# HUNTER 212 OWNER'S MANUAL



SMALL BOAT SERIES

### HUNTER 212 OWNER'S MANUAL TABLE OF CONTENTS

INT	RODUCTION: P	AGE
>	WARRANTY REGISTRATION FORM	1
>	HUNTER WARRANTY	
>	BRIEF HISTORY	
>	GLOSSARY OF SAILING TERMS	
>	EXPLANATION OF SYMBOLS AND LABELS	9
GEN	VERAL HANDLING AND OPERATION:	
>	SAFE BOATING TIPS	10.11
>	DOCKING	
(	LAUNCHING AND RETRIEVING PROCEDURES	
>	GETTING READY TO SAIL	
>	OUTBOARD ENGINE AND MOTORING	14-13
>	ENVIORNMENTAL CONSIDERATIONS	
MAI	NTENANCE:	
> IVLAI	ENGINE MAINTENANCE	18
>	PROTECTING YOUR RIGGING	
>	TRAILER MAINTENANCE	19
5	GENERAL CARE	20
>	GENERAL HARDWARE MAINTENANCE	
>	STORAGE / WINTERIZATION	
	STORAGE / WINTERIZATION	21
DES	CRIPTION OF THE MODEL:	Service.
>	CERTIFICATION DETAILS	22
>	BUILDER'S INFORMATION PLATE	23
>	PROFILE WITH RIG AND SAIL DIMENSIONS	24
>	DIMENSIONS, CAPACITIES, ETC.	25
>	INTERIOR LAYOUT	26
>	DECK PLAN AND HARDWARE	27
>	DECK HARDWARE PARTS LISTING	28
>	RUNNING RIGGING SPECIFICATIONS	29
>	STANDING RIGGING SPECIFICATIONS	30
>	PROPER CLEAT KNOT	31
>	OPTIONAL MAST RAISING INSTRUCTIONS	32
>	RIGGING DIRECTORY DRAWING	33
>	UPPER FORESTAY / OPTIONAL ROLLER FURLING JIB DETAILS	34
>	SPREADER DETAILS	35
>	BOOM / MAST GOOSENECK DETAILS	36
>	VANG DETAILS	37
>	MAINSHEET PURCHASE DETAILS	38
>	RUDDER DETAILS	39
>	CHAINPLATE DETAILS	40
>	LOWER FORESTAY / OPTIONAL RF JIB	41
>	CENTERBOARD DETAILS	42
>	TRAILERING INFORMATION	43
>	REEFING INSTRUCTIONS	44
>	REEFING LAYOUT	45
>	OPTIONAL SPINNAKER DETAILS	46
>	ELECTRICAL SYSTEM	47
>	ANCHORING ARRANGEMENT	48
EQU	IPMENT MANUALS AND INFORMATION:	
>	WARRANTY MANUALS	
>	MARINE RIGGING GUIDE	
>	SAILMAKER INFORMATION	
>	MAST INFORMATION	

#### OTHER:

TRAILER AXLE SERVICE MANUAL

TIRE WARRANTY CARD

#### HUNTER MARINE'S OWNER AND FOUNDER

# WARREN R. LUHRS

#### BRIEF HISTORY

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

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

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

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

The sea skiff is a class of boat which has been very popular, owing to its seaworthiness. It features a sharp bow, which reduces pounding in surf or choppy seas, and a hull whose forward section is rounded below the water line to increase stability in rough water or a following sea. Such skiffs can either be smooth-sided or of lapstrake construction.

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

In 1960, Luhrs acquired the Ulrichsen Boat Company, Marlboro, New Jersey. It was here, too, that the Luhrs' Alura fiberglass Division was located. In 1965, Henry sold his company to Bangor 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.

#### A

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

Abaft: towards the boat's stern.

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

Aft: at or near the stern.

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

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

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

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

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

### B

Back: when a wind backs, it shifts anticlockwise.

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

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

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

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

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

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 cas, consisting of a sheave around which a rope runs. It is used to change the direction of pull.

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

Bottlescrew: see Rigging screw.

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

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

Bulkhead: partition wall in a boat normally fitted athwartships.

### C

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

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

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

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

Center 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

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

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

Chart datum: reference level on a chart below which the tide is unlikely to fall. Soundings are given below chart datum. The datum level varies according to country and area. Chine: the line where the bottom of the hull meets the side at an angle.

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

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

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

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

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

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

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

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

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

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

### D

Dead run: running with the wind blowing exactly aft, in line with the 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 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. I fathom = 6 ft. = 1.83 m.

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

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

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

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

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

#### G

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

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

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

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

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

Ground tackle: general term used for anchoring gear. Guard rail: a metal rail fitted around the boat to prevent the crew falling overboard.

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

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

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

#### H

Halyard: rope used to hoist and lower sails.

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

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

Hawse pipe: see Navel pipe.

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

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

Heads: the toilet.

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

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

Heaving line: a light line suitable for throwing ashore.

Heel: to lean over to one side.

#### I

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

#### 1

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 year.

#### 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: I, 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 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.

#### 0

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.

## 0

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

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

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

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

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

## S

Scope: the length of rope or cable paid out when mor anchoring. Scuppers: holes in the toe rail which allow water to drain off the deck.

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

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

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

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

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

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

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

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

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

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

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

Spindrift: spray blown along the surface of the sea.

Spinnaker: a large, light, balloonshaped 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 timber at the bow, from the keel upwards, to which the planking is attached.

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

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

#### T

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

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

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

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

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

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

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

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

Toe rail: a low strip of metal or moulding running around the edge of the deck. Topping lift: a line from the masthead to a spar, normally the boom, which is used to raise it.

Topsides: the part of a boat's hull which is above the waterline. Track: 1, the course a boat has made good; 2, a fitting on the mast or boom into which the slides on a sail fit; 3, a fitting along which a traveller runs; used to alter the tension of the sheets.

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

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

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

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

Turnbuckle: see Rigging screw.

### U

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

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

#### V

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

#### W

Wake: the disturbed water left astern of a boat.

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

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

Weather helm: (opp. of lee helm).

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

Wetted surface: the area of the hull under water.

Whisker pole: a light pole used to hold out the clew of a headsail when running. Winch: a mechanical device, consisting usually of a metal drum turned by a handle, around which a line is would 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.

# A DANGER

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

# **MARNING**

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

# A CAUTION

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

## SAFE BOATING TIPS

### BE PREPARED

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

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

# WARNING

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

## MINIMUM RECOMMENDED SAFETY EQUIPMENT

- · Required life saving equipment including life vests and throwables
- . First Aid kit
- · Anchor with sufficient line and/or chain
- · Flashlight with good batteries
- · Binoculars
- · Navigational charts for the appropriate areas
- · Flares
- · Noise emitting device
- · Sufficient food and water provisions

- Sunglasses and sunblock
- · Blanket
- Oar(s)

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

## LIFE JACKETS

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

# WARNING

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

### FIRE EXTINGUISHERS

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

type. Be familiar with what type of fire extinguishers are on board.

# SAFE BOATING TIPS

#### FLARES

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

# **MARNING**

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.

# **MARNING**

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.

# **M** 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.

## 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:

- 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.
- 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 stern cleat opposite the side that will lie against the dock. NOTE: If the boat is to lie against a piling, rig a fender board across two or more fenders.

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

## LAUNCHING & RETRIEVING PROCEDURES

### LAUNCHING

- Remove any and all tie down straps and ropes retaining the boat to the trailer, as well as any lines retaining the rudder in the upright position or on centerline. The only attachment of boat to trailer should be the strap from the bow eye to the trailer winch.
- 2. The spar can be raised before or after launch, depending on the time available before and the docking facilities available after launch. Beware of nearby power lines before raising spar.
- Attach the necessary bow and stern mooring lines and fenders if required. Do not lower the fenders over the side until the boat is clear of the trailer.
- Initially slacken the trailer winch and familiarize yourself with its gear switch action and return the winch to the locked position.

- Load all loose gear and provisions aboard by lowering the swim ladder in the transom.
- 6. Back the boat and trailer down the ramp until the back wheels of the vehicle are just clear of the water. Retrieve the bow and stern lines as necessary. Loosen the trailer winch and bow strap.
- 7. Once the boat is floating free, push the boat clear of the trailer guides to the available dock, maintaining control with the mooring lines.
- 8. Slowly pull the empty trailer out of the water, being careful to make sure the boat and people stay clear.
- 9. Park the trailer and vehicle and return to the boat.

### RETRIEVING

- Raise centerboard and rudder.
- Back trailer into water.
- 3. Maneuver boat between trailer guides and up to the winch
- Connect bow strap and with winch in correct rear winch boat up and snug against bow stop.
- 5. Center boat between upright aft trailer guides.
- Slowly pull boat from water until the weight of the 11. Tie boat to trailer, and secure mast. boat is on the trailer.

- Confirm alignment on trailer. Put trailer back in water if necessary to realign boat.
- 8. Make sure that rudder is secured in upright position so that the tip doesn't drag on ground.
- 9. Lower centerboard until it comes to rest on the trailer bunk.
- 10. De-rig and unstep mast if not already done. Beware of nearby power lines when lowering mast.

## GETTING READY TO SAIL

NOTE: The mast may be raised while the boat is on the trailer or after the boat is launched. Make sure that all halyard lines are installed as well as the shrouds and forestay on the H212 model.

# **MARNING**

## **ELECTROCUTION HAZARD**

Make sure that the mast and rigging are clear of all overhead electrical cables when being raised or lowered or maneuvered about a launching area. Contact with an overhead electrical cable can cause severe injury or death.

- INSTALL RUDDER: Align black plastic gudgeons inside bracket and install pin from top of stern sheer.
   See page 37A and B
- ATTACH SHROUD TURNBUCKLES to both port and starboard outboard chainplates.
   See page 40
- ENSURE THE SPREADERS are properly installed and all rigging is clear from obstacles.
   See page 35A
- RAISE SPAR.
   See page 32C
- ATTACH FORESTAY/TENSIONER to stem fitting.
   See page 41 A and B
- 6. CONFIRM THAT THE SHROUDS are supporting the spar. If tensioning is needed, tighten the turnbuckles by using a counterclockwise motion. See page 35B

7. INSTALL BOOM

See page 36A through C

- 8. ATTACH LOWER END of boom topping lift to line on starboard side boom end sheave.

  See page 36A and B
- 9. ATTACH MAINSHEET purchase.

See page 38

10. ATTACH VANG.

See page 37

 INSTALL BATTENS in the mainsail and attach mainsail.

See page 36C

12. INSTALL JIBSAIL.

See page 34B

13. BEFORE RAISING MAINSAIL (Prior to raising jib) be sure rudder and centerboard are lowered, according to the depth of the water.
See page 39A and B, page 42

## **GETTING READY TO SAIL**

## Rig Tuning (H212)

- On the H212 connect upper ends of shrouds and forestay to spar, (see page 34A and B) and forestay tensioner to lower end of forestay as shown on page 41A or the optional roller furling jib drum on page 41B.
- Connect lower ends of shrouds (turnbuckles), to the chainplate on page 40.
- Raise mast and secure the forestay to stemhead fitting and then tension forestay. See page 41 A.

NOTE: On optional roller furling jib model, the forestay is integrated into the jib luff, the furling drum attaches to the stemhead fitting and the forestay tensioner is not used. Page 41B.

4. Maintain enough tension on the shrouds so the forestay is not loose and the leeward shroud does not "flap" when sailing upwind. The tension can be tightened by simply tightening the turnbuckles. See page 40. (NOTE: If shrouds are too tight, forestay will be difficult to attach to stemhead fitting). Also shroud lengths may vary slightly so each shroud may adjust slightly different.

# Centerboard & Rudder Operation (H212)

#### 1. Lowering/Raising Centerboard

After centerboard/uphaul/downhaul installation is complete, the centerboard is lowered by removing the uphaul line from the jam cleat (see page 42). The weight of the centerboard holds the centerboard down and also allows it to retract in the event the boat runs aground. Also the depth of the centerboard can be adjusted by locking the uphaul line in the uphaul cleat at the desired depth.

NOTE: Raise centerboard all the way, when loading boat on trailer by pulling in the uphaul line all the way and securing into jam cleat. See page 34A and B. During trailering however, the centerboard must be lowered to rest on the trailer bunk.

#### 2. Raising/Lowering Rudder

The rudder function is very similar to the centerboard function. The difference being the rudder uses a downhaul line that secures into a jam cleat on the tiller handle (see page 42). Like the centerboard, the rudder depth can also be adjusted by locking the downhaul line in the jam cleat at the desired depth.

### Centerboard Characteristics

In most sailing conditions it is best to sail with the centerboard fully lowered. With the centerboard down, the boat is most likely to have its best balance.

There are times when adjusting the centerboard may be useful. When sailing downwind, for example, increased performance may result from partially raising the centerboard which will reduce the hydrodynamic friction. Also, when beam reaching or close reaching, some small adjustments in the centerboard angle may improve the

steering balance of the boat in differing wind and wave conditions.

Also, when departing from or returning to your launch or dockside, be sure to keep some angle to the centerboard. It needs to be raised enough to ensure that it does not contact the ground, however some centerboard should be exposed to provide "sideslip" resistance as the wind will affect the maneuverability of the boat.

## **OUTBOARD ENGINE AND MOTORING**

If you choose to use an outboard motor, do not exceed 4 H.P. An engine owner's manual should be supplied with your outboard motor. This manual will contain technical specifications, running instructions and a maintenance schedule on lubricants and other important functions. For longer engine life, follow the routing maintenance schedules given by the manufacturer.

Run the engine at a low speed for about three minutes for warm-up operation before cruising, permitting the oil to circulate throughout the machine. Otherwise, the life of the engine will be shortened greatly. During warmup operation, confirm that cooling water is discharged (water cooled models) from its check port.

Under power (without sails up) your boat may be maneuvered with the rudder only, or in tight turning situations, you may shorten your turning radius by turning the outboard in the same direction as the rudder. This directs the propulsion forces in a complementary direction to where your rudder is steering the boat. The engine will generate some "prop walk," which will exert some force to push the transom relative to the direction of the rotation of the propeller. You can test your prop walk direction by putting the boat in reverse while you are parallel to the dock, and see if the stern swings toward or away from the dock.



If cooling water (on water cooled models) is not discharged, and operation continues, the engine will be overheated, causing mechanical troubles.

When fueling your engine, be sure to use fresh fuel. Fuel that has been in a tank too long can form gum and varnish. Which may affect performance. Use oil as recommended by the manufacturer. Two stroke engines require a special oil to be either mixed with the gasoline or injected from a remote tank. This lubrication is essential for the operation of the engine.



#### EXPLOSION/FIRE HAZARD

- Store flammable material in safety-approved containers. Keep containers in an area designed for that purpose. Never store flammable material in a non-vented space.
- · Observe "No-Smoking" while fueling.
- Fill to less than the capacity of the tank.
   Allow for fuel expansion.
- · Inspect fuel system regularly for leaks.

# **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.

#### EXHAUST EMISSIONS

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

#### 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.

# WARNING

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

## ENGINE MAINTENANCE

Follow the fuel and lubrication requirements in the engine manual provided by the manufacturer. Check oil levels prior to starting, and use lubricants as recommended by the engine manufacturer. Always check fuel lines and connections for possible leaks, which may create a dangerous situation.

If you use your outboard in salt water, wash down the exposed drive unit after every use to limit corrosion. Also, it's a good idea to attach a water hose to a flushing device on an outboard and completely flush out the raw water cooling system. Regularly check the propeller and drive unit for any damage or other signs of serious wear. Propeller damage will reduce performance, as well as contribute to other potential engine problems.

# **WARNING**

#### EXPLOSION/FIRE HAZARD

 Fuel system connections that are too loose or too tight can leak, resulting in fuel loss, environmental pollution and explosion or fire hazards.

## PROTECTING YOUR RIGGING

No matter how good your rigging is, without careful inspection and proper maintenance it is subject to fatigue, wear, discoloration, and therefore, product failure. Remembering to inspect and clean will increase the life of your investment and secure your rigging. We would like to suggest the following:

- Always rinse your rigging with fresh water after sailing. Especially after salt water sailing. Salt can create corrosion pits, causing cracks and deterioration.
- Clean with a water soluble detergent without chlorine. Nonabrasive cleansers are best for hard white vinyl coated cables.
- · Inspect rigging for stains. Rust stains may indicate

stress cracks or corrosion. Remove stains with synthetic or brass pads. Never use steel wool pads.

- Look for broken wires a sign of fatigue in rigging. Replace standing rigging if wires are broken.
- Never mix stainless steel and galvanized metals on cable, fittings, pins, cotter keys, etc. If mixing dissimilar metals, electric currents may conduct between metal causing rapid deterioration.
- After un-stepping, make sure to release all standing rigging to avoid bending, crushing, and kinking.
- Store rigging in a dry place. Never store in a plastic bag, which can cause corrosion.

## TRAILER MAINTENANCE

#### BEFORE USING YOUR TRAILER

- Check all bolts and nuts for tightness, including the lug nuts for the wheels.
- 2. Check to insure that all lights are working properly.
- Always maintain the tires' recommended air pressure.
- For improved tire life, have your tires spin balanced by a qualified tire service center.
- When the trailer has been hitched to your vehicle, remove the two speed winch handle before departing.
- Always check hitch and safety chain connection and boat tie downs prior to departing.

#### PROTECTING AND MAINTAINING YOUR TRAILER

- Before launching your boat, we recommend that the light harness be disconnected from your vehicle with enough time to allow the bulbs to cool. This will greatly extend the life of your trailer lights.
- 2. This trailer has a galvanized frame, however, some parts including the brakes, axles, hubs, springs, U bolts and plates (if applies) are not galvanized. Most of these parts have been painted with a high gloss black rust resistant paint, plus a clear coating. After launching (especially in salt water locations), rinse your trailer, including these painted components. As a continuing measure to protect your trailer, you should from time to time, refinish and repaint surfaces that show signs of rusting.
- 3. Periodically and regularly check your wheel bearing for sufficient grease and tightness. The more launching you do, the more likely for the need to regrease these bearings.

Proper maintenance and care will help insure more trouble free trailering for you.

Also, familiarize yourself with the trailering regulation for your state, and the other states you may be traveling in with your boat. Some states require a special permit for loads of eight feet wide. Other regulations may apply as well.

## **GENERAL CARE**

#### NOTICE

not a Fiberglass® boat!

Your new Hunter is built using the ACP process. This is The outer skin is a weatherable ABS plastic known as Luran® S and is built by BASF. The outer plastic skin is approximately .170" thick.

#### CLEANING LURAN®S SURFACES

Luran® S (acrylonitrile/styrene/acrylate) 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 dirt, grease or oil, use soap and water or isopropyl alcohol. For stubborn stains, you can use mineral spirits but ....

You can wax the surface if you would like, but be aware this will make the boat very slippery. For light scratches you can use a wax with a light rubbing compound or a mirror glaze which is available at any hardware store.

For more extensive repairs, see Page 20C or contact the factory.

CAUTION

NEVER LEAVE A RAG FULL OF MINERAL SPIRITS SITTING ON THE BOAT AS THIS WILL ATTACK THE PLASTIC AND VOID THE WARRANTY, NEVER USE ACETONE OR OTHER SOLVENTS. THEY WILL DAMAGE THE FINISH.

When storing, please open the drain plugs so the boat can breathe. When trailering make sure the boat is well supported so as not to dent the hull.



## 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.



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

## GENERAL CARE (continued)

#### SAIL CARE

Sunlight is a sail's worst enemy, so cover the mainsail when not in use. Mildew, which discolors, is prevented by storing sails dry and by hand washing twice a season. Check all sails regularly for chafe, particularly where they chafe on deck fittings or rigging, at reef points, batten sleeves and the foot of the headsail. Sail batten pockets should be inspected on a regular basis.

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

## 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.

# GENERAL CARE (Repairing Luran® S)

### REPAIRS

#### Shallow Surface Scratches

Remove the scratches by lightly hand wet sanding the surface with 600 grit sandpaper. Sand in one direction only and only until the scratches are removed (to retain as much of the surface layer thickness as possible). This will create a dull surface. To improve the surface gloss sand the area with 1000 grit, then 1500 grit sandpaper. The surface should be starting to recover some of the gloss. To further increase the gloss level, polish the area with ultra fine polishes (automotive polishes suitable for clearcoat).

#### Minor Damage

Minor damage is defined as a problem that does not affect the overall structure of the part or area. They are usually appearance concerns, such as scratches, surface mars, and minor dents. It is very important to ascertain the full extent of the damaged area. If any jagged edges or cracks are in the area, see the major damage section.

Mask off the damaged area, lightly hand sand (220 grit) the damaged area to remove any surface ridges and to promote adhesion. Sand in one direction only. In a well ventilated area, apply a thin layer of Plexus adhesive in a 1:1 ratio to the damaged area. After the Plexus has dried, smooth the area with a fine sandpaper (220 grit). Now, apply a thin layer of automotive body filler (Bondo) to fill in any imperfections, allow to dry. Then lightly wet sand with 220, 400 and 600 grit sandpaper. Finally, apply an automotive paint to match the color.

#### Major Damage

This type of damage can be holes, cracks, or large dents. Crack, even those found around holes, must be prevented from growing. To do this, the ends must be found and blunted (by drilling small holes). Once this is done, the crack can be ground or routed into a V groove. This allows it to be filled easily and promotes a good bond. We suggest using a Dremel tool being sure to work in a well ventilated area.

Mask off the damaged area and lay a bead of Plexus into the damaged area slightly underfilling the V groove. The Plexus will expand as it kicks. Skim the excess Plexus (if any) from the repair area keeping it level with the surrounding area. Allow to dry for I hour. Sand the damaged area until the surface is flush with the surrounding area. Apply a thin layer of automotive body filler to fill in any voids. Allow the filler to dry and wet sand with 220, 400 and 600 sand-paper.

After sanding the repaired area flush to the surrounding area, paint can be applied. Recommended paints are spray enamels and oil based enamel brush-ons (Rustoleum).

#### Safety Considerations

Use of solvents requires adequate ventilation, keeping in mind that they are usually highly flammable. Use proper procedures to avoid injury. In some instances, the use of these materials is controlled. Check all regulations prior to using.

Keep in mind that a repair can only attempt to match the performance predicted in the original part. The repair may not be quite as strong or stiff as the original part. The overall part/system behavior has probably changed.

Always follow all warnings and instructions given by the manufacturers of the products used for repair.

This information is provided for your guidance only. We urge you to make all tests you deem appropriate prior to use. No warranties, either expressed or implied, including warranties or merchantability or fitness for a particular purpose, are made regarding products described or information set forth, or that such products or information may be used without infringing patents of others.

# STORAGE/WINTERIZATION

#### SAILS

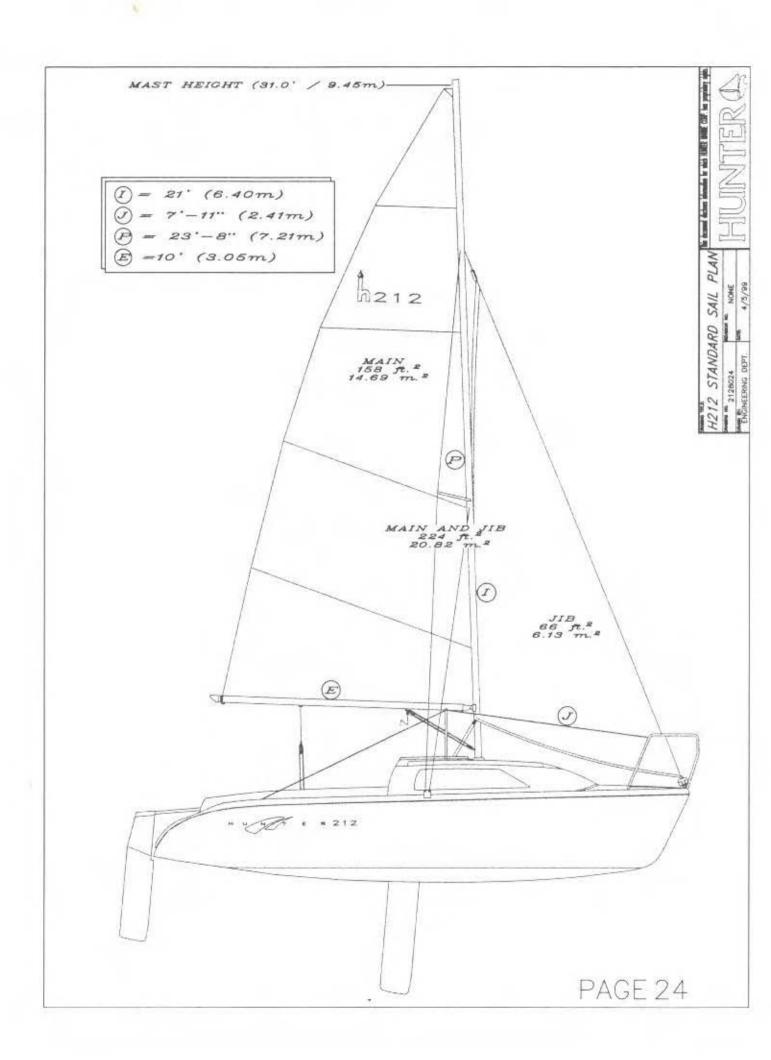
Sails should be properly folded and stowed in a dry, well ventilated place. Many sailboat owners send their sails back to the sail manufacturer at the end of each season. The sailmaker will check the stitching and sailcloth for wear and store the sails until the start of the next season.

#### OUTBOARD ENGINE (if applies)

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.

#### ROUTINE MAINTENANCE

Routine maintenance check lists should include items based on how much the boat is used (usually in terms of engine hours, if applies) and on calendar dates (weekly, monthly, or seasonal checks). Typical of the former are oil level checks and changes, and inspecting the rigging for frayed cables, lost cotter pins, etc. Cleaning and lubricating rig as necessary, checking for loose fasteners, i.e. deck hardware, properly inflated tires on trailer and properly greased trailer axle bearings.



## DIMENSIONS, CAPACITIES, ETC.

BOARD UP.....

BOARD DOWN.....

HL	IN	rer	21	12

LENGTH OVERALL (LOA)	21' 0"	6.40 m
LENGTH OF WATERLINE (LWL)	18' 0"	5.49 m
BEAM (MAX)	8' 2"	2.49 m
CENTERBOARD DRAFT		

10"

5' 0"

OUTBORAD ENGINE

25 cm

1.52 m

683 kg (W/ LUGG.)

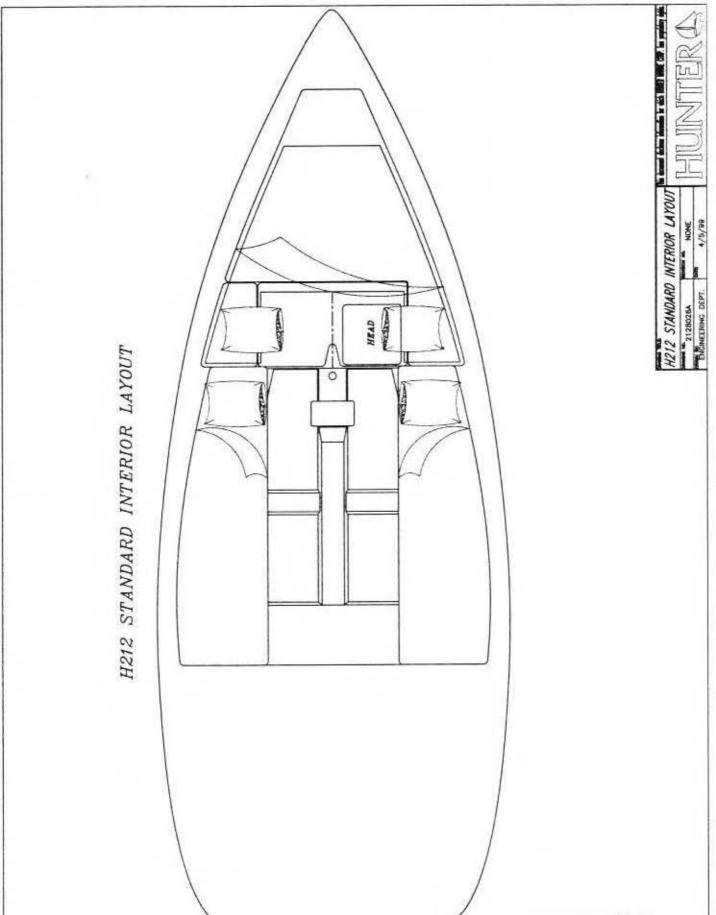
### SAIL INFORMATION

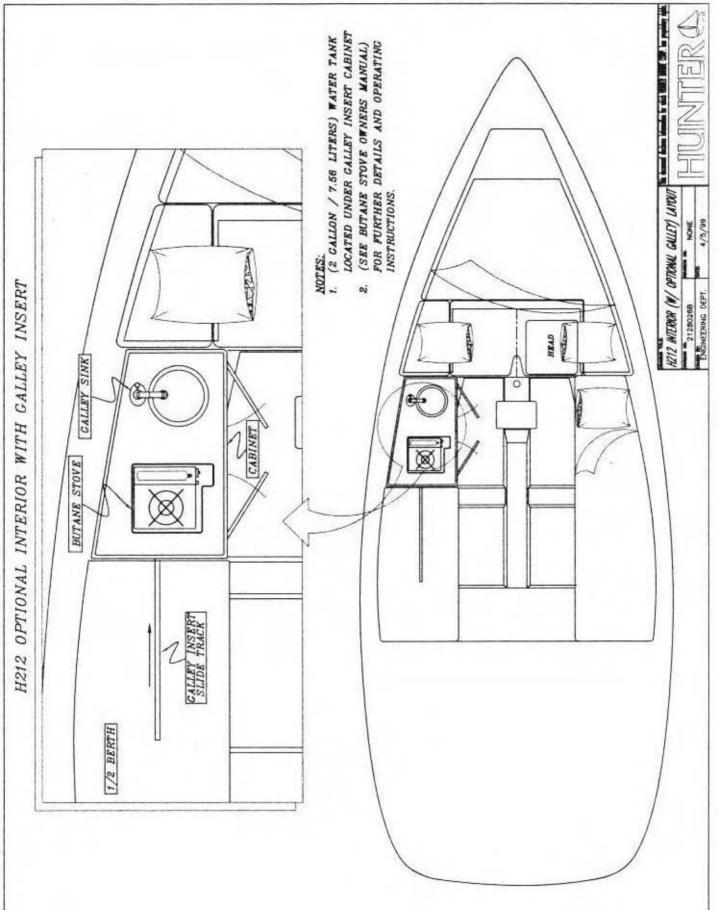
SAIL AREA (100% TRAINGLES)	201.51 sq. ft.	18.73 sq.m
SAIL AREA (ACTUAL W/STANDARD SAILS)	224 sq. ft.	20.82 sq.m
l	21' 0"	6.41 m
J	7" 11"	2.41 m
P	23' 8"	7.21 m
E	10'	3.05 m
MAST HEIGHT (FROM WATERLINE)	31' 0"	9.45 m

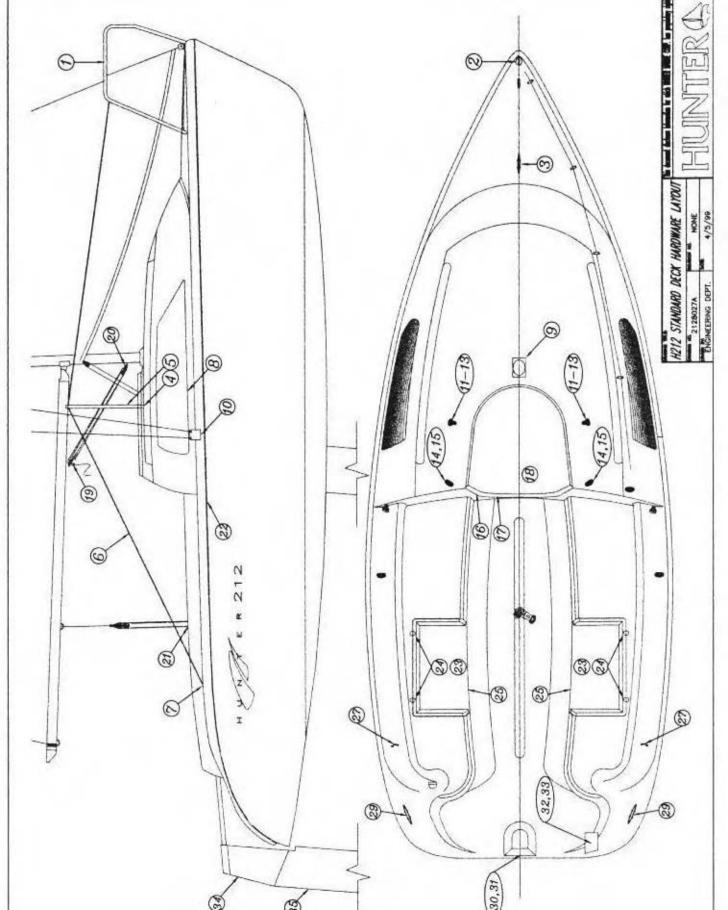
(OPT. GALLEY) WATER CAPACITY	2.5 U.S. gal.	9.46 liters
HOLDING TANK CAPACITY (PORTA-POTTI)	2.8 U S gal.	10.5 liters
FUEL TANK CAPACITY (OUTBOARD)	OPTIONAL WITH	

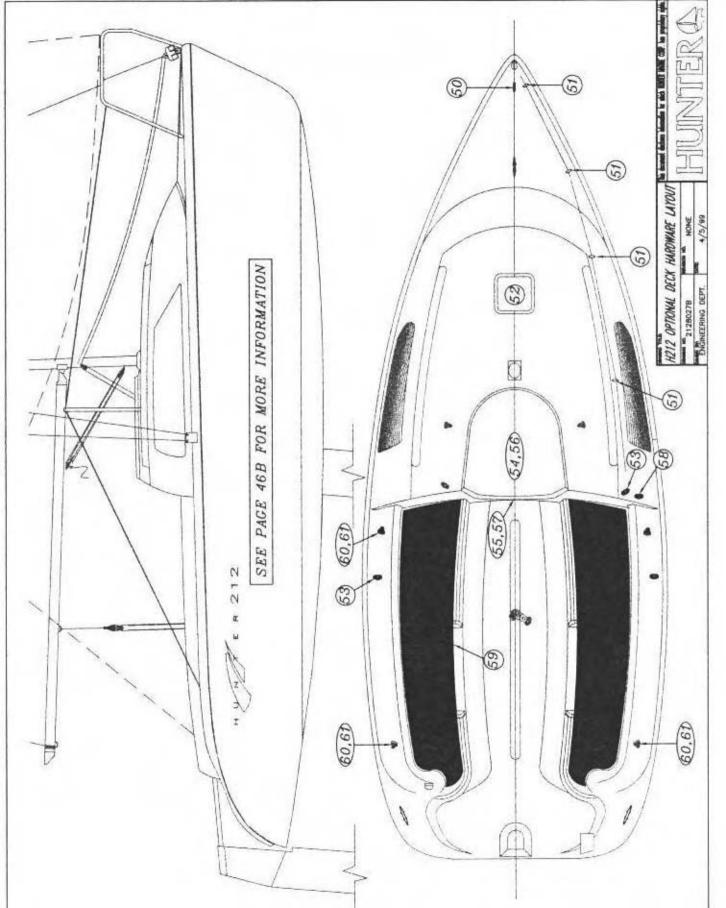
BATTERY CAPACITY	NOT SUPPLIED
ELECTRICAL VOLTAGES	SEE ELECTRICAL DRAWINGS
OUTBOARD ENGINES	OPTIONAL FOLIPTMENT

OUTBOARD ENGINEED	of florate Exem final fi
MAYIMI IM LOADING	6 PEOPLE









WARE UST RUTH THE WAS IN THE PERSON AND THE PERSON	H212 STANDARD DECK HARDWARE LIST	H212 3		
210 RUDDER				RUDDER
SEE 210 DWG LIST				RUDDER ASSEMBLY
	,	AFT COCKPIT	SS BRKT MOUNTS TO COCKPIT SOLE	SS MOTOR MOUNT BRKT.
		AFT COCKPIT	PLASTIC PART COMBINES W/ SS	PLASTIC MOTOR MOUNT
2102003	•	AFT COCKPIT	SS RUDDER/ TRAILERING BRKT	SS QUICKPIN
RUDDER ASSEMBLY		AFT COCKPIT	SS PC FOR RUDDER/ TRAILERING	SS RUDDER MOUNT
NA	6" AL CLEAT	1 PT/1 STBD	AFT ALUMINIUM CLEAT	AFT CLEAT
137	HARKEN	1 PT/1 STBD	FASTENS BLOCK TO COAMING	STRAP EYE
		COCKPIT SEATS	MOUNTS BELOW C.PIT SEATS	STARBOARD
GEMLUX	GEMLIUX	COCKPIT SEATS	MOUNTS SEATS TO COAMING	SEAT LID HINGES
N/A	5	COCKPIT P & S	ABS PARTS	COCKPIT SFAT LIDS
		AROUND ENTIRE FLANGE OF HULL	MOULDED RUBBER EXTRUSION	RUB RAIL EXTRUSIONS
	SCHAEFFER	ATTACHES TO LOWER MATS	MAINSHEET BI IBCHASE BI OCK	LOWER VANG BLOCK
	SCHAEFFER	ATTACHES TO BOOM	UPPER SOFT VANG BLOCK	UPPER VANG BLOCK
21020025	\$	CABIN ENTRANCE	ABS PART HATCH	COMPANIONWAY HATCH
21020025	HUNTER	CABIN ENTRANCE	3 STACKING PIN BOARDS	PIN BOARDS
21020025	HUNTER	CABIN ENTRANCE	1/8" SS SLIDER TRACKS	SLIDER TRACKS
365	HARKEN	1 PT/ 1 STBD	JIB JAM CLEAT	JIB CLEAT
290	HARKEN	1 PT/ 1 STBD	INCREASES HEIGHT OF JIB CLEAT	JIB CLEAT RISERS
170	HARKEN	1 PT/1 STBD	NA	STAND UP SPRING
137	HARKEN	1 PT/1 STBD	FASTENS BLOCK TO DECK	STRAP EYE
019/043 (P/S)	HARKEN	1 PT/1 STBD	FWD BLOCKS CABIN TOP	FWD BLOCKS
	HUNTER	1 PT/1 STBD	STADNING RIGGING ATTACHMENTS	CHAIN PLATES
21020013	DWYER	MID SHIP DECK	DWYER MAST STEP ASSEM.	MAST STEP
21020013		1 PT/1 STBD	BLACK PLEXI CABIN WINDOWS	WINDOWS
N. FLA. GLASS 2103002 21020013		1 PT/1 STBD	LIFELINES ATTACH TO DECK	LIFELINE U-BOLTS
TBD BY JY N. FLA. GLASS 2103002 21020013	HUNTER	1 PT/1 STBD	WHITE PVC COATED 3/16"	LIFELINES
TBD BY JY N. FLA. GLASS 2103002 21020013	HUNTER	1 PT/1 STBD	LIFE LINE STANCHIONS	STANCHIONS
2102006 TBD BY JY N. FLA. GLASS 2103002 21020013	SCHAEFFER	1 PT/1 STBD	LOCATED @ STANCHION BASE	STANCHION U-BOLTS
2102006 TBD BY JY N. FLA. GLASS 2103002 21020013		FWD DECK	DECK CLEAT	FWD DECK CLEAT
2102006 2102006 TBD BY JY N. FLA. GLASS 2103002 21020013	6" AL CLEAT		HEADSTAY ATTACHMENT	STEMHEAD FITTING
21020005 N/A 2102006 TBD BY JY N. FLA. GLASS 2103002 21020013	HUNTER 6" AL CLEAT	FWD DECK	The same of the sa	

PART #

# DMG

MANUFACTURER

LOCATION

**DETAILS/FUNCTION** 

PART

	PART	DETAILS/FUNCTION	LOCATION	MANUFACTURER	DWG#	PART#
	F SOUTH SOUTH CAND	C 140 ROLLO GENERALISTO	Sec. Control	F47 50 14 10		
	TWD DECK O-BOL	SPINNANER OF HON ONLY	FWD DECK	O ALCLEA	K/Z	
	FAIRLEADS	OPT FURL JIB/SPINN. LINE GUIDES	4 ON STBD SIDE	HARKEN	237	
	DECK HATCH	OPTIONAL FWD DECK HATCH	FWD DECK		TBD BY JY	
	JIB CLEAT	OPT FURL JIB JAM CLEAT	1 STBD	HARKEN	365	
	CANVAS DODGER	BLUE CANVAS COMP.WAY DODGER	COMPANIONWAY ENTRANCE	HUNTER		
3	CANVAS COMP.WAY COVER	BLUE CANVAS PIN BOARD COVER	COMPANIONWAY ENTRANCE	HUNTER	21020025	
	SS DODGER MOUNTS	MOUNTS TO COMPANIONWAY	CABIN ENTRANCE			
	CANVAS SNAPS	10 FOR CANVAS COVER	CABIN ENTRANCE			
7	JIB FURLING LINE CLEAT	JIB JAM CLEAT	MID-DECK STBD	HARKEN	365	
Ö	COCKPIT SEAT CUSHIONS	COCKPIT CUSHIONS	COCKPIT P & S	5	NA	
	STAND UP SPRING	NA	1 PT/ 1 STBD	HARKEN	071	
	AFT BLOCKS	FWD BLOCKS COCKPIT COAMING	1 PT/ 1 STBD	019/043 (P/S)	2 @ EACH	

-	BY:	KJC	DATE:	5-May-97	REVISION:						
0	OPT/STD	ITEM	QUANTITY	LINE SIZE	END 1	E IE	LENGTH		H	END 2	COLOR
-	вто	MAINSHEET		3/8 inch dia. LS	EYE	12.50 m	41 ft.	0	Œ.	BARE	BLUE
8	STD	JIB SHEET	+	3/8 inch dia. L.S	BARE	6.60 m	21 ft.	<b>6</b> 0	É	BARE	BLUE
m	STD	MAIN HALYARD	•	1/04 inch dia. LS	SMALL EYE / D-SHACKLE	14.22 m	46 ft.	80	É	BARE	WHITE
4	STD	JIB HALYARD	-	1/04 inch dia. LS	SMALL EYE / D-SHACKLE	13.05 m	42 ft.	9	É	BARE	WHITE
60	OPT	SPINNAKER HALYARD	<b>5</b>	1/04 inch dia. LS	SMALL EYE / D-SHACKLE	11.60 m	38 ft.	0	Ē.	BARE	BLUE
ď	OPT	SPINNAKER SHEET	2	3/8 inch dia. LS	BARE	14.73 m	48 ft.	4	Ē	BARE	PURPLE

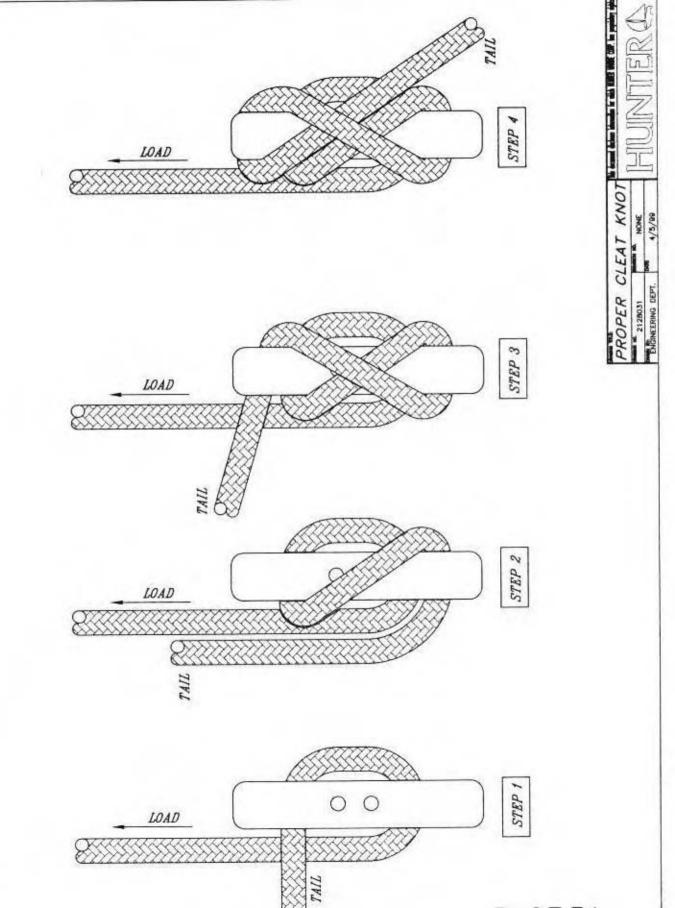
H212 RUNNING RIGGING SPECIFICATIONS

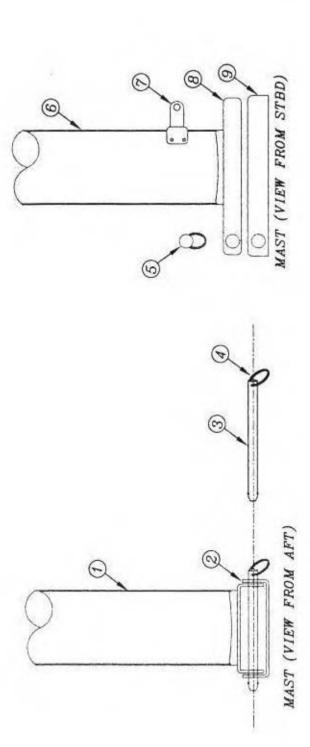
2128029

BAGINEERING DEPT S/11/99

			NZ10 STANDING	STANDING RIGGING SPECIFICATIONS	CALIONS			
BY:	KIC	DATE:	DATE: 5-May-97	REVISION:				
OPT/STD	ITEM	QUANTITY	WIRE SIZE	UPPER END	LEN	LENGTH		LOWER END
STD	۲۶	2	5/32" (4mm) 1x19	SWAGED	6.439 m	21 ft.	21 ft. 1 1/2 in.	TURNBUCKLE, 1/4" PIN
STD	10	2	1/8" (3.2mm) 1x19	SWAGED				TURNBUCKLE, 1/4" PIN

THE WAY OF IN papers		
a format federa Monada in this	7	7 300 3
SCING SPECIFICATIONS	MONE NONE	S/11/99
4212 STANDING RIG	2128030	TOTAL CHESTON





(VIEW FROM AFT) MAST

MAST STEP CLEVIS PIN TABERNACLE MAST

CLEVIS PIN SPLIT RING

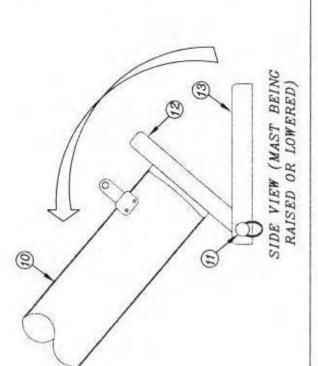
SPLIT RING (SIDE VIEW) VIEW) CLEVIS PIN SIDE MAST

MAST RAISING POLE BRACKET UPPER TABERNACLE PLATE 4.00.000

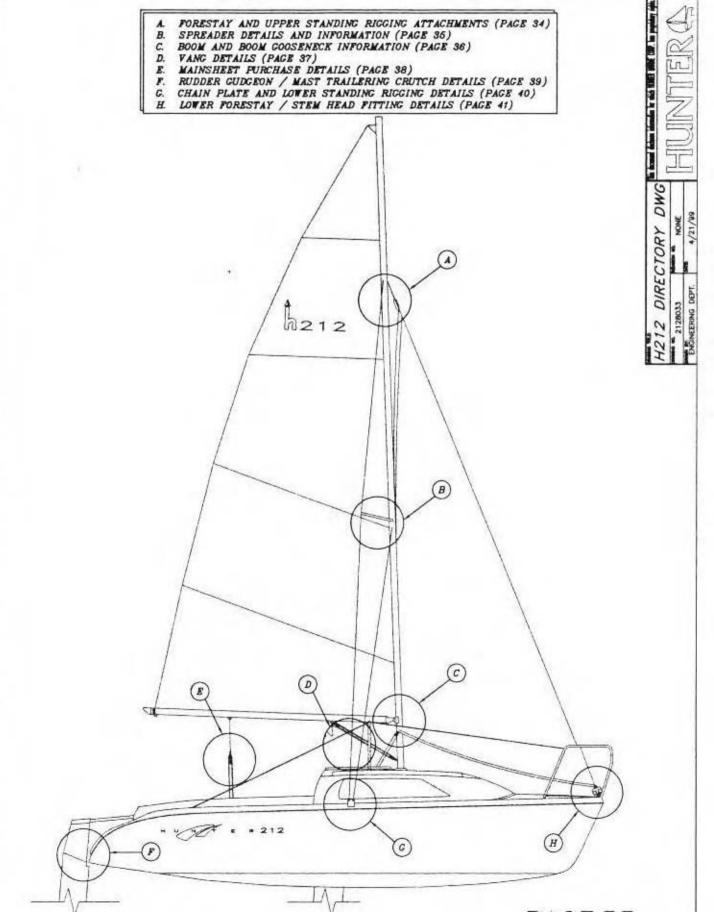
LOWER TABERNACLE PLATE MAST (SHOWN ON HINGE) 10.

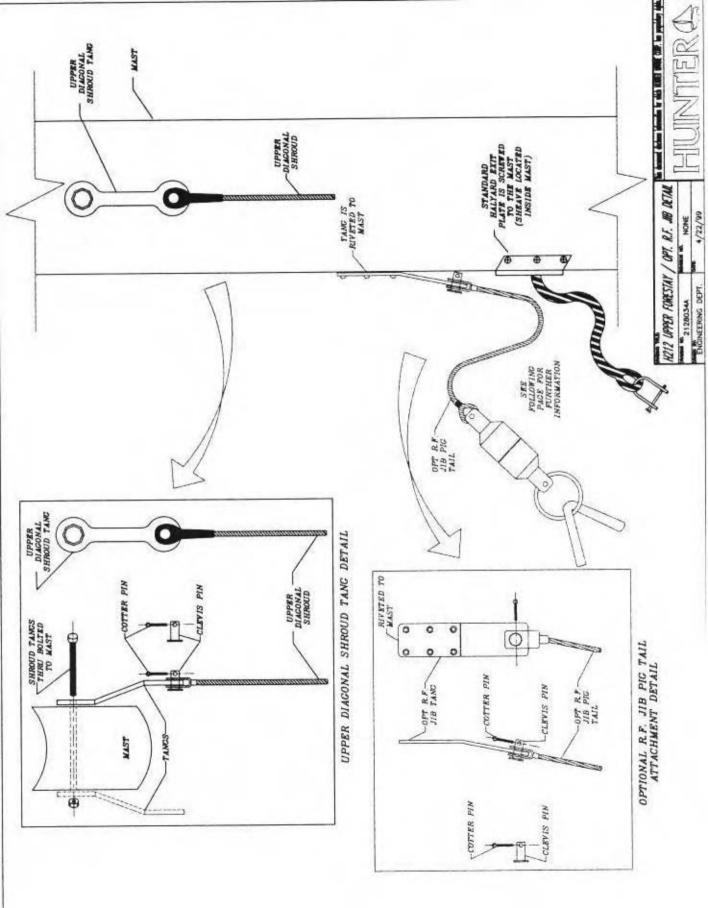
CLEVIS PIN (HINGE POINT)

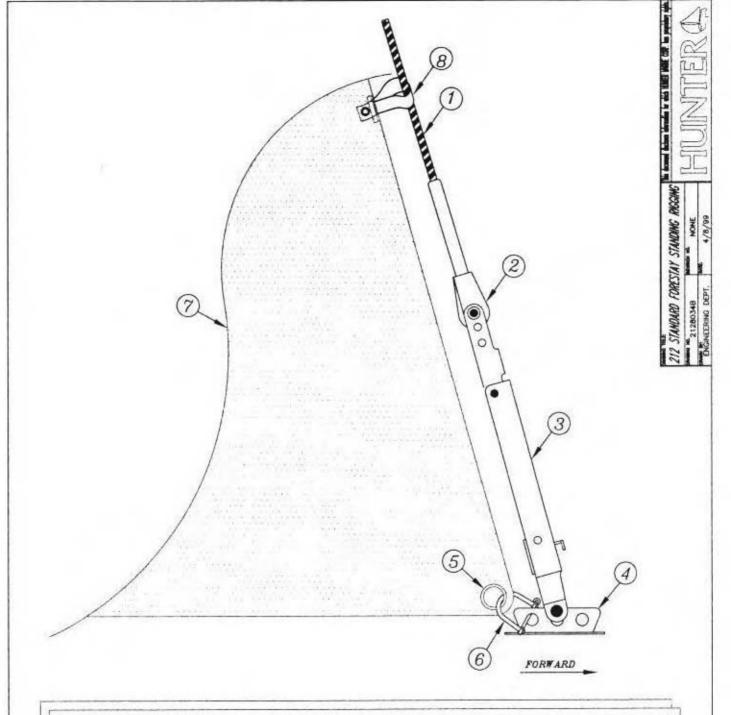
(ON MAST) LOWER TABERNACLE PLATE (ON DECK) TABERNACLE PLATE UPPER 5 50



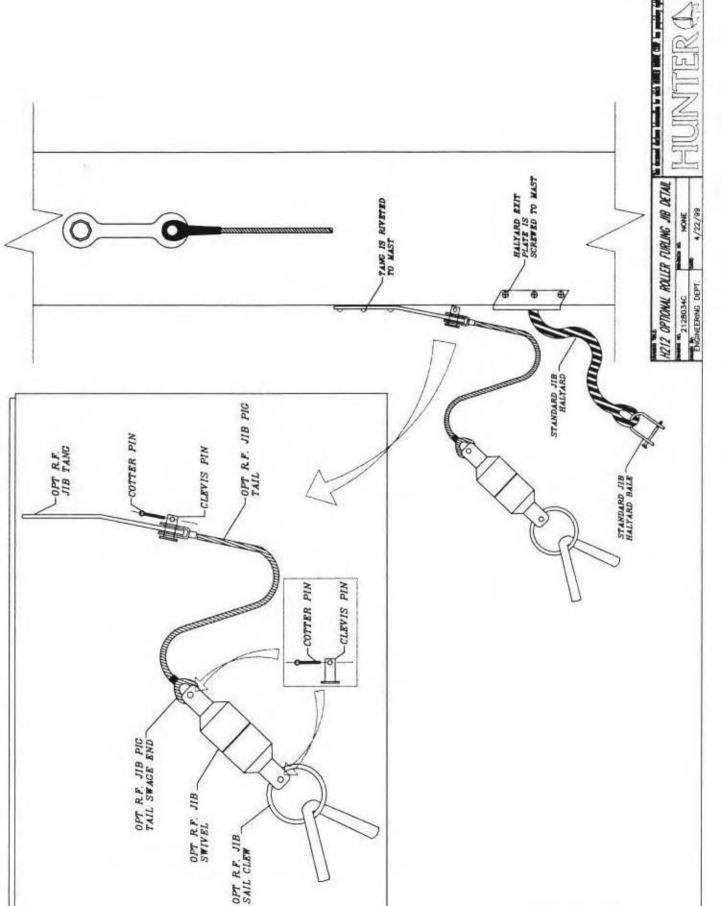
H212	MAST	MAST STEP DETAIL
2128	3032C	NONE
ENGINEER	ING DEPT.	4/5/99

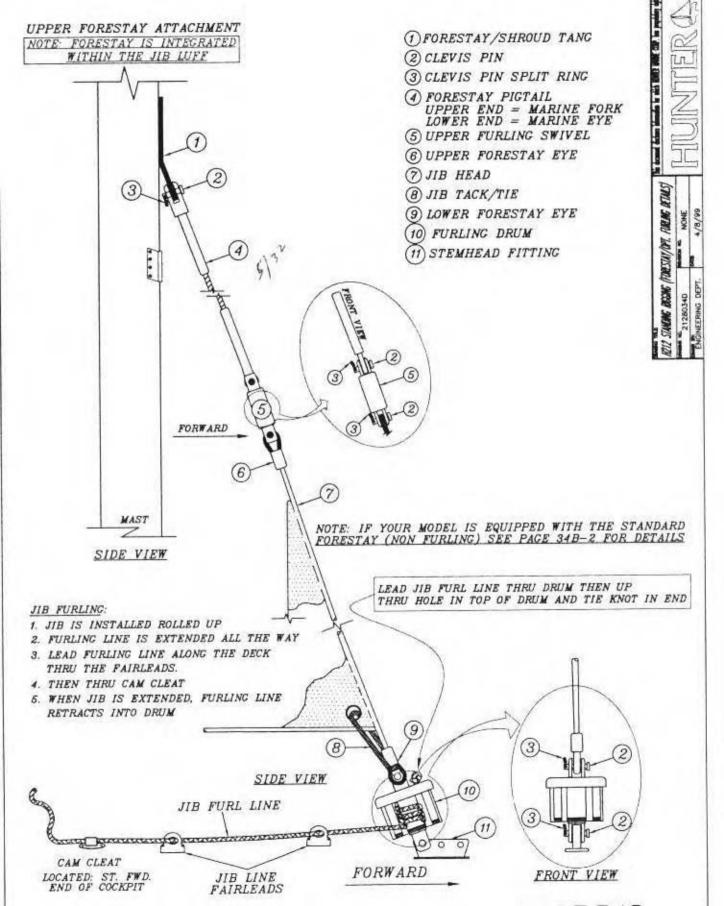


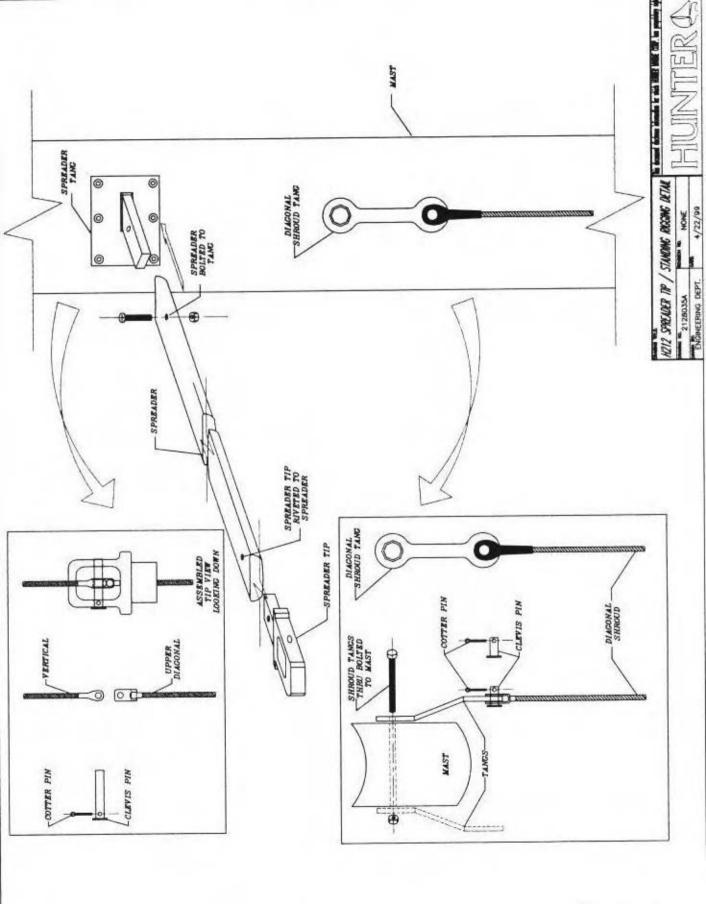


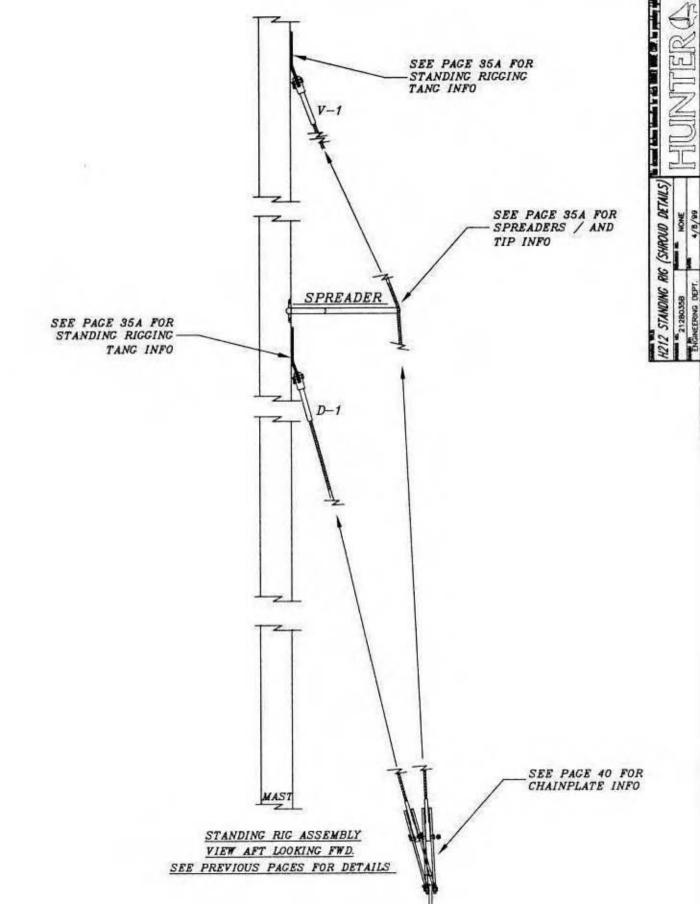


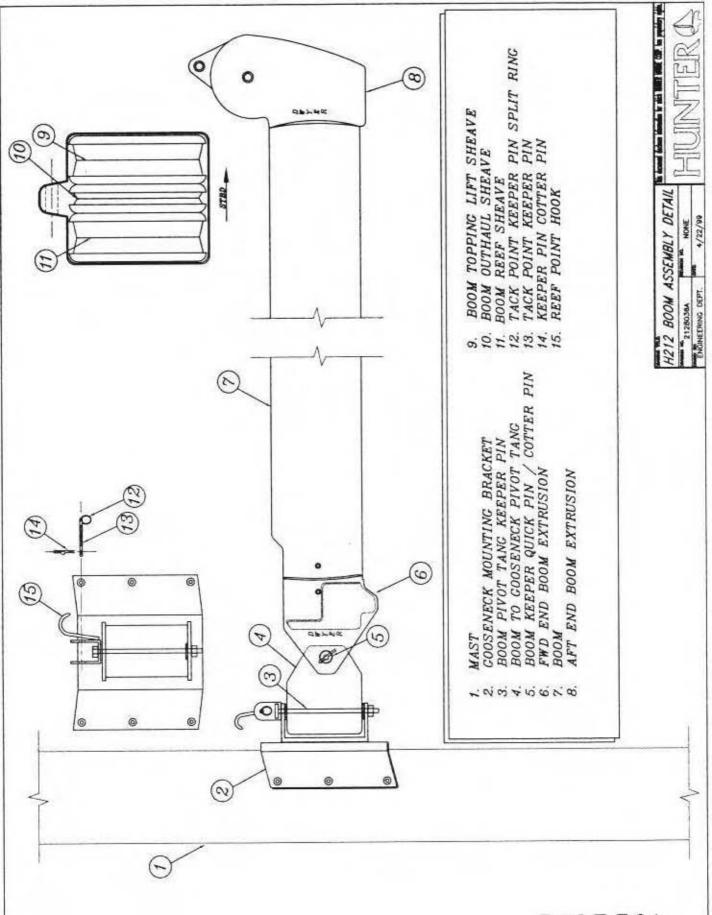
- STANDARD FORESTAY RIGGING (SEE PAGE 34A FOR UPPER RIGGING CONNECTOR)
- 2. STANDARD FORESTAY END (MARINE EYE)
- 3. TENSIONER ATTACHMENT (SEE PAGE 41A FOR FURTHER INFORMATION)
  4. STEMHEAD FITTING
- 5. STANDARD JIB SAIL GROMMET
- JIB SAIL TACK SHACKLE STANDARD JIB SAIL
- 7.
- JIB SAIL HANK

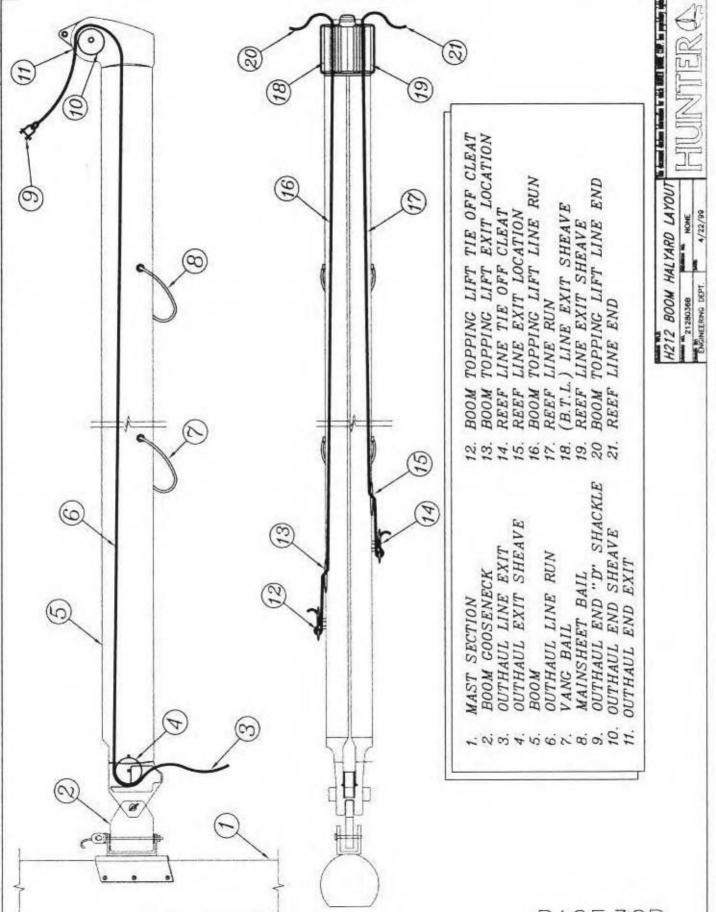


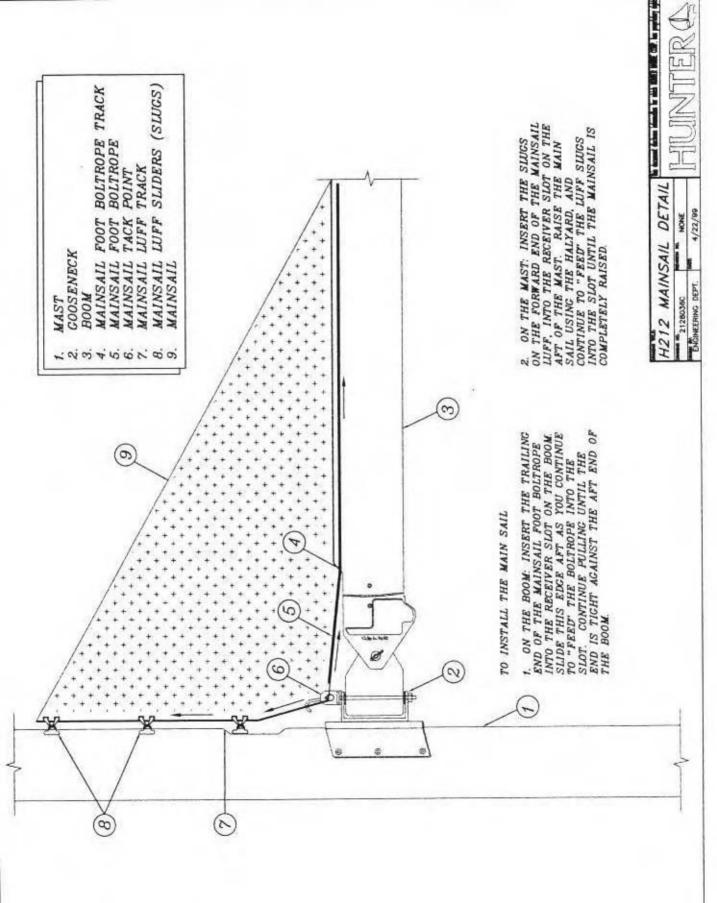


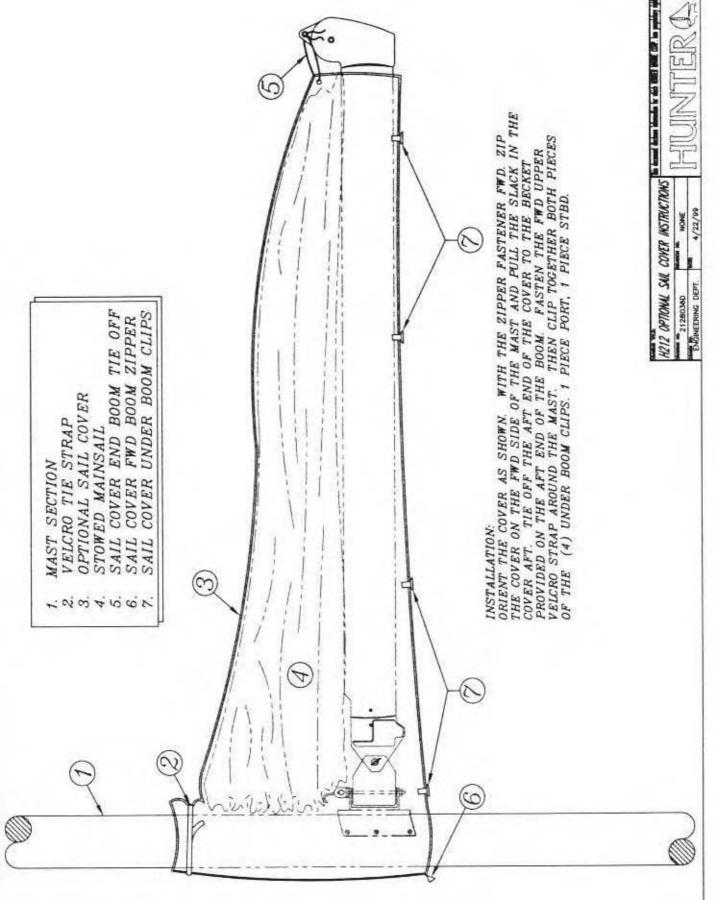


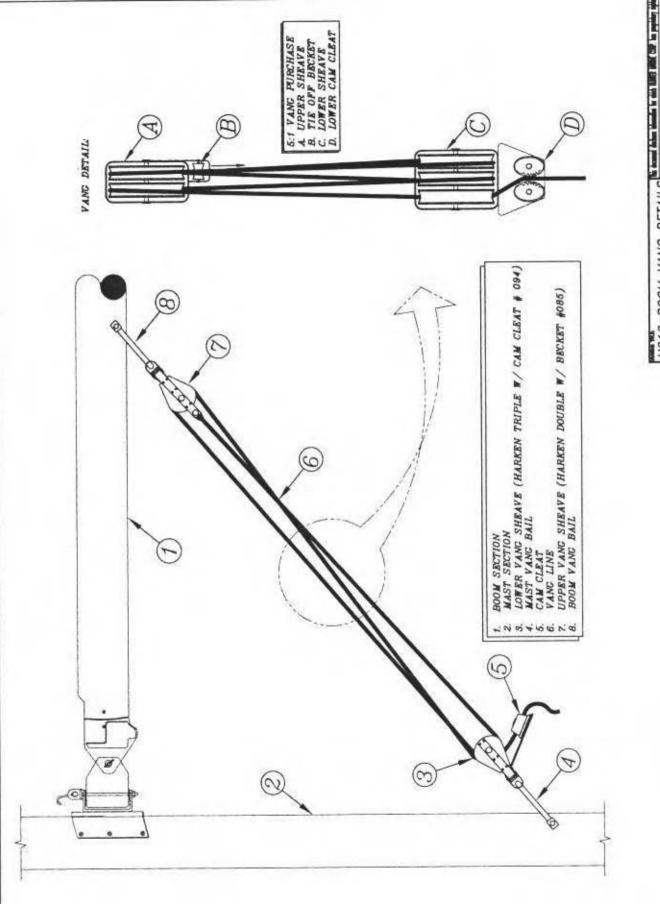












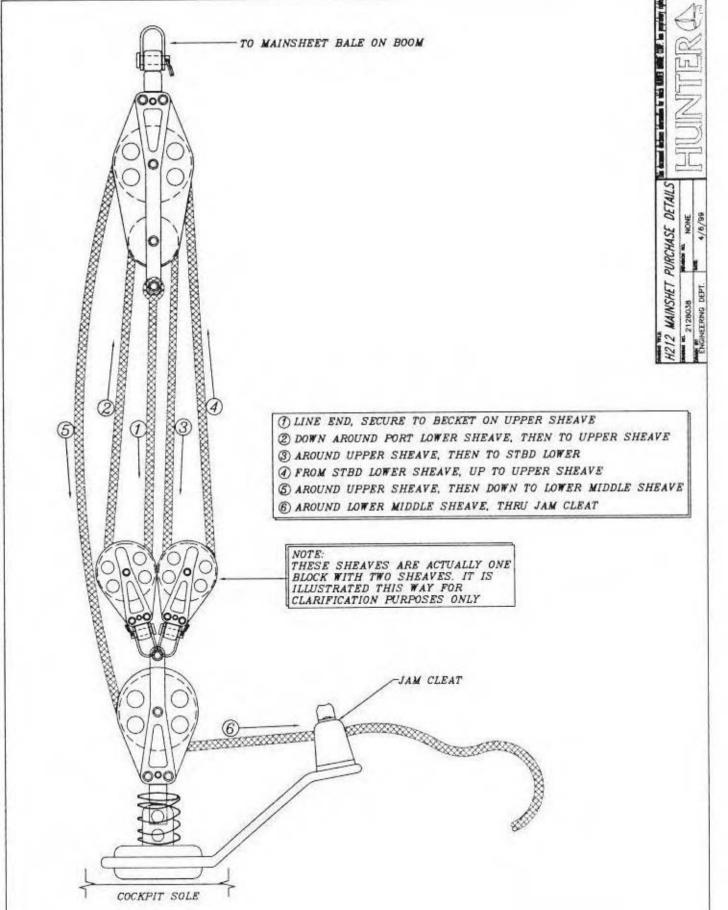
H212 BOOM VANG DETAILS

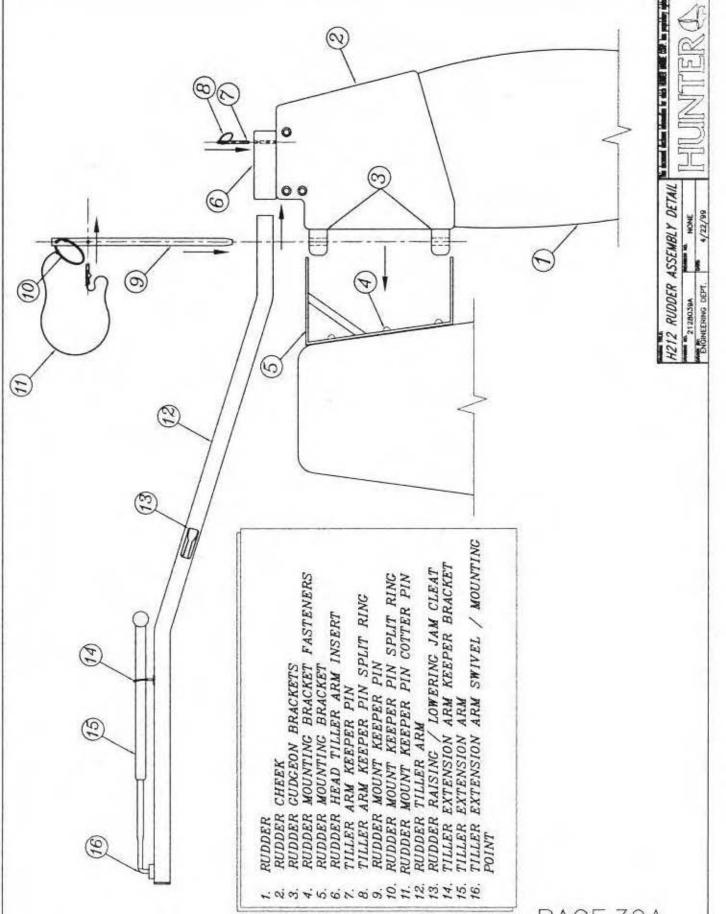
2128037

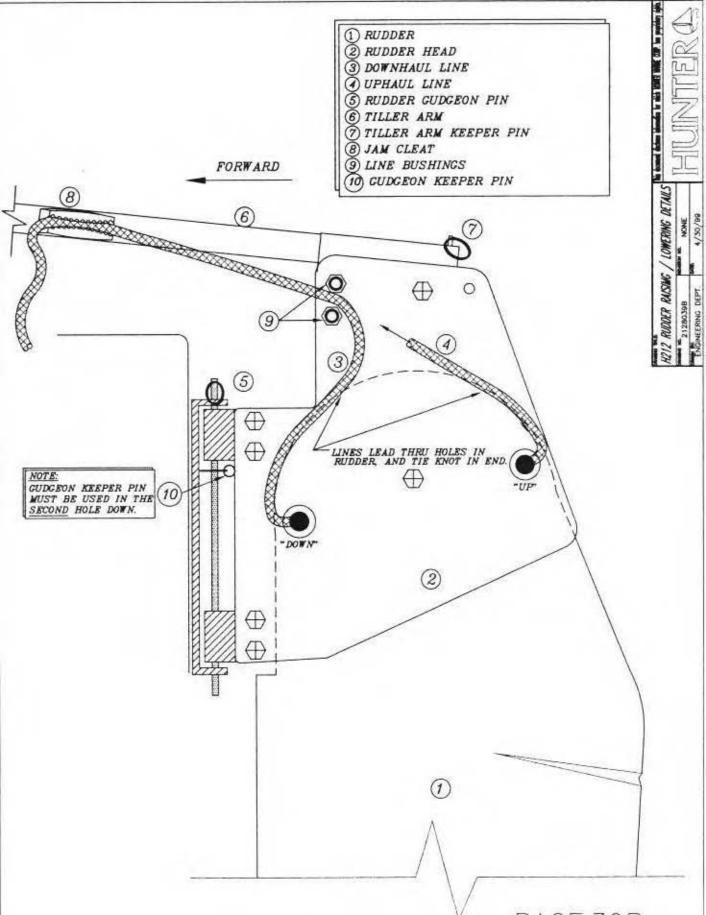
NOME

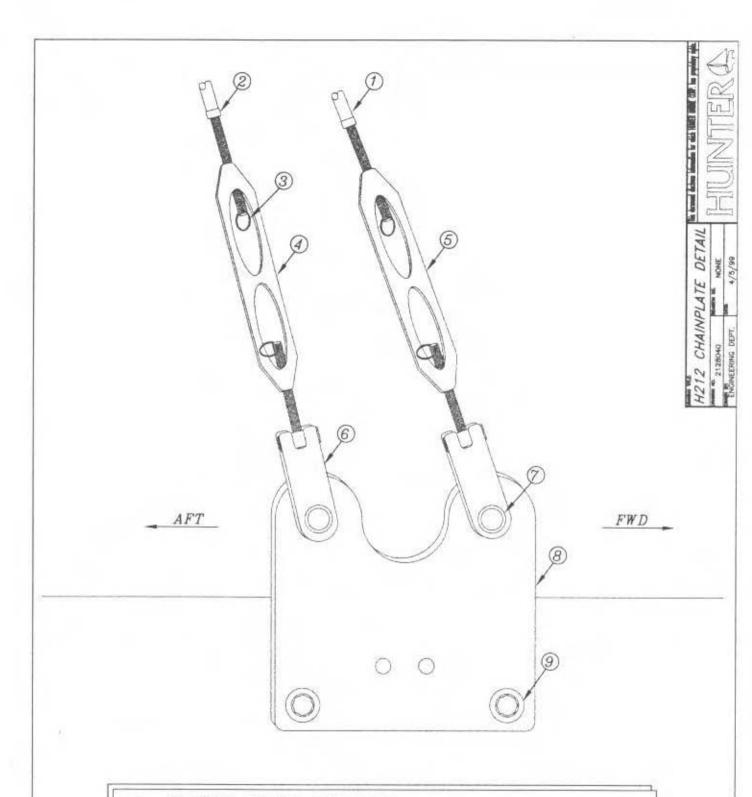
NOME

1/22/99

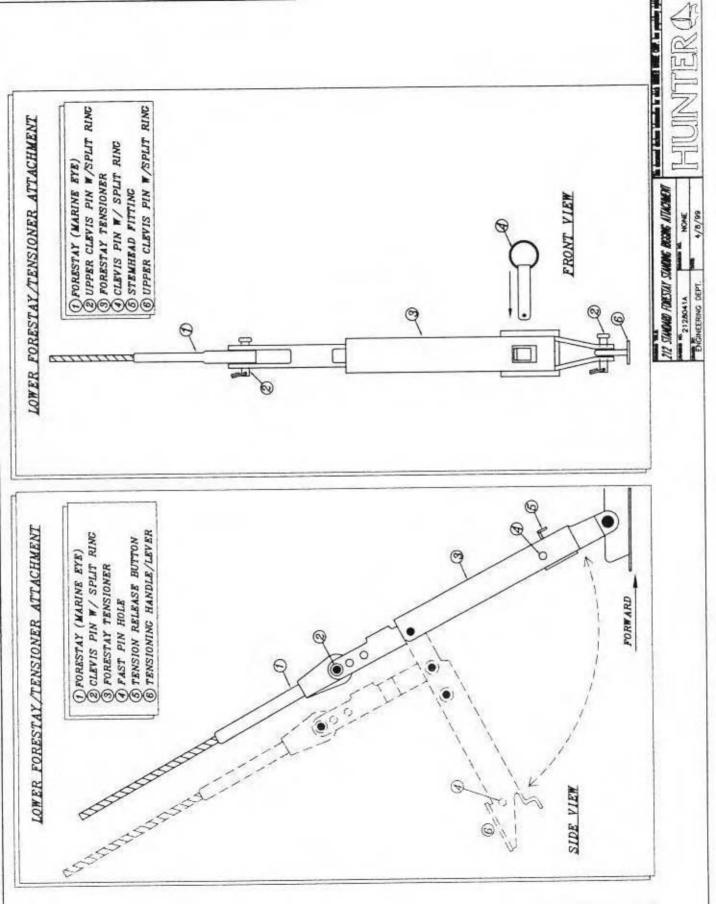


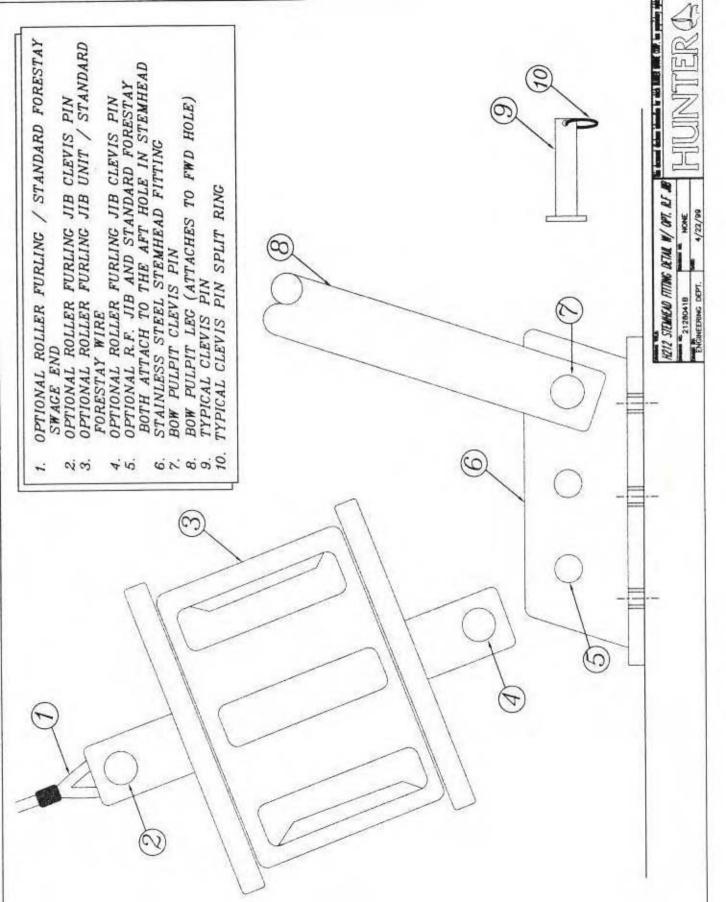


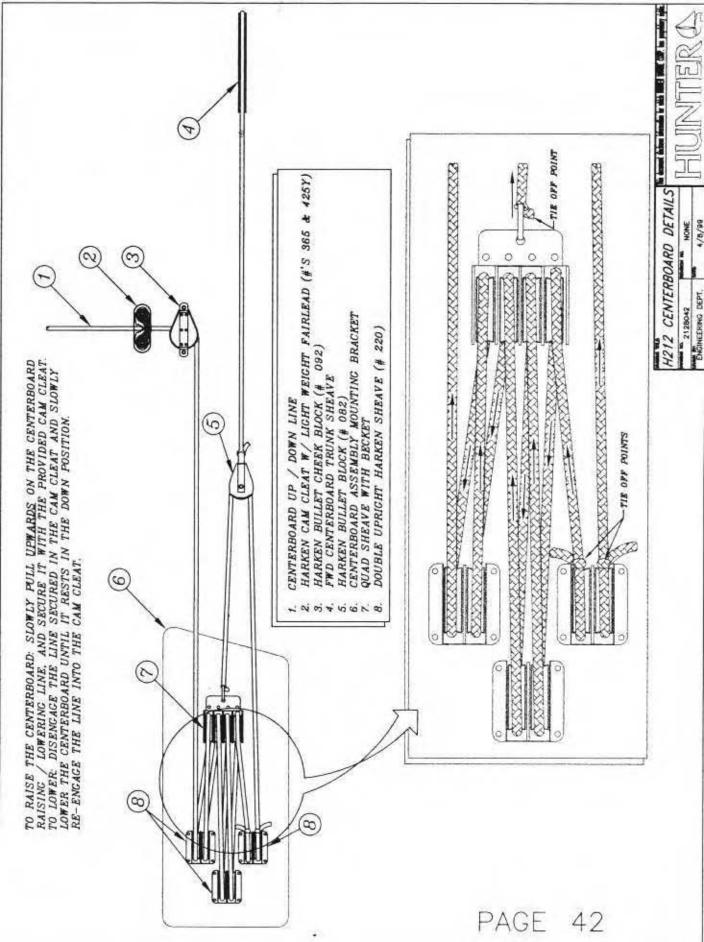


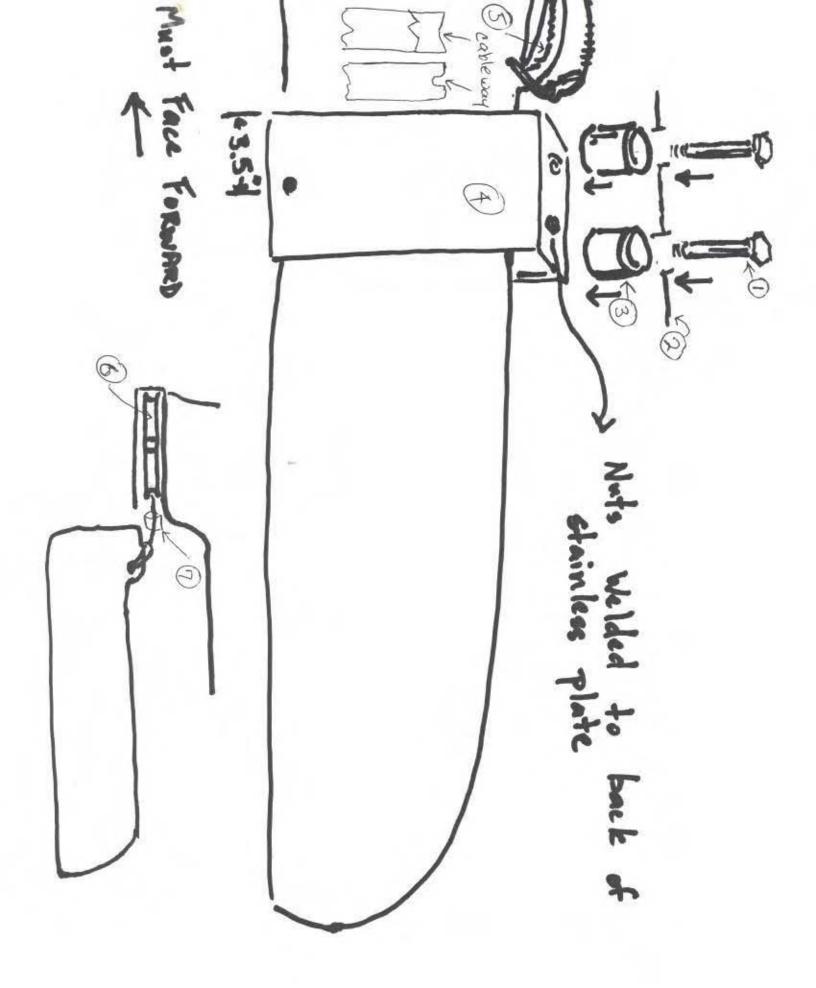


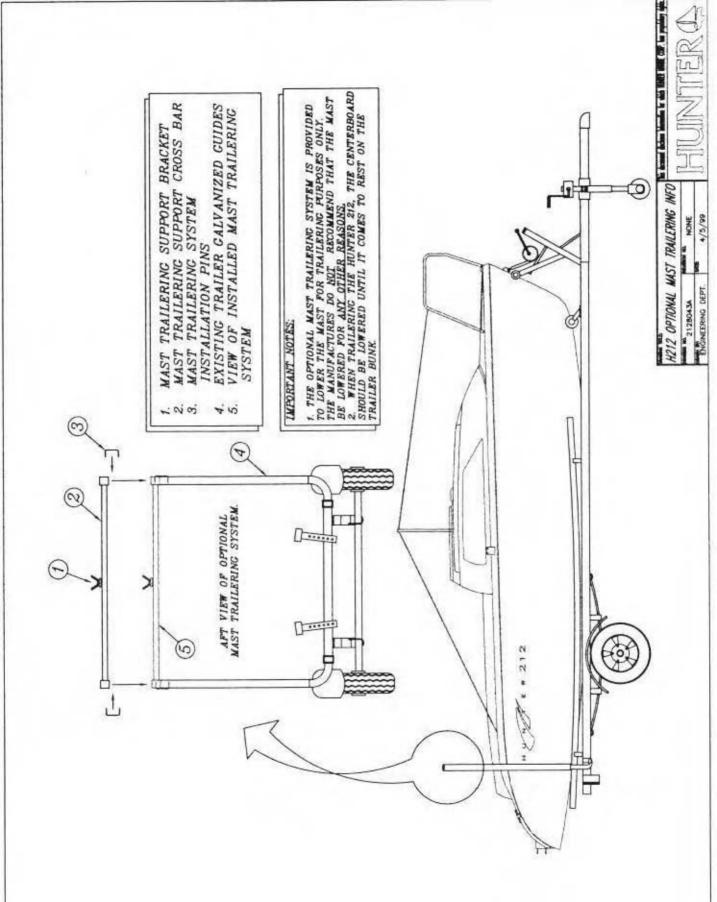
- DIAGONAL SHROUD SWAGE END VERTICAL SHROUD SWAGE END SPILT RING(S) ON ALL SHROUD ENDS DIAGONAL SHROUD TURNBUCKLE BODY VERTICAL SHROUD TURNBUCKLE BODY
- 2.
- 4.
- 5.
- 6. THREADED TOGGLE JAW(S)
- 7.
- 8.
- CLEVIS PIN(S)
  STAINLESS STEAL CHAINPLATE
  (5/16" / 7.9mm) S.S. THRU BOLT AND WASHER

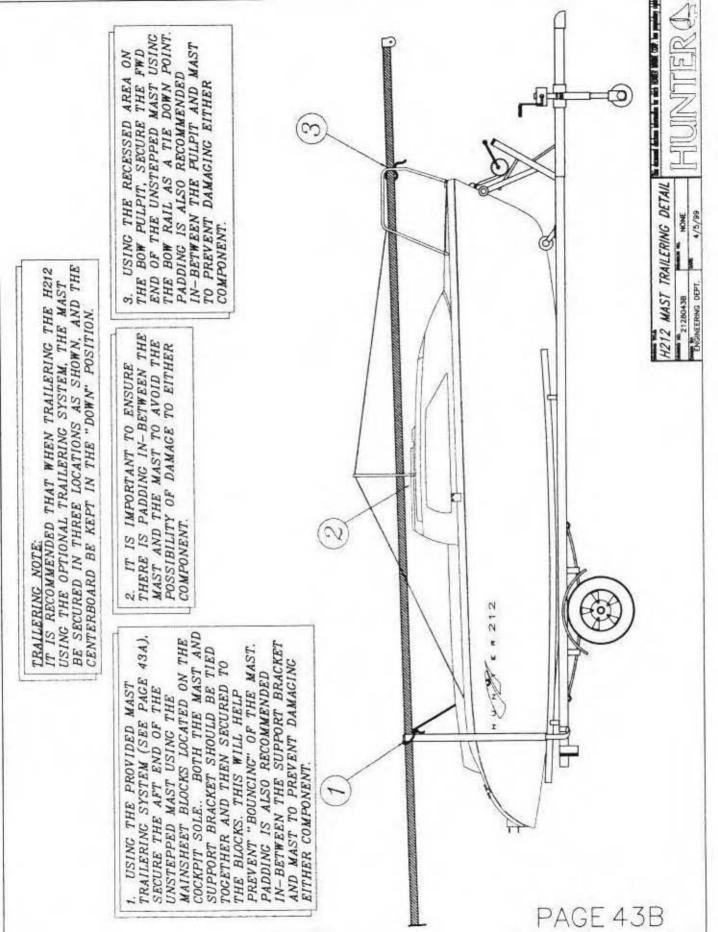












## REEFING

IF THE WIND STRENCTH BUILDS TO THE POINT WHERE THE BOAT HEELS EXCESSIVELY OR UNCOMFORTABLY, YOU MAY REDUCE THE SAIL AREA BY TAKING IN A REEF. REEFING IS EASIEST WHEN IT IS DONE ON THE STARBOARD TACK (WHEN THE WIND IS BLOWING FROM THE STARBOARD SIDE) SINCE ON THE HZIZ, THE MAIN HALYARD IS ON THE STBD SIDE. HOWEVER, REEFING CAN BE DONE ON EITHER TACK.

- 1. FEATHER THE BOAT INTO THE WIND SLIGHTLY TO REDUCE THE HEEL.
- 2. EASE THE TENSION ON THE MAINSHEET.
- 3. LOWER THE MAIN HALYARD UNTIL THE REEF HOOK ON THE BOOM COOSENECK CAN BE INSERTED INTO THE FORWARD REEF CRINGLE ON THE MAINSAIL.
- 4. TENSION THE HALYARD UNTIL ALL SLACK AND WRINKLES ARE REMOVED FROM THE LUFF.
- 5. TIGHTEN THE REEF LINE AT THE FORWARD END OF THE BOOM BY PULLING DOWN THROUGH THE SHEAVE AND CLEAT OFF UNTIL THE AFT REFFING CRINGLE IS ACAINST THE BOOM AND THE LINE CANNOT BE TENSIONED ANY MORE. THE MAINSHEET AND VANG MAY HAVE TO BE LOOSENED MORE TO ACHIEVE THIS.

- 6. CLEAT THE REEF LINE ON THE BOOM, RE-TENSION THE VANG AND MAINSHEET, THEN RECLEAT THE MAIN HALYARD.
- 7. IF THE WIND CONTINUES TO INCREASE, YOU MAY DROP THE JIB COMPLETELY AND LASH ON DECK WITH A SAIL TIE AND SAIL ON A REEFED MAIN ALONE. IN SOME CASES YOU MAY FIND THAT DROPPING A STANDARD OR FURLING AN OPTIONAL JIB FIRST, BEFORE YOU TAKE A REEF, WILL BE MORE EFFECTIVE.

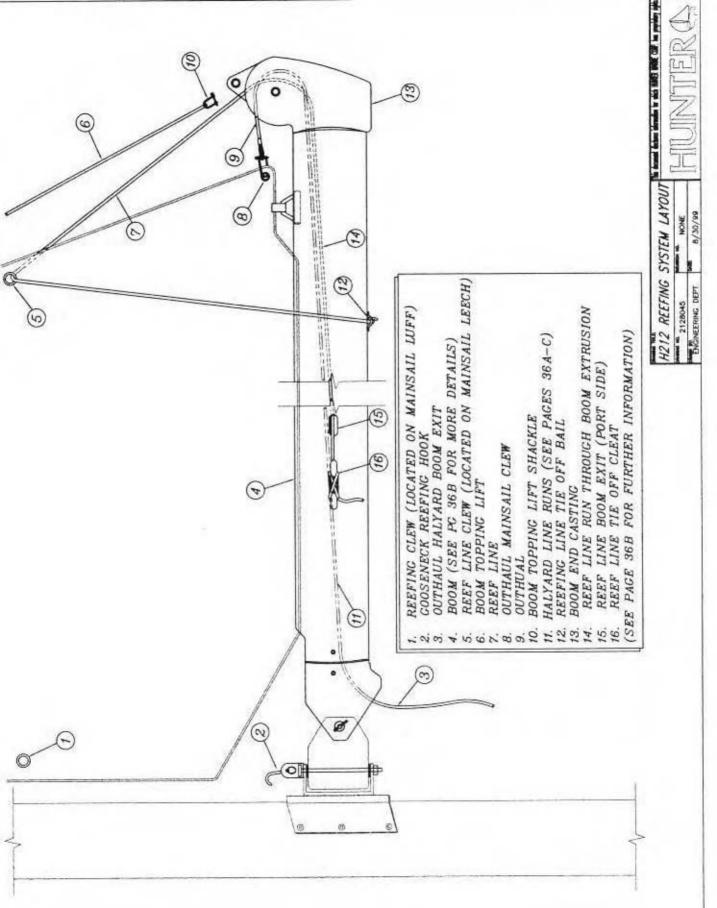
## SHAKING OUT A REEF

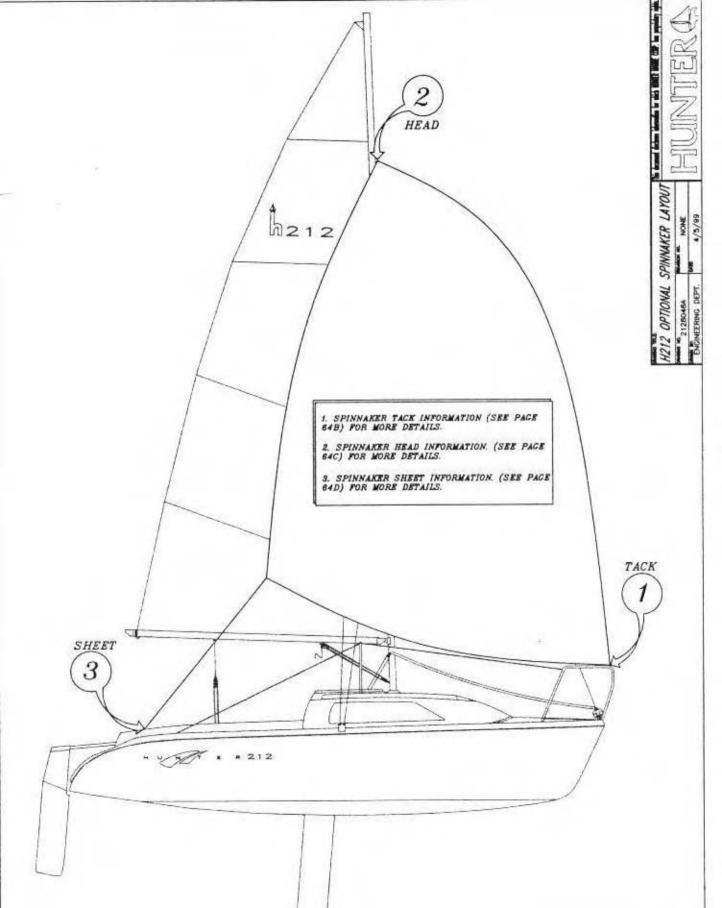
- 1. EASE HALYARD DOWN ENOUGH TO REMOVE FORWARD REEF CRINGLE FROM THE COOSENECK HOOK.
- 2. UNCLEAT THE REEF LINE AT THE FORWARD END OF THE BOOM.
- 3. RAISE THE MAIN HALYARD AND MAKE SURE THE REEFING LINE CONTINUES TO RUN THROUGH THE CRINGLE.
- 4. TENSION THE MAIN HALYARD AND RECLEAT.
- 6. ADJUST THE SHEET AND VANC AS NECESSARY.

Si decumi dechas dernadas la adol 1998 1998		
INSTRUCTION.	SHOW TO MOVE	66/8/1
PEEFING INSTRUC	28044	RING DEPT.
. 0.	12	NE.

spiritary spirit

4

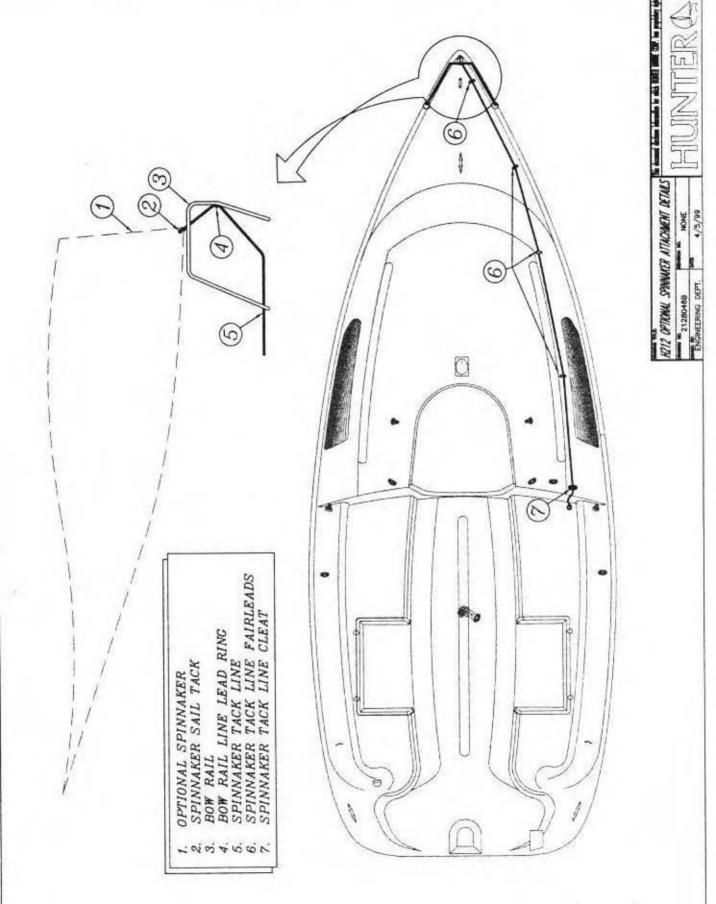


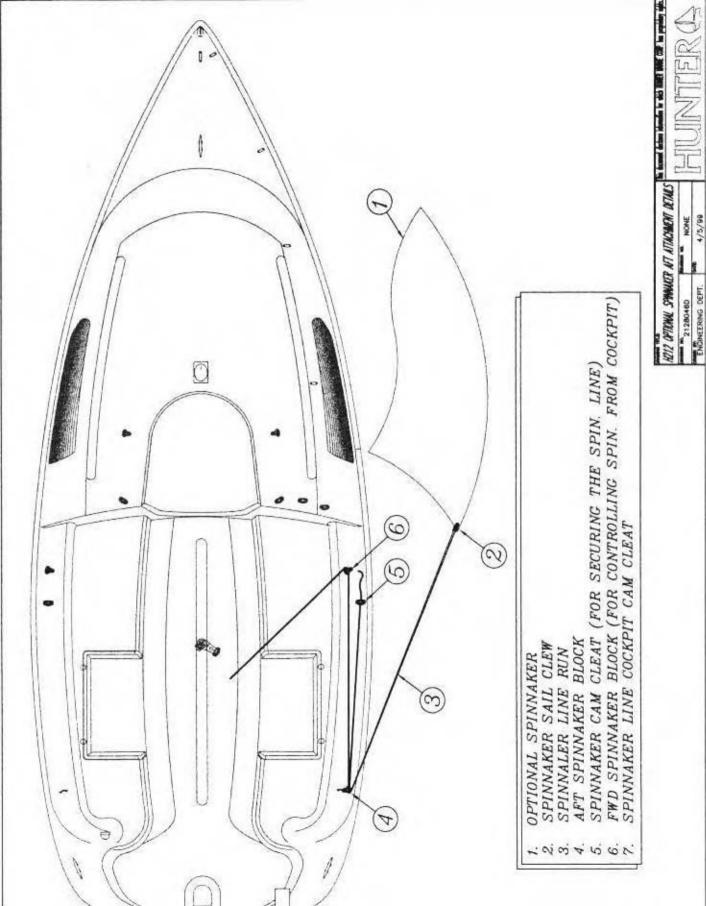




SPINNAKER SHEAVE 20' 6" (6244 mm) FROM BASE OF MAST SPINNAKER SHEAVE WITH CAM CLEAT @ LOWER MAST

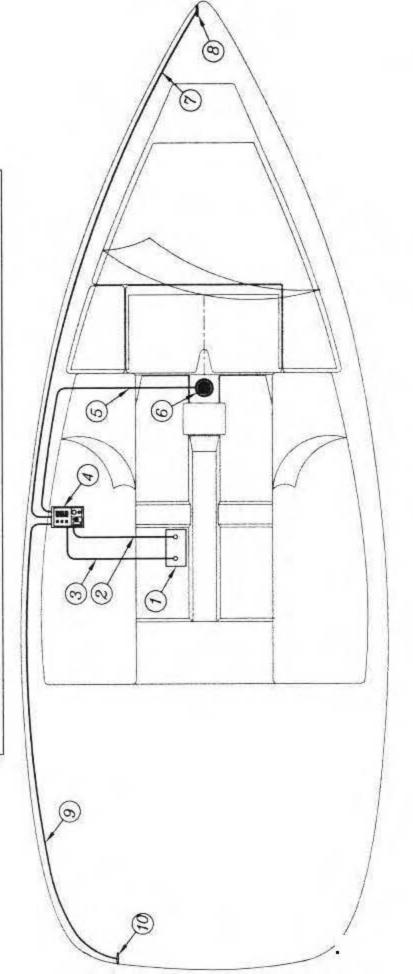
SPINNAKER HALYARD RUNS FROM THE SPINNAKER SAIL HEAD, THRU THE SPINNAKER BLOCK MOUNTED ON THE MAST, DOWN OUTSIDE THE MAST TO THE BLOCK AND CAM ON THE STARBOARD SIDE OF THE MAST.





WIRE RUN TO EXTERIOR STERN LICHT (16 Ca. BLACK & RED) WIRE RUN TO INTERIOR DOME LICHT (16 Ca. BLACK & RED) BOW LIGHT (16 Ca. BLACK & RED) NEC. LEAD TO TERMINAL @ BATTERY (12 Ga. BLACK)
POS. LEAD TO TERMINAL @ BATTERY (12 Ga. RED) WIRE RUN TO EXTERIOR STERN LIGHT WIRE EXIT WIRE EXIT INTERIOR DOME LICHT 2 V.D.C. FUSE PANEL BOW LICHT 6300

12 VOLT POWER SOURCE



In terms delse demots is als 1900 1900 (19, in payers) spir H212 INTERIOR ELECTRICAL LAYOUS 4/5/99 NON STREET ENGINEERING DEPT. 2128047A

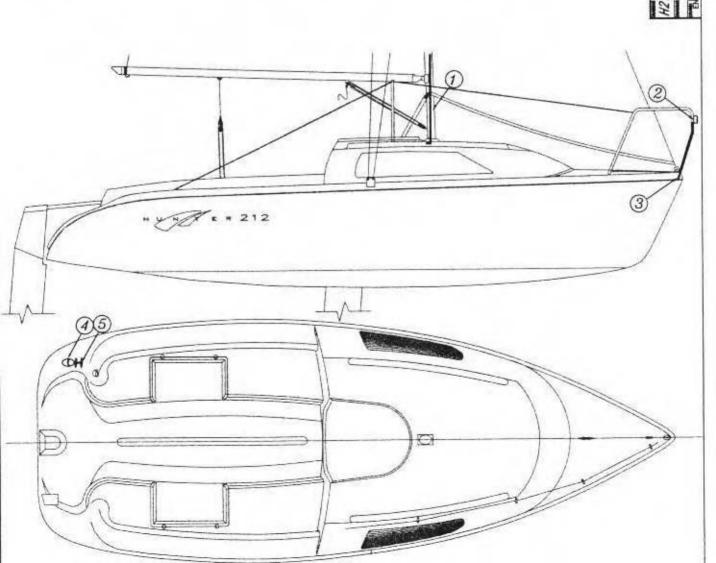
TERUS

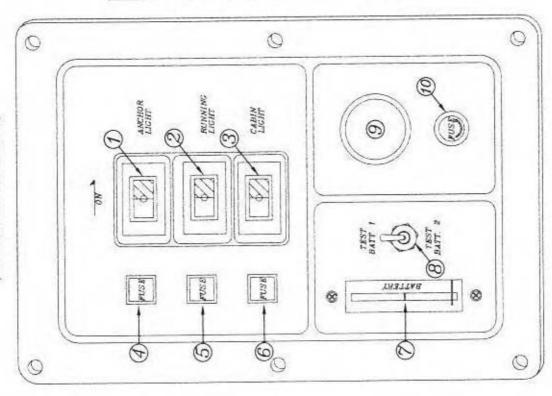
BOW PULPIT FOOT (LOCATION OF BOW LIGHT WIRING EXIT)

STERN LIGHT

STERN LIGHT WIRING EXIT LOCATION

(NOTE: MAST WIRING IS PROVIDED BY THE VENDOR INSIDE THE MAST, THERE IS NO WIRE PROVIDED FROM THE D.C. PANEL.)





ANCHOR LIGHT ROCKER SWITCH RUNNING LIGHT ROCKER SWITCH CABIN LIGHT ROCKER SWITCH

ANCHOR LIGHT FUSE HOLDER (3 amp FUSE) -. W. W. 4.

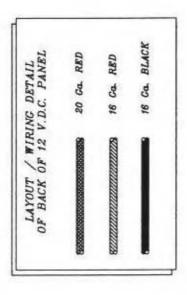
RUNNING LICHT FUSE HOLDER (3 amp FUSE) CABIN LICHT FUSE HOLDER (3 amp FUSE)

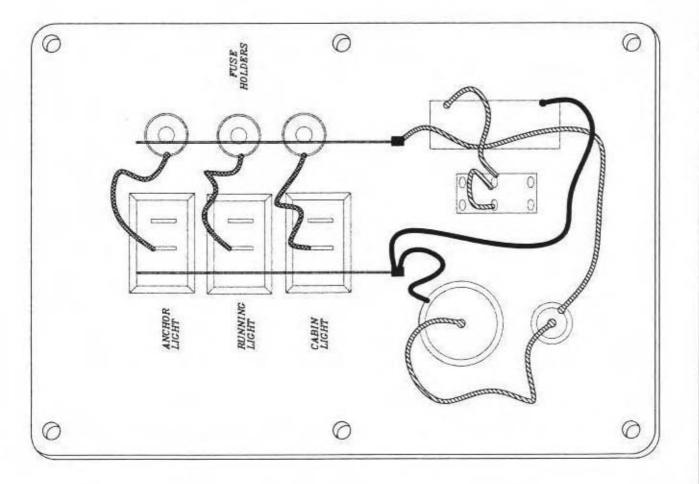
BATTERY VOLTACE METER

12 V.D.C. ACCESSORY PLUG RECEPTACLE PANEL FUSE HOLDER BATTERY TEST SWITCH 6.96.26.05 NOTES: SIX FUSES ARE PROVIDED WITH YOUR PANEL:
(2) 3 amp (2) 5 amp AND (2) 10 amp. USE THE 10 amp FOR THE BLACK SCREW TOP FUSE HOLDER. THE REMAINING FUSES SHOULD BE USED FOR INDIVIDUAL CIRCUIT LOADS, DEPENDING UPON THE THE ACCESSORY. THE MAXIMUM RATING IS 10 amps PER CIRCUIT.

THE WIRING PROVIDED CONSISTS OF 16 Ca. BLACK AND RED MARINE GRADE WIRE.

HOLD IZ MOLT GLETINE PANEL SCHEWING	PANEL SCHEMITE (TR.	
21280470	NONE NONE	
ENGINEERING DEPT.	4/20/80	



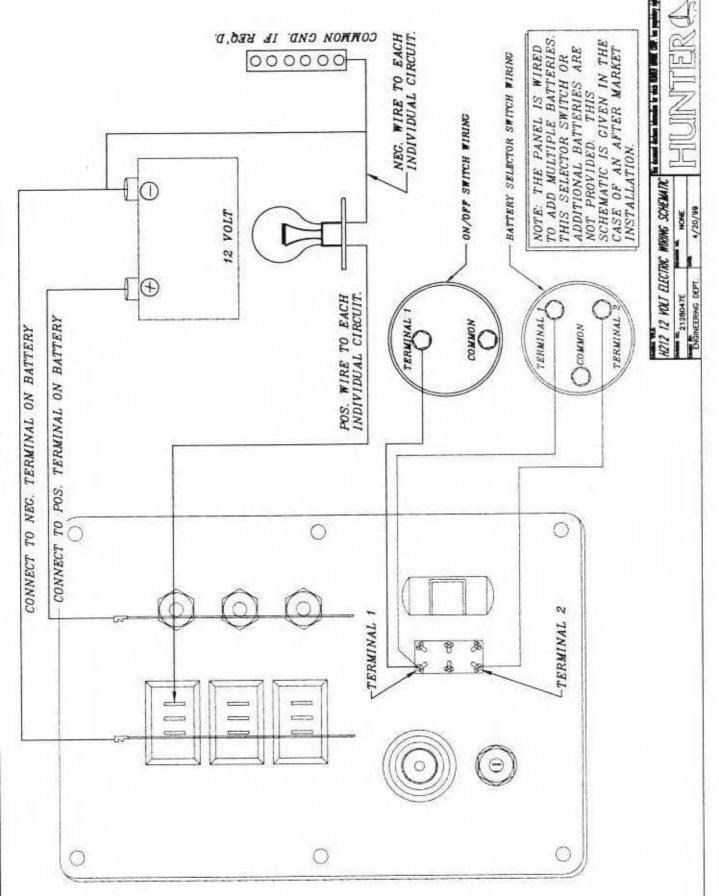


HALT IT NUT CLEATER PANEL SCHEALTR (NEW)

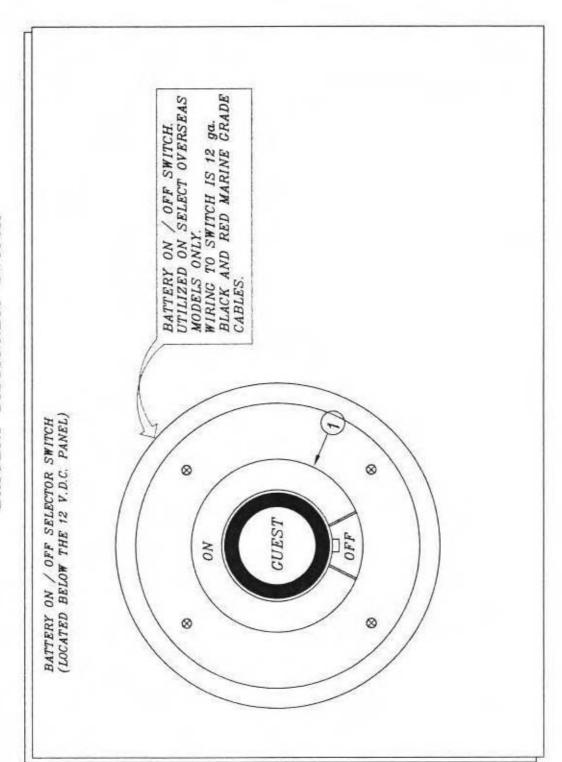
21280470

NONE

HOUSE STATE OF THE CONTROL OF THE CONT



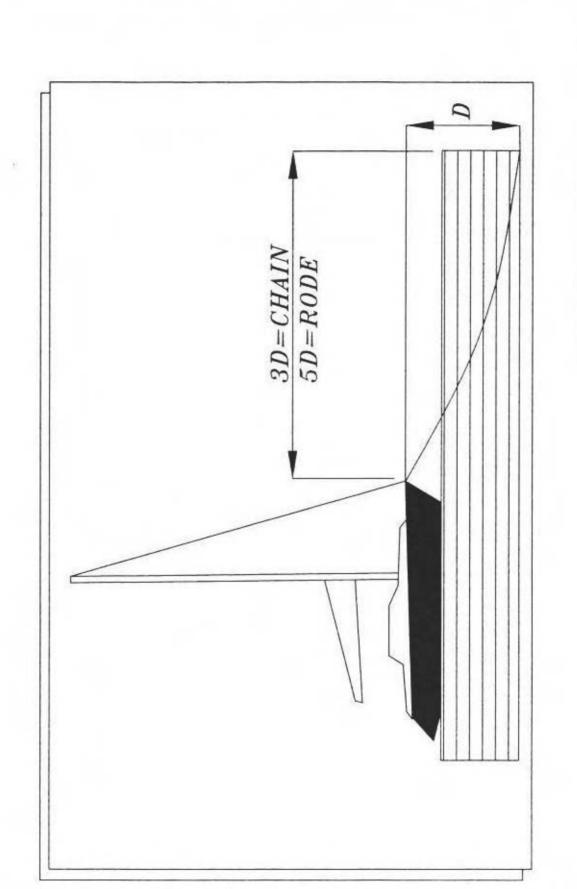
## BATTERY DISCONNECT SWITCH



H212 CE BOAT BATTERY DISCONNECT

2408047F

BORNEERING DEPT. 80/17/99



H212 TYPICAL ANCHORING DETAIL HOWE HILL HOUSE BE CONTROLLED TO THE BEACH BEACH



P.O. Box 1030, Route 441 Alachua, FL, USA 32615 Ph: 904-462-3077 Fx: 904-462-4077

E-Mail: huntermarine@worldnet.att.net Website: www.huntermarine.com