGTH		LOWER END
1	STD	HEADSTAY	1	9/32" (7mm) 1x19	MARINE EYE	13.881M	45 ft. 6-1/2"	JAW TOGGLE LOOSE, 1/2" PIN
2	STD	V1	2	5/16" (8mm)1x19	RIGGING TOGGLE JAW W/ 1/2" PIN	5.334M	17 ft. 6"	TURNBUCKLE 9-16-16, TOGGLE FOR 1/2" PIN
3	STD	V2	2	5/16" (8mm) 1x19	RIGGING TOGGLE JAW W/ 1/2" PIN	4.318M	14 ft. 2"	MARINE EYE w/ 1/2" PIN
4	STD	D1	2	5/16" (8mm)1x19	841-1/4" SHROUD TERMINAL	4.791M	15 ft. 8-5/8"	TURNBUCKLE 8-12-12 W/ JAW TOGGLE FOR 3/8" PIN
5	STD	D2	2	7/32" (6mm) 1x19	GIBB 740-3/16 T-HOOK SHROUD TERMINAL	4.14M	13 ft. 7"	TURNBUCKLE 6-12-12, W JAW TOGGLE W/ 3/8" PIN
6	STD	D3	2	9/32" (7mm) 1x19	841-1/4" SHROUD TERMINAL	4.166M	13 ft. 8"	MARINE EYE w/ 1/2" PIN
7	STD	RD1	2	3/16" (4.75mm) 1x19	RIGGING TOGGLE JAW	3.569M	11 ft. 8-1/2"	GIBB T-BALL SHROUD TERMINAL TURNBUCKLE 6-10-10
8	STD	RD2	2	3/16" (4.75mm) 1x19	RIGGING TOGGLE JAW W/ 3/8" PIN	4.223M	13 ft. 10-1/4"	GIBB T-BALL SHROUD TERMINAL TURNBUCKLE 6-10-10

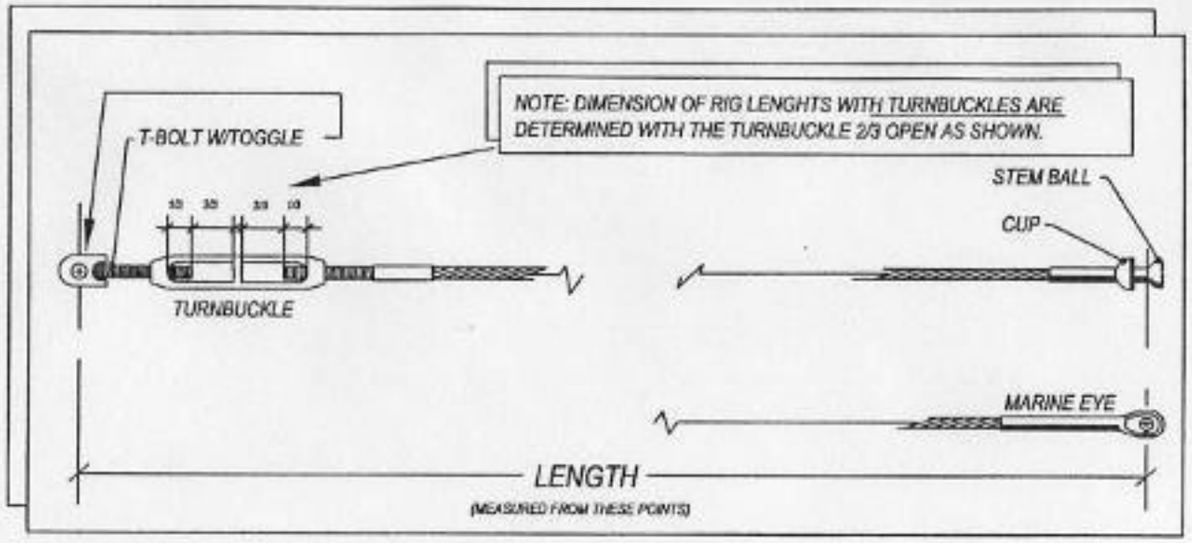
356 SELDEN FURLING MAST STANDING RIGGING

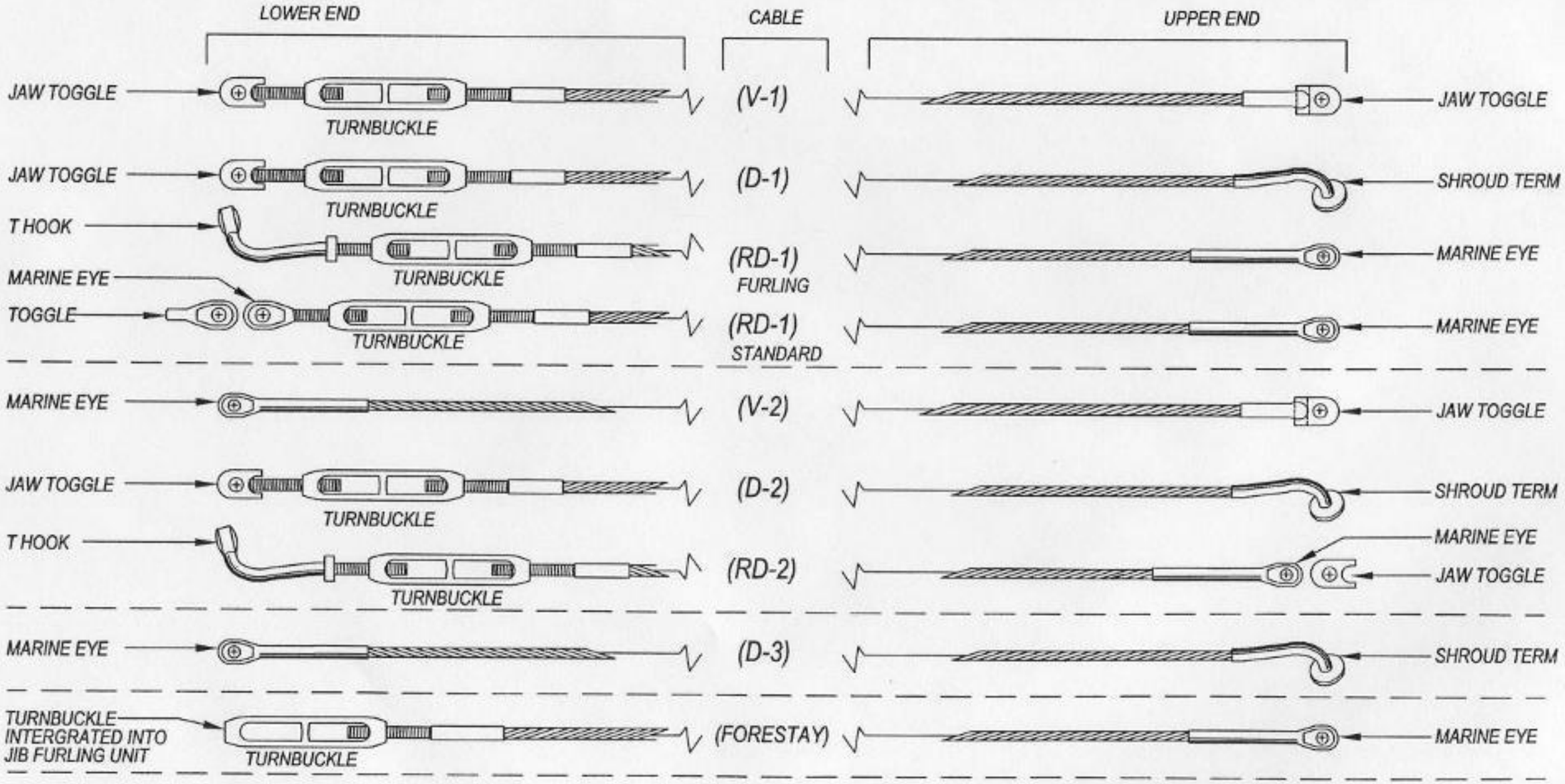
PART NUMBER		406796	DATE		REVISION:			
OPT/STD		ITEM	QUANTITY	WIRE SIZE	UPPER END	LENGTH		LOWER END
1	STD	HEADSTAY	1	9/32" (7mm) 1x19	MARINE EYE	13.881M	45 ft. 6-1/2"	TURNBUCKLE JAW TOGGLE 1/2" PIN
2	STD	V1	2	5/16" (8mm)1x19	RIGGING TOGGLE JAW W/ 1/2" PIN	4.978M	16 ft. 4-1/2"	TURNBUCKLE 9-16-16, TOGGLE FOR 1/2" PIN
3	STD	V2	2	5/16" (8mm) 1x19	RIGGING TOGGLE JAW W/ 1/2" PIN	4.223M	13 ft. 10-1/4"	MARINE EYE w/ 1/2" PIN
4	STD	D1	2	5/16" (8mm)1x19	841-1/4" SHROUD TERMINAL	4.424M	14 ft. 6-1/2"	TURNBUCKLE 8-12-12 W/ JAW TOGGLE FOR 3/8" PIN
5	STD	D2	2	7/32" (6mm) 1x19	GIBB 740-3/16 T-HOOK SHROUD TERMINAL	4.026M	13 ft. 2-1/2"	TURNBUCKLE 6-12-12, W JAW TOGGLE W/ 3/8" PIN
6	STD	D3	2	9/32" (7mm) 1x19	841-1/4" SHROUD TERMINAL	4.216M	13 ft. 10"	MARINE EYE w/ 1/2" PIN
7	STD	RD1	2	3/16" (4.75mm) 1x19	RIGGING TOGGLE JAW	3.45M	11 ft. 4"	GIBB T-BALL SHROUD TERMINAL TURNBUCKLE 6-10-10
8	STD	RD2	2	3/16" (4.75mm) 1x19	RIGGING TOGGLE JAW W/ 3/8" PIN	4.24M	13 ft. 9-3/4"	GIBB T-BALL SHROUD TERMINAL TURNBUCKLE 6-10-10

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

V = VERTICAL
D = DIAGONAL
RD = REVERSE DIAGONAL

1 = LOWER
2 = INTER.
3 = UPPER





PAGE 51

STANDING RIGGING DETAILS	
3568051	NONE
ENG	

HUNTER

TUNING THE H356 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" [203mm] for the standard rig and no more than 2" [50mm] 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'-0" [~6cm] 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 356 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 (rather than bent from side to side). If it is not straight 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 (rather than bent from side to side). If not then adjust the lowers (D1) until it is.

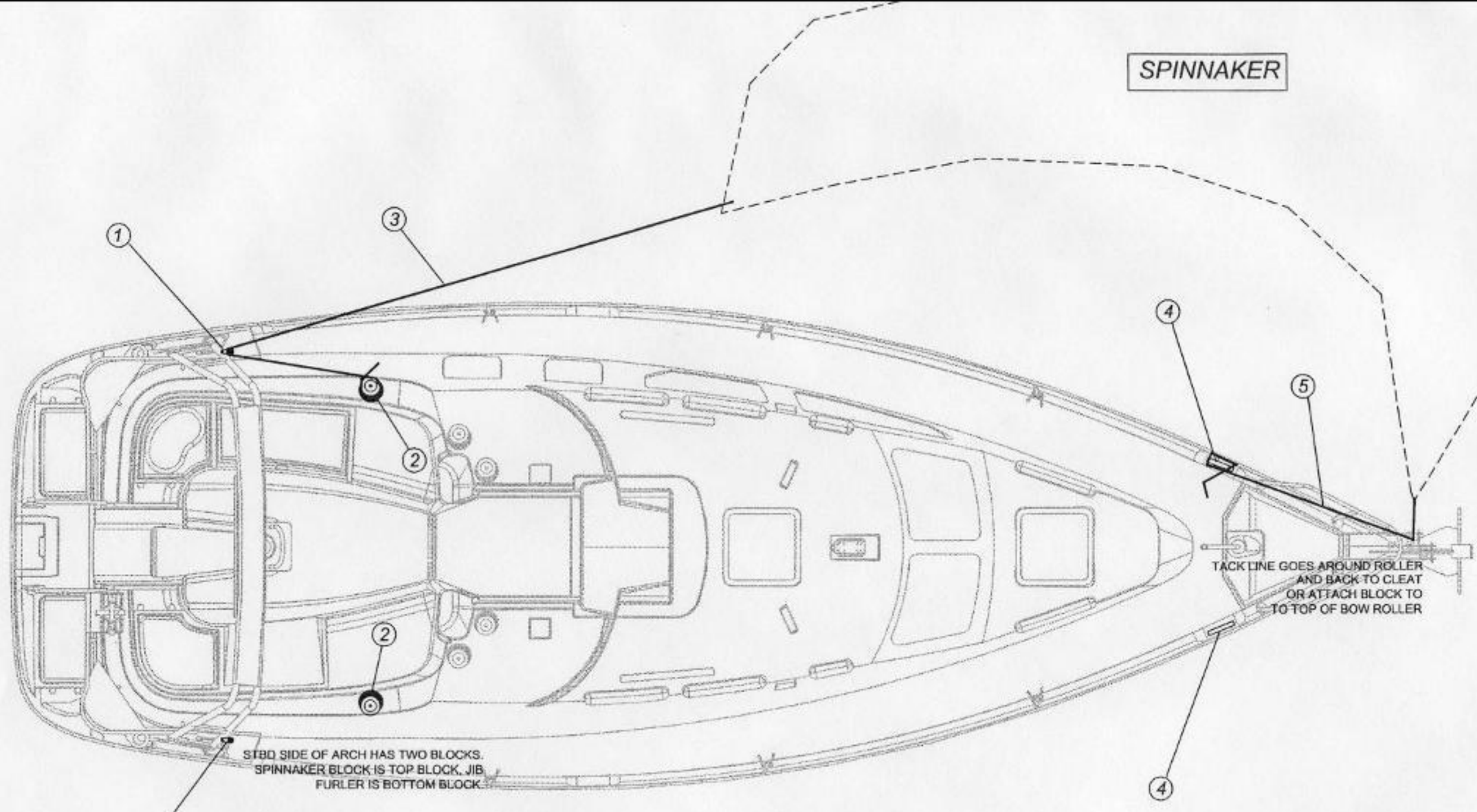
8. If you have the standard rig you need to attach the struts at this time. Attach the lower end of the strut to the smaller hole in the chainplate. Adjust the length by turning the ball joint bearing in the upper end of the strut until the holes in the pin can be attached. It is normal to have some play between the strut and the chainplate and strut bracket

9. The final test is to go sailing in 10-15 knots of wind. 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 10" [250mm] of headstay sag, the bend in the standard mast should be about 4" [100mm] and 1" [25mm] in the furling mast and it hould 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 compared to every 10 for the great lakes. You should consult a professional rigger for advice.



1 SPINNAKER SHEET BLOCK
2 SPINNAKER WINCH
3 SPINNAKER SHEET
4 SPINNAKER TACK LINE TO CLEAT
5 SPINNAKER TACK LINE

SEE PAGES 42A-1&2 FOR SPINNAKER BLOCK LAYOUT AND HALYARD RUNS.

OPT. SPINNAKER LAYOUT AND HARDWARE	
3568054	NONE
ENG	

HUNTER

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 60A)
4. TURN ON "START BATTERY SELECTOR SWITCH" (LOCATED INSIDE THE STBD GULLWING LOCKER)
5. ENSURE THE ENGINE ON/OFF PLUNGER (LOCATED UNDER THE HELMSMAN SEAT) IS PUSHED COMPLETELY IN. (REMEMBER PUSHED IN IS ON, PULLED OUT IS OFF).
6. TURN KEY TO START POSITION, RELEASE WHEN ENGINE STARTS

   NOTE" IF ENGINE APPEARS TO HAVE TROUBLE STARTING, SEE YANMAR MANUAL
7. TO SHUT ENGINE DOWN: PULL THE BLACK PLUNGER KNOB (LOCATED BELOW THE HELMSMAN SEAT) OUT UNTIL ENGINE STOPS RUNNING, THEN TURN KEY TO OFF POSITION.

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

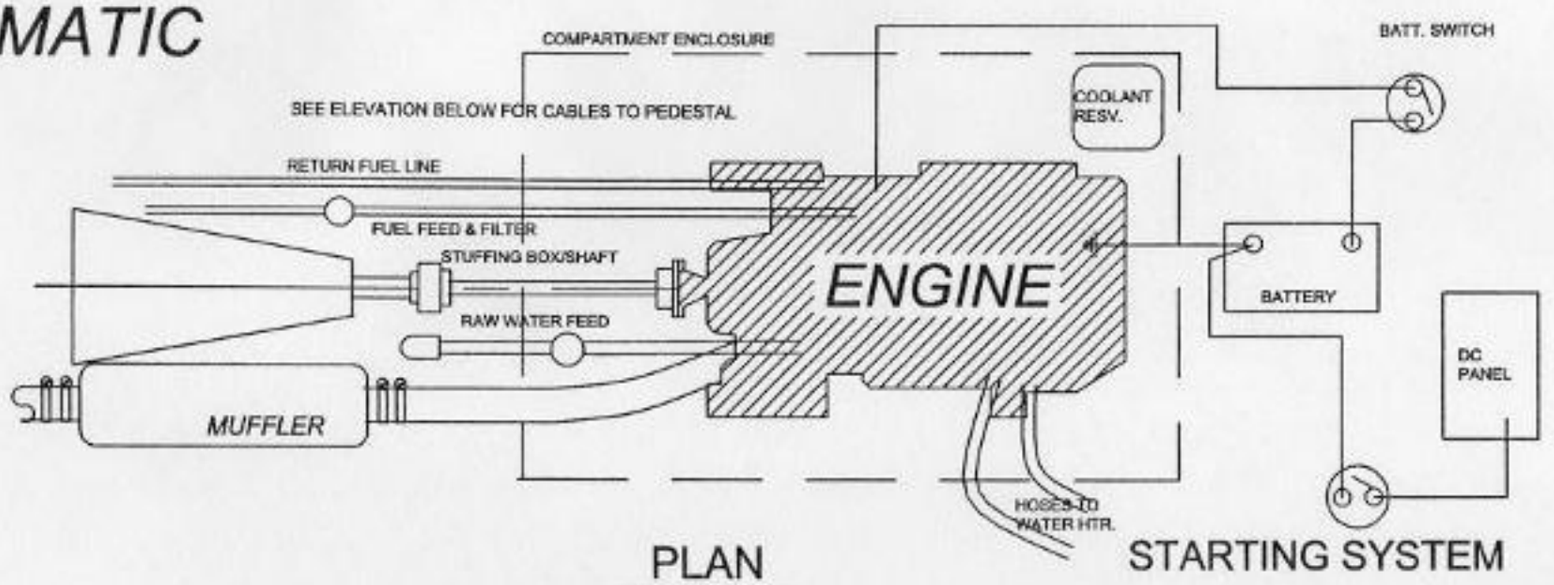
ENGINE SYSTEM OPERATION	
356805SA	NONE
ENG	

HUNTER

ENGINE IS ACCESSIBLE THROUGH COMPANIONWAY STEPS ENGINE BOX.
TO GAIN ACCESS, DEPRESS THE BUTTON LOCATED AFT OF THE TOP STEP,
AND PULL TOWARD YOU.

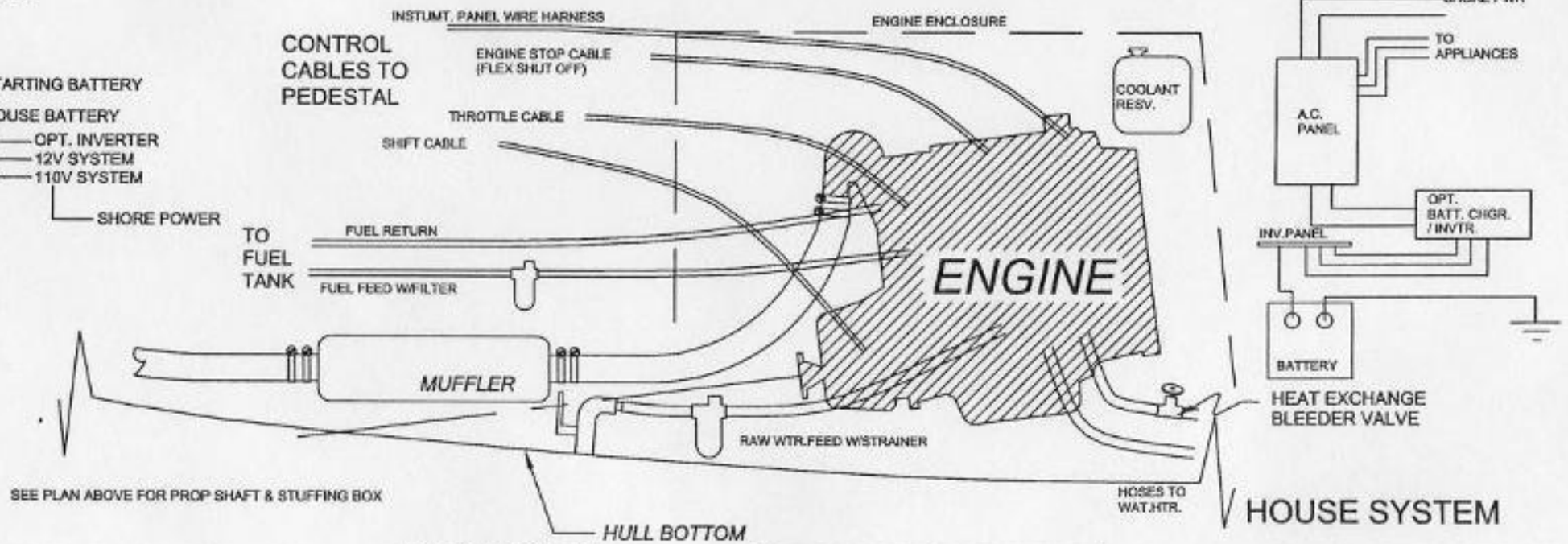
SYSTEMS SCHEMATIC

- ENGINE
  - WATER INTAKE
    - THRU-HULL
    - SEA COCK
    - STRAINER
  - EXHAUST
    - ELBOW
    - HOSE
    - MUFFLER
  - FUEL SYSTEM
    - FEED
    - RETURN
    - TANK
      - FILTER
      - VALVE @ TANK
- RUNNING GEAR
  - SHAFT
  - COUPLING
  - DRIPLESS
- CONTROLS
  - SHIFT
  - THROTTLE
  - PANEL HARNESS
- ELECTRICAL SYSTEM
  - BATT SW
    - STARTING BATTERY
    - HOUSE BATTERY
      - OPT. INVERTER
      - 12V SYSTEM
      - 110V SYSTEM
    - SHORE POWER



PLAN

STARTING SYSTEM



ELEVATION

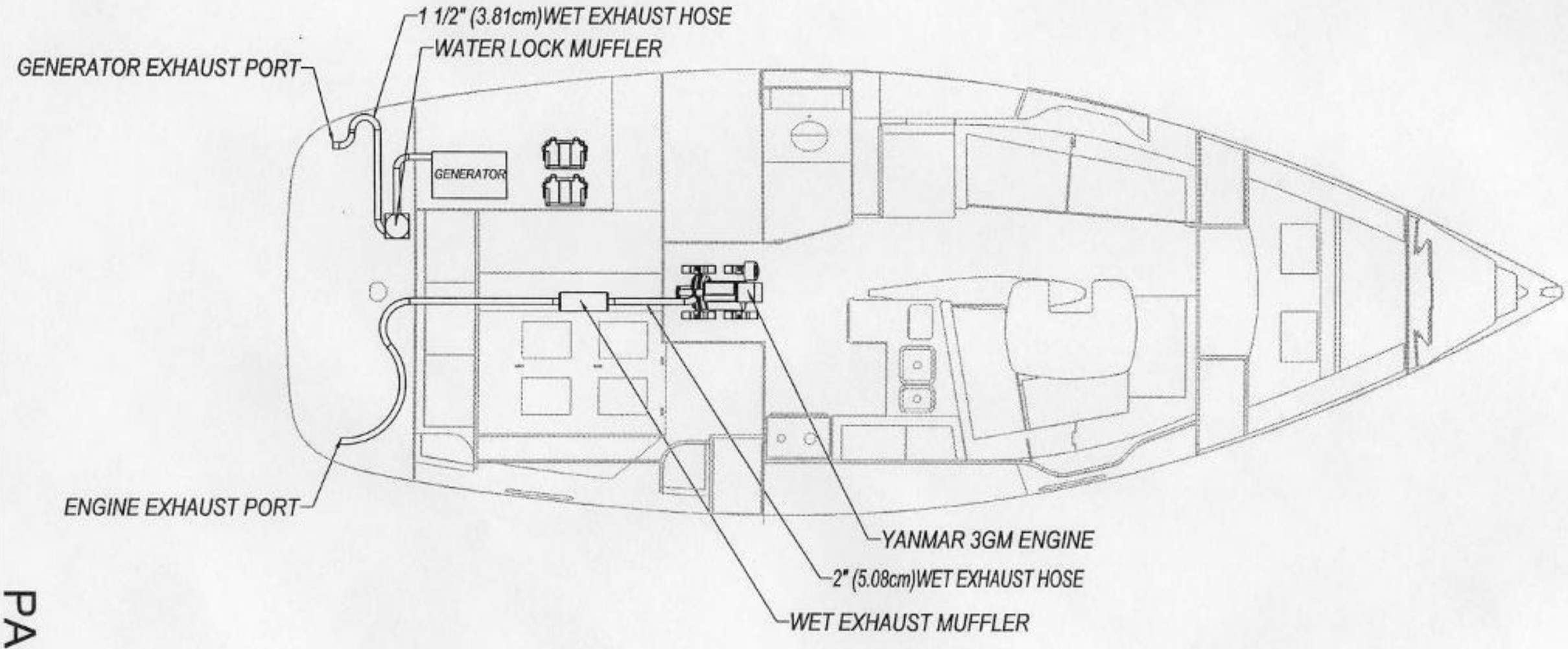
HOUSE SYSTEM

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

PAGE 55B

ENGINE COMPARTMENT LAYOUT	
3568055B	NONE
ENG	

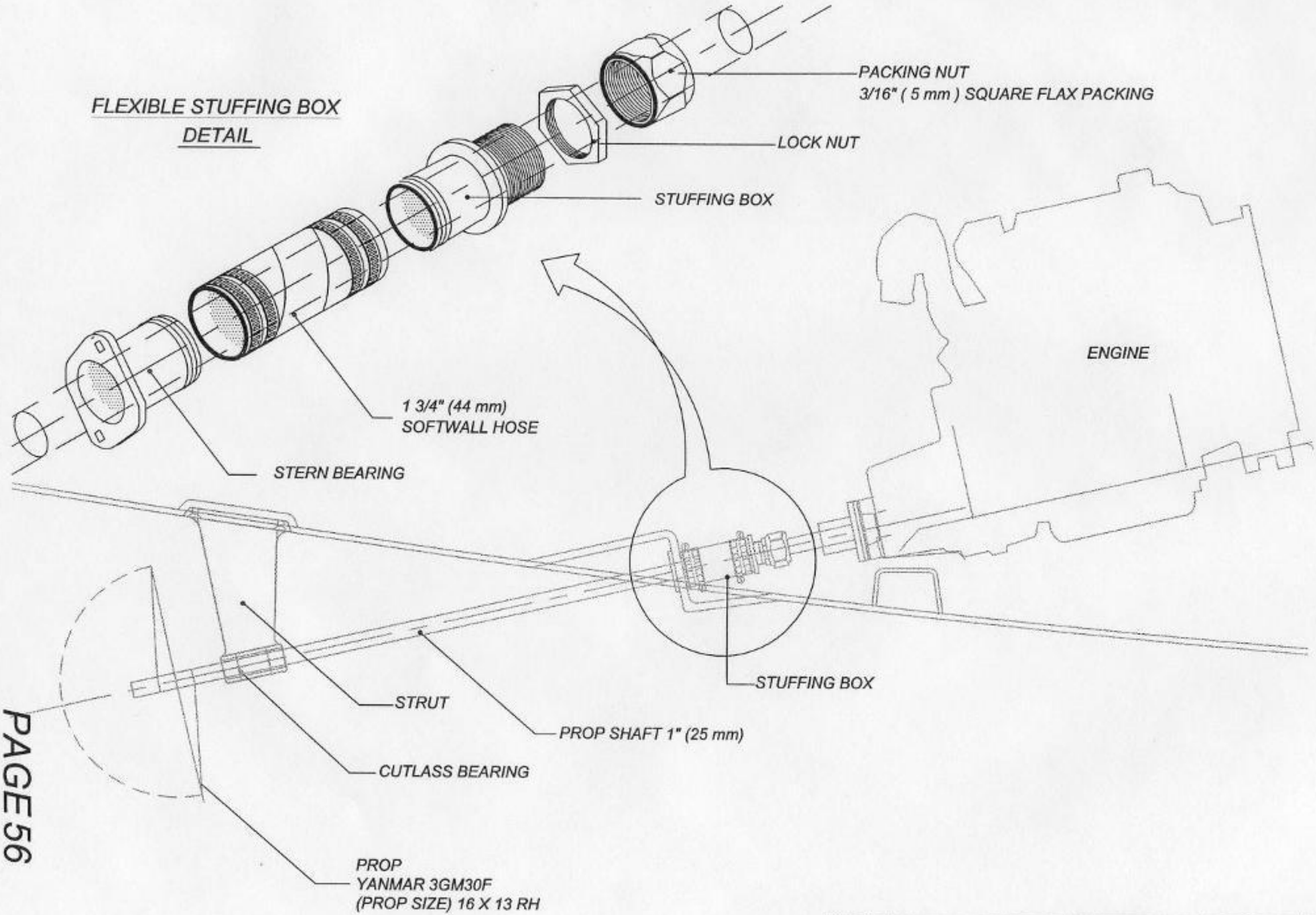
HUNTER



EXHAUST SYSTEM LAYOUT	
3568055C	NONE
JK	8/29/01

HUNTER

FLEXIBLE STUFFING BOX DETAIL



STUFFING BOX DETAIL	
3568056	NONE
ENG	

HUNTER

FRESH WATER SYSTEM OPERATION:

1. FILL TANK WITH FRESH WATER (SEE PAGE 60B FOR FILL LOCATIONS)
2. OPEN ISOLATOR VALVE (SEE PAGE 57B FOR LOCATION)
3. OPEN DESIRED MANIFOLD VALVES (SEE PAGE 57C)
4. TURN BATTERY SELECTOR SWITCH TO THE (1 , 2 OR BOTH) POSITION
   "FLIP" MAIN PANEL BREAKERS @ BATTERY SWITCH TO THE "ON" POSITION
   (PANEL LOCATED AT THE NAV STATION)
5. TURN ON "D.C. MAIN" BREAKER ON MAIN BREAKER PANEL
6. TURN ON "WATER PRESSURE" BREAKER ON MAIN BREAKER PANEL
7. "HOT WATER" IS ATTAINABLE BASICALLY IN TWO WAYS...
   - A. BY HEATING THE WATER THRU THE ENGINE HEAT EXCHANGER UNIT
   - B. BY SUPPLYING 110V.A.C. BY "DOCKSIDE SHORE POWER".
8. TO HEAT BY "ENGINE" SEE PAGE 55A FOR ENGINE OPERATING INSTRUCTIONS.

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

9. TO HEAT BY "SHORE POWER"
   - A. HOOK UP SHORE POWER CABLE/S
   - B. TURN ON A.C. MAIN BREAKER ON MAIN BREAKER PANEL
   - C. TURN ON "WATER HEATER" BREAKER ON MAIN BREAKER PANEL

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

WATER SYSTEM OPERATION	
3568057A	NONE
ENG	

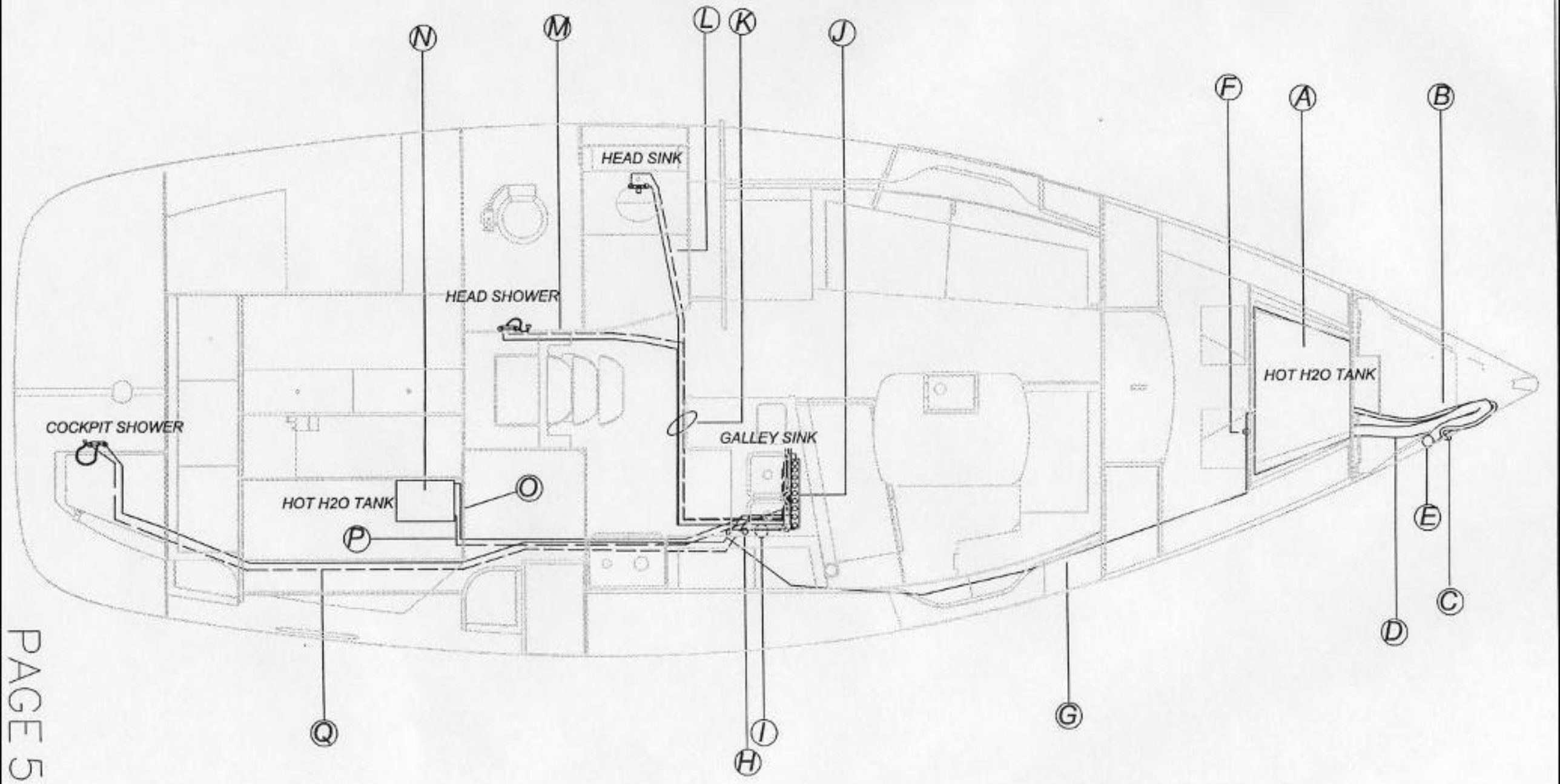
HUNTER

Ⓐ WATER TANK
Ⓑ TANK VENT HOSE
Ⓒ TANK VENT
Ⓓ TANK FILL HOSE
Ⓔ TANK FILL
Ⓕ ISOLATOR VALVE
Ⓖ LINE OUT TO MANIFOLD
Ⓗ WATER FILTER
Ⓘ WATER PUMP
Ⓙ WATER MANIFOLD
Ⓚ HEAD SINK & SHOWER LINES BUNDLED
Ⓛ HOT & COLD LINES TO HEAD SINK
Ⓜ HOT & COLD LINES TO HEAD SHOWER
Ⓝ WATER HEATER
Ⓞ COLD LINE TO WATER HEATER
Ⓟ HOT LINE FROM WATER HEATER TO MANIFOLD
Ⓠ HOT &COLD LINES TO COCKPIT SHOWER

ALL WATER LINES ARE 15mm TUBING

TANK VENT HOSE IS 3/4" (19mm) SHIELDVAC

TANK FILL HOSE IS 1-1/2" (38mm) SHIELDVAC



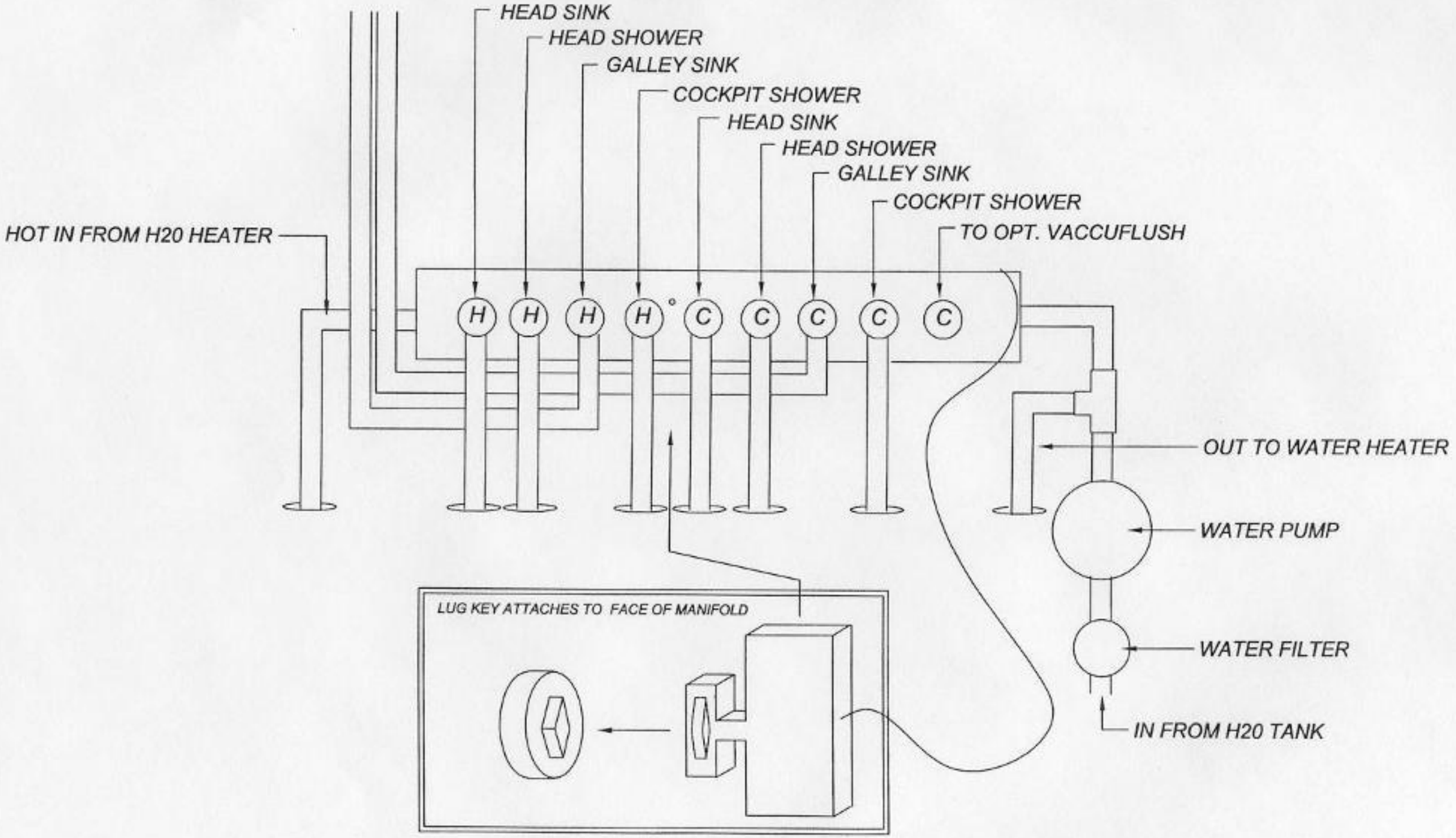
FRESH WATER SYSTEM LAYOUT

3568057B

NONE

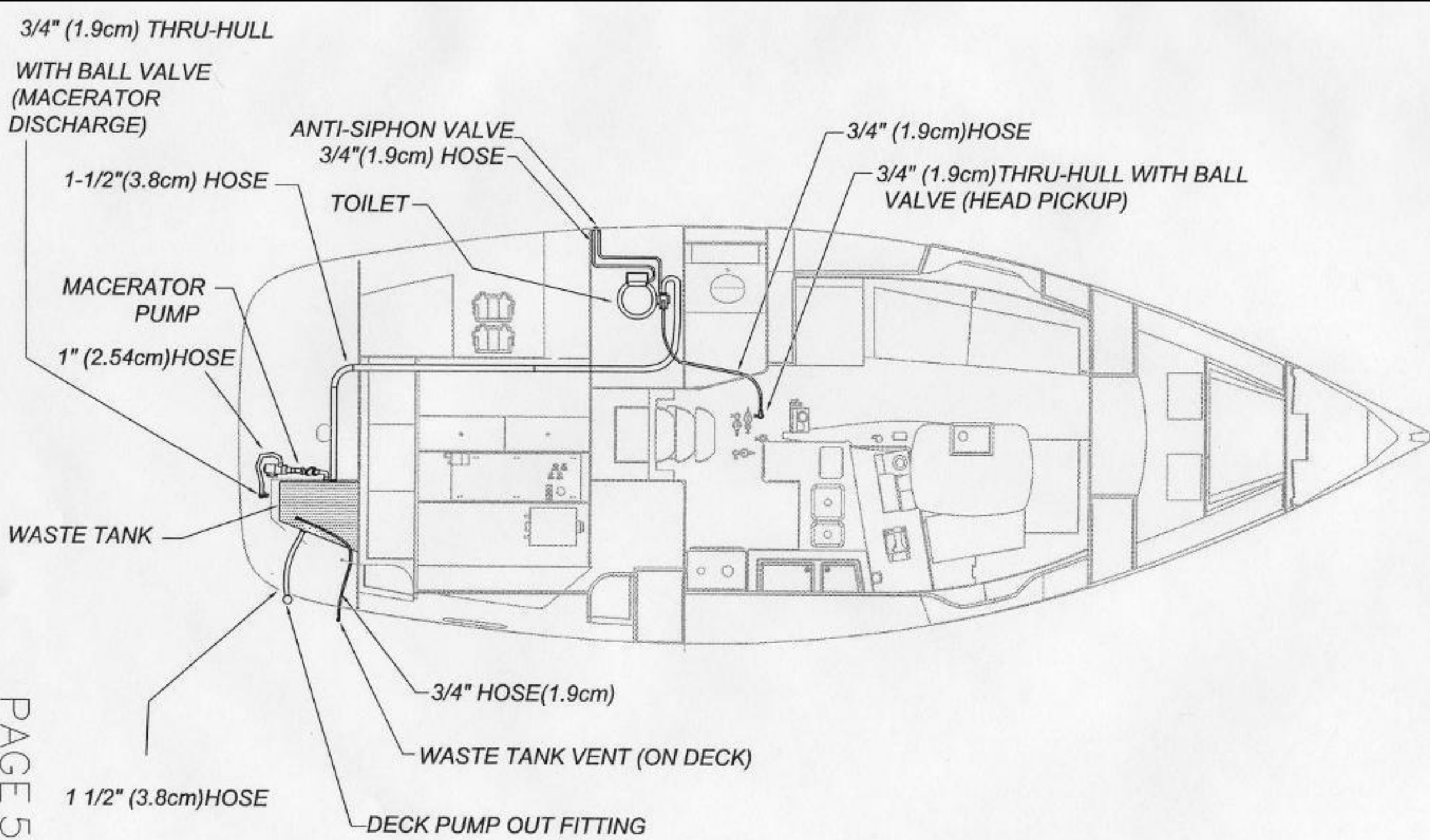
HUNTER

WATER MANIFOLD SCHEMATIC
(LOCATED IN CABINET BENEATH GALLEY SINK)



WATER MANIFOLD LAYOUT	
3568057C	NONE
ENG	7/27/01

HUNTER

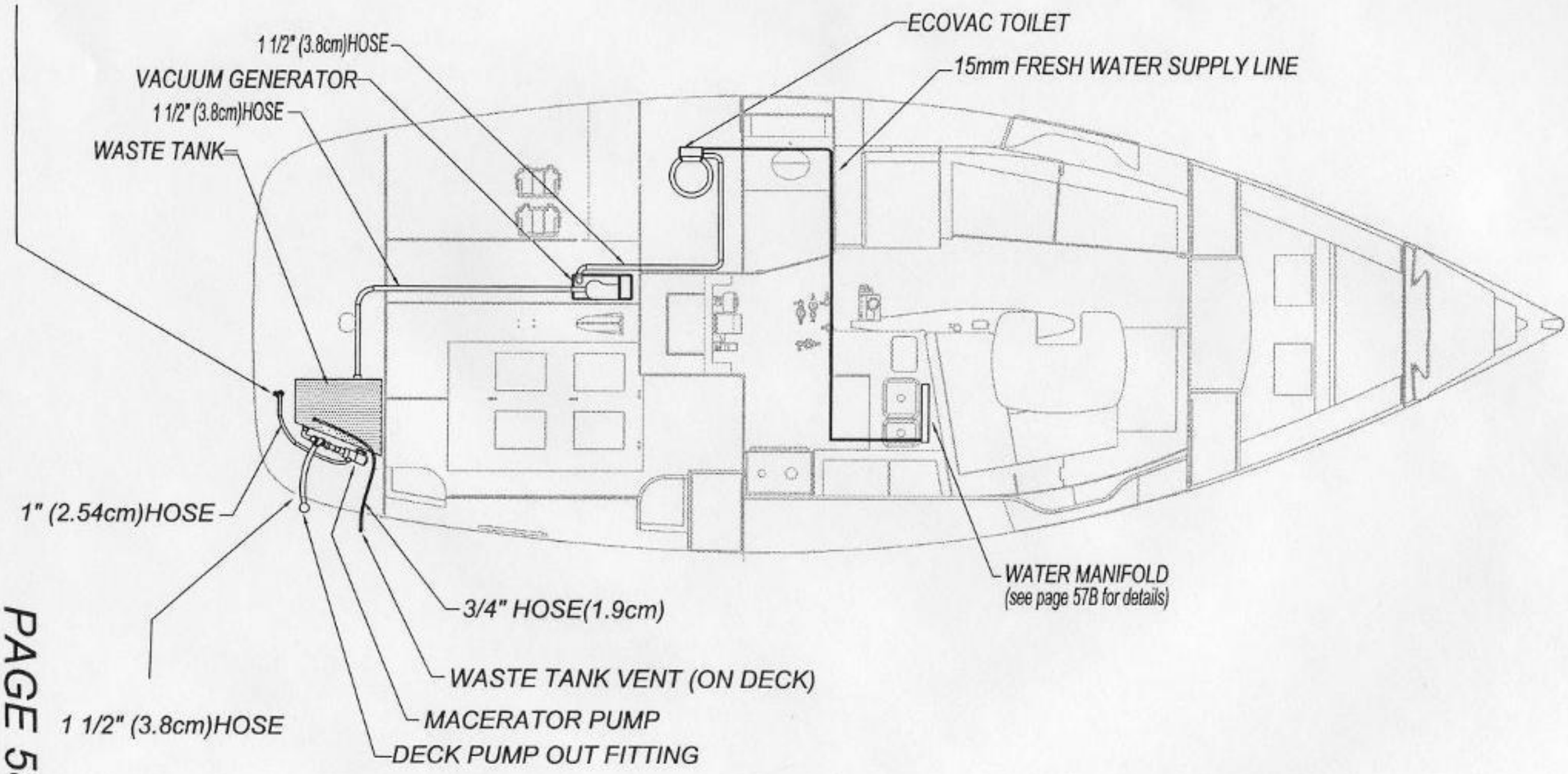


H356 WASTE SYSTEM LAYOUT

3568058A-1	NONE
JLK	6/20/99

HUNTER

3/4" (1.9cm) THRU-HULL WITH BALL VALVE (MACERATOR DISCHARGE)



PAGE 58A-2

VACUUM TOILET SYSTEM	
3568058A-2	NONE
ENG	

HUNTER

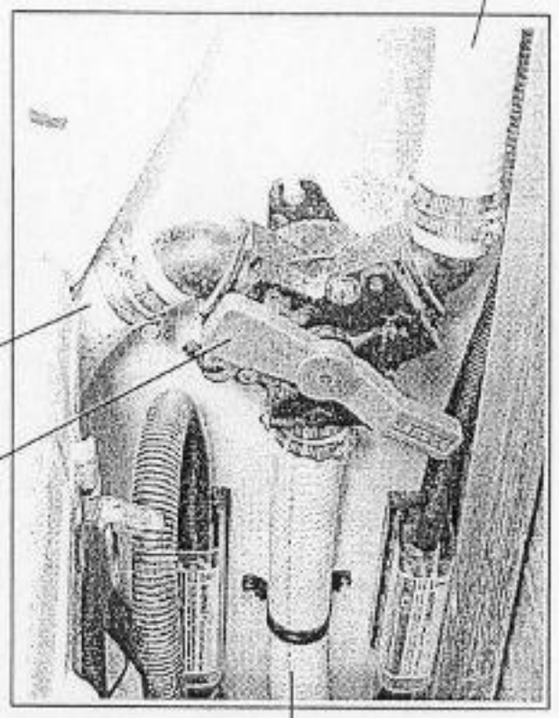
NOTE: USE OF DIRECT OVERBOARD WASTE DISCHARGE SYSTEM IS FORBIDDEN IN MANY AREAS. PLEASE CONSULT LOCAL REGULATIONS BEORE USING IN COASTAL WATERS.

SEE PREVIOUS PAGES FOR DETAILS OF STANDARD WASTE SYSTEM

TO VENTED LOOP AND BACK TO DISCHARGE

OUT TO WASTE TANK

VALVE SELECTOR:
1. DISCHARGE TO WASTE TANK
OR
2. DISCHARGE DIRECTLY OVERBOARD



VIEW INSIDE LOCKER LOOKING FORWARD

IN FROM TOILET

1-1/2" (3.8cm)VENTED LOOP FROM VALVE THEN BACK TO DISCHARGE

WASTE SYSTEM SELECTOR VALVE LOCATED IN GULL WING LOCKER (SEE INSET PHOTO FOR DETAIL)

POSSIBLE ALTERNATE LOCATION FOR SELECTOR VALVE

OVERBOARD DISCHARGE

WASTE TANK

1-1/2" (3.8cm) HOSE TO OVERBOARD DISCHARGE

1-1/2" (3.8cm) HOSE FROM TOILET TO DISCHARGE SELECTOR VALVE

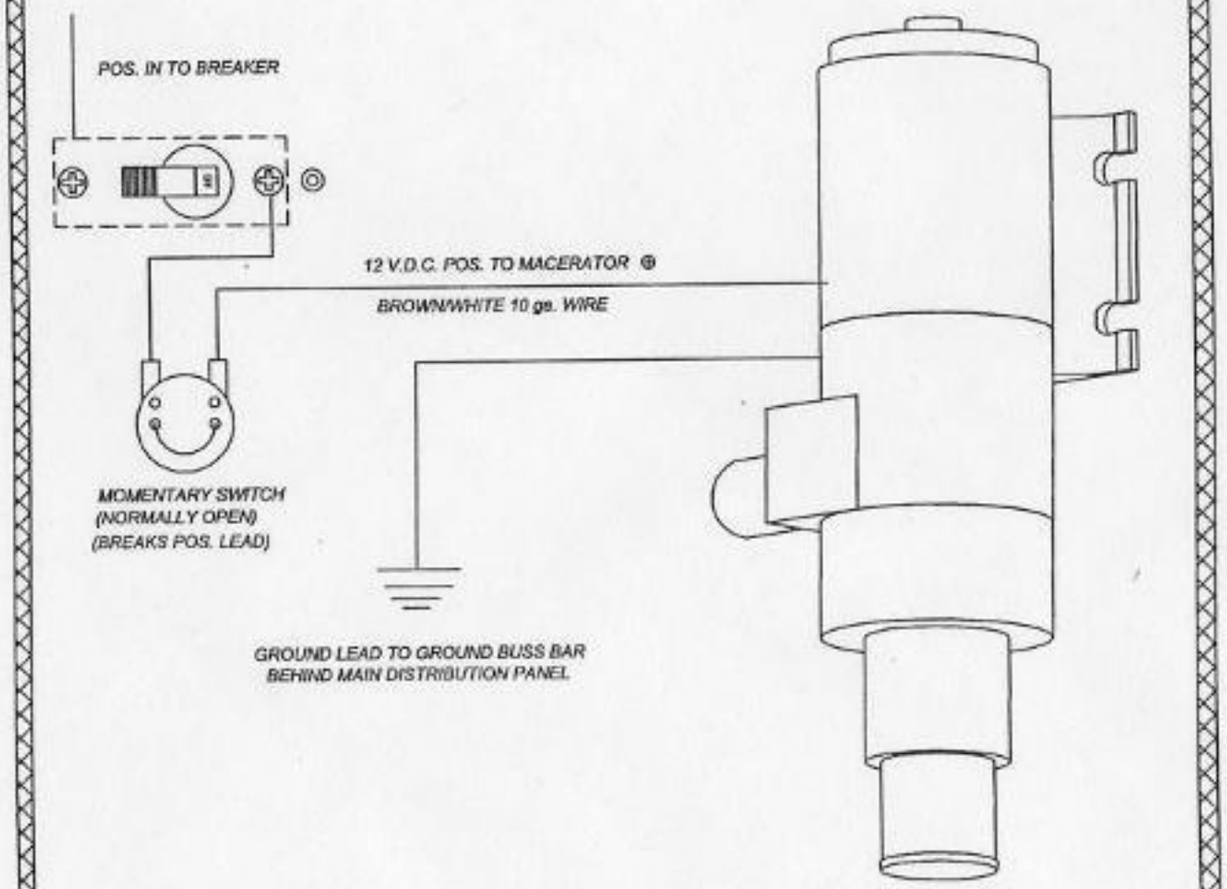
H356 OPTIONAL OVERBOARD WASTE SYSTEM LAYOUT

3568058A-3

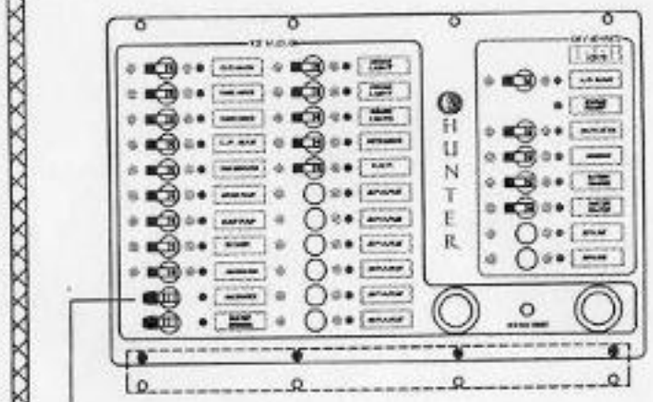
NONE

HUNTER

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 NOTICABLY, 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.



MACERATOR SCHEMATIC
TYPICAL

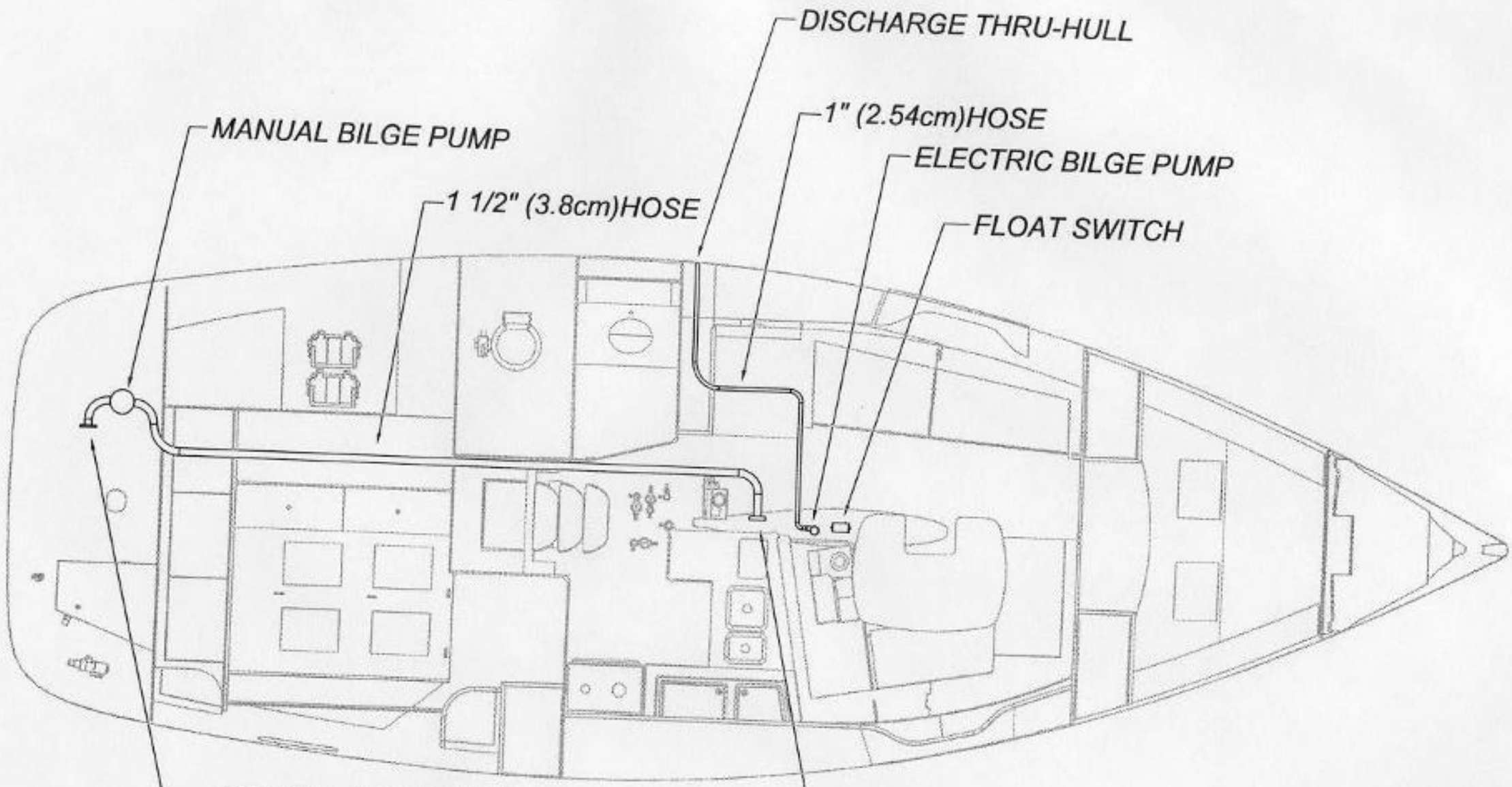


MOMENTARY SWITCH
LOCATED ON
MAIN ELECTRIC PANEL

MOMENTARY SWITCH LOCATION

DRAWING TITLE: MACERATOR SCHEMATIC	
DRAWING NO.: 35680588	REVISION NO.: NONE
SHEET NO.: ENG	DATE: 6/22/01

HUNTER



FOR INFORMATION REGARDING THE ELECTRICAL ELEMENTS OF THE BILGE PUMP SYSTEM, SEE PAGE 59B

H356 BILGE PUMPS LAYOUT	
3568059A	NONE
JLK	6/19/01

HUNTER

BATTERY SELECTOR SWITCH PANEL
(UNDER CHART TABLE)

BILGE
(RESET)

1

2

F

BATTERY #1

BATTERY #2

NOTE: IT IS NOT NECESSARY
TO TURN THE BATTERY SWITCH ON
FOR THE BILGE PUMP TO OPERATE.

BILGE PUMP "AUTO"
(POSITIVE) 12ga BR/OR

AUTO/MANUAL
BILGE SW.

FLOAT
SWITCH

BILGE
PUMP

BILGE PUMP "MANUAL"
(POSITIVE) 12ga BROWN/RED

BILGE PUMP GROUND 12ga YLW

GROUND BUSS BAR (LOCATED
BEHIND BATTERY SELECTOR
SWITCH AT NAV. STATION)

PAGE 59B

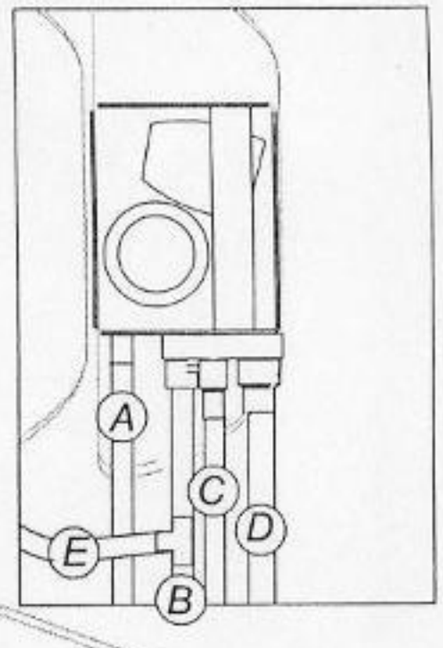
ELECTRIC BILGE PUMP SCHEMATIC

35690598 | NONE

HUNTER

DETAIL OF SUMP PUMP COMPARTMENT

A OUT TO THRU HULL DISCHARGE
B IN FROM VANITY FLOOR
C IN FROM SHOWER
D IN FROM ICEBOX
E IN FROM WET LOCKER



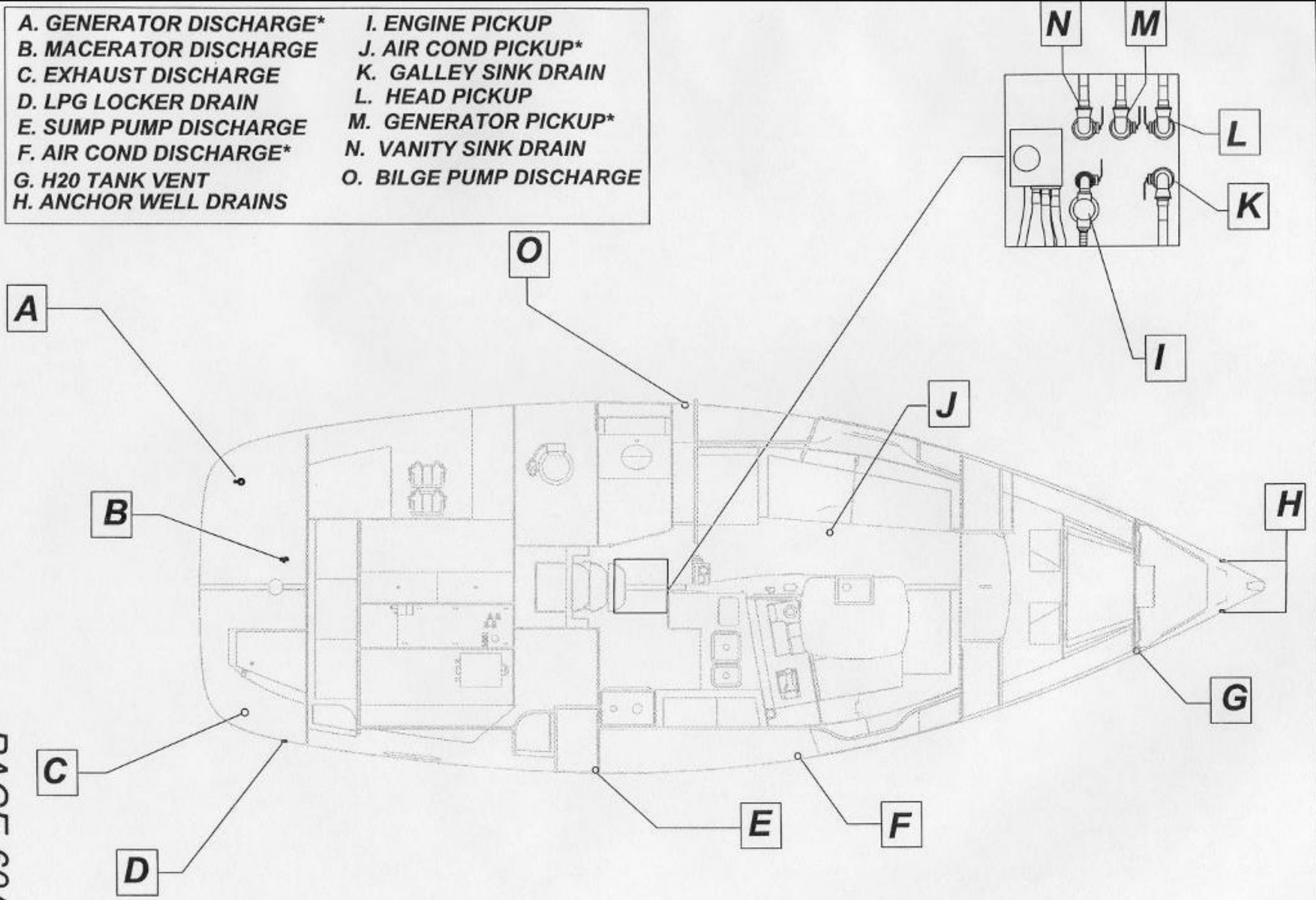
VANITY FLOOR DRAIN
SHOWER FLOOR DRAIN
WET LOCKER DRAIN
3/4" (1.9cm)HOSE
3/4" (1.9cm)HOSE
SUMP PUMP
1" (2.54cm)HOSE
1" (2.54cm)HOSE
3/4" (1.9cm)HOSE
3/4"(1.9cm)BALL VALVE
ICE BOX DRAIN
3/4"(1.9cm)DISCHARGE THRU-HULL FITTING

SUMP PUMP SYSTEM LAYOUT

3568059C	NONE
KK	6/25/01

HUNTER

A. GENERATOR DISCHARGE*
B. MACERATOR DISCHARGE
C. EXHAUST DISCHARGE
D. LPG LOCKER DRAIN
E. SUMP PUMP DISCHARGE
F. AIR COND DISCHARGE*
G. H20 TANK VENT
H. ANCHOR WELL DRAINS
I. ENGINE PICKUP
J. AIR COND PICKUP*
K. GALLEY SINK DRAIN
L. HEAD PICKUP
M. GENERATOR PICKUP*
N. VANITY SINK DRAIN
O. BILGE PUMP DISCHARGE

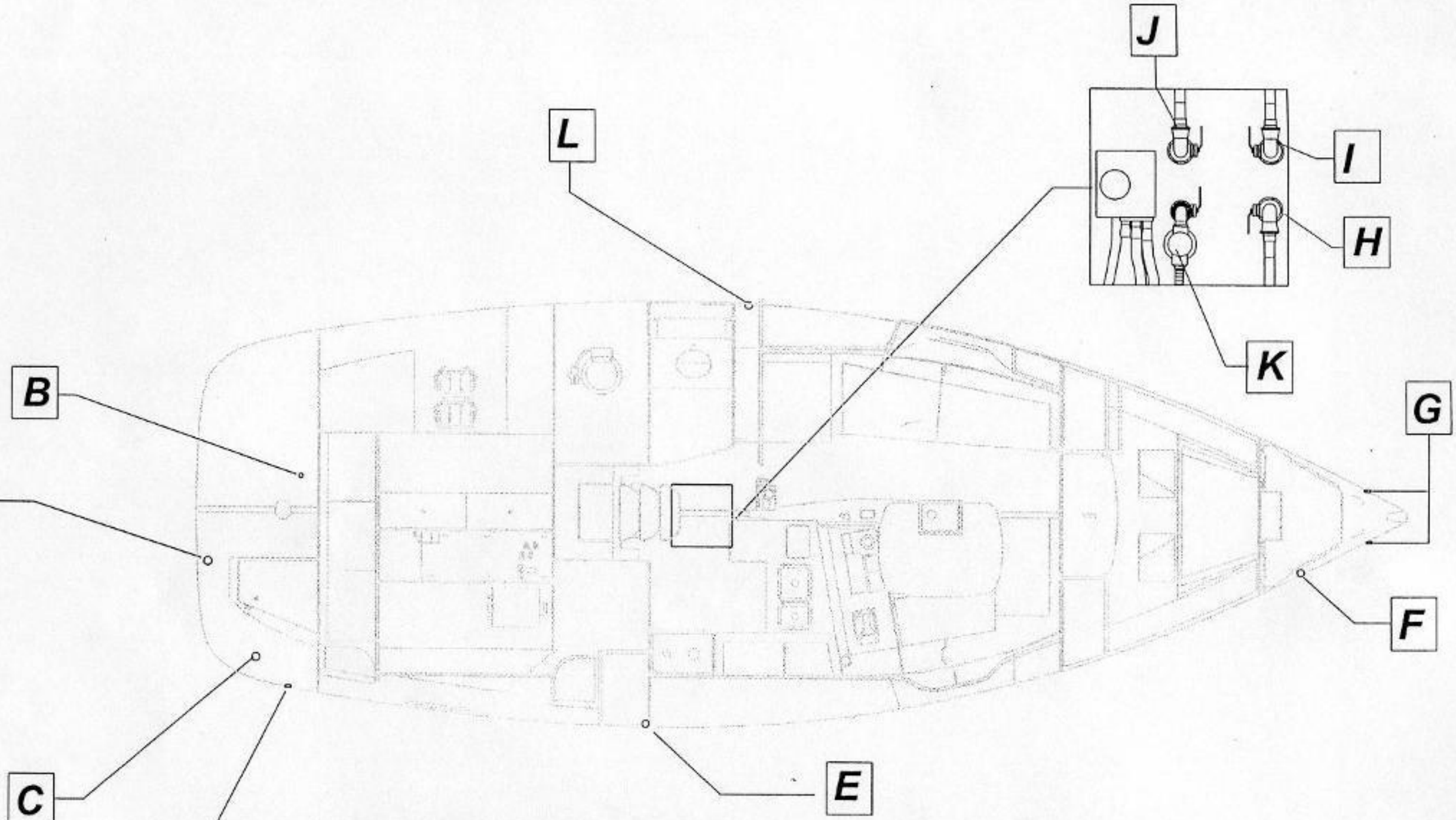


*THIS DRAWING DEPICTS THRUHULLS FOR GENERATOR AND AIR CONDITIONER OPTIONS

H356 THRU HULL LOCATIONS

3568060A-1 | NONE

HUNTER

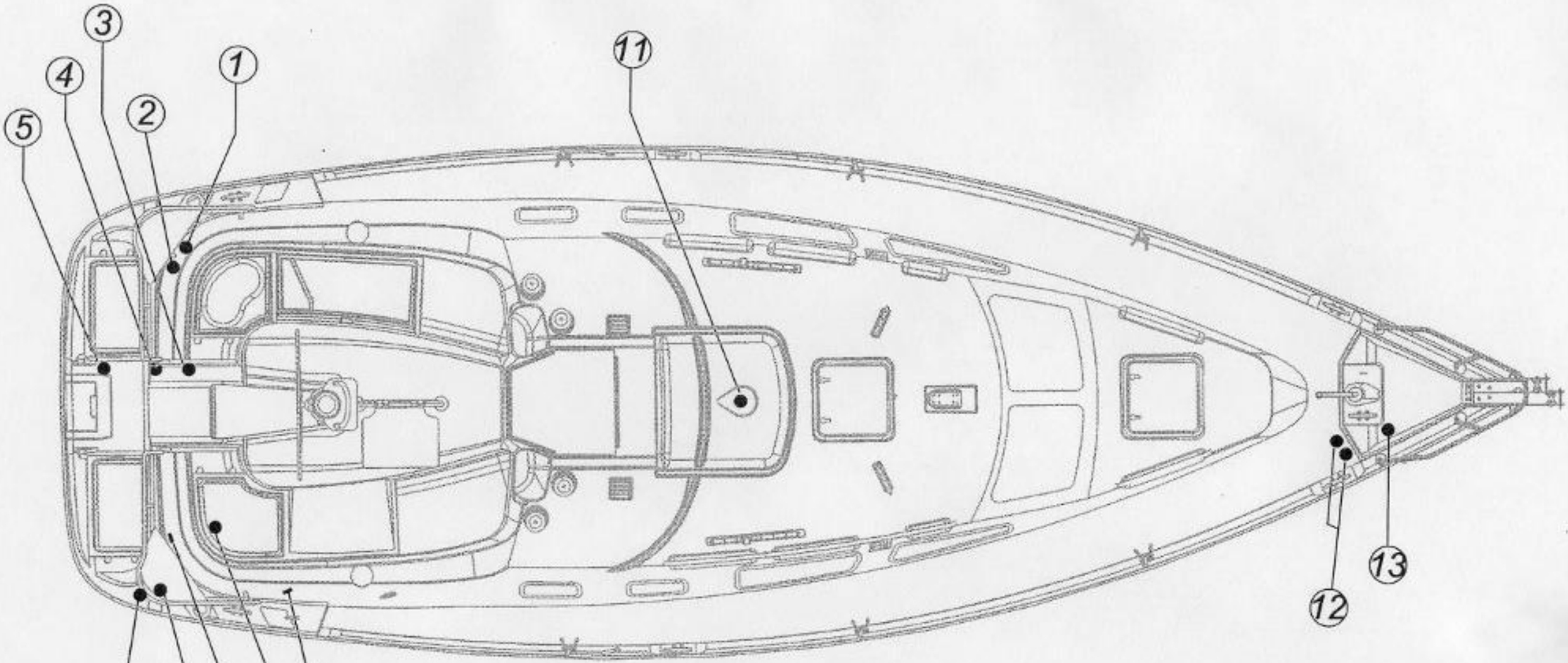


A. OVERBOARD WASTE DISCHARGE
B. MACERATOR DISCHARGE
C. EXHAUST DISCHARGE
D. LPG VENT
E. SUMP PUMP DISCHARGE
F. H20 TANK VENT
G. ANCHOR WELL DRAINS
H. GALLEY SINK DRAIN
I. HEAD PICKUP
J. VANITY SINK DRAIN
K. ENGINE H20 PICKUP
L. BILGE PUMP DISCHARGE

*THIS DRAWING DEPICTS THRUHULLS FOR THE OVERBOARD WASTE SYSTEM DISCHARGE OPTION

H356 THRU HULL LOCATIONS	
3568060A-2	NONE

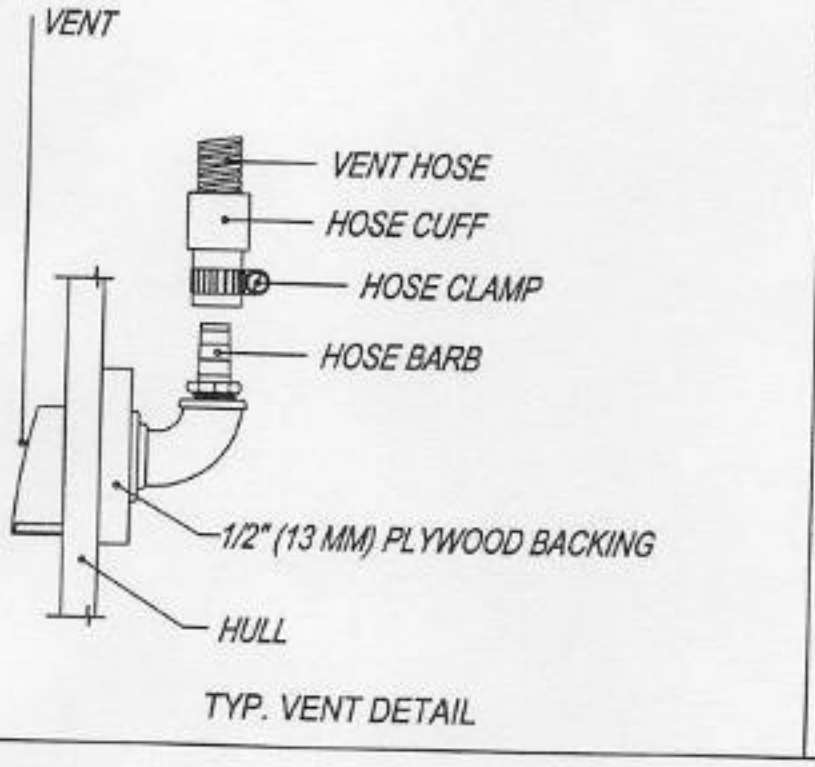
HUNTER



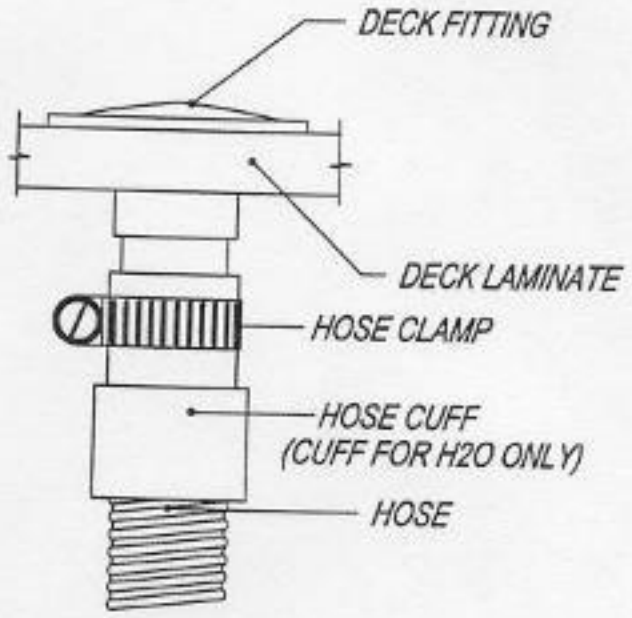
1 SHORE POWER I
2 SHORE POWER II (OPT. AIR COND)
3 ENGINE KILL SWITCH
4 MANUAL BILGE PUMP
5 BILGE PUMP DISCHARGE
6 WASTE PUMPOUT
7 FUEL FILL
8 FUEL TANK VENT
9 LPG LOCKER DRAINS
10 WASTE TANK VENT
11 DORADE VENT
12 WINDLASS UP/DOWN SWITCHES
13 WATER TANK FILL

DRAWING TITLE	
H356 THRU-DECK LOCATIONS	
DRAWING NO. 3568060B	REVISION NO. NONE
DRAWN BY ENG	DATE 6/18/01

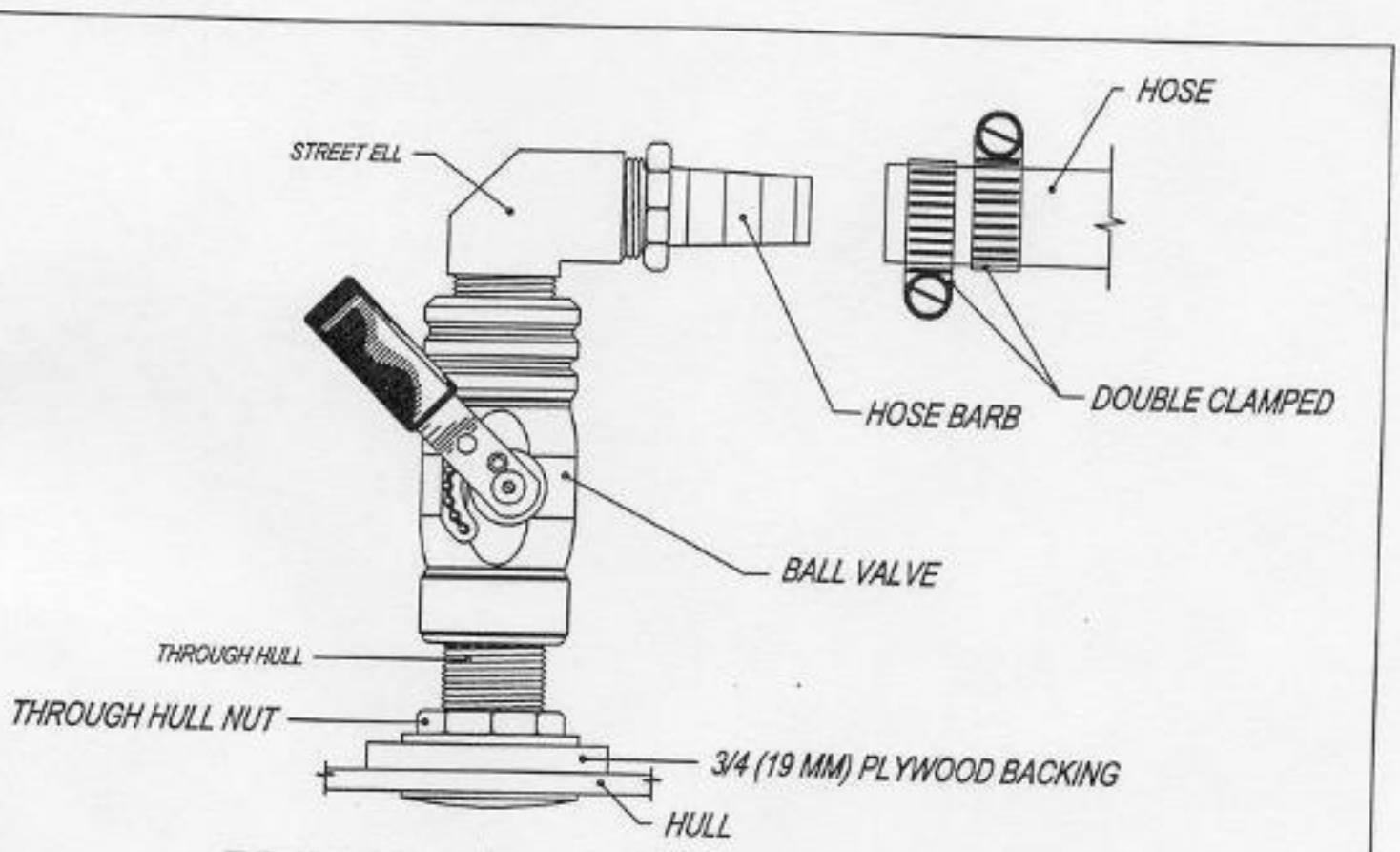
HUNTER



TYP. VENT DETAIL



TYP DECK PLATE DETAIL



TYP. THRU-HULL W/ SEACOCK DETAIL

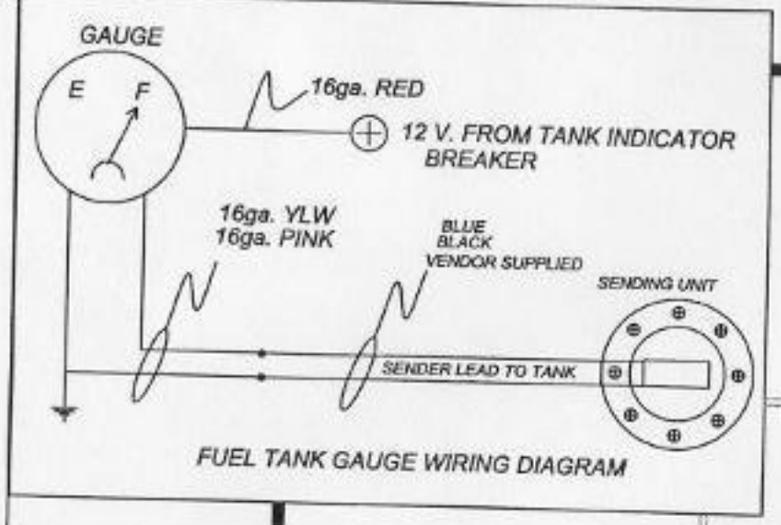
HUNTER

TYPICAL THRU DECK/THRU HULL FITTINGS

NONE

35680S0C

ENG



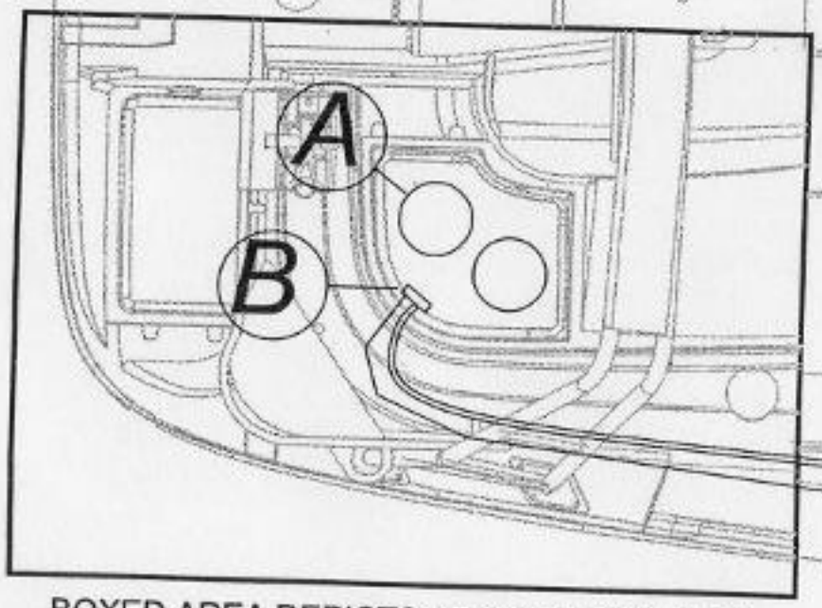
FUEL TANK GAUGE WIRING DIAGRAM

A RETURN FUEL LINE 1/4" (.66cm)
B GENERATOR FUEL SUPPLY LINE 1/4" (.66cm)
C FUEL FILL HOSE 1-1/2" (3.8cm)
D FUEL FILL
E FUEL VENT
F FUEL VENT HOSE 5/8" (1.6cm)
G FUEL FILTER/WATER SEPARATOR
H FUEL RETURN LINE 1/4" (.66cm)
I ENGINE FUEL SUPPLY LINE 1/4" (.66cm)
J ENGINE AND GENERATOR FUEL RETURN PORTS
K FUEL CUTOFF VALVES
L FUEL LEVEL SENSOR

FUEL SYSTEM LAYOUT	
3566061	NONE
JLK/MAG	6/27/01

HUNTER

A LPG TANK(s) LOCATED IN STBD COCKPIT GULLWING SEAT LOCKER
B LPG SOLENOID WALL MOUNTED IN LOCKER
C RUBBER GAS LINE HOSE (COPPER IN CERTAIN REGIONS)
D POWER LINE FROM LPG CONTROL SWITCH
E GIMBALLED STOVE
F REMOTE CONTROL SHUT-OFF LOCATED IN NAV STATION
G POWER FROM MAIN ELECTRIC PANEL TO REMOTE SWITCH



BOXED AREA DEPICTS ABOVE DECK AREA

LPG LINES LAYOUT

3568062A	NONE
ENG	

HUNTER

MAIN VALVE

GAUGE

REGULATOR

FROM TANK

TO STOVE

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

BOTTLE

SOLENOID

GAS FEED OUTLET

REMOTE CONTROL SHUT-OFF SOLENOID @ OR NEAR STOVE

ENCL.(LKR)

NOTE: THIS AREA IS PROVIDED FOR AN ADDITIONAL SECOND OPTIONAL LPG TANK

CONTINUOUS LPG APPROVED HOSE

TO MAIN ELECTRIC PANEL

TRANSOM

LPG BOTTLE

SEALING GROMMET

FLEX-HOSE @ STOVE

GIMBALLED STOVE

NOTE: THIS DRAIN LINE MUST NOT HAVE ANY LOW SPOTS OR DIPS. IT SHOULD BE A CONTINUOS DOWNHILL RUN.

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

VAPOR DRAIN AND VENT

WATERLINE

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

HULL

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

LPG SYSTEM SCHEMATIC	
3568062B	NONE
ENG	

HUNTER

NOTE TO CONSUMER

*THE FOLLOWING PAGES PROVIDE DETAILED INFORMATION, SCHEMATICS ETC. PERTAINING TO THE H356 **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.

ELECTRICAL INFORMATION FOR PLUMBING SYSTEMS ISI IN PLUMBING SECTION.

H356 ELECTRICAL SYSTEM CONTENTS

*PAGES 63A-10 THRU 63B-4 CONTAINS **A.C.** POWER SYSTEMS*
(120 V.A.C.) (220 V.A.C. ON OVERSEAS MODELS)

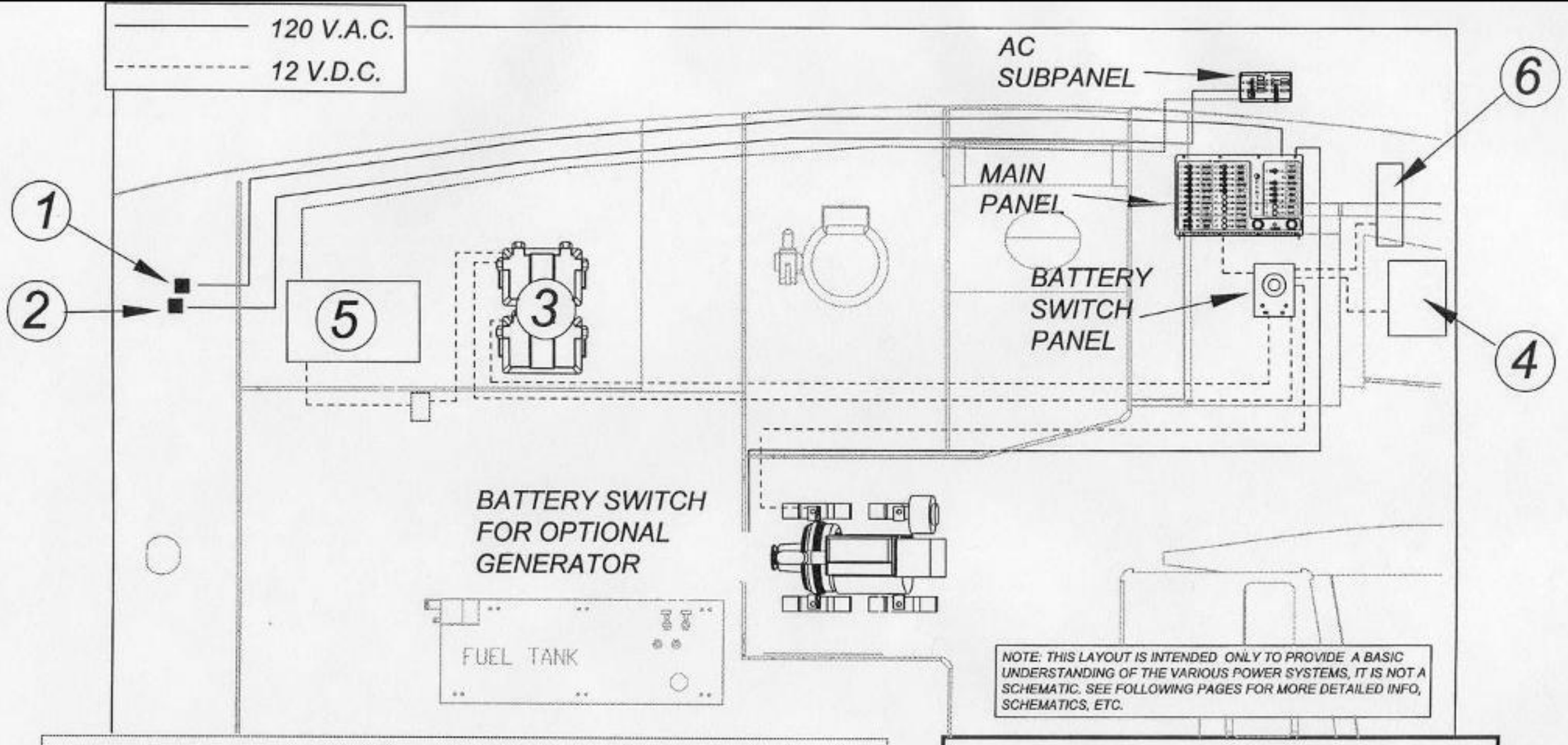
*PAGES 64A-1 THRU 64J CONTAINS **D.C.** POWER SYSTEMS*
(12 VOLT D.C.)

H356 POWER SYSTEMS OPERATION PROCEDURES

POWER SOURCE:	TO OPERATE:
D.C. MAIN	**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. **IF NO POWER:** CHECK 50a. RESET ON "HOUSE" BATTERY SWITCH PANEL AND/OR BATTERY CONNECTIONS IF NECESSARY.
D.C. MAIN	**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) **IF NO POWER: CHECK 300 amp IN LINE FUSE AT HOUSE BATTERY IN HOUSE BATTERY COMPARTMENT, AND/OR BATTERY CONNECTIONS IF NECESSARY.**
SHORE POWER "A"	1. CONNECT SHORE POWER CABLE #1, TO SUPPLY POWER TO "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL 2. TURN ON MAIN BREAKER ON SHORE POWER "A" SIDE OF PANEL 3. "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL SHOULD NOW BE OPERABLE (NOTE: APPROX. 15 SECOND DELAY ON OPT. INV. MODELS) **IF NO POWER TO "A" SIDE OF PANEL CHECK THE FOLLOWING:** **1. BREAKER AT DOCKSIDE POWER SUPPLY BOX** **2. BREAKER #1 INSIDE PORT COCKPIT SEAT LOCKER**
SHORE POWER "B" NOTE:	1. CONNECT SHORE POWER CABLE #2, TO SUPPLY POWER TO "B" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL 2. TURN ON MAIN BREAKER ON SHORE POWER "B" SIDE OF PANEL 3. "B" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL SHOULD NOW BE OPERABLE **IF NO POWER TO "B" SIDE OF PANEL CHECK THE FOLLOWING:** **1. BREAKER AT DOCKSIDE POWER SUPPLY BOX** **2. BREAKER #2 INSIDE PORT COCKPIT SEAT LOCKER** **NOTE: #2 SHORE POWER IS SUPPLIED WITH OPTIONAL AIR COND. EQUIPPED MODELS ONLY** 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.**
OPTIONAL INVERTER **WHEN IN INVERT MODE** (CONVERTS 12V.D.C. TO 110V.A.C.) POWERS "A" SIDE OF A.C. PANEL ONLY WHEN INVERTING USED WHEN NO SHORE POWER OR GEN.POWER BEING USED.	1.TURN THE HOUSE BATTERY SELECTOR SWITCH UNDER CHART TABLE TO THE "ON" POSITION 2. TURN THE INVERTER REMOTE SW. (LOCATED AT INB. END OF CHART SEAT) TO THE "ON" POSITION 3. TURN ON DESIRED BREAKER (EX. OUTLETS) ON "A" SIDE OF A.C. MAIN DISTRIBUTION PANEL 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:** 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 THIS PROCEDURE ALLOWS INVERTER TO SUPPLY 110V.A.C. POWER TO "A" SIDE OF A.C. PANEL BY DRAWING POWER FROM HOUSE BATTERY (THIS APPLIES WHEN THERE IS NO SHORE OR GENERATOR POWER BEING SUPPLIED TO PANEL)
BUILT IN INVERTER-TRANSFER SWITCH.	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.
OPTIONALGENERATOR	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

H356 POWER SYSTEMS OPERATION PROCEDURES(CONT'D)

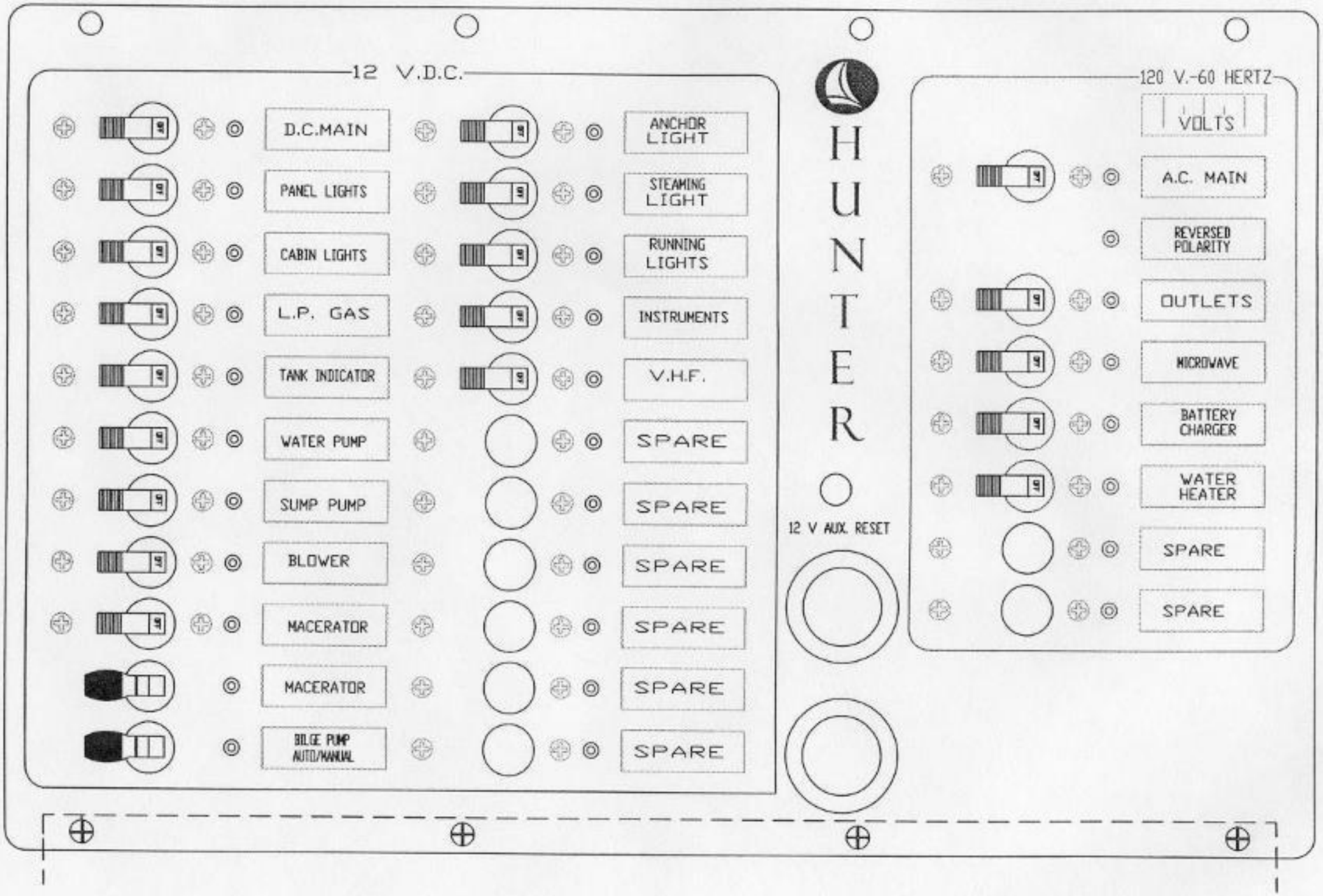
STD. BATT. CHARGER	1. CONNECT SHORE POWER CABLE #1 TO POWER "A" SIDE OF A.C. POWER MAIN DISTRIBUTION PANEL AND TURN ON "SHORE POWER A" MAIN BREAKER 2. TURN "BATTERY CHARGER" BREAKER (LOCATED ON "A" SIDE OF A.C. PANEL) TO THE "ON" POSITION NOTE: **IT IS NOT NECESSARY** TO TURN ON THE "HOUSE" OR THE "START" BATTERY SWITCHES TO PROVIDE CHARGING POWER TO THE HOUSE & START BATTERIES.
ENGINE ALTERNATOR	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	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 2. TURN INVERTER REMOTE SWITCH TO THE "**OFF**" POSITION 3. TURN HOUSE BATTERY ON/OFF SWITCH TO THE "ON" POSITION NOTE: **IT IS NOT NECESSARY** TO TURN ON THE "START" BATTERY SWITCH TO PROVIDE CHARGING POWER TO THE START BATTERY. 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
OPT. GENERATOR	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.



1 SHORE POWER A POWERS "A" SIDE OF AC PANEL
2 SHORE POWER B POWERS OPTIONAL "AC" SUBPANEL
3 HOUSE BATTERIES PROVIDE 12V.D.C. VOLTAGE TO DC SIDE OF DISTRIBUTION PANEL AND TO THE OPTIONAL INVERTER VIA THE BATTERY SWITCH PANEL.
4 OPTIONAL INVERTER CONVERTS 12V.D.C. TO A.C. VOLTAGE AND POWERS "A" SIDE OF A.C. PANEL ONLY. (WITH THE EXCEPTION OF THE WATER HEATER)
5 OPTIONAL GENERATOR PROVIDES A.C. POWER TO BOTH "AC" PANEL AND SUBPANEL WHEN GENERATOR AND PARALLEL BREAKERS ARE IN THE "ON" POSITION WHILE GENERATOR IS RUNNING.
6. OPTIONAL BATTERY CHARGER

BASIC POWER SUPPLY SYSTEM LAYOUT	
3568041	NONE
ENG	

HUNTER



PAGE 63A-4

MAIN ELECTRIC DISTRBUTION PANEL	
3568063A-4	NONE
ENG	6/27/01

HUNTER

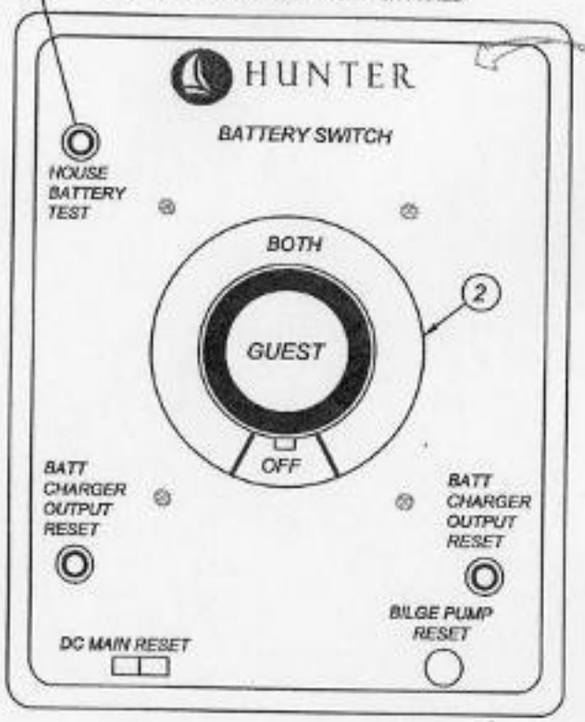
H356 12 V.D.C. DISTRIBUTION PANEL

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	SUPPLIES POWER TO ALL INTERIOR LIGHTS AND COCKPIT LIGHT
STEREO	SUPPLIES POWER TO STEREO UNIT
REFRIGERATION	SUPPLIES POWER TO REF. COMPRESSOR, ADJUST THERMOSTATS INSIDE FRIDGE/FREEZER TO DESIRED TEMP.
TANK INDICATOR	SUPPLIES POWER TO FUEL TANK GAUGES
WATER PRESSURE	SUPPLIES POWER TO FRESH WATER PUMP TO PRESSURIZE WATER SYSTEM.
MACERATOR	SUPPLIES POWER TO MACERATOR (LOCATED INSIDE STBD AFT SWIM LOCKER), **NOTE: THESE DEVICES ARE USED FOR DIRECT** **OVERBOARD DISCHARGE OF RAW SEWAGE, BE AWARE OF YOUR LOCAL BOATING REG. BEFORE USING.**
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.
RUNNING LIGHTS	SUPPLIES POWER TO THE BOW, STERN , & COMPASS LIGHT. USE AT NIGHT UNDER SAIL AND/OR ENGINE POWER.
L. P. GAS	SUPPLIES POWER TO L.P. GAS SWITCH AT GALLEY. SEE "L.P. GAS MANUAL" FOR OPER. & SAFETY INST.
VHF	SUPPLIES POWER TO THE VHF RADIO
INSTRUMENTS	SUPPLIES POWER TO DEPTH, & SPEED REPEATERS LOCATED ON HELM CONSOLE.
OPT. 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)**
OPT. AUTOPILOT	THIS BREAKER PROVIDED FOR AN OPTIONAL AUTOPILOT SYSTEM.
BLOWER	SUPPLIES POWER TO THE VENTILATION BLOWER IN THE ENGINE BOX
SPARE/S	***SEE NOTATION BELOW**
12V.D.C. AUX.	THIS POWER PLUG PROVIDED FOR CELLPHONE, LAPTOP COMPUTER, ETC.
INDICATOR LIGHTS	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. **SEE PAGE 64B-1 FOR BREAKER AMPERAGES. SEE NOTATION BELOW.**
	***NOTE THE SPARE BREAKERS ON THIS PANEL EXIST BECAUSE THIS MODEL MAY NOT HAVE OPTIONED THE COINCIDING ACCESSORY FOR THAT BREAKER. FOR EXAMPLE, ON THIS PANEL, THE AUTOPILOT AND WINDLASS ARE OPTIONAL ITEMS AND MAY NOT HAVE BEEN REQUESTED. IF THIS IS THE CASE WITH YOUR MODEL, THEN THESE BREAKERS WILL THEN BECOME SPARES. BE AWARE OF THE BREAKER'S AMPERAGES TO BE SURE THAT IT IS COMPATIBLE WITH ANY DEVICE THAT IS TO BE CONNECTED TO IT.**

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

BREAKERS	DESCRIPTION
	"A" SIDE OF A.C. PANEL
A.C. MAIN	PROVIDES A.C. VOLTAGE TO THIS SIDE OF PANEL WHEN SHORE POWER CORD "A" IS CONNECTED TO OUTLET AT DOCKSIDE POWER SUPPLY.
OUTLETS	PROVIDES A.C. POWER TO THE BOAT'S OUTLETS
MICROWAVE	SUPPLIES POWER TO OUTLET BEHIND MICROWAVE IN WHICH MICROWAVE IS PLUGGED INTO.
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**
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.**
	MISC. INFO
SPARE BREAKERS	***SEE BELOW**
LED INDICATORS	ILLUMINATE WHEN A.C. POWER PRESENT.
METER GAUGE	ALLOWS VOLTAGE BEING SUPPLIED TO BE DISPLAYED
REV. POLARITY	IF REVERSED POLARITY INDICATOR ILLUMINATES AFTER CONNECTING SHORE POWER HAVE DOCKSIDE POWER CHECKED BY QUALIFIED PERSONELL.
NOTE:	SEE PAGE 64B-1 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 BATTERY CHARGER OR INVERTER 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.

BATTERY ON/OFF SAFETY SWITCH PANEL

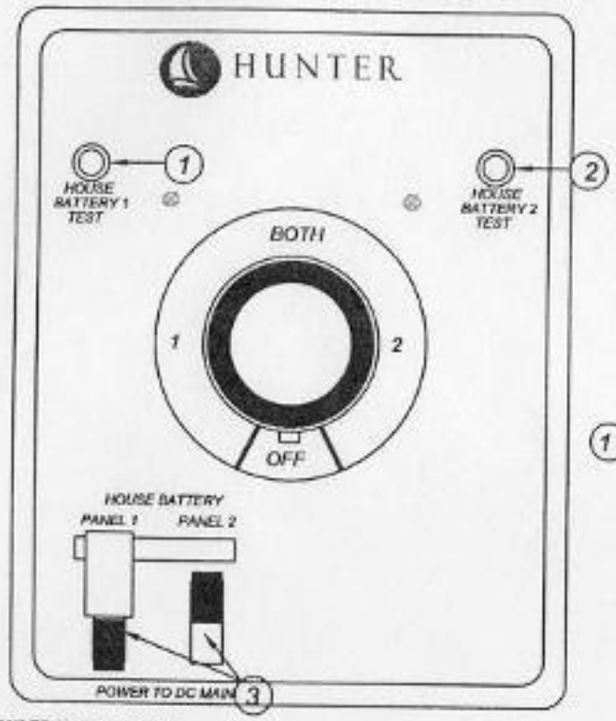


1. NOT USED
2. NOT USED
3. HOUSE BATTERY BREAKERS SUPPLY POWER FROM HOUSE BATTERIES 1 & 2 TO MAIN DC PANEL.
4. BILGE PUMP RESET TO PROTECT BILGE PUMP CIRCUIT.
5. BATTERY SELECTOR SWITCH
6. BATTERY SELECTOR SWITCH
7. PROTECTS BATTERY CHARGER OUTPUT

PANEL #1= HOUSE BATTERY #1
PANEL #2= HOUSE BATTERY #2

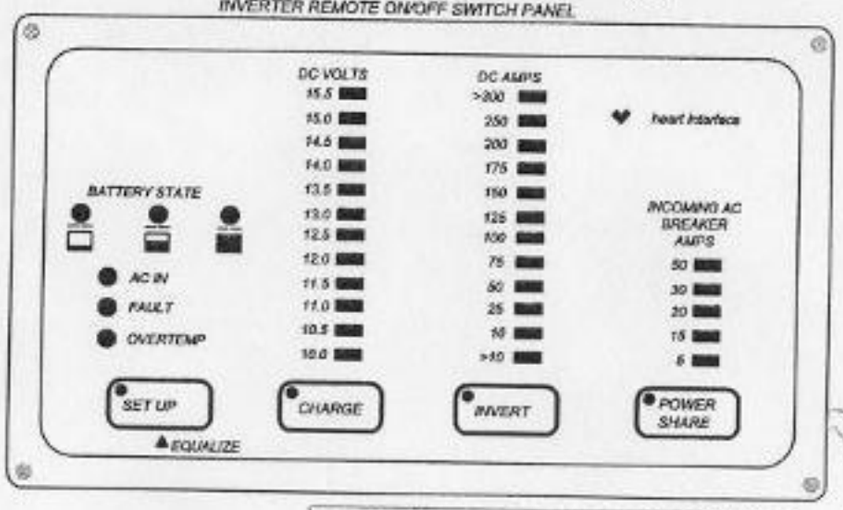
SEE PAGE 63A-2 "INVERTER" FOR OPERATING DETAILS

INVERTER/DRAW (HOUSE BATTERY) SELECTOR SWITCH



1. TANK SELECTOR SWITCHES
2. TANK SELECTION DISPLAYS

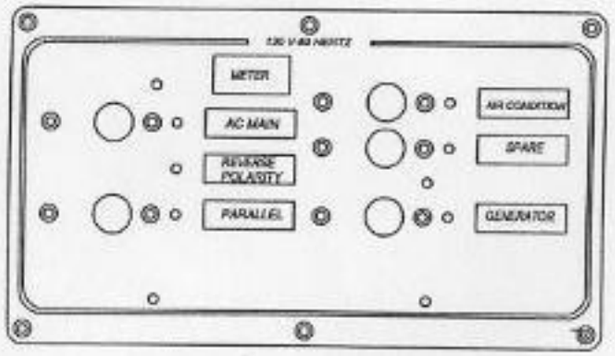
INVERTER REMOTE ON/OFF SWITCH PANEL

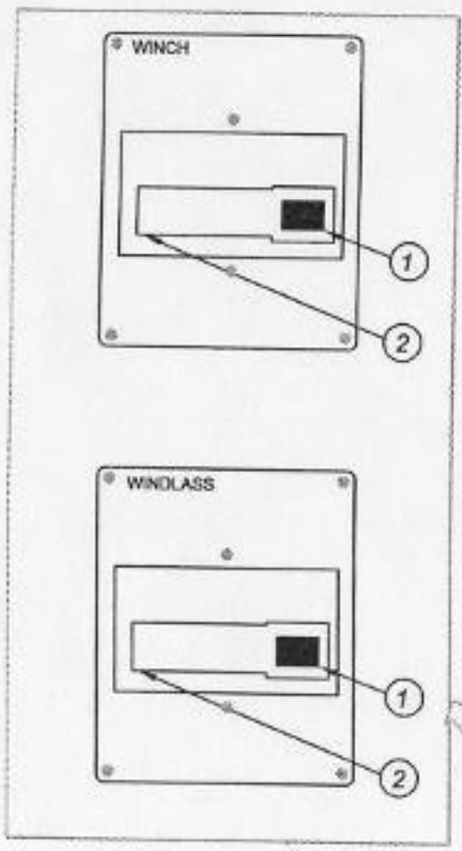


INVERTER STATUS DISPLAY

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

OPTIONAL AIR CONDITIONER AND GENERATOR SUBPANEL





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

NOTE: WINDLASS PANEL SUPPLIES POWER TO THE WINDLASS MOTOR. THE "WINDLASS BREAKER" ON THE DC MAIN DISTRIBUTION PANEL, SUPPLIES POWER TO THE UP/DOWN CONTROLS IN THE ANCHORWELL LOCKER.

THE HALYARD WINCH PANEL SUPPLIES POWER TO THE SWITCH.(LOCATED ON STBD SIDE BLKHD OF COMPANIONWAY OPENING) WHICH SUPPLIES POWER TO THE WINCH.
WINDLASS IS OPTIONAL
ELECTRIC HALYARD IS STD. (EXCEPT ON FURLING MASTS)

ALL PANELS LOCATED AT NAV STATION

SEE INDIVIDUAL COMPONENT MANUALS FOR DETAILS

SYSTEM PANELS	
3568063A-7	NONE
ENG	

HUNTER

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 PAGEC 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 0- 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
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 INSIDE STBD AFT GULLWING LOCKER BATTERY CONNECTIONS GOOD? DEBRIS IN PUMP IMPELLER? DISCHARGE HOSE CLOGGED?

NOTE: COMPONENT/S FAILURE COULD ALSO BE THE RESULT OF A POOR "GROUND" CONNECTION. SEE PAGE 64A FOR BUSSBAR LOCATION. 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:

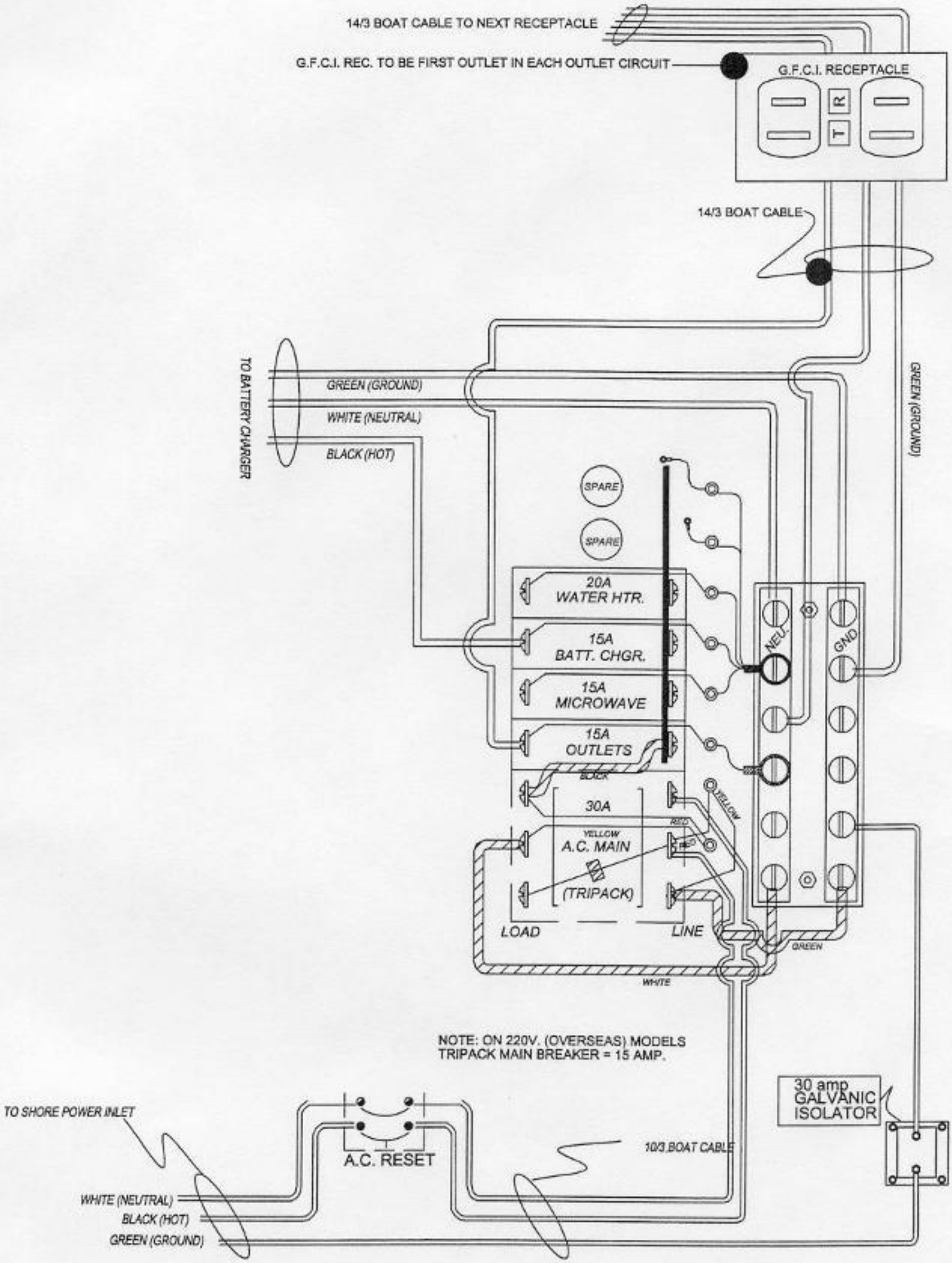
COMPONENT	SYMPTOM	POSSIBLE SOLUTION/S
WINDLASS	UP/DOWN CONTROLS DON'T OPERATE WINDLASS	SEE "TO POWER PANEL" PREV. PAGE WINDLASS SWITCH AT WINDLASS RESET PANEL ON? IS RESET TRIPPED?
INSTRUMENTS	REPEATERS DON'T OPERATE	SEE "TO POWER PANEL" PREV. PAGE DO TRANSDUCERS NEED CLEANING? SEE INSTRUMENTS MANUAL
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.	WON'T TURN ON	IS BREAKER ON? SEE "POWER SYSTEMS OPERATION" PAGE 63A-2
	TURNS ON THEN SHUTS DOWN	SEE " AIR CONDITIONER" MANUAL 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?
	OTHER	SEE "AIR CONDITIONER" MANUAL
OPTIONAL GENERATOR (APPLIES TO BOTH "A" & "B" SIDES OF A.C. PANEL)		
GENERATOR	NO POWER TO STARTER RUNNING, BUT NO POWER AT PANEL.	IS START BATT. SELECTOR SWITCH ON? 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?
	WON'T START	SEE GENERATOR MANUAL DID YOU FOLLOW PROPER STARTING PROCEDURE AS DESCRIBED IN THE "GENERATOR MANUAL"? 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 POSSIBLE FUSE OR RESET ON GENERATOR.
	GEN. STARTS THEN SHUTS DOWN	IS RAW WATER PICKUP SEACOCK OPEN, OR OBSTRUCTED?



PANEL COMPONENTS SHOWN AS VIEWED WHEN PANEL IS OPEN

HUNTER

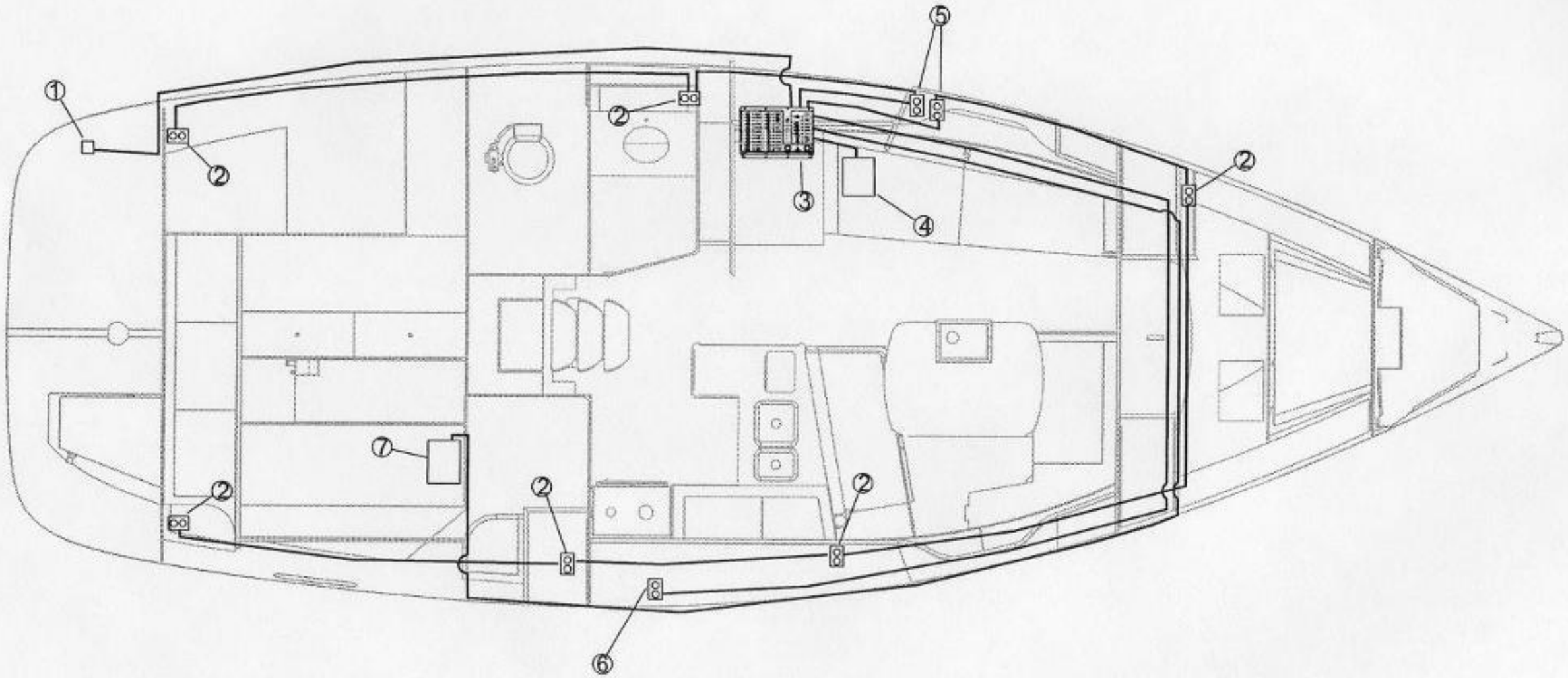
A.C. PANEL SCHEMATIC

NONE

3568063A-12

ENG

1. SHORE POWER INLET
2. OUTLETS
3. ALL LINES LEAD TO A.C. SIDE OF MAIN PANEL
4. BATTERY CHARGER
5. GFCI OUTLETS
6. MICROWAVE OUTLET (ONLY OUTLET ON CIRCUIT)
7. WATER HEATER



PAGE 63A–13

A.C. WIRE RUN LAYOUT	
3568063A–13	NONE
ENG	

HUNTER

H356 WATTAGE DEMAND FOR ELECTRICAL EQUIPMENT AND APPLIANCES

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

FIXED APPLIANCES:

SEE MANUALS AND/OR SPECIFICATION SHEETS IN YOUR OWNER'S PACK

PORTABLE APPLIANCES:

BELOW ARE APPROXIMATE EXAMPLES OF THE AMPERAGE DRAW ASSOCIATED WITH CERTAIN ITEMS.

APPLIANCES: / WATTS:

COFFEE MAKER.....800 - 1,000 WATTS
FRYING PAN.....1,000 - 2,500 WATTS
TOASTER.....800 - 1,000 WATTS
FAN.....75 - 300 WATTS
RADIO.....60 - 150 WATTS
TV.....250 - 600 WATTS
HOT PLATE.....800 - 1,200 WATTS
HAIR DRYER.....700 - 1,100 WATTS
SHAVER.....50 - 100 WATTS
CLOCK.....25 - 50 WATTS
BLENDER.....250 - 350 WATTS
TOASTER OVEN.....1,250 - 1,700 WATTS

ALTERNATE POWER SOURCES: / PROVIDED WATTS:

SMALLER MODEL INVERTER.....1,000 WATTS (YOUR MODEL)
LARGER MODEL INVERTER.....2,000 WATTS
SMALLER MODEL GENERATOR.....5,500 WATTS
LARGER MODEL GENERATOR.....8,000 WATTS
SHORE POWER (PER INLET).....3,500 WATTS

EXAMPLE: TV (250-600)+ TOASTER (800-1,000)+ HAIR DRYER (700-1,100) = TOTAL (1,750-2,700)
THUS, IF THE WATTS BEING USED EXCEEDS THE WATTS BEING PRODUCED, THEN SOME OF THE ITEMS IN USE WILL NOT BE FUNCTIONAL. AGAIN, IT IS IMPORTANT TO BE AWARE OF THE AMPERAGE DRAW VERSUS THE AMPERAGE OUTPUT AT ALL TIMES.

BASIC OPERATING INSTRUCTIONS:

①CHOOSE POWER SOURCE (SHORE POWER OR GENERATOR) SEE PAGES 63A-2
②CHECK AIR COND. SEA STRAINER, (AFT MAIN BILGE) CLEAN IF NECESSARY
③OPEN RAW WATER PICKUP SEACOCK (AFT MAIN BILGE)
MAKE SURE THAT DISCHARGE VALVE IS OPEN
④TURN ON A.C. MAIN (BUS "B") BREAKER ON MAIN A.C. PANEL
⑤TURN ON UNIT AT THERMOSTAT DISPLAY PANEL AND SET TEMP.

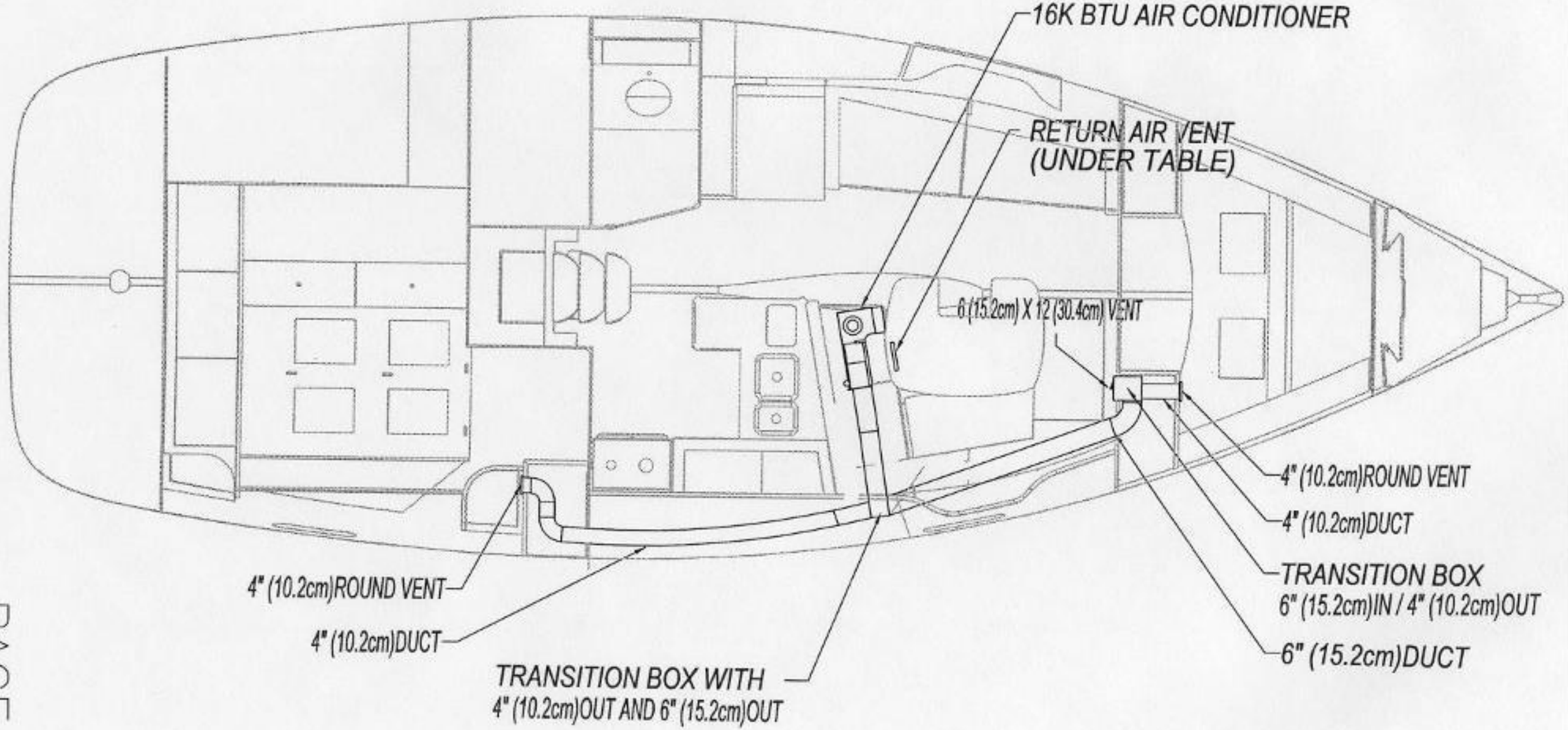
NOTE:

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

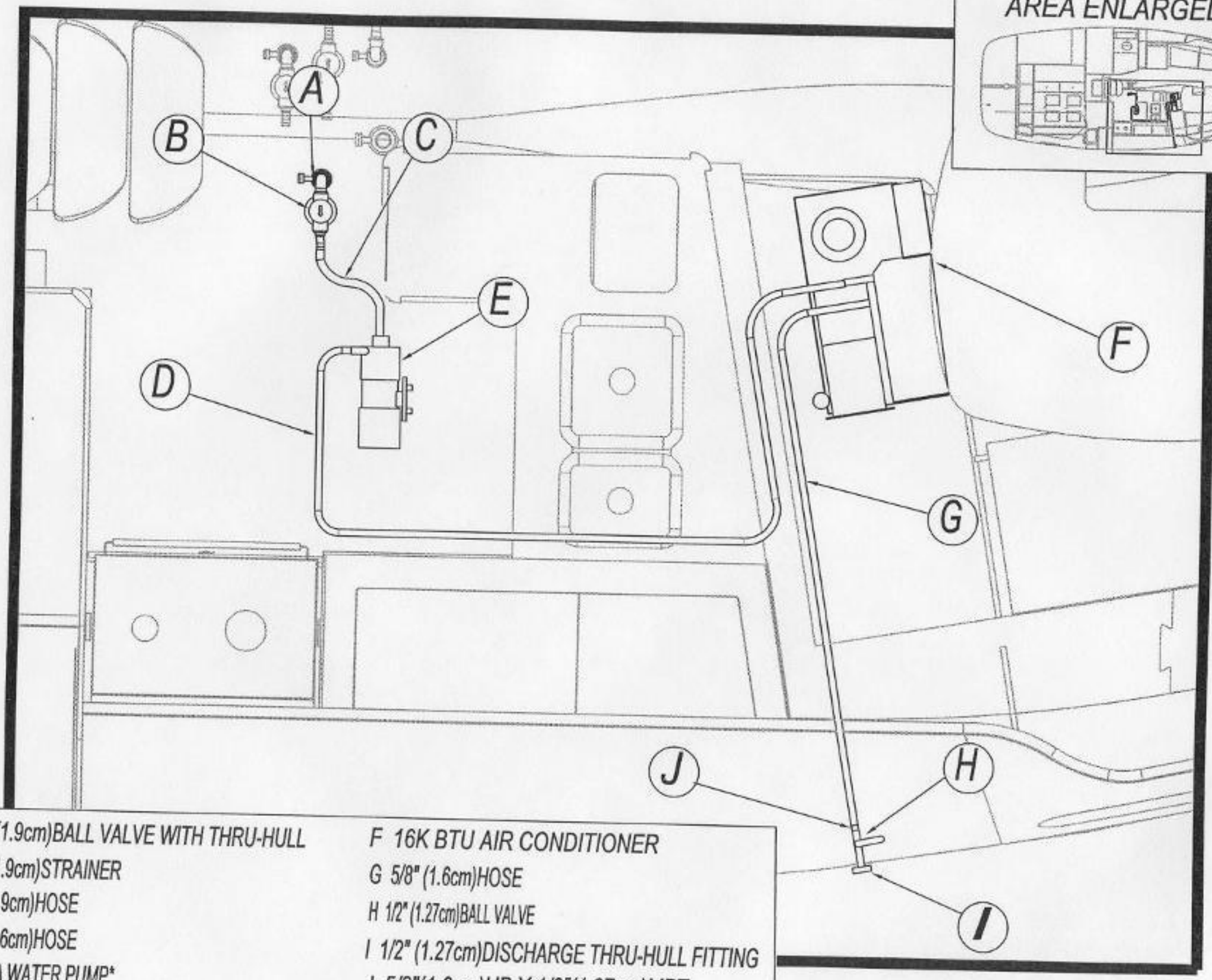
SEE AIR CONDITION MANUAL FOR DETAILED OPERATING PROGRAMMING/TROUBLESHOOTING INSTRUCTIONS

AIR COND OPERATING INSTRUCTIONS	
35680638-1	NONE
ENG	



AIR CONDITIONING DUCT LAYOUT	
3568063B-2	NONE
ENG	

HUNTER



A 3/4" (1.9cm)BALL VALVE WITH THRU-HULL
B 3/4" (1.9cm)STRAINER
C 3/4" (1.9cm)HOSE
D 5/8" (1.6cm)HOSE
E A/C SEA WATER PUMP*
F 16K BTU AIR CONDITIONER
G 5/8" (1.6cm)HOSE
H 1/2" (1.27cm)BALL VALVE
I 1/2" (1.27cm)DISCHARGE THRU-HULL FITTING
J 5/8"(1.6cm)HB X 1/2"(1.27cm)MPT

*note: location of pump (E) may vary

AIR COND SYSTEM PLUMBING LAYOUT

35690638-3	NONE
ENG	6/29/01

HUNTER

PANEL

GROUND

10gaGR

NEUTRAL B

10ga WT

AC B
BUSS

25a

10ga BLK

PUMP

(SUPPLIED) BLUE

(SUPPLIED) BROWN

10ga GR

CONTROL MODULE

TERMINAL STRIP

START CAP.

START RELAY

WT

OR

BLK

RUN CAP.

BLK

FAN P/F R/V

TO DISPLAY (ECU)

TO THERMAL SENSOR

MANUF. SUPPLIED

CONDENSING UNIT

GR

COMPRESSOR

R

C

S

WT

BLK

ORG

HIGH/PSI
SWITCH

RV
COIL

FAN

WT

RED

HUNTER

AIR COND SCHEMATIC

DRAWING NO.	356800638-4
SCHEMATIC NO.	NONE
DRAWN BY	ENG
DATE	6/18/01

SECTION 63C...BATTERY CHARGING SYSTEM

BASIC OPERATING INSTRUCTIONS:

①CONNECT SHORE POWER TO DOCKSIDE SUPPLY AND SHORE POWER INLET ON STERN OF BOAT STBD. SIDE

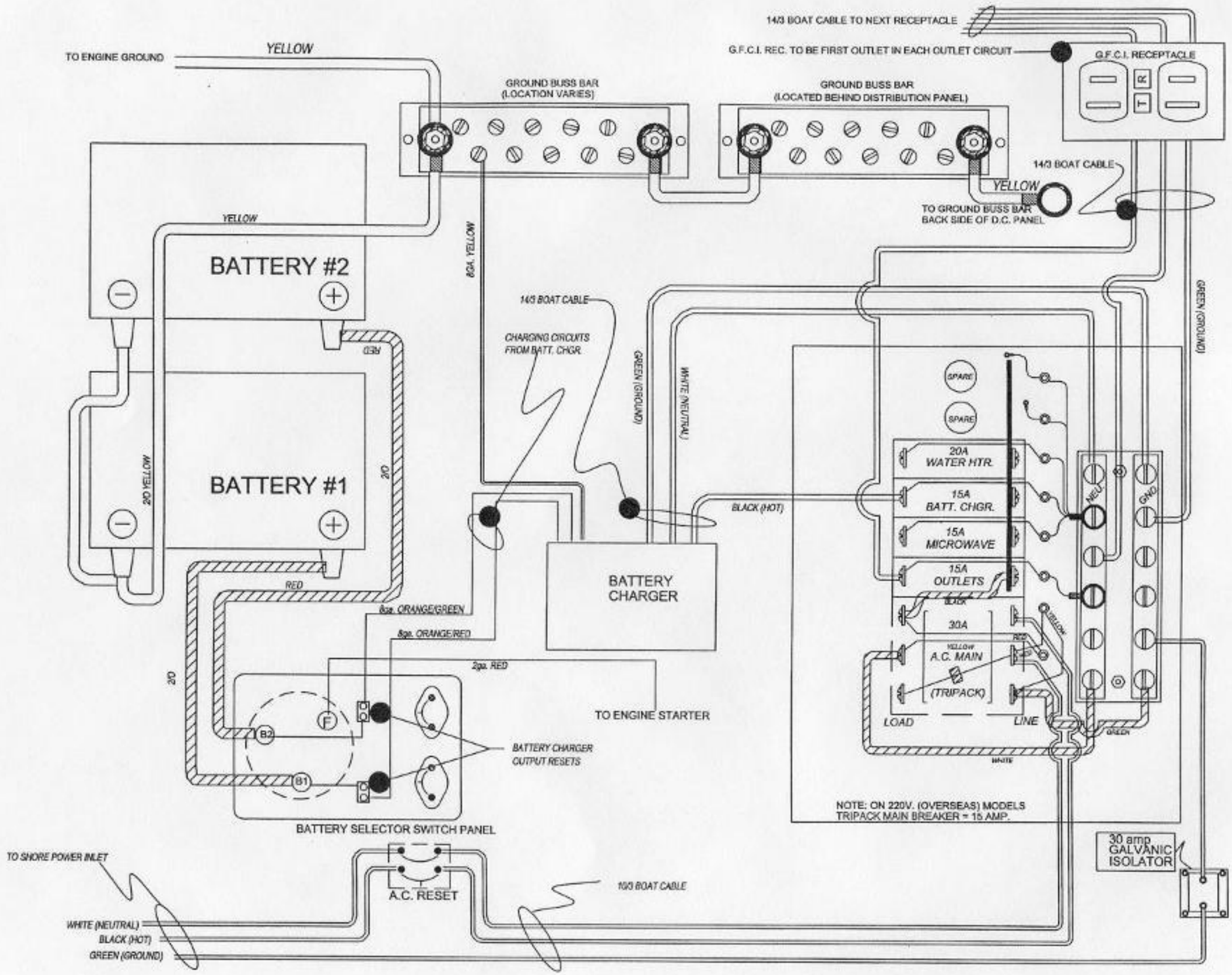
②TURN ON "A.C. MAIN" BREAKER

③TURN ON "BATTERY CHARGER" BREAKER

NOTE:
CHECK FOR CORRECT FLUID LEVEL IN BATTERIES PRIOR TO USING CHARGER / OPT INVERTER.
USING THE ENGINE ALTERNATOR AS A CHARGING SOURCE WILL SIGNIFICANTLY REDUCE THE DRAIN ON THE HOUSE / START BATTERIES.

Model No.	CHARGING SYSTEM OPERATION
Drawing No.	3568063C
Revision No.	NONE
Drawn By	ENG
Date	

HUNTER

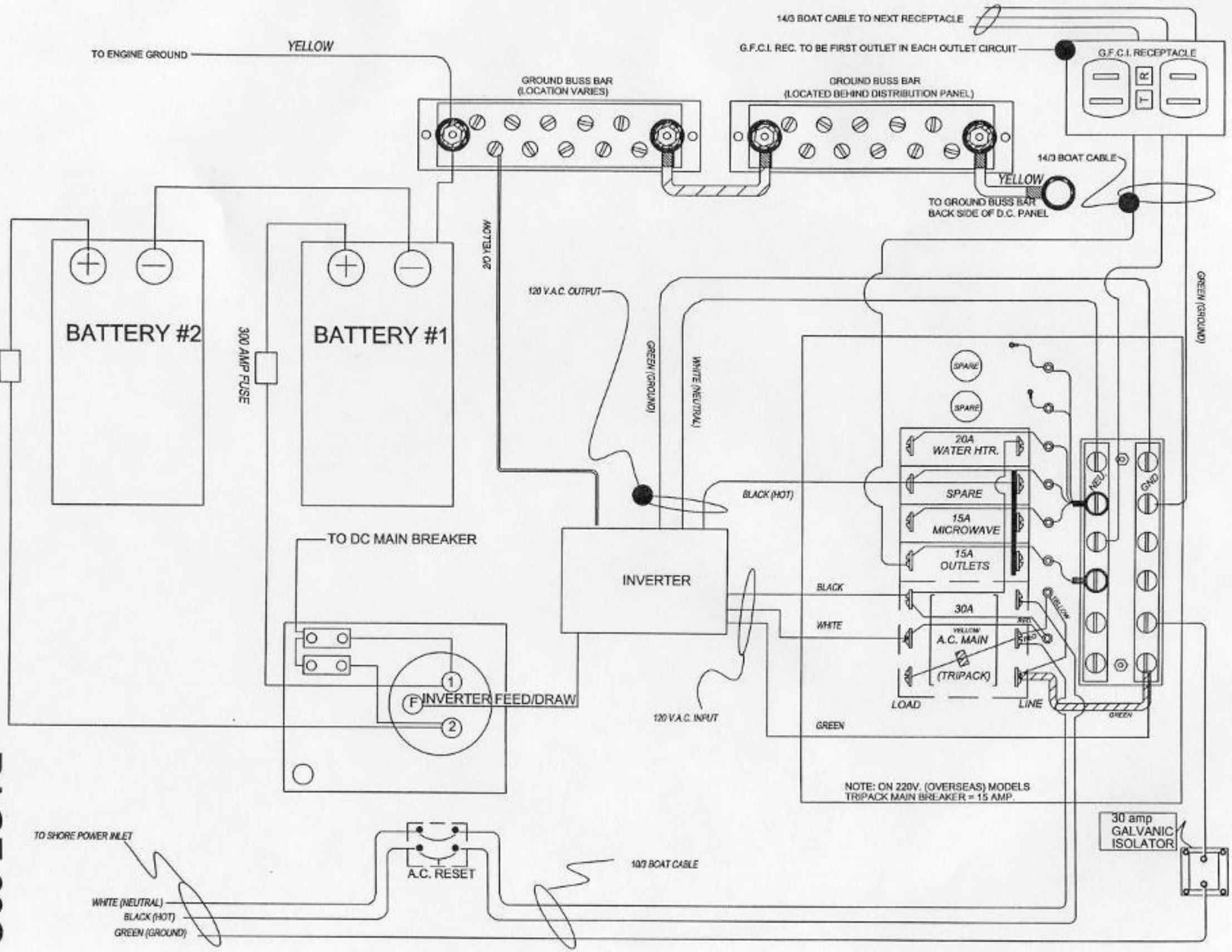


PAGE 63C-2

PANEL COMPONENTS SHOWN AS VIEWED WHEN PANEL IS OPEN

CHARGING SYSTEM SCHEMATIC/BATTERY CHARGER	
3568063C-2	NONE
ENG	

HUNTER



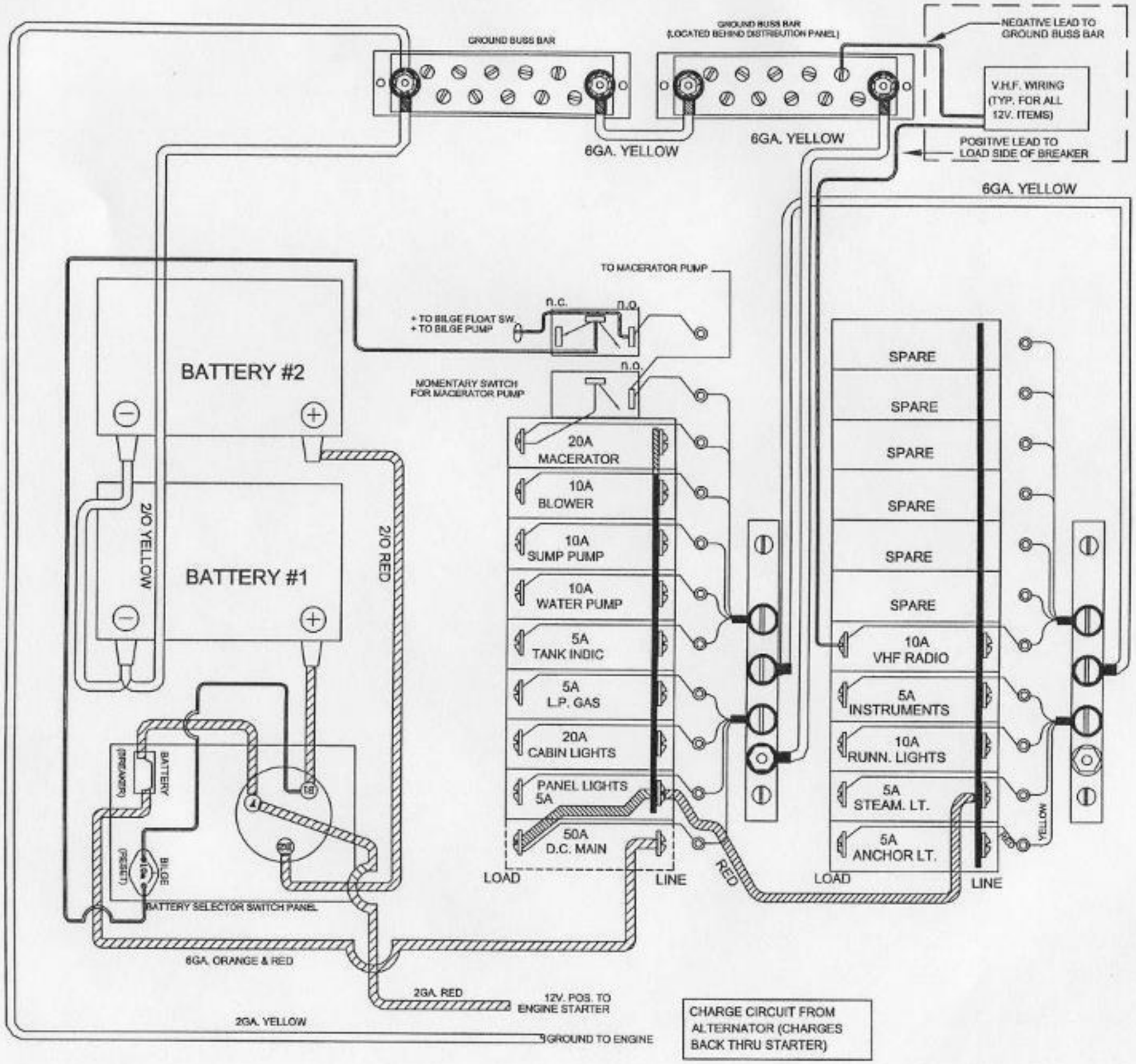
PAGE 63C-3

PANEL COMPONENTS SHOWN AS VIEWED WHEN PANEL IS OPEN

CHARGING SYSTEM SCHEMATIC/INVERTER	
3568063C-3	NONE
ENG	

HUNTER

PANEL COMPONENTS SHOWN AS VIEWED WHEN PANEL IS OPEN

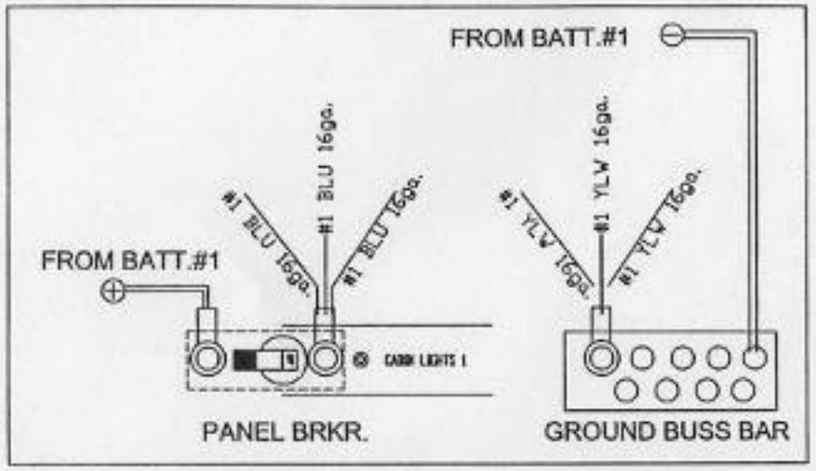


CHARGE CIRCUIT FROM ALTERNATOR (CHARGES BACK THRU STARTER)

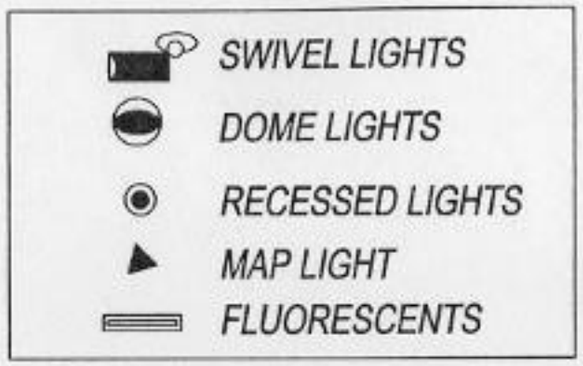
DC PANEL SCHEMATIC	
3568064A	NONE
ENG	8/12/01

HUNTER

EXAMPLE SWITCH PANEL WIRING (PARALLEL CIRCUITS)



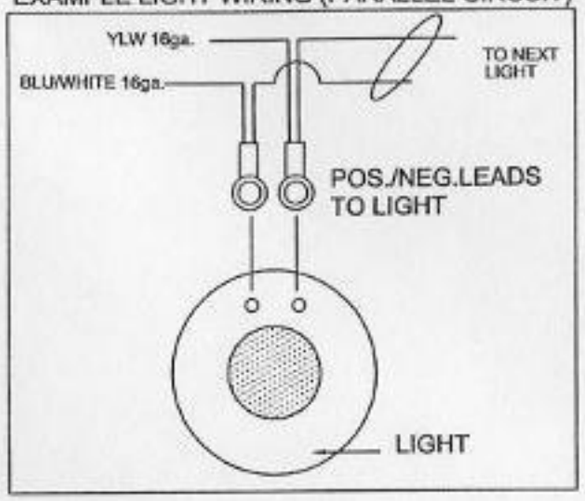
EACH CIRCUIT IN PARALLEL, 16ga. BLU (LOAD TO BREAKER)
AND 16ga. YLW. GROUND TO GROUND BUSS BAR (SEE EX.)

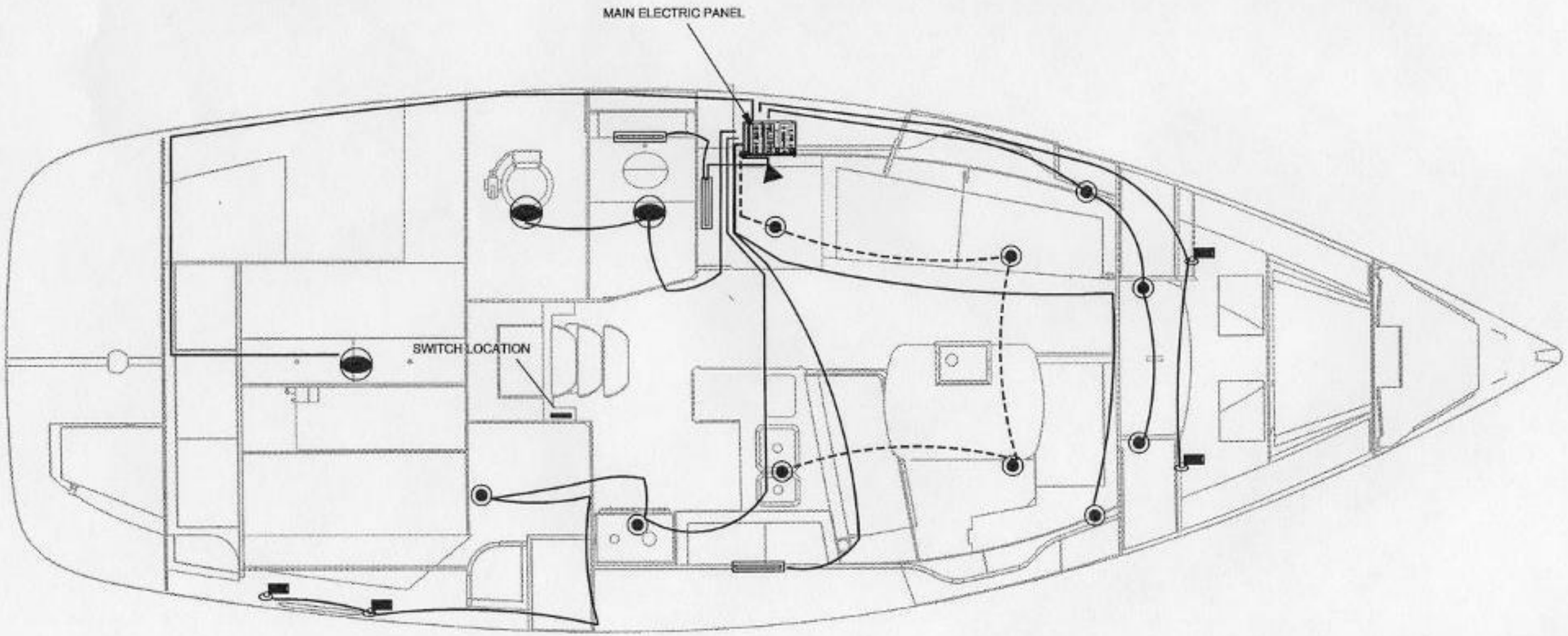


LIGHTS ON CIRCUIT WITH SWITCH

COMPANIONWAY SWITCH

EXAMPLE LIGHT WIRING (PARALLEL CIRCUIT)





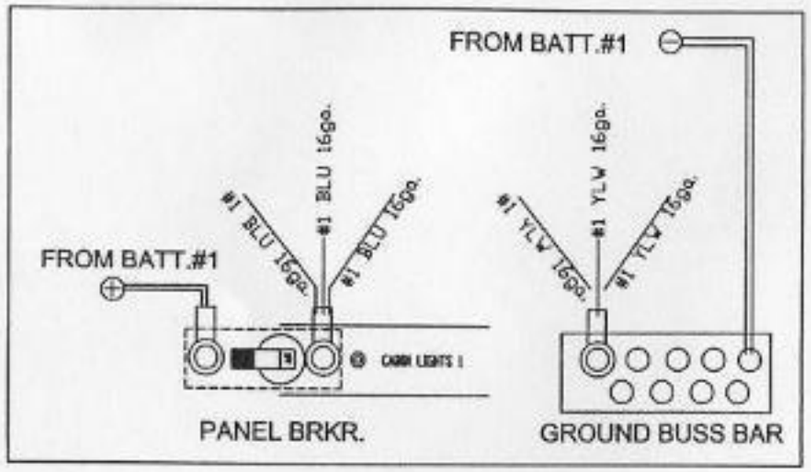
PAGE 64B

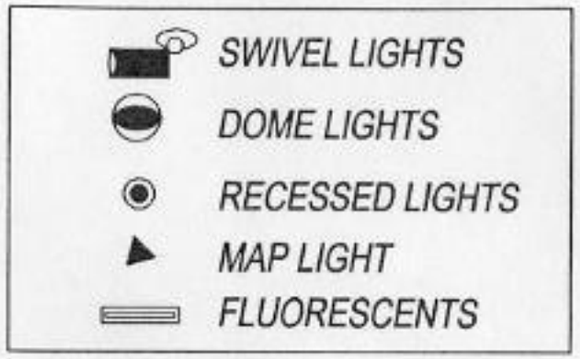
12VDC LIGHTING LAYOUT

3568064B	NONE
ENG	

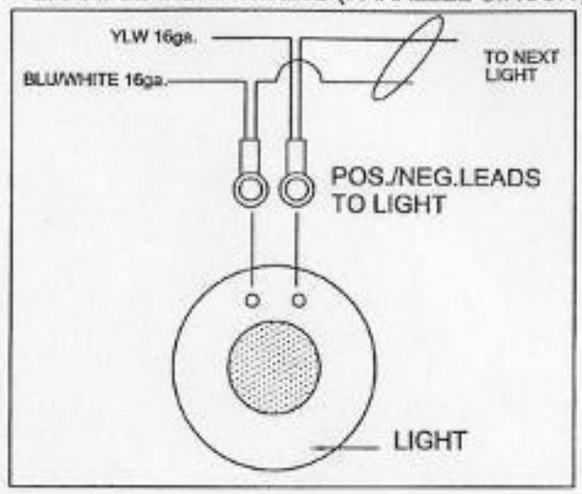
HUNTER

EXAMPLE SWITCH PANEL WIRING (PARALLEL CIRCUITS)

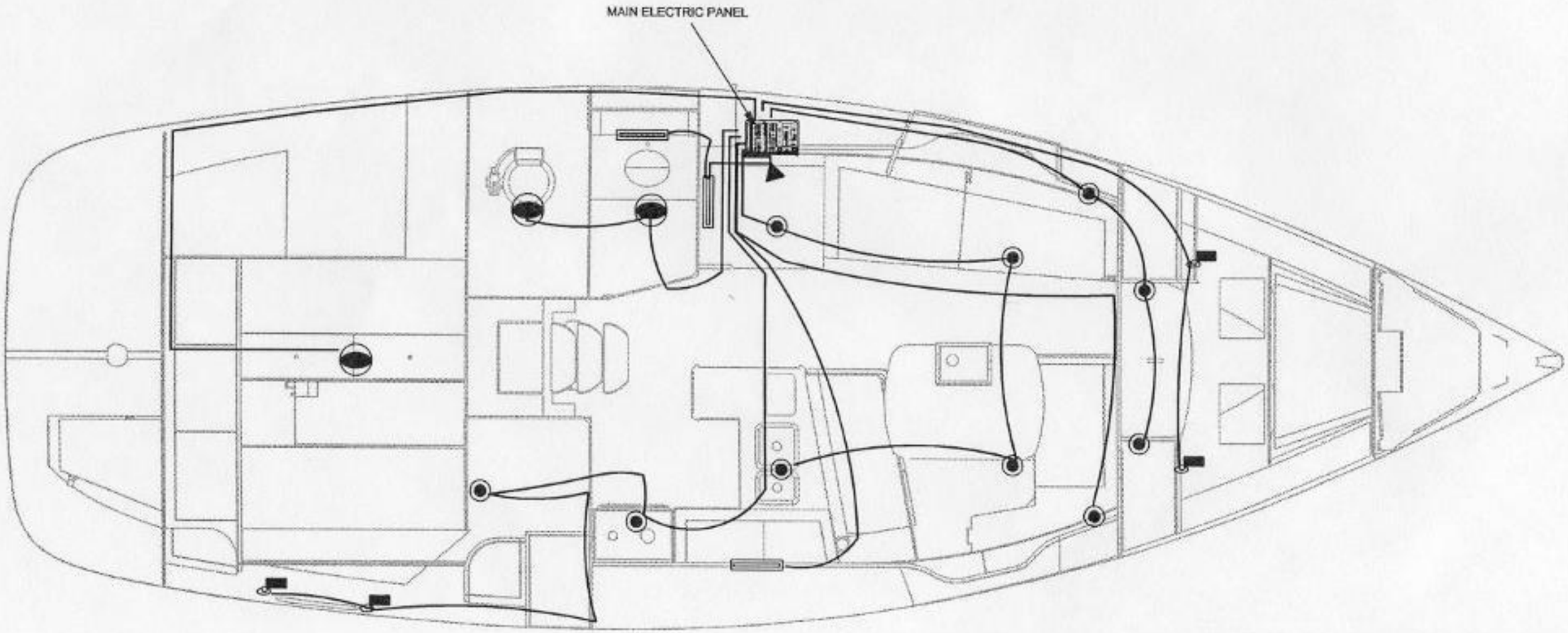




EXAMPLE LIGHT WIRING (PARALLEL CIRCUIT)



EACH CIRCUIT IN PARALLEL, 16ga. BLU (LOAD TO BREAKER)
AND 16ga. YLW. GROUND TO GROUND BUSS BAR (SEE EX.)



PAGE 64B-2

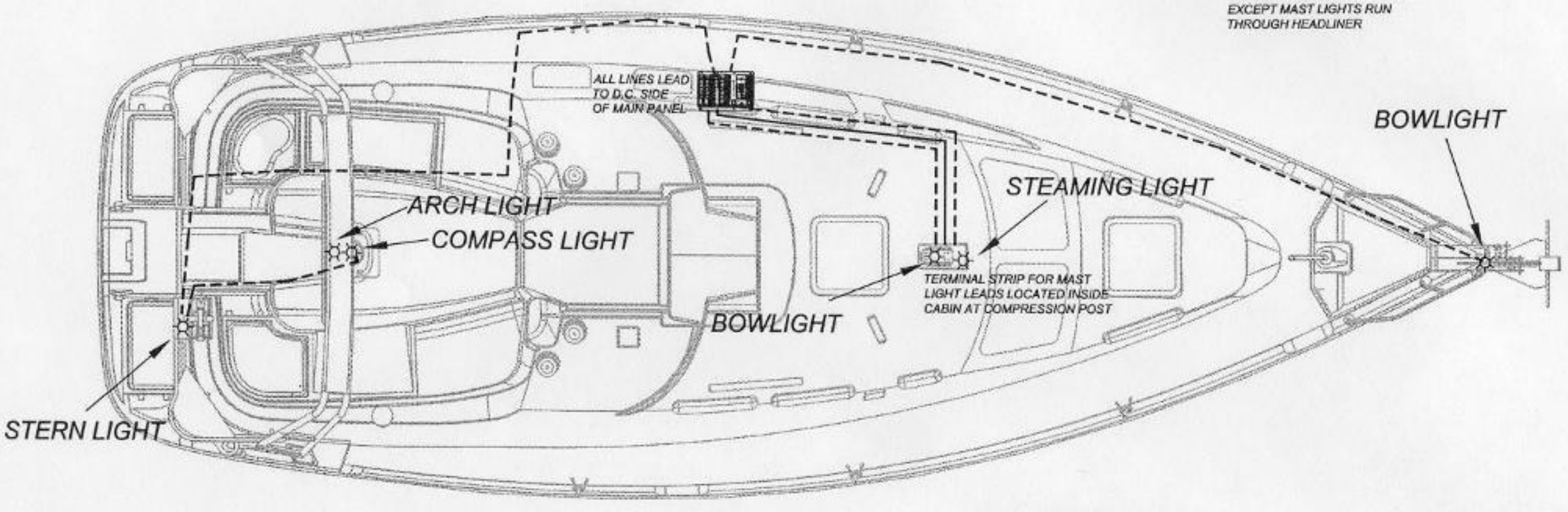
12VDC LIGHTING LAYOUT	
35680648	NONE
ENG	

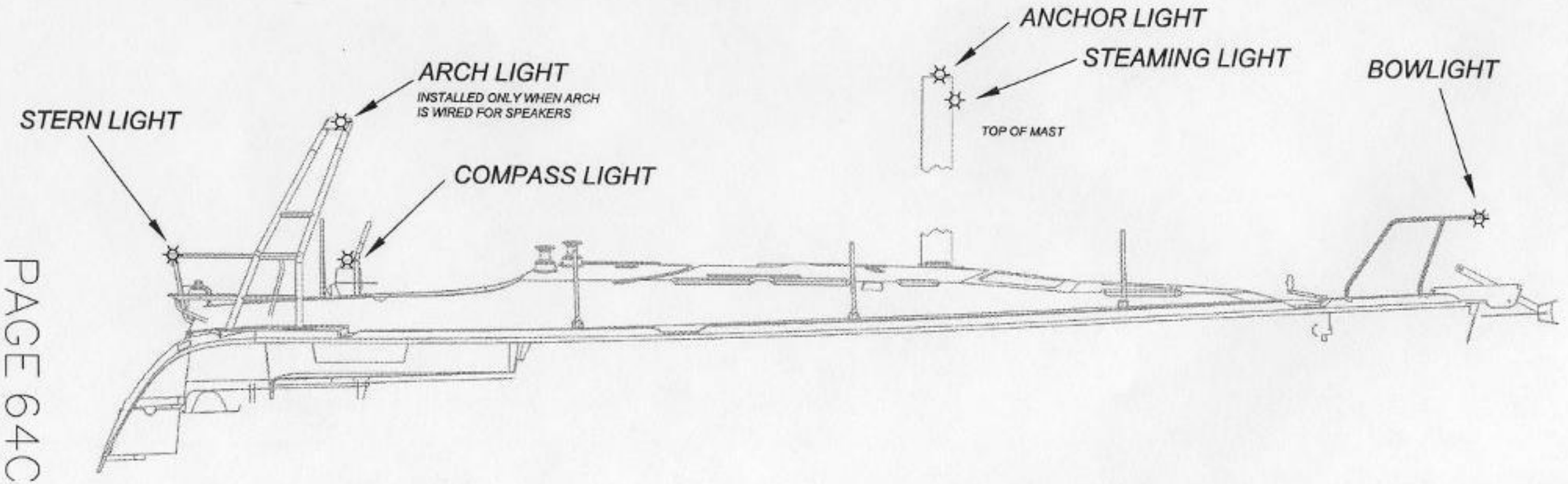
HUNTER

POSITIVE POWER FEEDS

COMMON GROUND FOR ANCHOR/STIMING LIGHT

ALL LINES RUN THROUGH HULL EXCEPT MAST LIGHTS RUN THROUGH HEADLINER

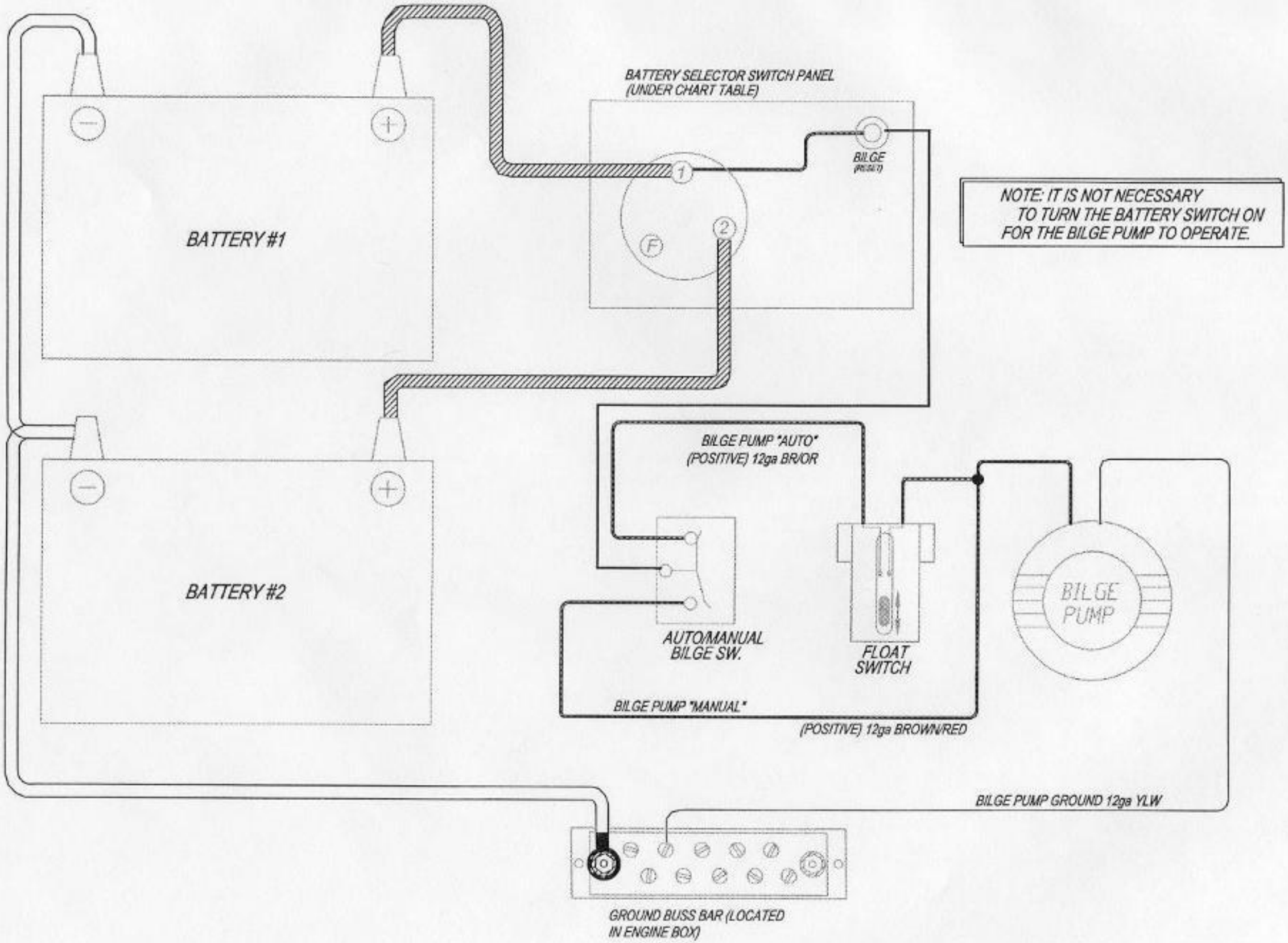




PAGE 64C

12V.D.C. EXTERIOR LIGHTS LAYOUT	
3568064C	NONE
ENG	

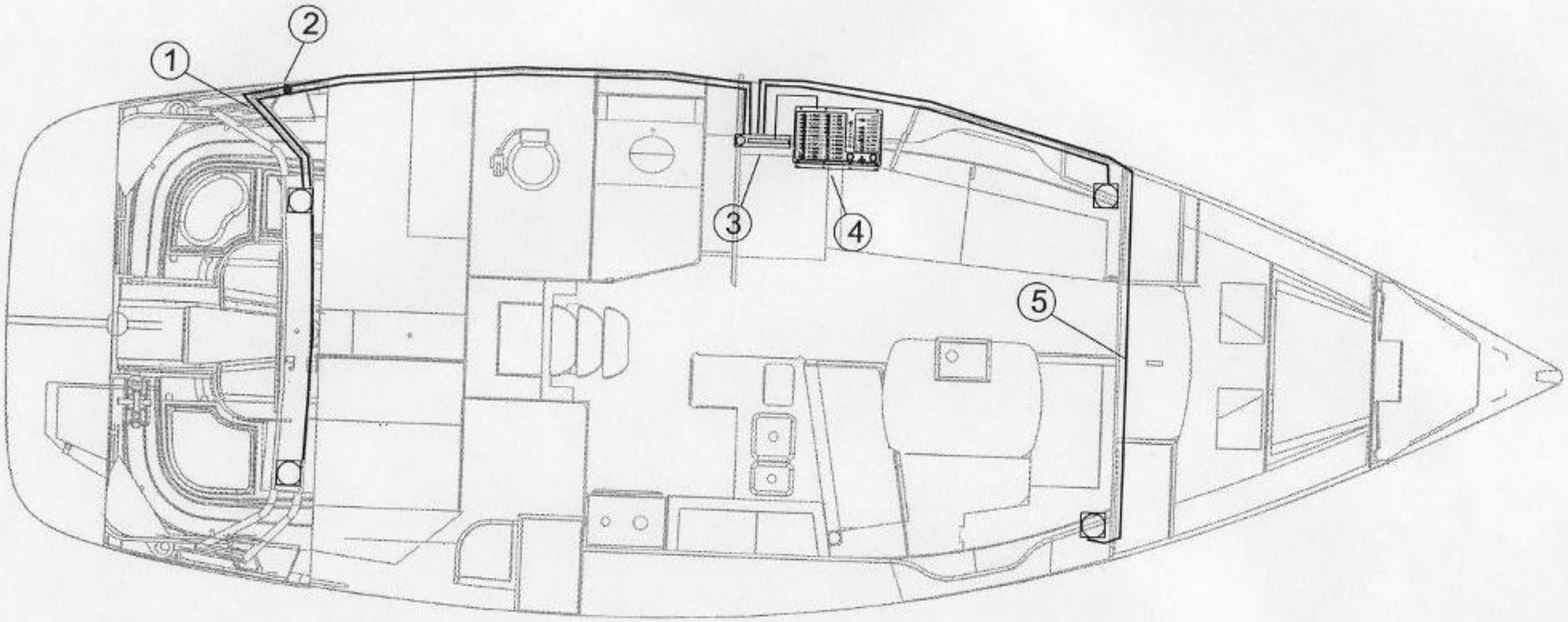
HUNTER



ELECTRIC BILGE PUMP SCHEMATIC

35680640	NONE
ENG	

HUNTER



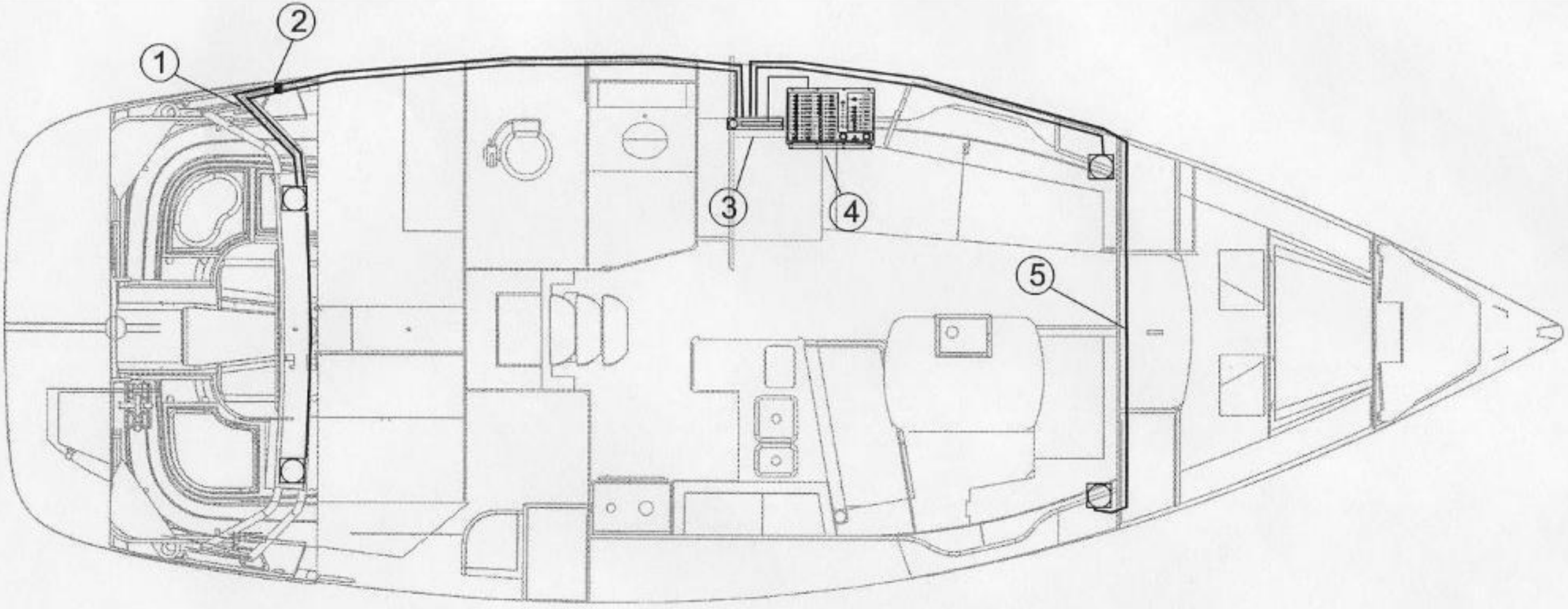
1. SPEAKER LEAD WIRES RUN UP THROUGH FWD ARCH LEG
2. SIX PIN CONNECTOR LOCATED IN THE PORT SIDE GULLWING LOCKER
3. STEREO
4. D.C. SIDE OF MAIN PANEL
5. WIRE RUN THROUGH HEADLINER

SPEAKER LOCATIONS

SPEAKER WIRE RUNS

STEREO SPEAKERS WIRING LAYOUT	
3568064E	NONE
ENG	

HUNTER



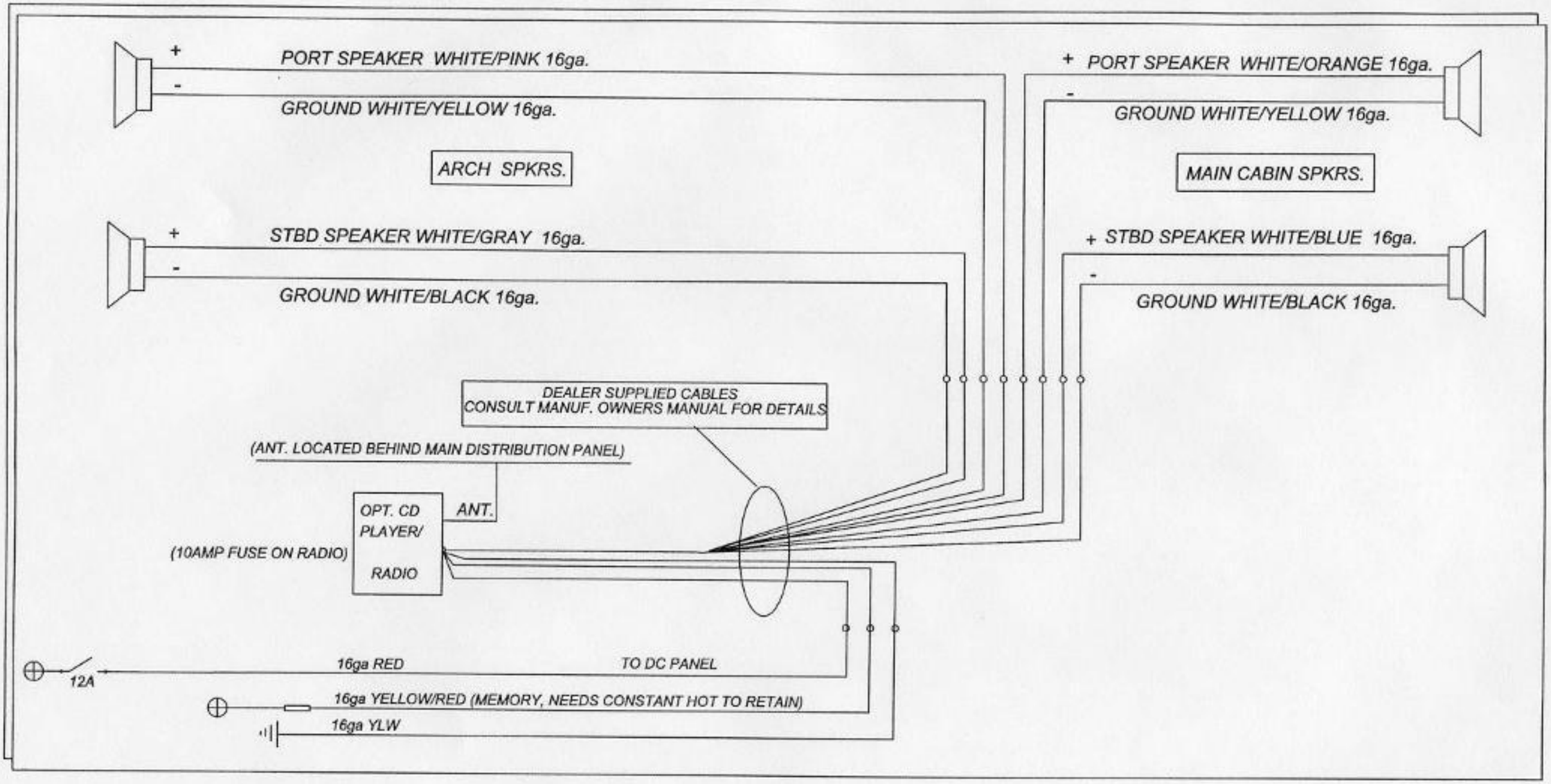
1. SPEAKER LEAD WIRES RUN UP THROUGH FWD ARCH LEG
2. SIX PIN CONNECTOR LOCATED IN THE PORT SIDE GULLWING LOCKER
3. STEREO
4. D.C. SIDE OF MAIN PANEL
5. WIRE RUN THROUGH HEADLINER

SPEAKER LOCATIONS

SPEAKER WIRE RUNS

STEREO SPEAKERS WIRING LAYOUT	
3568064E-1	NONE
ENG	

HUNTER

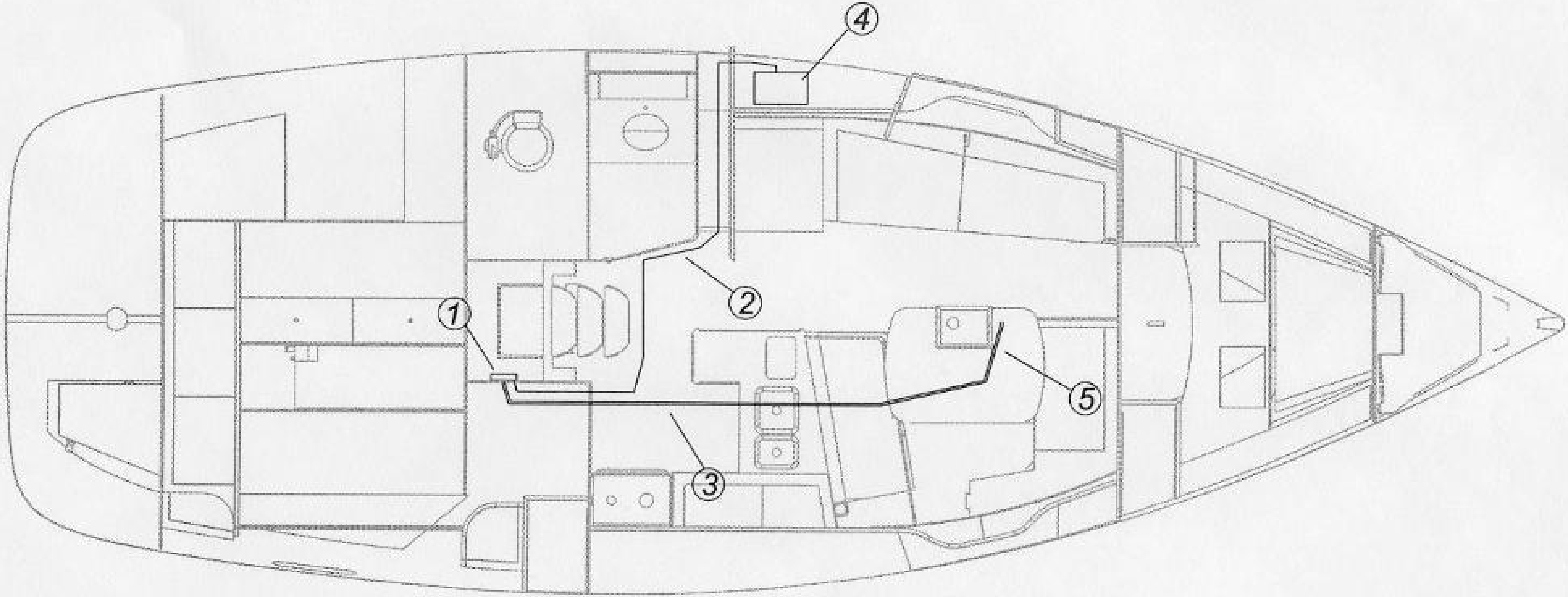


PAGE 64E-2

STEREO WIRING SCHEMATIC

3568064E-2	NONE

HUNTER



1. V.H.F RADIO (STBD COMPANIONWAY)
2. POWER LEADS FROM MAIN DISTRIBUTION PANEL TO RADIO
3. VHF RADIO COAX CABLE TO ACCESS PANEL
4. LOCATION OF MAIN DISTRIBUTION PANEL
5. COAX CABLE @ MAST STEP HEADLINER ACCESS PLATE

WIRE RUNS ARE IN HEADLINER

VHF RADIO WIRE RUNS LAYOUT	
3568084F	NONE
ENG	

HUNTER

SECTION 64G...REFRIGERATION SYSTEM

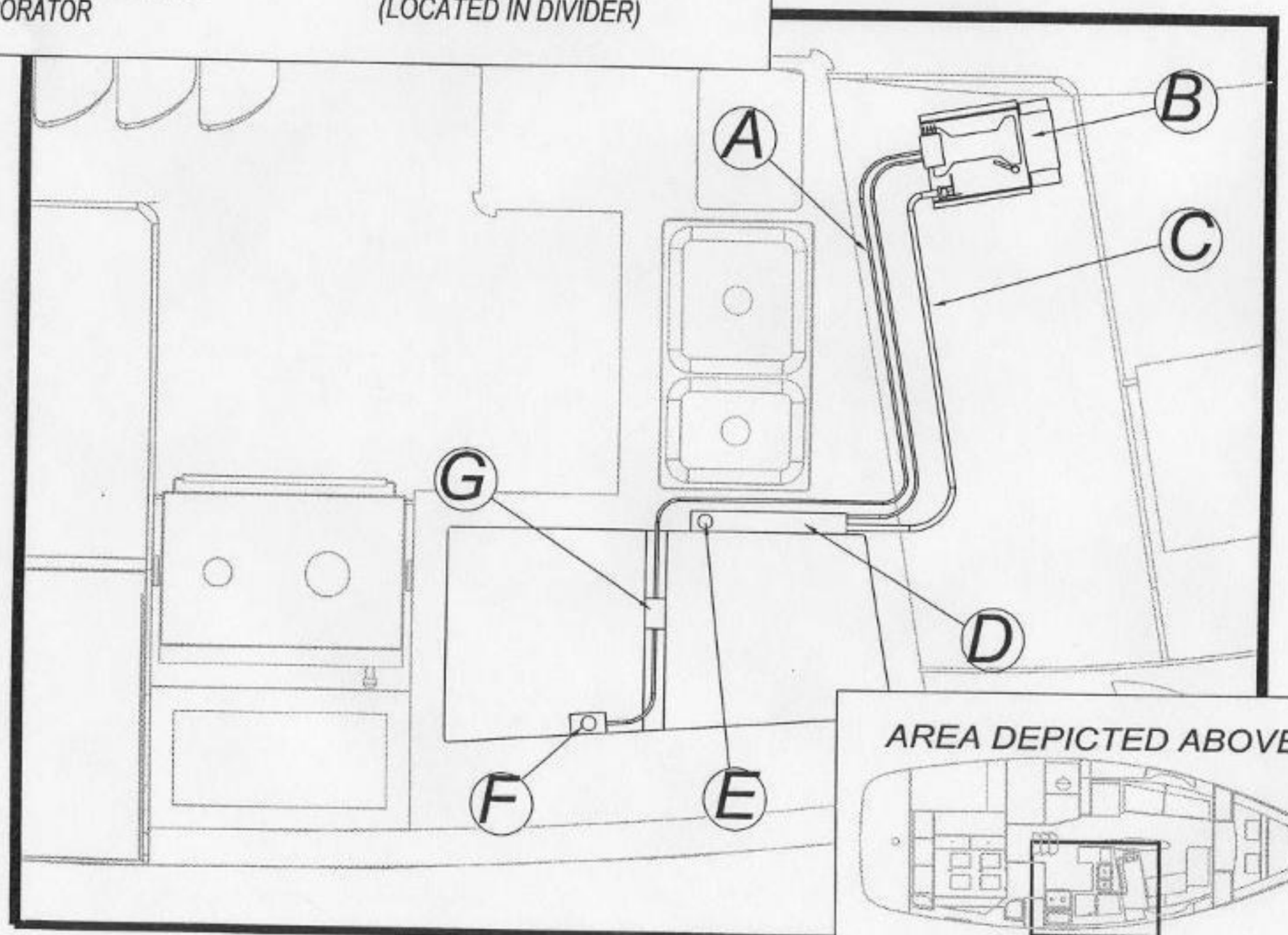
BASIC OPERATING INSTRUCTIONS:

①ON STANDARD BATTERY CHARGER MODEL, TURN ON HOUSE BATTERY SEL. SWITCH (UNDER CHART TABLE)
②TURN ON MAIN D.C. BREAKER AT MAIN BREAKER PANEL
③TURN ON REFRIG. BREAKER
④SET THERMOSTATS TO DESIRED TEMP.

NOTE: 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.)

MAKE SURE ICEBOX DRAIN PLUGS ARE IN PLACE BEFORE OPERATING REFRIGERATION UNIT

A REF. AND FREEZER THERMOSTAT WIRES
B COMPRESSOR
C REFRIGERATION LINES
D EVAPORATOR
E FREEZER THERMOSTAT (LOCATED ON EVAPORATOR)
F REF. THERMOSTAT
G SPILLOVER FAN (LOCATED IN DIVIDER)

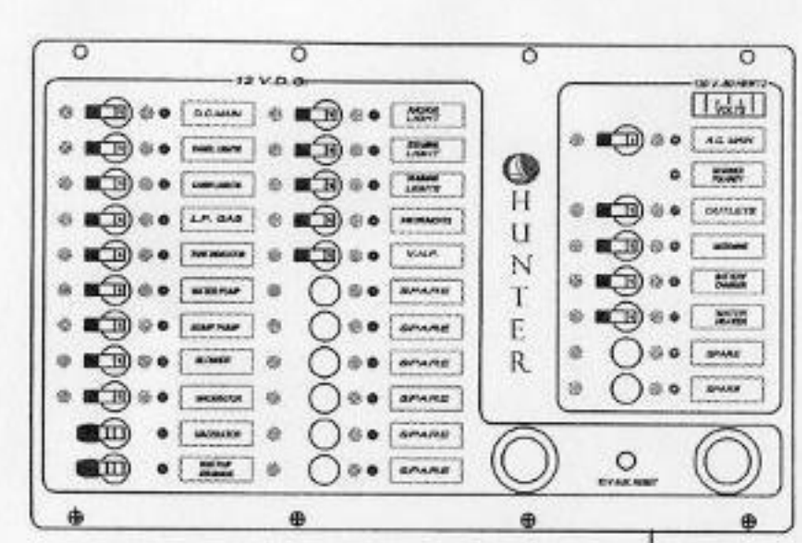


AREA DEPICTED ABOVE

REFRIGERATION SYSTEM LAYOUT

3568056	NONE
ENG	

HUNTER



NOTE: SEE REFRIGERATION MANUAL FOR CONTROL BOX HOOKUP DETAILS

6

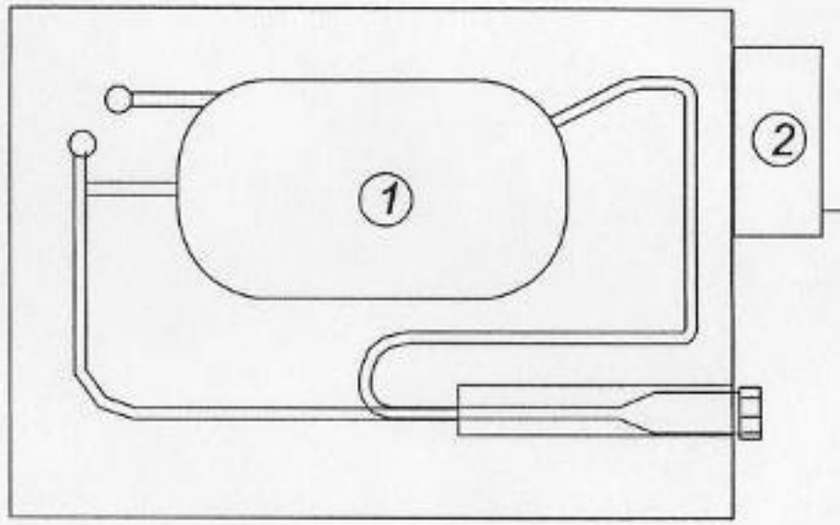
8ga. YLW

8ga. RED

TERMINAL

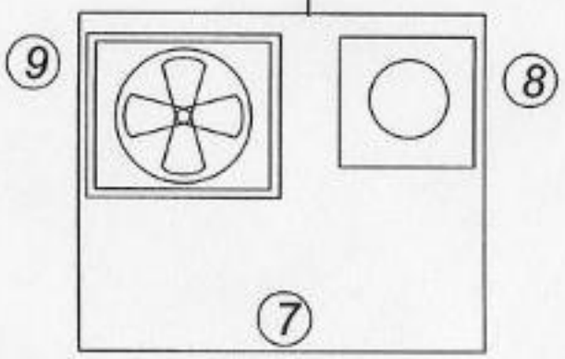
10ga. RED

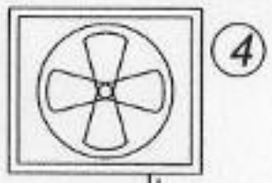
10ga. YLW



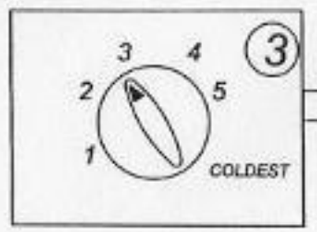
5

CABLE SUPPLIED BY VENDOR





4



16ga. RED

16ga. YELLOW

①REFRIG. COMPRESSOR
②REF. UNIT CTRL. BOX
③FRIDGE THERMOSTAT
④SPILLOVER FAN
⑤12V. + FROM LOAD SIDE OF BRKR. TO REF. UNIT

⑥GND. FROM REF. UNIT TO GRD. BUSS BAR
⑦EVAPORATOR
⑧FREEZER THERMOSTAT
⑨EVAPORATOR FAN

REFRIGERATION SYSTEM SCHEMATIC	
3568054G-3	NONE
ENG	

HUNTER

SECTION 64H...OPTIONAL WINDLASS SYSTEM

BASIC OPERATING INSTRUCTIONS:

LOWERING ANCHOR....

①TURN ON BATTERY SWITCH

②TURN ON WINDLASS BRKR. AT MAIN D.C. BREAKER PANEL.

③PUSH WINDLASS "DOWN" BUTTON ON NAV STATION

NOTE: "BUMP" SWITCH UNTIL ANCHOR CLEARS ANCHOR ROLLER AND HULL BEFORE LETTING ANCHOR DOWN FREELY.

RAISING ANCHOR....

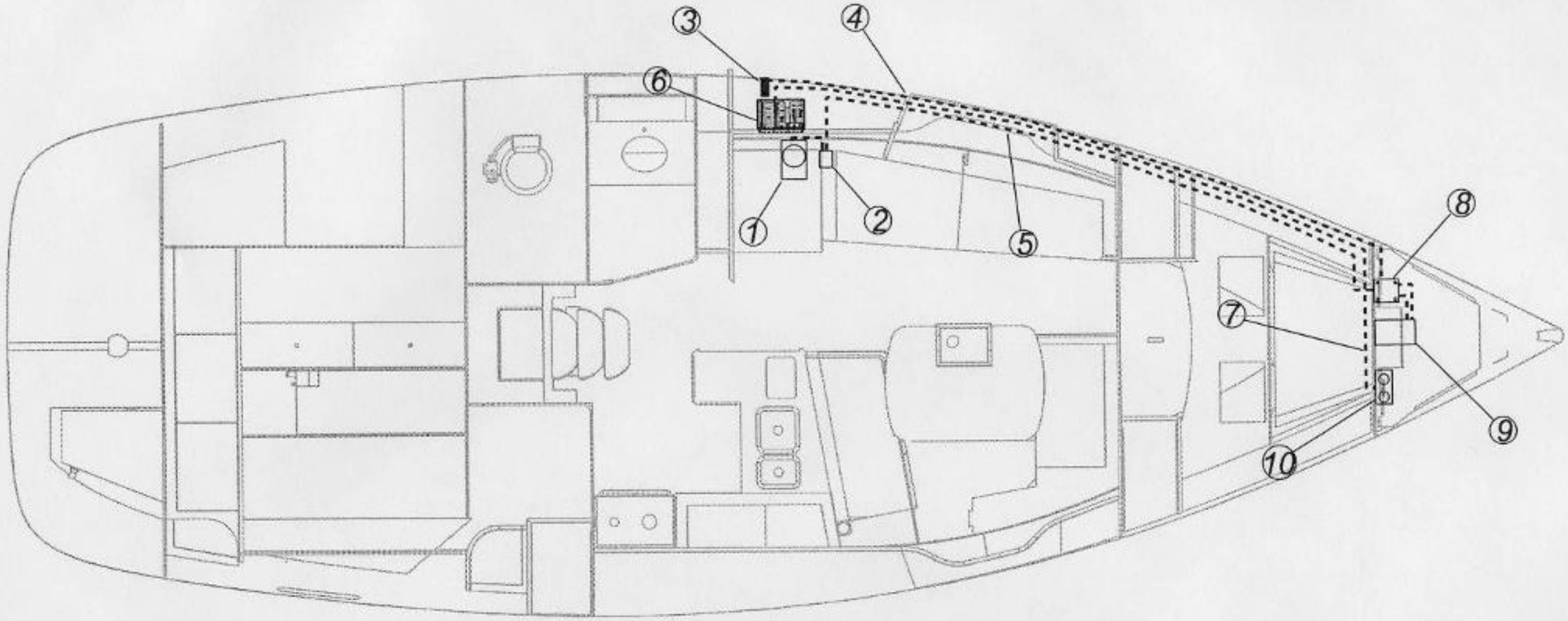
①START BOAT ENGINE, THIS WILL ALLOW CONTROL OF BOAT WHEN ANCHOR BECOMES FREE, AS WELL AS REDUCING LOAD ON BATTERY.

③PUSH WINDLASS "UP" BUTTON BEING CAREFUL AS THE ANCHOR APPROACHES THE HULL AND ANCHOR ROLLER. CONTINUE UNTIL THE ANCHOR RESTS IN THE STEMHEAD PROPERLY.

NOTE: IF IT APPEARS THERE IS NO POWER TO THE WINDLASS, CHECK RESET BRKR. IN STBD. AFT COCKPIT LOCKER.
IF WINDLASS BECOMES INOPERABLE ELECTRICALLY, A MANUAL WINCH HANDLE IS SUPPLIED, SEE THE WINDLASS MANUAL SUPPLIED IN YOUR OWNERS MANUAL PACKAGE FOR INSTRUCTIONS.

WINDLASS OPERATION	
3566064-1	NONE
ENG	

HUNTER

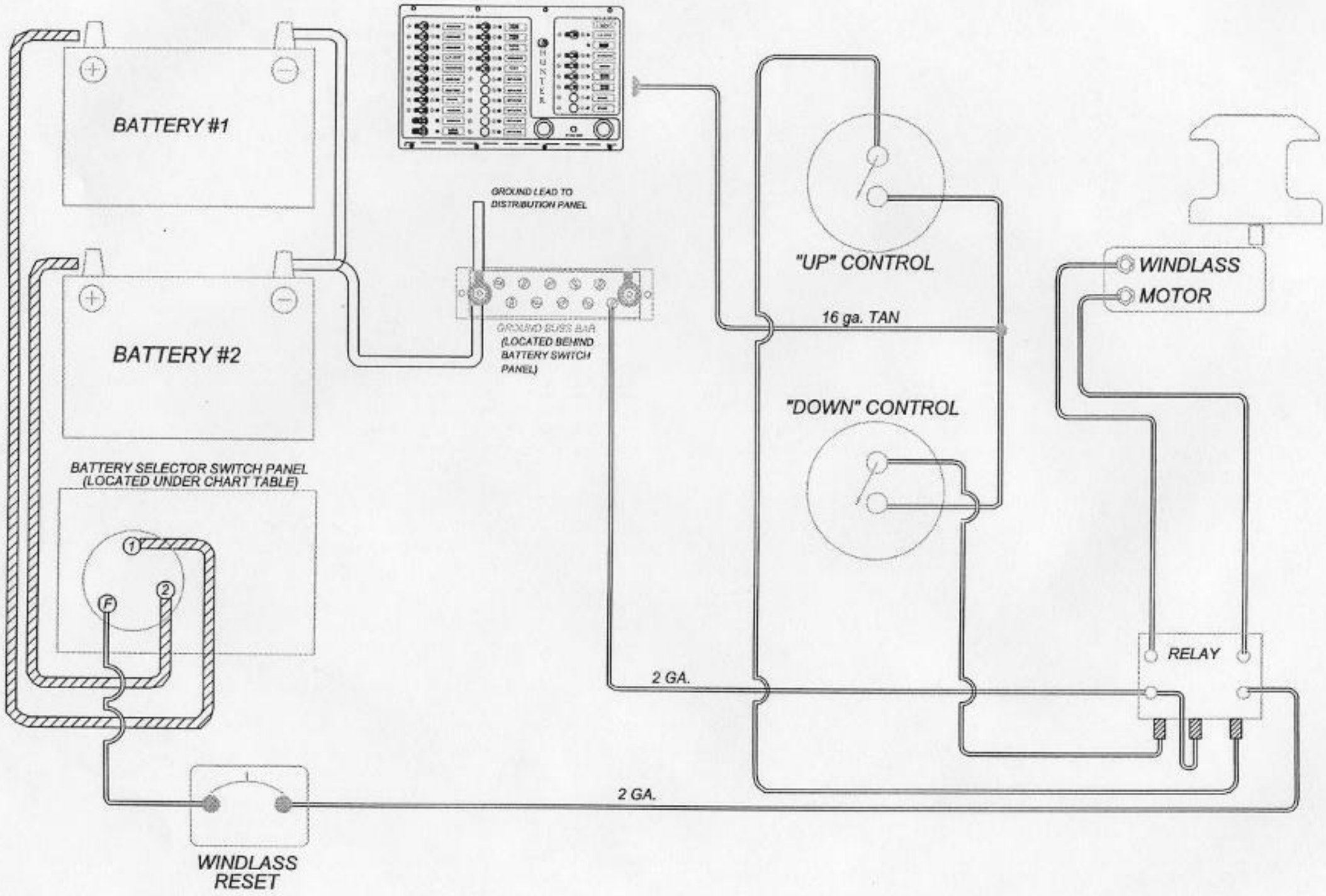


1. BATTERY SWITCH (LOCATED BENEATH NAV TABLE)
2. WINDLASS BREAKER
3. GROUND BUSS BAR(LOCATED BEHIND MAIN PANEL)
4. GROUND WIRE TO RELAY SWITCH
5. POWER LEAD FROM BREAKER TO RELAY SWITCH
6. MAIN DISTRIBUTION PANEL
7. POWER LEADS TO "UP & DOWN" SWITCH
8. WINDLASS RELAY SWITCH
9. WINDLASS LOCATION
10. WINDLASS "UP & DOWN" CONTROLS

NOTE: SEE FOLLOWING PAGE FOR SCHEMATIC AND WIRE SPECS

WINDLASS LAYOUT

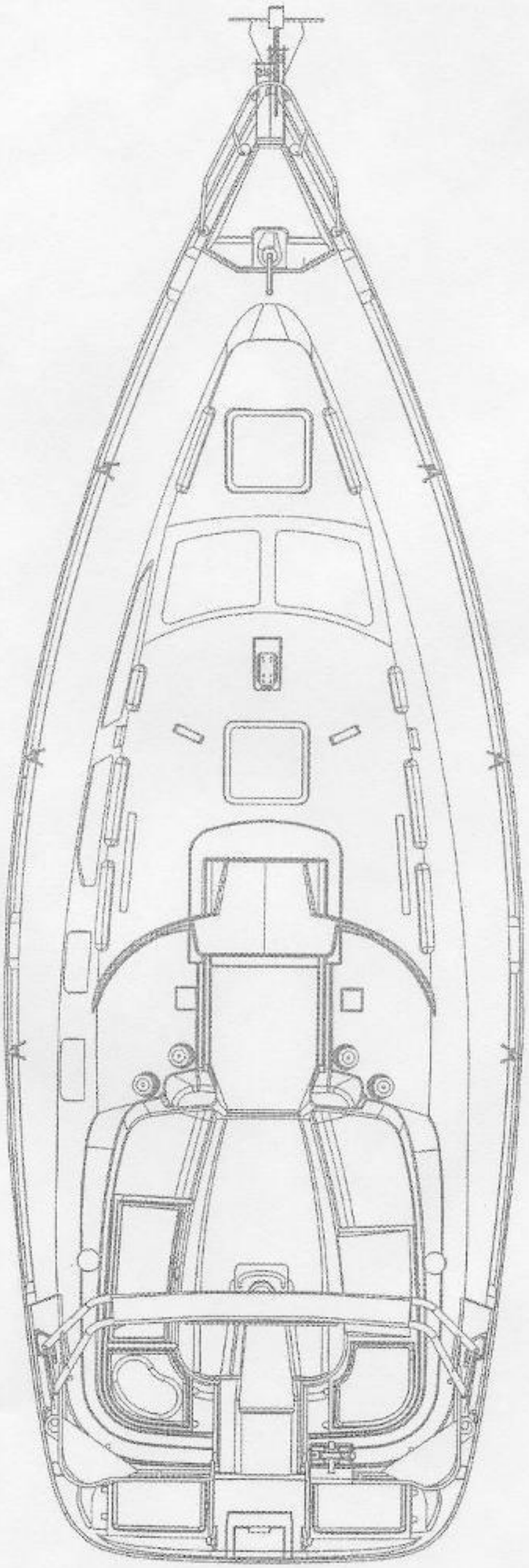
3568064H-2	NONE
ENG	



PAGE 64H-3

WINDLASS WIRING SCHEMATIC	
3568084H-3	NONE
ENG	

HUNTER



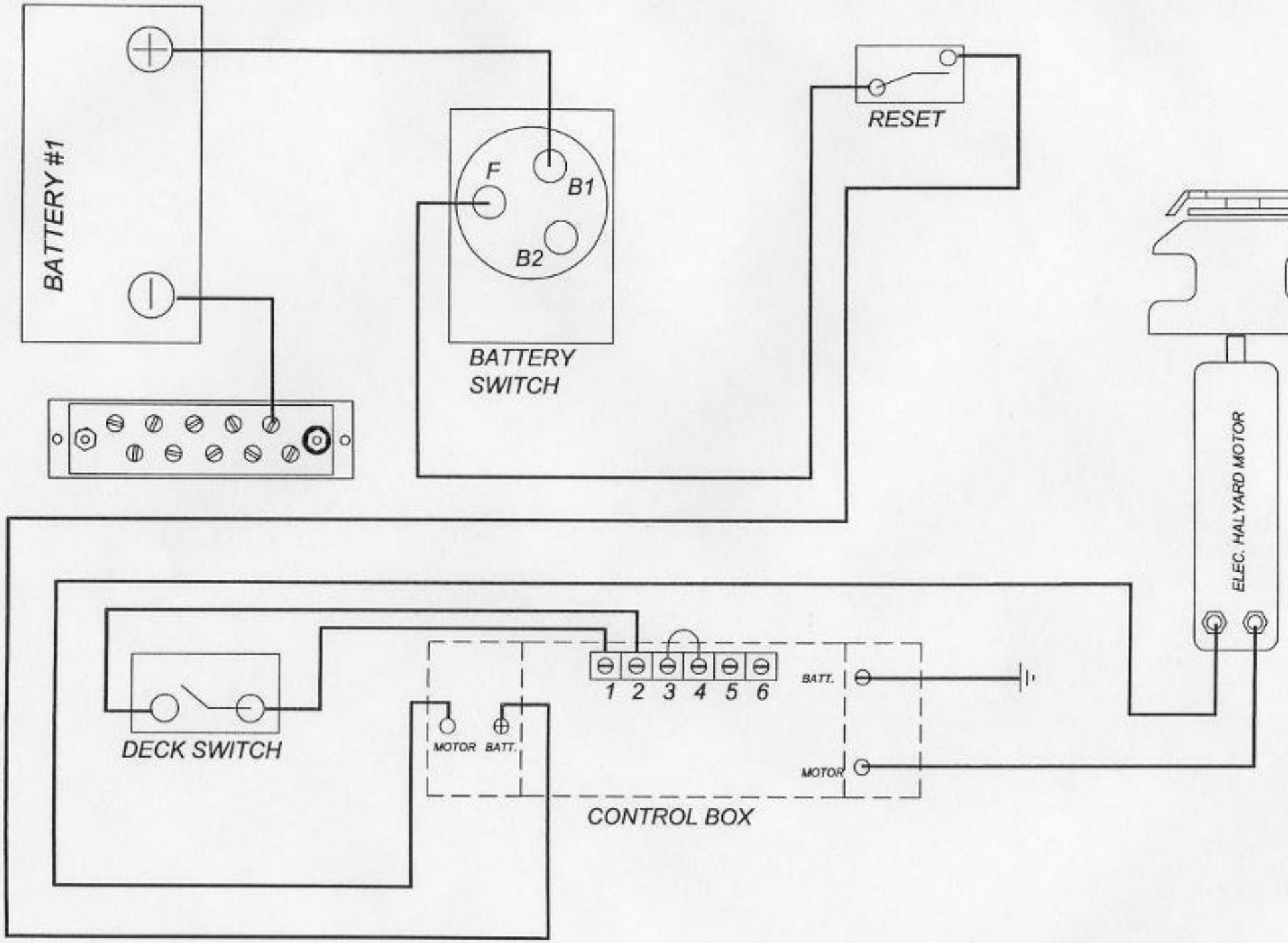
HUNTER

OPTIONAL ELECTRIC HALYARD LAYOUT

641-1

NONE

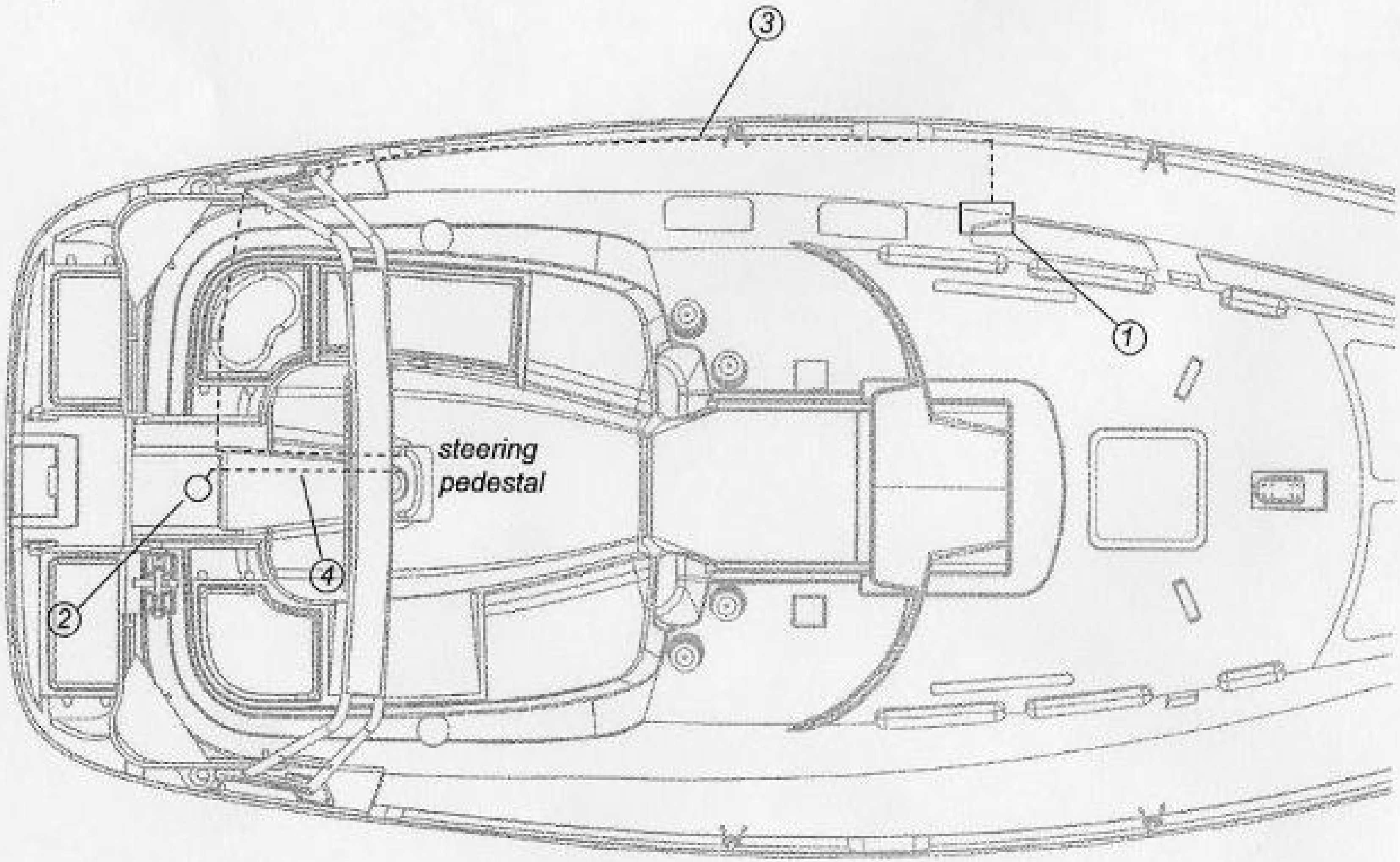
ENG

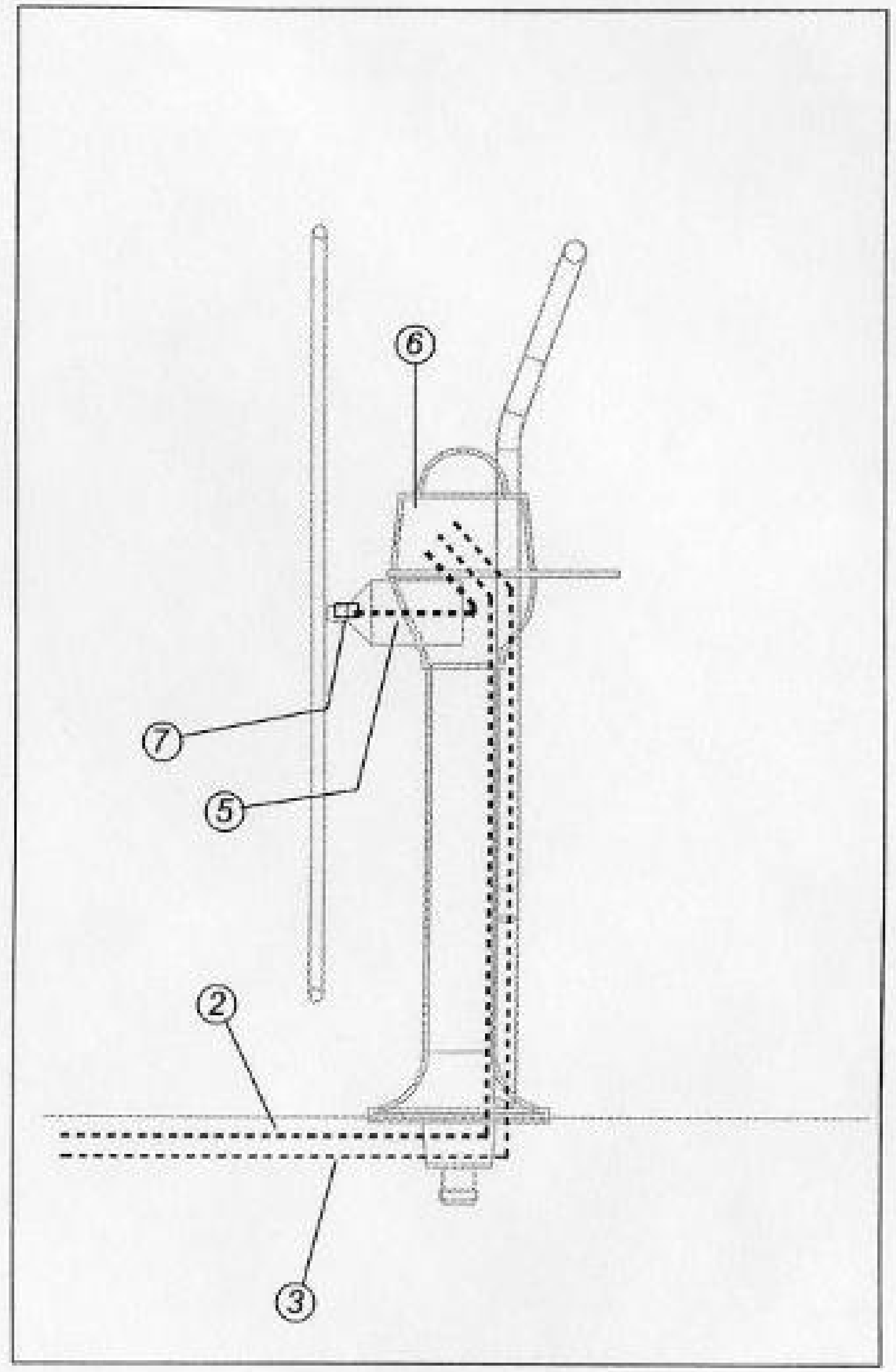


OPIONAL ELECTRIC HALYARD SCHEMATIC

35680641-2	NONE
ENG	

HUNTER





1. DC MAIN PANEL
2. FLUX GATE COMPASS
3. AUTO PILOT POWER LEAD
4. COMPASS SIGNAL CABLE
5. MOTOR CONTROL LEAD
6. DISPLAY PANEL
7. AUTOPILOT MOTOR DRIVE

SEE AUTOHELM MANUAL FOR FURTHER DETAILS

OPTIONAL AUTOPILOT LAYOUT	
3568064J	NONE
ENG	

HUNTER

MASTER ELECTRICAL AMPERAGE DATA

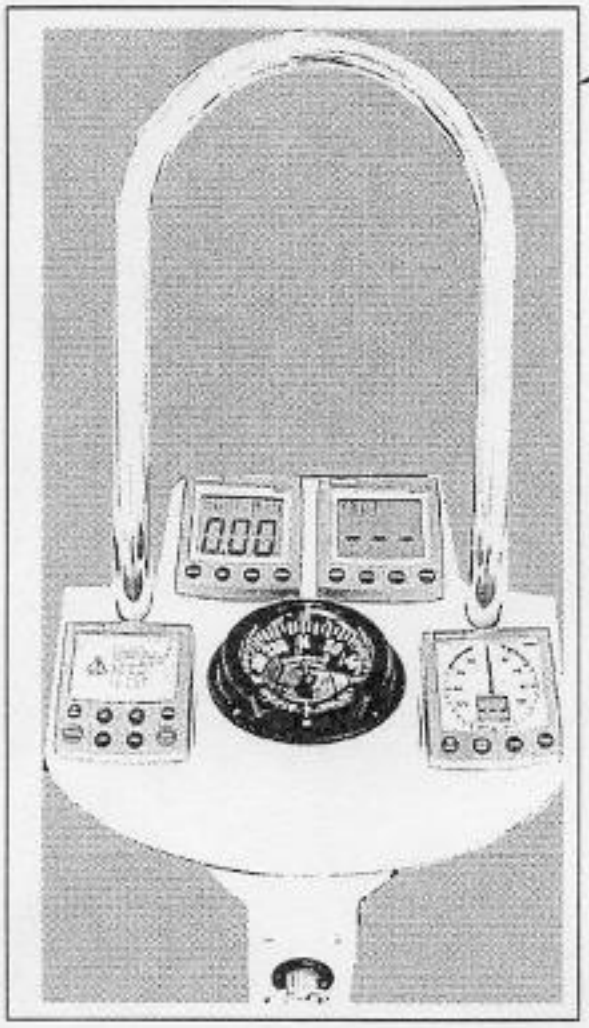
12V.D.C. SYSTEM	
CIRCUIT/BREAKER	**AMPERAGE**
D.C. MAIN	50amp
PANEL LIGHTS	5amp
CABIN LIGHTS 1	20amp
CABIN LIGHTS 2	20amp
COURTESY 1	10amp
COURTESY 2	10amp
TANK INDICATOR	5amp
WATER PRESSURE	10amp
FWD.SHOWER SUMP	10amp
AFTSHOWER SUMP	10amp
MACERATOR 1	20amp
MACERATOR 2	20amp
STEREO	15amp
STEREO W/AMPLIFIER	20amp
REFRIGERATION	15amp
L.P. GAS	5amp
WINDLASS (SWITCH)	5amp
INSTRUMENTS	5amp
G.P.S.	5amp
V.H.F.	10amp
AUTO-PILOT	VARIES PER MODEL
ANCHOR LIGHT	5amp
STEAMING LIGHT	5amp
DECK LIGHT	15amp
RUNNING LIGHTS	10amp (LGR. MOD.)
RUNNING LIGHTS	5amp (SM. MOD.)
COMPASS (TIES TO RUN. LIGHTS)	300amp
BATTERY CABLES	
ENGINE STARTER CABLE	
HALYARD WINCH	
WINDLASS (MOTOR) CABLE	

110V.A.C. SYSTEM	
SHORE POWER A.C. MAIN/S	30 amp
OUTLETS	15amp
MICROWAVE OVEN	15amp
WATER HEATER	20amp
BATTERY CHARGER	15amp
INVERTER	INTERNAL
AIR CONDITIONING	25amp

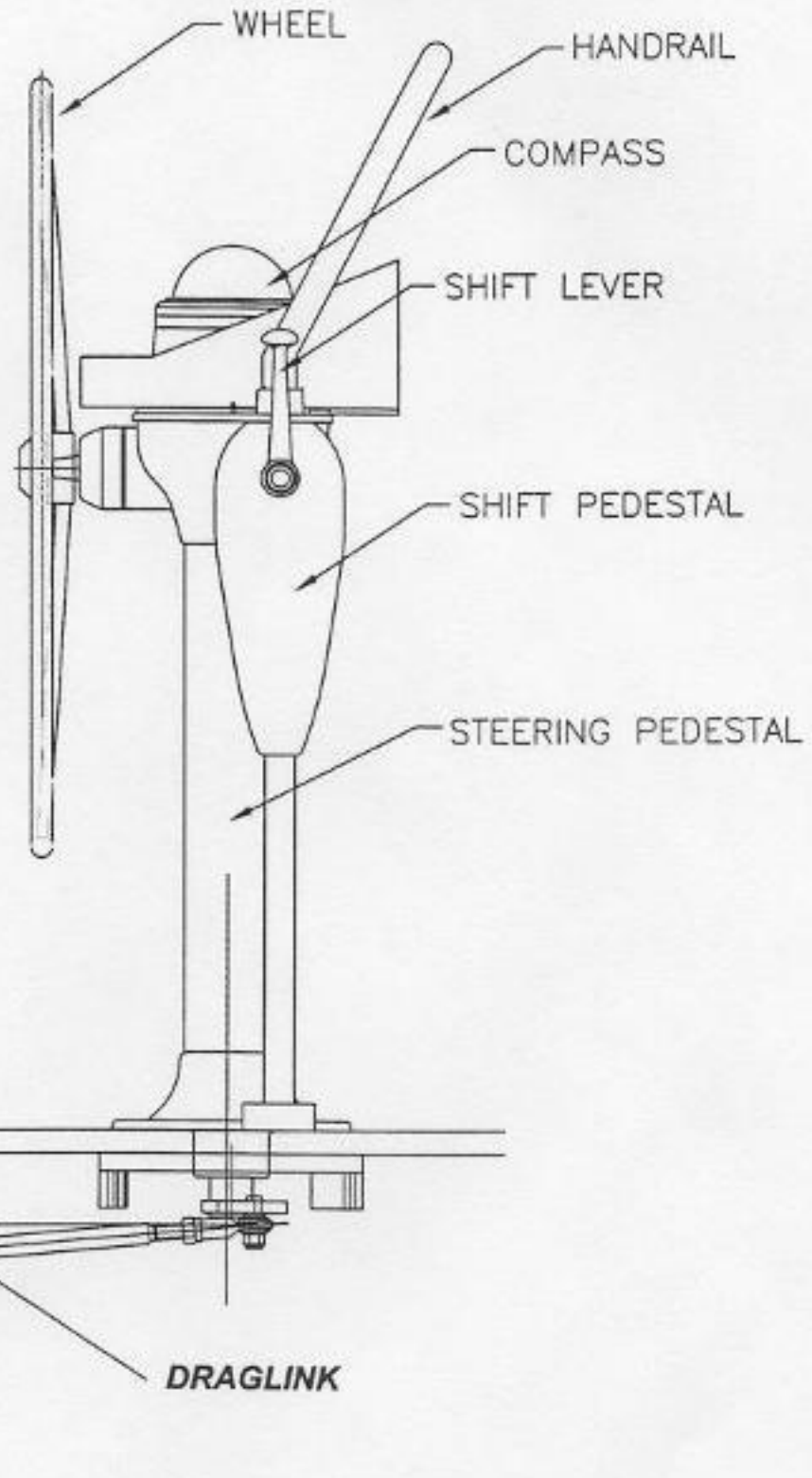
220V.A.C. SYSTEM (ON SELECT OVERSEAS MODELS ONLY)	
SHORE POWER A.C. MAIN/S	15 amp
OUTLETS	10amp
MICROWAVE OVEN	10amp
WATER HEATER	10amp
BATTERY CHARGER	10amp
INVERTER	N/A
AIR CONDITIONING	15amp

MASTER ELECTRICAL WIRING/CABLE DATA

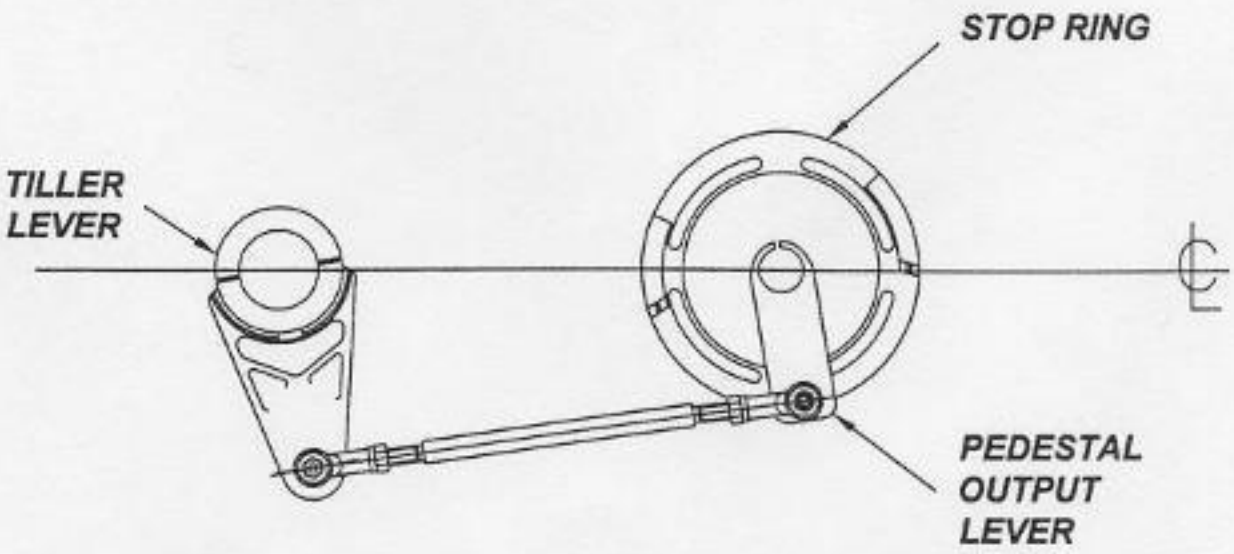
DESCRIPTION	PRT. NUMBER	WIRE SIZE	WIRE COLOR
LPG SWITCH/POWER	659802	16 gauge	ORANGE/RED
TANK DISPLAY	658600	16 gauge	RED/BLUE
FUEL SENDER	658100	16 gauge	PINK,ORANGE/WHITE
GROUND	659800	16 gauge	YELLOW
FWD WATER SENDER	659806	16 gauge	ORANGE/BLUE, PINK/BLACK
GROUND	659800	16 gauge	YELLOW
WATER PUMP	655200	12 gauge	BROWN
GROUND	659700	12 gauge	YELLOW
VACCU FLUSH	652202	10 gauge	BROWN/RED
GROUND	659800	16 gauge	YELLOW
AFT WASTE SENDER	659805	16 gauge	ORANGE/GREEN, PINK/GRAY
GROUND	659800	16 gauge	YELLOW
AFT SUMP PUMP	655400	12 gauge	BROWN/BLACK
GROUND	659700	12 gauge	YELLOW
FWD MACERATOR	655800	10 gauge	BROWN/WHITE
GROUND	659800	16 gauge	YELLOW
SOLAR PANEL	653640	16/2 DUPLEX	RED/YELLOW
VHF	653300	16 gauge	RED/WHITE
GROUND	659800	16 gauge	YELLOW
COURTESY LIGHTS	655100	16 gauge	BLUE/WHITE
GROUND	659800	16 gauge	YELLOW
CABIN LIGHTS	655000	16 gauge	BLUE
GROUND	659800	16 gauge	YELLOW
PORT FWD SPEAKERS	653620	16 gauge	WHITE/RED
STBD FWD SPEAKERS	653622	16 gauge	WHITE/BROWN
PORT MAIN SPEAKERS	653623	16 gauge	WHITE/ORANGE
STBD MAIN SPEAKERS	653624	16 gauge	WHITE/BLUE
PORT AFT SPEAKER	653625	16 gauge	WHITE/GREEN
STBD AFT SPEAKER	653626	16 gauge	WHITE/VIOLET
PORT ARCH SPEAKER	653627	16 gauge	WHITE/PINK
PORT GROUND	653629	16 gauge	WHITE/YELLOW
STBD ARCH SPEAKER	653630	16 gauge	WHITE/GRAY
STBD GROUND	659800	16 gauge	WHITE/BLACK
COMPASS BOW LIGHT	659804	16 gauge	GRAY/WHITE
STERN LIGHT		16 gauge	GRAY/YELLOW
GROUND	659800	16 gauge	YELLOW
MAST LIGHT	657300	16 gauge	GRAY
STEAMING LIGHT	656800	16 gauge	GRAY/GREEN
ANCHOR LIGHT	656900	16 gauge	GRAY/RED
HOUSE BATTERY	653610	2/O, 2 gauge	RED
GROUND	653900	2/O, 2 gauge	YELLOW
AC/DC PANEL	657900	6 gauge	ORANGE/RED,ORANGE/GREEN
GROUND	653618	6 gauge	YELLOW
ENGINE	654100	1/O, 2 gauge	RED
HALYARD	654010	1/O, 2 gauge	YELLOW
T.V. / V.C.R.	658400	10 gauge	RED
GROUND	653631	10 gauge	YELLOW
REFRIGERATION	658800	8 gauge	RED/BLACK
FREEZER	658900	8 gauge	RED/WHITE
GROUND	653615	8 gauge	YELLOW
STEREO OUT	657600	12 gauge	ORANGE/GREEN
STEREO POWER	658500	12 gauge	RED
GROUND	659700	12 gauge	YELLOW
INVERTER GROUND	653642	4 gauge	GREEN/YELLOW
WINDLASS SWITCH	659200	16 gauge	TAN
MANUAL BILGE	655700	12 gauge	BROWN/RED
AUTO BILGE	655600	12 gauge	BROWN/ORANGE
GROUND	659700	12 gauge	YELLOW
AFT MACERATOR	652400	10 gauge	BROWN
AFT SUMP PUMP	655400	12 gauge	BROWN/BLACK
FWD SUMP PUMP	654600	12 gauge	BROWN/YELLOW
AUTO PILOT	658700	10 gauge	RED
GROUND	653615	10 gauge	YELLOW
CHAINPLATE	653642	4 gauge	GREEN/YELLOW
BATTERY CHARGER # 1	658000	8 gauge	ORANGE/RED
BATTERY CHARGER # 2	657800	8 gauge	ORANGE/GREEN



STEERING CONSOLE HOLDS INSTRUMENTS SUCH AS KNOTMETER, DEPTH GAUGE, WIND INDICATOR, ETC



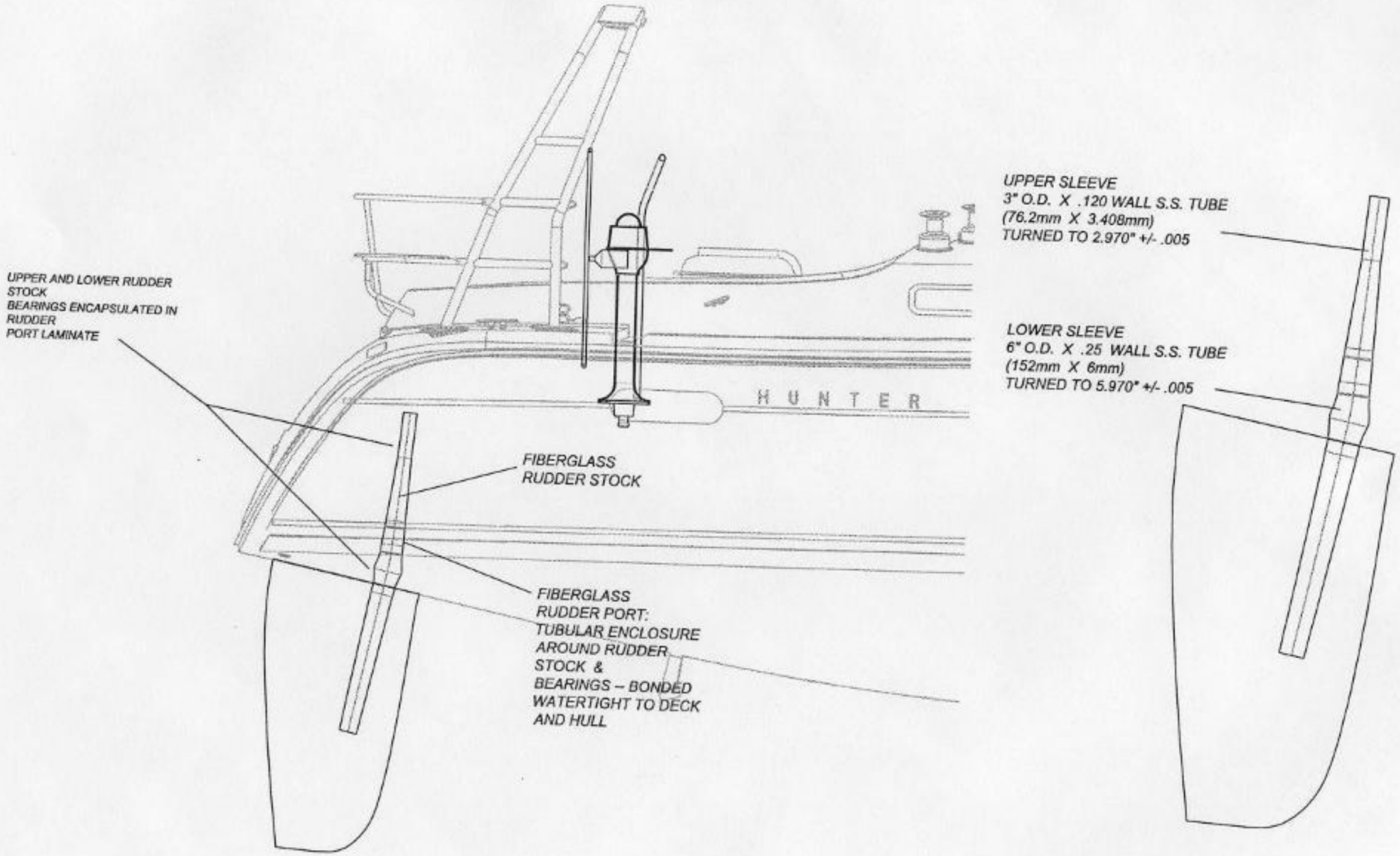
SEE WHITLOCK PROVIDED MATERIAL FOR DETAILED INFORMATION ON COMPONENTS, MAINTENANCE, ETC



HUNTER

STEERING PEDESTAL

DRAWING NO.	3568066
REVISION NO.	NONE
DRAWN BY	ENG
DATE	7/19/01



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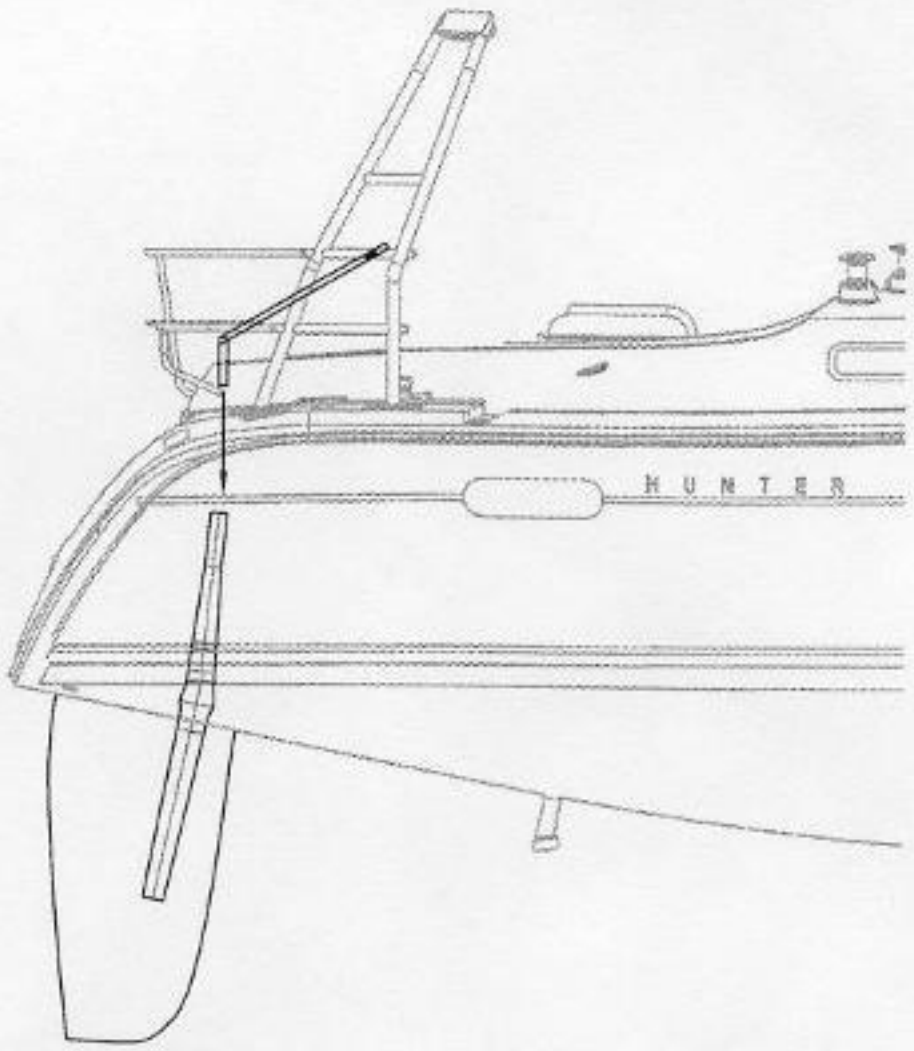
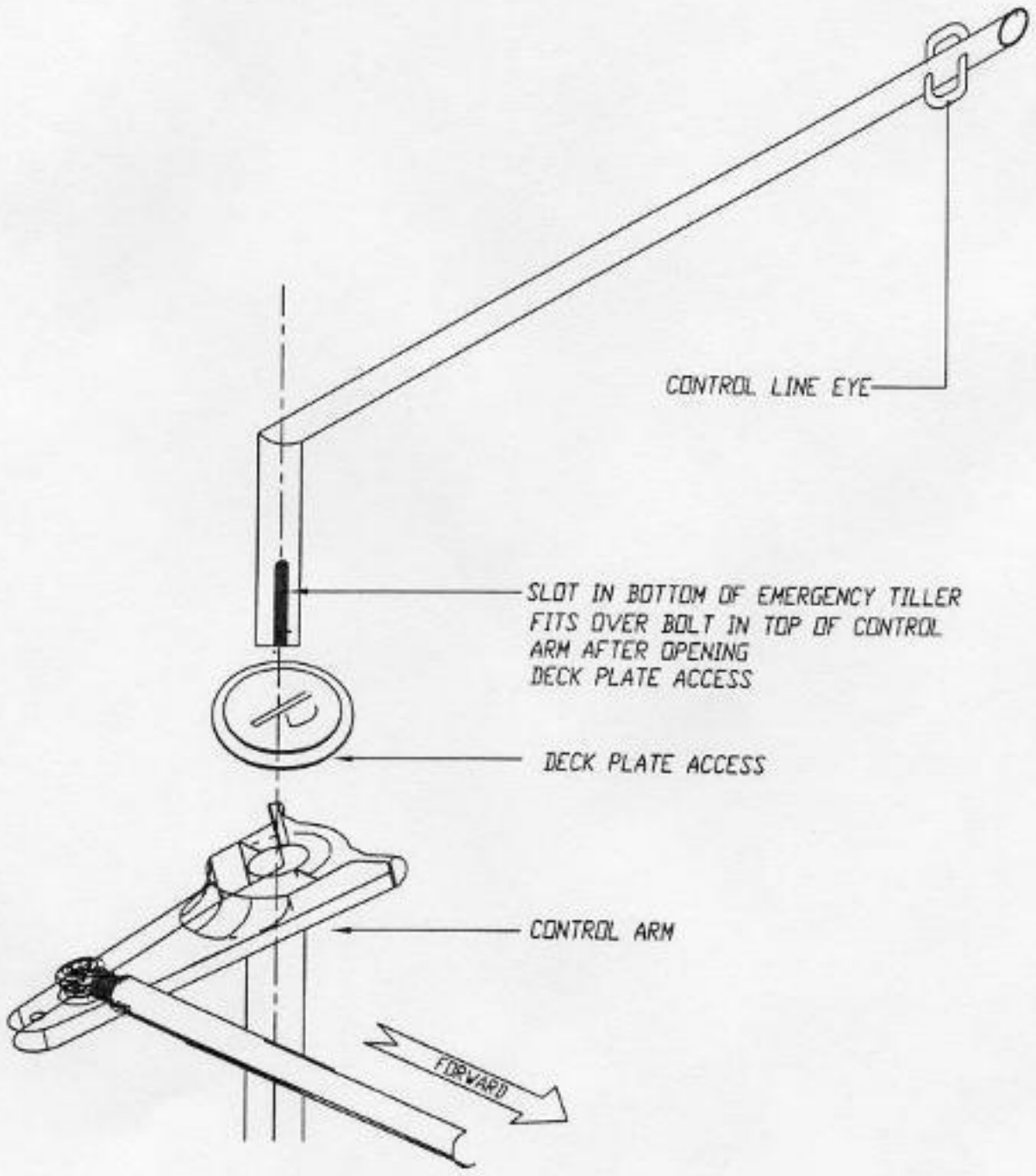
RUDDER AND STOCK DETAILS	
3568067	NONE
ENG	

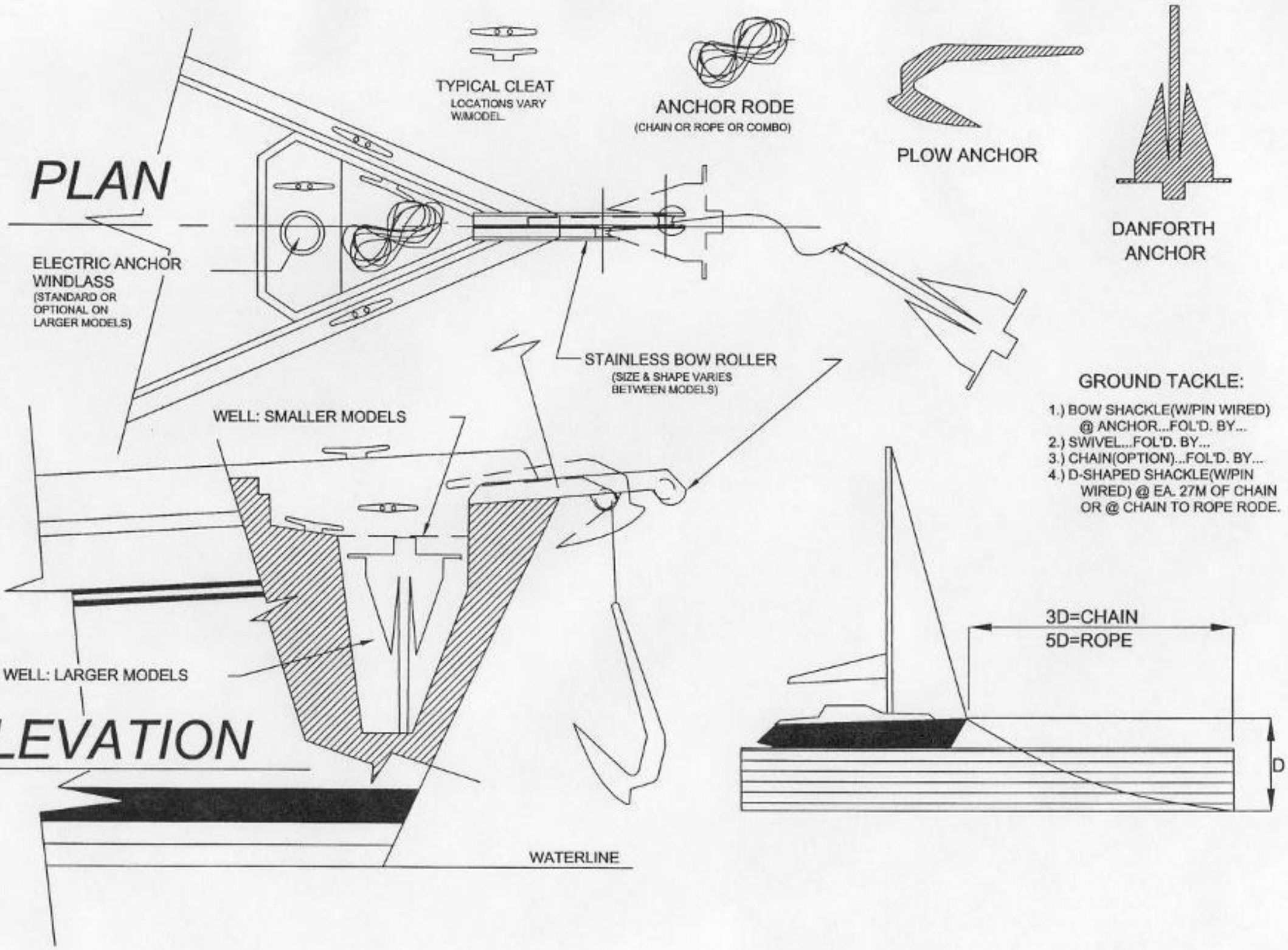
HUNTER





EMERGENCY TILLER

HUNTER



GROUND TACKLE:

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.

BASIC ANCHORING DIAGRAM	
3568069	NONE
ENG	

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