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300 Industrial Park Blvd.
Nashville, GA 31639
Phone: 229-686-7481
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2012

OWNER'S/OPERATOR'S MANUAL

This manual has been compiled to help you operate your boat with safety and pleasure. It contains details of the craft, typical equipment supplied or fitted, its systems and information on its operation and maintenance. Please read it carefully and familiarize yourself with your boat before using it.

If this is your first boat, or you are changing to a new type, for your own comfort and safety please ensure that you obtain handling and operating experience before "assuming command" of the boat. Your dealer or national sailing federation or yacht club will be pleased to advise you of local sea schools or competent instructors.

Please keep this manual in a secure place and hand it over to the new owner when you sell the craft.

For a complete list of standard and optional features and equipment, consult your local Chaparral dealer. Due to a policy of continual product improvement, specifications are subject to change without notice. The weights and volumes shown are estimated and can vary from boat to boat because of equipment, etc.

Chaparral boats meet or exceed both NMMA and U.S. Coast Guard standards.

CHAPARRAL PREMIERE 420 OWNER'S MANUAL

WELCOME v

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WELCOME

OWNER'S MANUAL

WELCOME ABOARD!

Congratulations…

on your wise decision to purchase a Chaparral boat! We welcome you to the family of thousands of other Chaparral boat owners. Since your boat is a substantial investment, we are sure you selected your Chaparral because of its value, style, comfort, and performance. This manual contains valuable information concerning your boat's operation, maintenance, and care, plus tips on boating safety and seamanship.

The Owner's Manual packet contains the following:

- **Owner's Manual:** The Owner's Manual contains important operating and safety information on the boat you selected, as well as reminders about your responsibilities as a boat owner/-operator.

- **Supplier Equipment Manuals:** The supplier equipment section includes instruction manuals from the suppliers of standard and optional equipment for your boat. Examples include the engine, engine electrical, pumps, and cabin amenities. Throughout the Owner's Manual, you should refer to information provided by manufacturers of specific systems.

INTRODUCTION 1

ABOUT THIS MANUAL

The Owner's Manual Packet provides:

- Basic safety information;
- Descriptions of boat features;
- Descriptions of equipment on your boat;
- Descriptions of fundamentals of boat use; and
- Service and maintenance information.

This Owner's Manual Packet is part of your boat's equipment. Keep it on board the boat at all times. You must learn to operate this boat as well as read, understand, and use this manual.

This manual does not give you a course in boating safety, or how to navigate, anchor, or dock your boat. Operating a powerboat safely requires more skills, knowledge, and awareness than is necessary for operating a car or truck.

Due to our policy of continuous product improvement, the illustrations used in this manual may not be identical to the components, controls, gauges, etc. on your boat, as they are intended to be representative reference views. Some controls, indicators, or information may be optional and not included on your craft.

Important: Keep the completed Boat Data Record in a safe place at home. Do not keep it aboard the boat.

Your Responsibilities

Popularity of boating and other water sports has grown tremendously in the past few years. To maintain boating safety and the safety of your passengers, other boaters, and people in the water, you must:

- Take a boating safety course;
- Fully understand and become familiar with the operating procedures and safety precautions in this manual packet;
- Understand and follow boating rules; and
- Learn how to navigate.

Dealer Responsibilities

A dealer's responsibilities are to:

- Discuss the terms of all warranties and stress the importance of registering warranties with the appropriate manufacturers;
- Explain how you can obtain warranty services;
- Complete new boat and pre-delivery inspection procedures. Sign the inspection form to certify that all items were completed;
- Provide an orientation in the general operation of your boat; and
- Provide the complete Owner's Manual Packet.

Warranties

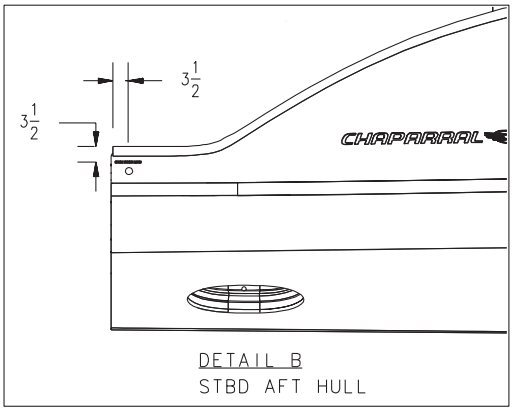
Your Chaparral boat is backed by a Limited Express Warranty. It is important that you are aware of its terms. If a problem arises with your Chaparral boat as a result of workmanship or materials, contact your dealer as soon as possible to determine whether correcting the problem may be covered by the warranty. Please have your hull identification number and necessary model numbers on hand for the items that may need service or repair.

Your hull identification number is located below the rub rail on the starboard aft corner of your boat.

Please see Chaparral's Warranty Policy at the end of this section.

Hull Identification Number (HIN)

The Hull Identification Number (HIN) is located on the starboard side of the transom. The HIN is the most important identifying factor and must be included in all correspondence and orders. Failure to include it creates delays. Engine serial numbers and part numbers are equally important when writing about or ordering parts for your engine. Refer to the Engine Operator's Manual for locations of engine serial numbers and record them for future reference.



Hull Identification Location

Service, Parts, And Repair For Your Boat

For service, parts, or repair, take your boat to an authorized Chaparral dealer. To find dealers in your area, call: 1-229-686-7481 (Domestic) or visit chaparralboats.com.

To find repair and parts facilities for the equipment installed on your boat, please refer to the manual for that component.

If a problem is not handled to your satisfaction:

- Discuss any warranty-related problems directly with the service manager of the dealership or your salesperson. Give the dealer an opportunity to help the service department resolve the matter for you.

- If a problem arises that has not been resolved to your satisfaction by your dealer, contact Chaparral Boats at 1-229-686-7481 and the appropriate customer service department information will be provided to you.

CONSTRUCTION AND STANDARDS

All Chaparral boats meet or exceed the construction standards set by the U.S. Coast Guard, the National Marine Manufacturers Association (NMMA), and the American Boat and Yacht Council (ABYC) concerning:

- Navigation lights
- Factory-installed fuel systems
- Engine and fuel tank compartment ventilation
- Flotation
- Steering systems
- Backfire flame arresters

NMMA certification means that the boat complies with applicable Federal regulations set forth by the U.S. Coast Guard. These regulations are based on American Boat and Yacht Council (ABYC) standards and recommended practices.

All Chaparral models can be certified to carry the CE mark. The CE mark certifies that the boat meets relevant parts of the European Directive for Recreational Craft 94/25/EC of the European Parliament, including the International Organization for Standards (ISO) and Recreational Marine Agreement Group (RMAG) guidelines in effect at the time of manufacture.

We recommend that you see your dealer if you wish to modify factory-installed equipment or add new equipment. Your dealer is qualified to make such modifications or additions without placing the safety or design integrity of your boat at risk and without invalidating the warranty.

Chaparral builds exceptionally high-quality boats. We offer numerous extras you won't see at a boat show. We've created a list for your review.

Gelcoat

The advanced technology polyester we use offers superior weathering resistance to surface yellowing and chalking. It will also help protect and maintain the original glossy luster of your boat's finish.

Chaparral uses a premium quality gelcoat which offers improved flexibility over other gelcoats, minimizing the potential for cracking.

Resin

It's an age-old problem. Water penetrates the gelcoat and eats at the outermost layer of fiberglass causing blisters on the bottom. Your yacht has a premium quality blister barrier between the gelcoat and first layer of fiberglass. It's an extra layer of security you won't find in most boats.

Plywood

To protect their wooden components from rot and deterioration, most boat builders dip their plywood parts in a vat of protective sealant. Unfortunately, this only offers very minimal protection for the outside plies. The plywood Chaparral uses throughout our boats is pressure treated with a wood preservative and fungi-inhibiting chemical before it is kiln dried.

Loom Wrap Wiring

Attention to rigging detail is a Chaparral hallmark. Instead of routing the engine wiring harness haphazardly in the bilge in black tape, we rely on automotive-style flexguard loom that not only keeps things neat but also protects against abrasion.

Through Bolted Stainless Steel Cleats

It's one of the most often used components on your boat, but most people think a cleat is a cleat, right? Wrong. Chaparral's cleats are stainless steel, so they won't corrode or twist. Also, ours are big enough to accept a full-sized looped line.

Heavy-Duty Rub Rail

A rub rail is supposed to protect your boat. Most don't because they're the wrong material. Chaparral uses a heavy-duty PVC rub rail with stainless steel insert that absorbs far more impact without denting.

Acoustical Foam

The name says it all. Acoustical foam is the best way we've found to absorb engine noise.

Acrylic Tops

Ours are acrylic because it's a superior material that won't crack, peel, or mildew. Furthermore, our acrylic tops won't shrink or expand, which means they look and fit better in all weather conditions.

Stain Resistant Fabrics

Accidents happen — spilled drinks, wet bathing suits, and soggy towels are a fact of life on a boat. All of our cabin fabrics are stain resistant. Buyers can choose from a wide variety of colors. When it comes to interior fabrics, we have the one that's right for you.

Superior Plastics vs. Wood

Chaparral prides itself on building seats that are not only comfortable, but durable. We use plastic seats because they hold their shape and don't retain water, reducing the potential for foam deterioration.

Flotation Requirements

All Chaparral boats meet or exceed U.S. Coast Guard requirements for flotation. All Chaparral inboard/outboard and inboard powered boats also meet or exceed U.S. Coast Guard requirements for the following:

- Engine and fuel tank compartment ventilation (requirements for flame arresting devices)
- Factory-installed fuel systems
- Navigation lights
- Steering system

LAWS AND REGULATIONS

This section of the manual includes general information about government regulations. You, the boater, are responsible for complying with the requirements of federal, state, and local laws. If you have any questions, contact the U.S. Coast Guard or other appropriate authority.

Boat Registration

Federal and state laws require that every boat having propulsion machinery of any type be registered in the main U.S. state of usage. Registration numbers and validation stickers must be displayed on the boat according to regulations. The registration certificate must be carried on board when the boat is in use.

Safety Equipment

The following equipment is required on all boats:

- Fire extinguishers
- Personal flotation devices (PFDs)
- Navigation lights
- Visual distress signals
- Sound signaling device

Discharge of Oil

The Federal Water Pollution Control Act prohibits the discharge of oil or oily waste into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or a discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Violators are subject to a penalty.

Disposal of Plastics and Other Garbage

Plastic refuse dumped in the water can kill fish and marine wildlife and foul vessel propellers and cooling water intakes. Other forms of waterborne garbage can litter beaches and cause illness. U.S. Coast Guard regulations therefore strictly prohibit dumping plastic refuse or other garbage mixed with plastic into the water anywhere.

Further, the regulations restrict the dumping of other forms of garbage within 12 miles from shore on the east coast, and 9 miles from shore on the west coast. Within 3 miles of shore and in U.S. lakes, rivers, bays, and sounds, it is illegal to dump plastic, dunnage, lining, and packing materials that float; and any garbage except dishwater, gray water, and fresh fish parts.

Between 3 and 12 miles it is illegal to dump plastic, dunnage, lining, and packing materials that float; and any garbage not ground to less than one square inch.

Between 12 and 25 miles it is illegal to dump plastic, dunnage, and packing materials that float.

Beyond 25 miles it is illegal to dump plastic.

The U.S. Coast Guard has issued these regulations to implement Annex V of the International Convention for the Prevention of Pollution from Ships (1973), commonly known as Annex V of the MARPOL (Marine Pollution) Treaty 73/78. It applies to all U.S. vessels wherever they operate (except waters under the exclusive jurisdiction of a state), and foreign vessels operating in U.S. waters out to and including the Exclusive Economic Zone (200 miles).

If your boat is 26 feet or more in length, regulations require U.S. recreational boaters to attach one or more Coast Guard Trash Dumping Restrictions placards to your boat. The placard warns against the discharge of plastic and other garbage within U.S. navigable waters and specifies discharge restrictions beyond the territorial sea (generally within 3 or more nautical miles of shore).

The placard must also contain the warning that a person violating these requirements is liable for civil and criminal penalties. The placard must also state that local regulations may further restrict the discharge of garbage. You may purchase these placards from local marinas, boat dealers, or marine equipment suppliers.

The U.S. Coast Guard has also issued regulations requiring boats to have a sanitation system on board to control pollution. Wastes are to be stored in a holding tank or other device, such as a Porta-Potti®, until the device can be can be pumped out or otherwise disposed of at a shore facility. Discharging this waste overboard is, in most cases, prohibited. Check with the U.S. Coast Guard regarding regulations in your area.

OWNER'S LOGS AND RECORDS

At the end of this chapter are three forms which you will find very helpful.

Use the Boat Data Record to record all important information about your boat and the major components installed. After you have entered all the data, remove this form from your Owner's Manual and store in a safe place. Do not keep this form aboard your boat.

The Travel Plan Log provides a record of your destination, departure, and return times, boat description, passenger list, and other information about the trip you have planned. At the bottom of the form is space for listing emergency telephone numbers in case your return is delayed past the expected time. It also has space for indicating information about the person filing this report. Leave the completed form ashore with a responsible person. We recommend you make several copies of this form each boating season to ensure an ample supply.

The Fuel Usage Chart is a handy way to record information covering engine hours, fuel consumption, miles traveled, RPM (revolutions per minute), Average MPH (miles per hour), and GPH (gallons per hour).

WARRANTY TRANSFER POLICY

Certain parts of the Chaparral Limited Warranty may be transferred to subsequent owner(s), providing the Ownership Transfer Record (OTR) is completed and returned to the Chaparral Customer Service Office. The OTR is located at the end of this chapter. Subsequent owner(s) will receive the balance of warranty available, subject to a $100.00 deductible per occurrence for claims filed in accordance with the Chaparral Limited Warranty Policy. The Ownership Transfer fee varies by the length of the boat. The appropriate fee from the Ownership Transfer Record should be submitted with the Ownership Transfer Record form to the Chaparral Customer Service office at the time of the transfer.

CONTACT PHONE NUMBERS AND INTERNET ADDRESSES

Chaparral Boats
Phone 1-229-686-7481
Fax 1-229-.686-3660
Internet . . . . . www.chaparralboats.com

United States Coast Guard
Phone 1-800-368-5647
Internet . . . . . www.uscgboating.org

BoatUS Foundation
Phone 1-800-336-2628
Internet . . . . . www.boatus.com/foundation/

Canadian Coast Guard
Phone 1-800-267-6687
Internet . . . . . www.ccg-gcc.gc.ca/main_e.htm

CHAPARRAL BOATS

CUSTOMER SATISFACTION NEW BOAT AND PRE-DELIVERY OPERATION RECORD (PDOR)

Boat ID Number ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

Boat Model: _____ Date of Sale: _____

Dealer Name _____ City _____ State _____

Owner Name _____ Delivery Promise Date/Time _____ Sales Person _____

CHECK, INSPECT AND PERFORM THE FOLLOWING OPERATIONS

CHECK BOXES BELOW AS NEEDED
☑ OK
☑ NEEDS CORRECTION
☑ COMPLETED

Boat:

☐☐☐ Boat gel coat and striping
☐☐☐ Upholstery clean and free of defects
☐☐☐ Sundeck/lounger operation
☐☐☐ Windshield alignment
☐☐☐ Canvas fit
☐☐☐ Check cabin doors, hatches, cabinets and head doors, latches work smoothly (Cuddy, Cruiser, C/C)
☐☐☐ Check all thru hull fittings, vanity drain, galley drain, anchor well drain, drain plug-hull, toilet hoses, livewell

Equipment:

☐☐☐ Running Light	☐☐☐ Stem Light	☐☐☐ Bilge Blower
☐☐☐ Cabin Lights	☐☐☐ Bilge Pumps	☐☐☐ Refrigerator
☐☐☐ Mast Light	☐☐☐ Horn	☐☐☐ Wipers
☐☐☐ Toilet operates	☐☐☐ Stove operates	☐☐☐ Dockside Power
☐☐☐ Stereo	☐☐☐ Generator	☐☐☐ Air conditioner

☐☐☐ Check water heater system
☐☐☐ Water pressure system operates (Let pressure stand 15 minutes to see if pump goes on)

Engine:

☐☐☐ Check engine alignment before drive installation and tighten engine mounts
☐☐☐ Check fuel system for leaks
☐☐☐ Check engine compartment for components which may be loose, kinked or pinched vacuum hoses or electrical connections and for any other missing or disconnected components
☐☐☐ Check hose clamps on engine pickup, engine exhaust
☐☐☐ Primary steering system complete operational check
☐☐☐ Pet-cocks closed on engine
☐☐☐ Throttle control cable, travel and attaching fasteners
☐☐☐ Shifter control cable, travel and attaching fasteners
☐☐☐ Transmission oil level at full mark
☐☐☐ Crankcase oil level at full mark
☐☐☐ I/O hydraulic oil level at full mark
☐☐☐ I/O hydraulic tilt operation
☐☐☐ **Prop size: Port** _____ **Stbd** _____
☐☐☐ **Prop installed properly with nut, keys, cotter pins**

CHECK BOXES BELOW AS NEEDED
☑ OK
☑ NEEDS CORRECTION
☑ COMPLETED

☐☐☐ Prop rotation
☐☐☐ Safety neutral switch, engine will not start in gear (I/O)
☐☐☐ Engine shut off (OB)
☐☐☐ Check transom plate seal for leaks

After Starting Engine (in water or tank test):

☐☐☐ Oil pressure
☐☐☐ Check fuel line connectors for leaks
☐☐☐ No engine water or oil leaks
☐☐☐ Idling speed set within proper range for engine
☐☐☐ Ignition timing check with timing light
☐☐☐ Gear shift works properly forward, reverse, neutral
☐☐☐ Instruments register properly
☐☐☐ Exhaust leaks

Running Water Test:

☐☐☐ Boat performance
☐☐☐ Port engine performance
☐☐☐ Starboard engine performance
☐☐☐ Steering operates freely
☐☐☐ I/O hydraulic trim
☐☐☐ Instruments register properly
☐☐☐ Top rpm wide open throttle for one-minute after warm-up
Port ____ Stbd ____

Above services performed by _____
Technician Date

PRE-DELIVERY FINAL CHECK

☐☐☐ All accessory equipment operates
☐☐☐ Carpets and drapes installed
☐☐☐ All boat, engine and accessory literature and manuals ready for new owner
☐☐☐ Owner familiarized with operation and warranty policy
☐☐☐ Warranty cards completed and mailed for owner
☐☐☐ Boat properly cleaned, interior and exterior
☐☐☐ Customer reviewed safety video

Above services performed by _____
Technician Date

Dealer comments (refer to checklist by item) _____

Customer Signature _____

Comments _____

CHAPARRAL WARRANTY DEPARTMENT COPY (WHITE) / DEALER COPY (YELLOW) / CUSTOMER COPY (PINK)

BOAT DATA RECORD

Purchase Dealership

Name _____ Sales Manager _____

Address _____ Phone _____

Fax _____ Fax _____

Service Dealership

Name _____ Sales Manager _____

Address _____ Phone _____

Fax _____ Fax _____

GENERAL

Model Name _____ State of Registration _____

Hull Identification Number _____

Boat Name _____

Hull Color(s) _____

Length _____ Beam _____ Weight _____

Draft (Drive Down) _____ Draft (Drive Up) _____

ENGINE

Manufacturer _____

Model Name/Number _____

Oil Type/SAE _____ Quarts _____ Filter Type _____

Serial Number _____

Transom Serial Number _____

DRIVE UNIT

Serial Number _____

FUEL SYSTEM

Tank Capacity _____

Filter Type _____

FRESH WATER

Tank Capacity _____

PROPELLER

Manufacturer _____ Pitch _____

Model Number _____

BATTERY

Manufacturer _____

Model Number _____

NOTES:

FUEL USAGE CHART

Date	Run Time (In Hours)	Fuel Used (In Gallons)	Distance Traveled (In Miles)	RPM	Average Miles per Hour	Gallons per Hour

TRAVEL PLAN LOG

The boat listed below should return by:

_____ _____ **at the latest.**
Date Time

If it has not, please call the emergency numbers listed at the right.

Police _____

Coast Guard _____

Other Authority _____

Personal _____

Trip Information

Departure Date/Time | Departure Location

Return Date/Time | Return Location

Boat Description

Boat Name | Type

Registration Number | Manufacturer

Length

Hull Color | Deck (Color)

Cabin (Color) | Trim (Color)

Other Physical Characteristics

Engine

Type | HP

Fuel Type | Fuel Capacity

Safety and Emergency Equipment

(YES/NO AND NUMBER)

Life Jackets | Cushions

Distress Light | Flares

Smoke Signals | Flashlight

Mirror | Paddles

Anchor | Food

Water | Life Raft

Radio

Onboard (Yes/No) | Type

Frequencies usually used or monitored

Passenger List (Use another sheet, if necessary)

Full Name

Age/Sex | Phone Number

Complete Address

Full Name

Age/Sex | Phone Number

Complete Address

Full Name

Age/Sex | Phone Number

Complete Address

Full Name

Age/Sex | Phone Number

Complete Address

Full Name

Age/Sex | Phone Number

Complete Address

ALWAYS FILL THIS SHEET OUT COMPLETELY—IN AN EMERGENCY ALL INFORMATION MAY BE HELPFUL

CHAPARRAL BOATS, INC.
LIMITED WARRANTY
FOR ALL NEW

PREMIERE MODELS

BEGINNING WITH THE 2011 MODEL YEAR

Upon delivery, owner shall complete the Limited Warranty Registration Card and return it to Chaparral Boats, Inc., P. O. Drawer 928, Nashville, Georgia 31639 ("Chaparral") within fifteen (15) days of delivery of a new Chaparral boat from an authorized Chaparral Boats dealer.

DEFINITIONS OF TERMS CONTAINED IN THE LIMITED WARRANTY

Hull: The single molded fiberglass shell that rests in the water below the hull flange and it's structural components consisting of the stringers and the transom
Deck: The single molded fiberglass shell above the hull flange
Structurally Defective: The presence of a defect in material or workmanship that causes the hull, or deck, to be unsafe or unfit for use under normal operating conditions.
Blistering: Blisters in the laminate on underwater gel coated surfaces larger than 1/8" in diameter and greater than 1/16" in depth
Original Purchaser: Consumer(s) who purchase a new Chaparral boat, retail, from an authorized Chaparral dealer.
Subsequent Purchaser: Purchaser(s) who acquire a used Chaparral boat from the Original Purchaser, or an authorized Chaparral dealer, as evidenced by a Bill of Sale and an Ownership Transfer Record completed by the original retail purchaser/ dealer.
Date of Delivery: The date that the new boat was actually delivered to the first retail purchaser.
Demonstrator Boat: An untitled /unregistered boat with 20 or more hours usage.
Fair Market Value: Defined by www.nadaguides.com "Average Retail" as of the date of the Owner's claim.

THE WARRANTIES

FIVE YEAR TRANSFERRABLE LIMITED STRUCTURAL HULL / DECK WARRANTY

The "Hull" is defined as the single molded fiberglass shell below the hull flange, the stringers, and the transom. The "Deck" is defined as the single molded fiberglass shell above the hull flange. Subject to the conditions and limitations to coverage and liability set forth below, Chaparral warrants to the *original* purchaser of a new Chaparral boat that either Chaparral or its authorized dealer will repair structural defects in the fiberglass hull or deck manufactured by Chaparral if either is found to be Structurally Defective in material or workmanship for a period of five (5) years after the date of delivery to the original customer. Chaparral's obligation to repair a hull or deck is limited to the fair market value of the owner's boat. This warranty does not include stress cracks or any other non-structural defects.

FIVE-YEAR PRORATED LIMITED HULL BLISTER WARRANTY

Subject to the conditions and limitations to coverage and liability set forth below, and provided the original factory gel coat surface has not been altered, Chaparral warrants to the *original* purchaser of a new Chaparral boat that for a period of five (5) years after the date of delivery, Chaparral will pay all or a portion of the cost to repair or correct any laminate blistering on underwater gel coated surfaces of the hull as a result of defects in material or workmanship according to the following prorated schedule:

Less than two years from date of purchase-**100%**
Two to three years from date of purchase-**75%**
Three to Four years from date of purchase -**50%**
Four to five years from date of purchase-**25%**

Reimbursement will be limited to one repair, not to exceed $100 per foot of boat length excluding the swim platform and bow pulpit. Prior authorization must be obtained from Chaparral before commencement of repairs. Authorization will only be given for repairs that include the addition of barrier coat and bottom paint to that portion of the hull that rests in the water. Repair of the blisters will be at the expense of Chaparral. The cost of barrier coat and bottom paint will be at the expense of the owner.

This Five-Year Limited Hull Blister Warranty is voided in the event the original factory gel coat is altered by damage, accident repair, sanding, scraping, sandblasting or improper surface preparation for the application of a marine barrier coating or bottom paint. This warranty will also be voided if the hull bottom is in water for more than 60 days during any 90-day period of time unless prior to the commencement of the 90-day period of time, a marine barrier coating has been properly applied to the hull bottom. This warranty is subject to the conditions and limitations to coverage and liability discussed below.

TWO-YEAR LIMITED COCKPIT UPHOLSTERY WARRANTY

Subject to the conditions and limitations to coverage and liability discussed below, Chaparral warrants to the *original* purchaser of a new boat that for a period of two (2) years from the date of delivery, Chaparral will repair or replace any cockpit upholstery found to be defective in material or workmanship.

ONE-YEAR LIMITED CANVAS WARRANTY

Subject to the conditions and limitations to coverage and liability discussed below, Chaparral warrants to the *original* purchaser of a new boat that for a period of one (1) year from the date of delivery, Chaparral will repair or replace any canvas found to be defective in material or workmanship.

ONE-YEAR PRORATED LIMITED EXTERIOR GEL COAT WARRANTY

Subject to the conditions and limitations to coverage and liability discussed below, Chaparral warrants to the *original* purchaser of a new boat that, Chaparral will repair cracks, crazing or other cosmetic blemishes in the exterior gel coat finish of the hull and the deck resulting from defective materials or workmanship according to the following prorated schedule:

Less than six months from date of delivery-**100%**
Six months to one year from date of delivery -**50%**

This warranty expressly excludes fading of gel coat at or below the waterline.

ONE-YEAR LIMITED WARRANTY

Chaparral warrants for a period of one year from the date of delivery to the *original* purchaser, that each new fiberglass boat manufactured by Chaparral is free from defects in material and workmanship.

Please note that engines, outdrives, transom assemblies, controls, batteries, propellers, air conditioners, generators, refrigerators, certain electronics and certain other accessories or components on your boat are not warranted by Chaparral under this Limited Warranty, but may be warranted by manufacturers other than Chaparral. Please refer to the Chaparral Owner's Packet to locate Owner's Manuals for these specific items and instructional information about possible warranties from manufacturers other than Chaparral. Except as expressly set out herein, all warranties provided by the manufacturers and distributors of these accessories and components are hereby assigned to the owner, to the extent permitted by the accessory or component manufacturer, as the owner's sole and exclusive remedy with respect to such items. Please note that coverage under any of these other independent warranties is contingent upon your compliance with the warranty registration requirements of the manufacturer of such item.

WARRANTY TRANSFERRABILITY

Except as discussed below in "TRANSFERRABLILITY OF WARRANTY COVERAGE FOR DEMONSTRATION MODELS PURCHASED FROM CHAPARRAL DEALERS", the balance of all warranties above, as they exist at the time of purchase, are fully transferable to the first subsequent owner. The period of such limited warranties shall commence on the date the boat was first delivered to the original purchaser. To transfer these warranties, the following material must be delivered to Chaparral Warranty Transfers, P. O. Drawer 928, Nashville, GA 31639 no later than thirty (30) days after the purchase from the *original* purchaser:

(1) An Ownership Transfer Record (included in the Owner's Manual) completed by the *original purchaser* and the first subsequent owner;
(2) A copy of the bill of sale or other evidence of purchase of the boat from the *original* purchaser, including the model and hull identification number; and,
(3) The warranty transfer fee of $1500.

Chaparral's obligation under any provision of the transferred warranties is limited to the fair market value of the owner's boat. Chaparral reserves the right to deny a warranty transfer for any reason.

WARRANTY TRANSFERRABILITY FOR DEMONSTRATION MODELS PURCHASED FROM CHAPARRAL DEALERS

Original retail purchaser(s), who otherwise comply with this Warranty Statement, receive the balance, as they exist at the time of purchase, of all warranties above. The period of such limited warranties shall commence on the date the boat was first used for in-water demonstration purposes by the Dealer. To activate these warranties, the following material must be delivered to Chaparral Warranty Transfer, P. O. Drawer 928, Nashville, GA 31639 no later than thirty (30) days after the purchase from the *original* purchaser:

(1) An Ownership Transfer Record (included in the Owner's Manual) completed by the *original purchaser* and the first subsequent owner;
(2) A copy of the bill of sale or other evidence of purchase of the boat from the *original* purchaser, including the model and hull identification number; and,

Warranty Transfer fees are waived for demonstrator boats.

Chaparral's obligation under any provision of the transferred warranties is limited to the fair market value of the owner's boat. Chaparral reserves the right to deny a warranty transfer for any reason.

CONDITIONS TO COVERAGE

In addition to any other conditions to coverage contained herein, the responsibility of Chaparral Boats under each of the foregoing limited warranties is also subject to the following conditions:

(1) The owner must first notify the dealer from whom the boat was purchased of any claim under this warranty within the applicable warranty period and within thirty (30) days after the defect is or should have been discovered.
(2) All costs of any nature for delivering any boat to a Chaparral dealer, the Chaparral factory, or any other point of repair authorized by Chaparral and the return thereof shall be paid by the boat owner and are not covered under this warranty. Such cost may include but are not necessarily limited to transportation, freight, haul-outs, blocking, storage, removal of electronics, winterization, shrink-wrapping, or recommissioning.
(3) All repairs, corrections or replacements shall be performed by Chaparral or a dealer or repair facility authorized by Chaparral at its sole discretion.

STATUTE OF LIMITATIONS

To the extent permitted by applicable State law, any lawsuit with respect to any breach of warranty claim seeking revocation of acceptance or rescission, whether express or implied, must be filed within one (1) year after the cause of action has occurred regardless of the time remaining in the warranty period under the Limited Warranty.

LIMITATION OF REMEDIES

(1) Chaparral's obligation under this warranty is limited to the cost of repair of the warranted item or replacement thereof, at Chaparral's sole option, when returned prepaid to Chaparral or other point of repair authorized by Chaparral.
(2) Chaparral is not liable for loss of use, loss of time, inconvenience, economic loss, commercial loss or any consequential, incidental, general and/or special damages.

EXCLUSIONS

THE LIMITED WARRANTIES SET FORTH ABOVE DO NOT COVER:

1) Any boat that has been subject to any type of repossession.
2) Any boat not purchased by an original retail purchaser, or a subsequent purchaser, as defined herein,
3) Any failure or defect resulting from normal wear and tear, climatic conditions, use under other than normal conditions or the lack of proper maintenance;
4) Any boat which has been powered or loaded in excess of the manufacturer's maximum horsepower and/or capacity recommendations;
5) Any boat used or once used for racing, boat clubs, yacht clubs, law enforcement, military, rental , charter or commercial purposes;
6) Any boat that has been subject to misuse, negligence, an accident, or structural modifications;
7) Plexiglas windscreen breakage, windshield breakage, windshield leakage,
8) Fuel gauges and fuel gauge systems, or fuel tanks;
9) Except as covered by One-Year Prorated Limited Exterior Gel coat Warranty and the Five-Year Prorated Limited Hull Blister Warranty, defects in paint or gel coat finishes including blisters below the waterline, cracking, crazing, or minor discoloration;
10) Damage, rot, mildew or other damage to upholstery, canvas, vinyl, plywood, carpet and other materials and components within the interior as a result of water damage including, without limitation, condensation or precipitation;
11) Installation of engines, arches, swim platforms, or other parts or accessories installed by anyone other than Chaparral;
12) Any boat that has been used after the discovery of a defect is or should have been discovered and such continued use causes additional or other damage to the boat; and
13) Except as described in the Limitations to Coverage above, any boat that has been used by the dealer for demonstration purposes.
14) Any defect or repair requiring redesign of the Boat, except pursuant to the recall provision of the United States Federal Boat Safety Act of 1971 or the recall laws of any other foreign jurisdiction.
15) Any Chaparral boat acquired by a retail sales outlet from any sources other than the Chaparral factory.
16) Damage, shrinkage, wear and tear, or deterioration of upholstery, carpet, graphics, and exterior canvas tops, enclosures, and weather covers (including rainwater leakage)
17) Rainwater leakage including rainwater leakage through canvas tops and enclosures.
18) Engines, outdrives, controls, batteries, propellers, air conditioners, generators, refrigerators, electronics and other accessories, components or other equipment which have been manufactured or purchased from other manufacturers, whether subject to a separate warranty or not, by such other manufacturers;
19) Estimates that relate to speed, fuel consumption, weight or statements made by any person other than Chaparral boats
20) Electrolysis, galvanic corrosion, crevice corrosion or any other deterioration of underwater components.

TRANSFERABILITY OF COMPONENT MANUFACTURE'S WARRANTIES

Engines, outdrives, transom assemblies, controls, batteries, propellers, air conditioners, generators, refrigerators, certain electronics and certain other accessories or components on your boat may be warranted by manufacturers other than Chaparral. Please refer to the Chaparral Owner's Packet to locate Owner's Manuals for these specific items and instructional information about possible warranties from manufacturers other than Chaparral. Except as expressly set out herein, all warranties provided by the manufacturers and distributors of these accessories and components are hereby assigned to the owner, to the extent permitted by the accessory or component manufacturer, as the owner's sole and exclusive remedy with respect to such items. Please note that coverage under any of these other independent warranties is contingent upon your compliance with the warranty registration requirements of the manufacturer of such item.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE FOREGOING LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.

OTHER THAN THOSE LIMITED WARRANTIES CONTAINED HEREIN, CHAPARRAL MAKES NO OTHER WARRANTIES. ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO ANY COMPONENT OF THE BOAT IS LIMITED TO THE DURATION OF THE LIMITED WARRANTY APPLICABLE TO SUCH COMPONENT, AS SET FORTH ABOVE.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG ANY IMPLIED WARRANTY LASTS, SO THE FOREGOING LIMITATION MAY NOT APPLY TO YOU.

OWNER'S OBLIGATION:

Warranty repairs, unless otherwise authorized by Chaparral Boats, should be performed by the selling Chaparral dealer. In the event a boat is out of the Owner's possession for more than 15 days for warranty repair, the Owner must notify Chaparral. The Owner must also notify Chaparral for any claimed defect that is not corrected after one repair attempt. Chaparral requires written notice from the Owner of any warranty claim prior to the expiration of the limited warranty. The Owner must allow Chaparral an opportunity to repair or replace parts pursuant to the terms of this Limited Warranty.

BY ACCEPTING DELIVERY OF THE BOAT COVERED BY THIS LIMITED WARRANTY, THE BOAT OWNER UNDERSTANDS AND AGREES AS FOLLOWS:

1) No dealer or any other person is authorized to make on Chaparral's behalf any other warranty other than those expressly set forth herein.
2) Chaparral reserves the right, without notice, to make changes to or discontinue models and Chaparral shall be under no obligation to equip or modify boats built prior to such changes.
3) Chaparral will discharge its obligations under this warranty as rapidly as possible, but cannot guarantee any specified completion date due to the different nature of claims that may be made and services that may be required.
4) Chaparral Boats is the registered trademark of Chaparral Boats, Inc.
5) Owner has inspected the boat, or if not was given an opportunity to do so, and is satisfied with the boat and its component parts.

PLEASE READ THIS STATEMENT OF WARRANTY CAREFULLY. IF YOU HAVE ANY QUESTIONS REGARDING YOUR RIGHTS AND OBLIGATIONS UNDER THIS WARRANTY, PLEASE CONTACT YOUR CHAPARRAL DEALER OR CHAPARRAL'S CUSTOMER SERVICE DEPARTMENT AT (229) 686-7481.

CHAPARRAL BOATS, INC.
P. O. Drawer 928
NASHVILLE, GEORGIA 31639
www.chaparralboats.com
(229) 686-7481

OWNERSHIP TRANSFER RECORD

Please complete the following information and return to Chaparral Customer Service with the correct transfer fee amount and a copy of the bill of sale or other evidence of purchase within 30 days after purchase from the original retail purchaser. Certified Checks or money orders should be made payable to Chaparral Boats, Inc.

_____	_____
Current Owner	***Transfer To***
_____	_____
Address	***Address***
_____	_____
City, State, Zip	***City, State, Zip***
_____	_____
Hull Identification Number	***Date of Sale***
_____	_____
Signature	***Signature***

To register the transfer, the second purchaser must mail the following to Chaparral Warranty Transfer, P. O. Drawer 928, Nashville, GA 31639 no later than thirty (30) days after the purchase from the *original* purchaser: (1) An Ownership Transfer Record completed by the *original purchaser* and the subsequent owner; (2) A copy of the bill of sale or other evidence of purchase of the boat from the *original* purchaser, including the model and hull identification number; and, (3) the warranty transfer fee as follows:

- $1,500 for any Premiere model

Note transfer fees are waived for Dealer Demonstrator Boats.

Upon receipt of this transfer record the new owner shall receive the outstanding balance of the ONE-YEAR TRANSFERABLE LIMITED WARRANTY and the FIVE-YEAR TRANSFERABLE LIMITED STRUCTURAL HULL WARRANTY initiated by the original purchaser. *Subsequent owner(s) to the original purchaser shall be responsible for a $100.00 deductible per occurrence for any claim filed in accordance with the Chaparral Limited Warranty Policy.* Note Transfers for Premiere models afford the new owner a full transfer of all warranties with the commencement date of such warranties being the date the boat was originally delivered to the original customer.

Please refer to the Chaparral Owners Manual for detailed provisions concerning the Chaparral Limited and Structural Warranty Policies. Chaparral Boats, Inc. reserves the right to deny transfer of warranty to subsequent owners.

Questions concerning the Chaparral Warranty Policy should be submitted in writing to the Chaparral Customer Service Office, P.O. Box 928, Nashville, GA 31639.

BOATING SAFETY

2

As you read this manual, please note the hazard warnings which alert you to safety precautions related to unsafe conditions or operating procedures. We have included these warnings because we are concerned about your safety and the safety of your passengers.

No matter how much boating experience you have, it's always a good idea to review boating safety rules before departures. Familiarize yourself with these basic boating safety tips:

- Follow a Pre-Departure Checklist to prepare yourself for any possibility on the water;
- Be weather-wise and always check local weather conditions for boating safety before departure;
- Know the limitations of your boat;
- Keep a sharp lookout for people and objects in the water;
- Never boat when the operator is under the influence of drugs or alcohol;
- Being aware of your passengers' safety at all times;
- Reduce speed when there is limited visibility, rough water, nearby people in the water, boats, or structures.
- Make proper use of life jackets by making sure each passenger has a life jacket;
- Take a Coast Guard, U.S. Power Squadron, or equivalent boating safety course. **Call the Boat/U.S. Foundation at 1-800-336-2628 for information on available courses;** and
- Get hands-on training on how to operate your boat properly.

In addition:

- Maintain your boat and its safety and other systems as recommended in this manual.
- Have your boat inspected by a qualified mechanic or dealer, at least annually.
- Ensure that the Coast Guard required safety equipment is on board and functions properly. (See page 2-4, lifesaving equipment)

MANUAL ADVISORIES

⚠ DANGER

DANGER: Calls attention to immediate hazards that WILL result in severe personal injury or death.

⚠ WARNING

WARNING: Identifies hazards or unsafe practices that COULD result in severe personal injury or death.

⚠ CAUTION

CAUTION: Indicates hazards or unsafe practices that COULD result in minor personal injury, or product or property damage.

Important: This is an advisory statement or procedure intended to prevent damage to the equipment or associated components.

Note: This is a general advisory statement relating to equipment operation and maintenance procedures. Its intent is to call attention to information more important than normal text.

Safety information advises the owner/operator and passengers of imperative safety precautions to follow when operating and/or servicing equipment.

Safety precautions are given throughout this manual and labels are mounted on key locations throughout the boat.

FIRE EXTINGUISHING SYSTEM

Any fire on a boat must be considered an immediate threat to the safety of the vessel and the lives of the occupants. For this purpose, your boat is equipped with an automatic fire extinguisher system located in the engine compartment. In the event of a fire, the heat sensitive automatic head in the engine compartment will release a fire-extinguishing vapor, completely flooding the area.

An indicator light for the automatic fire extinguishing system is located on the dashboard. The light will be ON when the ignition is on, and indicates that the system is ready. If the light goes out while the ignition is on, the system has discharged.

Immediately shut down all engines, powered ventilation and electrical systems, and extinguish all smoking materials when discharged.

DO NOT IMMEDIATELY OPEN THE ENGINE COMPARTMENT! THIS FEEDS OXYGEN TO THE FIRE AND THE FIRE COULD RESTART.

Wait at least fifteen (15) minutes before opening the engine compartment. This permits the fire-extinguishing vapor to “soak” the compartment area long enough for hot metals and fuels to cool. Have portable extinguishers on hand and ready to use in case the fire re-ignites. Do not breathe fumes or vapors caused by the fire.

CARBON MONOXIDE

Carbon monoxide poisoning usually produces headaches, nausea, dizziness, ringing in the ears, weakness and unconsciousness. There may be abnormal redness or blueness of lips, nailbeds, or skin. A victim’s skin can turn a cherry-red color. Because carbon monoxide gas (CO) is odorless, colorless, and tasteless, it is unlikely to be noticed until a person loses consciousness.

Dangerous concentrations of carbon monoxide will be present if:

- the engine and/or generator exhaust systems leak;
- insufficient fresh air is circulating where people are present; and
- fumes move from the rear of the boat into the cockpit and cabin area.

⚠ DANGER

DANGER: Fumes from engine, generators, and other equipment and appliances using burning fuel contain carbon monoxide.

Carbon monoxide can kill you.

Open all doors, curtains, windows, and hatches to let fresh air circulate when running engine, generator, or burning any fuel when boat is anchored, moored, or docked.

⚠ DANGER

DANGER: Even in rainy, cold weather, ventilation must be maintained to avoid carbon monoxide poisoning. You will get wet and/or cold.

⚠ DANGER

DANGER: Sleeping on the boat requires an operating carbon monoxide detection system in each sleeping location.

Figures 2.1 through 2.3 give examples of boat operating conditions that can lead to high concentrations of carbon monoxide gas.

⚠ DANGER

DANGER: Blocked hull exhaust outlets near a pier, dock, seawall bulkhead, or any other means can cause excessive accumulation of poisonous carbon monoxide gas within the cabin areas. Make sure hull exhaust outlets are not blocked. (Figure 2.1)

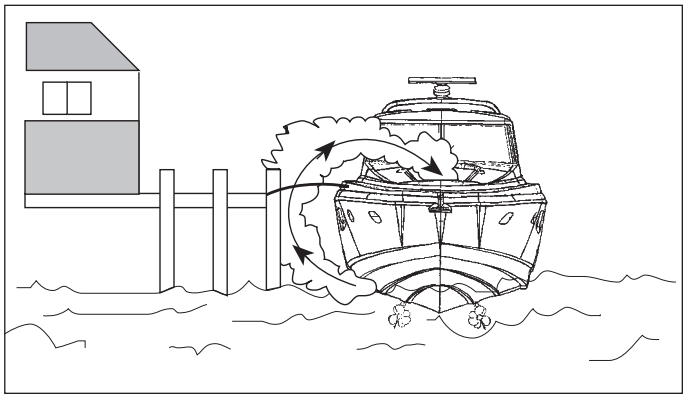


Figure 2.1 Running Engine or Generator in Confined Areas

⚠ DANGER

DANGER: Generator or hull exhaust from other vessels alongside your boat, while docked or anchored, can emit carbon monoxide and cause excessive accumulation within the cabin and cockpit areas. Be alert for generator exhaust from vessels adjacent. (Figure 2.2)

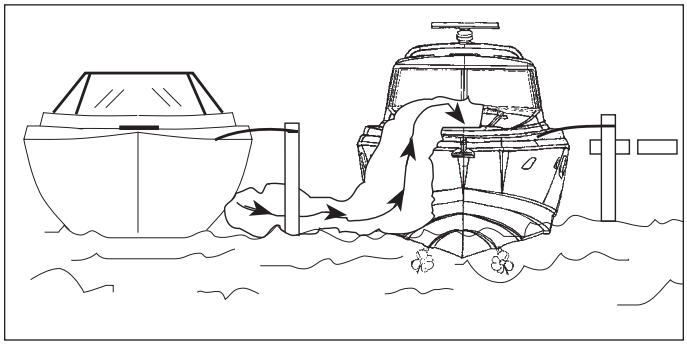


Figure 2.2 Exhaust Fumes from Vessel Alongside

⚠ DANGER

DANGER: Hull exhaust from your boat while underway can cause excessive accumulation of carbon monoxide within the cabin and cockpit areas when using protective weather coverings. Provide adequate ventilation when the canvas top, side curtains, and/or back curtains are closed. (Figure 2.3)

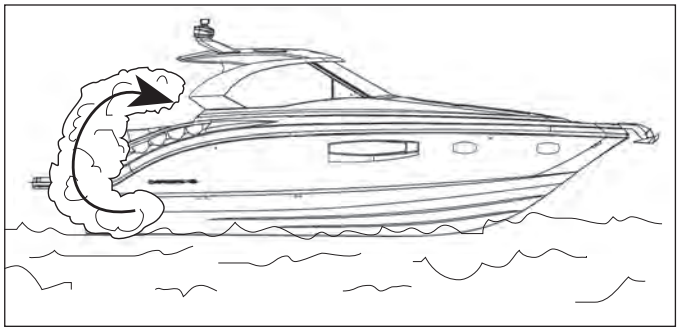


Figure 2.3 Exhaust Accumulation While Top is in Place

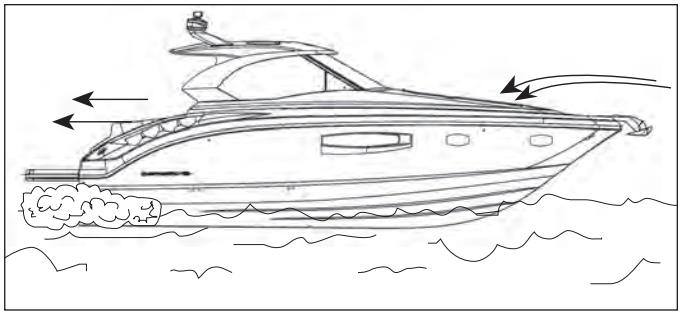


Figure 2.4 Desired Ventilation Through the Boat

To minimize the danger of CO accumulation when the engine and/or generator are running, or when using fuel-burning applications:

- Be sure to have sufficient ventilation when using canvas or window-type side curtains when underway, anchored, moored, or docked.
- If the full canvas is installed, operate with the forward hatch open and leave the cabin door open.
- Operate all fuel-burning appliances, such as charcoal, propane, LPG, CNG, or alcohol cooking devices in areas where fresh air can circu-

late. Do not use such devices where there is no noticeable air movement, especially in the cabin, when anchored, moored, or docked.

- Do not idle engine without moving boat for more than 15 minutes at a time.

- Inspect the exhaust system regularly.

When someone falls victim to carbon monoxide poisoning, fast and responsive action is crucial. Know the symptoms. The earlier the effects of CO are detected, the better chances for recovery. The following list shows the sequence of events that must be performed in an effort to revive a CO victim:

- Move the person to fresh air.

- Administer oxygen, if available.

- Contact medical help.

- If the victim is not breathing, perform artificial respiration per approved CPR procedures until medical help arrives and takes over. Prompt action can make the difference between life and death.

- Ventilate area.

- Investigate the source of CO and take corrective actions.

Carbon Monoxide Monitor

Your boat has carbon monoxide (CO) monitors mounted throughout the boat. A CO detector is a device that detects the presence of CO in order to prevent carbon monoxide poisoning. When a high level of CO is present, the monitor will alert the occupants by a flashing a DANGER light and alarm. The CO monitor is wired through a breaker on the DC distribution panel.

We highly recommend that you follow the operating instructions supplied with the CO monitor and test the unit to verify that it is functioning properly each time you use your boat.

LIFESAVING EQUIPMENT

Important: Federal law requires you to provide and maintain safety equipment on your Chaparral boat. As the boat owner, you are responsible for supplying all required safety equipment. Consult your Coast Guard, state, and local regulations to ensure your boat has all required safety equipment on board. Additional equipment may be recommended for your safety and that of your passengers. Make yourself aware of its availability and use.

Boat operators are required to carry one wearable personal flotation device (Type I,II,III, or V) for each person on board. Boats must also have at least one throwable device (Type IV).

The law requires that personal flotation devices (PFDs) must be readily accessible, if not worn. “Readily accessible” means removed from storage bags and unbuckled. Children and nonswimmers must wear PFDs at all times when aboard. It is common sense to have everyone on board wearing PFDs. A throwable device must also be right at hand and ready to toss.

Before purchasing PFDs, ensure that there is an attached tag indicating they are approved by the U.S. Coast Guard or by your national boating law enforcement agency.

Visual Distress Signals

The U.S. Coast Guard requires all boats operating on U.S. coastal waters to have visual distress signal equipment on board. In general, coastal waters include all waters except rivers, streams, and inland lakes. The Great Lakes are considered coastal waters, as is a river mouth more than two miles wide. Boats owned in the United States and operating on the high seas must also carry visual distress signal equipment.

Visual distress equipment must be in serviceable condition and stowed in a readily accessible location. Equipment having a date showing useful service life must be within the specified usage date shown. Both pyrotechnic and non-pyrotechnic equipment must be U.S. Coast Guard approved.

Pyrotechnic U.S. Coast Guard-approved visual distress signals and associated equipment include:

- Red flares, handheld, or aerial
- Orange smoke, handheld, or floating
- Launchers for aerial red meteors or parachute flares

Non-pyrotechnic equipment includes an orange distress flag and an SOS electric distress light.

No single signaling device is ideal under all conditions for all purposes. Consider carrying various types of equipment. Careful selection and proper stowage of visual distress equipment are very important. If young children are frequently aboard, you should select devices with packages which children, but not adults, will find difficult to open.

Sound Signaling Device

Your Chaparral boat must have a device that can produce a sound signal when required. For boats greater than 26 feet, the device must be able to produce a two-second blast which can be heard one mile away. For boats less than 26 feet, the device must be able to produce a two-second blast which can be heard one-half mile away. It can be a hand-, mouth-, or power-operated horn or whistle. Refer to the U.S. Coast Guard's publication, *Navigational Rules, International-Inland* for details about using the appropriate signals.

Additional Recommended Equipment for Safe Operation

In addition to legally mandated equipment, the following items are necessary for safe boating, especially if your boat is located out of sight of land.

- First aid kit
- Visual distress signals suitable for day and night use (required in some areas; consult local regulations)
- Charts of your intended cruising area
- Compass
- GPS or LORAN position locating devices
- Marine VHF radio with weather channels
- Emergency Position Indicating Radio Beacon (EPIRB)
- Manual bilge pump
- Anchors, chain, and line (The anchors must be properly sized for your boat. Ask your dealer or marine supply store for recommendations.)
- Mooring lines
- Fenders
- Boat hook
- Waterproof flashlight(s)
- Extra batteries for flashlights and portable electronic devices
- High-power spotlight, if you intend to boat at night
- Spare keys
- Instruction manuals for engine and accessories
- Lubricating oil
- Tool kit
- Spare parts kit (spark plugs, fuses, hose clamps, ask your dealer to recommend additional parts)
- Extra propeller

LOAD CAPACITY

United States

The presence of the capacity plate does not relieve the boat operator from the responsibility of using common sense or sound judgment. Turbulent waters and adverse weather conditions reduce the maximum load capacity rating of the boat.

- The number of seats does not indicate how many people a boat can carry in poor weather and rough water.
- Above idle speed, all passengers must be seated on the seats provided.

The U. S. Coast Guard does not provide specific numbers for passenger capacity or cargo weight for recreational vessels larger than 20 feet (6.09 meters). For safety, use the following information provided for international loading standards for maximum number of passengers plus cargo weight.

International

⚠ DANGER

DANGER: Never carry more weight or passengers than indicated on the builder's plate, regardless of weather or water conditions. The boat can capsize, swamp, or sink.

The certification plate (Figure 2.5) located near the helm indicates maximum weight and number of persons your boat can handle under calm sea conditions. **Do not exceed the load capacities stated.** The number of people on board must be reduced if you go out in poor weather and rough water.

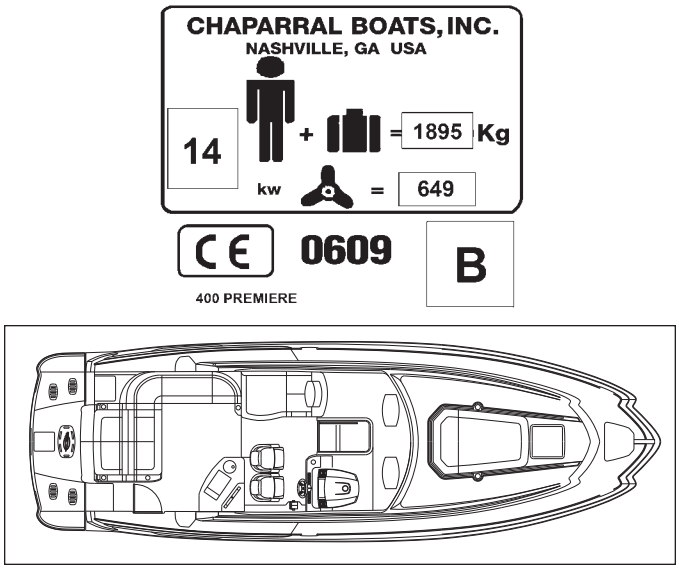


Figure 2.5 Builder's Plate (International)

The information present on the certification plate does not relieve the operator from responsibility. Use common sense and sound judgement when placing equipment and/or passengers in your boat.

- Do not load to capacity in poor weather or rough water.
- The number of seats does not indicate how many people a boat can carry in poor weather and rough water.
- Above idle speed, all passengers must be seated on the seats provided.

Stability

Your boat was manufactured to specific stability and flotation standards for the capacity shown on the certification plate. Any increase from the recommended load capacities will put your boat in jeopardy of capsizing, swamping, and/or sinking.

General Considerations

- Know your boat's limitations and how it handles different conditions. Modify speed in keeping with weather, sea, and traffic conditions.
- Instruct passengers on location and use of safety equipment and procedures.
- Instruct passengers on the fundamentals of operating your boat, in case you are unable to do so.
- You are responsible for your passengers' actions. If they place themselves or the boat in danger, immediately correct them.

The 420 Premiere is Design Category B. The wind speed and wave height specified as the upper limit for your category of boat does not mean that you or your passengers can survive if your boat is exposed to these conditions. Rather, only the most experienced operators and crew may be able to operate a boat safely under these conditions. You must always be aware of weather conditions and head for port or protected waters in sufficient time to avoid being caught in high winds and rough water.

Getting caught in severe weather is hazardous. Bad weather and/or rough sea or water conditions can cause an unsafe situation. Consult local weather information, or listen to the NOAA weather reports for the latest weather conditions or any impending deterioration of the weather before setting out and while underway.

CHART YOUR COURSE

Be sure you chart a course. Chart your course ahead of time through areas that are open to your type of boat and are designated as waterways. This means having and using the National Oceanic and

Atmospheric Administration (NOAA) charts for coastal waters, observing and understanding all navigational aids, using the knowledge and guidance of experienced boaters, and being aware of tide times when appropriate.

Let others know where you are going. Avoid traveling alone, and always inform someone of your float plans. A float plan is your cruising course and itinerary, boat description, and your expected time and date of return. Give the float plan to a friend or relative, so they can give that information to a national boat agency, like the U.S. Coast Guard, in the event you fail to return.

EMERGENCY SITUATIONS

We hope that you are never involved in an emergency situation. Prevention is the safest approach.

ASSISTING OTHER BOATERS. All boaters have a legal obligation to help other boats who are in distress, as long as rendering assistance does not endanger you, your passengers, or your boat.

If you are involved in an emergency situation, it is imperative that you know how to react, in order to protect the lives in your care.

Fire

Important: A fire aboard your boat is a serious emergency. You must act immediately!

Every boater should develop a fire response plan to determine what kind of fire (fuel, electrical, etc.) might break out, where it might break out, and the best way to react. Having a plan and assigning responsibilities to others results in quicker decisions and quicker reactions.

Boats will burn quickly. Do not remain on board and fight a fire for more than a few minutes. If the fire cannot be extinguished within a few minutes, abandon the boat.

Have fire extinguishers handy. A small fire can be extinguished quickly with the right size and type of fire extinguisher.

Any fire requires stopping the engine(s) immediately. Then:

- Extinguish smoking materials and shut off blowers, stoves, engines, and generators.
- Throw burning materials overboard, if possible.
- Keep the fire downwind, if possible.
- If the fire is accessible, empty the contents of fire extinguishers at the base of the fire.
- If the fire is in the engine compartment and you have an automatic extinguisher for the engine, wait 15 minutes before opening the compartment after using the extinguisher. Have a portable extinguisher ready in case the fire flares up again.
- Signal for help.
- Grab distress signals and survival gear. Put on PFDs. Prepare to abandon ship. If the decision is to abandon ship, all persons on board should jump overboard and swim a safe distance away from the burning boat.

Flooding, Swamping, and Capsizing

Flooding, swamping, or capsizing is usually caused by the actions of an inattentive boat operator, or by hazardous weather or water conditions. In the event of flooding, swamping, or capsizing:

- Try to shut off engines, generators, and blowers before leaving the boat.
- Have everyone put on Personal Flotation Devices (PFDs).
- Account for all who were on board.
- If the boat is floating, stay with the boat. Hang on, or climb on the boat and signal for help.
- Only as a last resort should you attempt to swim to shore – it is farther away than it looks and you can tire and drown.

Collisions and Leaking

If a serious collision occurs, first check all persons on board for injuries. Then, inspect the boat to determine the extent of damage.

- Slow down or stop to reduce water intake, unless maintaining speed will keep the hole above water.
- Switch on bilge pumps.
- Operate the manual bilge pump if the powered bilge pumps can't handle the water flow.
- Account for everyone on board and check for injuries.
- Have everyone put on PFDs.
- If another boat is involved, prepare to help the other boat, unless it places your passengers or boat in danger.
- Stay with the boat.
- Signal for help.
- If a leak patch is attempted, it should be done from the outside.
- Contact the U.S. Coast Guard or other rescue authorities immediately (CHF Channel 16 or 22 CB radio).

In the event of a collision, you are required to file an accident report. Contact a state enforcement agency or the nearest Coast Guard office. If you are boating outside of U.S. waters, consult the nation you are visiting for accident reporting requirements.

Running Aground

If you run aground, check everyone for injury and inspect damage to the boat and propeller(s).

- Check for leaks. If water is coming in, stop the intake of water before attempting to free the boat.
- Inspect for damage to the hull, propulsion, and steering systems.
- If possible, shift weight of passengers or gear to heel the boat while reversing engine(s).
- Determine if the tide, wind, and current will drive the boat harder aground or will help to free it.
- Determine the water depth all around the boat, and the type of bottom (sand, mud, rocks, etc.). If freeing the boat can be done without exposing persons to risk of injury, the boat should be moved away from hard obstructions and toward open water with soft ground.
- Do not attempt to have your boat towed by anyone other than a trained and competent service, such as the Coast Guard or a salvage company. Recreational craft are not designed to tow other recreational craft.

Propulsion, Control, or Steering Failure

If the drive train fails, or controls or steering do not respond properly at all:

1. Shut off engine.
2. Put out the anchor to prevent drifting.
3. Determine whether you can repair the problem yourself. See the proper manuals for assistance in troubleshooting the engine, steering, and engine controls.
4. If you are not sure you can fix the problem, or if conditions worsen, signal for help.

INTERNATIONAL REQUIREMENTS

This vessel and its systems have been constructed in accordance with standards and specifications in effect at the time of manufacture as published by the various regulatory authorities listed below:

1. Ministére De La Mer – France
2. Registro Italiano Navale – Italy
3. Det Norske Veritas – Norway

4. Sécurité des Navires – Canada
5. JCI (Japan Craft Inspection) – Japan
6. NKK (Nippon Kaiji Kyokai) – Japan
7. BSI (British Standards Institute) – England
8. Ministerio de Obras Públicas y Transportes – Spain
9. EU Recreational Craft Directive – European Union.

ENVIRONMENTAL CONSIDERATIONS

The following warning is offered for boats sold in the State of California in accordance with California Health and Safety Code §§ 25249.5-.13:

⚠WARNING

WARNING: A wide variety of components used on this vessel contain or emit chemicals known to the State of California to cause cancer or birth defects and other reproductive harm.

Examples Include:

- Engine and generator exhaust
- Engine and generator fuel, and other liquids, such as coolants and oil; especially used motor oil
- Cooking fuels
- Cleaners, paints, and substances used for vessel repair
- Waste materials that result from wear of vessel components
- Lead from battery terminals and from other sources, such a ballast or fishing sinkers

To Avoid Harm:

- Keep away from engine, generator, and cooking fuel exhaust fumes
- Wash areas thoroughly with soap and water after handling the substances listed above

Fuel and Oil Spillage

The Federal Water Pollution Control Act prohibits the discharge of oil or hazardous substances which may be harmful into U.S. navigable waters, if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water. Use rags or sponges to soak up fuel or oily waste, then dispose of them properly ashore. If there is much fuel or oil in the bilge, contact a knowledgeable marine service to remove it. Never pump contaminated bilge discharge overboard. Help protect your waters.

Fill tank(s) to less than rated capacity to allow for fuel expansion.

Waste Disposal

Many areas prohibit overboard sewer discharge. In those areas, close and disable flow-through waste systems to prevent discharge in such areas.

Collect and bag all refuse until it can be disposed of ashore. Regulations prohibit disposal of plastic anywhere in the marine environment and restrict other garbage disposal within specified distances from shore.

Note: 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.

The Coast Guard requires any ocean-going boats 40 feet or larger to have a written "waste management" plan on board. While the requirement is aimed at commercial and passenger ships, there is no exception for recreational boats. "Ocean-going" means any boat going beyond the three-mile coastal U.S. boundary.

Wake/Wash

⚠WARNING

WARNING: You are responsible for damage caused by your wake. Watch your speed and wake, as your boat may capsize a smaller craft.

Powerboat wakes can endanger people and other vessels. Each powerboat operator is responsible for injury or damage caused by the boat's wake. Be especially careful in confined areas, such as channels or marinas. Observe "No Wake" warnings.

⚠CAUTION

CAUTION: Reduce speed in congested waterways. Be alert for "No Wake" markers.

SAVE OUR SEAS

It is illegal to dump plastic trash anywhere into the ocean or navigable waters of the United States. Violation of these requirements may result in civil penalties up to $25,000, a fine of $50,000, and imprisonment of up to five years.

PLASTIC – Includes, but is not limited to, plastic bags, styrofoam cups and lids, six-pack holders, stirrers, straws, milk jugs, egg cartons, synthetic fishing nets, ropes, lines, and bio, or photo, degradable plastics.

GARBAGE – Paper, rags, glass, metal, crockery (generated in living spaces aboard the vessel – what we normally call "trash"), and all kinds of food, maintenance, and cargo-associated waste. "Garbage" does not include fresh fish or fish parts, dishwater, and gray water.

INSIDE 3 MILES
(and in U.S. lakes, rivers, bays, and sounds)
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT
ANY GARBAGE EXCEPT DISHWATER/GRAYWATER/ FRESH FISH PARTS

3 TO 12 MILES
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT
ANY GARBAGE NOT GROUND TO LESS THAT ONE SQUARE INCH

12 TO 25 MILES
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT

OUTSIDE 25 MILES
PLASTICS

DUNNAGE – Material used to block and brace cargo, and is considered a cargo-associated waste.

DISHWATER – Liquid residue from the manual or automatic washing of dishes and cooking utensils which have been pre-cleaned to the extent that any food particles adhering to them would not normally interfere with the operation of automatic dishwashers.

GRAYWATER – Drainage from a dishwasher, shower, laundry, bath, and wash basin, not including drainage from toilets, urinals, hospitals, and cargo spaces.

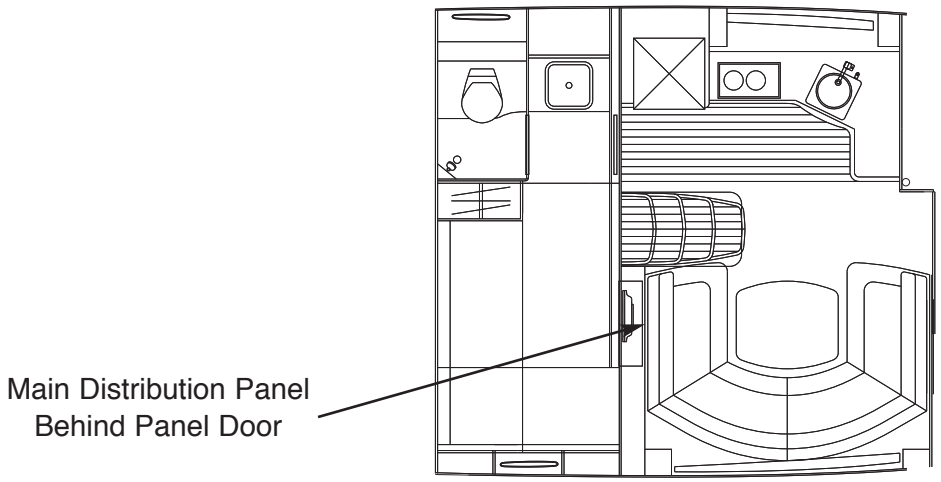
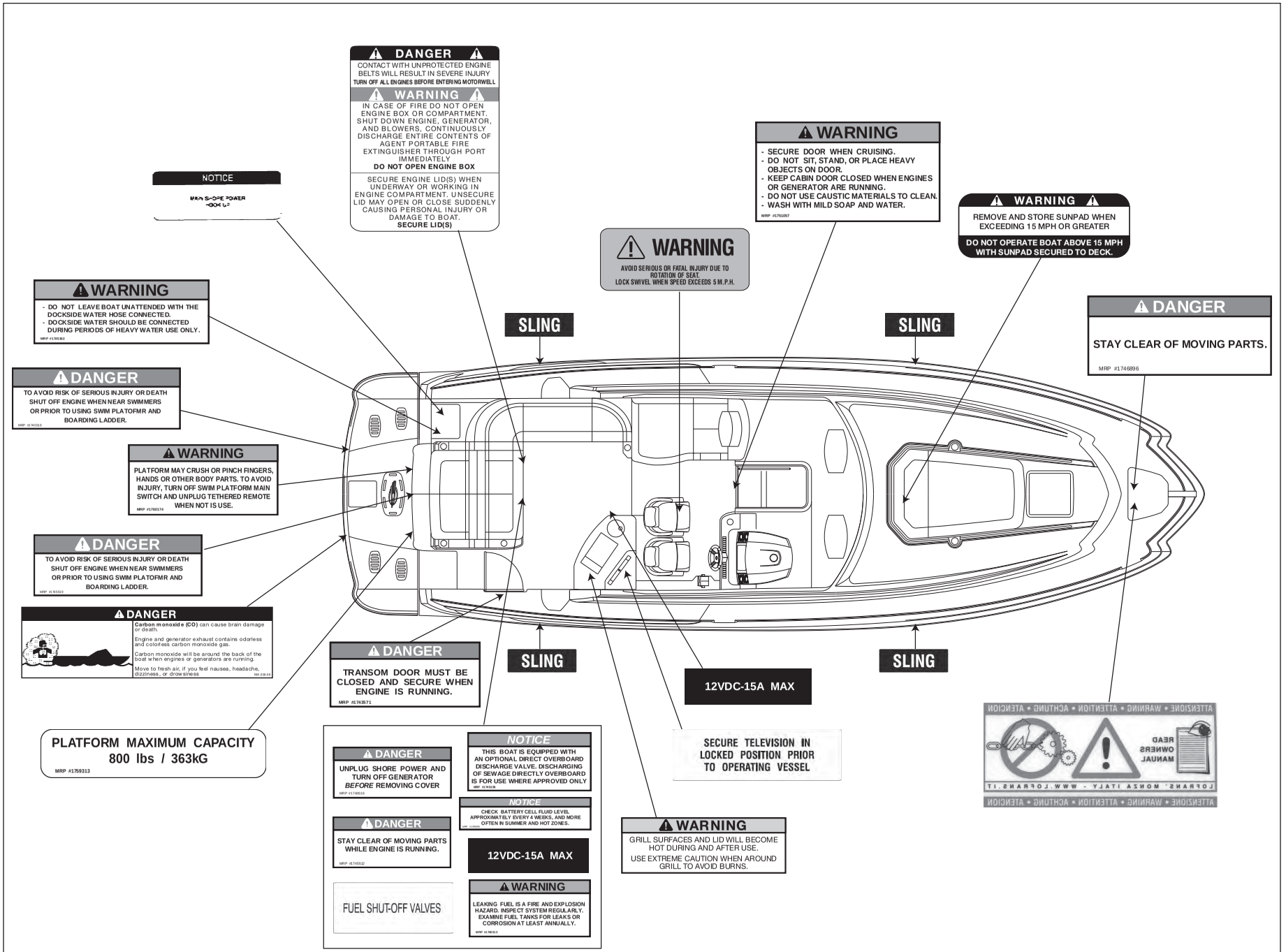


Figure 2.6 SOS Warning Label Location


DANGER
CONTACT WITH UNPROTECTED ENGINE BELTS WILL RESULT IN SEVERE INJURY
TURN OFF ALL ENGINES BEFORE ENTERING MOTORWELL
WARNING
IN CASE OF FIRE DO NOT OPEN ENGINE BOX OR COMPARTMENT. SHUT DOWN ENGINE, GENERATOR, AND BLOWERS, CONTINUOUSLY DISCHARGE ENTIRE CONTENTS OF AGENT PORTABLE FIRE EXTINGUISHER THROUGH PORT IMMEDIATELY
DO NOT OPEN ENGINE BOX
SECURE ENGINE LID(S) WHEN UNDERWAY OR WORKING IN ENGINE COMPARTMENT. UNSECURE LID MAY OPEN OR CLOSE SUDDENLY CAUSING PERSONAL INJURY OR DAMAGE TO BOAT.
SECURE LID(S)
NOTICE
WARNING
- SECURE DOOR WHEN CRUISING.
- DO NOT SIT, STAND, OR PLACE HEAVY OBJECTS ON DOOR.
- KEEP CABIN DOOR CLOSED WHEN ENGINES OR GENERATOR ARE RUNNING.
- DO NOT USE CAUSTIC MATERIALS TO CLEAN.
- WASH WITH MILD SOAP AND WATER.
MRP #1751097
WARNING
REMOVE AND STORE SUNPAD WHEN EXCEEDING 15 MPH OR GREATER
DO NOT OPERATE BOAT ABOVE 15 MPH WITH SUNPAD SECURED TO DECK.
WARNING
AVOID SERIOUS OR FATAL INJURY DUE TO ROTATION OF SEAT.
LOCK SWIVEL WHEN SPEED EXCEEDS 5 M.P.H.
WARNING
- DO NOT LEAVE BOAT UNATTENDED WITH THE DOCKSIDE WATER HOSE CONNECTED.
- DOCKSIDE WATER SHOULD BE CONNECTED DURING PERIODS OF HEAVY WATER USE ONLY.
MRP #1765362
DANGER
STAY CLEAR OF MOVING PARTS.
MRP #1746896
SLING
SLING
DANGER
TO AVOID RISK OF SERIOUS INJURY OR DEATH SHUT OFF ENGINE WHEN NEAR SWIMMERS OR PRIOR TO USING SWIM PLATOFMR AND BOARDING LADDER.
WARNING
PLATFORM MAY CRUSH OR PINCH FINGERS, HANDS OR OTHER BODY PARTS. TO AVOID INJURY, TURN OFF SWIM PLATFORM MAIN SWITCH AND UNPLUG TETHERED REMOTE WHEN NOT IS USE.
MRP #1760174
DANGER
TO AVOID RISK OF SERIOUS INJURY OR DEATH SHUT OFF ENGINE WHEN NEAR SWIMMERS OR PRIOR TO USING SWIM PLATOFMR AND BOARDING LADDER.
DANGER
Carbon monoxide (CO) can cause brain damage or death.
Engine and generator exhaust contains odorless and colorless carbon monoxide gas.
Carbon monoxide will be around the back of the boat when engines or generators are running.
Move to fresh air, if you feel nausea, headache, dizziness, or drowsiness
SLING
SLING
DANGER
TRANSOM DOOR MUST BE CLOSED AND SECURE WHEN ENGINE IS RUNNING.
MRP #1743571
12VDC-15A MAX
PLATFORM MAXIMUM CAPACITY
800 lbs / 363kG
MRP #1759313
SECURE TELEVISION IN LOCKED POSITION PRIOR TO OPERATING VESSEL
DANGER
UNPLUG SHORE POWER AND TURN OFF GENERATOR BEFORE REMOVING COVER
NOTICE
THIS BOAT IS EQUIPPED WITH AN OPTIONAL DIRECT OVERBOARD DISCHARGE VALVE. DISCHARGING OF SEWAGE DIRECTLY OVERBOARD IS FOR USE WHERE APPROVED ONLY
NOTICE
CHECK BATTERY CELL FLUID LEVEL APPROXIMATELY EVERY 4 WEEKS, AND MORE OFTEN IN SUMMER AND HOT ZONES.
DANGER
STAY CLEAR OF MOVING PARTS WHILE ENGINE IS RUNNING.
MRP #1745532
12VDC-15A MAX
FUEL SHUT-OFF VALVES
WARNING
LEAKING FUEL IS A FIRE AND EXPLOSION HAZARD. INSPECT SYSTEM REGULARLY. EXAMINE FUEL TANKS FOR LEAKS OR CORROSION AT LEAST ANNUALLY.
WARNING
GRILL SURFACES AND LID WILL BECOME HOT DURING AND AFTER USE.
USE EXTREME CAUTION WHEN AROUND GRILL TO AVOID BURNS.
READ OWNERS MANUAL
ATTENZIONE • WARNING • ATTENTION • ACHTUNG • ATENCION
LORANS' MONZA ITALY - WWW.LORANS.IT

NOTICE

WHEN USING SHOWER TURN SUMP PUMP BREAKER ON. FORWARD BILGE AREA MAY FLOOD IF BREAKER IS NOT ON.

NOTICE

EXHAUST FAN MUST BE ON WHEN USING COOKING APPLIANCES

12VDC-15A MAX

NOTICE

DO NOT USE OR DISPOSE OF PRODUCTS THAT CONTAIN CHLORINE IN THIS WASTE SYSTEM

RAW WATER INLET
AIR CONDITIONER

CLOSE SEACOCK WHEN NOT IN USE

⚠ DANGER

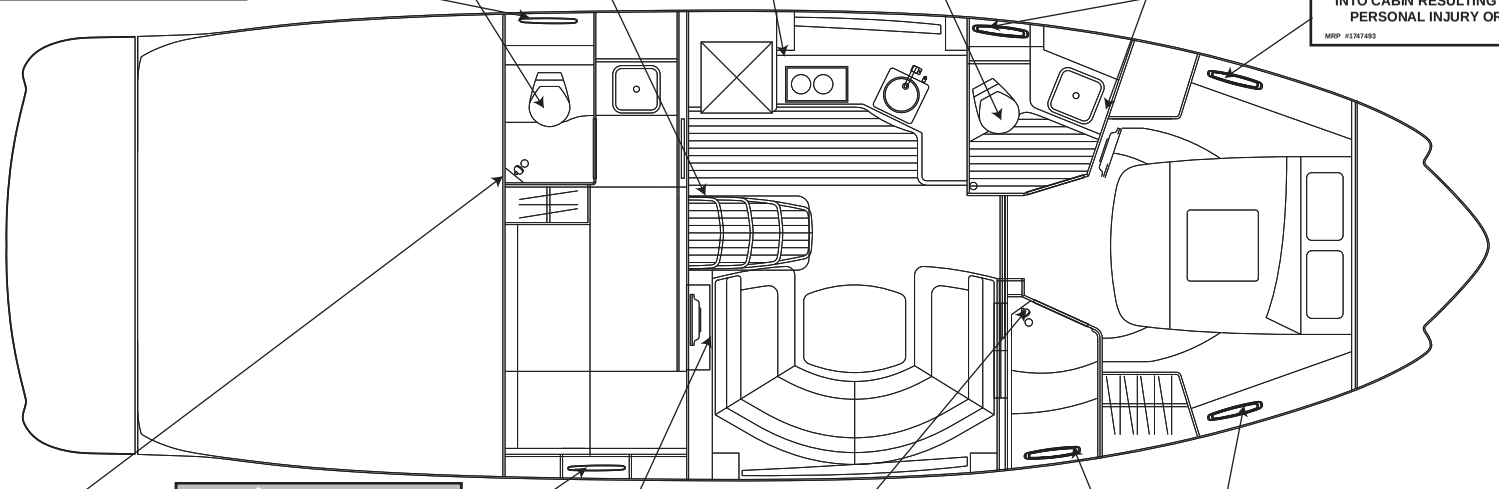
LEAVING WINDOW OPEN COULD INDUCE EXHAUST FUMES INTO CABIN RESULTING IN SEVERE PERSONAL INJURY OR DEATH.

MRP #1747493

⚠ DANGER

LEAVING WINDOW OPEN COULD INDUCE EXHAUST FUMES INTO CABIN RESULTING IN SEVERE PERSONAL INJURY OR DEATH.

MRP #1747493



⚠ DANGER

LEAVING WINDOW OPEN COULD INDUCE EXHAUST FUMES INTO CABIN RESULTING IN SEVERE PERSONAL INJURY OR DEATH.

MRP #1747493

NOTICE

WHEN USING SHOWER TURN SUMP PUMP BREAKER ON. FORWARD BILGE AREA MAY FLOOD IF BREAKER IS NOT ON.

NOTICE

WHEN USING SHOWER TURN SUMP PUMP BREAKER ON. FORWARD BILGE AREA MAY FLOOD IF BREAKER IS NOT ON.

⚠ DANGER

LEAVING WINDOW OPEN COULD INDUCE EXHAUST FUMES INTO CABIN RESULTING IN SEVERE PERSONAL INJURY OR DEATH.

MRP #1747493

⚠ WARNING

Carbon monoxide (CO) can cause brain damage or death.

Carbon monoxide can be present in the cabin.

Signs of carbon monoxide poisoning include nausea, headache, dizziness, drowsiness, and lack of consciousness.

Get fresh air if anyone shows signs of carbon monoxide poisoning.

Get fresh air if carbon monoxide detector alarm sounds.

Carbon monoxide detector must be functioning at all times.

NW-055-05

⚠ WARNING ⚠

UNSECURED ITEMS MAY SHIFT OR FALL CAUSING DAMAGE TO BOAT AND OR PERSONAL INJURY

SECURE OR STORE ITEMS BEFORE GETTING UNDERWAY

⚠ WARNING ⚠

OPEN DOORS MAY CAUSE DAMAGE TO BOAT, AND/OR PERSONAL INJURY

SECURE ALL DOORS WHEN UNDERWAY

SAVE OUR SEAS

It is illegal to dump plastic trash anywhere into the ocean or navigable waters of the United States. Violation of these requirements may result in civil penalties up to $25,000, a fine of $50,000, and imprisonment of up to five years.

PLASTIC – Includes, but is not limited to, plastic bags, styrofoam cups and lids, six-pack holders, stirrers, straws, milk jugs, egg cartons, synthetic fishing nets, ropes, lines, and bits, or plastic degradable plastics.

GARBAGE – Paper, rags, glass, metal, crockery (generated in living spaces aboard the vessel – what we normally call "trash"), and all kinds of food, maintenance, and cargo-associated waste. "Garbage" does not include fresh fish or fish parts, dishwater, and gray water.

INSIDE 3 MILES
(and in U.S. lakes, rivers, bays, and sounds)
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT
ANY GARBAGE EXCEPT
DISHWATER/GRAYWATER
FRESH FISH PARTS

3 TO 12 MILES
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT
ANY GARBAGE NOT GROUND TO LESS THAT ONE SQUARE INCH

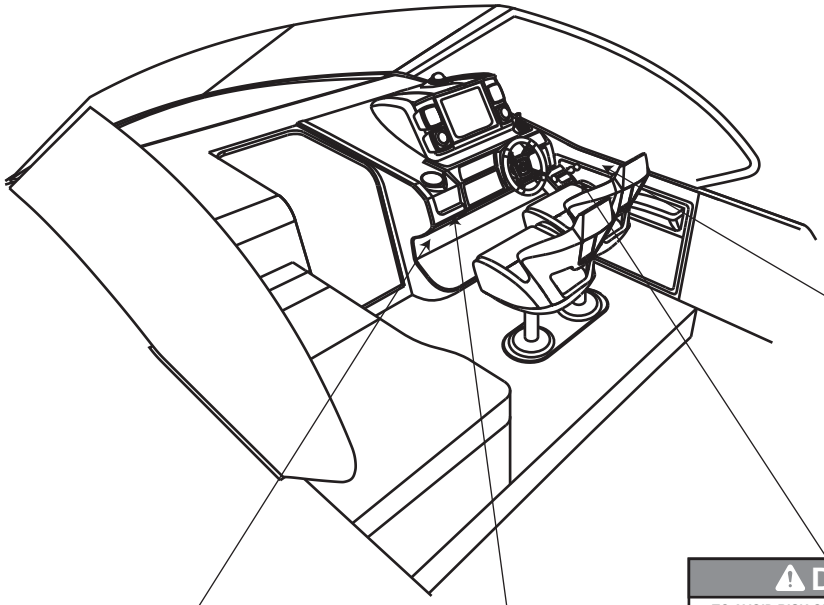
12 TO 25 MILES
PLASTICS,
DUNNAGE, AND LINING AND PACKING MATERIALS THAT FLOAT

OUTSIDE 25 MILES
PLASTICS

DUNNAGE – Material used to block and brace cargo, and is considered a cargo-associated waste.

DISHWATER – Liquid residue from the manual or automatic washing of dishes and cooking utensils which have been pre-cleaned to the extent that any food particles adhering to them would not normally interfere with the operation of automatic dishwashers.

GRAYWATER – Drainage from a dishwasher, shower, laundry, bath, and wash basin, not including drainage from toilets, urinals, hospitals, and cargo spaces.



⚠ WARNING

PLATFORM MAY CRUSH OR PINCH FINGERS, HANDS OR OTHER BODY PARTS. TO AVOID INJURY, TURN OFF SWIM PLATFORM MAIN SWITCH AND UNPLUG TETHERED REMOTE WHEN NOT IS USE.

MRP #1760174

⚠ DANGER

TO AVOID RISK OF SERIOUS INJURY OR DEATH SHUT OFF ENGINE WHEN NEAR SWIMMERS OR PRIOR TO USING SWIM PLATOFMR AND BOARDING LADDER.

MRP #1745519

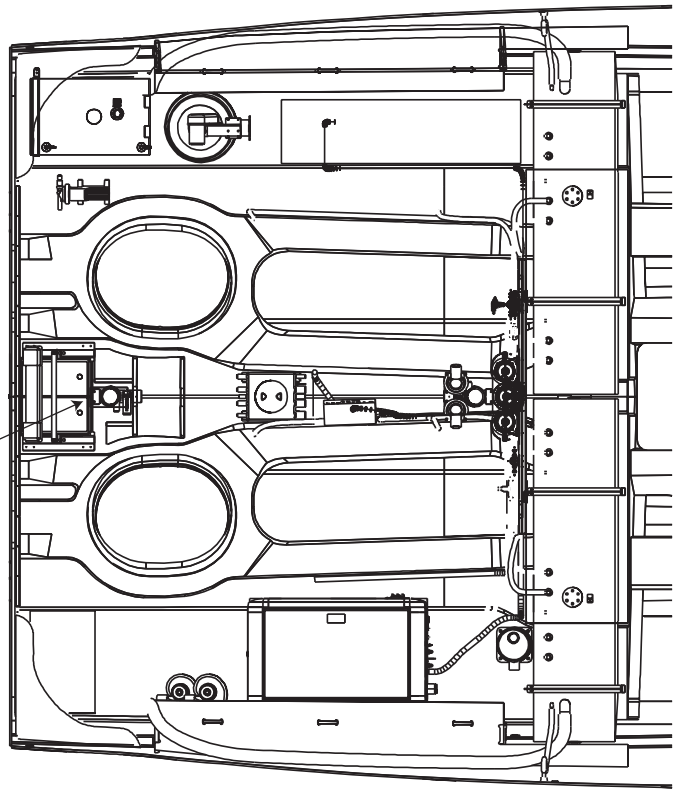
PLATFORM MAXIMUM CAPACITY
800 lbs / 363kG

MRP #1759313

⚠ DANGER

TRANSOM DOOR MUST BE CLOSED AND SECURE WHEN ENGINE IS RUNNING.

MRP #1743571



⚠ DANGER

TRANSOM DOOR MUST BE CLOSED AND SECURE WHEN ENGINE IS RUNNING.

MRP #1743571

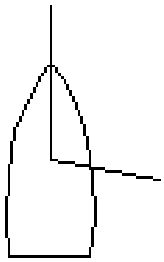
Navigational Aids Chart

REMEMBER THESE RULES

1. **OVERTAKING - PASSING: Boat being passed has the right-of-way. KEEP CLEAR.**
2. **MEETING HEAD ON: Keep to the right.**
3. **CROSSING: Boat on right has the right-of-way. Slow down and permit boat to pass.**

← PORT STARBOARD →

Yield right-of-way to boats in your DANGER ZONE!



DANGER ZONE (Dead ahead to 2 points abaft your starboard beam)

STORM WARNINGS

RED FLAG Small craft (winds to 33 knots)

2 RED FLAGS Gale (winds up to 47 knots)

SQUARE RED FLAG BLACK BOX (Storm)

2 SQUARE RED FLAGS BLACK BOX (Hurricane)

WHISTLE SIGNALS

ONE LONG BLAST: Warning signal (Coming out of slip)

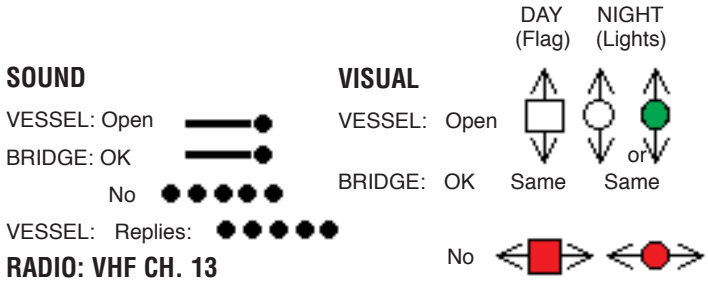
ONE SHORT BLAST: Pass on my port side

TWO SHORT BLASTS: Pass on my starboard side

THREE SHORT BLASTS: Engine(s) in reverse

FOUR OR MORE BLASTS: Danger signal

BRIDGE SIGNALS

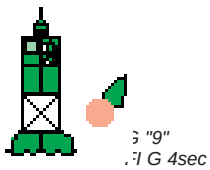


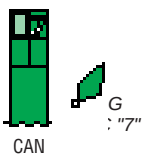
RADIO: VHF CH. 13

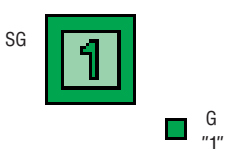
LATERAL AIDS AS SEEN ENTERING FROM SEAWARD

PORT SIDE
ODD NUMBERED AIDS

GREEN LIGHT ONLY
FLASHING
OCCULTING
QUICK FLASHING
ISOPHASE





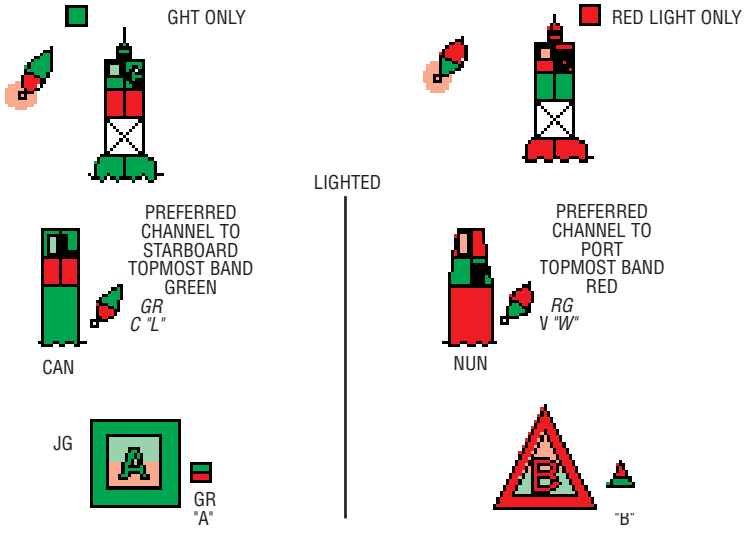


SAFE WATER MID-CHANNELS OR FAIRWAYS
NO NUMBERS — MAY BE LETTERED

WHITE LIGHT ONLY
MORSE CODE

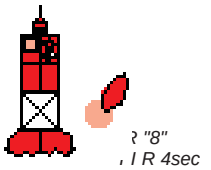
PREFERRED CHANNEL

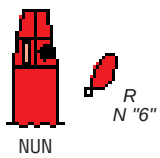
COMPOSITE GROUP FLASHING (2 + 1)

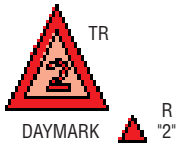


STARBOARD SIDE
EVEN NUMBERED AIDS

RED LIGHT ONLY
FLASHING
OCCULTING
QUICK FLASHING
ISOPHASE







BOAT SPECIFICATIONS AND LAYOUT 3

DOCKING / LIFTING / STORAGE OF YOUR BOAT

Important: When operating or docking in close quarters, maneuver your boat at idle speed. Proceed with caution in congested areas.

As you approach the dock, reduce the speed of your boat in time to allow your wake to subside before it reaches other boats or docks. Check for wind or currents, and allow them to carry the boat toward the dock.

When approaching, check that lines are attached to the cleats on the mooring side and that fenders are lowered on that side. Be sure fenders are at the proper height. If you can, have one person at the stern and one person at the bow, each with a boat hook and a mooring line attached to a cleat.

To dock a boat to the starboard side:

1. Approach at an angle approximately 45 degrees to the dock.

2. When the bow is within a few feet of the dock, bring the stern alongside the dock by turning it hard to port.

3. Turn to starboard and, at idle speed, put the engine in reverse to bring the stern closer to the dock.

Reverse these steps to dock to the port side.

Important: Cleats must not be used when lifting the boat. They are only intended for docking and mooring use.

Each boat has main frame components designed to support the boat when it is being lifted out of the water. When lifting your boat, always keep the bow higher than the stern to drain the exhaust lines and to prevent water from running to the manifold and into the engine where it can get trapped. Just lifting the stern when changing a propeller is not a better or faster solution because this can cause water to enter the engine cylinders, resulting in hydrostatic lock and engine failure.

Severe gelcoat crazing or more serious hull damage can occur if the lifting slings exert pressure on the gunwales. Flat, wide belting-type slings and spreaders long enough to keep pressure from the gunwales should be used. Do not use cable-type slings. The spreader bar at each sling should be as long as the distance across the widest point that the sling surrounds.

- Never hoist the boat with more than a minimal amount of water in the bilge.

- Before lifting the boat, empty the fuel and water tanks, especially if they have large capacities.

- Be sure to position the slings as indicated by the diagram in Figure 3.1.

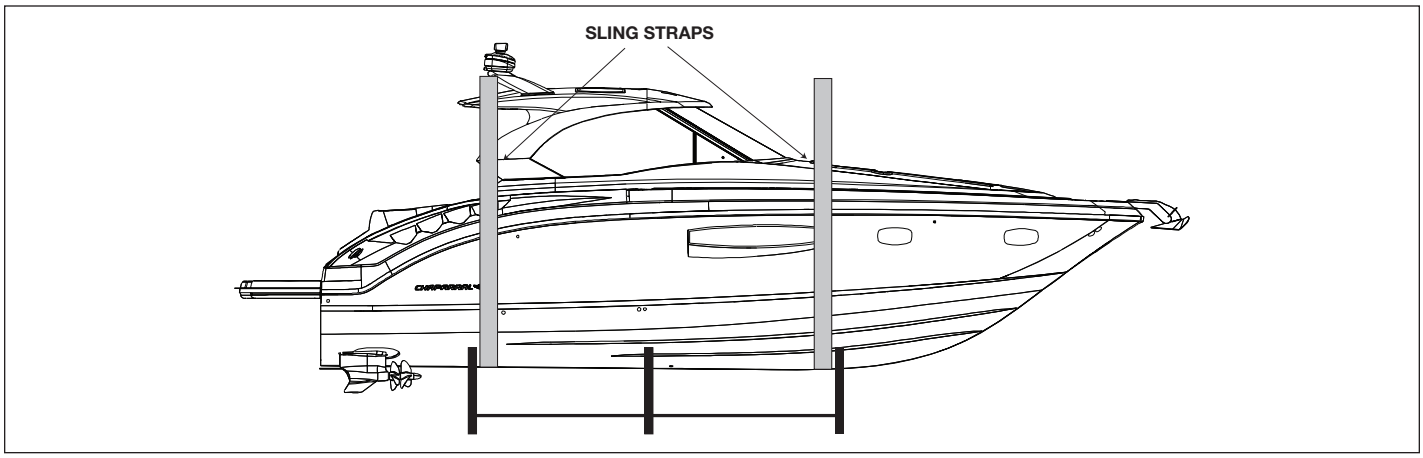


Figure 3.1 Proper Lifting and Storage

- Do not use deck cleats or bow or stern eyes to lift the boat.
- Be sure boat remains level while being lifted to avoid sling movement or boat damage.

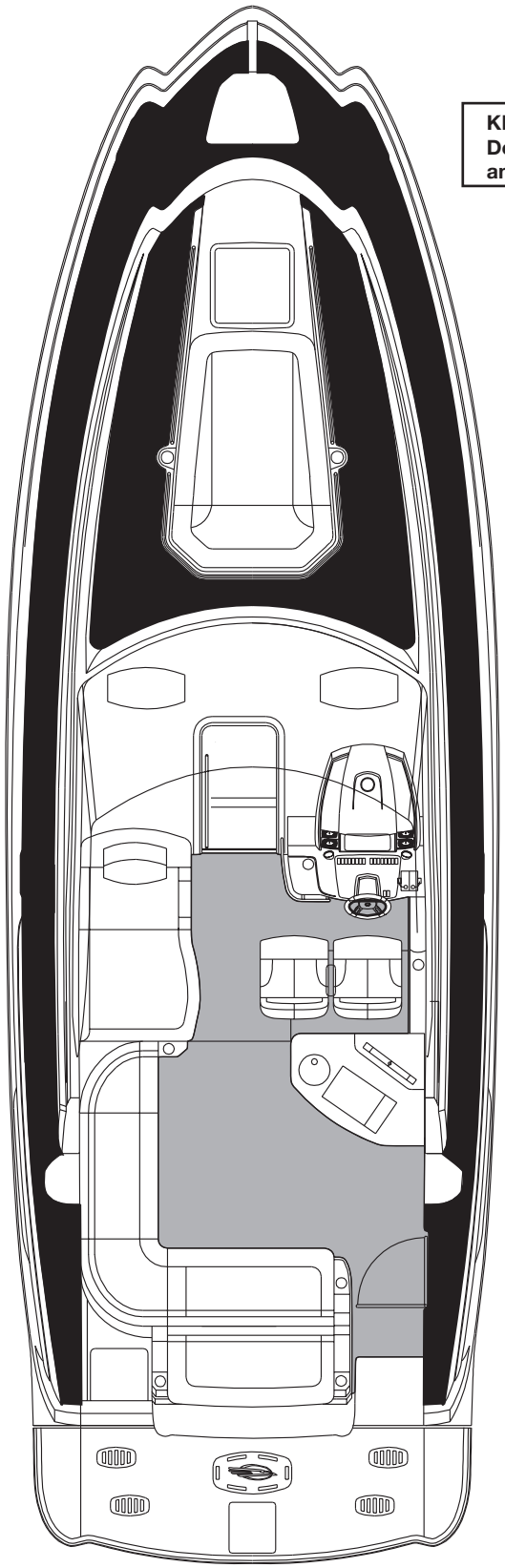
Supporting Your Boat

A cradle is the ideal support for your boat whenever it is not in the water. Properly designed and located, the cradle will support the boat under the main frames. Support at these points is essential for preventing damage to the hull. Boat placement on the cradle should line up as closely as possible to the sling tags on the side of the deck. Purchase a cradle from your dealer to ensure that your boat has the correct support. Do not rest boat on underwater fittings.

NON-WORKING DECK
(Deck area intended for occupation during anchoring, mooring, and emergency operation only while boat is not underway)

WORKING DECK
(Deck area intended for occupation during normal operation while boat is underway)

KEEP OFF HATCH
Deck Hatch is also an Emergency Exit



⚠ DANGER ⚠
Do not climb on or store equipment on hard top

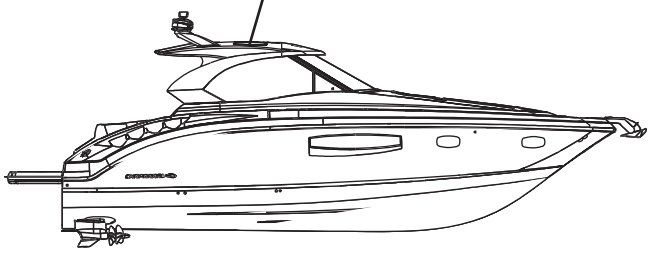
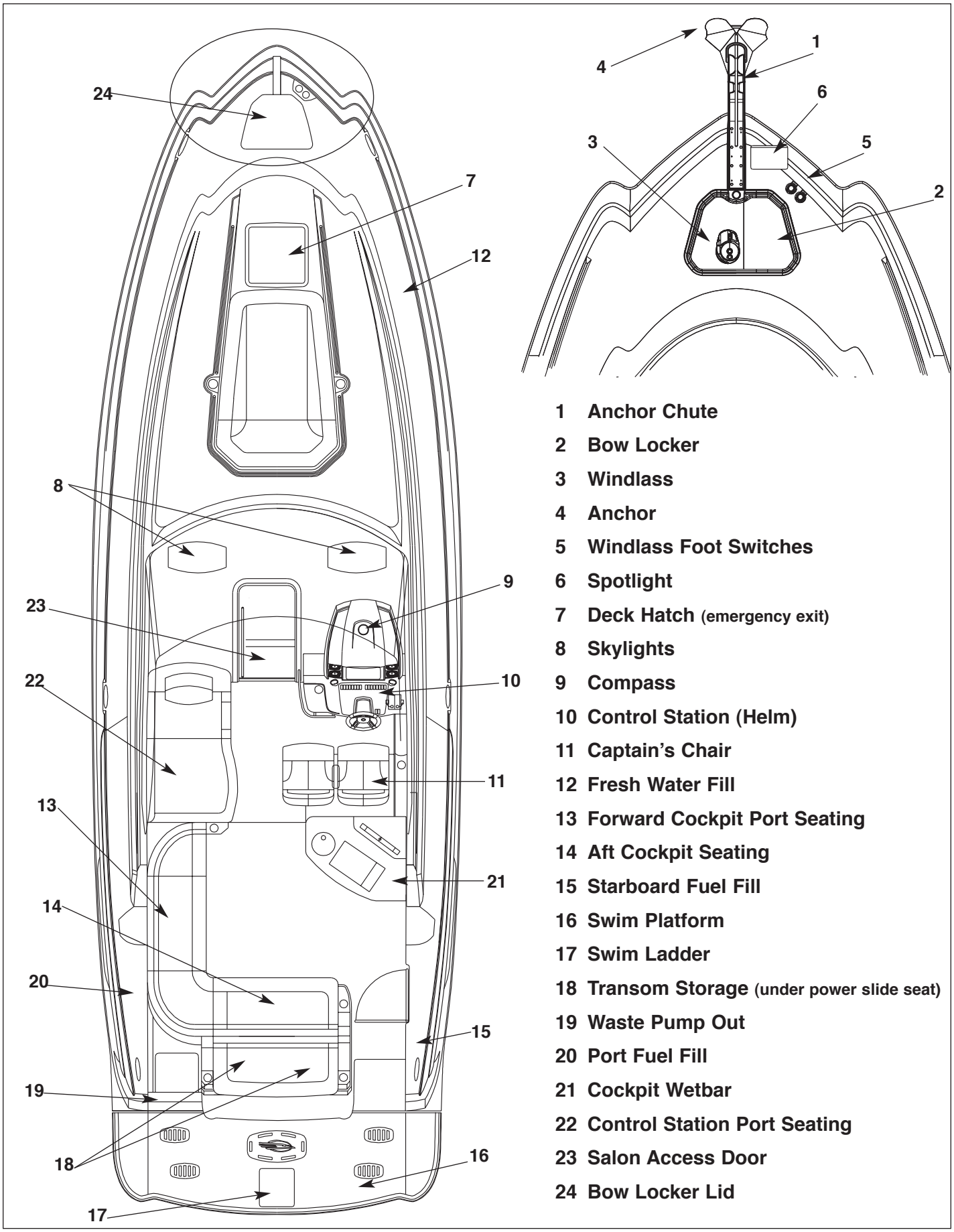
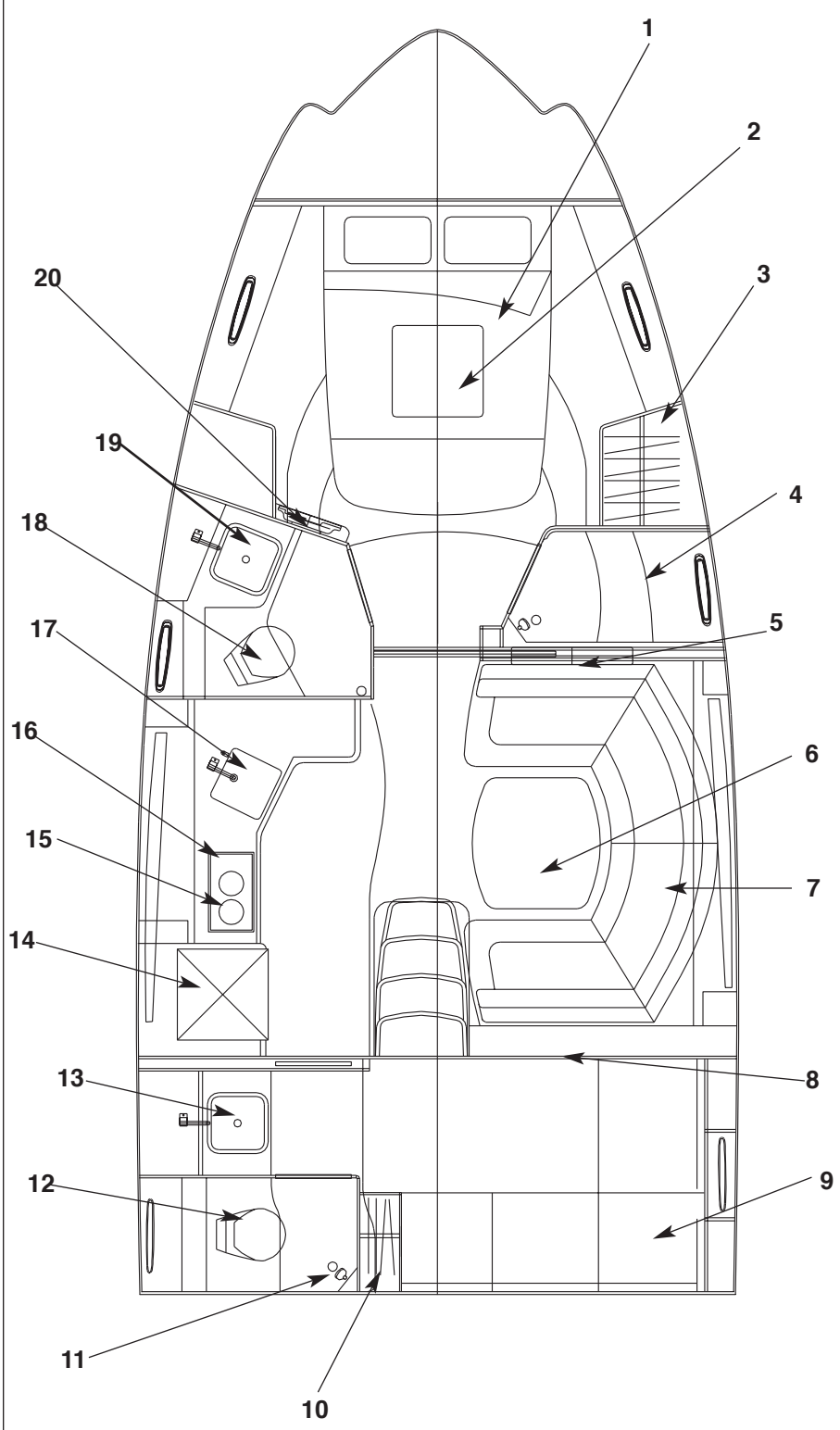


Figure 3.2 Passenger Locations



1 Anchor Chute
2 Bow Locker
3 Windlass
4 Anchor
5 Windlass Foot Switches
6 Spotlight
7 Deck Hatch (emergency exit)
8 Skylights
9 Compass
10 Control Station (Helm)
11 Captain's Chair
12 Fresh Water Fill
13 Forward Cockpit Port Seating
14 Aft Cockpit Seating
15 Starboard Fuel Fill
16 Swim Platform
17 Swim Ladder
18 Transom Storage (under power slide seat)
19 Waste Pump Out
20 Port Fuel Fill
21 Cockpit Wetbar
22 Control Station Port Seating
23 Salon Access Door
24 Bow Locker Lid

Figure 3.3 General Exterior/Deck Layout



1 Master Stateroom Bunk

2 Skylight

3 Master Stateroom Hanging Closet

4 Master Stateroom Shower

5 Salon TV

6 Salon Moveable Table

7 Salon Seating

8 Aft Stateroom TV

9 Aft Stateroom Bunks

10 Aft Stateroom Hanging Closet

11 Aft Stateroom Shower

12 Aft Stateroom Head

13 Aft Stateroom Vanity

14 Refrigerator

15 Two Burner Stove

16 Microwave (under stove)

17 Galley Sink

18 Master Stateroom Head

19 Master Stateroom Vanity

20 Master Stateroom TV

Figure 3.4 General Interior Layout

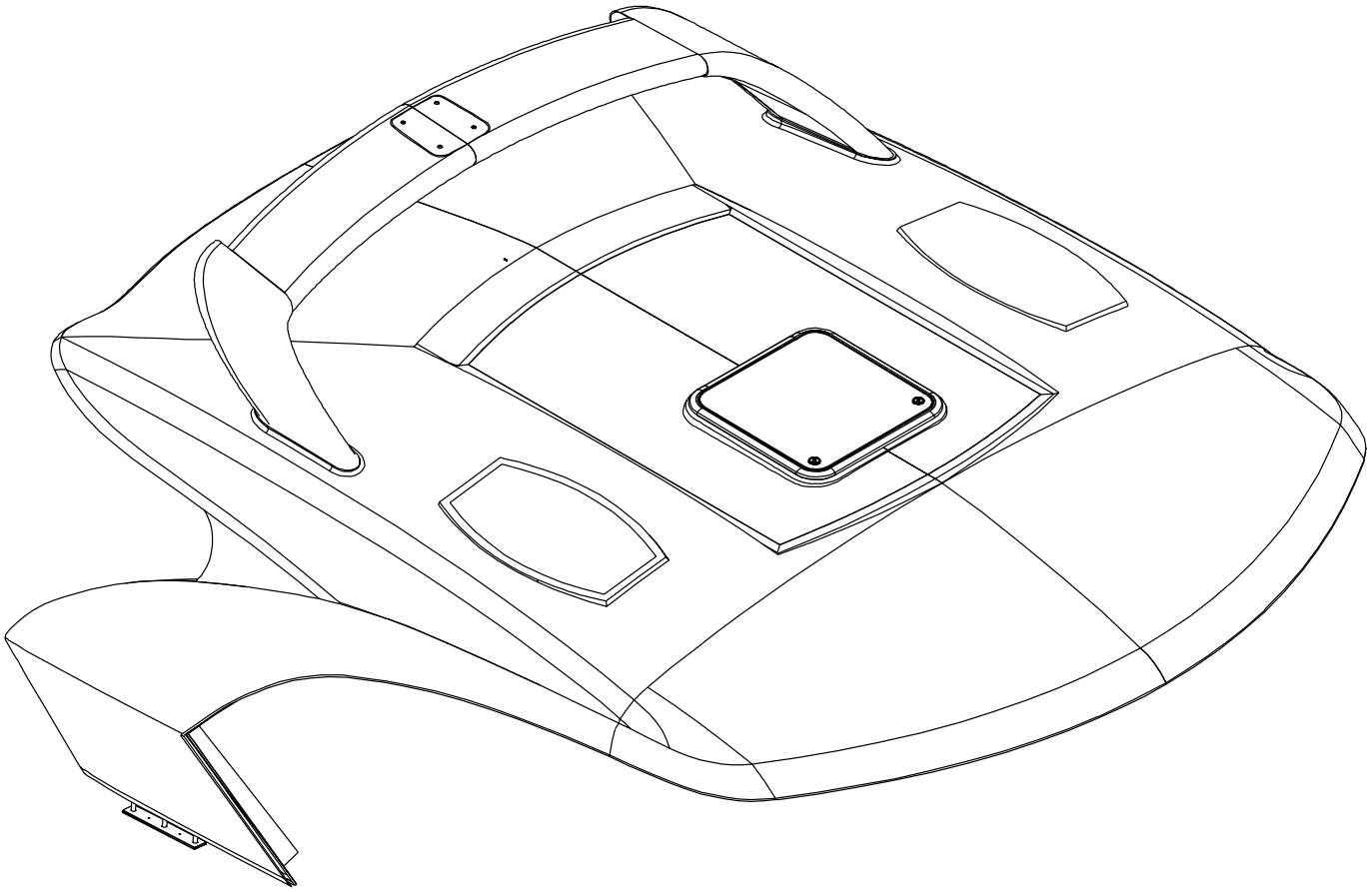


Figure 3.5 Hardtop Layout

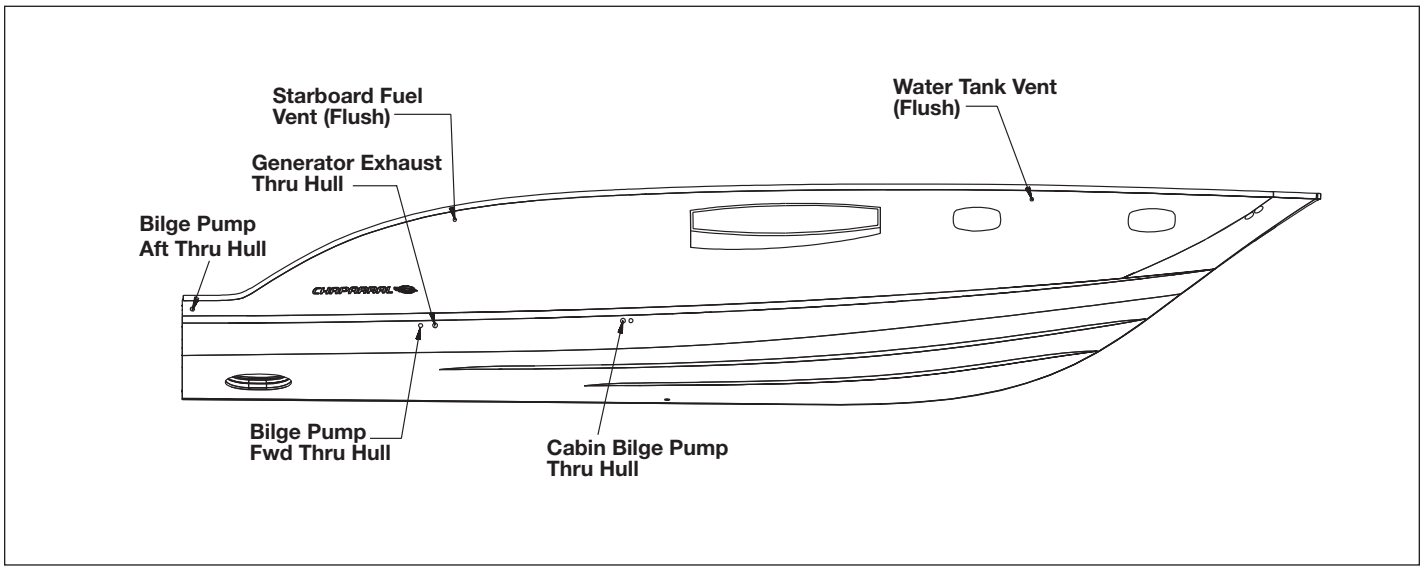


Figure 3.6 Starboard Through-Hull Locations

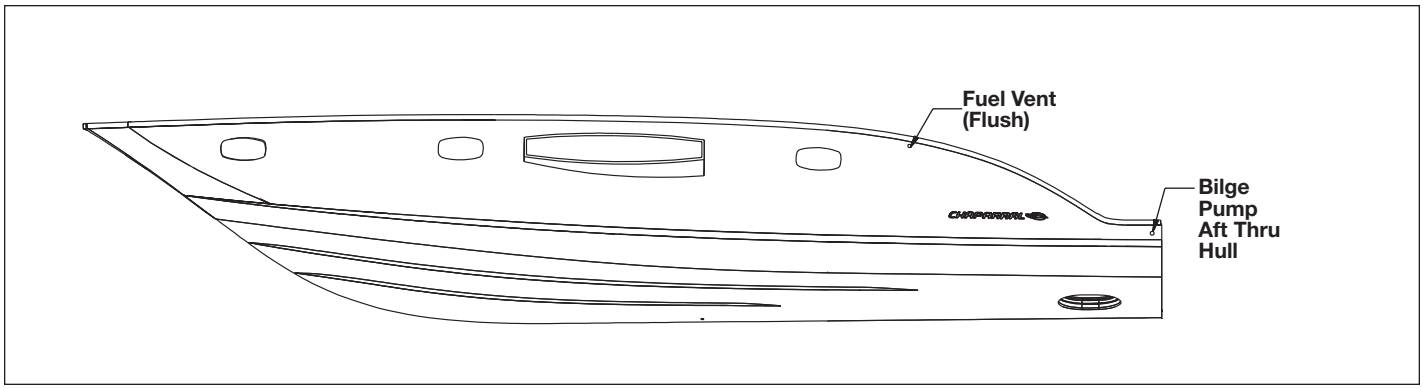


Figure 3.7 Port Through-Hull Locations

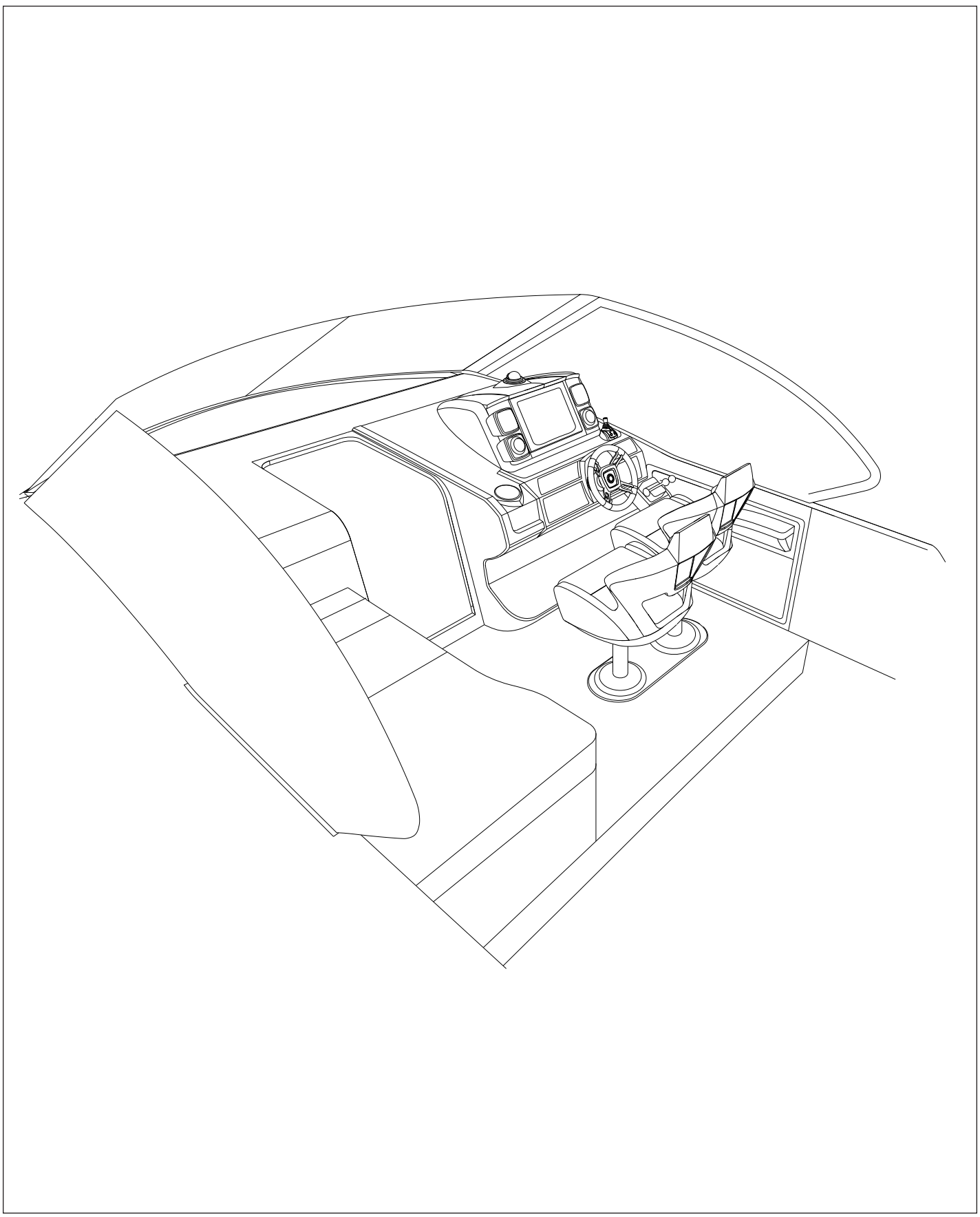
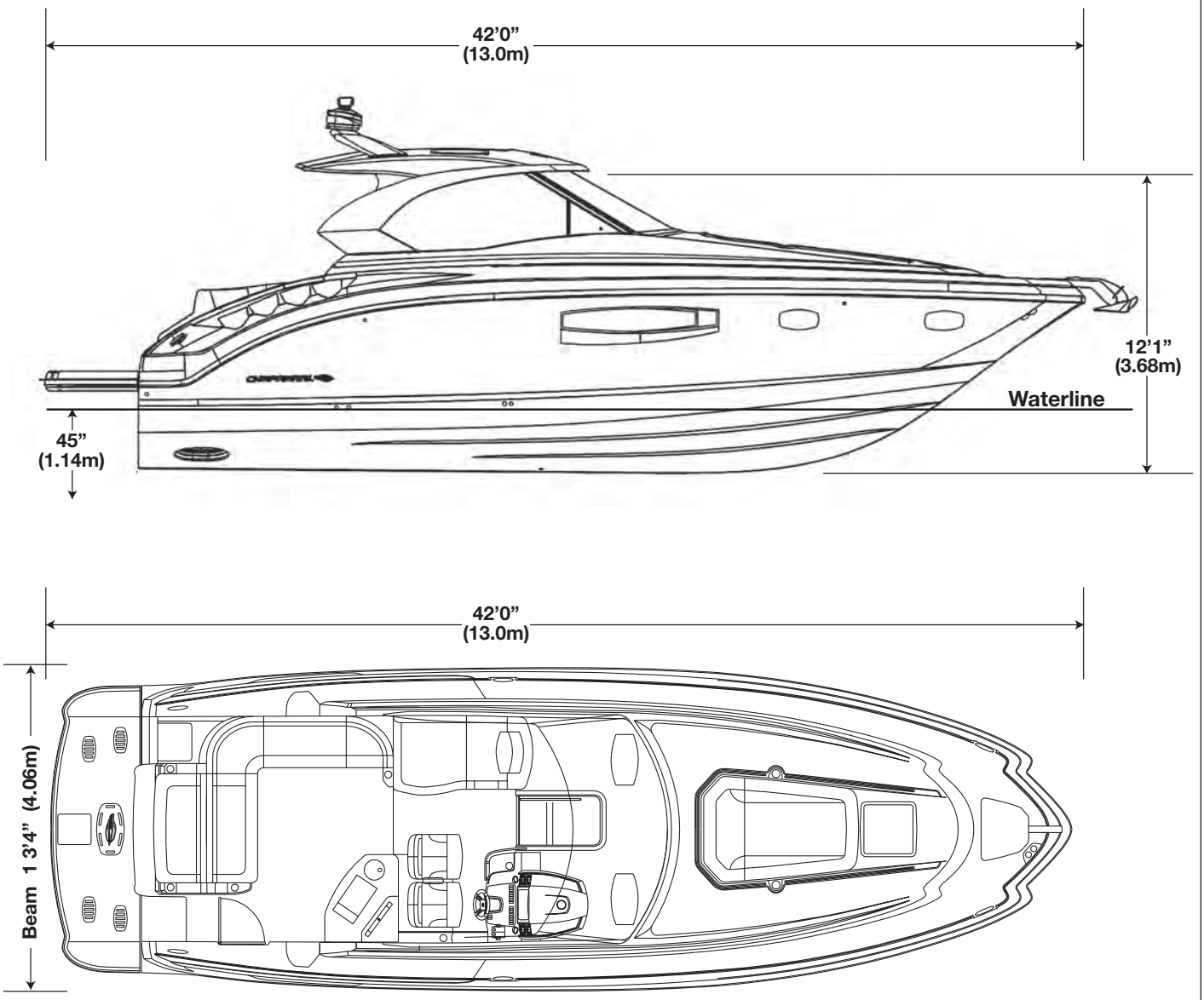


Figure 3.8 Helm Layout



SPECIFICATIONS AND DIMENSIONS

Overall Length	42’0” (15.54 m)
Beam	13’4” (4.06 m)
Draft w/IPS Engines	45” (1.14 m)
Dry Weight - Std. Power	33,000 lbs. (14,968.7 kg)
Fuel Capacity	300 gal. (79.26 l)
Water Capacity	77 gal. (20.34 l)
Holding Tank	42 gal. (11.09 l)
Dead Rise	18°

HEIGHT DIMENSIONS

Keel to Top of Mastlight	15’10” (4.82 m)
Keel to Top of Windshield	12’1” (3.68 m)
Arch to Top of Mastlight	3’10” (1.17 m)

Figure 3.9 Boat Dimensions and Clearances

PROPULSION SYSTEM

This section discusses your boat's propulsion equipment. Proper maintenance of your engines will provide you with many hours of enjoyable, safe boating and prevent unnecessary engine problems.

We strongly recommend that you become familiar with all aspects of the engine's proper operation as outlined in the Engine Operator's Manual.

A general maintenance program consists of proper lubrication and cleaning of fuel filters, fuel lines, and air filters. Take precaution that water does not enter the air inlets when the engines are not operating. This will hep prevent water from entering into cylinders and resulting in rust and internal engine damage.

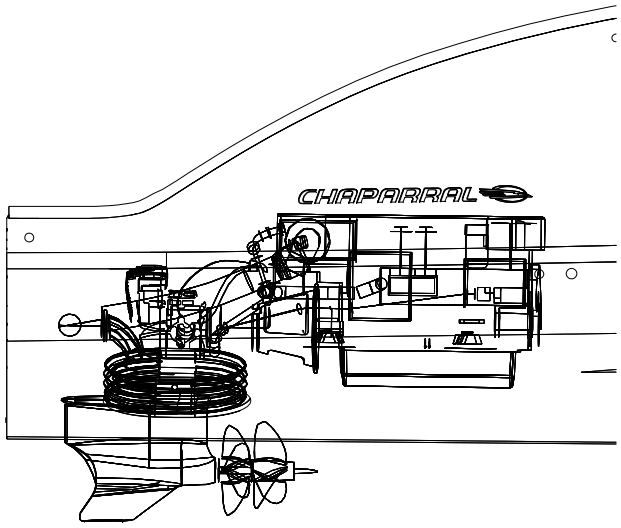


Figure 3.10 Standard Propulsion

The engines are warranted directly by Volvo Penta and not by Chaparral.

Chaparral strongly recommends that you fully abide by the Volvo Penta maintenance and warranty schedule found in your Engine Operator's Manual included in the owner's packet. Improper engine use or maintenance may adversely affect the claims made under the warranty provided by the engine manufacturer.

Propellers

The propellers supplied with your boat have been selected as the best propellers for typical use. Consider keeping an extra set of propellers on your boat. If the propellers become damaged, you can replace them with the spares and continue your outing. Check with your dealer if you want to purchase an extra set.

Note: Under no circumstances should you use a propeller that allows the engine to operate at higher than maximum RPM for your engine.

REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.

MAJOR CONTROLS

Gear Shifts and Throttle Controls

A single-lever control operates both gearshift and throttle functions with the same lever. The engine can only be started with the control lever in the neutral position.

N = Neutral position. Reverse gear/drive disengaged and engine at idle.

F = Reverse gear/drive engaged for forward motion.

R = Reverse gear/drive engaged for rearward motion.

T = Engine rpm control (throttle).

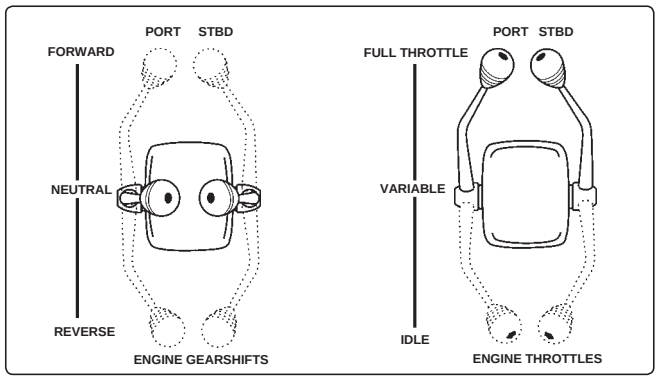


Figure 3.11 Engine Shift and Throttle Functions

Shifting between forward and reverse should be done when idling. Shifting at higher engine speeds can be uncomfortable for passengers and cause unnecessary stress on the transmission or cause the engine to stop. If you attempt to shift gear at an excessive engine speed, a safety function cuts in automatically and delays shifting until the engine speed has fallen to 1500 rpm.

Always do a forward/reverse operation as follows:

1. Reduce engine speed to idle and let the boat more or less lose way.

⚠WARNING

WARNING: Never shift to reverse when the boat is planing.

2. Move the control lever to neutral with a rapid, distinct movement. Pause briefly.

3. Then move the control lever to reverse with a rapid, distinct movement and increase engine speed.

Important: It is important that all engines run during reversing maneuvers to prevent water from entering via the exhaust pipe into the stationary engine.

Note: The throttle must be in IDLE position and gearshifts in NEUTRAL position before starting the engine. See your engine manufacturer's owner's manual for specific starting instructions.

⚠CAUTION

CAUTION: Acceleration at full throttle is not recommended until after the engine "break-in period." This break-in period also coincides with the engine's 20-hour checkup.

Engine Synchronizer

Synchronizing Engine Speed
When driving with twin engines, both operating economy and comfort will increase when the engines operate at the same engine speed (rpm).

When the synchronization function is activated, the engine speed (rpm) of the starboard engine is automatically adjusted to that of the port engine. The synchronization function is activated automatically if the following conditions are met: 1. The engine speed levers for both engines are in (approximately) the same position; 2. The engine speed on both engines exceeds 800 rpm.

Note: The synchronizer is disengaged as soon as the conditions are no longer met.

REFER TO YOUR ENGINE OWNER'S MANUAL PACKET FOR DETAILED INFORMATION REGARDING ENGINE OPERATION.

Electronic Trim Tabs

⚠WARNING

WARNING: Maneuvering/Control Hazard - Ensure continuous visibility of other boats, swimmers, and obstacles during bow-up transition to planning.

The trim tabs on your Chaparral yacht are mounted on the port and starboard transom below the water line. The operator can control the trim tabs at the helm with rocker switches. Pushing the switch activates the electric system that moves its tab up or down.

The trim tabs are protected by a circuit breaker on the control station breaker panel that must be ON to use the trim tabs.

Push the top halves of BOTH rockers down in a momentary burst to trim the bow of your boat down. Do not hold the rockers down because this will cause you to overtrim the boat and the bow will dig

in. To correct over-trimming, push the bottom halves of BOTH rockers to achieve the directed angle.

You can also use the two trim tabs on the transom to trim your yacht. The rocker switch should be operated at momentary bursts to achieve proper control of the hull.

When running wide open, you will most likely not need to trim unless heavily loaded.

In choppy water or when running in an inlet, the best way to maneuver is with a bow high attitude. To ensure that tabs are full up in the zero position, push the bottom halves of both rockers for several seconds.

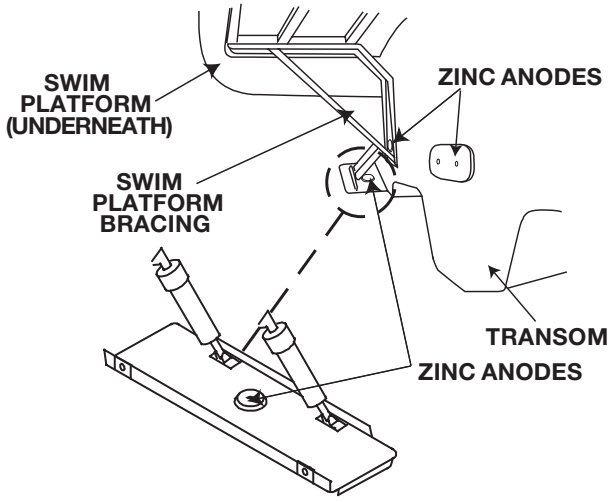


Figure 3.12 Electric Trim Tabs

Your yacht is designed to run at a particular speed and weight distribution. The stern will settle lower in the water and the hull will push a hill of water when speed decreases or weight increases. You will need to increase drag and power to move through the water.

Electric trim tabs are adjusted independently of each other, enabling adjustment for uneven loads in the boat by allowing the operator to trim up either one or the other side of the boat.

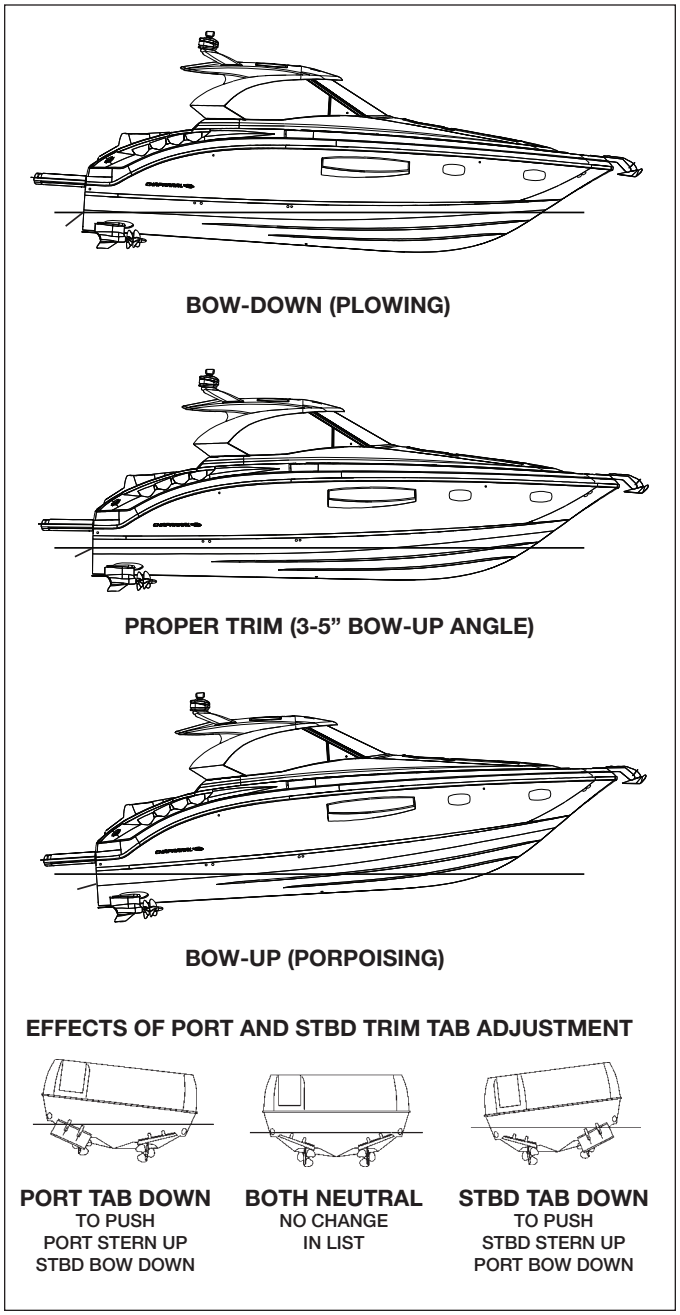


Figure 3.13 Effects of Trimming

Properly Trimmed Boat

Your boat will work best when it is trimmed to run at an angle between 3 to 5 degrees to the water (bow slightly up). A properly trimmed boat will:

- Reduce drag and increase fuel efficiency
- Provide a smoother, safer, and quieter ride
- Retain good forward visibility

Use short bursts of rocker switches to adjust the trim tabs. Pushing the switches too far at once may create steering issues. Adjusting one trim tab more

than the other will adjust list from too many people on one side, improper equipment storage, or a strong cross wind.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

Important Gauges

Magnetic Compass
The magnetic compass is one of the most important tools that you can use for controlling the heading of your yacht. Magnetic compasses, barring other magnetic problems aboard your yacht, will point to magnetic North, which is different from true North, the usual orientation of a nautical chart.

The compass must be adjusted by a qualified person to ensure proper correction. Nearby instruments or objects containing magnets or current carrying electrical wires will influence the compass reading.

Once the compass has been adjusted, you are given a deviation card or chart indicating the correction to be applied when laying out a compass course or making navigational calculations. Keep this correction card or chart at the helm.

Note: The compass must be readjusted by a qualified person after equipment is added or removed from the vicinity of the compass. The compass adjustment is only good for the equipment arrangement that existed at the time of the adjustment. If you place different equipment or remove equipment close to the compass, you cannot rely on the compass reading.

Note: Make certain that you plot course compass directions from the magnetic North compass rose. When not in use, the compass should be protected from excessive and prolonged sunlight. If your compass becomes sluggish or erratic, service it at an authorized repair station. Remove salt deposits and dust with a damp cloth to protect the Plexiglas dome from scratches. You may want to occasionally treat your compass with paste wax to help preserve the dome surface.

REFER TO YOUR OWNER'S MANUAL PACKET FOR MORE DETAILED INFORMATION

Engine Monitoring System

Audible Alarms
High level faults on crucial engine functions, generators, emergency pumps, and bilge beat detectors all have audible alarms. These alarms will alert the operator to look at the Display Control Monitor (DCM) and determine the high level fault. The forward and aft bilge pumps do not have audible alarms, and the DCM will display those functions.

Audible Reset/Alarm Select
The Audible Reset/Alarm Select push button switch on the DCM is a dual purpose switch. The operator can reset an audible alarm or manually scroll the display during multiple alarms.

The Audible Reset is used to temporarily quiet an alarm displayed on the LCD. The audible alarm will sound again if it isn't corrected within 30 seconds. Pushing the switch again will permanently turn off the audible alarm for that function. The LCD will continue to display the fault until it is corrected.

The Alarm Select is active only during multiple alarms.

To monitor important engine functions and generator oil pressure:

1. The 12 volt main battery solenoid switches must be energized either at the Main Disconnect Enclosure on the aft engine room component board or the DC distribution panel on the side just above the aft couch bolster.

2. At the DC distribution panel, turn the port and starboard master ignition switches to the ON position.

3. Locate the port and starboard START/RUN switches located at the control station. Without starting the engines, push the START/RUN switches to the RUN position.

The following Display Control Monitor (DCM) Function table will display each function, provide a description of the function, and show a display of it on the DCM. (Figure 3.14)

If your Systems Monitor does not display functions correctly per the instructions provided, turn the circuit breaker to the OFF position and then turn it to the ON position. Use a small tool that will fit through the hole to push the breaker to the OFF position.

Navigation and Anchor Lights

Your boat must have running and navigation lights for safe operation while underway from sunset to sunrise or in conditions of reduced visibility. Trolling or drifting with the engine off is considered “underway” and navigation lights must be used during this time (See Figure 3.15).

Observe all meeting and passing navigation rules. Do not run at high speeds while operating at night. Always use common sense and good judgment.

If you are anchored in open water, you must display your anchor lights: a white light that can be seen from all possible directions (360 degrees).

Read the Federal Requirements and Safety Tips for Recreational Boats provided in your kit.

To Operate the Running Lights:
Push the RUNNING switch on the control station switch panel to the ON position.

To Operate the Anchor Lights:
Push the ANCHOR switch on the control station switch panel to the ON position.

Please note that your boat is equipped with a sport spoiler. If you decide to install additional equipment on the spoiler or an optional hard top, it then becomes your responsibility to ensure that the navigational lights on your boat meet government navigational lighting requirements. Please consider the weight of the equipment you install and be certain it is not too heavy for your sport spoiler or optional hard top.

Function	Description	DCM
Normal Operation	No Alarms	CHAPARRAL BOATS ALL SYSTEMS NORMAL
BIM Coax Cable to DCM	Cable Connection Fault	DATA LINK FAILURE ALARM SYSTEM OFFLINE
Forward Emergency*	Forward Emergency Pump Under the Master Stateroom Hatch is Running	PUMP ALARM FORWARD EMERGENCY
Aft Emergency*	Aft Emergency Pump in the Engine Room is Running	PUMP ALARM AFT EMERGENCY
Forward Bilge	Forward of Bilge Bulkhead	PUMP ALARM FORWARD BILGE
Aft Bilge	Aft Bilge Pump in the Engine Room is Running	PUMP ALARM AFT BILGE
*Function has an audible alarm.		

Figure 3.14 Display Control Monitor (DCM) Function Table

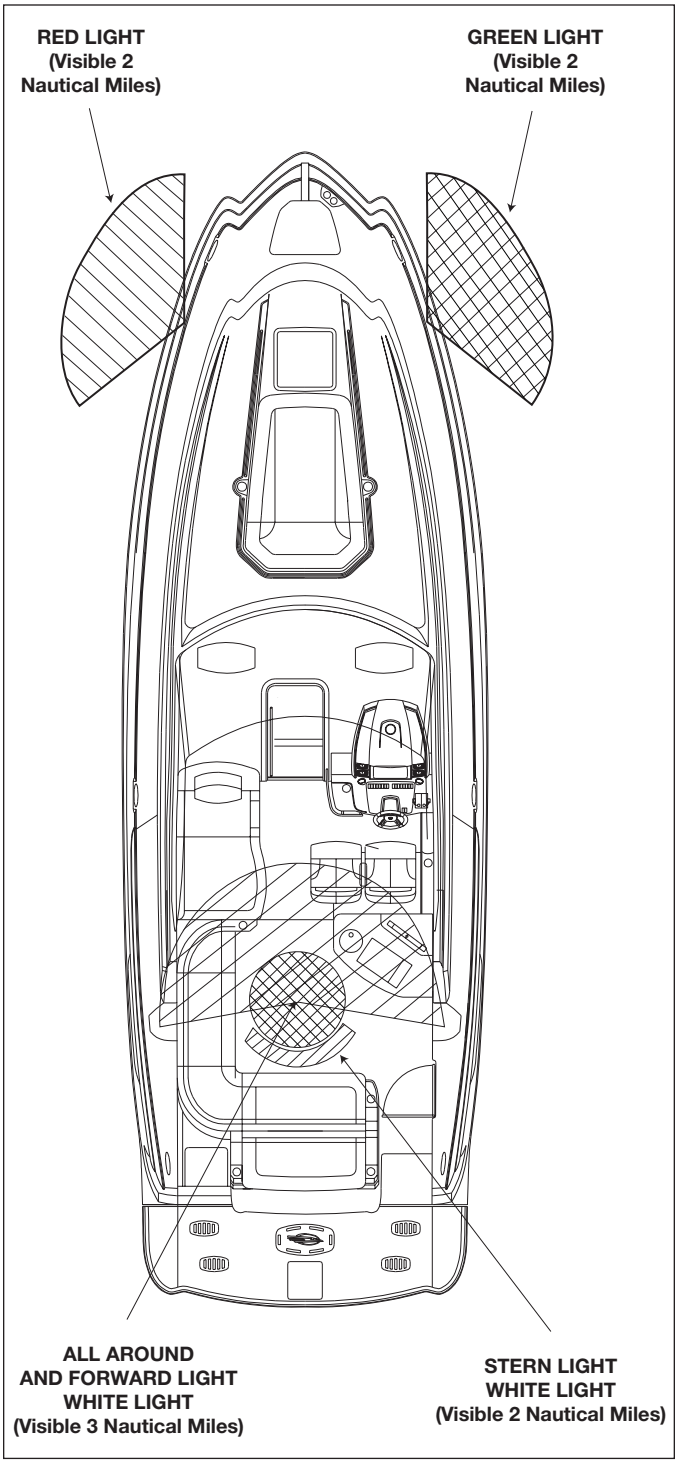


Figure 3.15 Navigation Nights

Console Dimmer

The DIMMER switch, which controls the intensity of the switch panel lights, is located on the control station switch panel.

The switch panel lights are energized when the navigation running lights are turned on. The gauge lights intensity is controlled by the Chaparral monitoring system.

1 Stereo Remote Control

2 Air Conditioner Control

3 12 Volt Receptacle

4 Galley Television Control (optional)

5 MP3/Surround Sound Switch (optional Galley TV)

6 GFI Receptacle

7 Swim Platform Main Switch

8 Swim Platform Remote Control

9 Phone/TV Inlet

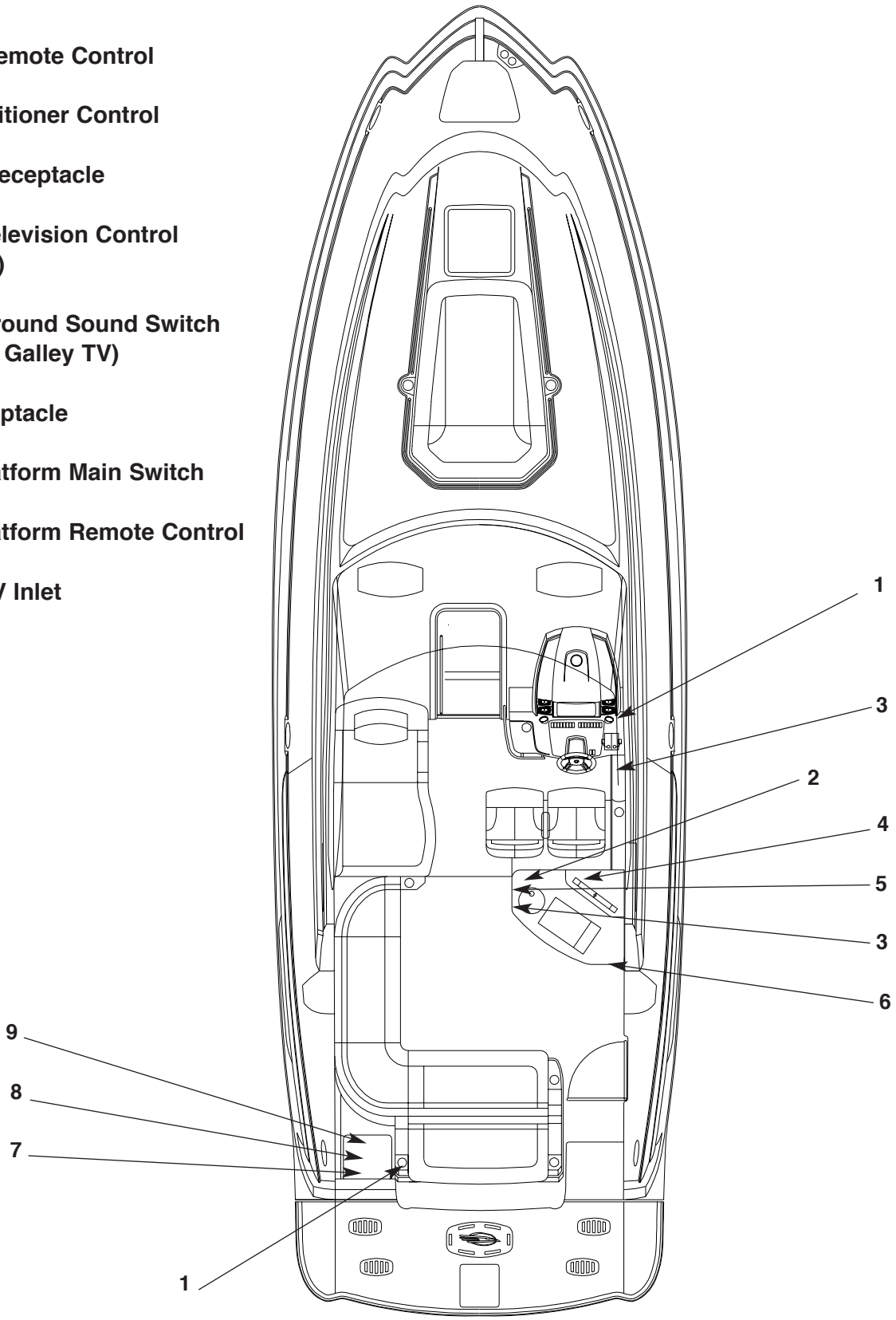


Figure 3.16 Cockpit Level Switches and Receptacles

1 Round Light

2 Swivel Light

3 Blue LED Bulkhead Light

4 LED Stair Light

5 Round LED Shower Light

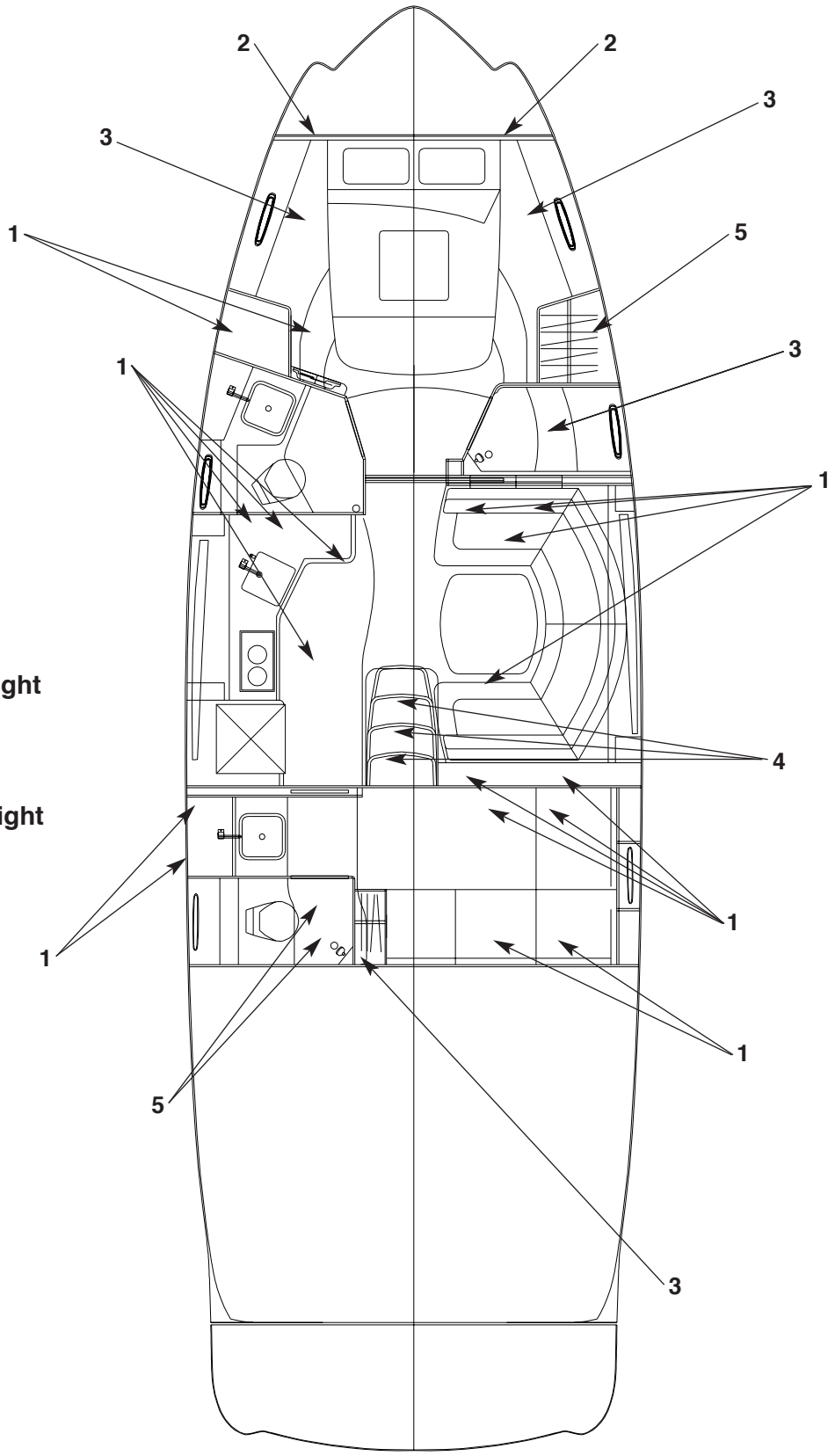


Figure 3.17 Lighting Layout - Cockpit Level

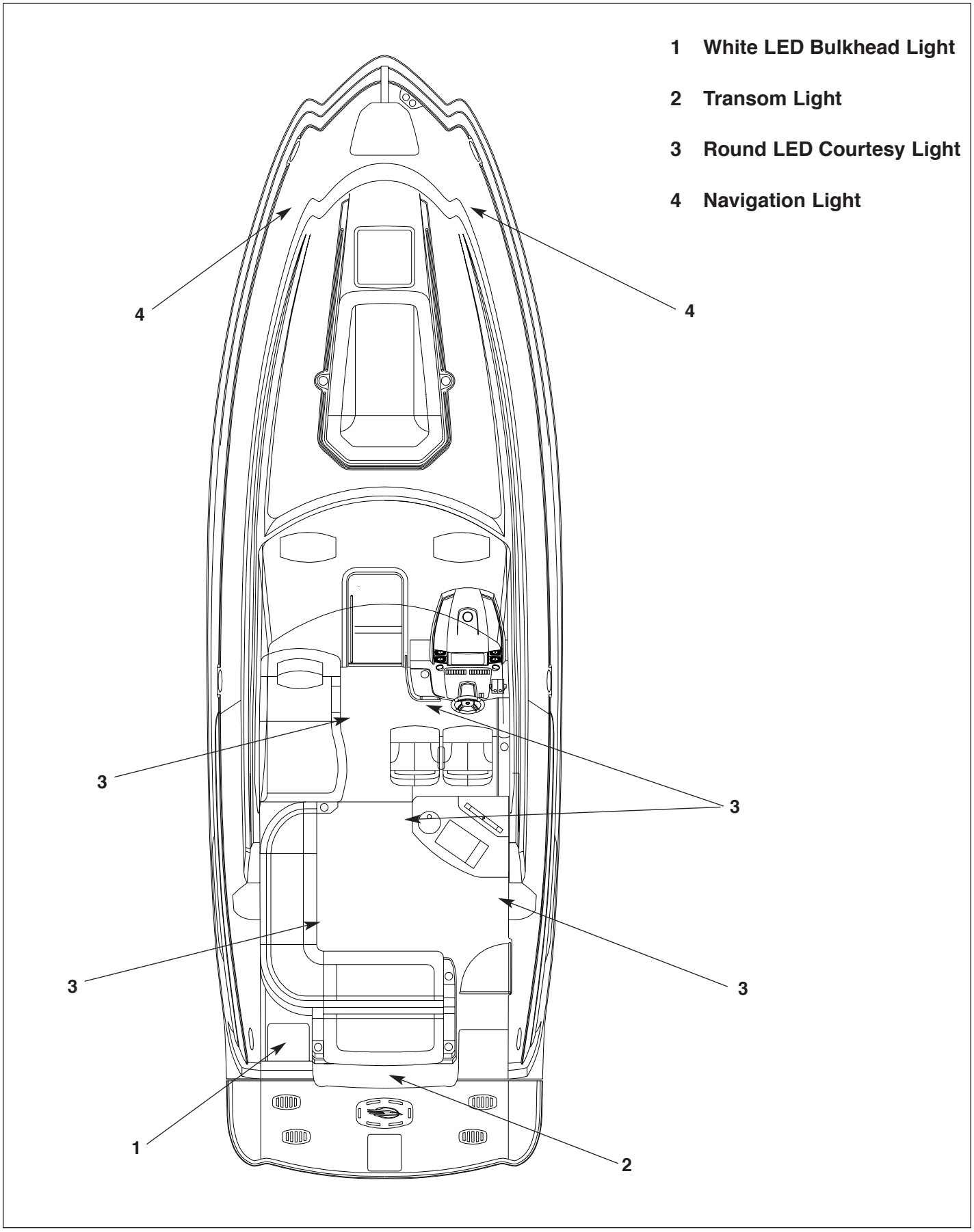


Figure 3.18 Lighting Level - Cockpit

UNDERWAY 4

PREPARING TO DEPART

This chapter discusses the operation of your Chaparral boat from the beginning of a boating excursion to the end. As the owner/operator, you are responsible for the safe operation of your boat and the safety of your passengers. We'd like to remind you to be kind to our environment while you are boating. Don't throw garbage and other refuse overboard. And do your best to keep harmful compounds like gasoline and antifreeze out of the water. Always be sure that required documents, navigational equipment, and Coast Guard-required safety equipment is aboard and in proper working order.

Engine

- **Fuel** - Be sure that you have sufficient recommended fuel for the trip.
- **Fuel System** - Check for leaks.
- **Racor® Fuel Filters** - Check that filters are clean, tight, and free of water.
- **Fluid levels** - Check engine oil and steering fluid levels.
- **Coolant Drain Plugs** - secured.
- **Batteries** - Check that batteries are fully charged, and check water cell levels.
- **Battery Switches** - Check for proper working condition.
- **Fuel valves** - Be sure these are open.
- **Engine Alarm** -Test the alarm; it should sound after a few seconds.
- **Gear Shift and Throttle Controls** - Full range of motion; should be in NEUTRAL and IDLE positions.

SECURING THE BOAT

General

- **Shore Power Cables** - Connected to dockside power inlet.
- **Fenders and Lines** - Fenders in place, lines tied securely to dock.
- **Equipment** - Dry and stored.
- **Float Plan** - Notify the person with the float plan that you have returned.
- **Canvas** - Properly install canvas covers.
- **Hull** - Inspect for damage.

Boat Systems

- **Seacocks** - Closed (handle perpendicular to hose).
- **Helm Switch Panel** - All switches in the OFF position.
- **Gearshift/Throttle Controls** - In the NEUTRAL and IDLE position.
- **Navigation Lights** - Turned OFF.

Engines

- **Ignition** - In the OFF position (lights off) and master ignition keys removed from DC distribution panel.
- **Battery Switches** - In the OFF position.
- **Fuel Valves** - Closed (handle perpendicular to hose).

FUELING THE BOAT

Filling the Tanks

1. Always fuel in an area with sufficient lighting. Gasoline spills are difficult to see when lighting is poor or when it is dark.

Important: When fueling your boat, be sure the waste or water fill caps are not mistaken for the fuel fill tank. Fuel fill plates are located on the port and starboard aft gunwale (Figure 4.1).

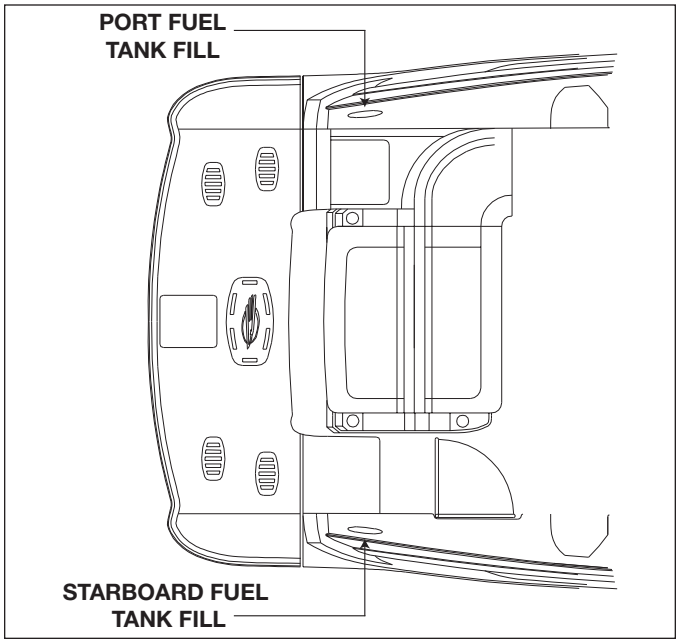


Figure 4.1 Fuel Fill Locations

2. The Chaparral boat has fittings for filling the fuel tank. Remove the fuel fill plate. Insert the fuel supply nozzle. Allow the nozzle to stay in contact with the fitting to prevent possible static-produced sparks.

3. After pumping approximately 5 gallons of fuel into the tank, inspect the engine and fuel tank area for any signs of fuel leakage. Continue fueling if you do not detect any leaks or other problems.

Note: Do not overfill tank, as this will cause fuel to spill onto the water. Listen as the tank fills and stop adding fuel before it spills from the fuel fill opening.

4. Know your fuel capacity and consumption. Record the amount of fuel used since your last fill up, and compute the engine's hourly fuel usage. To determine a backup check, deduct the average hourly fuel usage from the fuel tank capacity.

5. Observe the Rule of Thirds: one-third fuel for the trip out, one-third for the return, and one-third for reserve.

6. Allow an additional 15 percent reserve when operating in rough waters.

Post-Fueling Procedures

1. After fueling, replace the fuel fill cap. Do not wash spilled fuel overboard, but mop up any fuel spillage around the fuel fill area with rags or paper towels. Dispose of them properly on shore.

2. Open the engine compartment and all hatches, windows, doors, and compartments that were closed during fueling. Visually inspect these areas for fuel line leakage and smell for fuel fumes.

3. Check out any sign of fuel leakage or any indication of fumes and correct the problem before starting the engine.

STARTING THE ENGINES

The following information is only a general guide. Detailed engine operation and maintenance information that describes pre-start and starting procedures can be found in the engine owner's manual. Be sure to read and follow all instructions.

1. Check all fluid levels before starting the engines.

2. Check the fuel supply to make sure that you have adequate fuel for your planned excursion.

3. A blower switch is located in the DC cabin panel area. Run the blowers for four minutes prior to starting the engines.

4. Two breakers labeled Port ignition and Starboard ignition are located in the DC cabin panel area. Turn these to the ON position and check the oil and coolant levels. See your Engine Operator's Manual for proper readings.

5. At the helm, make sure that your shifter is in the NEUTRAL position. A start/stop panel is to the right-hand side of the steering wheel. This is where you start the engines.

6. Press the button labeled START. The Port button starts the Port engine and the Starboard button starts the Starboard engine.

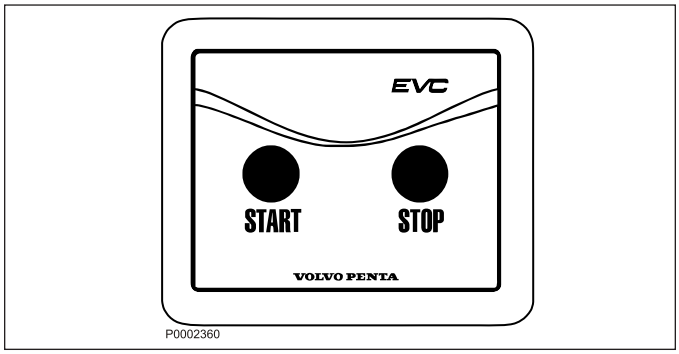


Figure 4.2 Master Key Switch

⚠WARNING

WARNING: DO NOT run the engine or generator in an enclosed area, such as a closed boat house, as there is the possibility of build-up and inhalation of carbon monoxide.

SHIFTING TO DRIVE THE BOAT

1. When you are sure that your boat is ready, check wind, tide, current or other forces that will affect the way you maneuver your boat.

2. Once your boat is in the clear to operate in the forward motion, move the shifter located at the dash to the forward detent. You are now in idle forward.

3. Once you are clear of No Wake Zones, move the shifter forward to your desired speed.

4. Neutral is the center detent.

5. Forward idle is the first detent forward on the shifter.

6. Full throttle forward is 100% toward the bow on the shifter.

7. Reverse idle is the first detent backward on the shifter.

8. Full throttle reverse is 100% toward the stern on the shifter.

REFER TO THE ENGINE OWNER'S MANUAL FOR COMPLETE OPERATING INSTRUCTIONS.

DOCKING AND LEAVING THE DOCKING AREA

1. To leave the dock, you want to be in DOCKING mode.

2. The joystick has two buttons: left button A and right button B.

3. Press and hold button A until it beeps.

4. You are now in DOCKING mode. Remember that the motion of the joystick will be reflected in the motion of the boat.

If rough conditions exist, use the boost button on the joystick. This button runs the engines at a higher RPM level.

STOPPING THE ENGINES

1. Make sure that your boat is not in motion and is clear from any potential danger. If in doubt, anchor the boat or make sure that you are tied off at the dock.

2. Make sure that the shifter is in the NEUTRAL position.

3. Press the STOP buttons at the start/stop panel.

4. Enter the cabin DC panel area and shut the key switches/breakers off.

STARTING THE GENERATOR

1. Before you start your generator, check all fluid levels. In the DC cabin panel area is a blower switch. Please run the blowers for four minutes prior to running the generator.

2. Ensure that all AC breakers are turned off.

3. Press the switch for the generator to start.

4. Allow the generator to smooth out before you make the transfer.

5. Switch shore power breaker off, then move the slide bar over so that the generator breaker is visible. Turn the generator breaker on. You may then turn on any breakers that you will need at this time.

⚠WARNING

WARNING: DO NOT run the engine or generator in an enclosed area, such as a closed boat house, as there is the possibility of build-up and inhalation of carbon monoxide.

SHIFTING FROM GENERATOR POWER TO SHORE POWER

If you are running your boat's AC systems on the generator and wish to dock to shore power, you will need to do the following:

1. Shut all AC breakers to the OFF position.

2. Go into the cockpit (port swim platform area) and unscrew the Hubble to reveal the shore cord.

3. A switch runs the shore cord out, or you may use your remote to run the cable master out.

4. Once you have enough cord reeled out to plug into the dock power, make sure the dock AC power breaker is turned to the OFF position.

5. Plug the shore cord into the dock AC power twist to lock and ensure that the plug is secured.

6. The reverse polarity light is located in the bilge area port aft of the boat. A green light should be lit. If a red light is lit, unplug the shore cord immediately and have a qualified electrician check all AC connections.

7. Once you re-enter the cabin area, you are ready to transfer power. Move the slide bar over so that the shore breaker is visible. Turn the shore breaker ON.

8. Breakers can be turned on at this time.

STOPPING THE GENERATOR

1. Prior to shutting down the generator, make sure that all cabin AC breakers are in the OFF position.

2. Push the start/stop switch to shut down the generator.

3. You are now ready to transfer to shore power.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

STEERING SYSTEM

Other than the common sense and good judgment of the operator, the steering system is the most important safety system on your boat. Factors requiring operator attention for safe steering include engine torque, trim tabs settings, waves, and speed.

Power steering provides positive steering control while providing the operator with the steering sensitivity and "feel" needed for good steering control. An electronic system connects the steering wheel to the propulsion system.

Note: Your boat has a electronic steering system. Refer to manufacturer's owner's manual found in your owner's packet for detailed information regarding use, care and maintenance of the steering system.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

CABLEMASTER™ WITH REMOTE (AUTOMATIC SHORE POWER CORD)

Your Chaparral is equipped with a Cablemaster™ shore power cord system. A switch is located in the port transom storage area that runs the shore cord in and out. A limit switch is at both ends of the cord to prevent overrun.

A remote control system is available to run the cablemaster. Press and hold the buttons in the desired direction that you want the cord go.

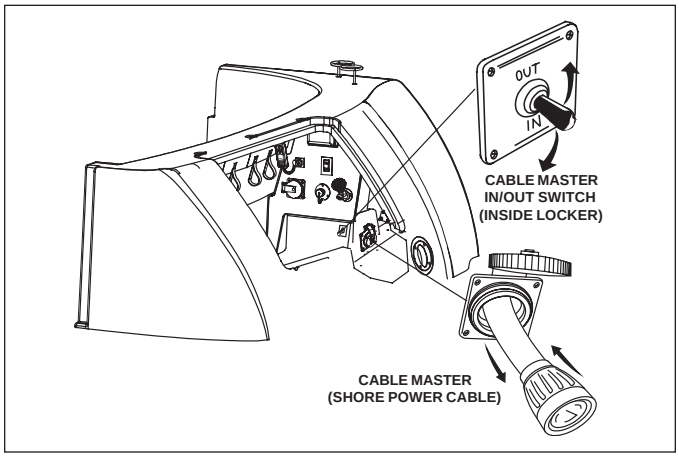


Figure 4.3 Cablemaster

ANCHORING

Anchoring is necessary if you stop for recreation or an emergency. Practice anchoring techniques to ensure that you know what to do when an emergency occurs.

When your boat comes to a stop, carefully lower the anchor. The length of the anchor line should be five to seven times the depth of the water to ensure that the anchor bites into the bottom.

The best anchorage offers a good holding bottom, water of suitable depth, and protection from wind and passing boats.

⚠WARNING

WARNING: SINKING HAZARD – Anchor from the bow if using one anchor. A small current can make a stern-anchored boat unsteady; a heavy current can drag a stern-anchored craft under water.

WARNING: COLLISION HAZARD – Anchor only in areas where your boat will not disrupt other boats. Do not anchor in a channel or tie up to any navigational aid. Doing so is dangerous and illegal.

Anchoring Arrangement

Your Chaparral 420 Premiere is equipped with a windlass and an anchor chute. Stow the anchor in the chute when not in use. Be sure the anchor safety hook is removed from the anchor and the anchor is secured to the windlass chain.

Sinking Hazard – Anchor from the bow if using one anchor. A small current can make a stern-anchored boat unsteady; a heavy current can drag a stern-anchored craft underwater.

Collision Hazard – Anchor only in areas where your boat will not disrupt other boats. Do not anchor in a channel or tie up to any navigational aid. Doing so is dangerous and illegal.

Anchoring

Read this section carefully. Proper anchoring requires understanding the relationship between rode, scope, and anchor performance.

Rode: The line connecting the anchor to the boat is considered a rode. The 420 Premiere has a rope/chain rode. An all-chain rode is optional.

Scope: Adequate scope is necessary for your boat to be anchored safely. Scope is the ratio of the length of the anchor line to the distance from the bow chocks to the bottom. To calculate how much rode to use when anchoring, use the following formula:

Rode Length = (Bow Height + Water Depth) x Scope

$$\text{Scope} = \frac{\text{Rode Length}}{\text{Bow Height + Water Depth}}$$

- Scope depends on the type of anchor, bottom, tide, wind, and sea conditions.
- The minimum is 5:1 for calm conditions; the norm is 7:1; severe conditions may require 10:1.

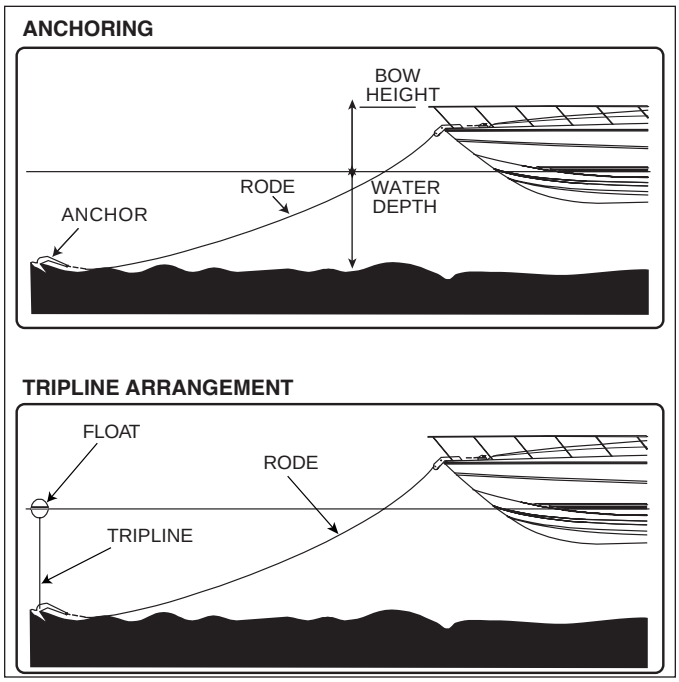


Figure 4.4 Anchoring

⚠CAUTION

CAUTION: The safety hook is supplied to ensure that the anchor is held in place should the windlass fail. Do not use the safety hook to support the anchor in a stored position. The windlass should always support the anchor and hold the roller device securely.

Lowering Anchor

- Be sure there is adequate rode.
- Secure the rode to both the anchor and the boat.
- Stop completely before lowering the anchor.
- If using a windlass, refer to the windlass operator's manual.
- Keep feet clear of coiled line.
- Be sure to turn on the anchor light at night and in reduced visibility.

Weighing Anchor

Weighing or pulling in the anchor requires moving the boat in the direction of the anchor and pulling in the anchor as the boat moves. For this reason, the engines should be running.

- Run the boat slowly up to the anchor, taking in the rode as you go.
- The anchor will usually break out when the rode becomes vertical.
- Be careful that trailing lines do not foul in the propeller.

Note: Use the fresh water washdown spigot in the starboard bow locker to hose down the chain in the locker after haul-in.

Clearing a Fouled Anchor

One of the best methods for breaking free a stuck anchor is to set a **tripline** (Figure 4.4).

- Attach a line to the crown or head of the anchor and the other end to a float.
- The line should be just long enough to reach the surface of the water, allowing for tides. A polypropylene line is a good choice because it is light, strong, and floats.
- If the anchor snags, pull vertically on the tripline to lift the anchor by the crown.

Be sure to read this section carefully and fully understand rode and scope and their effect on anchor performance.

WINDLASS

Your anchor can be automatically raised and lowered with the windlass system using a toggle switch. To operate the windlass, the WINDLASS MAIN switch on the control station switch panel must be turned ON.

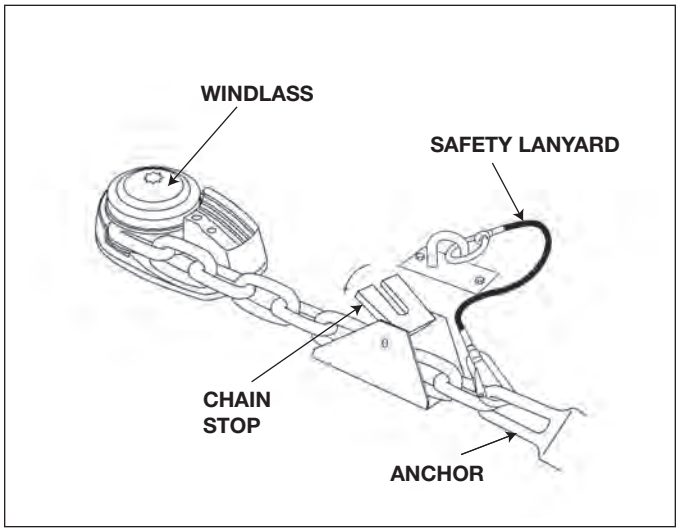


Figure 4.5 Windlass with Safety Lanyard and Chain Stop

Note: The windlass clutch should be tight for proper operation and safety. Periodically check the clutch and tighten if necessary.

To Tighten the Clutch: With the anchor in the stowed position, tighten the windlass clutch by inserting the emergency handle into the clutch nut and turn clockwise.

⚠WARNING

WARNING: Moving parts may cut or crush. Keep hands, feet, hair, and loose clothing clear of moving parts. Entanglement may cause severe bodily injury (i.e., loss of fingers or toes).

Windlass Safety Tips

- Always tie off the rode while at anchor
- Always secure the rode/anchor when underway
- Always look before deploying your anchor
- Always motor up to the anchor while retrieving
- Never use your windlass to pull or tow the boat
- Never stick your fingers in or around the gypsy during operation
- Always shut off the breaker when working on the windlass
- Always shut off the breaker when the windlass is not in use
- Keep all loose clothing and hair away from the windlass when operating
- Never use the windlass to lift a person

To Operate From the Helm

1. Make sure that the safety lanyard (Figure 4.5) is removed from the anchor chain.
2. Turn the WINDLASS MAIN rocker switch to ON.
3. Push the toggle switch (located beside the rocker switch on the control station switch panel) UP to raise the anchor. To lower the anchor, push the toggle switch DOWN.

To Operate From the Bow

1. Make sure that the safety lanyard (see Figure 4.5) is removed from the anchor chain.
2. Lift the protective cap on foot switches and depress the UP or DOWN switch for the desired result.

To Operate Manually

1. Make sure that the safety lanyard (see Figure 4.5) is removed from the anchor chain.

2. Insert the emergency handle into the clutch nut.

3. Turn the handle clockwise to retrieve the anchor.

Maintenance

- Periodically check the motor and control box electrical connections, remove any residue, and cover the connections with a small coating of grease.

- You should disassemble the windlass and remove any residue build-up at least once a year.

⚠WARNING

WARNING: The power should be off before any work is performed on the windlass.

- Use the emergency handle to unscrew the clutch nut by turning the handle counterclockwise.

- Remove the drum, upper cone, chain wheel, and lower cone.

- Clean with fresh water and remove any residue build-up.

- Coat contact surfaces with a light film of lubricant.

- Reassemble the unit and tighten the clutch nut by turning the handle clockwise.

Note: After haul-in, use the fresh water wash down spigot in the starboard bow locker to hose down the chain in the locker.

REFER TO THE WINDLASS OPERATOR'S MANUAL IN YOUR OWNER'S PACKET FOR DETAILED OPERATING INSTRUCTIONS.

BILGE INFORMATION

5

BILGE

Fuel and Oil Spillage

Regulations prohibit the discharge of oil or oily waste into or upon navigable waters if such discharge causes a film or sheen upon, or discoloration of, the surface of the water, or causes a sludge or emulsion beneath the surface of the water.

A common violation is bilge discharge. Use rags or sponges to soak up fuel or oily waste, and then dispose of them properly ashore. If a great deal of fuel or oil is in the bilge, contact a knowledgeable marine service to remove it. Never pump contaminated bilge discharge overboard into the water.

Fill the fuel tank(s) to less than the rated capacity. Always allow for fuel expansion.

The bilge pump(s) removes water from the bilge area. If the pumps' motor runs, but does not remove any water, the pump may be clogged. If there is no visible debris clogging the pump and water is still not being removed, check the discharge hose for kinks or obstructions. The bilge pumps can also be operated in manual mode by using the switches on the main electrical panel.

BILGE PUMPS

The 420 Premiere is equipped with two bilge pumps, including one emergency high water bilge pump. Your yacht is also equipped with a shower sump with one pump and float switch.

The forward and aft bilge pumps are equipped with switches on the control station switch panel. These switches have ON and AUTO positions. Switching it to the ON position will run the pump continuously. When the switch is in the AUTO position, the pump is activated when enough water is in the bilge to raise the float switch to its highest position, and is deactivated when the water recedes. Unless being serviced, the pumps should NOT be left in MANUAL mode.

Whenever a bilge pump turns ON, either manually or automatically, the systems monitor will display the active pump.

An alarm inside the dash will sound if the accumulated engine compartment bilge water level is higher than normal. Immediate attention to the area indicated on the system monitor is required if high water alarms are activated. Each pump is protected by a breaker on the main DC breaker panel located on the aft engine room component board.

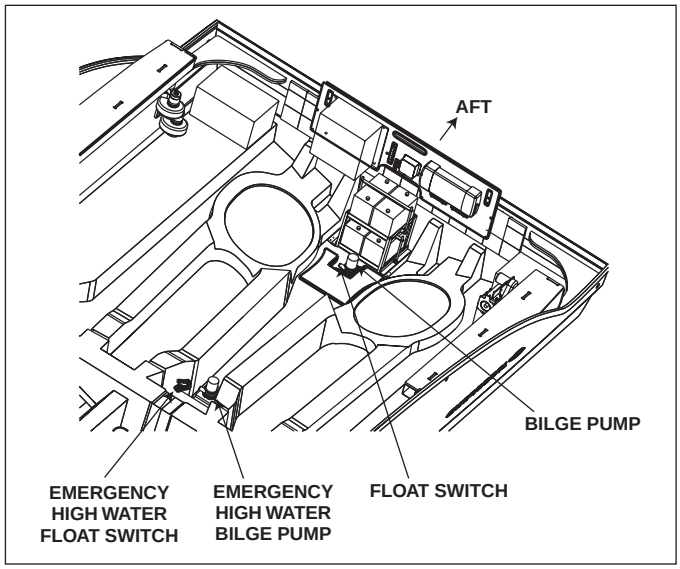


Figure 5.1 Bilge Pump

Maintenance

You will need to frequently inspect the area under the float switches to ensure they are free from debris and any gummy bilge oil. To properly clean, soak in heavy duty bilge cleaner for 10 minutes, agitating it several times. Check for unrestricted operation of the float. Repeat the cleaning procedure if necessary.

Inspect the bilge pump intakes and keep them free of dirt or material that may impede the flow of water through the pump. To clean the pump strainer, depress the lock tabs on both sides of the pump and lift the pump motor.

BILGE BLOWERS

The two (2) bilge blowers in the engine room evacuates fumes, odors, and excessive heat from the engine compartment while bringing fresh air in through the deck vents. Make sure all fumes are evacuated from the engine compartment prior to starting the engine. The bilge blower must be running before and when you start the engine, and while operating your boat below cruising speed.

The blowers are wired through circuit breakers on the DC breaker panel located on the aft bilge component board and with switches on the control station switch panel and on the salon main DC distribution panel.

⚠WARNING

WARNING: Explosion/Fire Hazard – Run blower at least four minutes before starting the engine or generator. Check bilge and engine compartments for fumes.

⚠WARNING

WARNING: Do not allow obstructions to interfere with bilge blower or ventilation intake operations. Engine performance may be adversely affected.

Maintenance

Frequently check the bilge blowers to ensure that all electrical connections are securely in place and that the blower motors are operating efficiently.

ENGINES

Engines are central to the boating experience. Engine maintenance must be performed regularly to ensure optimum performance and care, and to protect the environment. We highly recommend that you become thoroughly familiar with all aspects of the engine's proper operation as outlined in the Engine Operator's Manual. Keep your engine clean and tuned properly. Check the oil and fluid levels before every outing. Change the oil according to the owner's manual.

A general maintenance program consists of proper lubrication, and cleaning of fuel filters, fuel lines, and air filters. While washing down, be sure that water does not enter the air inlets. Water entering the air inlets when the engines are not operating may go directly into the cylinders, resulting in rust and possibly internal engine damage.

Note: The engines are warranted directly by Volvo Penta, not by Chaparral Boats.

Chaparral highly recommends that you follow the maintenance and warranty schedule in your Engine Operator's Manual included in the owner's packet. Engine abuse or improper maintenance may adversely affect the claims made under the independent warranty provided by the engine manufacturer.

ENGINE GAUGE PACKAGE

Each of your engines are equipped with an engine gauge package as a safety feature in the event of an electrical malfunction resulting in the helm gauges becoming inoperative.

Gauge packages may differ with different engine options. Refer to your Engine Operator's Manual for proper gauge readings and gauge packaging.

ENGINE EXHAUST SYSTEM

Engine exhaust systems are an important and often overlooked part of a marine engine. The exhaust system on Chaparral boats removes harmful gas created by the engine during combustion. This system is designed to allow water from the raw water cooling system to enter the exhaust system through elbows where water and exhaust meet. Water and exhaust are then pumped through the mufflers and sent overboard through the exhaust outlet. Make sure water is moving from the exhaust outlet while the engines are operating.

Inspect the system for leaks before each use. Make sure all hose clamps and connections are tight and

that there are no cracks in any exhaust system component that would allow carbon monoxide gases to escape.

FRESH WATER COOLING SYSTEM

Fresh water cooling systems, also known as closed cooling systems, help protect engines from internal corrosion and provide more even distribution of engine temperature. Be sure to change the coolant annually.

OIL CHANGE SYSTEM

Your Chaparral boat may be equipped with an oil change system located on the inboard port stringer at the center of the port engine. The system simplifies changing the oil in the engines, transmissions, and generator. The pump is self-priming and pumps in either direction. The oil change pump is protected by the OIL CHANGE PUMP breaker on the DC breaker panel on the aft bilge component board.

Important: Be sure to have only one valve open at a time. Make sure other valves are closed to prevent accidental overfilling.

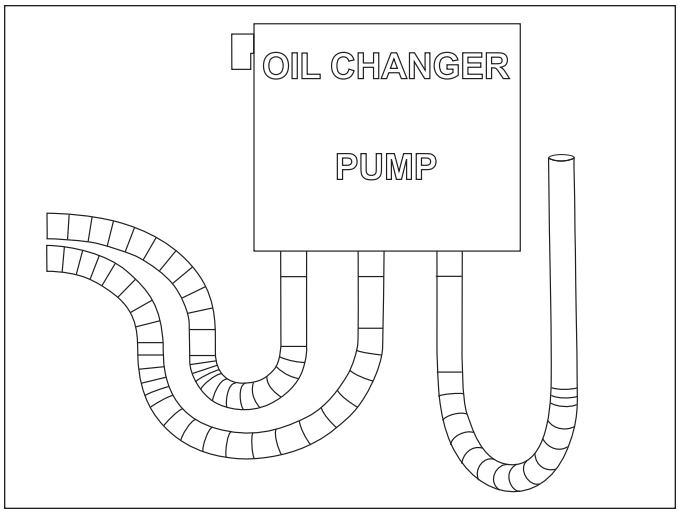


Figure 5.2 Oil Change Pump

Operating Instructions

Important: Be sure to service one engine at a time.

1. Before starting, run the engines or generator for several minutes to warm the oil and mix the sludge.
2. Turn OFF the engines.
3. Select the first engine to be serviced. Turn the valve to the OPEN position, in line with the valve body.
4. Turn the pump ON (switch position indicates the direction of flow) and pump the old oil into containers. Dispose of properly offshore.
5. Once the oil has been pumped out of the unit, place the pump discharge hose into a container of pre-measured fresh oil and reverse the pump switch to pump the fresh oil into the engine.

Note: Fresh oil should be at least 60°F (16° C)

6. When pumping is complete, shut the pump off and close the valve leading to the unit being serviced. Check the oil level and adjust if necessary.
7. Repeat for each engine, generator or transmission to be serviced.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

SEACOCKS AND STRAINERS

Your boat is equipped with seacocks and strainers to provide cooling water to the engines, generator, and A/C units located throughout the bilge area.

To open the seacock, turn the handle in line with the water flow (vertically). To close, turn the handle against the water flow (horizontally).

Note: Be sure to close the seacocks when your boat will be unattended for extended periods.

Inspect and clean sea strainers regularly. The frequency of cleaning will vary depending on the amount of use and local conditions. If operation of the air conditioning is excessive it is important that the A/C unit strainers are inspected more frequently than other strainers.

The seacock body should be inspected and lubricated annually.

To Clean the Strainer

To clean the strainers, close the seacock and loosen the wing nuts, then remove cover. (Figure 5.3) Pull upward on the stainless steel screen basket handle.

After replacing the screen, replace and tighten the wing nuts. Open the seacock and check for leaks.

Note: Some seacocks are equipped with locking tee handles that must be loosened before operating the handle.

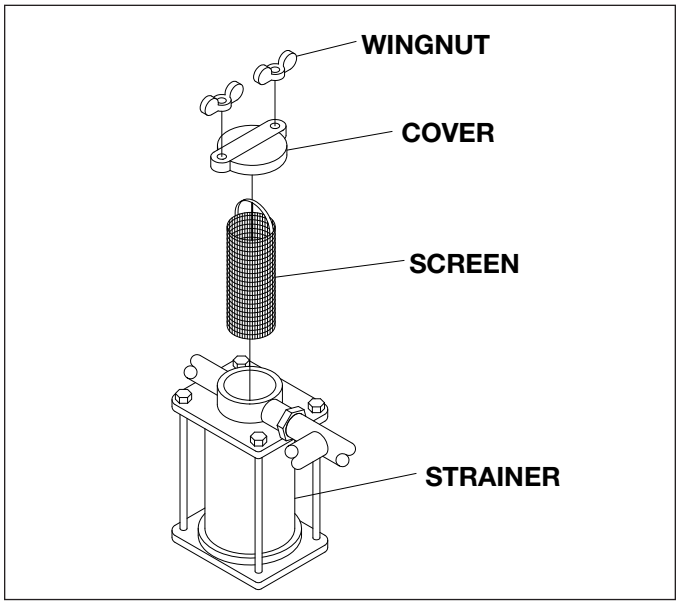
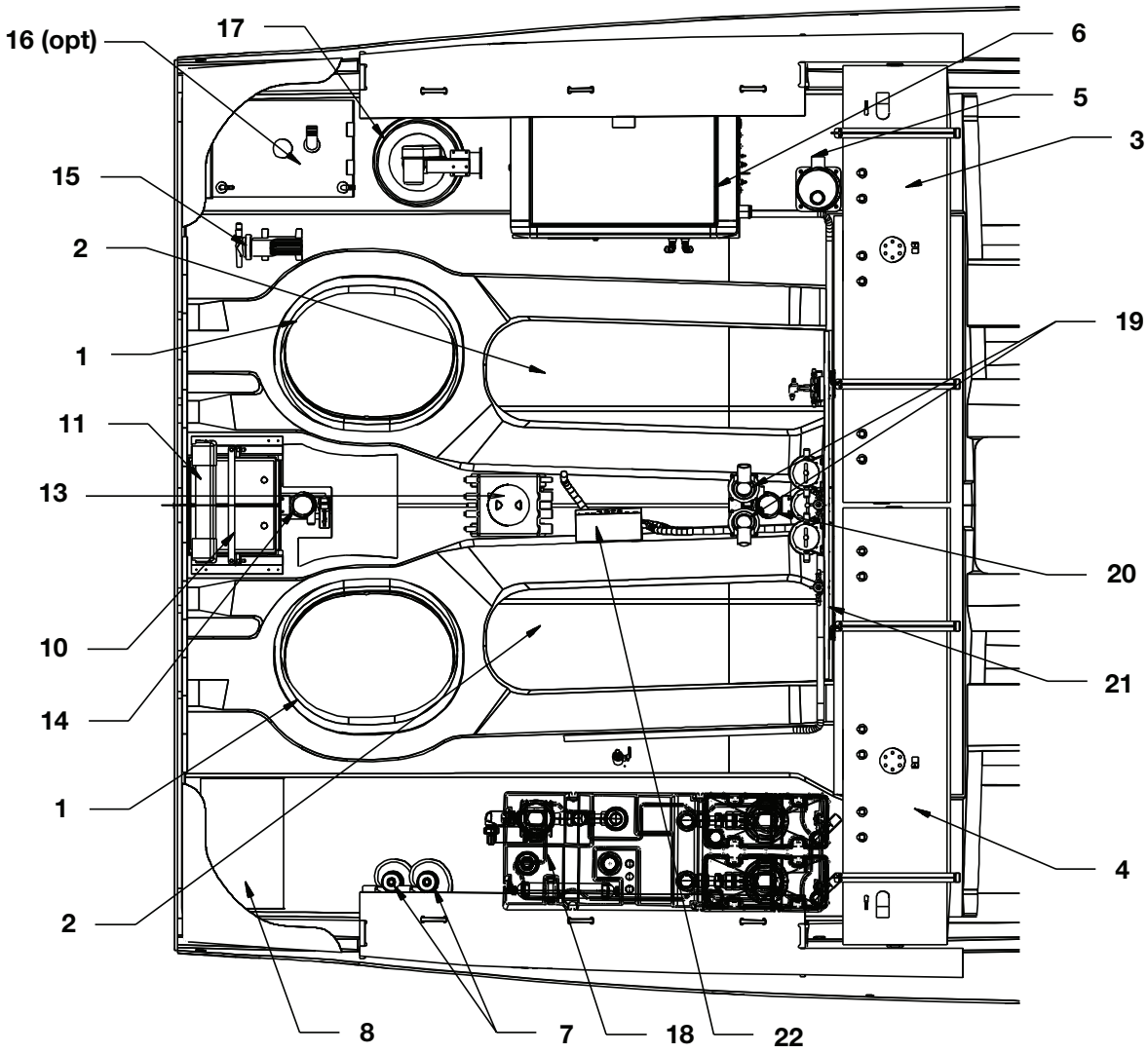


Figure 5.3 Seacock Strainer Maintenance



NOTES:

1 IPS Drives (P & S)
2 IPS Engine (not shown)
3 Port Fuel Tank
4 Stbd Fuel Tank
5 Generator
6 Generator Muffler
7 Bilge Blowers
8 Swim Platform Lift Pump
10 Battery Tray
11 Battery Charger
13 Waste Sump Box
14 Bilge Pump - Aft
15 Waste Sump Pump
16 Grey Water Tank (25 Gal)
17 Cablemaster Tub
18 Waste Holding Tank (39 Gal)
19 Seacocks (P&S)
20 Bilge Pump - Fwd
21 Fuel Component Board
22 Oil Changer Pump

Figure 5.4 Bilge Component Layout

FUEL SYSTEM 6

Here you will find detailed information about the fuel systems needed to operate your boat. The fuel system provides a clean, continuous supply of fuel to the engine, in addition to helping prevent possible fire and explosion.

Note: Refer to your engine owner's manual for detailed information about checking and maintaining the fuel system.

The fuel system must be inspected frequently and maintained regularly. Check for leaks and/or vapors and repair any problems **immediately**. Keep the fuel tank filled during the boating season to prevent moisture from condensing in the tank.

Fuel lines, filters, and all fuel system components should be checked at the start of each season and periodically thereafter, particularly after any work has been done aboard the boat that might have affected any part of the system. Be certain that everything is in proper condition and that the entire system is fuel tight. Each fuel tank has manual shut-off valves at its top to close off the fuel system in case of leakage or line failure.

FUEL TANKS

The Chaparral 420 Premiere has two aluminum fuel tanks with a capacity of 150 gallons (567.8 liters) each, for a total capacity of 300 gallons (1,135.7 liters). The fuel fill inlets are located on the port and starboard gunwales outboard of the swim platform.

Your boat is equipped with a fuel tank vent for each tank that serves as a pressure/vacuum release and safety overflow. The fuel tank vent allows air to escape as the tank is being filled and helps equalize tank pressure as temperatures change. The tank has an anti-siphon valve that keeps fuel from leaking into the boat in case of fuel line breaks. The through-hull fitting has a flame arrester, making it imperative that you keep the screen clean and in excellent condition. Replace the screen immediately if it becomes damaged or displaced. Periodically check the vent to assure that it is not clogged.

FUEL RECOMMENDATIONS

For the highest engine performance and long engine life, it is important to use quality fuel. Fuel should be clean and free of contamination. Your fuel tanks should be kept full of fuel whenever possible. This will reduce the amount of water condensation and possibility of contamination.

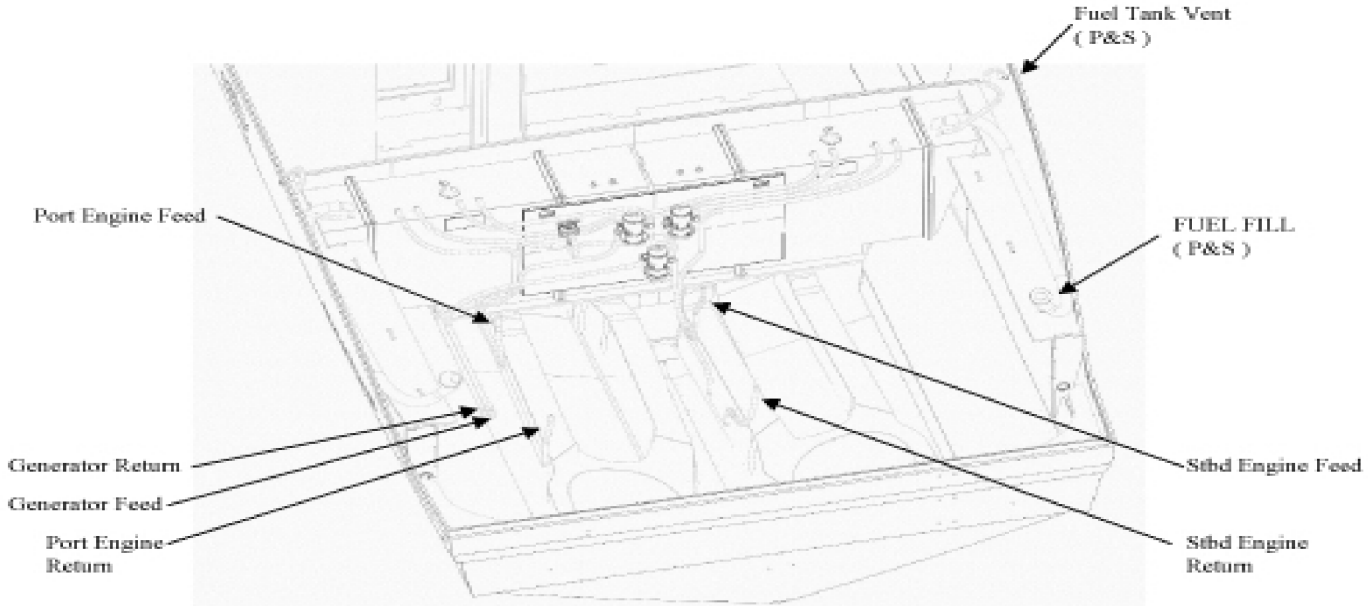


Figure 6.1 Fuel System and Fuel Fill Location

CROSSOVER FUEL SYSTEM (GENERATOR)

Your Chaparral boat is equipped with a generator crossover fuel system. This system allows your engines to draw fuel from either tank and lets you switch to an alternate tank in case of fuel contamination or for even fuel weight distribution.

The fuel will be consumed faster when generator is in use. You might want to periodically select another fuel tank for the generator for even weight distribution.

The generator crossover fuel board is located on the fuel tank brackets in the forward end of the bilge. (Figure 6.2)

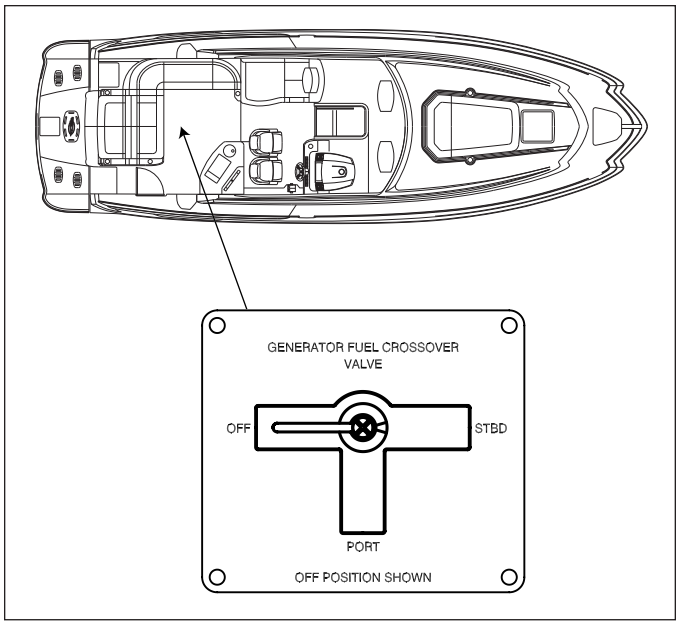


Figure 6.2 Generator Cross-Over Switch

FUEL FILTERS

Note: Refer to your engine owner's manual for detailed information about checking and maintaining the fuel filter.

Chaparral boat has primary and secondary fuel filters to help keep the fuel as clean as possible. Primary fuel filters are the Racor¨® water separating fuel filters installed on the aft engine room bulkhead. The generator fuel filter is located beneath the starboard fuel filter on the aft engine room bulkhead. The secondary fuel filters are located on the engines and should be replaced in accordance with the Engine Owner's Manual.

Note: Using any methanol, gasohol or alcohol based fuel additive will damage the fuel filter.

REFER TO THE ENGINE AND FUEL FILTER OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.

Fuel Filter Maintenance

A trained marine mechanic should replace parts or repair the fuel system. See your Chaparral dealer for parts and repair

One of the major reasons for poor starting or power loss in a boat is the result of a clogged filter element or fuel system air leak. Be sure to check that the filter lid and drain plug are properly tightened.

Inspect or drain the collection bowl of water daily.

To Drain Water:

1. Shut down the engine.

2. Loosen the T-handle on the top lid to break the vacuum within the filter.

3. With an appropriate collection container in place, remove the drain plug and let water and contaminants into the container.

4. Replace the drain plug and, if necessary, prime the filter by removing the lid and filling the filter with clean fuel.

5. Replace the lid and tighten the lid T-handle only by hand. Do not overtighten the lid.

Replace the filter element at regular intervals or if a power loss is detected.

To Replace the Filter:

1. Shut down the engine.

2. Remove the lid.

3. Remove the seal of the old rubber lid and dispose of it.

4. Apply a coating of clean fuel or motor oil to the seal of the rubber lid supplied with the new element.

5. Position the new seal on the lid.

6. Remove the filter element by holding the molded handle and slowly pulling upward with a twisting motion.

7. Insert the new filter element with a slow downward twisting motion.

8. Fill the filter with clean fuel, and then replace the lid. Tighten the lid T-handle using only your hand. Do not overtighten the lid.

9. Start the engine and check for any leaks.

10. Repair any leaks with the engine shut down.

It is recommended that spare filter elements be carried aboard as contaminated fuel can easily plug a filter.

REFER TO THE ENGINE OPERATOR'S MANUAL FOR MORE DETAILED INFORMATION.

Fueling Precautions

Improper fueling procedures are the most common cause of boat fires. Before fueling your boat, check the entire fuel system for leaks. Check for weakening, hardening, swelling, or corrosion of fuel system components. These include the fuel tank, fuel lines and fittings, fuel filter, and carburetor. Any sign of leakage or deterioration requires immediate replacement before further engine operation.

Before and During Fueling Procedures:

- Make sure that a fire extinguisher is readily available.

- Safely and securely moor your boat to the dock.

- Turn off the engine and all electrical equipment, including lights, bilge pump, bilge blower, etc.

- At least one knowledgeable person should be present.

- Unnecessary individuals should get off the boat.

- Close all hatches, windows, doors, and compartments.

- Extinguish all cigarettes, cigars, pipes, or other items that may produce a spark or flame. Inboard tanks should be grounded.

- The filler pipe should be marked DIESEL.

- The fuel nozzle should be in contact with the filler pipe to prevent static sparks.

- Fill the fuel tank to less than the rated capacity to allow for fuel expansion.

- Trim the fuel weight to distribute it equally.

Post-Fueling Procedures:

- After fueling, replace the fuel fill cap and wash off any fuel spillage around the fuel fill area. Discard, in a safe place, any rags that you may have used to wipe off fuel spills.

- Open the engine compartment and all hatches, windows, doors and compartments closed during fueling. Visually inspect these areas for fuel fumes or fuel line leakage and by smelling. Check out any sign of fuel leakage or any indication of fumes and correct the problem before starting the engine.

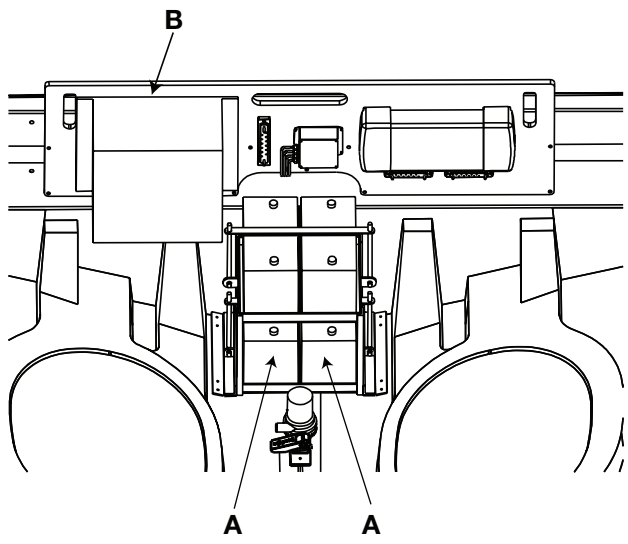
- Run the bilge blower for at least four minutes before restarting the engine to ventilate the engine compartment.

- Secure the filler cap.

DC SYSTEM

Your Chaparral boat has two (2) electrical systems: a 12 volt, direct current (DC) battery and a 120 or 220 volt alternating current (AC) system. The 12 volt direct current (DC) electrical system draws its power from the batteries, which are kept charged by an engine-driven alternator and/or AC converter. The voltmeter on the main distribution panel and control station instrument panel shows the battery charging rate when the engine is running. Each battery bank can be checked with the battery voltage test switch only on the salon DC distribution panel. All DC power is distributed through the battery selector solenoid. The 12 volt dash electronics fuse panel is protected by the electronic control breaker on the main DC breaker panel located on the aft bilge component board.

The negative terminal of each battery bank is connected to the grounding studs of the main engine(s) and generator. This type of negative ground system is the approved system for marine DC electrical systems. If you add additional equipment to your boat, it must be adaptable to the negative ground system.



A MAIN ENGINE BATTERIES
B AFT BILGE COMPONENT BOARD

Figure 7.1 Battery Locations

BATTERIES

The batteries installed in your boat have been chosen for their ability to supply power for lights, to start the engine or generator, and the accessories, as well their ability to furnish power to the DC system.

The following table describes the recommended marine cranking batteries to install in your boat.

Application	Group	Volts	CCA*	Reserve	Qty
Engines	31 DCM	12	800	200	2

*COLD CRANKING AMPS@ 0º F

⚠ DANGER

DANGER: Never use an open flame in the battery storage area. Avoid striking sparks near the batteries. A battery will explode if a flame or spark ignites the free hydrogen given off during charging.

The main engine cranking batteries consist of one (1) 31 DCM 12 volt battery for each engine. There are two (2) Group 31, 12 volt marine batteries connected in series that are dedicated to suppling all house operations. (Figure 7.1)

⚠ CAUTION

CAUTION: While the engine or generator is running, the battery terminal clamps must not be loosened or detached, nor should the battery solenoid switch(es) be turned off. The alternator and other electronic units will be damaged.

To Remove The Battery Cables

1. Turn OFF all items drawing power from the batteries.

2. Turn OFF the “CONVERTER” breaker at the main distribution panel.

3. Turn OFF battery solenoid switches.

4. Remove the negative cable first, then the positive cable. To replace the cables, reverse the procedure.

Battery Maintenance

⚠CAUTION

CAUTION: You should always disconnect the battery cables before doing any work on the engine’s electrical system or alternator wiring to prevent arcing or damage to the alternator.

- Check the fluid level in the cells approximately every four (4) weeks, and more often in summer and in hot zones.

- The fluid level must be between the lower and the upper markings.

- Do not use metal funnels. Only replenish with distilled water.

- Keep the battery clean and dry. Coat the battery terminal clamps with silicone grease.

- Only use a battery charger designed to charge automotive/marine type batteries when the batteries are disconnected from the boat’s electrical circuit.

MAIN BATTERY SWITCHES AND SOLENOIDS

On the salon DC distribution panel (Figure 7.2) the battery switches control the battery solenoids, which are located in the Main Disconnect enclosure on the aft bilge component board.

When the switches are in the OFF position, all 12 volt current to the engines and accessories is turned off except for power to the bilge pumps and other line side circuits (i.e., stereo memory, systems monitor, blowers, etc.). The battery solenoids must be in the ON position to start the engines or generator. Turn the battery solenoids OFF when leaving the boat for extended period of time.

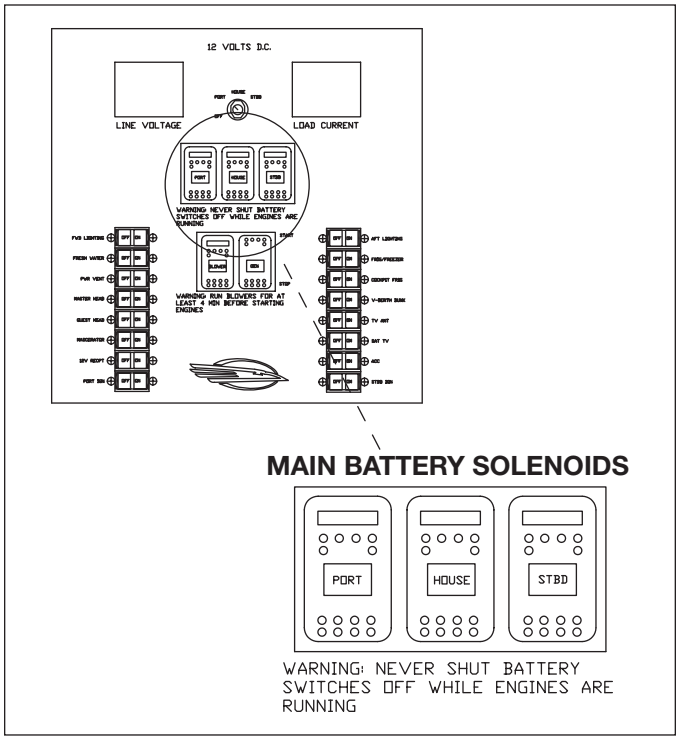
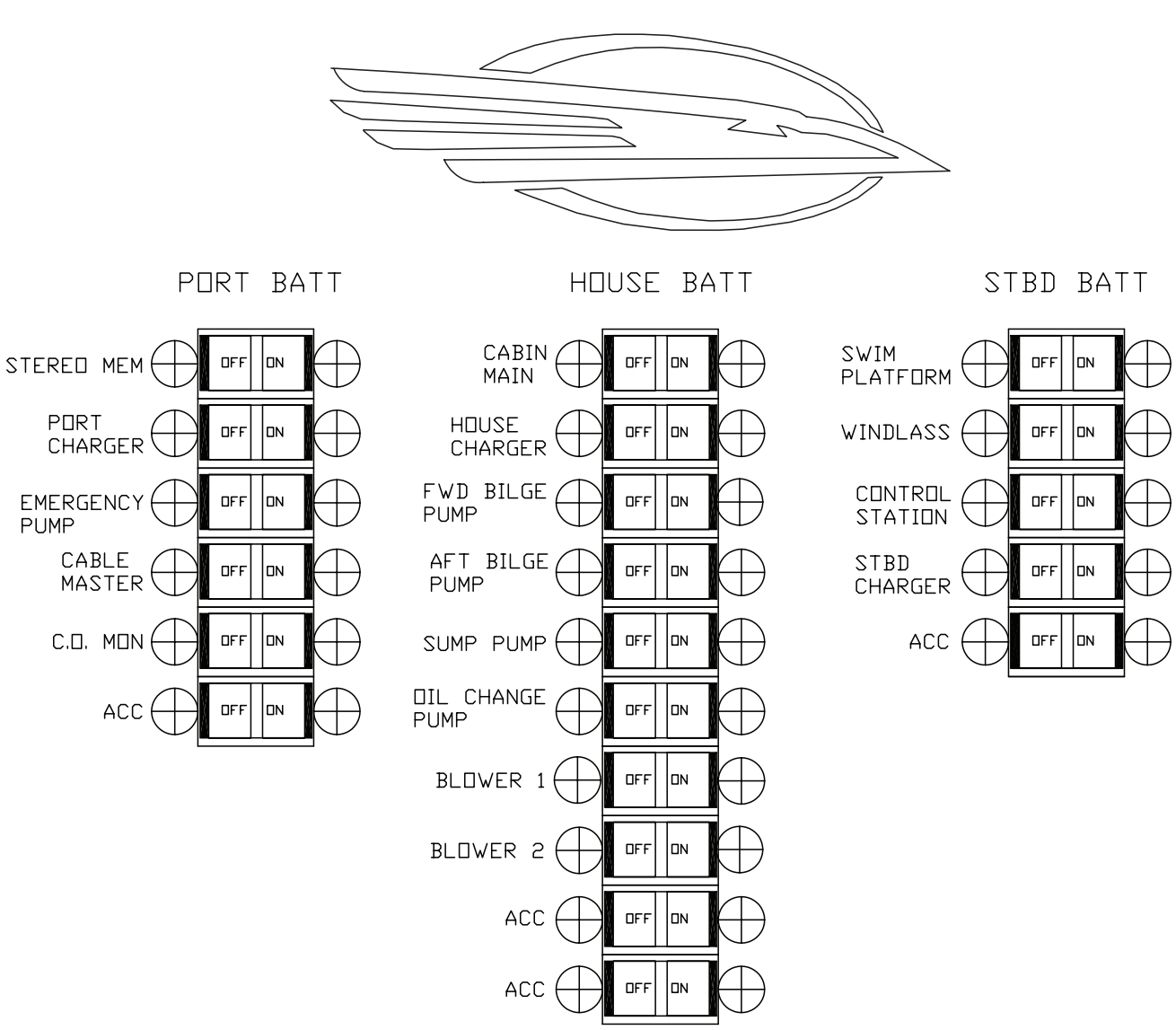


Figure 7.2 Battery Switches

NOTE: The bilge pumps, emergency bilge pumps, cable master, sump pump, stereo memory, and carbon monoxide monitor CANNOT be turned OFF with the battery solenoid. The entire remaining DC system CAN be turned OFF with the battery solenoid.

Main Battery Solenoids

The main engine and generator solenoids are located inside the Main Disconnect Enclosure, which is located on the aft engine room component board (Figure 7.3).



Note: Panel layout and labeling may vary as a result of customized optional accessories and equipment upgrade

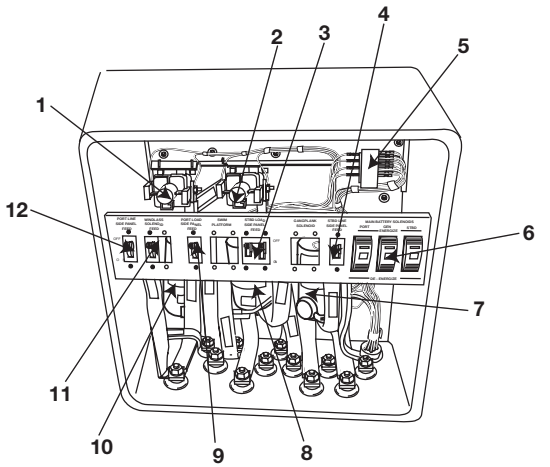
12 VOLT DC BREAKERS	AMPERAGE
Stereo Memory	30
Port Battery Charger	60
Emergency Bilge Pump	15
Cable Master	25
Carbon Monoxide Monitor	5
Accessory	XX
Cabin Main	50
House Battery Charger	60
Forward Bilge Pump	15
Aft Bilge Pump	15
Sump Pump	15

12 VOLT DC BREAKERS	AMPERAGE
Oil Change Pump	15
Blower 1	15
Blower 2	15
Accessory	XX
Accessory	XX
Swim Platform	150
Windlass	100
Control Station	50
Starboard Battery Charger	60
Accessory	XX

Figure 7.3 Bilge Breaker Panel

Windlass Solenoid

The latching solenoid for the windlass is in the Main Disconnect Enclosure located in rope locker (Figure 7.4).



1 GENERATOR SOLENOID	8 EMERGENCY START SOLENOID
2 WINDLASS SOLENOID	9 PORT LOAD SIDE PANEL FEED
3 STBD LOAD SIDE PANEL FEED	10 PORT ENGINE SOLENOID
4 STBD LINE SIDE PANEL FEED	11 WINDLASS SOLENOID FEED
5 FUSE BLOCK	12 PORT LINE SIDE PANEL FEED
6 BATTERY SWITCHES	
7 STBD ENGINE SOLENOID	

FUNCTION	AMPERAGE
Port Line Side Panel Feed	100
Windlass Solenoid Feed	100
Port Load Side Panel Feed	100
Swim Platform	N/A
STBD Load Side Panel Feed	150
STBD Line Side Panel Feed	100

Figure 7.4 Main Disconnect Enclosure

MAIN DC BREAKER PANEL

The main DC breaker panel (Figure 7.3) is located on the aft engine room component board. The panel contains breakers for various equipment throughout the boat.

The bilge pumps, emergency bilge pumps, sump pump, cable master, carbon monoxide monitors, battery chargers, and stereo memory are energized at all times and cannot be turned OFF with the battery solenoids. The entire remaining DC system can be turned OFF with the battery solenoids.

⚠ DANGER

DANGER: Use ONLY marine rated parts to replace such items as starters, distributors, alternators, generators, etc. Do not use automotive parts because they are not ignition protected and could cause a fire or explosion.

⚠ CAUTION

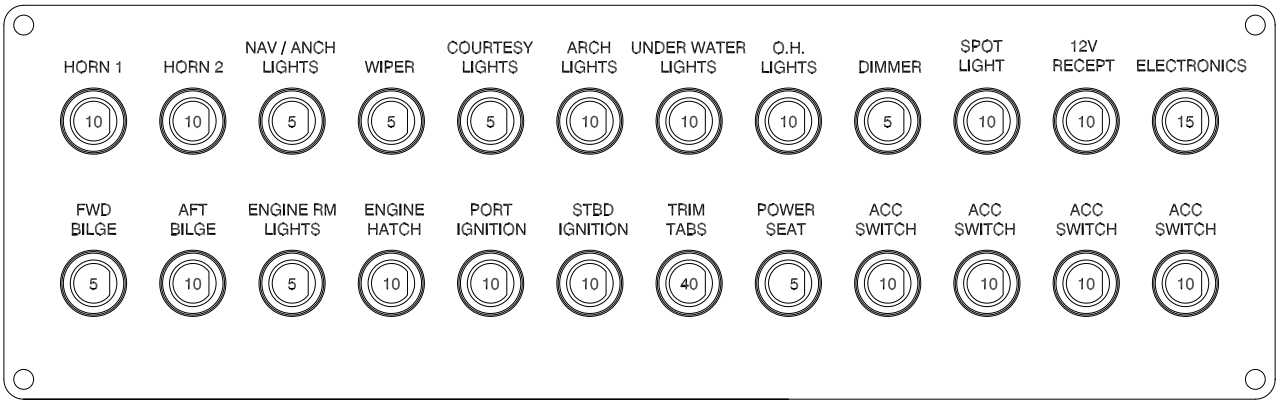
CAUTION: Always disconnect battery cables before doing any work on the engine's electrical system or alternator wiring to prevent arcing or damage to the alternator.

IGNITION PROTECTION

Electrical components in the engine room are ignition protected. Protective terminal covers, such as rubber boots on electrical connections, must be installed when the engine is operating or working in the engine room.

CONTROL STATION BREAKER PANEL

The control station breaker panel is located behind the kick panel door below the steering wheel. In the event one (1) of the breakers trip, you should identify and correct the fault, then reset by depressing the tripped breaker. (Figure 7.5)



FUNCTION	AMPERAGE	FUNCTION	AMPERAGE
Horn 1	10	Forward Bilge Pump	5
Horn 2	10	Aft Bilge Pump	10
Navigation / Anchor Lights	5	Engine Room Lights	5
Wiper	5	Engine Hatch	10
Courtesy Lights	5	Port Ignition	10
Arch Lights	10	Starboard Ignition	10
Underwater Lights	10	Trim Tabs	40
Overhead Lights	10	Power Seat	5
Dimmer	5	Accessory	XX
Spot Light	10	Accessory	XX
12 Volt Receptacle	10	Accessory	XX
Electronics	15	Accessory	XX

Figure 7.5 Control Station Breaker Panel

ELECTRICAL SYSTEM FUSE BLOCKS AND BREAKERS

Fuse blocks utilizing automotive type blade fuses are used to provide overload protection.

The **Control Station Fuse Block** protects the VHF radio, radar, autopilot, and other electronic accessories. This fuse block is located behind the port component panel.

If a fuse or breaker is replaced with one that has lower amperage, it will be insufficient to carry the electrical load of the equipment it is connected to and can trip or blow.

If a fuse or breaker is replaced with one that has higher amperage, it will not provide adequate protection against an electrical malfunction and can create a possible fire hazard.

It is recommended that you carry spare fuses and breakers at all times.

Some of the various types of breakers used on your boat are as follows:

- An in-line fuse holder that uses an automotive-type blade fuse.
- Breakers found on the control station DC breaker panel located behind the access panel below the control station switch panel. These breakers protect the trim tabs, wipers, windshield vent, navigation lights, hatch lift, spot light, horn, instrument lights, 12V receptacle, and accessories.

12 VOLT ACCESSORY RECEPTACLE

Your Chaparral boat is equipped with three (3) 12 volt accessory receptacles. One is located at the control station below the steering wheel, another is located in the galley inside the lower cabinet behind the stove, and the third is located on the port aft of the salon behind the sofa. The receptacles are cigarette lighter style, and can be used with any 12 volt accessories using this type of plug.

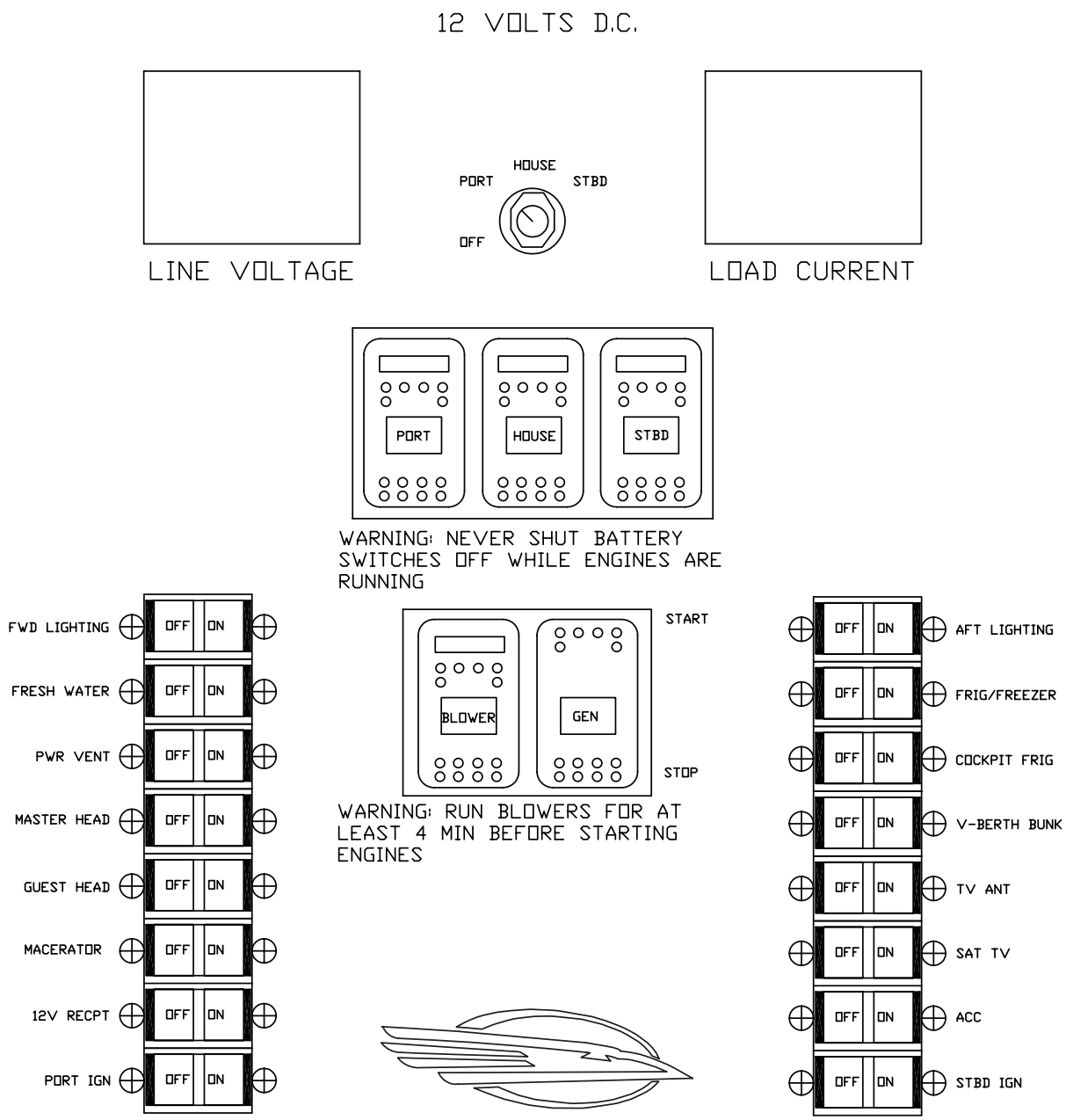
ELECTRONICS CIRCUIT

The 50 amp electronics circuit uses a circuit breaker on the Main DC Breaker Panel in the bilge to power the electronics fuse block at the control station. A ground buss is located at the control station and is used only to connect electronic equipment grounds.

DC DISTRIBUTION PANEL

Your Chaparral boat is equipped with a DC distribution panel located on the port aft salon. In addition to the main battery and generator switch, the breaker panel contains switches for various equipment throughout the boat.

The bilge pumps, emergency bilge pumps, bilge blowers, stereo memory, cable master, and carbon monoxide monitor cannot be turned off with the battery solenoid. The entire remaining DC system can be turned OFF with the battery solenoid. (Figure 7.7)



Note: Panel layout and labeling are subject to variance as a result of customized optional accessories and equipment upgrade

12 VOLT DC BREAKERS	AMPERAGE	12 VOLT DC BREAKERS	AMPERAGE
Forward Lighting	10	Aft Lighting	10
Fresh Water	10	Refrig / Freezer	20
Power Vent	15	Cockpit Refrig	10
Master Head	10	V-Berth Bunk	10
Guest Head	10	TV Antenna	5
Macerator	10	Satellite TV	15
12V Receptacle	15	Accessory TV	XX
Port Ignition	10	Starboard Ignition	10

Figure 7.7 DC Distribution Panel

AC SYSTEM

⚠ DANGER

DANGER: Extreme Hazard – Swimming near a boat operating on an AC electrical system can lead to severe shock and death. Never swim or allow anyone to swim when the AC system is in use.

The 420 Premiere AC electrical system runs on 240V/50 amp shore power system. It is important that you become knowledgeable about the Main Distribution Panel in the port salon (Figure 7.8).

The manufacturer's operation manual covers detailed information for operating the air conditioner including temperature setting, display and calibration, and fan speed and calibration. Also provided are technical data and troubleshooting information to help you keep the unit in safe and proper operating condition.

Note: Actual usage of equipment will depend on the amperage output of the power source available.

Line voltage from the generator or shore power is shown by the voltmeters on the main distribution panel. The ammeters indicate amperes being drawn through the selected power source's circuit breakers on the main distribution panel.

The main distribution panel main breakers are equipped with a source selector slide to prevent the generator and shore power from being energized at the same time and damaging the electrical system. Both breakers must be in the OFF position before switching to an alternate power source.

⚠ WARNING

WARNING: Never override the source select system.

The 240 volt system wiring consists of four color-coded wires. The black and red wires are the "hot" feeds, the white is the common, or neutral, and the green wire is the safety ground. The shore main circuit breakers protect the black and the red hot feed and neutral wires. All 240 volt branch breakers and switches for AC equipment are installed on the "hot" wires. The green conductor of the shore power is connected to galvanic isolator.

The green conductors on board the boat are connected to the AC grounding bus behind the main distribution panel.

⚠ WARNING

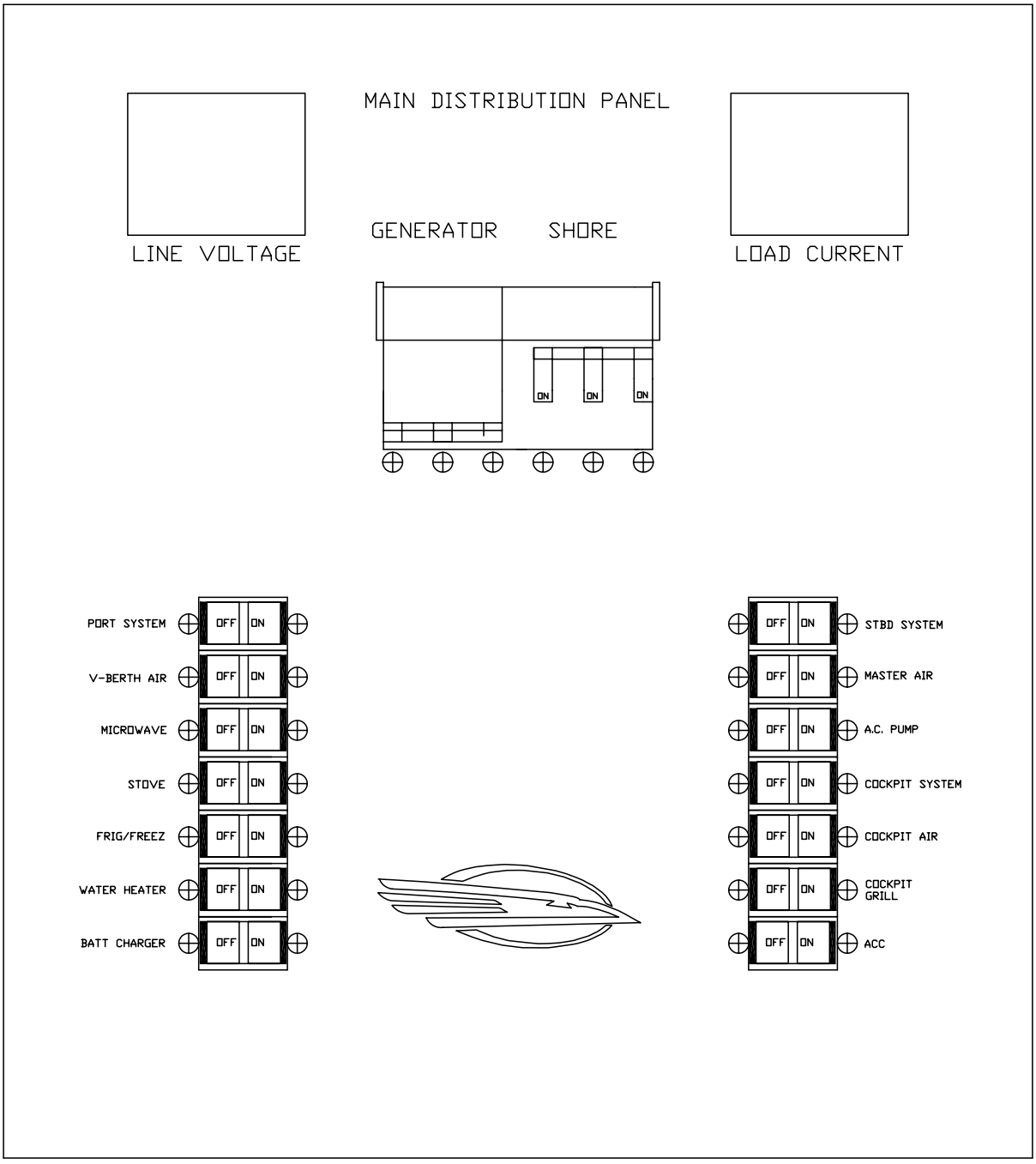
WARNING: Never operate 240 volt shore power at less than 208 volts.

The 120 volt wiring installed on Chaparral boats consists of three (3) color-coded wires. The black wire is the "hot" feed, white is the common, or neutral, and the green wire is the ground. All branch breakers and switches for AC equipment are installed on the "hot" wire. The green conductors on board the boat are connected to the AC grounding bus behind the salon main distribution panel.

The main breakers may trip if there is a surge in line voltage, an electrical storm or onboard system overload.

⚠ WARNING

WARNING: Never operate 120 volt shore power at less than 110 volts.



Note: Panel layout and labeling are subject to variance as a result of customized optional accessories and equipment upgrade

220 VOLT AC BREAKERS	AMPERAGE	220 VOLT AC BREAKERS	AMPERAGE
Port System	20	Starboard System	20
V-Berth Air	15	Master Air	30
Microwave	20	A.C. Pump	10
Stove	20	Cockpit System	20
Refrig / Freezer	15	Cockpit Air	30
Water Heater	20	Cockpit Grill	15
Battery Charger	25	Accessory	10

Figure 7.8 AC Distribution Panel

SHORE POWER

Glendinning Cablemaster™

The Glendinning Cablemaster™ was developed to automatically extend, retract, and store your boat's shore power cable. The Cablemaster has a number of features that make it an essential part of today's well-equipped yacht.

Your 420 Premiere is equipped with a 240 volt/50amp shore power cord for hookup to dock-side power. The cablemaster system provides remote control access to automatically advance and retrieve the power cord (See Section 4 - Underway for operation of the cablemaster system).

Main Shore Power Breaker Box

The 420 Premiere is equipped with a 240VAC main shore power breaker box located on the aft star-board bilge outboard of the cablemaster.

The breaker must be ON at all times to operate the shore AC power system.

Shore Power (U.S.)

Your Chaparral boat 240/120 volt AC main distribution panel distributes the required voltage for all the boat's AC equipment and accessories. It is very important to know and understand where the power originates and how the power is distributed to the different voltage equipment and accessories.

To connect:

1. Shut off each individual breaker, the boat's main AC circuit breaker, and dock breaker before connecting the shore power cord.

2. Move the shore power cord to the dockside power box. Ensure that the dockside breaker is OFF.

3. Connect the shore power cord to the shore power outlet box on the dock. Thread the locking ring on the outlet to secure the cable and prevent accidental unplugging. Turn the circuit breaker on the dock to the ON position.

⚠CAUTION

CAUTION: Make sure all shore power cords and adapters are clean and dry before use. If they are dropped overboard, do not use them until they are completely dry and checked by a qualified marine electrician. Keep shore power inlet covers tightly closed when not in use.

4. Check the boat's POWER light on the main distribution panel as soon as the dock breaker is turned on. The POWER light should be on and the meter should be registering proper voltage. If not, have the dockmaster check the dockside power.

⚠CAUTION

CAUTION: Do not energize the main breaker under reversed polarity conditions.

5. Turn ON the AC main shore power breaker. Individual AC breaker and switches can now be energized.

⚠CAUTION

CAUTION: The use of extension shore power cords is not recommended. Excessive power cord extensions can cause a voltage drop and may prevent some electronic devices from operating correctly.

⚠CAUTION

CAUTION: The shore power cord should be secured or routed to avoid laying or falling into the water and to avoid stress on the shore power plug and inlet.

Starting And Stopping The Generator

Starting the Generator

Note: Generator set is 120 volts.

Note: Pre-start the generator before getting underway as there is the possibility that it will not pick up water if started underway. Make sure the MAIN GENERATOR breaker is OFF and there is no load on the generator before starting it.

- Start the generator by following the generator start-up procedures in your generator owner's manual.
- All SHORE POWER and branch breakers on the main distribution panel should be OFF.
- Move the source selector to expose the GENERATOR breaker and turn the breaker on.

Stopping the Generator

- Stop the generator by following the generator shutdown procedures in your generator owner's manual.

Shore Power (International)

The 220 volt main distribution panel distributes the required voltage for all of the boat's AC equipment and accessories. You should understand the origination of the power and that it is distributed to the LINE1 and LINE 2 equipment and accessories.

Your 420 Premiere is equipped with 200 volt AC service. There are two (2) shore power cables and both are for 220 volt AC power.

You will see a LINE 1 and LINE 2 side for equipment and accessories on the AC main distribution panel (AC MDP).

1. Ensure that the LINE 1 MAIN shore power breaker and all LINE 1 AC branch breakers on the main AC distribution panel are OFF.
2. Move the shore power LINE 1 cord to the dockside power box. Make sure that the dockside breaker is OFF, and then plug the dockside cord into the shore power outlet box on the dock. Turn the circuit breaker on the dock to the ON position.
3. Inspect the LINE 1 polarity lights on the main distribution panel. The POWER lights should be on. If the REVERSED lights are on, have the dockmaster inspect the dockside power for a reversed connection.
4. Slide the upper source selector to the left to expose the two (2) breakers marked SHORE. By pushing the two (2) breakers up, you will supply 220 volts of AC power through the AC MDP to only the LINE 1 side.

To supply power to the LINE 2 side of the AC MDP, repeat the above steps one through four.

Note: Be aware that each shore power cord will only feed its respective loads on the panel.

To Use The Generator (International)

1. Start the generator by following the generator startup procedures in your generator owner's manual.
2. After the generator is started, slide the upper source selector to the right to expose the two (2) breakers marked GENERATOR and push the two (2) breakers up to energize LINE 1.
3. To energize LINE 2, repeat above steps on the LINE 2 side.

Maintenance For Shore Power Cable Set And Shore Power Inlets

⚠WARNING

WARNING: Disconnect the power cable from power source before performing maintenance.

Your cable set and inlet are made of metallic and will help resist corrosion. In salt water, the life of the product can be increased by periodically wiping the

exposed parts with fresh water, and drying and spraying with a moisture repellent.

You can clean a soiled cable with a grease-cutting household detergent. To maintain their original appearance, periodically apply a vinyl protector.

In case of salt water spray or immersion: Rinse thoroughly the plug end and/or connector end in fresh water; shake or blow out excess water and allow to dry. Spray with a moisture repellent before reuse.

BATTERY CHARGER

The battery charging unit (Figure 7.9) is located on the aft bilge component board. It is fully automatic and designed specifically for the marine environment. A high frequency characteristic has allowed these chargers to attain a significant size and weight reduction over their previously used equipment. Commonly called high frequency or smart chargers, these units bring a new sophistication to the battery charger field. They feature a built-in amperage indicator located on the front panel. This gives an accurate reading of the combined battery current and load current. If the batteries are fully charged and no load is present, the ammeter will read near zero. To verify that the charger is functioning properly, turn on lights or other load. The ammeter should register an increase.

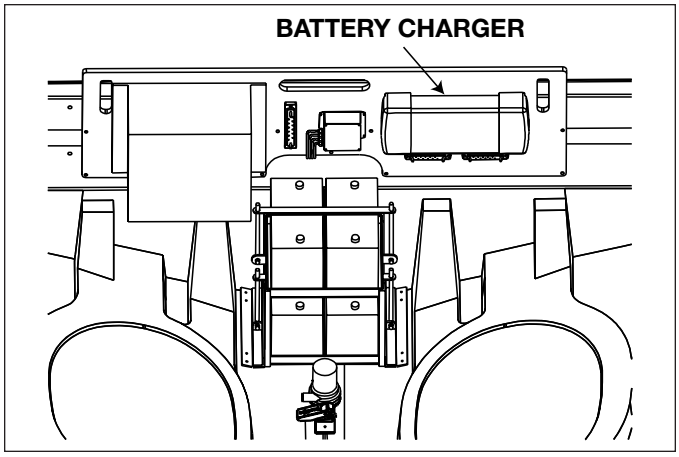


Figure 7.9 Battery Charger Location

⚠WARNING

WARNING: Never block air circulation through the unit. Never store gear on top of the units.

Note: Leave the converter running at all times to maintain the 12 volt system voltage.

A multi-stage charger has three (3) stages of charging. These stages are bulk, absorption, and float. Bulk, the initial stage, is a charge at a constant rate. The next stage is absorption, which helps reduce heat while still charging the battery at the natural absorption rate. Then the float stage kicks in to maintain the battery charge without overcharging.

LED LIGHTING

The 420 Premiere uses 12 volt LED lights throughout as the primary lighting system. The system is powered by the 12 volt batteries. It is activated by the lighting breakers on the DC distribution panel in the salon.

Your boat is equipped with a variety of different lighting fixtures. Always replace a bulb with one of the same type and wattage as the original bulb.

GROUND FAULT INTERRUPTER RECEPTACLES (GFI)

Ground fault interrupter receptacles (Figure. 7.10) are located in the salon, galley, and cockpit galley.

The GFI receptacles provide protection against currents that can be dangerous even though they do not overload the circuit breakers. If there is a difference of more than 5 mill amperes, a safety switch trips in the outlet and interrupts the circuit. This protects the person who is operating the electrical equipment from serious electric shock or loss of life. The outlet may not eliminate the feeling of an electric shock, but it does open the circuit quickly enough to prevent injury to a person of normal health.

The GFI receptacles are out of sight and wired inline with the exposed receptacles throughout the yacht. This allows your sport yacht to have an elegant exposed receptacle while still providing protection from shock hazards. Please read and understand the CAUTION block for GFI receptacles.

The GFI receptacle does not protect against short circuits or overloads. This is the function of the circuit breaker.

⚠CAUTION

CAUTION: Persons with heart problems or other medical conditions that make them susceptible to the effects of electrical shock may still be seriously injured by ground faults on circuits protected by the GFI receptacle. While the GFI receptacle provides a significant level of protection, there is no known device that can provide complete protection against all electrical accidents under all conditions.

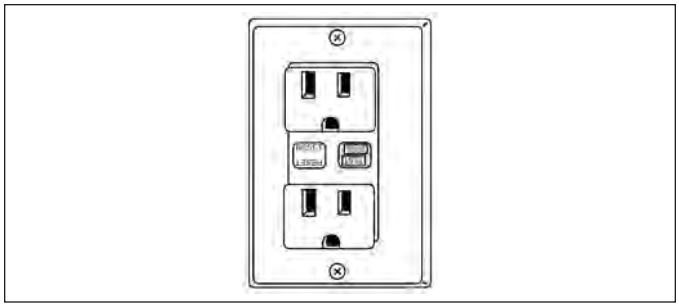


Figure 7.10 GFI Outlet

International Receptacle

All readily accessible 220V outlets are protected by a Residual Current Circuit Breaker (RCCB). This current breaker is mounted in an accessible, out-of-sight location and includes a test switch to verify proper operation. Its function is similar, but not identical to, the 120V GFI.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

GENERATOR

Chaparral strongly recommends that you fully comply with the manual provided by the generator manufacturer. **The generator is warranted separately by the generator manufacturer, NOT Chaparral.** Follow the recommended maintenance and warranty schedule in your Generator Operator's Manual included in the Owner's Manual Packet. Generator abuse or improper maintenance may adversely affect claims made under the generator manufacturer's separate warranty.

The generator is located in the aft area of the bilge. Generator gauges are located on the crossover board in the aft port cockpit.

⚠CAUTION

CAUTION: Do not run the generator in an enclosed area, such as a closed boathouse, as there is a possibility of build-up and inhalation of carbon.

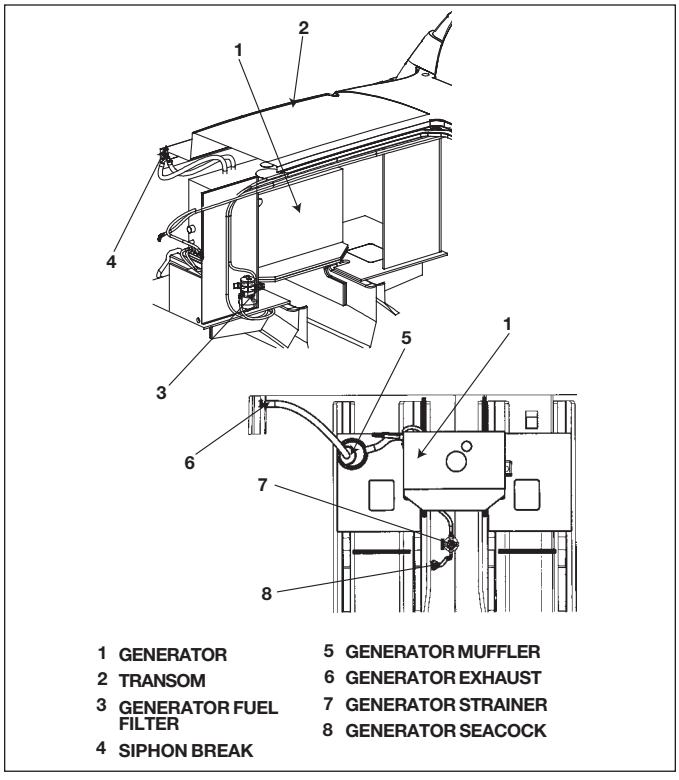


Figure 7.11 Generator

ELECTROLYSIS AND ZINC ANODES

Many boaters are unaware of the problems associated with electrolysis and how to properly address corrosion issues. Electrolysis is a reaction between metal and electrical energy. Electrolysis occurs when electrical current is “leaking” into the water, and can come from a variety of sources, such as ship-to-shore power, sharing electrical wires, old electrical devices in contact with the water,and batteries in boats, etc.

Electrolysis can also be caused by “stray currents” resulting from a fault in an electrical item even though correctly grounded. Your Chaparral boat is equipped with a galvanic isolator that isolates the boat from the dockside electrical system. Electrolysis/corrosion is a very real issue and expense for any boater, and boat owners must be aware of the proper protection and maintenance. Corrosion will directly affect the performance of your boat within a very short period.

It is the owner’s responsibility to check for and replace damaged parts resulting form galvanic deterioration. Refer to your Chaparral dealer to investigate the source of stray corrosive currents.

⚠CAUTION

CAUTION: Replace zinc sacrificial anodes if they are corroded by 50% or more.

Zinc plates (Figure 7.12) are installed on the transom and trim tabs to protect underwater hardware on your boat. Zinc is less noble than copper-based alloys and aluminum used in underwater fittings; therefore, it will deteriorate first and protect the more noble parts.

Zinc anodes generally require replacement about once a year. (In salt water areas, replace every six months). The need to replace anodes more frequently may indicate a stray current problem within the boat or at the slip or mooring. If zinc anodes are not replaced annually, they may not provide the necessary protection.

Note: Do not paint between the zinc and any metal that it touches. Do not paint over the zinc.

When the AC shore power system is connected to the boat, the underwater metal fittings are connected through the water to grounded metals ashore. The zincs will be consumed as a faster rate unless the marina maintains a protective system to prevent this. Placing zinc in the water bonded to the metal outlet box on the dock will reduce zinc loss on the boat. Do not connect this zinc to the boat’s ground system.

Important: All electrically operated DC equipment and accessories must be wired so that the ground polarity of each device is the same as that of the battery. Chaparral boats have a negative ground system, which is recommended practice throughout the marine industry. All metal items (fuel tanks, underwater hardware) in the boat are connected to the zinc anode by the green bonding wire.

Electrolysis can also be caused by “stray currents” resulting from a fault in an electrical item, even though correctly grounded. Chaparral has equipped your boat with a galvanic isolator.

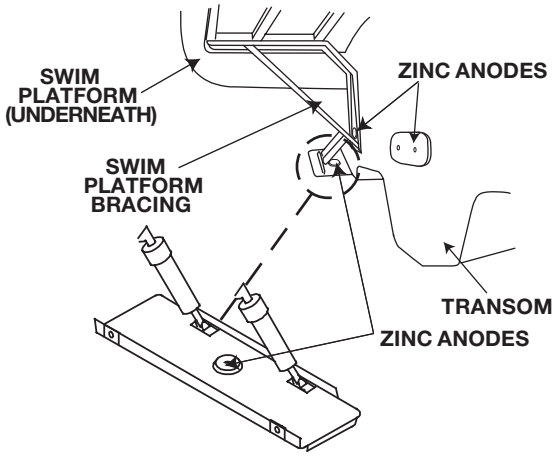


Figure 7.12 Zinc Plate Locations

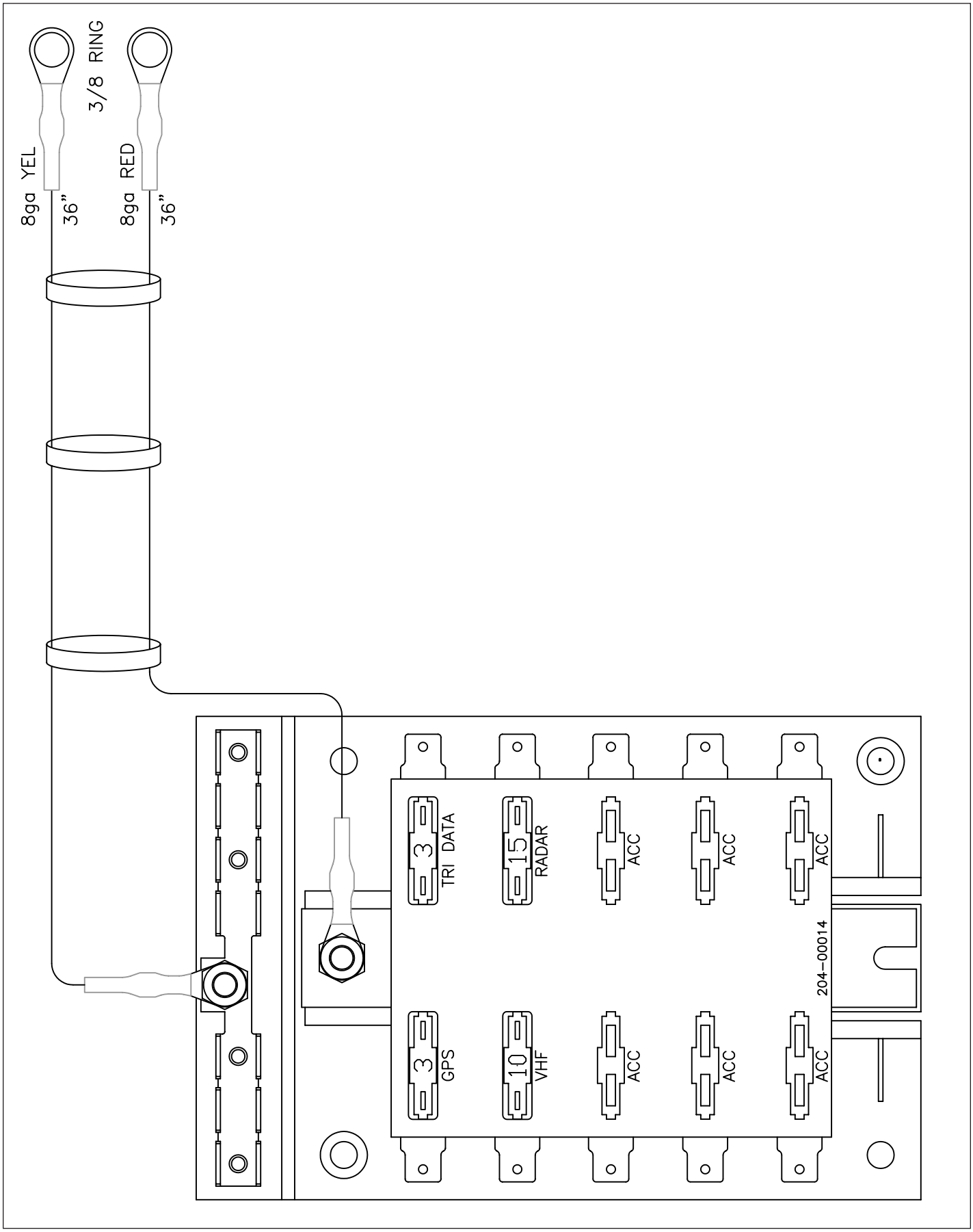


Figure 7.10 10-Way Fuse Block

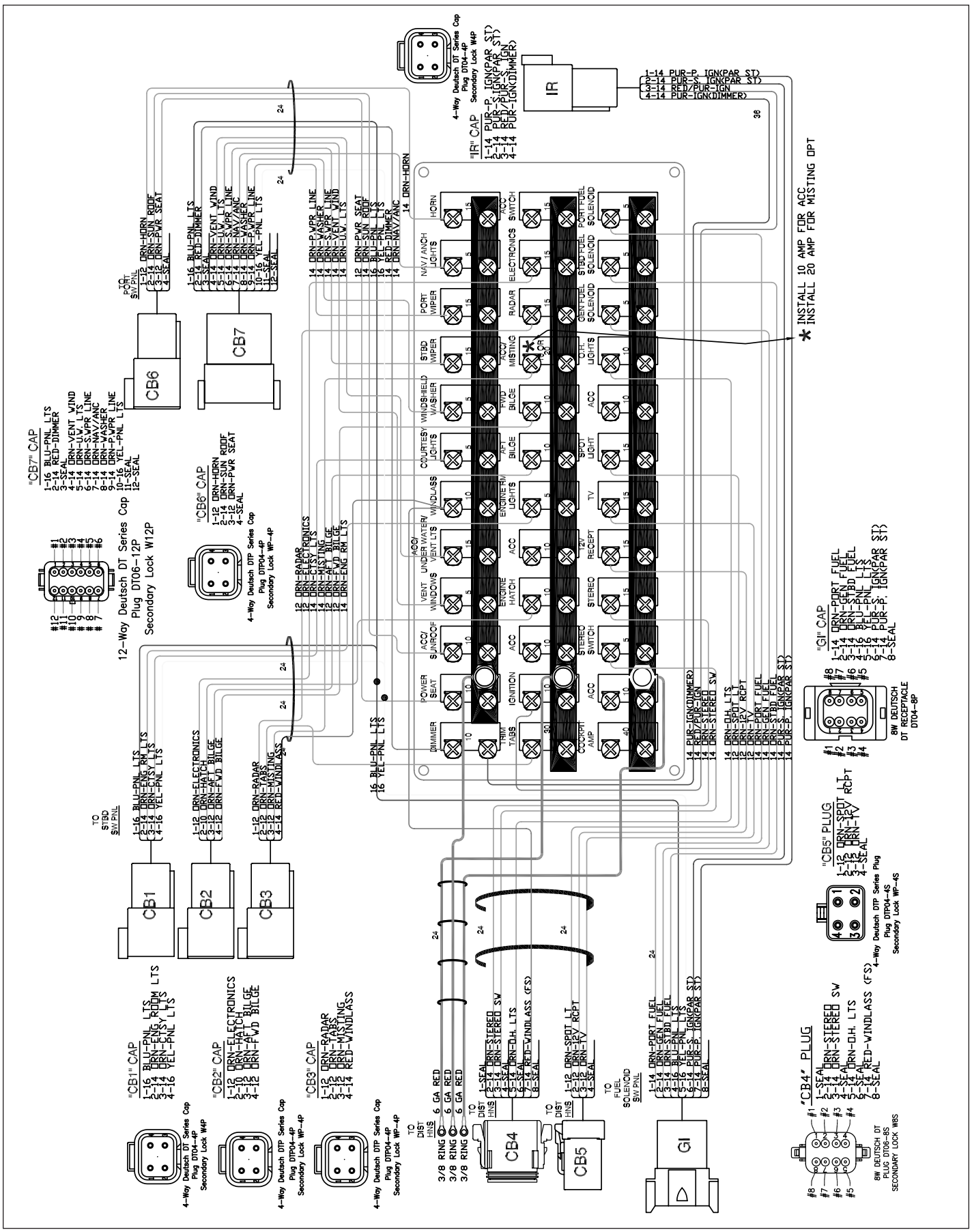


Figure 7.11 3 Row Helm Circuit Breaker Panel

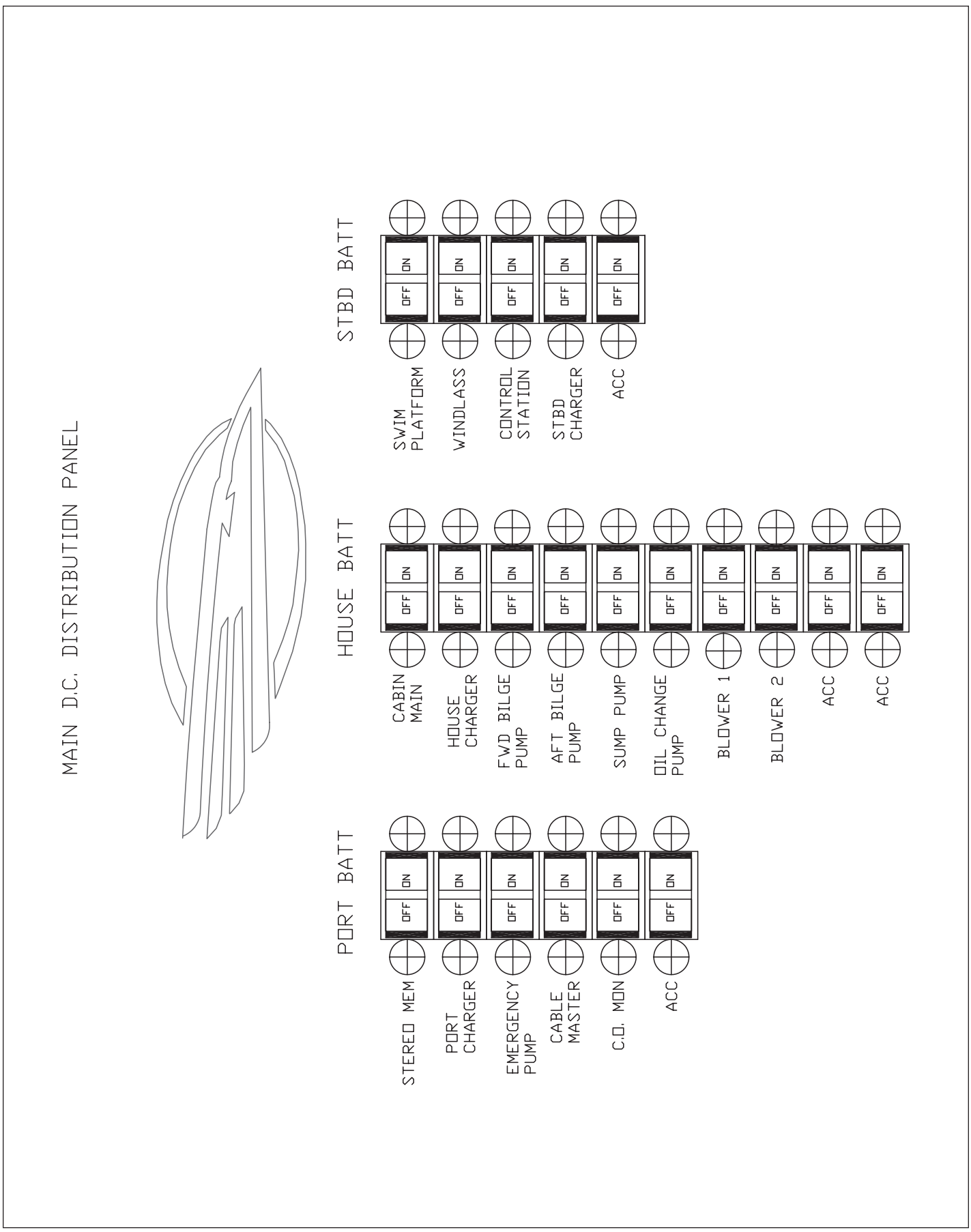
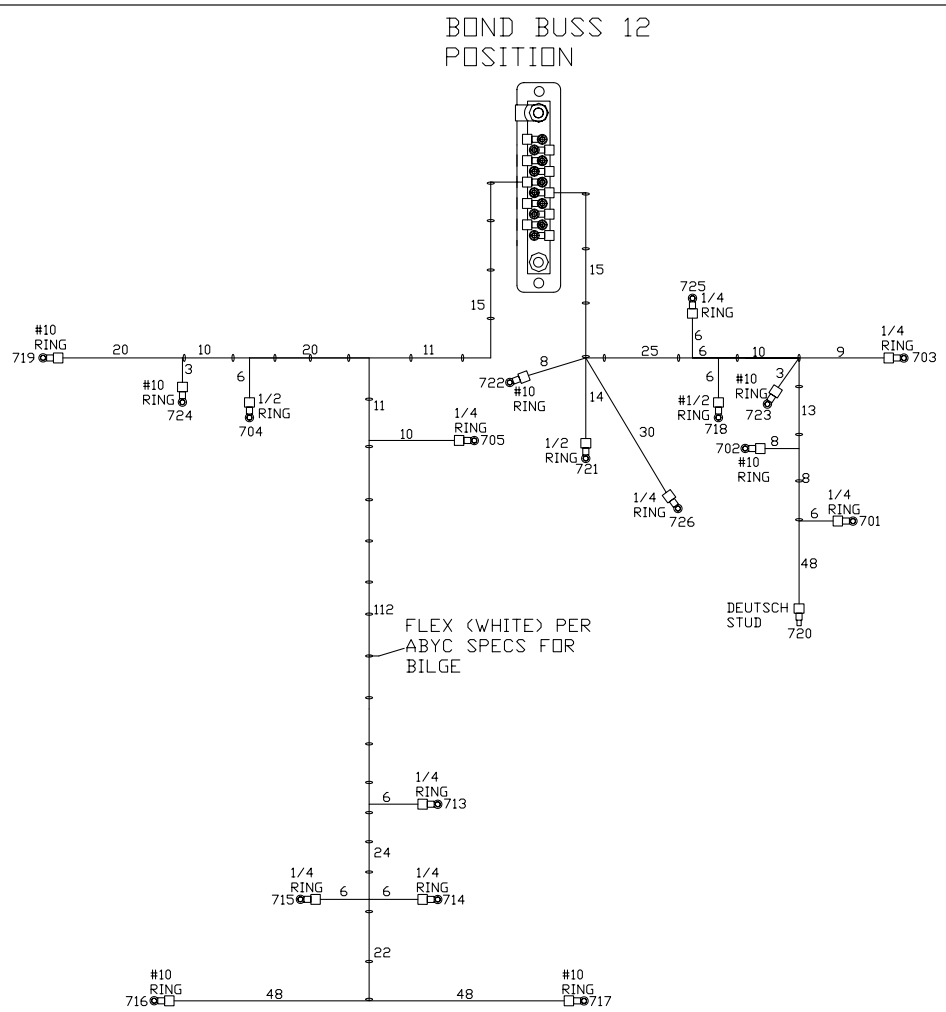


Figure 7.12 Bilge Panel



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
701	8AWG	GREEN	GEN STRAINER	GEN STRAINER	BOND BUSS	83"
702	8AWG	GREEN	GEN SEACOCK	GEN SEACOCK	BOND BUSS	77"
703	8AWG	GREEN	PLATFORM PUMP	PLATFORM PUMP	BOND BUSS	65"
704	8AWG	GREEN	PLATFORM BRACE	PLATFORM BRACE	BOND BUSS	52"
705	8AWG	GREEN	BATTERY TRAY	BATTERY TRAY	BOND BUSS	47"
713	8AWG	GREEN	GEN RACOR	GEN RACOR	BOND BUSS	155"
714	8AWG	GREEN	PORT RACOR	PORT RACOR	BOND BUSS	179"
715	8AWG	GREEN	STBD RACOR	STBD RACOR	BOND BUSS	179"
716	8AWG	GREEN	STBD TANK	STBD TANK	BOND BUSS	243"
717	8AWG	GREEN	PORT TANK	PORT TANK	BOND BUSS	243"
718	8AWG	GREEN	PLATFORM BRACE	PLATFORM BRACE	BOND BUSS	52"
719	8AWG	GREEN	VHT SEACOCK	VHT SEACOCK	BOND BUSS	76"
720	8AWG	GREEN	GEN BOND	GEN BOND	BOND BUSS	125"
721	8AWG	GREEN	ZINC PLATE	ZINC PLATE	BOND BUSS	29"
722	8AWG	GREEN	UW LIGHT CENTER	UW LIGHT CENTER	BOND BUSS	23"
723	8AWG	GREEN	UW LIGHT PORT	UW LIGHT PORT	BOND BUSS	59"
724	8AWG	GREEN	UW LIGHT STBD	UW LIGHT STBD	BOND BUSS	59"
725	8AWG	GREEN	BATT CHARGER	BATT CHARGER	BOND BUSS	46"
726	8AWG	GREEN	GARBER DRAIN	GARBER DRAIN	BOND BUSS	45"

Figure 7.13 Aft Bond Buss 1 Model

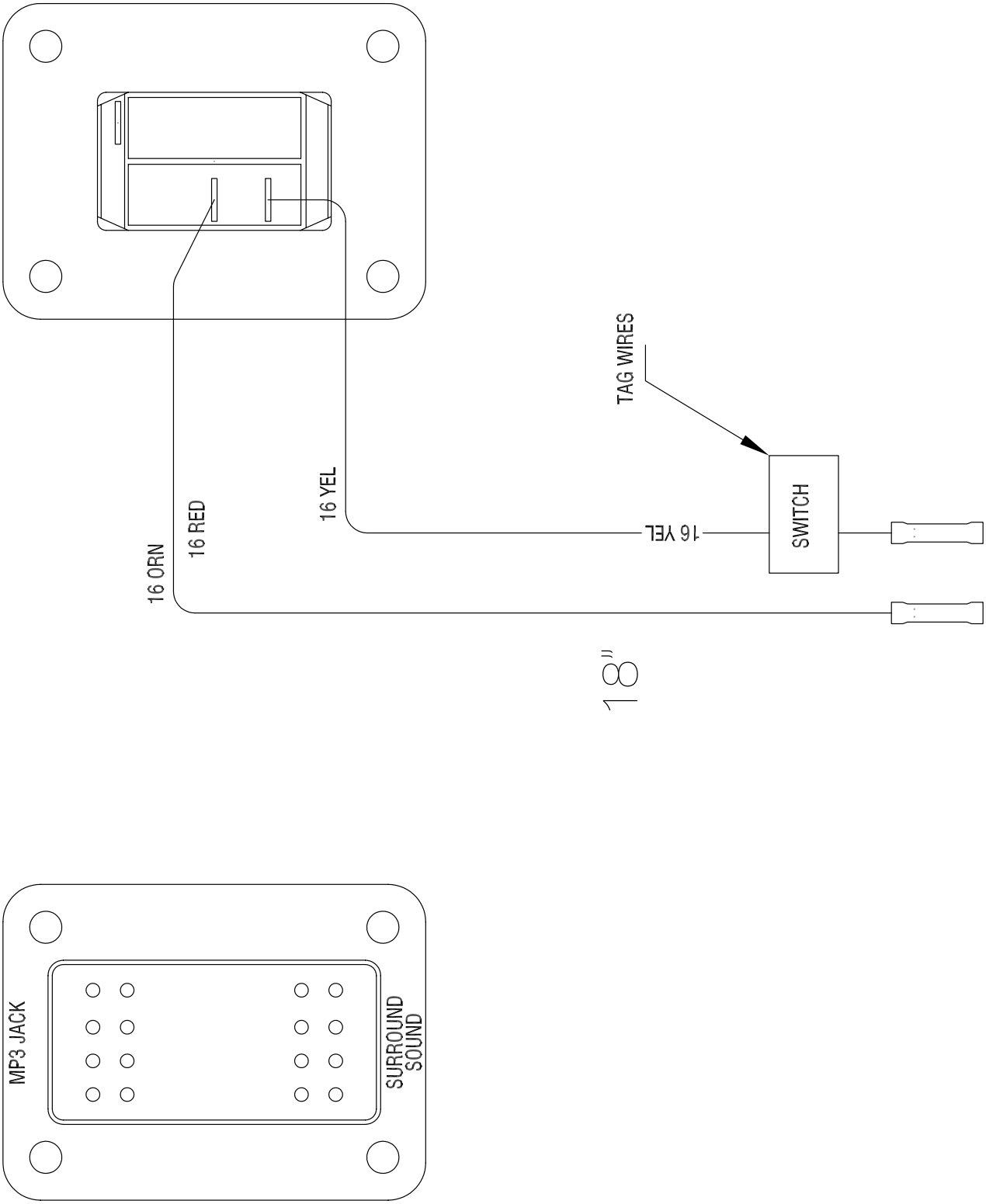


Figure 7.14 MP3 SW Panel

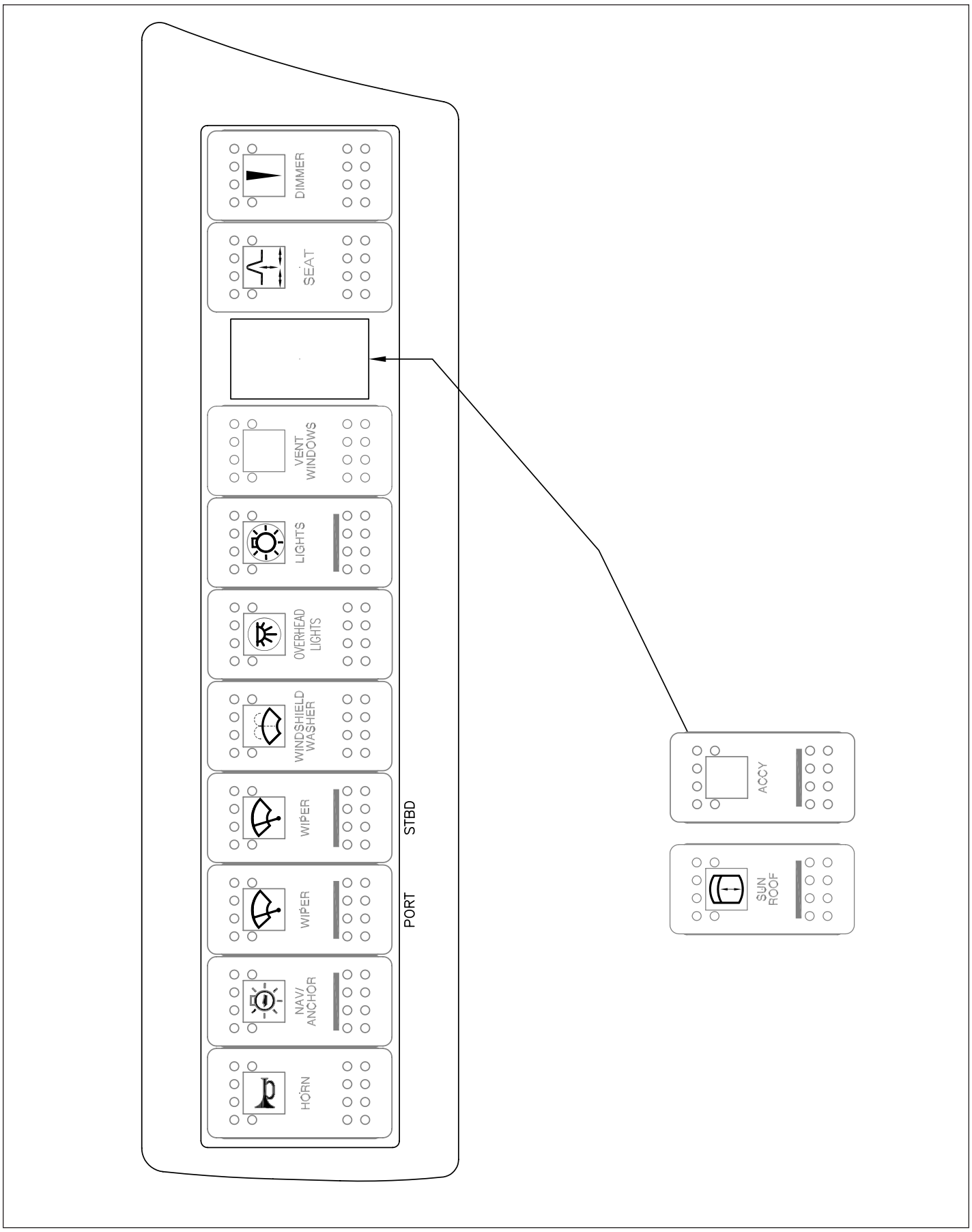


Figure 7.15 Port Switch Panel 1

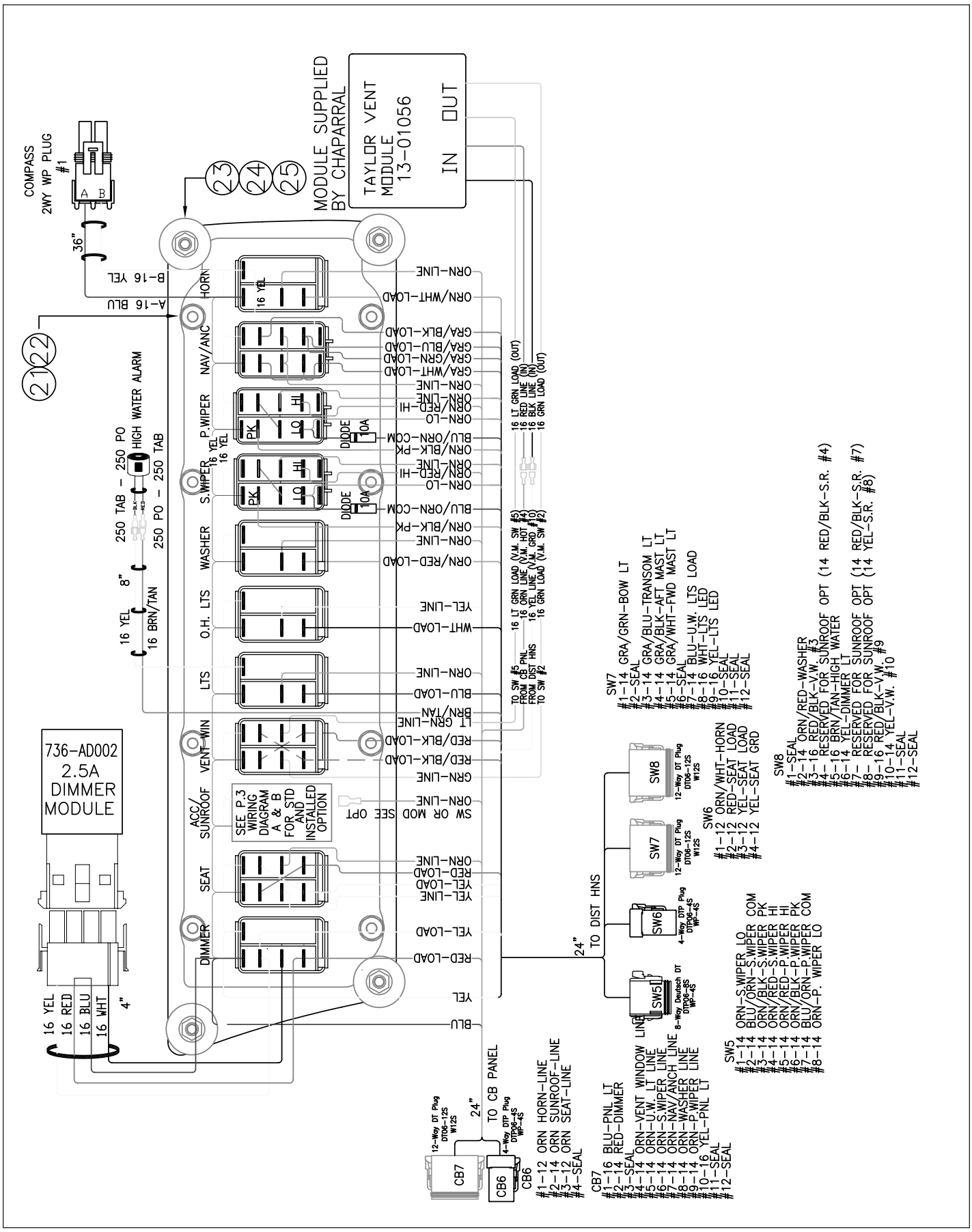


Figure 7.16 Port Switch Panel 2

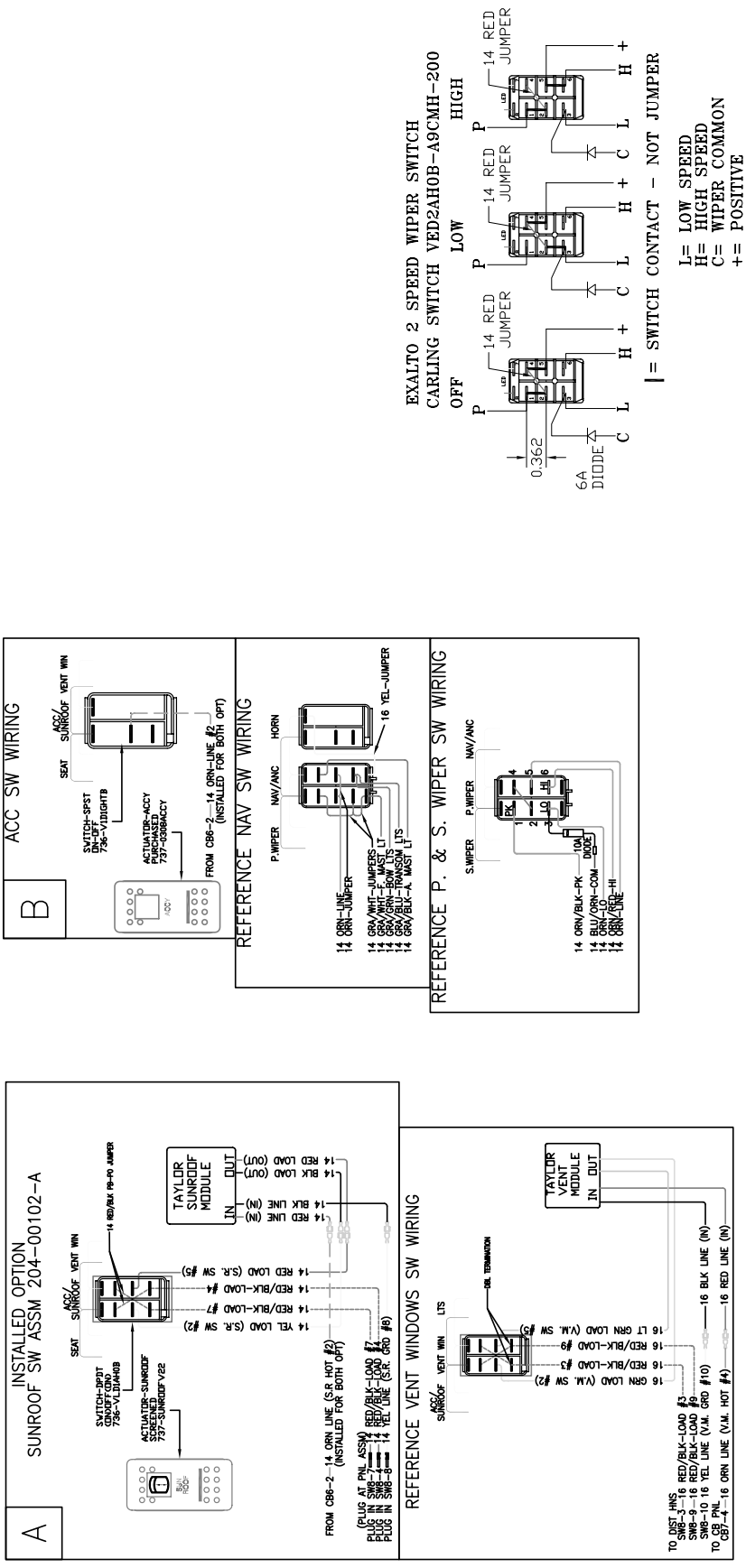


Figure 7.17 Port Switch Panel 3

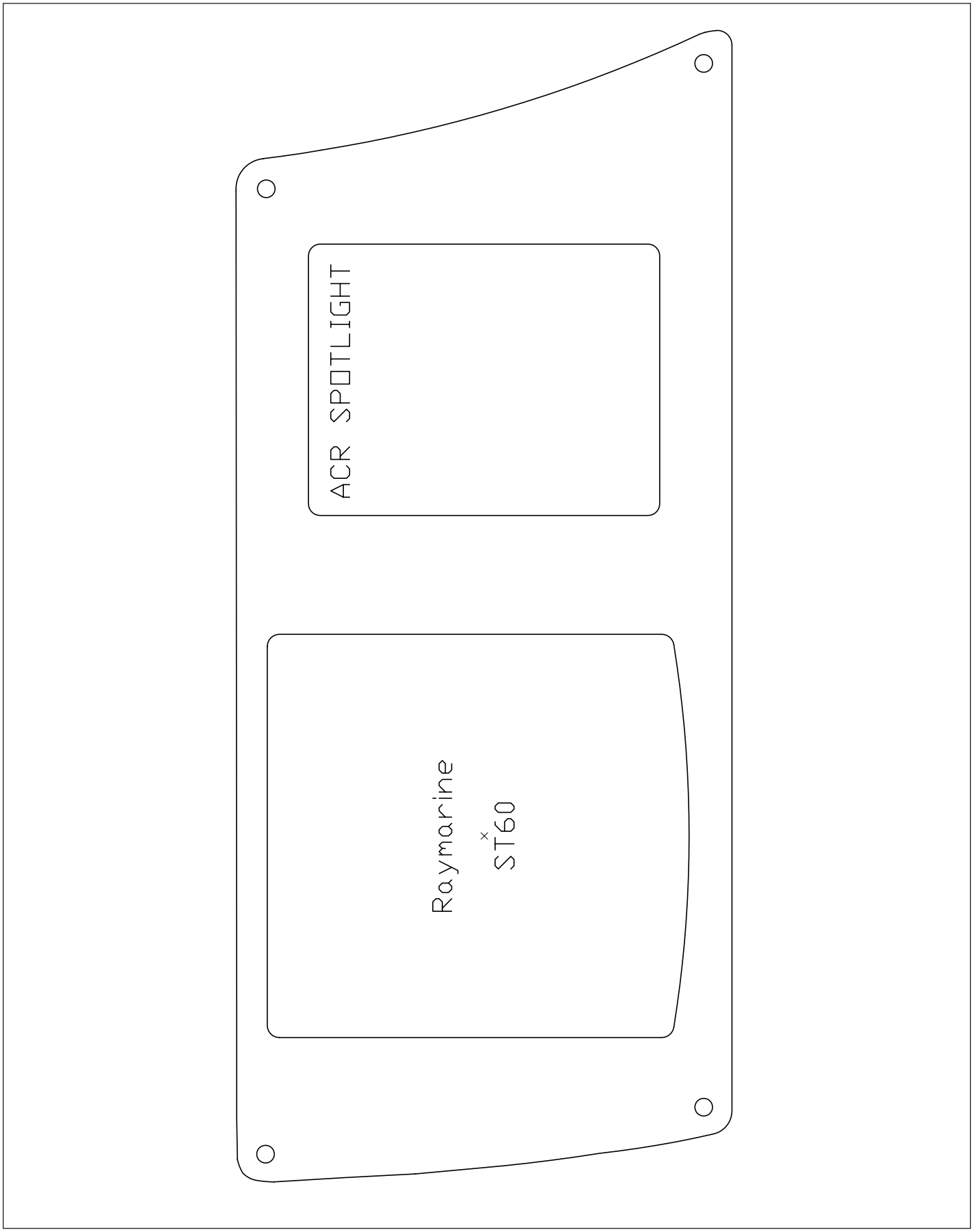


Figure 7.18 Port Component Panel

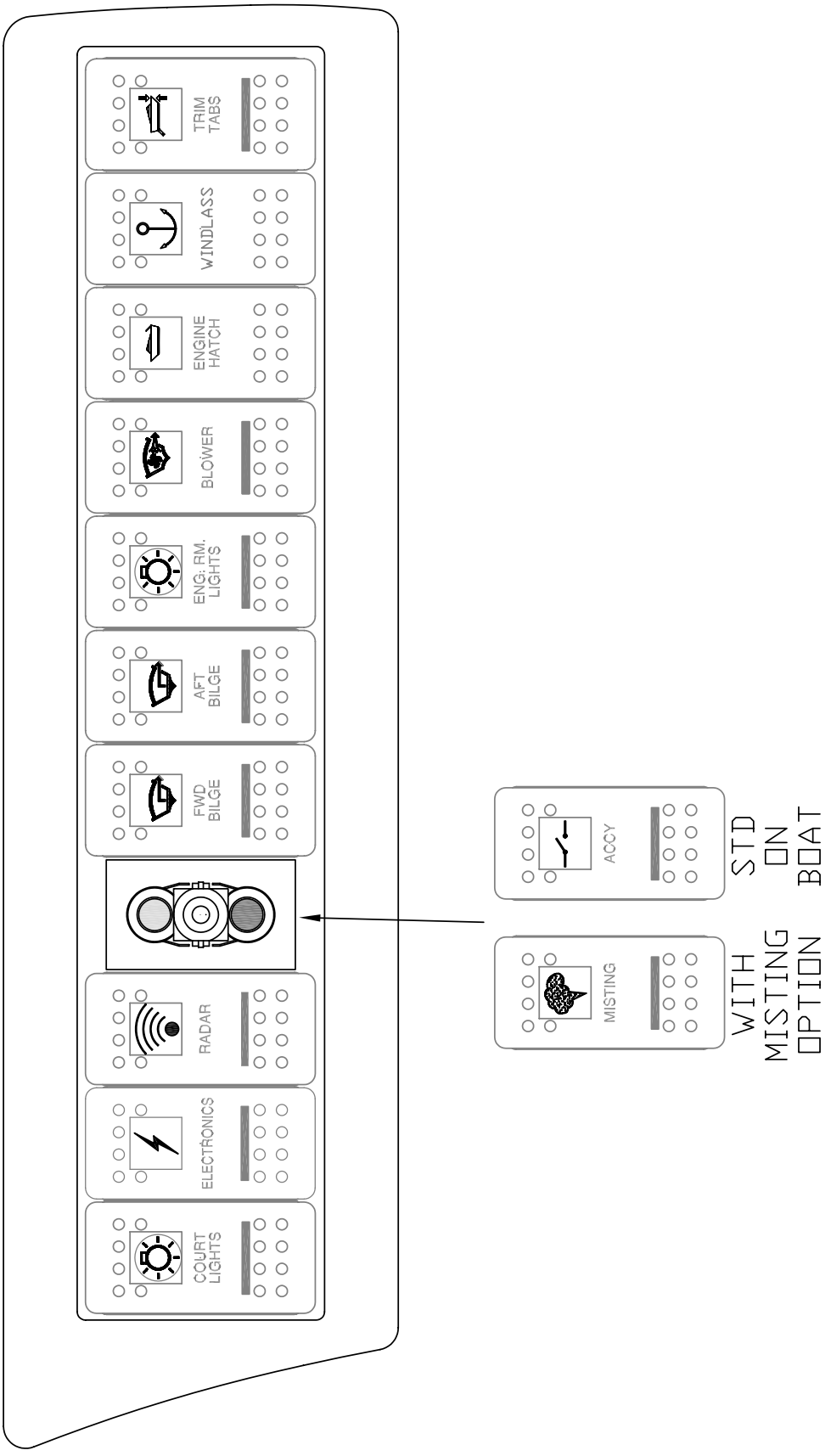


Figure 7.19 Starboard Switch Panel 1

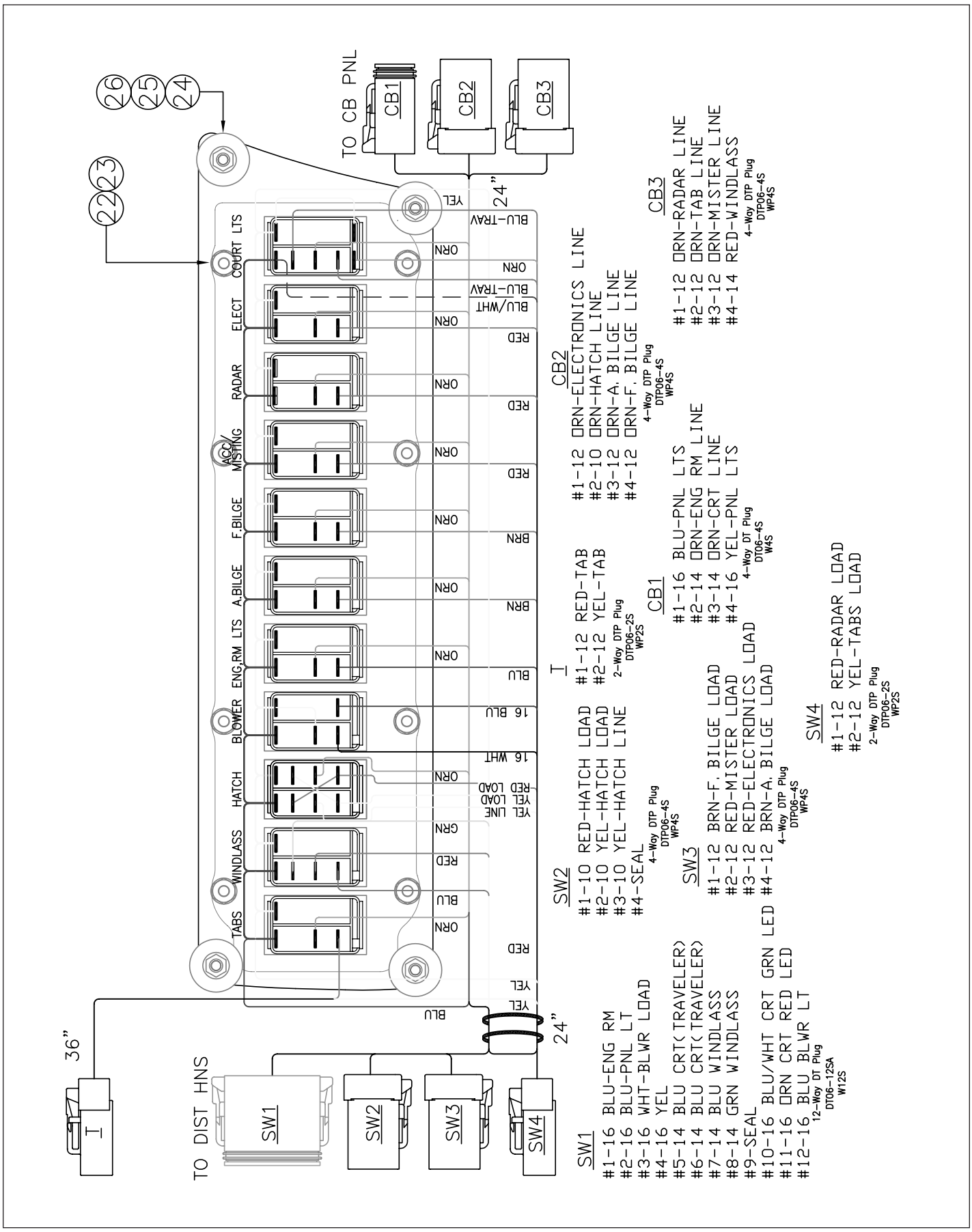


Figure 7.20 Starboard Switch Panel 2

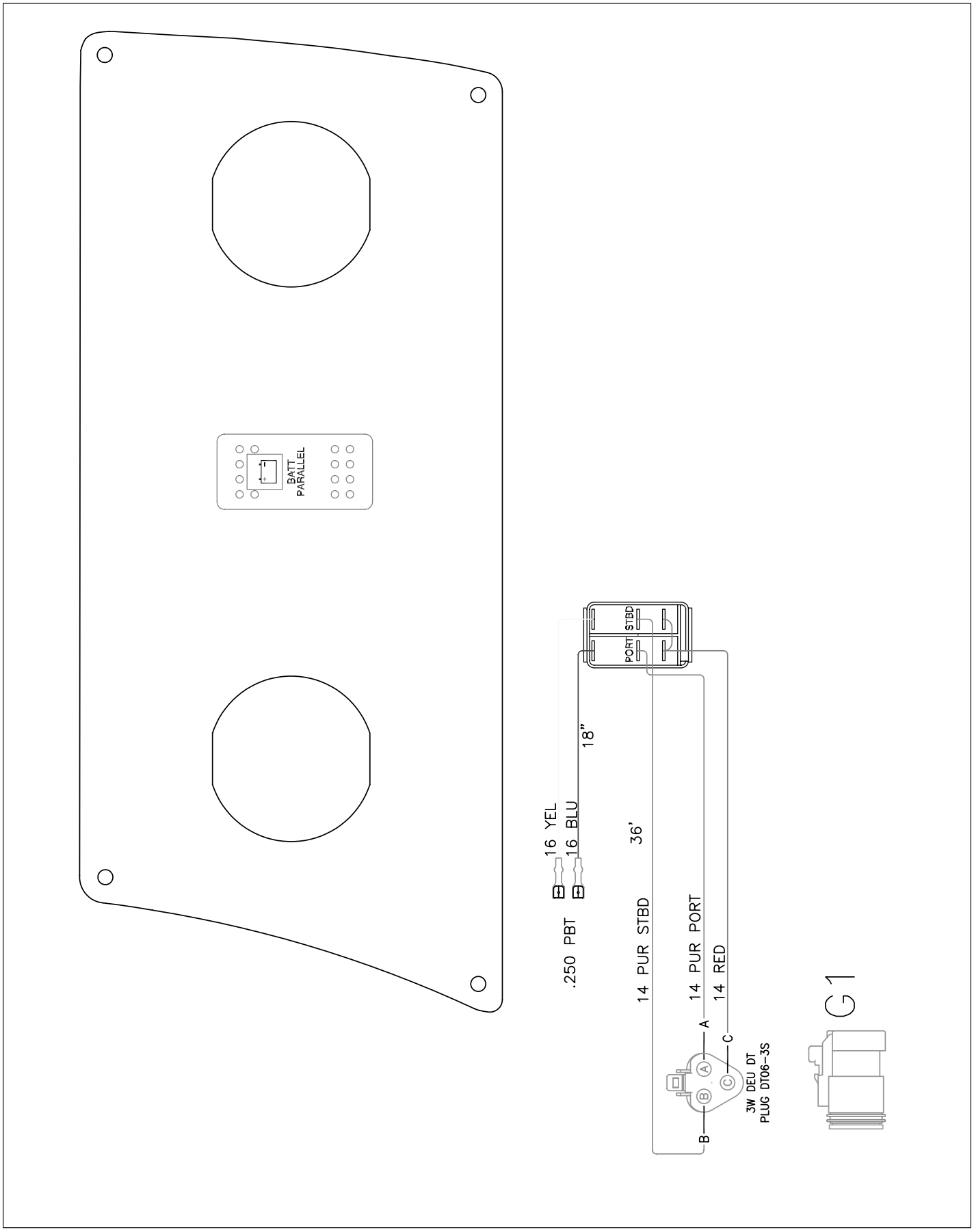


Figure 7.21 Starboard Component Panel

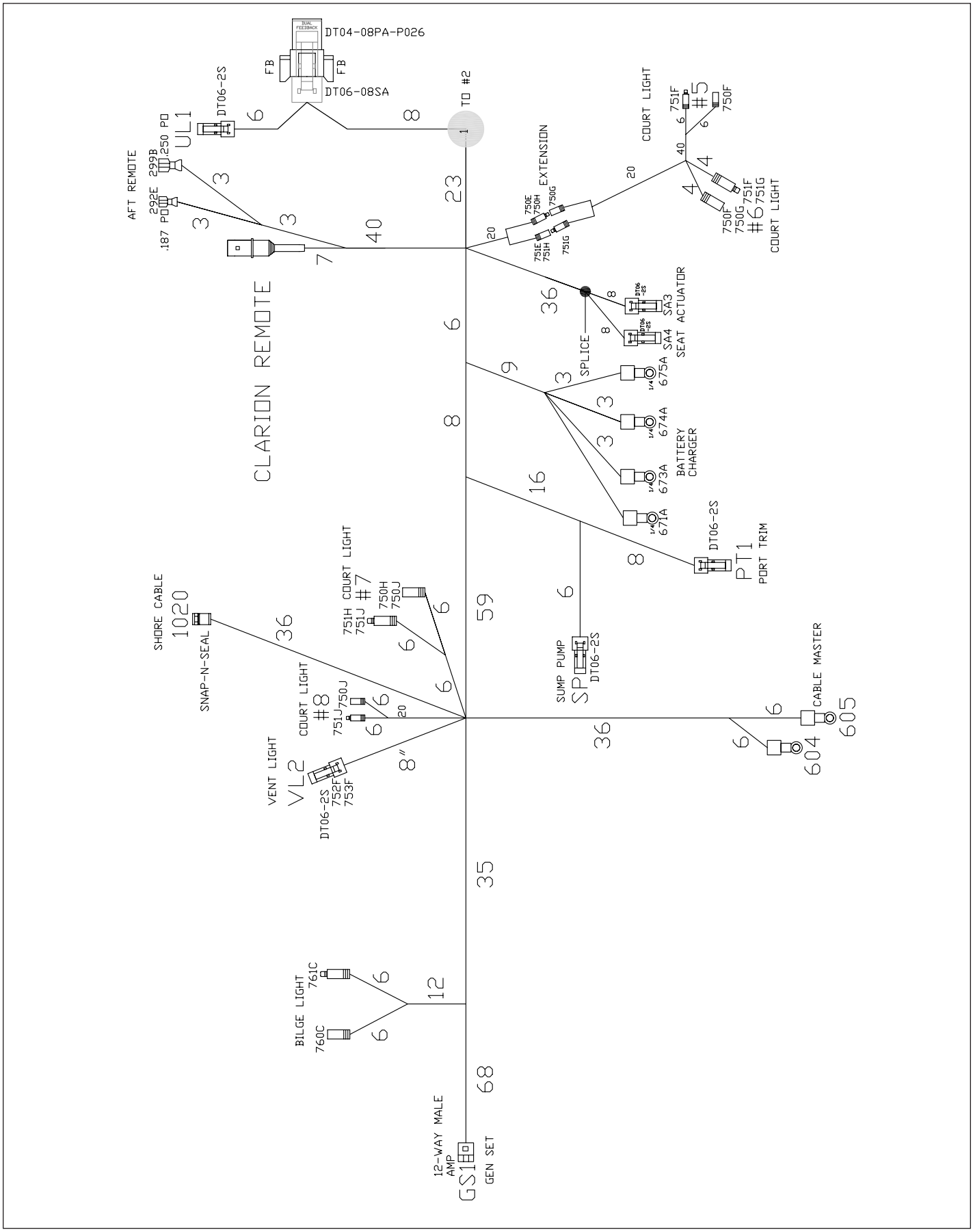


Figure 7.22 Bilge Distribution Harness Model 1

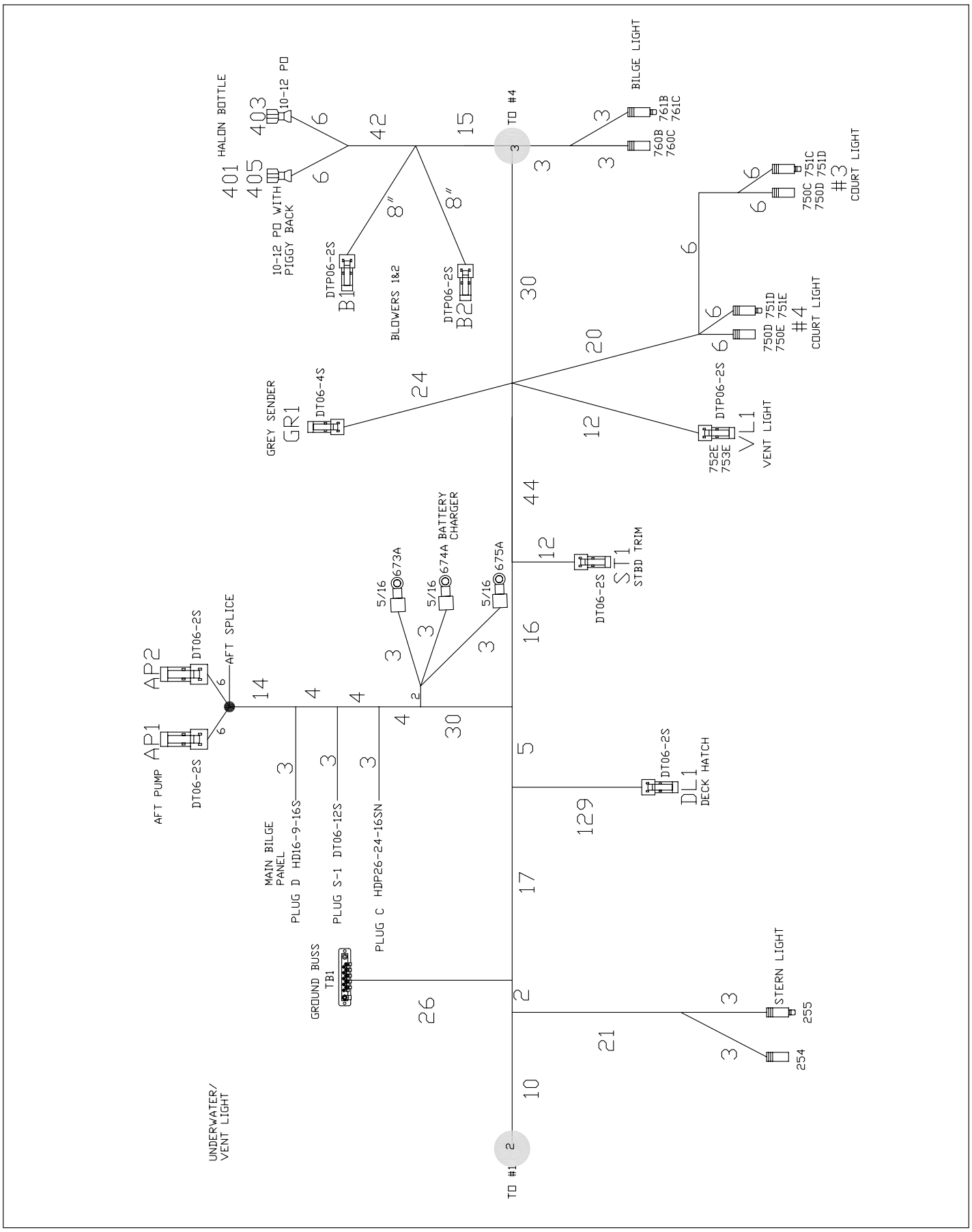


Figure 7.23 Bilge Distribution Harness Model 2

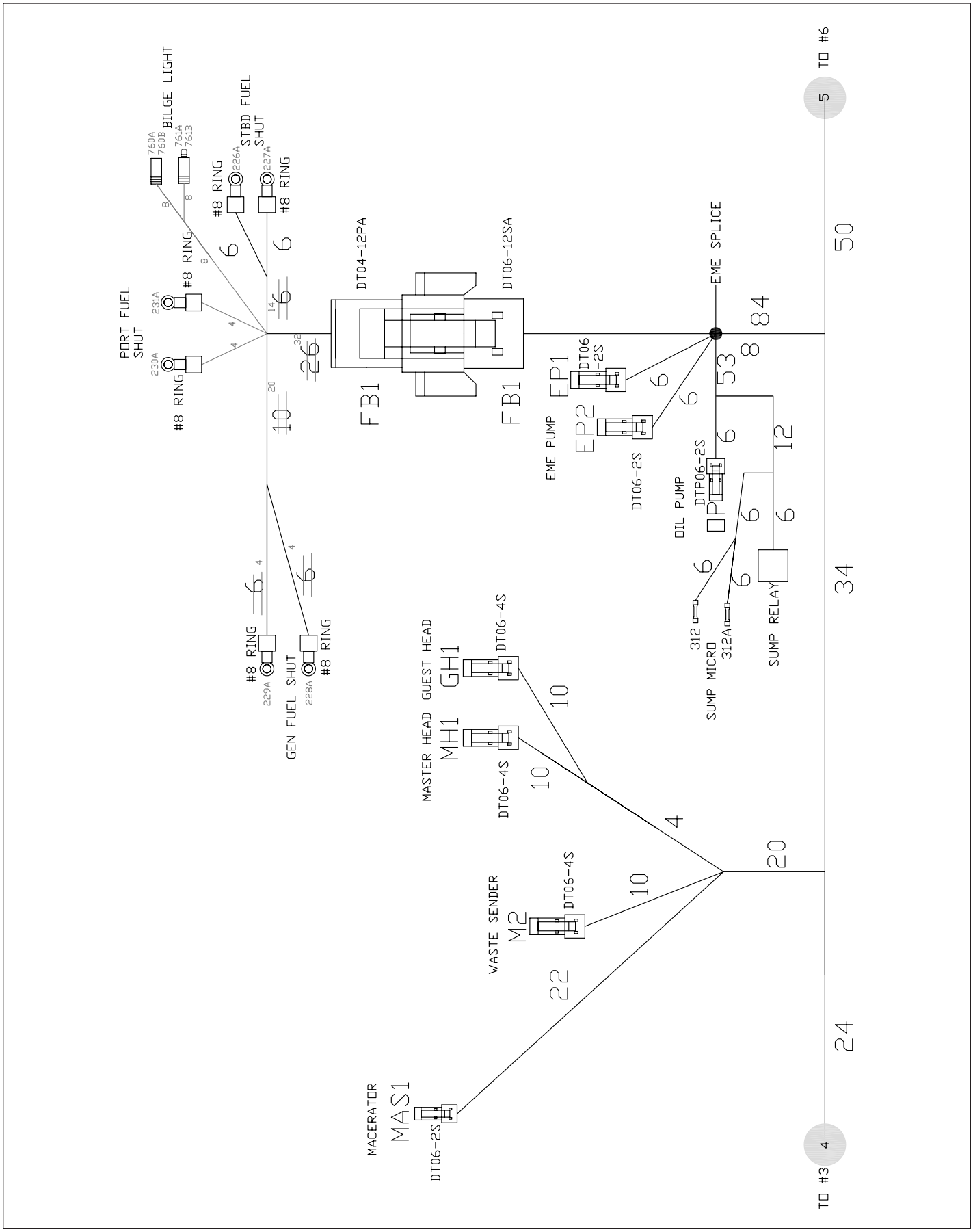


Figure 7.24 Bilge Distribution Harness Model 3

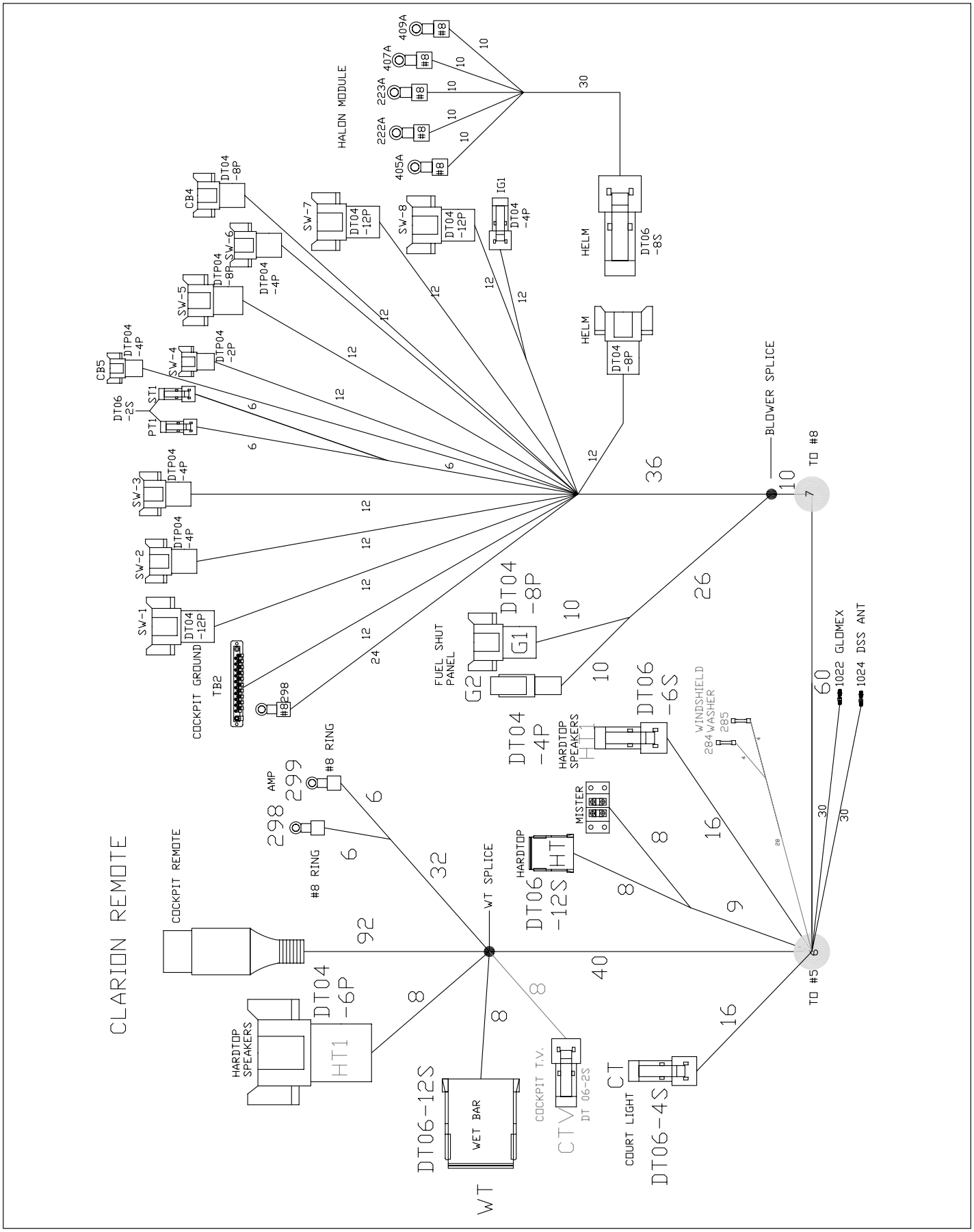


Figure 7.25 Bilge Distribution Harness Model 4

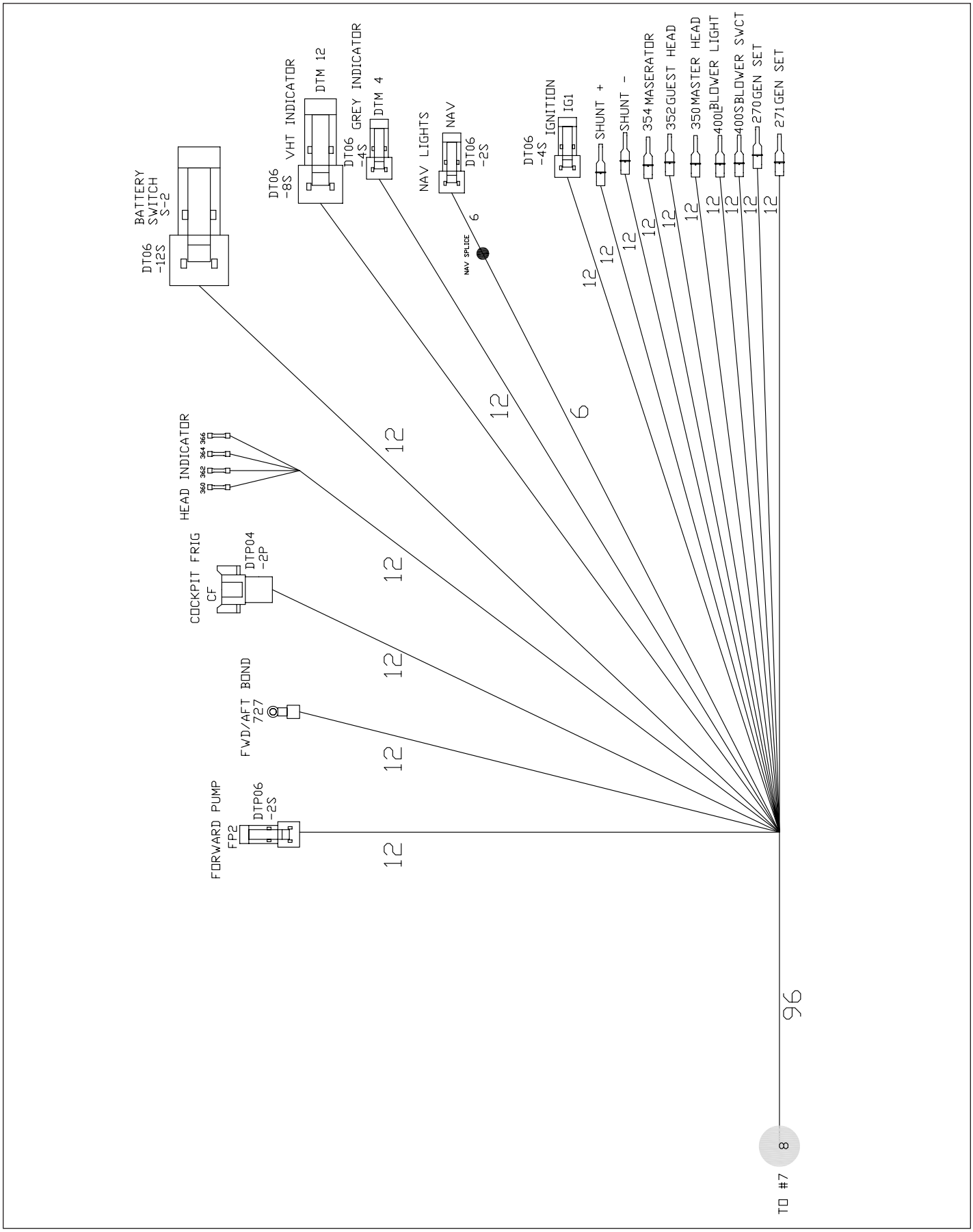
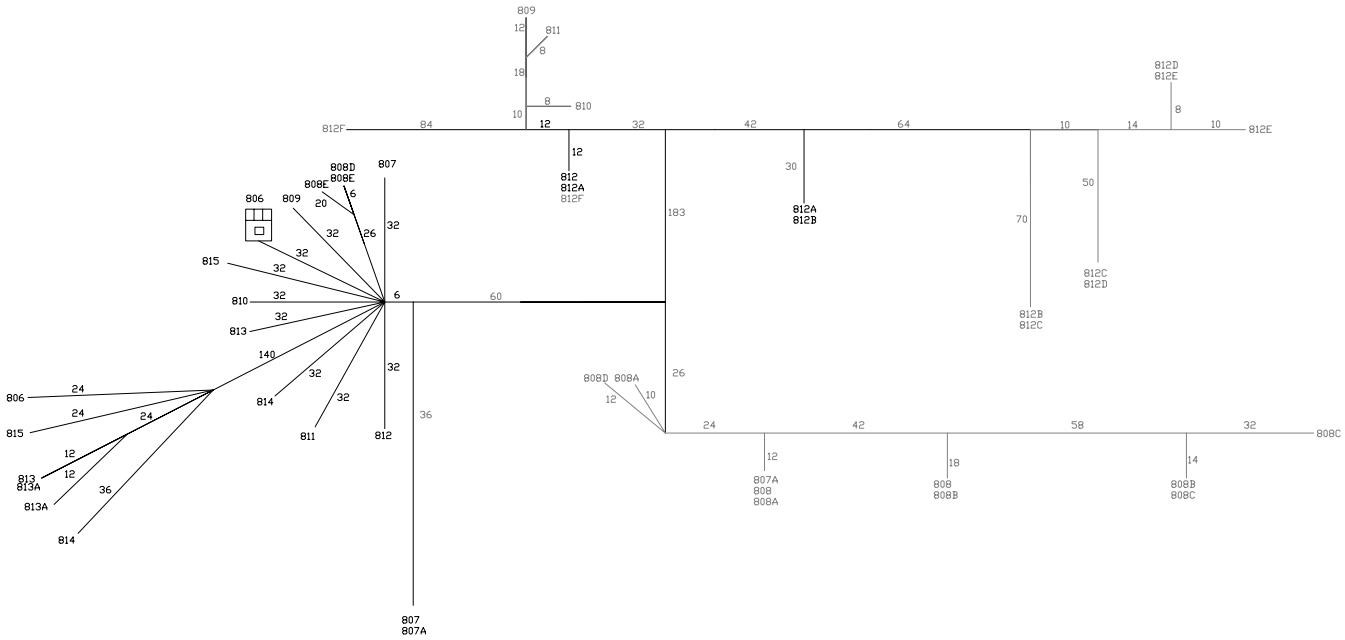
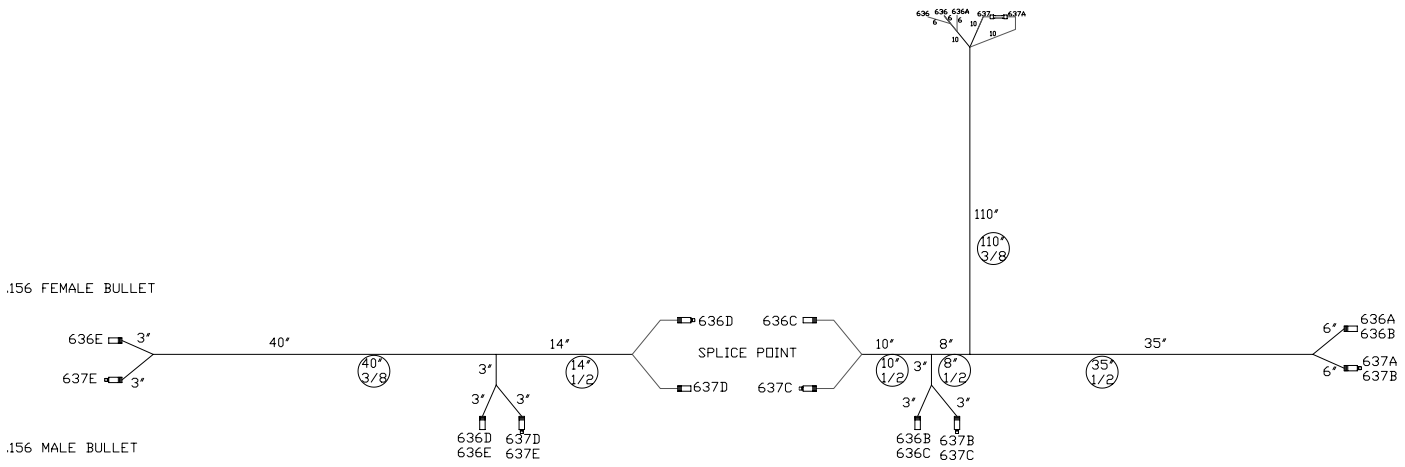


Figure 7.26 Bilge Distribution Harness Model 5



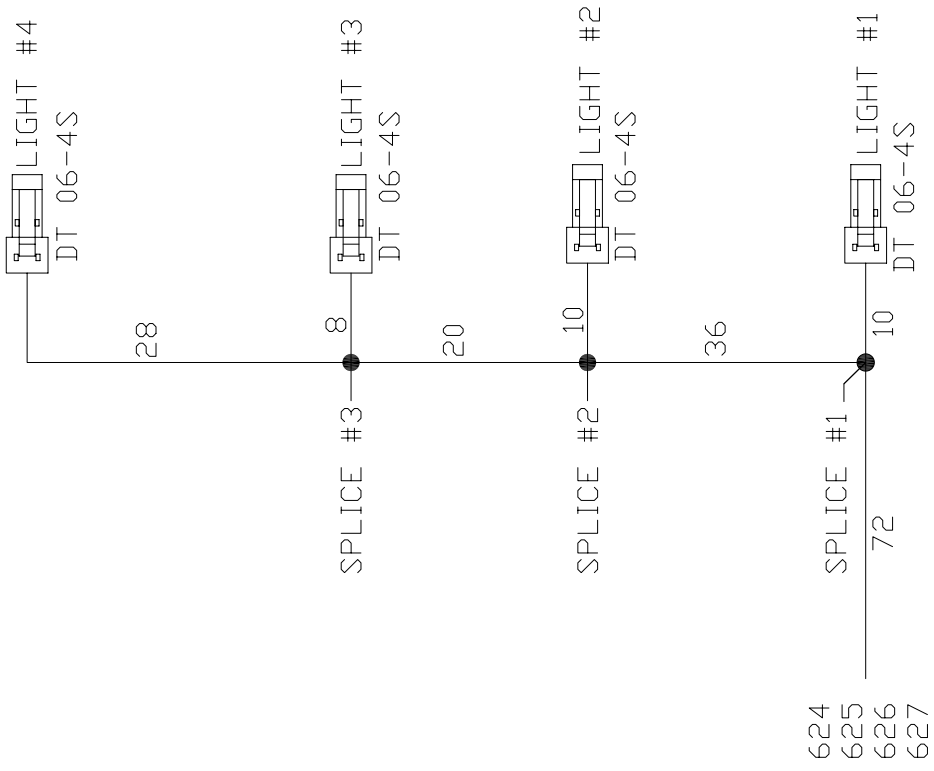
WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
807	12-3	WHITE	STBD A/C	STBD BREAKER	VAC REC	74
807A	12-3	WHITE	STBD A/C	VAC. REC	SALON GFCI	158
808	14-3	WHITE	STBD SYSTEM	SALON GFCI	FWD SALON REC	72
808A	14-3	WHITE	STBD SYSTEM	SALON GFCI	AFT ET SALON	46
808B	14-3	WHITE	STBD SYSTEM	FWD SALON REC.	FWD ET SALON	90
808C	14-3	WHITE	STBD SYSTEM	FWD ET SALON	TV SALON	46
808D	14-3	WHITE	STBD SYSTEM	AFT ET SALON	AFT STRM RECPT	136
808E	14-3	WHITE	STBD SYSTEM	AFT STRM RECPT	AFT PLAY STATION	26"
809	12-3	WHITE	STOVE	STOVE BREAKER	STOVE	365
810	14-3	WHITE	REF	REF BREAKER	REF	343
811	14-3	WHITE	MICRO	MICRO BREAKER	MICROWAVE	361
812	12-3	WHITE	PORT SYSTEM	PORT BREAKER	GALLEY GFCI	325
812A	14-3	WHITE	PORT SYSTEM	GALLEY GFCI	FWD GALLEY REC	116
812B	14-3	WHITE	PORT SYSTEM	FWD GALLEY REC	FWD HEAD REC	164
812C	14-3	WHITE	PORT SYSTEM	FWD HEAD REC	V.B. T.V. REC	130
812D	14-3	WHITE	PORT SYSTEM	V.B. T.V. REC	V.B. REC	72
812E	14-3	WHITE	PORT SYSTEM	V.B. REC	V.B. DVD REC	18
812F	14-3	WHITE	PORT SYSTEM	GALLEY GFCI	AFT HEAD REC	108
813	12-3	WHITE	COCKPIT SYSTEM	COCKPIT BREAKER	COCKPIT GFCI LINE	208"
813A	14-3	WHITE	COCKPIT SYSTEM	COCKPIT GFCI LOAD	COCKPIT FRIG/TV LIFT	24"
814	12-3	WHITE	COCKPIT GRILL	COCKPIT GRILL BREAKER	COCKPIT GRILL OUTLET	208"
815	12-3	WHITE	COCKPIT AC	COCKPIT AC BREAKER	COCKPIT AC	196"
806A	14-3	WHITE	COCKPIT AC	MOLEX PLUG	COCKPIT AC	196"

Figure 7.27 XAC Cabin Harness Model



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
636	16AWG	BLUE	SOFA LITE	POWER JUMP IN SWITCH	SOFA LITE SWITCH	12
636A	16AWG	BLUE	SOFA LITE	SOFA LITE SWITCH	SOFA LITE #1	167
637A	16AWG	YELLOW	SOFA LITE	SOFA LITE SWITCH	SOFA LITE #1	167
636B	16AWG	BLUE	SOFA LITE	SOFA LITE #1	SOFA LITE #2	55
637B	16AWG	YELLOW	SOFA LITE	SOFA LITE #1	SOFA LITE #2	55
636C	16AWG	BLUE	SOFA LITE	SOFA LITE #2	SPLICE	16
637C	16AWG	YELLOW	SOFA LITE	SOFA LITE #2	SPLICE	16
636D	16AWG	BLUE	SOFA LITE	SPLICE	SOFA LITE #3	20
637D	16AWG	YELLOW	SOFA LITE	SPLICE	SOFA LITE #3	20
636E	16AWG	BLUE	SOFA LITE	SOFA LITE #3	SOFA LITE #4	49
637E	16AWG	YELLOW	SOFA LITE	SOFA LITE #3	SOFA LITE #4	49

Figure 7.28 XSofa Lite Harness Model



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
624	16AWG	RED	GALLEY O.H.	GALLEY SWITCH	SPLICE #1	72
625	16AWG	BLACK	GALLEY O.H.	GALLEY SWITCH	SPLICE #1	72
626	16AWG	YELLOW	GALLEY O.H.	GALLEY SWITCH	SPLICE #1	72
627	16AWG	WHITE	GALLEY O.H.	GALLEY SWITCH	SPLICE #1	72
624A	16AWG	RED	GALLEY O.H.	SPLICE #1	O.H. LIGHT 1 POS1	10
625A	16AWG	BLACK	GALLEY O.H.	SPLICE #1	O.H. LIGHT 1 POS2	10
626A	16AWG	YELLOW	GALLEY O.H.	SPLICE #1	O.H. LIGHT 1 POS3	10
627A	16AWG	WHITE	GALLEY O.H.	SPLICE #1	O.H. LIGHT 1 POS4	10
624B	16AWG	RED	GALLEY O.H.	SPLICE #1	SPLICE #2	36
625B	16AWG	BLACK	GALLEY O.H.	SPLICE #1	SPLICE #2	36
626B	16AWG	YELLOW	GALLEY O.H.	SPLICE #1	SPLICE #2	36
627B	16AWG	WHITE	GALLEY O.H.	SPLICE #1	SPLICE #2	36
624C	16AWG	RED	GALLEY O.H.	SPLICE #2	O.H. LIGHT 2 POS1	10
625C	16AWG	BLACK	GALLEY O.H.	SPLICE #2	O.H. LIGHT 2 POS2	10
WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
626C	16AWG	YELLOW	GALLEY O.H.	SPLICE #2	O.H. LIGHT 2 POS3	10
627C	16AWG	WHITE	GALLEY O.H.	SPLICE #2	O.H. LIGHT 2 POS4	10
624D	16AWG	RED	GALLEY O.H.	SPLICE #2	SPLICE #3	20
625D	16AWG	BLACK	GALLEY O.H.	SPLICE #2	SPLICE #3	20
626D	16AWG	YELLOW	GALLEY O.H.	SPLICE #2	SPLICE #3	20
627D	16AWG	WHITE	GALLEY O.H.	SPLICE #2	SPLICE #3	20
624E	16AWG	RED	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS1	8
625E	16AWG	BLACK	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS2	8
626E	16AWG	YELLOW	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS3	8
627E	16AWG	WHITE	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS4	8
624F	16AWG	RED	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS1	28
625F	16AWG	BLACK	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS2	28
626F	16AWG	YELLOW	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS3	28
627F	16AWG	WHITE	GALLEY O.H.	SPLICE #3	O.H. LIGHT 3 POS4	28

Figure 7.29 Galley Overhead Light Harness 1

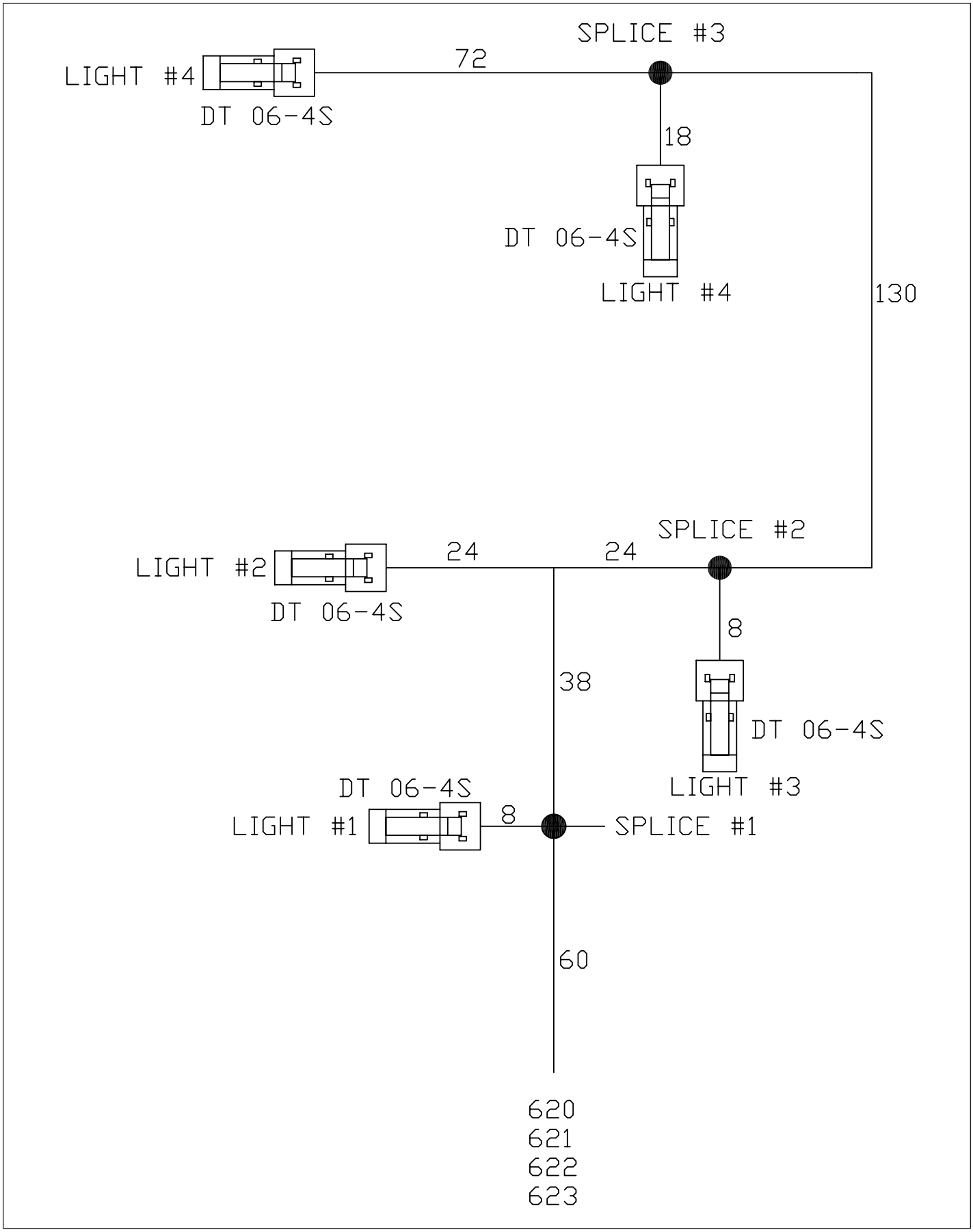
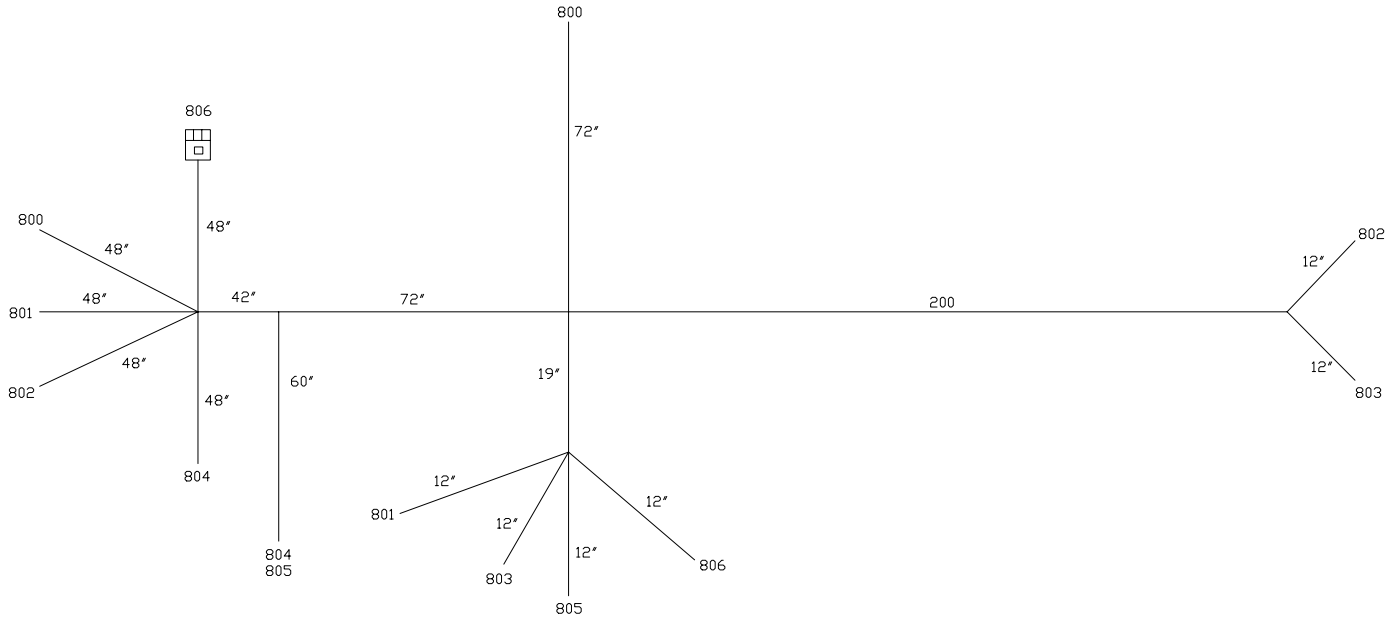


Figure 7.30 Forward Overhead Light Harness 2

WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
620	16AWG	RED	FWD LIGHTING	ENTRY SWITCH	SPLICE #1	60
621	16AWG	BLACK	FWD LIGHTING	ENTRY SWITCH	SPLICE #1	60
622	16AWG	YELLOW	FWD LIGHTING	ENTRY SWITCH	SPLICE #1	60
623	16AWG	WHITE	FWD LIGHTING	ENTRY SWITCH	SPLICE #1	60
620A	16AWG	RED	FWD LIGHTING	SPLICE #1	O.H. LIGHT 1 POS1	8
621A	16AWG	BLACK	FWD LIGHTING	SPLICE #1	O.H. LIGHT 1 POS2	8
622A	16AWG	YELLOW	FWD LIGHTING	SPLICE #1	O.H LIGHT 1 POS3	8
623A	16AWG	WHITE	FWD LIGHTING	SPLICE #1	O.H LIGHT 1 POS4	8
620B	16AWG	RED	FWD LIGHTING	SPLICE #1	SPLICE #2	62
621B	16AWG	BLACK	FWD LIGHTING	SPLICE #1	SPLICE #2	62
622B	16AWG	YELLOW	FWD LIGHTING	SPLICE #1	SPLICE #2	62
623B	16AWG	WHITE	FWD LIGHTING	SPLICE #1	SPLICE #2	62
620C	16AWG	RED	FWD LIGHTING	SPLICE #2	O.H LIGHT 3 POS1	8
621C	16AWG	BLACK	FWD LIGHTING	SPLICE #2	O.H LIGHT 3 POS2	8
622C	16AWG	YELLOW	FWD LIGHTING	SPLICE #2	O.H LIGHT 3 POS3	8
623C	16AWG	WHITE	FWD LIGHTING	SPLICE #2	O.H LIGHT 3 POS4	8

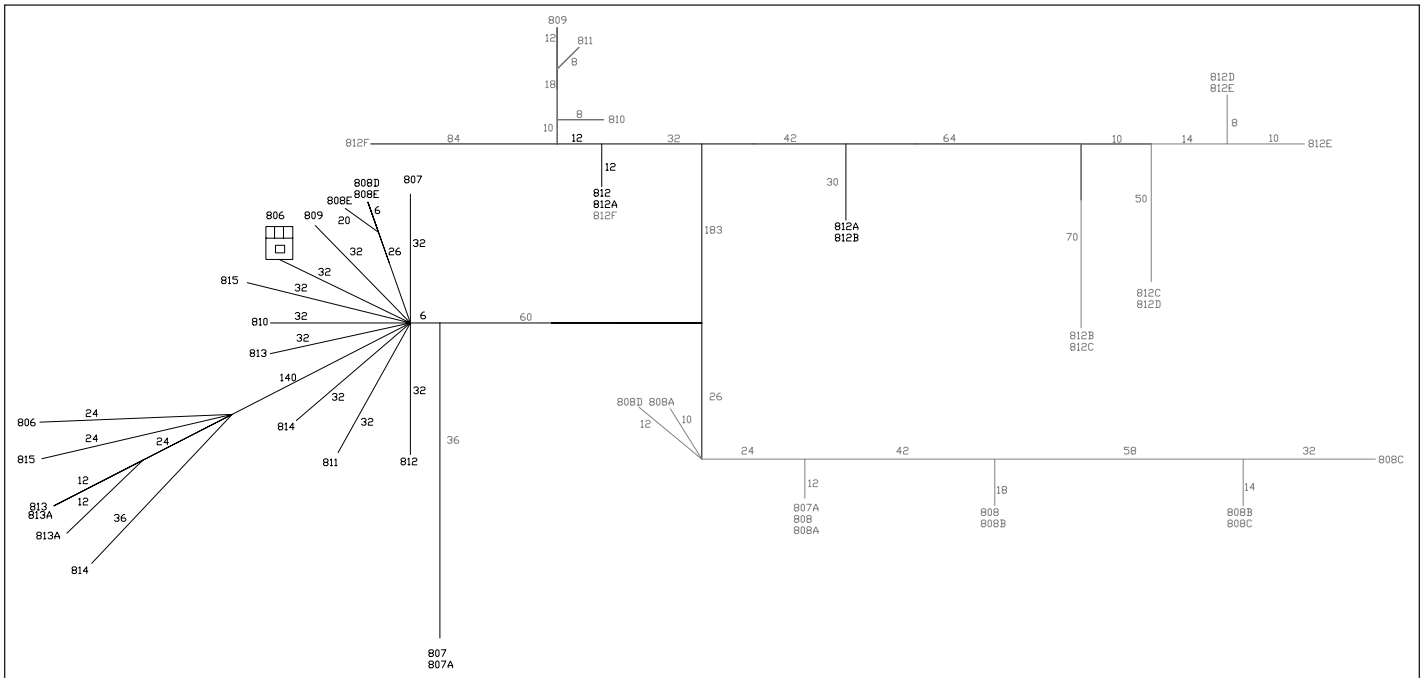
WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
620D	16AWG	RED	FWD LIGHTING	SPLICE #2	O.H LIGHT 2 POS1	56
621D	16AWG	BLACK	FWD LIGHTING	SPLICE #2	O.H LIGHT 2 POS2	56
622D	16AWG	YELLOW	FWD LIGHTING	SPLICE #2	O.H LIGHT 2 POS3	56
623D	16AWG	WHITE	FWD LIGHTING	SPLICE #2	O.H LIGHT 2 POS4	56
620E	16AWG	RED	FWD LIGHTING	SPLICE #2	SPLICE #3	130
621E	16AWG	BLACK	FWD LIGHTING	SPLICE #2	SPLICE #3	130
622E	16AWG	YELLOW	FWD LIGHTING	SPLICE #2	SPLICE #3	130
623E	16AWG	WHITE	FWD LIGHTING	SPLICE #2	SPLICE #3	130
620F	16AWG	RED	FWD LIGHTING	SPLICE #3	O.H LIGHT 4 POS1	18
621F	16AWG	BLACK	FWD LIGHTING	SPLICE #3	O.H LIGHT 4 POS2	18
622F	16AWG	YELLOW	FWD LIGHTING	SPLICE #3	O.H LIGHT 4 POS3	18
623F	16AWG	WHITE	FWD LIGHTING	SPLICE #3	O.H LIGHT 4 POS4	18
620G	16AWG	RED	FWD LIGHTING	SPLICE #3	O.H LIGHT 5 POS1	72
621G	16AWG	BLACK	FWD LIGHTING	SPLICE #3	O.H LIGHT 5 POS2	72
622G	16AWG	YELLOW	FWD LIGHTING	SPLICE #3	O.H LIGHT 5 POS3	72
623G	16AWG	WHITE	FWD LIGHTING	SPLICE #3	O.H LIGHT 5 POS4	72

Figure 7.31 Forward Overhead Light Harness 3



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
800	12AWG	WHITE	WATER HEATER	A/C PANEL	WATER HEATER	234″
801	14AWG	WHITE	PUMP POWER	A/C PANEL	A/C RELAY POWER	193″
802	12AWG	WHITE	V-BERTH A/C POWER	A/C PANEL	V-BERTH A/C UNIT POWER	374″
803	14AWG	WHITE	V-BERTH RELAY	V-BERTH A/C UNIT	A/C RELAY BOX	243″
804	12AWG	WHITE	SALON A/C POWER	A/C PANEL	SALON A/C POWER	150″
805	14AWG	WHITE	SALON A/C RELAY	SALON A/C UNIT	A/C RELAY BOX	163″
806	14AWG	WHITE	COCKPIT A/C RELAY	A/C RELAY BOX	COCKPIT A/C UNIT	193″

Figure 7.32 X009-1300570 Sub Floor Model



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
807	12-3	WHITE	STBD A/C	STBD BREAKER	VAC REC	74
807A	12-3	WHITE	STBD A/C	VAC. REC	SALON GFCI	158
808	14-3	WHITE	STBD SYSTEM	SALON GFCI	FWD SALON REC	72
808A	14-3	WHITE	STBD SYSTEM	SALON GFCI	AFT ET SALON	46
808B	14-3	WHITE	STBD SYSTEM	FWD SALON REC.	FWD ET SALON	90
808C	14-3	WHITE	STBD SYSTEM	FWD ET SALON	TV SALON	46
808D	14-3	WHITE	STBD SYSTEM	AFT ET SALON	AFT STRM RECPT	136
808E	14-3	WHITE	STBD SYSTEM	AFT STRM RECPT	AFT PLAY STATION	26"
809	12-3	WHITE	STOVE	STOVE BREAKER	STOVE	365
810	14-3	WHITE	REF	REF BREAKER	REF	343
811	14-3	WHITE	MICRO	MICRO BREAKER	MICROWAVE	361
812	12-3	WHITE	PORT SYSTEM	PORT BREAKER	GALLEY GFCI	325
812A	14-3	WHITE	PORT SYSTEM	GALLEY GFCI	FWD GALLEY REC	116
812B	14-3	WHITE	PORT SYSTEM	FWD GALLEY REC	FWD HEAD REC	164
812C	14-3	WHITE	PORT SYSTEM	FWD HEAD REC	V.B. T.V. REC	130
812D	14-3	WHITE	PORT SYSTEM	V.B. T.V. REC	V.B. REC	72
812E	14-3	WHITE	PORT SYSTEM	V.B. REC	V.B. DVD REC	18
812F	14-3	WHITE	PORT SYSTEM	GALLEY GFCI	AFT HEAD REC	108
813	12-3	WHITE	COCKPIT SYSTEM	COCKPIT BREAKER	COCKPIT GFCI LINE	208"
813A	14-3	WHITE	COCKPIT SYSTEM	COCKPIT GFCI LOAD	COCKPIT FRIG/TV LIFT	24"
814	12-3	WHITE	COCKPIT GRILL	COCKPIT GRILL BREAKER	COCKPIT GRILL OUTLET	208"
815	12-3	WHITE	COCKPIT AC	COCKPIT AC BREAKER	COCKPIT AC	196"
806A	14-3	WHITE	COCKPIT AC	MOLEX PLUG	COCKPIT AC	196"

Figure 7.33 AC Cabin Harness

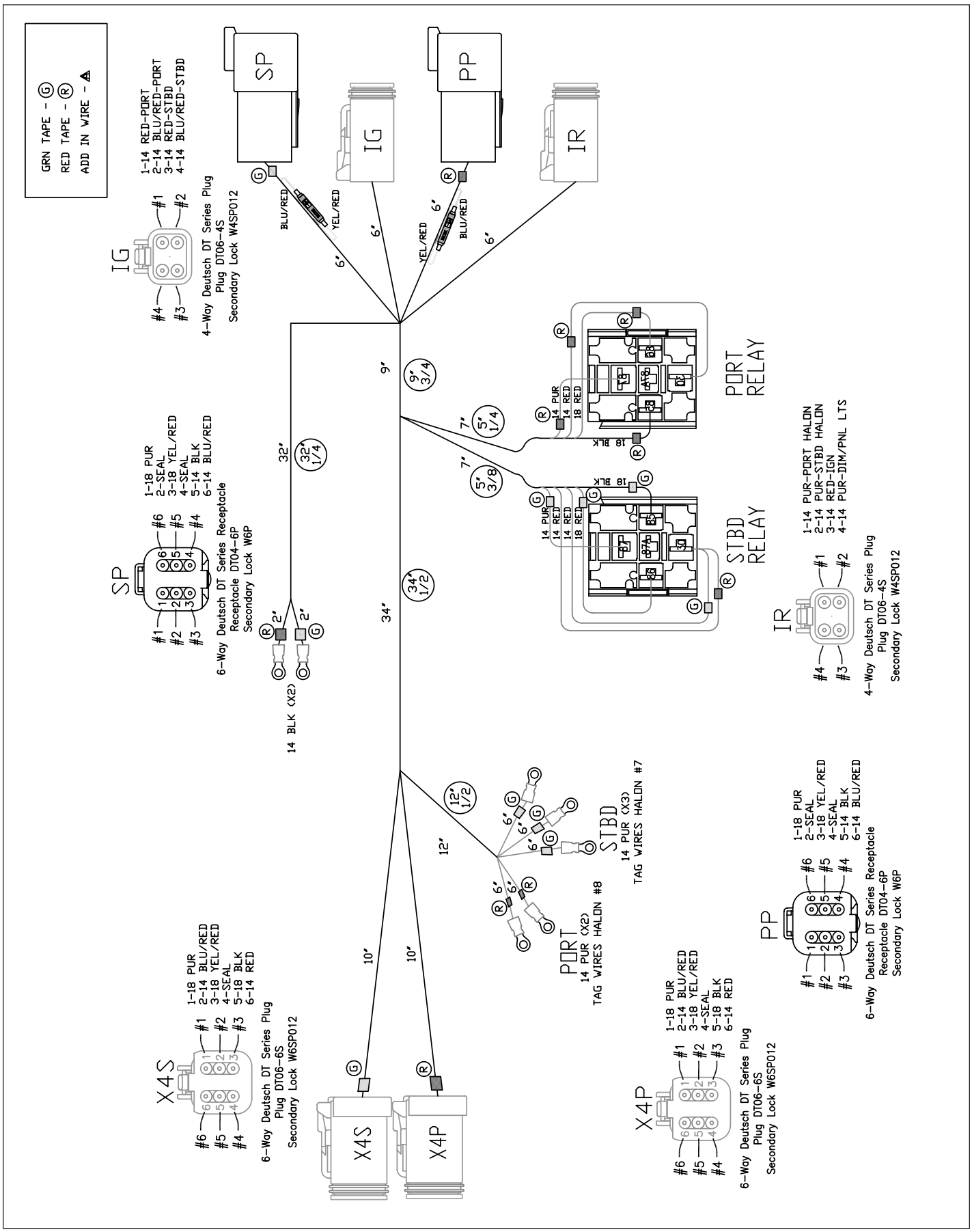


Figure 7.34 2010 Volvo IPS Ignition Harness 1

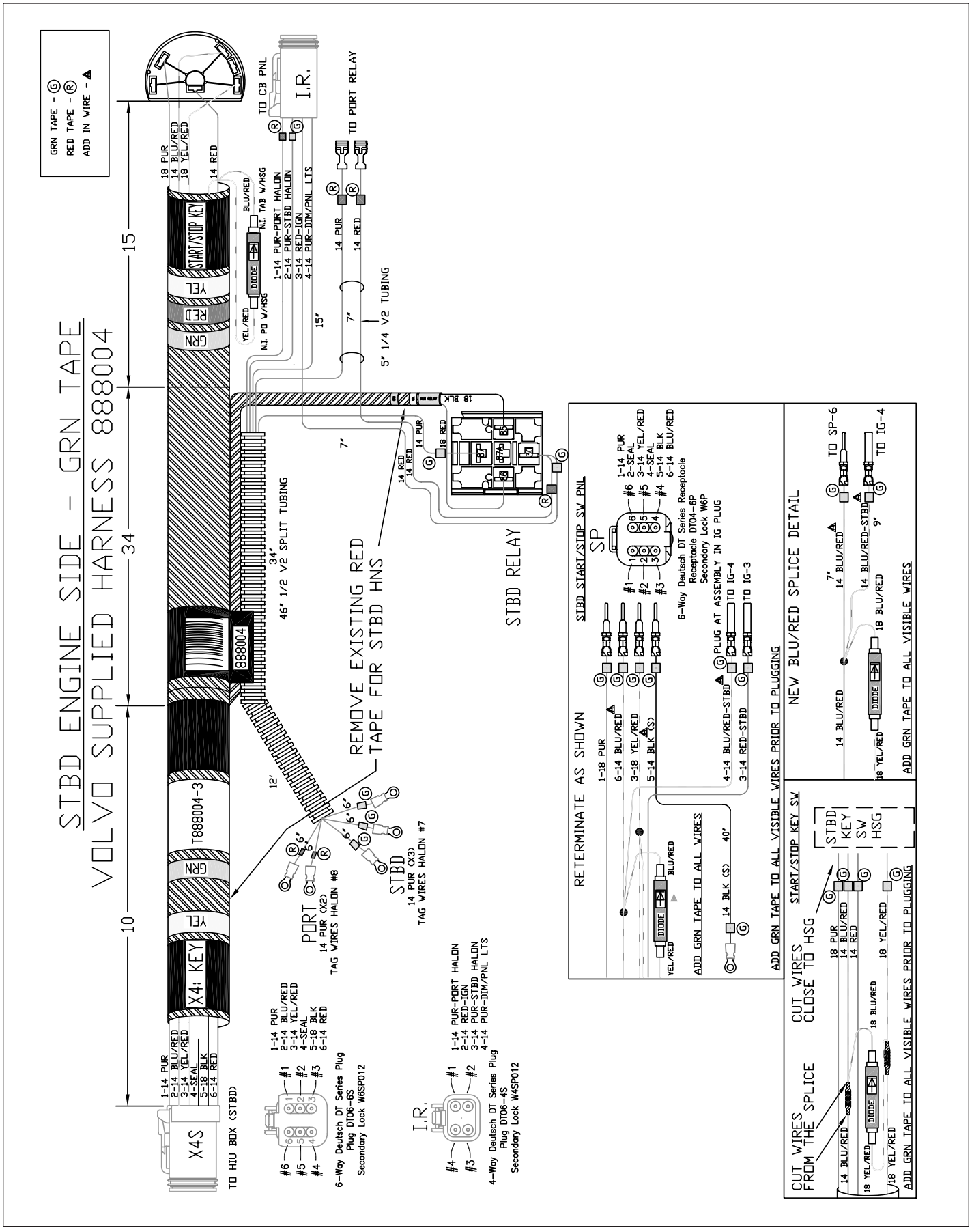


Figure 7.35 2010 Volvo IUPS Ignition Harness 2

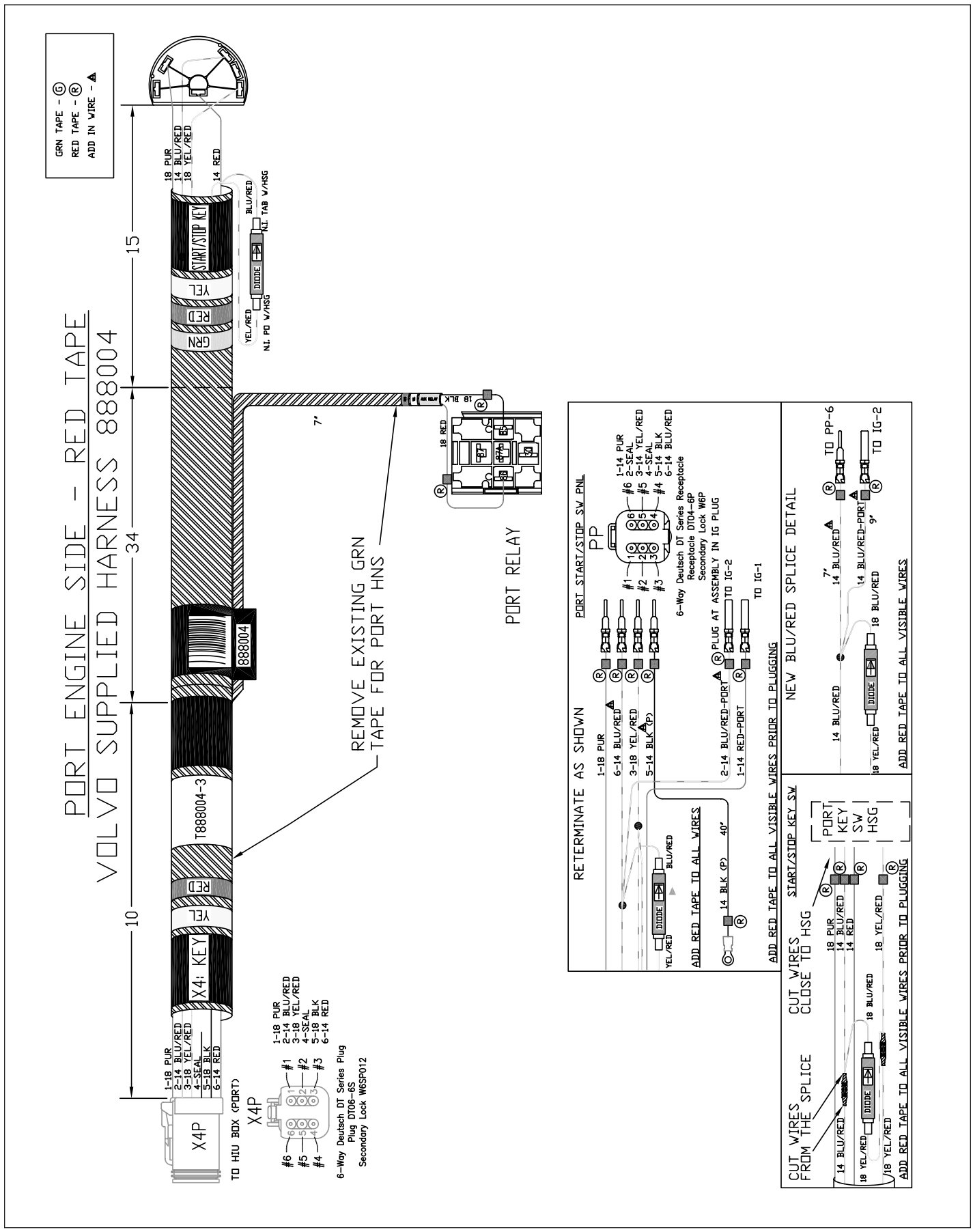


Figure 7.36 2010 Volvo IUPS Ignition Harness 3

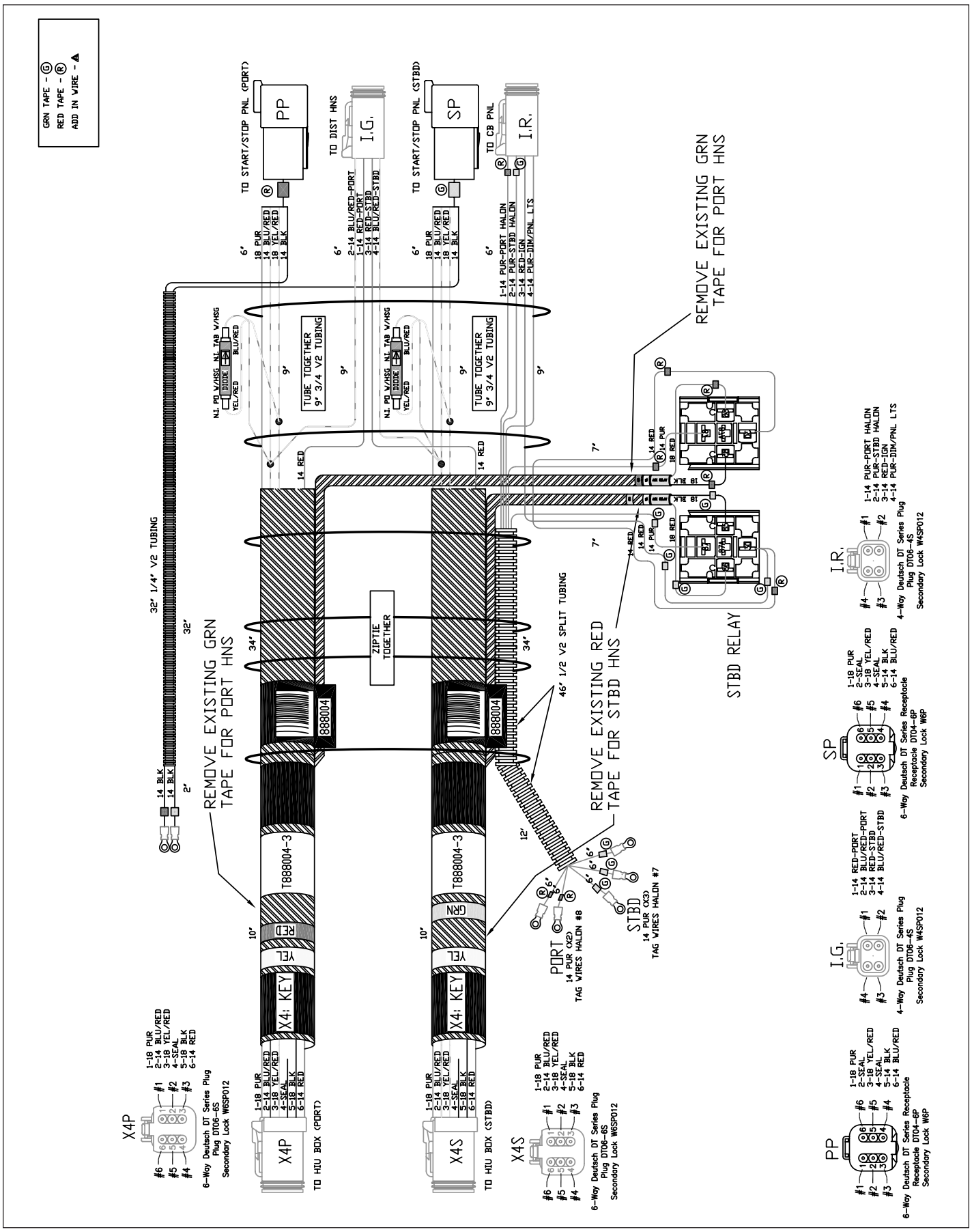


Figure 7.37 2010 Volvo IPS Ignition Harness 4

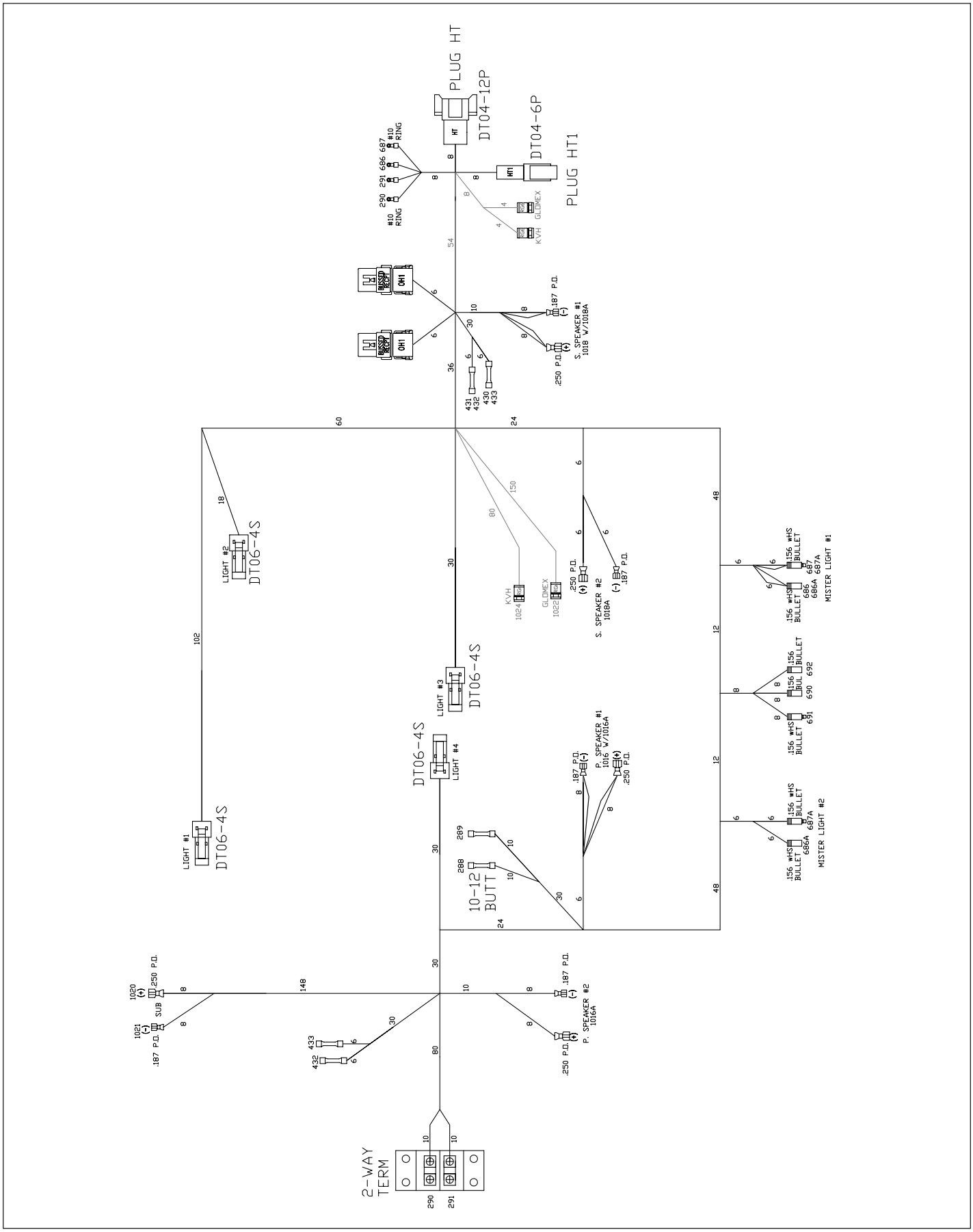


Figure 7.38 Hardtop Harness

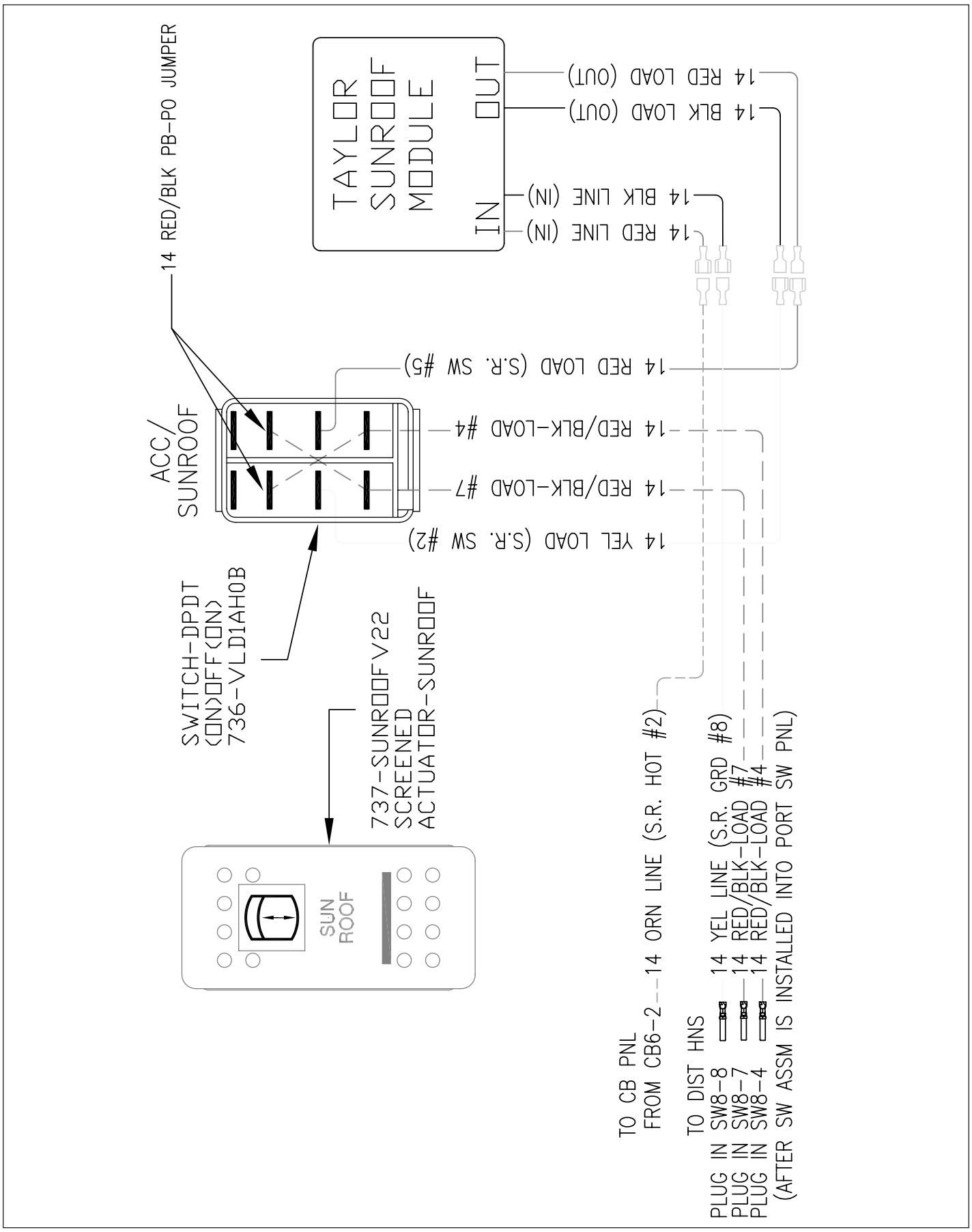


Figure 7.39 Sunroof Switch Assembly

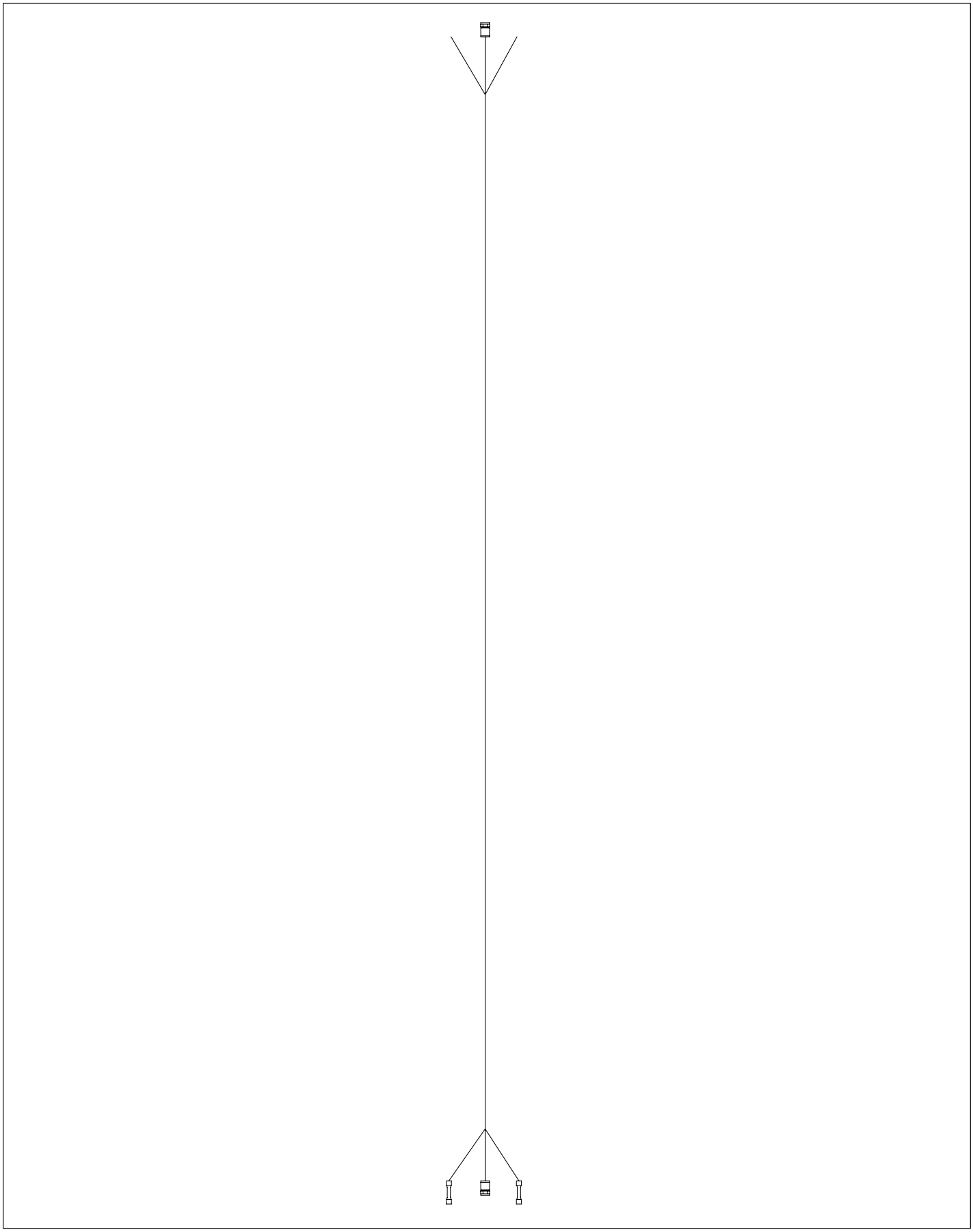


Figure 7.40 Spotlight Harness

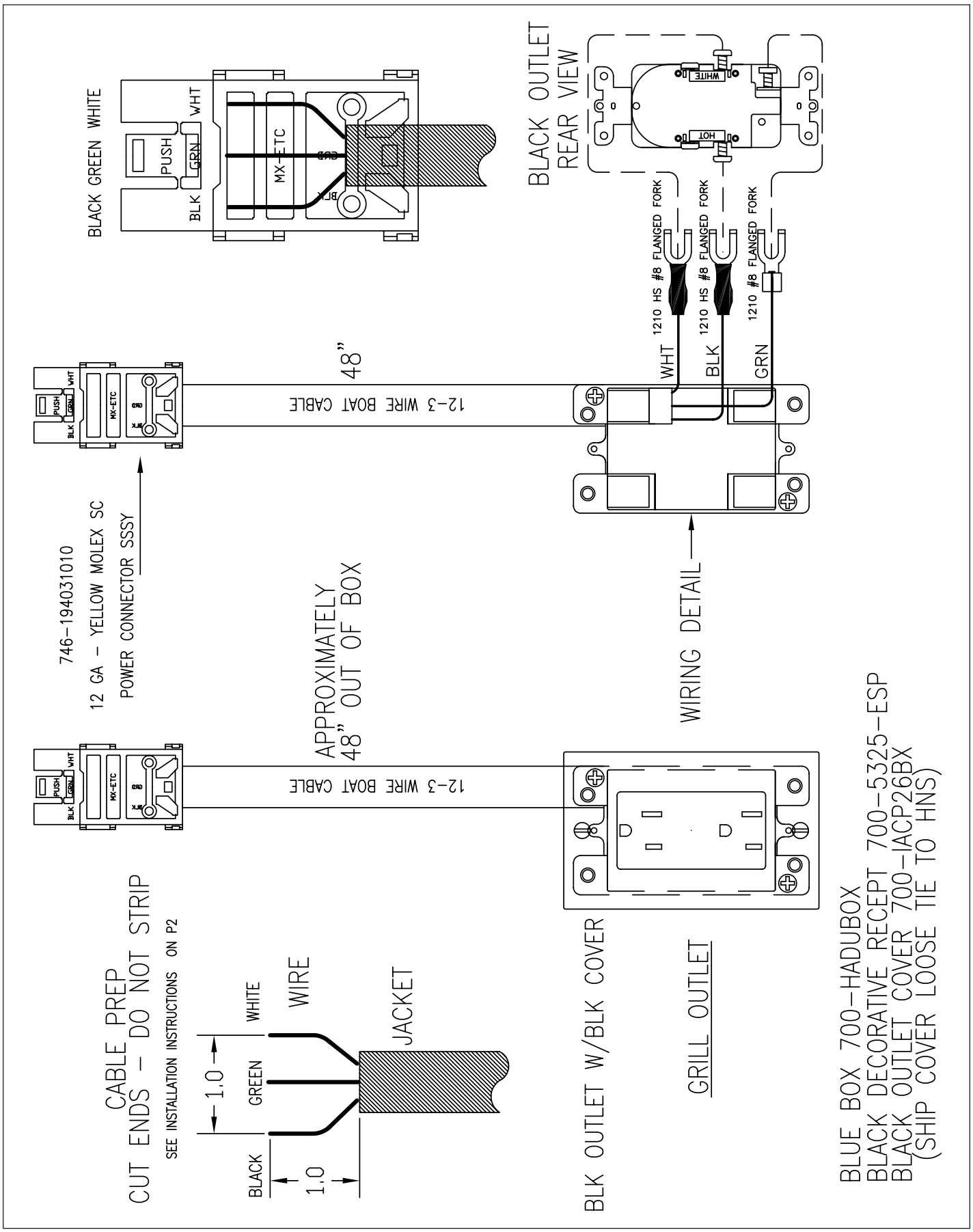
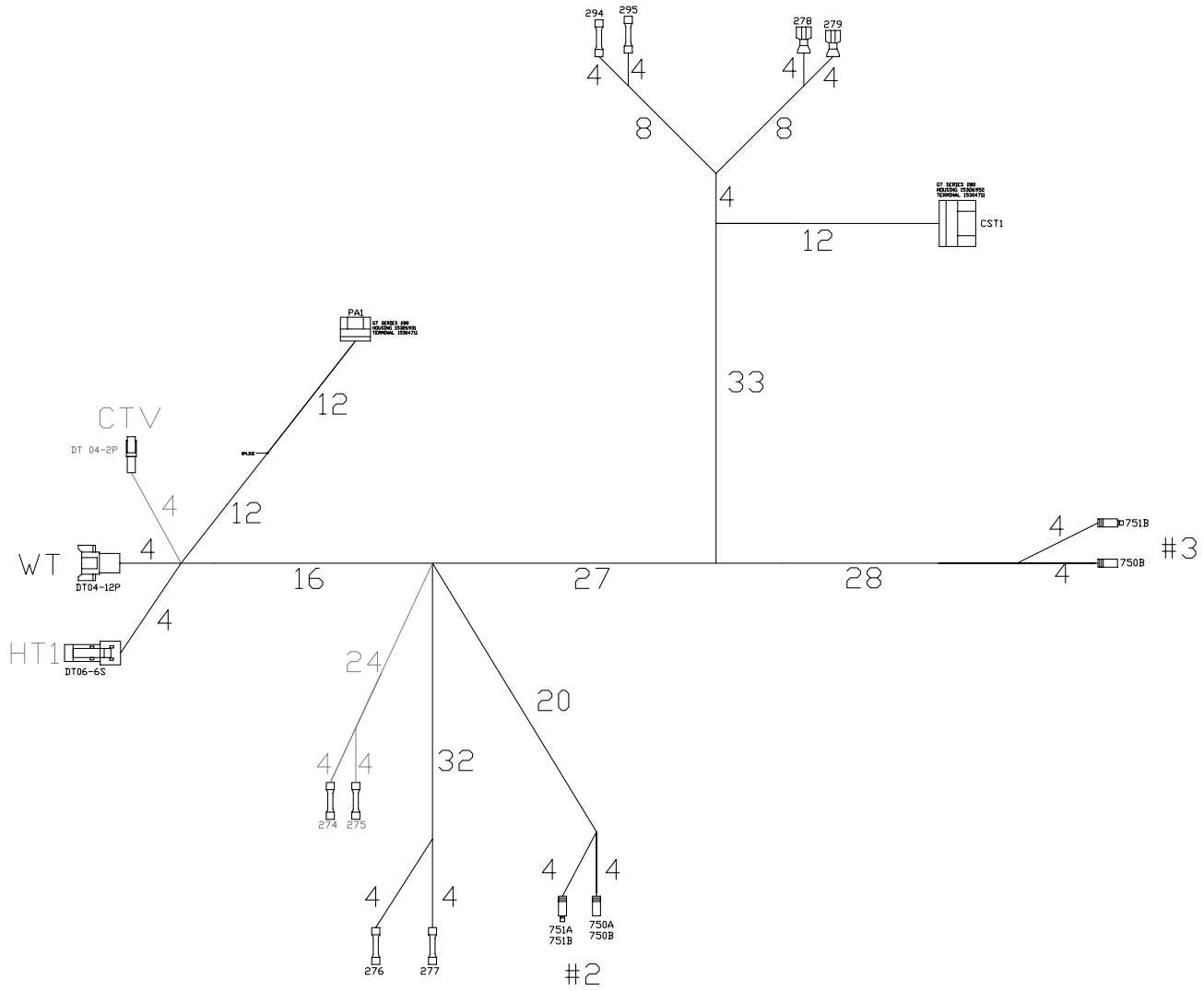


Figure 7.41Grill Outlet Harness



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
750A	16	BLUE	COURT LIGHT	PLUG WT POS.1	COURT LIGHT #2	44
751A	16	YELLOW	COURT LIGHT	PLUG WT POS.2	COURT LIGHT #2	44
750B	16	BLUE	COURT LIGHT	COURT LIGHT #2	COURT LIGHT #3	79
751B	16	YELLOW	COURT LIGHT	COURT LIGHT #2	COURT LIGHT #3	79
274	14AWG	RED	COCKPIT T.V.	PLUG CTV POS.1	COCKPIT T.V.	48
275	14AWG	YELLOW	COCKPIT T.V.	PLUG CTV POS.2	COCKPIT T.V.	48
276	14AWG	RED	REFRIG	PLUG WT POS.3	REFRIG	56
277	14AWG	YELLOW	REFRIG	PLUG WT POS.4	REFRIG	56
278	14AWG	RED	12V RECPT	PLUG WT POS.7	12V RECPT	96
279	14AWG	YELLOW	12V RECPT	PLUG WT POS.8	12V RECPT	96
290	14AWG	RED	STEREO MEM	PLUG WT POS.10	PLUG CST1 POS.A	92
292	14AWG	RED	STEREO POWER	PLUG WT POS.11	PLUG CST1 POS.B	92
293	14AWG	YELLOW	STEREO GROUND	PLUG WT POS.9	PLUG CST1 POS.C	92
294	14AWG	RED	AUDIO SWITCH	PLUG WT POS.5	AUDIO SWITCH	96
295	14AWG	YELLOW	AUDIO SWITCH	PLUG WT POS.6	AUDIO SWITCH	96

WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
1016	16AWG	COPPER	P. SPEAKER	PLUG HT1 POS.1	PLUG PA1 POS.A	28
1017	16AWG	SILVER	P. SPEAKER	PLUG HT1 POS.2	PLUG PA1 POS.B	28
1018	16AWG	COPPER	S. SPEAKER	PLUG HT1 POS.3	PLUG PA1 POS.C	28
1019	16AWG	SILVER	S. SPEAKER	PLUG HT1 POS.4	PLUG PA1 POS.D	28
1020	16AWG	COPPER	SUB	PLUG HT1 POS.5	PLUG PA1 POS.E	28
1021	16AWG	SILVER	SUB	PLUG HT1 POS.6	PLUG PA1 POS.K	28
296	16AWG	BLUE	AMP TRIGGER	PLUG CST1 POS.E	SPLICE POINT	100
299A	16AWG	BLUE	AMP TRIGGER	SPLICE POINT	PLUG PA1 POS.F	12
299B	16AWG	BLUE	REMOTE	SPLICE POINT	PLUG WT POS.12	16

Figure 7.42 Wet Bar Harness Model

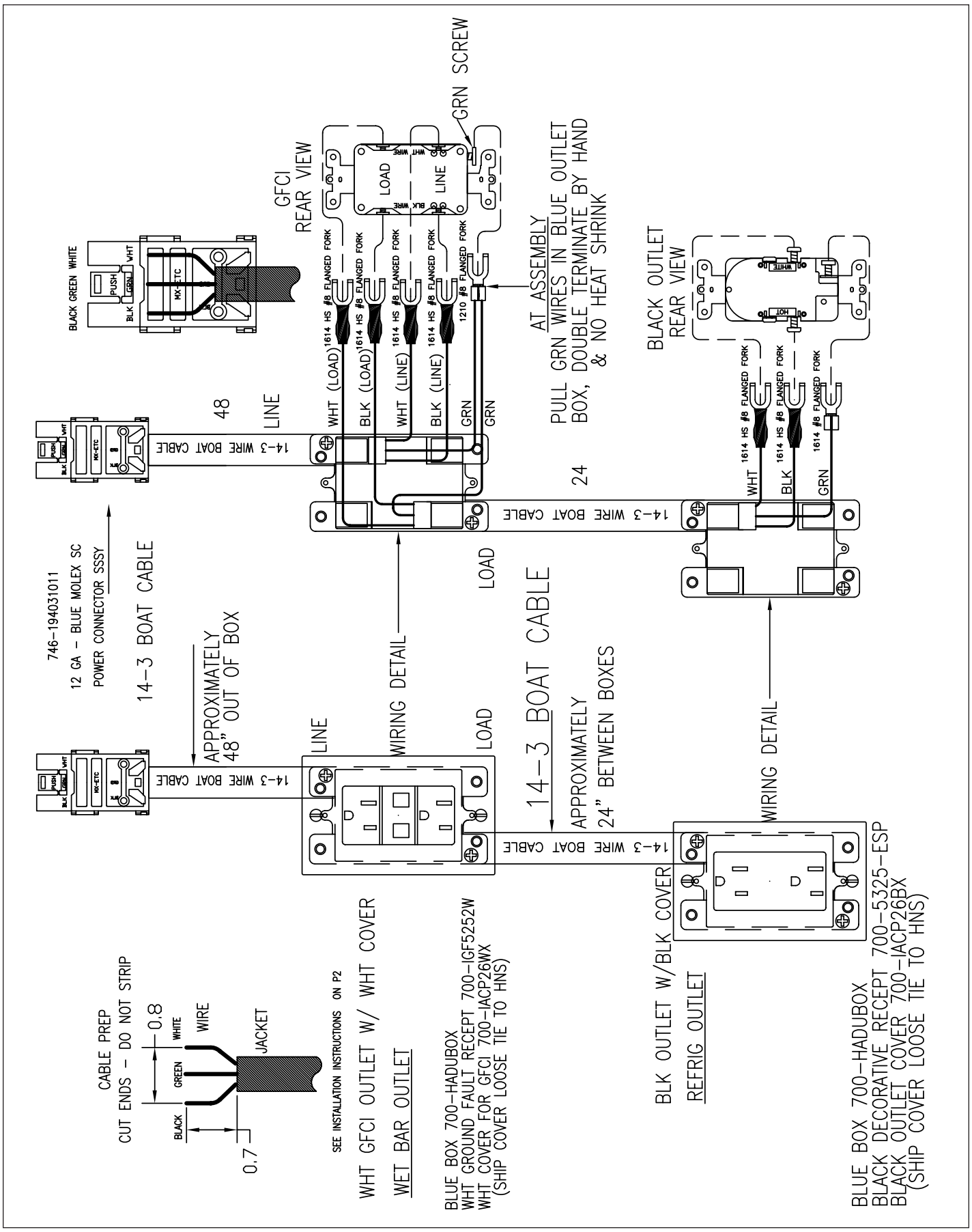
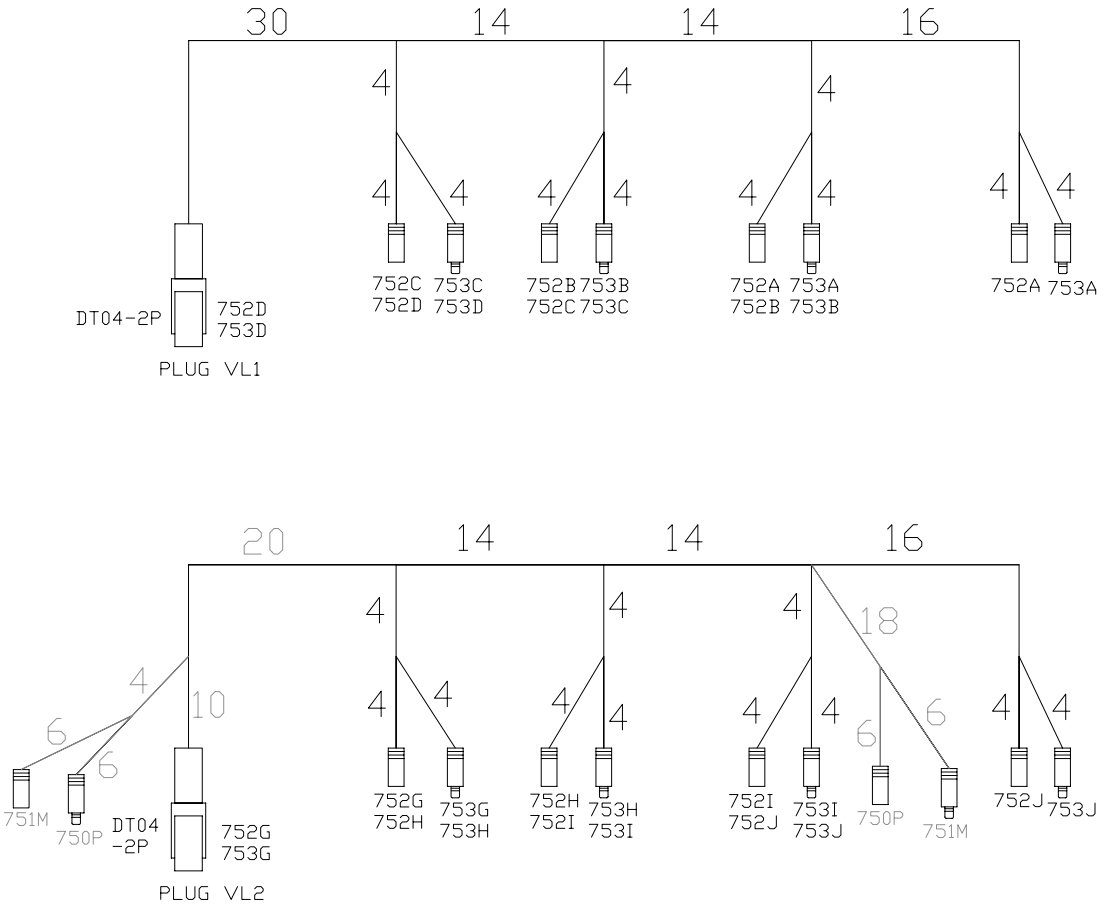
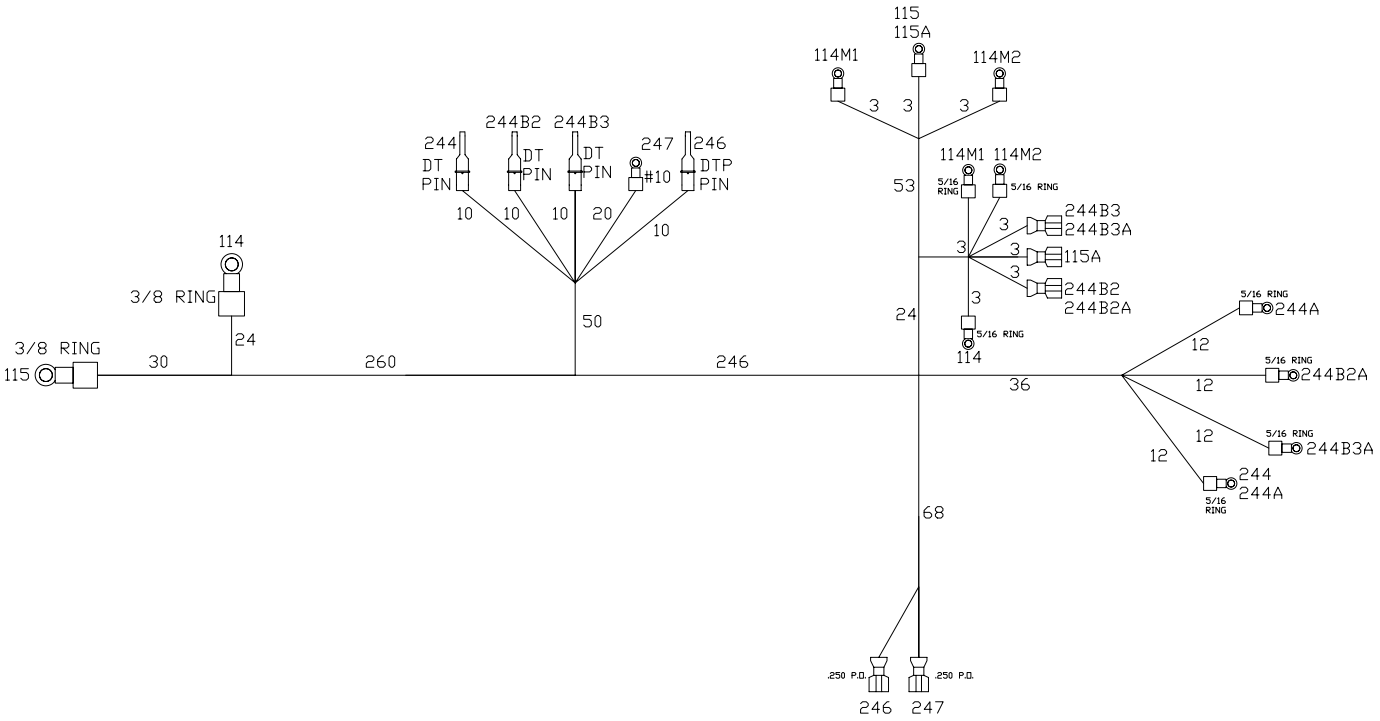


Figure 7.43 Wet Bar Outlet Harness



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
752A	16AWG	BLUE	VENT LITE	VENT LITE #1	VENT LITE #2	28
753A	16AWG	YELLOW	VENT LITE	VENT LITE #1	VENT LITE #2	28
752B	16AWG	BLUE	VENT LITE	VENT LITE #2	VENT LITE #3	30
753B	16AWG	YELLOW	VENT LITE	VENT LITE #2	VENT LITE #3	30
752C	16AWG	BLUE	VENT LITE	VENT LITE #3	VENT LITE #4	30
753C	16AWG	YELLOW	VENT LITE	VENT LITE #3	VENT LITE #4	30
752D	16AWG	BLUE	VENT LITE	VENT LITE #4	PLUG VL1 POS1	38
753D	16AWG	YELLOW	VENT LITE	VENT LITE #4	PLUG VL1 POS2	38
752G	16AWG	BLUE	VENT LITE	PLUG VL2 POS1	VENT LITE #6	38
753G	16AWG	YELLOW	VENT LITE	PLUG VL2 POS2	VENT LITE #6	38
752H	16AWG	BLUE	VENT LITE	VENT LITE #6	VENT LITE #7	30
753H	16AWG	YELLOW	VENT LITE	VENT LITE #6	VENT LITE #7	30
752I	16AWG	BLUE	VENT LITE	VENT LITE #7	VENT LITE #8	30
753I	16AWG	YELLOW	VENT LITE	VENT LITE #7	VENT LITE #8	30
752J	16AWG	BLUE	VENT LITE	VENT LITE #8	VENT LITE #9	28
753J	16AWG	YELLOW	VENT LITE	VENT LITE #8	VENT LITE #9	28
750P	16AWG	BLUE	COURT LIGHT	COURT LIGHT #7	COURT LIGHT #9	82
751M	16AWG	YELLOW	COURT LIGHT	COURT LIGHT #7	COURT LIGHT #9	82

Figure 7.44 Vent Light Harness Model



WIRE #	AWG	COLOR	FUNCTION	FROM	TO	LENGTH
114	2GA	RED	WINDLAS	D.C. PANEL	WINDLAS SOL	560
115	2GA	YELLOW	WINDLAS	D.C. PANEL	WINDLAS	616
114M1	2GA	RED	WINDLAS	WINDLAS M1	WINDLAS	62
114M2	2GA	RED	WINDLAS	WINDLAS M2	WINDLAS	62
115A	12AWG	YELLOW	WINDLAS	SOLENOID COMM	WINDLAS	62
244	12AWG	RED	WINDLAS	PLUG SW1 POS.9	FOOT SWITCH	354
244B2	12AWG	BLUE	WINDLAS	PLUG SW1 POS.7	WINDLAS SOL	336
244B3	12AWG	GREEN	WINDLAS	PLUG SW1 POS.8	FOOT SWITCH	336
244B2A	12AWG	BLUE	WINDLAS	WINDLAS SOL	FOOT SWITCH	78
244B3A	12AWG	GREEN	WINDLAS	WINDLAS SOL	FOOT SWITCH	78
244	12AWG	RED	WINDLAS	FOOT JUMPER	FOOT JUMPER	24
247	12AWG	YELLOW	HORN	PLUG SW6 POS.1	HORN	374
246	12AWG	ORANGE	HORN	HELM GRND BUS	HORN	384

Figure 7.45 Windlass and Horn 420 DA Model

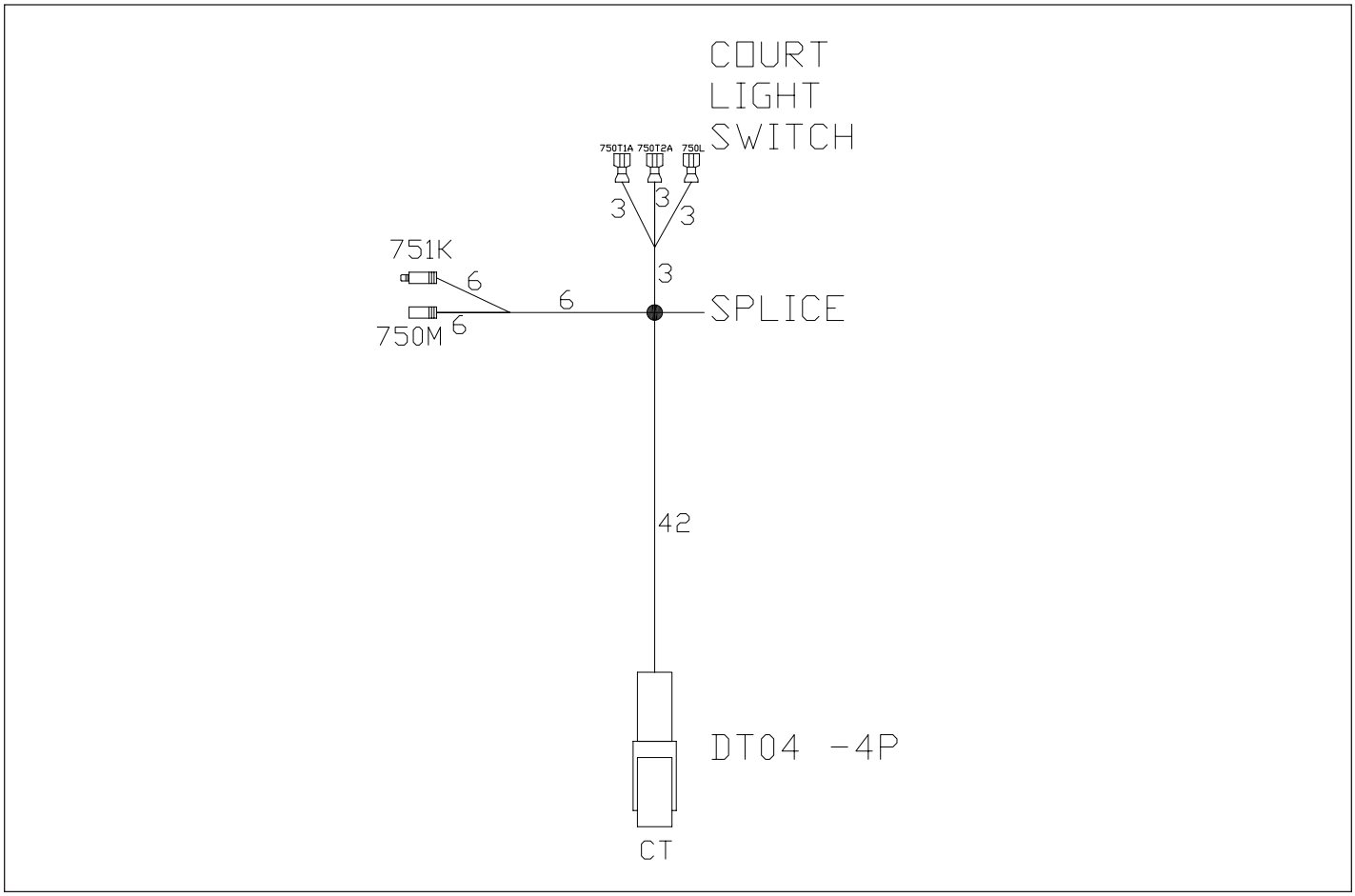


Figure 7.46 Court Light Deck Harness Model

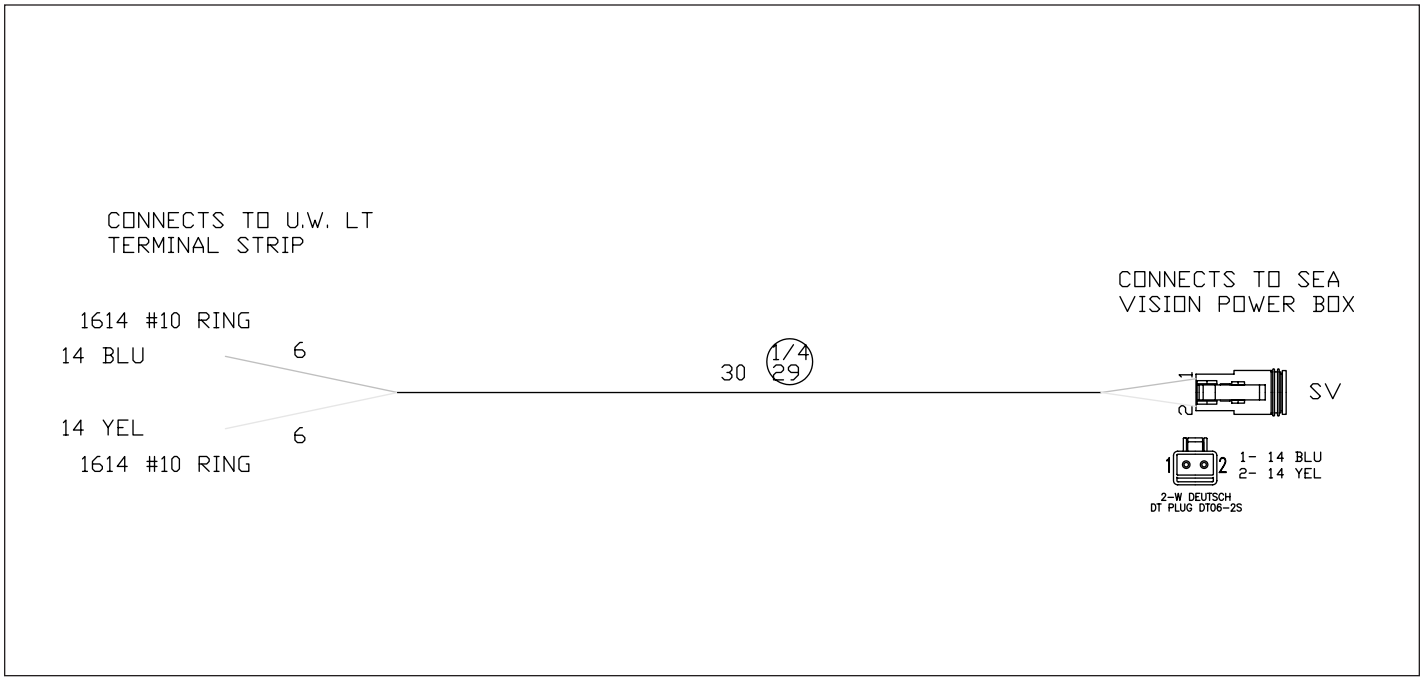


Figure 7.47 Sea Vision Power Box Exterior Harness

ACCESSORIES AND OPTIONS 8

LAYOUT AND ACCESSORIES

Standard accessories and optional equipment for your Chaparral boat are discussed in this chapter. Depending on how your boat is equipped, it may or may not have all of the equipment described in this chapter.

Section 3 in this manual – Boat Specifications and Layout contains the location and arrangement of your equipment and components on your boat. Be sure to read all operation, maintenance, and safety information contained in each component's manual before operation. In addition, you should perform a walk through of your boat, locate the features shown and become familiar with their operation and maintenance.

CARBON MONOXIDE MONITOR

Carbon monoxide (CO) in the engine exhaust is a poisonous gas which is odorless, colorless, and heavier than air. Direct prolonged exposure can result in carbon monoxide poisoning which can be harmful and may be fatal.

The 420 Premiere is equipped with three (3) carbon monoxide (CO) monitors, one on the master stateroom port hanging closet, one in the aft stateroom, and one in the forward salon above the starboard sofa.

The CO monitor is an electronic instrument that detects carbon monoxide. When CO builds up in any room, the monitor in that room will alert the occupants by a flashing DANGER light and sounding alarm. The CO monitors are powered through the fuse block behind the salon DC Distribution Panel.

Important: Follow the operating instructions supplied with the CO detector and test the unit to verify that it is functioning properly every time you use your boat. Refer to the information provided by the manufacturer in your owner's packet to determine replacement interval for your CO detector.

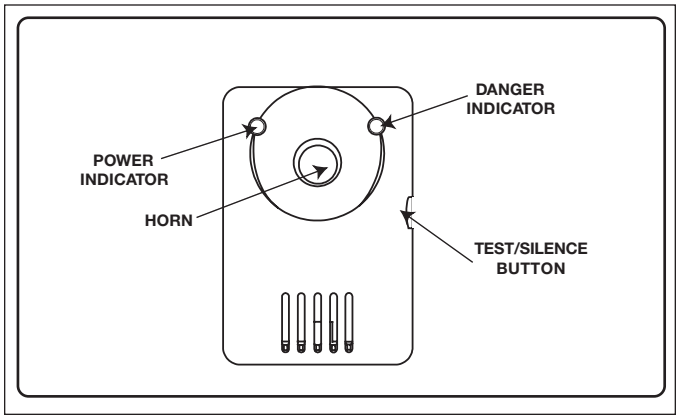


Figure 8.1 Carbon Monoxide Monitor

⚠CAUTION

CAUTION: This detector will only indicate the presence of carbon monoxide gas at the sensor. Carbon monoxide may be present in other areas.

Testing The CO Monitor

It is important to test the CO monitors on your boat at manufacturers' required intervals by pushing the TEST button on the side of the unit. If the unit is operating correctly, both audible and visual warning indicators will be activated.

⚠DANGER

DANGER: Actuation of the CO monitor indicates the presence of carbon monoxide which can be FATAL.

EVACUATE THE PREMISES IMMEDIATELY. DO A HEAD COUNT TO CHECK THAT ALL PERSONS ARE ACCOUNTED FOR. CALL THE NEAREST FIRE DEPARTMENT AND ASK THEM TO DETERMINE THE SOURCE OF CARBON MONOXIDE. DO NOT REENTER PREMISES UNTIL IT HAS BEEN AIRED OUT AND THE PROBLEM IS CORRECTED.

⚠CAUTION

CAUTION: To reduce the risk of carbon monoxide poisoning, test the monitor operation when not in use for 10 days or more.

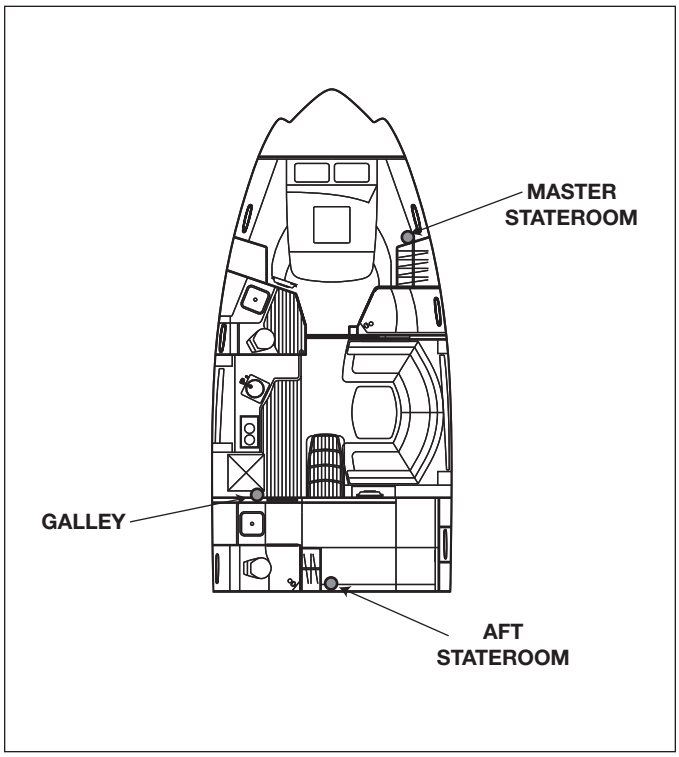


Figure 8.2 Carbon Monoxide Monitor Locations

AIR CONDITIONING AND HEATING

The 420 Premiere is equipped with a self-contained air conditioning system that contains the compressor, condenser, evaporator, refrigerant, tubing, electrical box, blower, condensate drip pan and other components on a single chassis. Cabin air is pulled into the unit through a return-air grill, and discharge air is carried through flexible or built-in ducts to a grill, which is normally located on a bulkhead high in the compartment. In a self-contained unit, the refrigerant loop is pre-charged and sealed at the factory, and no additional charging is needed at installation.

The 420 Premiere's air conditioning/heating system consists of two (2) standard air conditioning/heating units, one (1) raw water pump with a seacock and strainer and a relay unit so the water pump will be activated by demand when any A/C unit comes on. An optional cockpit a/c unit is also available.

The master stateroom unit (7,000 BTU) is located under the master stateroom bunk. The controls for the unit are located in the port cabinet. The removable air filter is located on the face of the unit. The master stateroom unit also supplies heating and cooling to the master head.

The salon unit (16,000 BTU) is located aft under the starboard salon sofa. This unit supplies heating and cooling to the salon and aft stateroom. The controls for the unit are located above the main distribution panel.

The cockpit unit (optional) (16,000 BTU) is located in the cabinet behind the helm seating. The control panel is located behind an access door outboard of the control station. The removable air filter is located on the face of the unit.

The raw water pump located in the engine room cools the air conditioning/heating system to maintain optimal operating temperature. The pump draws water through a seacock and filters it through a sea water strainer. The water passes through each compressor cooling the condensing coils, and then flows overboard through the common drain.

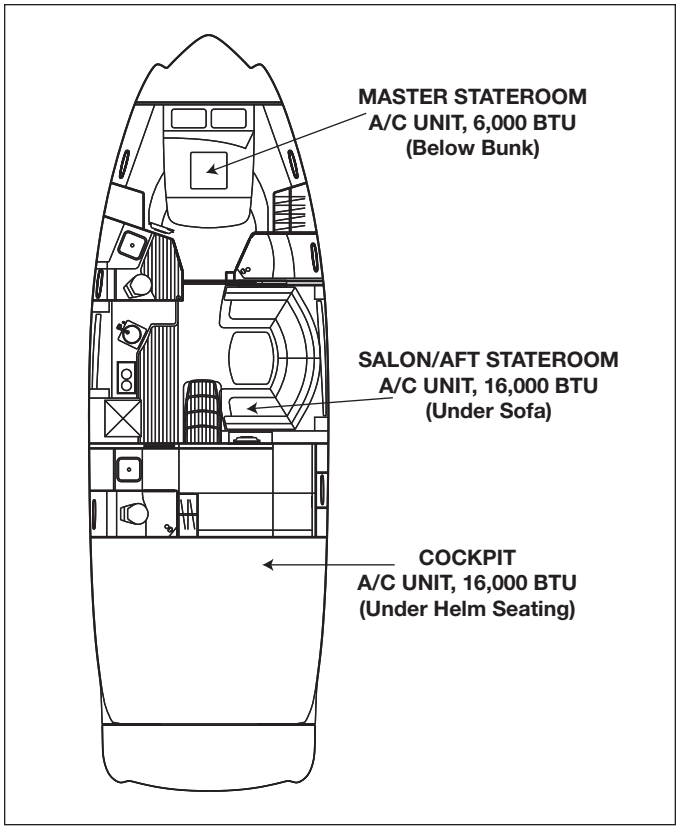


Figure 8.3 Air Conditioner Locations

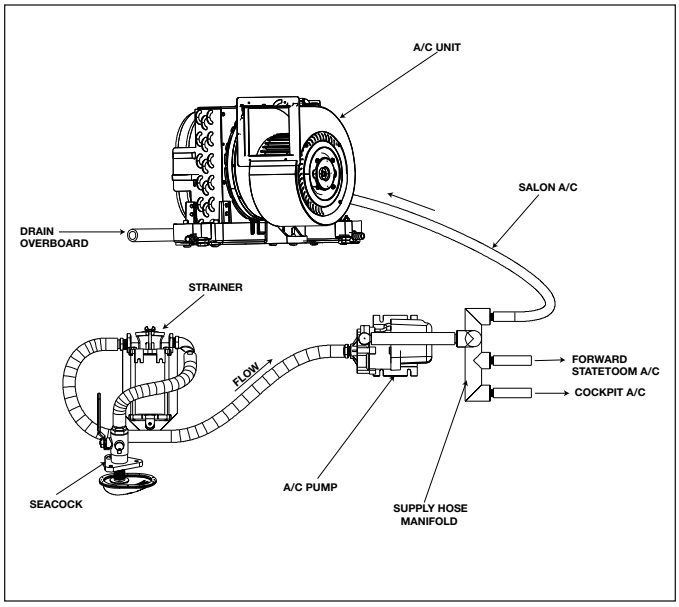


Figure 8.4 Air Conditioning System

Note: The air filters for each unit should be removed and cleaned periodically to assure fresh, clean air circulation and to reduce stress on the unit.

To Start System:

1. The sea water inlet seacock should be open and strainer should be free of debris.

2. Turn ON the A/C WATER PUMP AND RELAY circuit breaker on the main AC distribution panel. Turn ON each A/C UNIT circuit breaker located on the same panel. 3. Set temperature on display. Select either heating or cooling.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

WATER SYSTEM

The 420 Premiere is equipped with a fresh water system consisting of one (1) 78 gallon (295.3 liter) water tank, a 12 volt water pump, primary and secondary water system filters and a water distribution manifold.

The fresh water system is activated by the FRESH WATER PUMP breaker on the salon DC distribution panel. The breaker must be ON to operate the head, faucets, shower, ice maker, and fresh water washdowns.

Water Tank

The 420 Premiere has one (1) 78 gallon (295.3 liter) water tank located between the port and starboard inboard stringers underneath the V-Berth Floor.

You will need to check the water level in the tank. To check, turn on the master head breaker. The lights will indicate the amount of water that is in the tank.

Filling The Water Tank
Fill the water tanks only from a source known to provide safe, pure drinking water. To fill your water tank you should use a plastic hose. Do not use a rubber hose; it can give the water a disagreeable flavor. The hose should be kept for filling use only.

You should empty the hose after each use. Start at one end and raise the hose to shoulder level and walk to the opposite end of the hose, allowing the remaining water to flow out. Store your water tank filling hose in a clean, dry place. It is also a good practice to cover the ends of the hose to keep the inside clean.

To Begin Initial Operation:

1. Fill the water tank only with drinkable water.

2. Switch the water pump breaker to the ON position.

3. Open all hot and cold faucets one at a time, to release air from the water lines.

4. Once air has been eliminated from water lines, close faucets.

5. Pump should shut off when shutting the last faucet.

Winterizing The Water System

In regions where temperatures fall below freezing, winterization of the systems and components is necessary. Failure to do so will seriously damage them. As a result of not being able to completely drain water systems with a water heater installed, it is recommended that potable water system antifreeze be run through the entire system at the time of winterization. This needs to be COMPLETELY flushed before using the following spring.

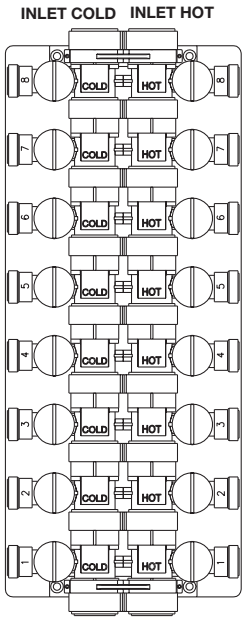
Note: Chaparral strongly recommends having a qualified dealer perform winterization procedures for your boat.

For more information, please refer to Section 9, Winterization Checklist For Boats Stored on Land.

The 420 Premiere uses a water manifold to regulate fresh water to the various equipment throughout the boat. The manifold can be accessed through the floor hatch in the salon.

If one of the system components has a water leak (i.e. sink faucet, shower valve or spigot) the valve for that component can be closed. The rest of the system is left operational.

THE MANIFOLD IS LOCATED IN CABIN HATCH ON THE PORT SIDE



	COLD		HOT
1	COCKPIT SINK	1	EMPTY
2	COCKPIT SHOWER	2	COCKPIT SHOWER
3	HEAD SHOWER	3	HEAD SHOWER
4	HEAD SINK	4	HEAD SINK
5	GALLEY	5	EMPTY
6	ROPE LOCKER	6	ROPE LOCKER
7	MASTER BATH	7	MASTER BATH
8	MASTER SHOWER	8	MASTER SHOWER

Figure 8.5 Water Manifold

WATER PUMP AND FILTERS

Water Pump

The fresh water system provides water from an onboard storage tank. The fresh water system pump and filter is located adjacent to the water manifold and can be accessed through the floor hatch in the salon. The pump is turned on by the FRESH WATER PUMP breaker on the salon DC distribution panel.

Water Heater

The 11 gallon (41.6 liters) water heater is located in the aft stateroom underneath the bunk. It operates on the 240 volt dockside system or generator and has a circuit breaker on the AC main distribution panel in the salon.

A check valve in the water heater piping prevents hot water from washing back into the cold water source. A pressure relief valve prevents damage if pressure or temperature gets higher than safe settings. The thermostat on the water heater is preset and is not adjustable.

⚠WARNING

WARNING: Be sure hot water lines are air free, indicating the water heater is full. Damage will occur to water heater if it is not full when turned on.

Note: Refer to the water heater instruction manual for safety precautions and for detailed operation, maintenance, and winterizing instructions. In areas where frost is possible, the heater tank must be drained completely or filled with potable water antifreeze to prevent possible damage during winter storage.

Initial Start-Up or After Winterization:

1. Make sure the WATER HEATER breaker is OFF.

2. Fill the heater with water.

3. Open the hot water faucets until all air is eliminated from the system.

4. Be sure tank is full and water is covering the heating element. The heater tank must be kept full of water to avoid damage to the heating elements. **COMPLETE FAILURE OF THE HEATING ELEMENTS WILL RESULT IF THEY ARE NOT COMPLETELY IMMERSED IN WATER AT ALL TIMES.**

5. Turn the WATER HEATER breaker ON.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

Bow Washdown Spigot

The bow washdown spigot is located under the bow anchor lid, and is supplied by the fresh water tank.

Dockside Water Inlet

The dockside water inlet, located portside in the transom locker adjacent to the transom spigot, allows use of a dockside water source to provide water for the boat's fresh water system.

To Use The System:

1. "FRESH WATER PUMP" breakers are set to OFF

2. Remove the plug from the face of the dockside water inlet.

3. Connect a drinking water hose to the water outlet on the dock, then to the dockside water inlet on the boat and turn on the water at the dock.

All fresh water faucets and showers are now usable.

To Disconnect The System:

1. Reverse the procedure, making sure the plug is reinstalled tightly.

2. Remove the dockside water hose when leaving the boat. This is a safety precaution to prevent the unlikely event of a water system failure and the intake of extreme amounts of water to the vessel.

Gray Water Sump

Your boat is equipped with a gray water system (Figure 8.6) which carries water from shower and galley systems plus the air conditioners condensations, to the shower sump or common drains.

The shower drains into a self-contained shower sump containing a pump and float switch. The shower sump is located under a hatch in the stateroom companionway.

The sump pump is fully automatic and is protected by a breaker on the main DC breaker panel on the aft bilge component board. Inspect the pump and float switch for obstructions and proper functioning.

The pump will come on when there is enough water in the sump to raise the float switch and start the pump. In the event it does not come on after one or two gallons of water drain from the shower, turn the water off and check the pump and float switch for proper operation.

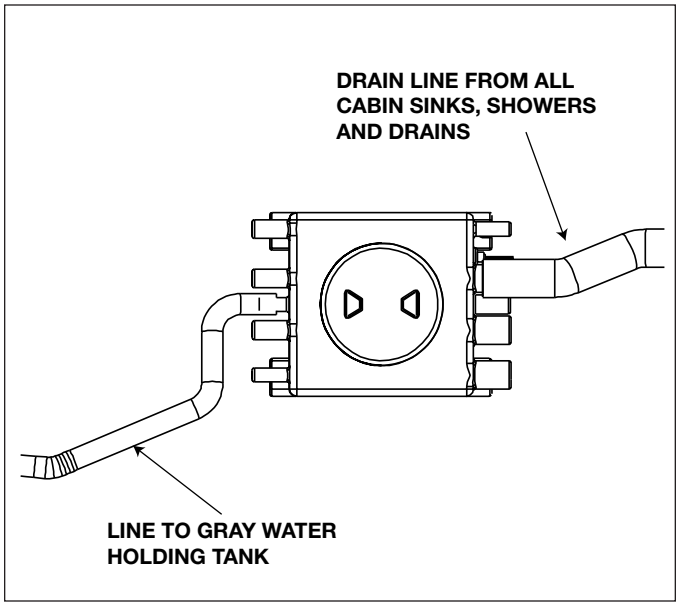


Figure 8.6 Shower Sump

HEAD SYSTEM

The standard head system on your Chaparral includes a 42 gallon (159 liter) holding tank with dockside pump-out and fluid level indicators, with a macerator and overboard discharge seacock avail-

able as an option. The owner's packet in your boat contains information pertaining to your head system that should be read carefully.

⚠CAUTION

C**AUTION:** Do not dispose of sanitary napkins or other non-dissolving items in toilet, such as facial tissue or paper towels. These items can cause plugging of the sanitation system.

Vessel Operators Requirements

The Environmental Protection Agency (EPA) Marine Sanitation Device Standards state that in freshwater lakes, freshwater reservoirs or other freshwater impoundments whose inlets or outlets are such as to prevent the ingress or egress by vessel traffic subject to this regulation, or in rivers not capable of navigation by interstate vessel traffic subject to this regulation, marine sanitation devices certified by the U.S. Coast Guard installed on all vessels shall be designed and operated to prevent the overboard discharge of sewage, treated or untreated, or of any waste derived from sewage. The Agency further states that this shall not be construed to prohibit the carriage of Coast Guard-certified flow through treatment devices which have been secured so as to prevent such discharges.

Note: There is the possibility of being fined for having an operable overboard discharge in the U.S. waters. Removing handle of seacock while in closed position, or other means must be utilized to avoid fine.

It is illegal for a vessel to dump plastic trash anywhere in the ocean or navigable waters of the United States.

It is also stated that in all other waters, the Coast Guard-certified marine sanitation device installed on all vessels shall be designed and operated to retain, dispose of, or discharge sewage. Waters where a Coast Guard-certified marine sanitation device permitting discharge is allowed include coastal waters and estuaries, the Great Lakes and inter-connected waterways, fresh-water lakes and impoundments accessible through locks, and other flowing waters that are navigable interstate by vessels subject to this regulation. (40 CFR 140.3).

VacuFlush® Head

The VacuFlush® head utilizes the HEAD breakers on the DC distribution panel in the salon. Individual breakers on the DC distribution panel control the GUEST HEAD and MASTER HEAD. The foot pedal at the base of the toilet opens a mechanical seal and vacuum forces waste through the opening in the bowl to the vacuum generator, through the vacuum pump and then to the holding tank. (Figure 8.7)

To Operate Vacu-Flush® Head:

1. Turn ON the FRESH WATER PUMP breaker.

2. Turn ON the HEAD SYSTEM breaker.

3. If no water is present in bowl or to add water to bowl before using, raise flush handle until desired water level is reached. (Water flow will stop automatically after a period of time.).

4. To flush, press flush handle down. Water will flow into bowl for two seconds, and then flush ball will open. Toilet will not flush again until "OK to Flush" light is on.

HOLDING TANK OPERATION

Waste from the head is directed into the 42 gallon (159 liter) holding tank in the starboard forward bilge. Holding tank fluid level indicators are located on the distribution panel area in the salon and in the head. The head indicators read OK TO FLUSH and DO NOT FLUSH (Figure 8.8). When the DO NOT FLUSH light is on, the holding tank must be emptied before the head can be reused. It is a good practice to empty the holding tank when the 1/2 light (on the DC Distribution panel) is on to avoid overflowing the holding tank and ruining the vent filter.

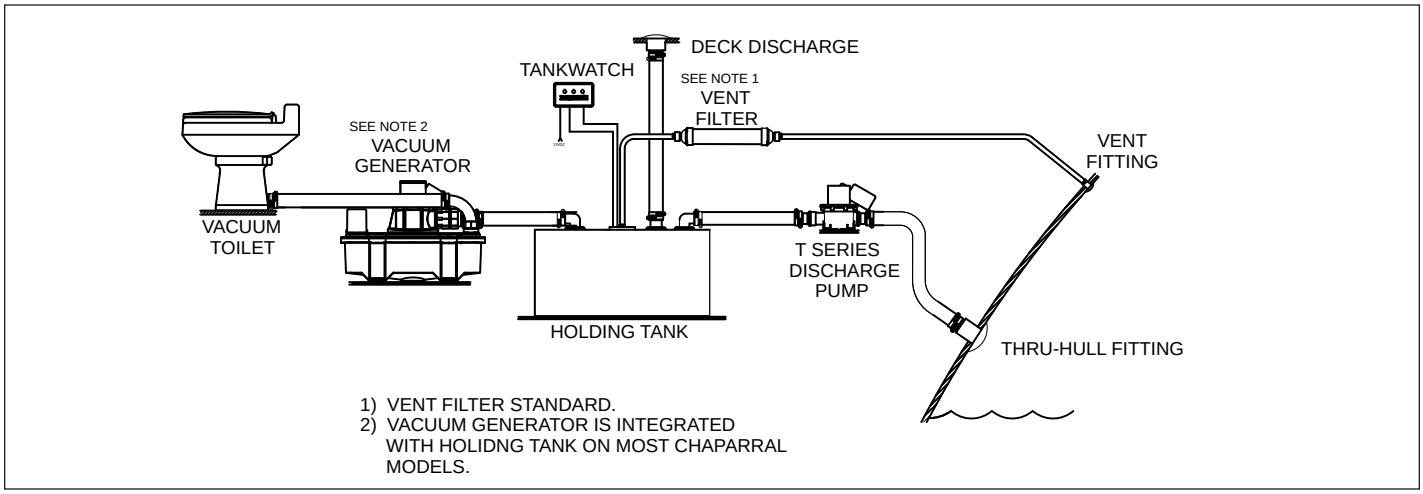


Figure 8.7 Waste System

To empty the holding tank, the services of a dock-side pump out station will be needed. Follow instructions at the station and make sure pump out station hose is inserted into the deck plate marked WASTE, located on the port aft deck.

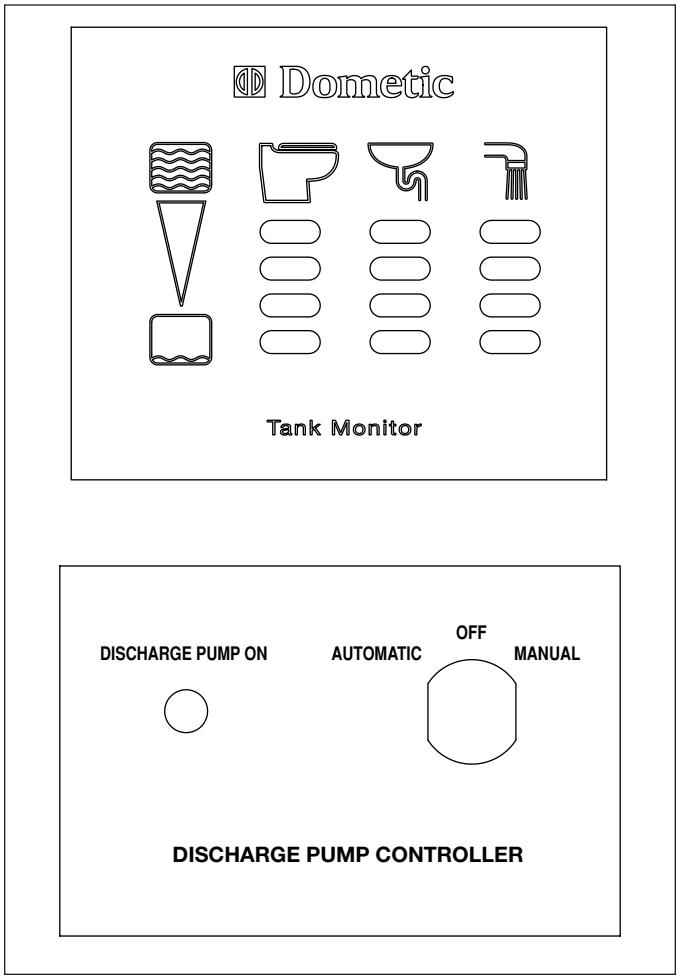


Figure 8.8 Waste level Indicator and Discharge Switch

Vent Filter

The vent filter is has special odor-removing filter materials to help keep your vehicle smelling clean and pleasant. The vent filter is located in the bilge. You must change the filter at the beginning of each boating season. The vent filter is installed in-line on the holding tank ventilation hose.

Note: Do not overfill the holding tank as this will flood the vent filter and render it unusable. Filter replacement will then be required.

MACERATOR DISCHARGE PUMP WITH SEACOCK INTERLOCK SYSTEM (OPTIONAL)

Important: Overboard discharge of untreated sewage within 12 miles of shore on the east coast and within 9 miles of shore on the west coast is prohibited by law. Check with the local authorities for proper discharge procedures in your area. If your boat is going to be used on inland waters, have your dealer seal the over-board discharge portion of your waste system.

The optional macerator gives the boat operator the means of pumping waste from the holding tank directly overboard through a seacock in the bottom of the hull. This is available in conjunction with the dockside pump out.

Note: This boat may be equipped with an optional overboard discharge valve. Discharging of sewage directly overboard if regulations permit.

Since direct overboard discharge is prohibited in many areas, the macerator seacock is normally closed. The macerator pulls the waste from the holding tank, grinds the waste into small particles, and pumps the waste overboard through a hull discharge fitting above the water line.

Turn breaker on, turn and hold key switch at cabin panel to activate macerator.

Follow These Procedures To Operate The Macerator:

1. Switch on the MACERATOR switch in the head compartment.

2. Allow the macerator to run until the holding tank is empty, but not longer. Running the macerator when the tank is empty will cause damage to the pump.

3. When you hear the pump speed up (indicates tank is empty), immediately turn the switch off.

Maintenance

Prior to each use and at regularly scheduled intervals, cycle the macerator seacock handle open and shut to ensure proper operation of the seacock.

ENTERTAINMENT CENTERS

The entertainment center equipment options vary from boat to boat. Refer to the Owner's Manual Packet to find individual instructions for the equipment installed on your boat.

TV Signal Selector

The antenna/cable selector panel is located in the salon main distribution. Turn the selector to MAX GAIN for onboard TV antenna reception. Turn the selector to SHORE for dockside cable reception. The selector is powered through the fuse block behind the salon DC Distribution Panel.

Television with Dockside Cable Inlet

For television reception dockside, attach the dockside television cable to the inlet located in the starboard port hatch. (Figure 8.10)

To Connect Cable Television:

1. Unscrew and lift cover plate.

2. Screw the TV coax cable into the TV cable connector.

3. Run the cable to the dockside receptacle and screw coax cable into receptacle

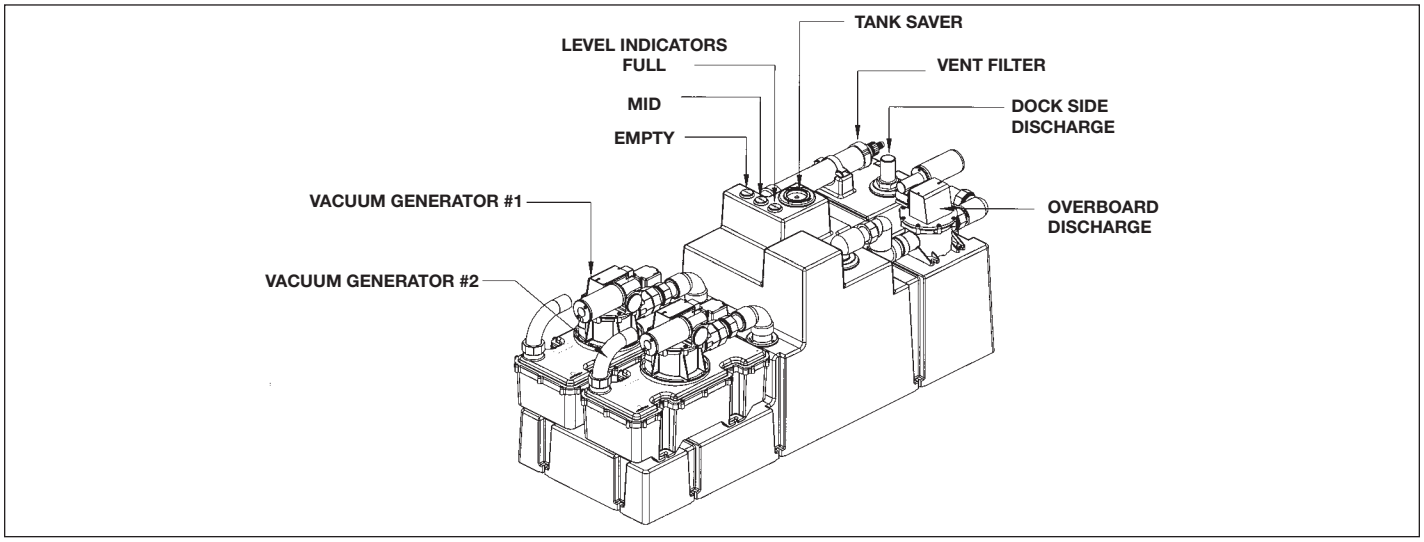


Figure 8.9 Overboard Waste Discharge (Optional)

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

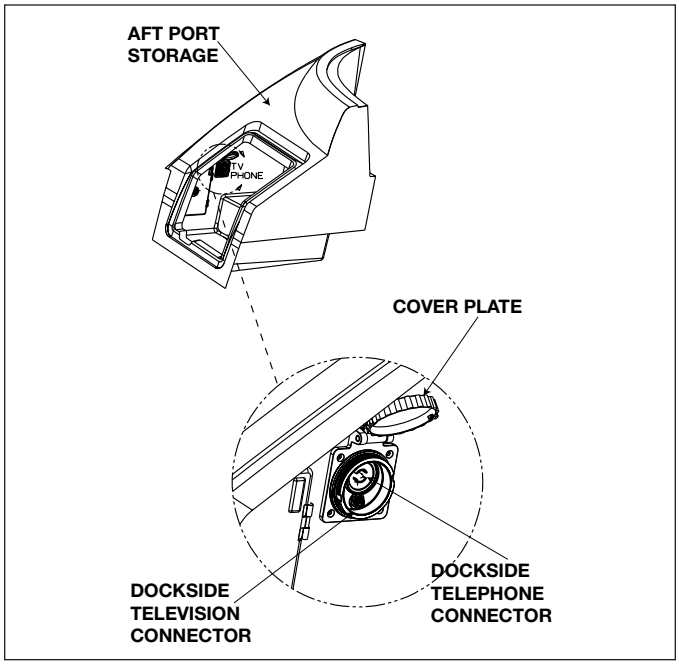


Figure 8.10 Dockside TV and Telephone Connection

Entertainment Center

Salon TV System
The salon entertainment center consists of an LCD flat screen 36" television with a separate DVD player. The 120 volt AC STBD SYSTEMS breaker must be ON to operate the system.

Salon Stereo System
The salon standard stereo system consists of a Satellite ready 120V AM/FM single CD with amplifier and five (5) speakers and subwoofer.

To turn on salon stereo
Turn on starboard systems breaker on the salon DC distribution panel.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

Master Stateroom Entertainment System
The master stateroom entertainment center consists of a 19" flat screen LCD Television/DVD combination, remote control and coax outlet. To operate, turn ON the 120VAC PORT SYSTEMS breaker on the AC Main Distribution Panel and the DVD breaker on the DC Panel.

Aft Stateroom Entertainment System (Optional)
If equipped, the guest stateroom entertainment center consists of a 19" television/DVD combination with remote control and coax outlet. To operate, turn ON the 120VAC STBD SYSTEMS breaker on the AC Main Distribution Panel and the DVD breaker on the DC Panel.

Cockpit Entertainment System

The cockpit stereo system consists of a Satellite ready 12V AM/FM single CD with amplifier, subwoofer and four (4) speakers.

Digital Satellite System (DSS) (Optional)

If equipped, the digital satellite system is located on the hardtop and is powered by an ON/OFF switch located on the salon DC distribution panel.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

Cockpit Wet Bar

The cockpit wet bar located starboard forward in the cockpit contains a sink, trash receptacle, ice maker, 12 Volt stereo, electric grill (optional), and storage cabinet. (Figure 8.11)

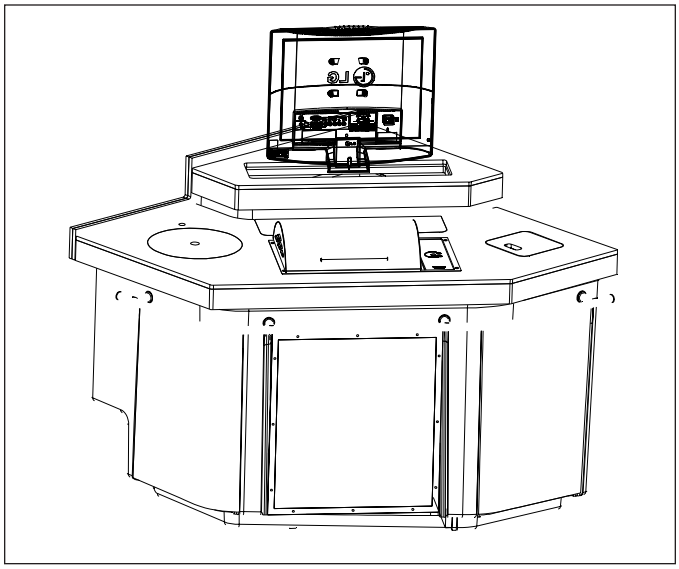


Figure 8.11 Cockpit Wet Bar

Electric Grill in Wet Bar (Optional)

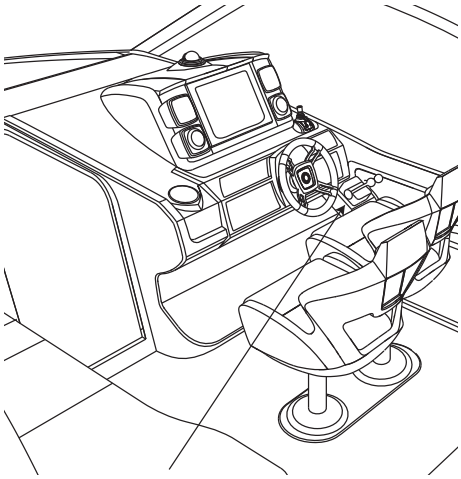
The electric grill if equipped is located in the cockpit web bar and operates on AC power. The grill can be used when the boat is connected to shore power or when generator is operating.

Custom Dual Position Forward Bed

The aft end of the forward salon bed can be raised or lowered by a switch located at the forward end of the bed on the starboard side or by a switch located on the bulkhead aft of the forward shower door.

AUTOMATIC FIRE EXTINGUISHER SYSTEM

The 420 Premiere is equipped with an automatic fire extinguisher system located in the aft starboard bilge. In the event of a fire, the heat sensitive automatic head will release the extinguishant as a vapor, totally flooding the area in fire-killing concentrations. The system indicator light is wired to the ignition, blowers, and generator set. These are turned ON when the ignition is turned ON.



AUTOMATIC FIRE EXTINGUISHER INDICATOR AND MANUAL FIRE EXTINGUISHER LOCATION (Below Shifter)

Figure 8.12 Automatic Fire Extinguisher Indicator and . Manual Fire Extinguisher Location

The system incorporates a shutdown switch with override system located on the control station instrument panel that shuts down the engines, blowers and generator set. The switch indicates to the helmsman when the unit has discharged. Under normal circumstances, when the engines are operating, the charge indicator light is lit. If the unit discharges, the charge light will go out and the discharge light will come on.

WHEN ACTUATION OCCURS, IMMEDIATELY SHUT DOWN ALL ENGINES, POWERED VENTILATION, AND ELECTRICAL SYSTEMS AND EXTINGUISH ALL SMOKING MATERIALS. DO NOT IMMEDIATELY OPEN THE ENGINE COMPARTMENT!! THIS FEEDS OXYGEN TO THE FIRE AND FLASHBACK COULD OCCUR.

Allow agent to fill entire engine compartment for at least 15 minutes. Hot metals or fuel can also begin cooling during this time. Cautiously inspect compartment for cause of fire and damage to equipment. Have portable extinguishers readily available. Do not breathe fire fumes or vapors.

Note: See the manufacturer's owner's manual for detailed information about safety precautions and procedures for operating and maintaining the fire extinguishing system.

MANUAL FIRE EXTINGUISHER SYSTEM

The manual fire extinguisher system, located at the control station, allows the operator to manually activate the automatic extinguisher in the engine room. Early detection and use of the manual override system will reduce fire damage by eliminating the time necessary for heat in the engine room to rise to a temperature necessary to activate the automatic fire extinguisher. (See Figure 8.13)

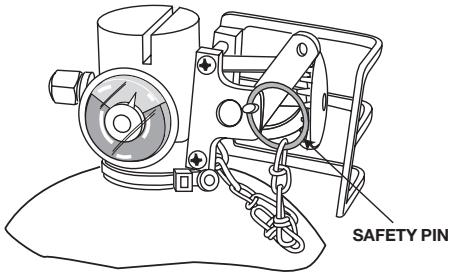
To Operate:

1. Pull pin securing the handle.

2. Pull red FIRE handle quickly and briskly.

Safety Pin

The safety pin, located at the neck of the extinguisher bottle (Figure 8.13) in the engine room is for the shipping and transferring of the bottle only.



NOTE: THE MANUAL SYSTEM WILL NOT OPERATE IF SAFETY PIN IS INSTALLED.

Figure 8.13 Engine Room Fire Extinguisher

⚠WARNING

WARNING: The safety pin must be removed after cable s-hook and attachment pin are installed. Failure to do so will result in inability to manually operate system.

The pin MUST be removed in order to manually operate the system.

This pin should be removed upon installation of the system. The manual system will not function unless the safety pin has been removed from the fire extinguisher bottle.

Hand Held Extinguishers

As the boat owner, you are responsible for making sure you have the required number of fire extinguishers. Fire extinguishers must be approved by the U.S. Coast Guard. Chaparral has provided a hand held extinguisher at the helm located in the wetbar.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

REFRIGERATOR AND FREEZER

The refrigerator/freezer unit is located in the galley aft of the galley counter. The unit is supplied power by the REFRIGERATOR/FREEZER breaker on the salon 120 volt AC main distribution panel and/or the 12 V DC Main Distribution Panel. To operate dockside, connect the shore power system; turn the MAIN breaker(s) ON. Then turn the REFRIGERATOR/FREEZER breaker on the AC and DC main distribution panel ON.

Cockpit Ice Maker

The cockpit ice maker is located in the cockpit wet bar (See Figure 8.11). To operate, turn ON the COCKPIT REFRIGERATOR breaker on the salon 12 volt DC distribution panel.

To Start Ice Maker:

1. Make sure water tank is full.

2. Turn "FRESH WATER PUMP" breaker ON.

3. Turn ON ice maker switch, located at the bottom of the unit. Allow unit to cycle several times before using ice. Refer to water system for more information.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

HYDRAULIC SWIM PLATFORM

The swim platform is powered through the SWIM PLATFORM breaker located in the engine room on the aft engine room component panel. It is operated by the swim platform remote control unit located inside the starboard transom locker.

To Operate Swim Platform Remote:

Plug the remote into the remote power plug, switch ON the swim platform main switch and operate the swim platform by depressing the desired button on the remote.

⚠ DANGER

DANGER: To avoid risk of serious injury or death, DO NOT operate while swimmers are on or near the swim platform.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

COFFEE MAKER

The drip coffee maker is located below the galley cabinet below the sink. It is completely portable and can be moved around the boat wherever fresh brewed coffee is desired. It operates on the 120 volt system.

To care for coffee maker, the mineral deposits left by water must be flushed out using the cleaning method described in the instruction booklet.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

STOVE AND MICROWAVE

Electric Stove

Your boat has an electrical stove in the galley. The electric stove operates off a 120 volt STOVE breaker on the AC main distribution panel and must be ON to operate the stove. The stove has two (2) burners with controls to provide a variation of heat.

Important: The operator's manual and safety instructions explain special safety precautions, maintenance, safety and proper operating procedures. Chaparral Boats cannot overemphasize the proper use of safety when operating your stove.

CAREFULLY READ and understand the instructions before operating the stove.

Microwave/Convection Oven

The microwave/convection oven is located on the aft lower cabinet in the galley. The MICROWAVE breaker on the AC main distribution panel supplies power to the microwave and must be ON to operate the unit.

Note: Turn on the galley power ventilation system when operating the convection oven.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

POWER VENTILATION SYSTEM

The power ventilation system removes stagnant and foul air from the master stateroom head, guest head and galley by means of 12 volt exhaust fans. The system is powered by the power vents breaker on the salon DC distribution panel and individually turned on and off by the power vent switch in the heads and the galley.

REMOTE CONTROLLED SPOTLIGHT

The 420 Premiere spotlight is mounted on the bow of the deck.

To Operate The Spotlight:

1. Press the POWER button on the spotlight pad to turn on the spotlight.

2. Press SPEED button to adjust the movement speed of the spotlight.

CENTRAL VACUUM SYSTEM

The central vacuum unit is located under the aft dinette seat cushion in the salon. The hose inlet valve is located in the aft stateroom just below the sliding door.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

HORN

The dual air horn is operated by a toggle switch located on the control station switch panel and protected by a "HORN" breaker located on the control station breaker panel. The compressor is located in the rope locker along with the trumpet horn.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

WINDSHIELD WIPERS WITH WASHER SYSTEM

Your boat is equipped with a port and starboard windshield wiper. Each wiper is operated by a switch located at the helm. The washer system is supplied with fresh water from the fresh water tank.

RETRACTABLE SUNROOF (Optional)

The retractable sunroof located in the hardtop is open and closed by a switch at the helm.

MISTING SYSTEM (Optional)

The misting system consists of a high pressure water pump, filter and four misting heads. The pump and filter are located behind the cockpit port seat forward backrest. The misting heads are located on the aft edge of the hardtop. Water is supplied to the system from the freshwater tank. Misting system is operated by a switch located at the helm.

Note: Fresh water pump must be on before operating misting system. Change misting system water filters at least once a year or more often if necessary.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

CANVAS

It is recommended that you read Section 2, Boating Safety to understand the effects of exhaust emissions.

Care and Maintenance

Proper care and maintenance instructions have been provided by the canvas manufacturer for the canvas used on your Chaparral boat. The information can be found in the Owner's Manual Packet.

By following the provided instructions, your canvas set will give you protection from the elements and comfort that you expect. Most of all, the instructions provide you with installation and removal procedures that will simplify the task.

Storage

The canvas, or weather coverings, are 100% acrylic yarn. Besides its resistance to mildew, rot and weather, canvas also resists industrial pollutants and the effects of ultraviolet light from the sun.

All canvas should be rolled or folded when dry and stored in a clean, dry space. For clear vinyl pieces, the recommended methods for storage are rolling or laying down flat. The clear vinyl should never be folded or creased as cracking will result. To protect the clear vinyl from rubbing against itself while rolled or stored flat, place a piece of very soft, non abrasive cloth between the pieces.

Installation Tips

The zippers, attached aft on hardtop are mounted on a zipper track. Once installed, do not remove these zippers or zipper tracks.

When attaching any of the pieces of the canvas set, attach the top edges first and zip the zippers only partially. This helps to hold the piece in place and relieves tension, helping the other sides to zip or snap easier. Once all sides of the piece are secure, finish zipping the top of each piece. This will ensure a tight fit.

Canvas Installation

Aft Curtain
The aft curtain extends over the cockpit area and may be used while underway or as a storage cover.

Zip aft curtain to zipper track on aft edge of the hardtop approximately six (6) inches on both sides of center. Next, use the bungee cords to secure the curtain at the transom. Complete installation by zipping up aft curtain.

REFER TO OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

PREVENTIVE MAINTENANCE AND REPAIR 9

Routine inspection, service and maintenance of your boat's systems are the key to trouble-free operation, as well as for prolonging the life of your boat. Do not attempt any repairs on your boat unless you are qualified to do so.

Only use approved marine replacement parts available from your Chaparral dealer. Chaparral recommends that you have an authorized Chaparral dealer do your maintenance and repair work. Your dealer is qualified to make repairs or modifications to your boat in such a manner as to not compromise safety, design integrity, or warranty coverage. This chapter includes information you can use to do general maintenance and repair, and descriptions of convenient methods for evaluating the condition of some of your boat's systems.

Develop regular routines for inspecting your boat. The chart below summarizes inspection, service and maintenance activities. The interval between necessary service and maintenance is highly variable, and depends on the environment your boat is in and on the severity of operating conditions. For example, the corrosion of parts on boats operated in salt water proceeds much faster than the corrosion of parts on a boat operated in fresh water. The intervals listed below are recommended maximums, and you must reduce the time between inspections if your observations indicate such a need.

SUMMARY GUIDE FOR INSPECTION, SERVICE AND MAINTENANCE

			INTERVAL				
ITEM	**REQUIRED MAINTENANCE/SERVICE**	**REFERENCE SOURCE**	**BEFORE EVERY USE**	**AFTER FIRST 20 HOURS**	**EVERY 25* OR 50 HOURS**	**EVERY 50* OR 100 HOURS**	**EVERY 6 MOS. OR ANNUALLY**
Battery	Check water level	Owner's Manual	•	•	•		
Bilge Area	Clean and check	Owner's Manual					•
Bilge Blowers	Hose connections tight	Owner's Manual			•		•
Bilge Pump	Float switch operates freely	Owner's Manual					•
Canvas	Clean	Owner's Manual	As Needed				
Controls							
Steering	Check for proper operation	Owner's Manual	To be done by Chaparral dealer every six months				
	Power steering oil level	Engine Manual	•				
Throttle	Smooth and pivot points are working properly	Engine Manual		•		•	•
Electrical							
Connections	Check for looseness	Owner's Manual	To be done by Chaparral dealer annually				
GFCI (120V) Outlet	Check for operation	Owner's Manual					•
Engine							
Alarm	Check	Engine Manual	•				
Cooling Systems Connections	Check for leaks with engine running	Engine Manual	•				
Crankcase Ventilating System	Clean	Engine Manual		•		•	
Drive Belts	Check	Engine Manual	•				
Exhaust System	Check for leaks	Engine Manual	•	•		•	
Flame Arrestor	Clean	Engine Manual		•		•	
Fuel Filter	Replace	Engine Manual				•	
Mounts (Fasteners)	Tighten	Engine Manual		•			•
Oil and Filter	Replace	Engine Manual				•	•
Oil Level	Check	Engine Manual	•				
Fuel System							
Connections & Lines	Check for leaks	Engine Manual	•	•	•		
Tanks	Check for leaks	Owner's Manual	•	•	•		
Water Separating Fuel Filter	Replace	Engine Manual		•			•

**Use in salt water or other severe operating conditions requires shorter maintenance/service intervals*

SUMMARY GUIDE FOR INSPECTION, SERVICE AND MAINTENANCE

ITEM	REQUIRED MAINTENANCE/SERVICE	REFERENCE SOURCE	INTERVAL				
			BEFORE EVERY USE	AFTER FIRST 20 HOURS	EVERY 25* OR 50 HOURS	EVERY 50* OR 100 HOURS	EVERY 6 MOS. OR ANNUALLY
Propeller	Inspect for damage		Always after striking object				
Seaworthiness							
Bilge Drain Plug	Installed and tight		•				
Hull Damage	Check for loose, damaged or missing parts		Always after striking object				
Topside & Supplies	Check for loose, damaged or missing parts	Owner's Manual					•
Transmission							
Oil Strainer Screen	Check		To be done by Chaparral dealer annually				
Trim Tabs	Check and add as needed	Trim Tab Manual		•			
Zincs							
Transom	Check and replace as needed	Owner's Manual	Every 25 hours of operation				
Trim Tabs	Check fluid level	Trim Tab Manual	Every 25 hours of operation				

**Use in salt water or other severe operating conditions requires shorter maintenance/service intervals*

USEFUL SERVICE INFORMATION

OWNER_____

HOME PORT_____

BOAT NAME _____

REGISTRATION NUMBER _____ STATE _____

HULL SERIAL NUMBER_____

WARRANTY REGISTRATION DATE _____

ENGINE MAKE & MODEL _____

SERIAL NUMBER PORT _____ STARBOARD _____

PROPELLER SIZE PORT _____ STARBOARD _____

PART NUMBER PORT _____ STARBOARD _____

FUEL CAPACITY PORT TANK _____ STARBOARD _____

WATER CAPACITY_____

KEY NUMBER, IGNITION _____ DOOR _____

SELLING DEALER _____

CITY & STATE_____

LENGTH_____ BEAM _____ DRAFT_____

VERTICAL CLEARANCE _____

ESTIMATED WEIGHT_____

GENERATOR SERIAL # _____ MODEL #_____ KILOWATTS _____

INSPECTION, SERVICE AND MAINTENANCE PROTOCOL

Bilge Area

Your boat's systems have important features located in the bilge area. Check the bilge before you use your boat every time! A comprehensive inspection of the bilge area will help you become familiar with these critical features. For example, if engine oil leaks and fuel system leaks appear as contamination on the surface of the liquid that remains in the bilge, you should look for its source.

At least once or twice a year, run the bilge until the pump is dry. Remove all sand, silt, dirt, and foreign material. Make sure all limber holes are open and strainers are clean. (Limber holes are the openings in the stringers that allow water to flow from the outboard areas of the bilge to the bilge sump.)

Check the bilge pump float switch by moving it manually. (See Chapter 5, Figure 5.1.) The bilge pump should start when the float switch is raised and should stop when lowered. If this doesn't happen, try resetting the bilge pump breakers. If the pump will still not start, replace the float switch before using your boat. The float switch should also move freely without sticking. If it does not, have it serviced or replaced before boating.

Important: Pumping fuel or oil overboard into the water violates the Federal Clean Water Act. Pump into suitable container and dispose of properly.

⚠WARNING

WARNING: Never use any flammable solvents for cleaning the bilge. Check with your Chaparral dealer for recommended cleaners.

Oil

If oil contamination exists, look for leaks in engine oil lines and engine gaskets. If parts of the bilge have been stained by oil, the stain can be removed using a bilge cleaner available from your dealer or a marine store.

Engine

Refer to the engine owner's manual for detailed information about engine maintenance and repair. That manual has a maintenance and service schedule for the engine on your boat.

Engine failure or malfunction, when away from shore, can be dangerous. Make certain that you do the following each time you use the boat:

- Wipe off the engine to remove any dust, grease, and oil.
- Inspect all exposed nuts, bolts and screws for tightness.
- Check the belts for wear and tear. If they do not require replacement, check and adjust the belt tension according to the engine manufacturer's recommendation.
- Examine the engine wiring, and clean and tighten the terminals on the engine electrical system.
- Clean and lubricate the battery cables.
- Refer to your Engine Operator's Manual for additional engine maintenance requirements.

Fuel System

The fuel system must be inspected frequently and maintained regularly. The fuel system provides a clean, continuous supply of fuel to the engine, in addition to helping prevent possible fire and explosion. Check for leaks and/or vapors and repair any problems immediately. Keep the fuel tank filled during the boating season to prevent moisture from condensing in the tank.

- Check the entire fuel system for evidence of leakage, including the fuel tank fill lines and vents. A stain around a joint could be an indication of a leak.
- Test all fittings with a wrench to be sure they are not loose, but do not forcefully over-tighten the fittings.
- Clean fuel filters and vent screens periodically.

Note: Refer to your engine owner's manual for detailed information about checking and maintaining the fuel system.

⚠WARNING

WARNING: Working on electrical wiring can create shock hazards or sparks. Always turn the battery switch, breakers and/or pull fuses off before checking the electrical wiring or connectors.

Wiring System

- Inspect all wiring for proper support.
- Be sure no fraying or chafing of all wiring insulation has occurred.
- Check all terminals for corrosion. Corroded terminals and connectors should be replaced or thoroughly cleaned.
- Tighten all terminals securely and spray them with light marine preservative oil.

Fittings, Hoses and Clamps

- Examine the entire bilge area for any clues of damage or deterioration. Evidence of deterioration will first appear around hull fittings, hoses and clamps.
- Straighten kinked hoses.
- Replace any hose that does not feel pliable.
- Inspect all hose clamps for tightness and corrosion. Corroded clamps must be replaced.
- Check the nuts, bolts and screws that retain equipment, hoses, etc. in the bilge for tightness and corrosion. Corroded fasteners must be replaced.

TOPSIDE AND SUPPLIES

Once a year, you should undertake a thorough review of the topside equipment, as well as of the critical safety supplies on your boat.

- Check cleats, rings, rails, etc. for loose or corroded fasteners, breaks, sharp edges or other conditions that could lead to malfunction or unsafe use. Repair or replace as necessary.
- Check all PFDs (life jackets) for any tears and deterioration.
- Be sure there are enough PFDs on board for the maximum number of persons your boat can carry.
- Check your first aid kit to ensure that it contains all appropriate items and be sure that items have not passed their expiration date.
- Check the signaling equipment and emergency flares. Be sure that all items are within their expiration dates.
- Inspect the anchor, mooring and towing lines. Repair or replace as required.
- Check that the fire extinguishers are fully charge.

DRAINING THE BOAT

In climates where freezing occurs, it is especially important that the bilge be completely drained and dried out when the boat is stored for the winter. Some compartments in the bilge may not drain completely because of the position of the boat. You should pump out and sponge your boat until it is completely free of water, or add a sufficient amount of antifreeze to standing water to prevent freezing.

The boat's entire fresh water system must be drained. Open all faucets, including the shower faucets, throughout the boat. Open a connection at the lowest point in the fresh water lines to completely drain them. Break the connections on each side of the water pump. Drain the heads and the water heater. Break the lower connection if necessary.

The engine cooling system and the exhaust system must be free of water if there is a chance for freezing temperature. Drain plugs are provided on the engine for this purpose. It is necessary to open a connection or two in the exhaust system to drain the lowest portions; reassemble the connections securely immediately after draining has been accomplished.

CONSULT YOUR ENGINE AND GENERATOR OPERATOR'S MANUAL FOR DETAILED INFORMATION ON PREPARING FOR STORAGE.

WINTERIZATION CHECKLIST FOR BOATS STORED ON LAND

Proper winterization of your boat in regions where temperatures fall below freezing is necessary. Failure to do so will seriously damage its components and systems. They include, but are not limited to: generator, mufflers, air conditioner, strainers, water heater, sump pump, head, holding tank, water tank, sewer system, and water systems. As a result of not being able to completely drain the water systems with a water heater installed, it is recommended that potable water system antifreeze be run through the entire system at the time of winterization. This needs to be COMPLETELY flushed before using in the following spring.

Note: Chaparral strongly recommends having a qualified dealer perform winterization procedures for your boat.

Boat Storage

- Store boat in a bow high attitude.
- Remove hull drain plug.
- Pour one (1) pint (half liter) of 50% water and antifreeze mixture in each bilge pump sump.

Engines

Important: In regions where temperatures fall below freezing, winterizing your engine is necessary. Failure to do so will seriously damage the engine. Refer to the instructions in your engine owner's manual.

- Flush engines with fresh water.
- Remove engine drain plugs.

Refer to your Engine Operator's Manual for detailed information on preparing the engines for storage and winterization.

Battery(ies)

- Remove battery from boat and store in a cool, dry place away from freezing temperatures
- Remove the negative (-) cable first, then the positive (+) cable.
- Remove grease and dirt from the top surface.
- Grease the terminal bolts.
- Store on a wooden pallet or thick plastic in a cool, dry place. Do not store on concrete.
- Recharge battery monthly or trickle charge continuously while battery is stored.
- When placing the battery back into service, remove excess grease from the terminals, recharge as necessary and reinstall in the boat.

⚠WARNING

WARNING: Battery electrolytes can cause severe eye damage and burn your skin. Wear goggles, rubber gloves and a protective apron when working with a battery. If an electrolyte spills, wash the area with a solution of baking soda and water.

Head System

- Flush entire head system thoroughly with fresh water.
- Pump out holding tank.
- Remove water line from inlet fitting located on the back bottom half of the water valve on the head.
- Flush one gallon (four liters) of antifreeze mixed with one gallon (four liters) of water through the toilet and let the vacuum pump run for one or two minutes.
- Shut the WATER SYSTEM breaker OFF.

- Pump out the holding tank.

Water System

- Turn ON the WATER SYSTEM switch.
- Open the water faucet and let the system drain completely.
- Turn OFF the WATER SYSTEM switch.
- All water must be removed from the water lines with air pressure or by flushing with a nontoxic antifreeze.

Using Pressurized Air To Remove Water From Water Lines:

- You must have an air compressor with an air hose and air nozzle.
- Remove water hoses from the water pump.
- Alternate opening one faucet at a time to make sure that water is removed from each line.
- Blow air through the water lines removed from the water pump.

Note: When blowing air, be careful not to blow air when all of the faucets are closed. The system could be damaged by over pressurization, ultimately creating water leaks.

- Cover the ends of the hose with a screen or broad weave cloth, and tape in place to keep out dirt and bugs.

Using Nontoxic Winterizing Antifreeze:

- Purchase a nontoxic winterizing antifreeze for fresh water systems from a marine or RV supply retailer.
- Close all faucets and turn on the water system.
- Open one faucet at a time. Close when nontoxic antifreeze comes out of faucet.
- After all faucets and showers have been treated, open all faucets and pump out remaining nontoxic antifreeze.

Water Heater Winterization

Refer to your water heater Owner's Manual for detailed information on preparing the water heater for storage and winterization.

Fuel Systems

- Add diesel and recommended amount of biocide, such as "Biobor®", to the fuel tank. Biocide will prevent bacteria and fungi from contaminating diesel fuel that contains some water.
- A petroleum distillate additive, such as "Stabil®" or "Racor® RX100", should be added to diesel fuel. This additive will absorb water in the fuel and prevent freezing problems.
- Run engine(s) for ten minutes to ensure that all diesel fuel in the injectors and fuel lines is treated.

Note: Detailed winterizing, operating instructions and warranty information are provided by the equipment manufacturer and can be found in the owner's packet.

RECOMMISSIONING

Note: For detailed information on recommissioning your boat's systems and equipment, refer to the owner's manual for each system or component.

Fuel System

Inspection of the fuel system at recommissioning is very important. We cannot overemphasize our concern for your safety.

Inspect, visually and by smelling, the fuel system and all associated components for proper connections, wear, leaks, or other damage and needed repair.

Battery

- Clean battery terminal posts with wire brush or steel wool before reinstallation and then attach the cables.
- Check charge on battery. Recharge or replace if necessary.
- Inspect all battery wiring. Repair or replace if necessary.
- Attach battery cables, and tighten cable clamps.
- Apply petroleum jelly or marine grade grease on battery posts and clamps to eliminate air pockets and possible acid buildup.
- Inspect all wiring for fraying, wear, loose connections, or other damage. Repair or replace if necessary.

Miscellaneous

- Inspect all thru-hull fittings for unobstructed water passages. Be on the lookout for any deteriorated hoses and/or fittings below the water line that may fail in service and admit water.
- Test the operation of navigation lights and other onboard lighting. Inspect all switches, controls, and other related equipment for proper operation. Repair or replace as necessary.
- Inspect all wiring for fraying, wear, loose connections, or other damage. Repair or replace if necessary.
- Inspect all life jackets, anchor lines, and other safety equipment for proper operation and physical condition. Repair or replace if necessary.
- Check bilge blowers for proper operation. Turn ON blowers and place hand over hull blower vent to make sure air is coming from the vent.
- Anchor lines and gear should be inspected and replaced if necessary.
- Make sure the hull drain plug is in place and tight.
- Clean bilge thoroughly if it was not done at lay-up.
- Check all engine fluid levels.
- Check fuel lines for damage and/or leaks. Make sure that they do not come into contact with moving parts.

SECURITY CONSIDERATIONS

Be conscious of securing your boat properly. Always remove the keys from the ignition, lock hatches, lock the cabin door, and remove and stow any removable electronic gear (fishfinders, GPS, etc.) and personal gear (fishing poles, etc.) normally left aboard your boat.

SEACOCK LUBRICATION

- Remove the hose from top of the seacock once the boat is out of the water.
- Place seacock handle in closed position.
- Add a few drops of lubricating oil inside.
- Turn handle back and forth a few times. Add oil as needed.
- Replace hose and tighten clamp.
- Add a few drops of oil to the handle pivot point.

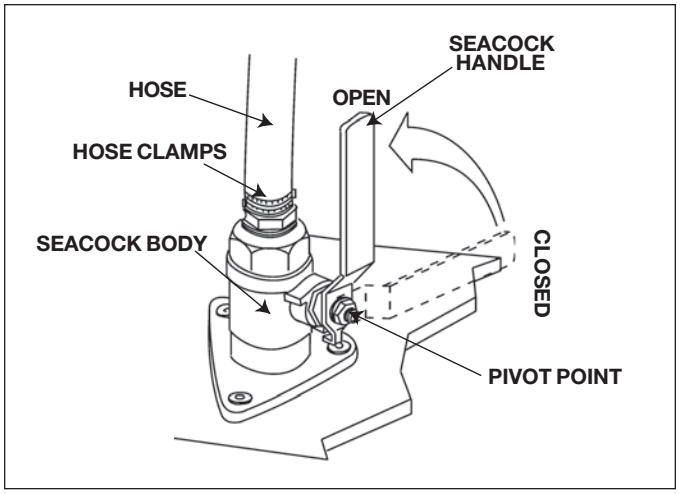


Figure 9.1 Seacock

ENGINE OIL CHANGE SYSTEM (Optional)

Follow the oil exchange instructions found in Section 5 – Bilge Information.

In each case, follow the intervals and oil change instructions provided by the engine manufacturer.

REFER TO THE ENGINE OWNER'S MANUAL FOR INSTRUCTIONS AND WARRANTY INFORMATION.

QUICK REFERENCE CHECKLIST

As the owner/operator of your Chaparral boat, you are responsible for the safe operation of your boat and the safety of your passengers. Always be sure that required documents, navigational equipment and Coast Guard required safety equipment are aboard and in proper working order.

For your convenience, see the following checklist.

Boarding The Boat*

General

1. Weather Conditions	Is it going to be safe to go out
2. Transom Drain Plug	Installed
3. PFDs and all other Coast Guard required safety equipment	Available for all children and adults
4. Ignition keys	Available
5. Tool Box	Stocked with a variety of appropriate tools

Boat Systems

1. Bilge Pumps	Working. Discharge any appreciable amounts of water overboard
2. Blowers	Working. "Sniff" the bilge/engine compartment for fuel odor
3. Navigation Lights	Working. Have spare bulbs (and if applicable fuses) aboard
4. Radio/Electronics	Working
5. Horn	Working
6. Trim Tabs	Full range of motion. No excessive play or binding
7. Fresh Water Tank	Filled and sanitized
8. Head System Holding Tank	Empty
9. Seacocks	Generator Open (handle parallel to hose), Head System Holding Tank Closed (handle perpendicular to hose)

Engine

1. Batteries	Fully charged (Check water cell levels)
2. Fuel Tank	Filled with recommended fuel
3. Fuel System	Check for leaks
4. Fuel Filters	Check that filters are clean and tight
5. Diesel Racor Fuel Filters	Check that filters are clean, tight and free of water
6. Engine Coolant Drain Plugs	Secured
7. Steering Fluid	Full
8. Throttle & Gearshift Controls Test	Full range of motion

*Note: If trailering the boat, many of these items should be checked before leaving the house.

Preparing To Depart and After Launching

General

1. Bilge/Engine Compartment	"Sniff" the bilge/engine compartment for fuel odor. Run the bilge blowers for at least four (4) minutes.
2. Shore Power Cable	Disconnected from dockside power inlet
3. Lines, Fenders and Anchor	Ready for use
4. Passengers/Crew	Instructed in duties for getting underway and fitted for a correct size PFD

Engine

1. Battery Switches	In the ON position
2. Fuel Valves	Open
3. Engine Alarm	Test. Should sound after a few seconds
4. Gear Shift & Throttle Controls	In NEUTRAL and IDLE positions

Starting The Engine*

1. Gearshift & Throttle Controls	Shift in NEUTRAL (Refer to your Engine Owner's Manual for startup procedures for your specific engine)
2. Ignition	Turn ignition switches on the DC distribution panel to the ON position. Depress the ignition switch on the helm switch panel to the START position until the engine starts, then release to the RUN position (light on)

*If the engine fails to start, refer to the Engine Owner's Manual for further troubleshooting procedures

While Underway

General

1. Passengers/Crew	Safely seated with PFDs on or immediately accessible
2. Lines, Fenders and Anchor	Stowed

Boat Systems

1. Trim Tabs	Bring boat to "on plane." Adjust as necessary
2. Navigation Lights	On at night or in reduced visibility

Engine

1. Tachometers	Engines operating in safe RPM range
2. Engine Gauges	Continually monitor
3. Engine Operation	Check idle and shift. Listen for abnormal noises and visually check the engine compartment while underway.

Returning To Port

General

1. Passengers/Crew	Instructed in duties for line handling
2. Lines and Fenders	Ready for use

Boat Systems

1. Navigation Lights	Turned OFF when secured
2. Anchor Light	ON if necessary
3. Bilge/Engine Compartment	"Sniff" the bilge/engine compartment for fuel odor. Run the bilge blowers if necessary. Check for water in bilge. Run bilge pumps if necessary.

Engine

1. Gearshift & Throttle Controls	Bring to NEUTRAL and IDLE positions
2. Tachometers	Idle the engines for five (5) minutes to cool down
3. Ignition	Depress ENGINE STOP switches on the helm switch panel when engines are cooled down.
4. Engine Operation	Check idle and shift. Listen for abnormal noises

Securing The Boat

General

1. Shore Power Cable	Connected to dockside power inlet
2. Lines and Fenders	Fenders in place, lines tied securely to dock

Boat Systems

1. Seacocks	Closed (handle perpendicular to hose)
2. Helm Switch Panel	All switches in the OFF position
3. Gearshift & Throttle Controls	In the NEUTRAL and IDLE positions

Engine

1. Ignition	Switched into the OFF position (lights off) and master ignition keys removed from DC distribution panel
2. Battery Switches	In the OFF position
3. Fuel Valves (Diesel Only)	Closed (handle perpendicular to hose)

If The Engine Does Not Start

No Starter Motor Response

1. Check that gearshift/throttle control levers are in the NEUTRAL positions
2. Check battery condition for sufficient charge
3. Check that battery cable connections are tight and free from corrosion
4. Check that battery switches in the ON position
5. Check starter motor and solenoid connections
6. Check ignition switch connections

Starter Motor Responds, But No Ignition

1. Check that fuel tanks are not empty
2. Check that the fuel filters and filter/water separators are clean
3. Check electrical connections on engine wiring harness and ignition wiring

Operating The Generator

Starting The Generator

1. Generator Seacock	Open
2. Bilge Blowers	Run for at least 4 minutes and any time the generator is running
3. Depress START/RUN Switch	Depress until generator starts
4. Load The Generator	Turn ON the generator main breaker on the Main Distribution Panel. Turn AC breakers ON

Stopping The Generator

1. Breakers	Turn AC breakers OFF. Turn OFF the generator main breaker on the Main Distribution Panel
2. Generator	Let it run a few minutes to cool down
3. STOP Switch	Depress to stop the generator set

⚠WARNING

WARNING: Do not run the generator or engines in an enclosed area, such as a closed boat house, as there is the possibility of buildup and inhalation of carbon monoxide.

INTERIOR AND EXTERIOR CARE 10

MAINTENANCE AND CARE

The following information will help you keep the interior and exterior of your boat in excellent shape. If you need more specific information, contact your Chaparral dealer.

Your new boat has been designed to provide you with years of enjoyment and satisfaction. To maintain the factory new appearance of your boat, we recommend the use of a one-step maintenance and reconditioning product designed specifically for pleasure boats. Following proper maintenance guidelines will help keep your boat's performance, value, and enjoyment.

Note: Before you use a particular cleaning solution or method, test the material to be cleaned in a hidden or inconspicuous area for possible adverse reactions. Use cleaning agents sparingly. Never discharge cleaning solutions into the waterways.

Do not use products containing phosphates, chlorine, solvents, or nonbiodegradable or petroleum based products.

PAINT CLEANING AGENTS AND OTHER SUBSTANCES

Make sure to use household detergent that contains no ammonia, phosphates, perfumes, non-degradable ingredients or chlorine. Because ammoniate or abrasive cleaners dull and discolor the gelcoat surface, they are not recommended for routine maintenance.

Consult your marine dealer regarding environmental regulations before painting the hull. Fumes can last for hours, and chemical ingredients can harm people, property and the environment. Common household cleaning agents may cause hazardous reactions. Read and understand directions on all paint, cleaning and polishing materials before using.

⚠WARNING

WARNING: Care and refinishing materials may contain ingredients that are flammable or explosive. Do not use such materials in the bilge.

Shut off the electrical power and ventilate when using such materials anywhere on the boat or in the cabin.

Do not create sparks or use lighted materials.

FIBERGLASS AND GELCOAT

The hull and deck are made of fiberglass. The outer layer of the hull and deck is a color pigmented polyester resin, called gelcoat. Gelcoat is highly resistant to scratches that occur during normal boat use. Nevertheless, during the life of your boat, some damage to the gelcoat is bound to occur.

To remove and prevent the buildup of most salt, soil, and grime, wash the fiberglass regularly with clean, fresh water. Wax gelcoated surfaces to maintain the luster. In northern climates, a semiannual waxing may suffice for the season. In southern climates, a quarterly application of wax will be required for adequate protection.

Gelcoat surfaces are very resistant to deep stains. To remove minor stains, wash the affected area with a soft cloth and household detergent. Then rinse thoroughly with clear water. If deep stains do occur, use a special fiberglass cleaner and stain remover. Waxing the gelcoat surface regularly will help prevent soiling and preserve its luster. Chaparral recommends a fiberglass wax that fills the gelcoat pores. Chemicals in fiberglass wax screen out harmful ultraviolet rays that cause fading of the gelcoat color.

Note: For colored gelcoats, it is important to follow waxing recommendations to maintain the luster of the gelcoat.

⚠WARNING

WARNING: Waxed gelcoat is slippery. Falls causing bodily injury or falls overboard are possible. Never wax deck surfaces that require sure footing.

Always wear non-slip foot gear while washing and waxing boat.

About Colored Gelcoats

Important: Consult your Chaparral dealer for recommended bottom paints and local laws that govern your area. Many states regulate the chemical content of bottom paints to meet environmental standards and regulations.

Colored hulls may provide an attractive contrast to all white boats. Similar to paint on cars, colored gelcoats need more care and protection, like waxing.

Chemical lab tests have proven that colored gelcoats will show more chalking than white gelcoat as a result of eventual degradation from weathering. Most house paints are designed to chalk and then wash off clean with water. Gelcoat chalk, however, does not wash off.

One can extend the life of white or colored gelcoat by following Chaparral's recommended maintenance instructions. A performance paste wax or an equivalent marine grade paste wax will help maintain the luster of the original gelcoat.

Permanently Moored Or Docked Boats

If your boat will be in water continuously for the majority of the boating season, Chaparral recommends sealing the hull bottom with a high quality barrier coating.

Boats should be rotated in a slip as often as they are waxed. This will eliminate too much ultraviolet exposure and will prevent degradation from occurring on only one side of the boat.

REFER TO THE ONE-STEP MAINTENANCE AND RECONDITIONING PRODUCTS PAMPHLET IN YOUR OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

Keep Bilge Area Dry

If water accumulates in the engine room where it cannot drain to the bilge pump, it may penetrate through the gelcoated surfaces and wick into the fiberglass affecting the life of the product. Check all areas of the engine room for accumulated water and dry thoroughly.

SPECIAL CARE FOR BOATS THAT ARE MOORED OR DOCKED

If your boat is permanently moored or docked in salt water or fresh water, it will collect marine growth on its bottom. This will detract from the boat's beauty and greatly affect its performance. There are two methods for preventing this:

- Periodically haul the boat out of the water and scrub the bottom with a bristle brush and a solution of soap and water.

- Paint the hull below the waterline with a good grade of antifouling paint. **DO NOT paint the engine drive surfaces.**

Note: Never use wire brushes, scouring pads, or other abrasive materials or solutions on the bottom surface of your boat. They cause small scratch marks that will collect dirt, silt, sand, marine growth and other foreign materials.

Important: Consult your Chaparral dealer for recommended bottom paints and local laws that govern your area. Many states regulate the chemical content of bottom paints to meet environmental standards and regulations.

CARE FOR BOTTOM PAINT (ANTI-FOULING)

Slight algae or slime may form on your boat. The bottom painted portion of the hull can be wiped off with a coarse Turkish towel or a piece of old rug while the boat is in the water. Do not use a stiff or abrasive material to clean the bottom paint.

Anti-fouling bottom paint is designed to prevent marine growth by dissolving slowly. As a result, the bottom of your boat will usually need painting after the boating season. Some variables to consider when selecting protective bottom paint are the water temperature, water pollution, salinity, current, and organic matter in the water. The bottom paint should be inspected annually. If it needs repainting, consult your Chaparral dealer.

BILGE/ENGINE COMPARTMENT

The following information will help you keep the bilge and engine compartment performing optimally. If you need more specific information, contact your Chaparral dealer.

1. Pump the bilge dry and remove all loose dirt. All limber holes should be open. If oil is present in the bilge and the source is unknown, inspect for leaks in the engine oil lines or engine gaskets. Oil stains can be removed by using a bilge cleaner available form your dealer or a marina. DO NOT use flammable solvents.

2. Inspect all wiring to be sure it is properly supported, that its insulation is intact, and that there are no loose or corroded terminals. If there are corroded terminals, they should be replaced or thoroughly cleaned. Tighten all terminals securely and spray them with light marine preservative oil.

3. Check the fuel system (including fill lines and vents) for any signs of leakage. Stains around joints are a good indication of a leak. Use a wrench on all fittings to be sure they are not loose, but do not over-tighten them. Clean fuel filters and vent screens.

4. Inspect the entire bottom for evidence of leakage, damage or any sign of deterioration, paying particular attention to hull fittings, hoses, and clamps. Straighten kinked hoses and replace any that do not appear in good condition. Tighten loose hose clamps and replace those that are corroded. Tighten any loose nuts, bolts or screws.

5. Refer to your engine operator's manual for engine maintenance details. Wipe off engine to remove accumulated dust and grease. If a solvent is used, make sure it is nonflammable. Go over the entire engine and tighten nuts, bolts, and screws. Inspect the wiring on the engine and clean and tighten the terminals. Inspect the belts and tighten them if needed. Clean and lubricate the battery terminals; fill the battery cells with distilled water as needed.

TOPSIDE AREAS

Stainless Steel and Alloy Fittings

Note: Always follow the manufacturer's recommendations found in your owner's packet for cleaning and maintaining deck hardware and fittings. These recommendations include the proper cleaning methods and cleaning agents.

- Always clean stainless steel frequently with soap and water. Any cleaner safe for glass is usually safe for stainless steel.
- Always remove rust spots as soon as possible with a brass, silver, or chrome cleaner. Irreversible pitting will develop under rust that remains on stainless steel for any period of time.
- Always use a cleaner, like a good car wax, for added beauty and protection.
- Never use coarse abrasives like sandpaper or steel wool on stainless steel. These may actually cause rusting.
- Never clean with mineral acids or bleaches.
- Never leave stainless steel in contact with iron, steel, or other metals that cause contamination leading to rust or corrosion.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

GAUGE AND SWITCH PANELS

No special care is required. Wipe off gauge and switch panels with a soft, fresh water damp cloth to remove dust or salt. Dry with chamois or soft cloth. Use of protective chemicals is not required.

ACRYLIC PLASTIC SHEETING (PLASTIC GLASS)

Never use a dry cloth or duster or glass cleaning solutions on acrylic. Grease and oil may be removed from acrylic with kerosene, hexane, white (not aviation or ethyl) gasoline or aliphatic naphtha (no aromatic content).

Do not use solvents such as acetone, silicone spray, benzine, carbon tetrachloride, fire extinguisher fluid, dry cleaning fluid or lacquer thinner on acrylic, since they attack the surface.

To clean acrylic, wash off as much dirt with water as possible. With your hands and plenty of water, feel and dislodge any caked dirt or mud. A soft, grit-free cloth may then be used with a nonabrasive soap or detergent. A soft sponge, kept clean for this purpose, is excellent. Blot dry with a clean, damp chamois.

Repair minor scratches with automotive rubbing compound or polishing wax. Follow the manufacturer's instructions. Although the scratches may not disappear completely, they should not be as noticeable. Apply rubbing compound or polishing wax to a damp, soft cloth. Rub the gelcoat surface with the damp, soft cloth in a circular motion.

LIGNAPAL® CABINETS

To care for the galley cabinet surfaces, please follow the cleaning recommendations listed below.

The following NOTICE label is placed on the fiberglass area of the galley countertop.

NOTICE

Care and maintenance of your Lignapal® cabinets

- Never use ammoniated window sprays or kitchen scouring components.
- Never use solvents such as acetone, gasoline, benzene, alcohol or lacquer thinner.
- Polish with light coat of automobile paste, wax or plastic cleaner/polish.
- Failure to follow these instructions will result in damage to your cabinets.

Clean cabinet surfaces often with a soft cloth or sponge and mild soap and water. A non-ammoniated spray may also be used. (Examples: Glass Cleaner-Vinegar Glass Works by Miles, Inc.)

Never use paper towels, abrasive pads or abrasive cleaners.

Hairline scratches and minor abrasions can be removed or minimized using mild automobile polish.

These care instructions refer specifically to the Lignapal Cabinet surfaces. Ask your dealer about cleaning any hardware or trim that has been incorporated in your cabinetry.

CANVAS AND CLEAR VINYL

The canvas, or weather coverings, are 100% acrylic yarn. Besides its resistance to mildew, rot, and weather, canvas also resists industrial pollutants and the effects of ultraviolet light from the sun.

All canvas should be rolled or folded when dry and stored in a clean, dry space. For clear vinyl pieces, the recommended methods for storage are rolling or laying down flat. The clear vinyl should never be folded or creased as cracking will result. To protect the clear vinyl from rubbing against itself while rolled or stored flat, place a piece of very soft, non abrasive cloth between the pieces.

REFER TO THE OWNER'S MANUAL PACKET FOR A CANVAS CARE SHEET IF THE SURFACE OF THE CLEAR VINYL BECOMES SCRATCHED.

Care

- Keep the top up when the boat is not in use or when it is raining. Never trailer your boat with the canvas up. None of the canvas or covers supplied with your boat were designed for the stress of highway speed trailering, and to do so may damage the canvas.

- Keep the canvas clean. Acrylic fabric will not support mildew growth, but dirt and dust on the canvas will.

- Lubricate zippers with paraffin and snaps with petroleum jelly.

- If canvas or seams leak, apply a light coating of fluorocarbon based water repellent, or "303 High Tech Fabric Guard," available at most marine dealers.

- Allow all canvas to air dry before storing. Never store canvas damp or wet. Provide proper ventilation to limit the possibility of mildew.

- Avoid mooring under trees.

- Do not tow your boat with canvas attached to any hull or windshield mounted fasteners.

- When storing the rear (aft) curtain, fold the canvas over the clear vinyl window (do not fold clear vinyl), then roll or store flat.

Cleaning

- Wet down and clean all canvas and clear vinyl material on a regular basis before substances like dirt, mold, pollen, etc. are allowed to become embedded in the fabric. Fabric can be cleaned without removing from installation.

- Brush off loose dirt and particles. Hose down and clean with a mild solution of natural soap in lukewarm water. Rinse thoroughly to remove soap. Never use a detergent or bleach on your canvas.

- Allow to completely dry.

- Wash and clean vinyl windows with a warm soap solution. Use a soft cloth or sponge and do not scratch the surface.

- If stubborn stains exist, call your dealer for proper procedures. Do not try your own cleaning procedures as they may permanently damage the canvas.

- After each use, especially in salt water areas, rinse the canvas completely with fresh cold water. Then let the canvas dry completely before stowing.

- All metal components of the canvas should be rinsed with fresh cold water and exposed components should be wiped dry to maintain appearance and working order.

Do not fold or store any of the canvas pieces while wet.

EXTERIOR UPHOLSTERY FABRIC

All exterior fabrics should be cleaned with a sponge or very soft scrub brush and a solution of mild soap and warm water. After scrubbing, rinse with cold, clean water and allow the fabric to air dry in a well ventilated place, preferably away from direct sunlight.

If your boat does not have enough ventilation, mildew can occur. Heat alone will not prevent mildew; you must also provide for fresh air circulation.

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND WARRANTY INFORMATION.

INTERIOR UPHOLSTERY FABRIC

REFER TO THE OWNER'S MANUAL PACKET FOR INSTRUCTIONS AND OTHER CLEANING INFORMATION.

NAUTICAL GLOSSARY

11

Abaft Toward the stern.

Abeam Amidships, at a right angle to the keel.

Aboard On, in, or into a boat.

ABYC American Boat and Yacht Council, Inc., the organization that sets voluntary safety and construction standards for small craft in the USA.

Adrift Without motive power and without anchor or mooring.

Afloat On the water.

Aft Describing the after section of a vessel, or things to the rear of amidships and near the stern.

Aground Touching bottom.

Amidships In the center, the center portion of a vessel.

Anchor A forging or casting shaped to grip the sea bottom and, by means of a cable or rope, hold a boat in a desired position.

Anchorage A customary, suitable and (usually) designated harbor area in which vessels may anchor.

Astern Toward the stern. An object that is aft of a boat is said to be astern of the boat.

Athwart Across.

Aweigh Off the bottom, said of an anchor.

Aye Yes, while aboard a boat or ship. Means "I understand."

Bail To remove water from a boat by pump or bailer.

Ballast Heavy material such as iron, lead, or stone placed in the bottom of the vessel.

Beacon A post or buoy placed over a shoal or bank to warn vessels, also a signal mark on land.

Beam Imaginary line amidships at right angles to keel of vessel. Also vessel's maximum width.

Bearing The direction or point of the compass in which an object is seen.

Belay To make fast to a cleat or belaying pin; to cancel an order.

Below Beneath, or under, the deck. One goes below when going down into the cabin.

Bend To fasten by means of a bend or knot.

Berth A position, as a place to sleep or in which a vessel maybe made fast; a margin of safety, as "a wide berth."

Bilge The lower internal part of a boat's hull.

Bollard A strong post for holding lines fast.

Bow The forward part or front of the boat.

Breakers Waves cresting as they reach shallow water, as at or on a beach.

Breakwater A structure, usually stone or concrete, built to create a harbor or improve an existing one.

Bulkhead Vertical partition in a boat.

Burdened Vessel Former term for the vessel which must stay clear of vessels with the right-of-way.

Caulking Forcing filler material into the seams of the planks in a boat's deck or sides, to make them watertight.

Camber The arch of a deck, sloping downward from the center toward the sides.

Capsize To turn over.

Carburetor Backfire Flame Arrestor Required equipment on all motorboats except outboards and diesels. Reduces chance of fire caused by backfires in internal combustion engines.

Cardinal Points The four main points of a compass; north, east, south, and west.

Ceiling The inside lining of the hull.

Certificate Government paper, such as a boat's license.

Chart A map of a body of water that contains piloting information.

Chine The intersection of sides and bottom of a boat.

Cleat A piece of wood or metal with projecting ends to which lines are made fast.

Clinker A method of planking in which the lower edge of each strake overlaps the upper edge of the strake next below. (Also called lapstrake.)

Coaming A raised edge, as around part or all of a cockpit, that prevents seawater from entering the boat.

Coast Guard The federal marine law enforcement and rescue agency in the US.

Cockpit A well or sunken space in the afterdeck of a small boat for the use of the helmsman and crew.

Companionway A hatch or entrance, from deck to cabin.

Compass The instrument which shows the heading of a vessel.

Cowls Hooded openings used for ventilation.

Cradle A frame used to support a vessel on land.

Current The movement of the water in a horizontal direction.

Deadrise The rise of the bottom of a midships frame from the keel to the bilge.

Deck Any permanent covering over a compartment.

Deep-six To discard or throw overboard.

Depth Sounder An electronic depth-finding instrument, measuring the time a sound wave takes to go from the vessel to the bottom and return, then displaying the result in feet, fathoms, or meters.

Dinghy A small, open boat.

Displacement Hull Type of hull that plows through the water even when more power is added.

Dock An enclosed or nearly enclosed water area; all the port installations; a place where vessels can moor, as a pier, wharf, or floating dock.

Documented Vessel Vessel registered with the U.S. Coast Guard.

Dolphin A small group of piles, in the water, generally used for mooring or as a channel marker.

Draft The depth of the vessel below the water line, measured vertically to the lowest part of the hull.

Dunnage Mats, boughs, pieces of wood, or other loose materials placed under or among goods carried as cargo in the hold of a ship to keep them dry and to prevent their motion and chafing; cushioning or padding used in a shipping container to protect fragile articles against shock and breakage; baggage or personal effects.

Ebb An outgoing tide.

Estuary An inlet or arm of the sea.

Fathom Six feet.

Fenders Objects placed along the side of the boat to protect the hull from damage.

Flare The outward spread of the boat's sides from the waterline to the rail at the bow. Also, a pyrotechnic signalling device that can indicate distress.

Fore Used to distinguish the forward part of a boat or things forward of amidships. It is the opposite of aft or after.

Forward Toward the bow.

Frame Ribs of the hull, extending from the keel to the highest continuous deck.

Freeboard The vertical distance measured on a boat's side from the waterline to the gunwale.

Galley The kitchen area of a boat.

Gimbals Swivels used to keep equipment level.

Give-Way Vessel The one which must stay clear of vessels which have the right-of-way.

Grab Rail A convenient grip, on a cabin top or along a companion ladder.

Gunwale The upper edge of a boat's side. (pronounced gunnel.)

Harbor A safe anchorage, protected from most storms; may be natural or man-made, with breakwaters and jetties; a place for docking and loading.

Hatch An opening in a boat's deck for persons or cargo to go below.

Head A marine toilet.

Headway Forward motion of a vessel through the water.

Helm The wheel or tiller by which a ship is steered.

Holding Tank Storage tank for sewage, so that it will not be pumped overboard into the water.

Hull The body of a boat.

Hypothermia A physical condition where the body loses heat faster than it can produce it.

Inboard More toward the center of a vessel; inside; a motor fitted inside the boat.

Inland Rules Rules of the road that apply to vessel operation in harbors and certain rivers, lakes, and inland waterways.

Intracoastal Waterways ICW: bays, rivers and canals along the coasts (such as Atlantic and Gulf of Mexico coasts), connected so that vessels may travel without going into the open sea.

Jetty A structure, usually masonry, projecting out from the shore; a jetty may protect a harbor entrance.

Keel The permanently positioned, fore-and-aft backbone member of a boat's hull.

Knot To bend a line. Also, a unit of speed equal to one nautical mile (6,076.10 feet) an hour.

Launch (1) To put a vessel into the water; (2) a small open powerboat, mainly used for transportation between a vessel and shore.

Lee The side opposite to that from which the wind blows.

Leeward Situated on the side turned away from the wind. (Opposite of windward.)

Leeway The amount a boat is carried sideways by the wind's force or current.

List (1) A continuous leaning to one side, often caused by an imbalance in stowage or a leak into one compartment; (2) A light list is a printed listing of aids to navigation, in geographical order.or inclining of a vessel toward the side.

LOA Length over all; the maximum length of a vessel's hull, excluding projecting spars or rudder.

Locker A storage place, a closet.

Log A record or diary of a vessel's journey.

Lubber's Line A mark or permanent line on a compass that shows the course of the boat.

Making Way Making progress through the water.

Marina A place, essentially a dock area, where small recreational craft are kept; usually floats or piers, as well as service facilities, are available.

MAYDAY A radio distress call, from the french m'aidez (help me); SOS in Morse Code.

Mooring Commonly, the anchor chain, buoy, pennant, etc., by which a boat is permanently anchored in one location.

Motor A source of mechanical power.

Motorboat Any watercraft 65 feet or less in length propelled by machinery, whether or not such machinery is the principal source of propulsion.

Navigation The art of conducting a ship from port to port.

Nautical Mile 6076.12 feet, or 1852 meters, an international standard; the geographical mile, the length of one minute of latitude at the equator, is 6087.20 feet.

Nun Buoy A conical, red buoy bearing an even number and marking the starboard side of a channel from seaward.

Oar A long, wooden instrument with a flat blade at one end, used for propelling a boat.

Outboard (1) a propulsion unit for boats, attached at the transom; includes motor, driveshaft, and propeller; fuel tank and battery may be integral or installed separately in the boat; (2) outside or away from a vessel's hull; opposite of inboard.

Outdrive A propulsion system for boats, with an inboard motor operating an exterior drive, with driveshaft, gears, and propeller; also called sterndrive and inboard/outboard.

Overall Length The extreme length of a vessel, excluding spars or rigging fittings. See LOA.

Painter A rope attached to the bow of a boat for making it fast.

PFD Personal Flotation Device.

Pier A structure, usually wood or masonry, extending into the water, used as a landing place for boats and ships.

Pile A vertical wooden or concrete pole, driven into the bottom; may be a support for a pier or floats; also used for mooring.

Piling A structure of piles.

Pitch (1) The up and down movement as the bow and stern rise and fall due to wave action; (2) The theoretical distance advanced by a propeller in one revolution.

Planing Hull Type of hull that is shaped to lift out of the water at high speed and ride on the surface.

Port The left side of a boat when you are facing the bow, also a destination or harbor.

Privileged Vessel Former term for the vessel with the right-of-way.

Propeller Wheel or screw. Mechanism that pushes water aft to propel the boat.

Rigging The general term for all lines (ropes) of a vessel.

Roll The sideward motion of a boat caused by wind or waves.

Rules of the Road The nautical traffic rules for preventing collisions on the water.

Scope The length of the anchor rope or chain. 6 to 1 scope means that the length of the anchor rope from the boat to the anchor is 6 times the depth of the water.

Scupper A hole allowing water to run off the deck.

Sea Anchor A floating canvas cone, held open by wire rings, with an opening in the smaller end, and a rope bridle at the larger end attached to a line leading to the vessel; used in storm conditions to (a) keep the bow of the boat to the wind, and (b) slow downwind drift of the boat.

Seacock A through-hull valve, a shut-off on a plumbing or drain pipe between the vessel's interior and the sea.

Slip (1) a berth for a boat between two piers or floats; (2) The percentage difference between the theoretical and the actual distance that a propeller advances when turning in water under load.

Sole The cabin or cockpit floor.

Spar Buoy A channel marker that looks like a tall, slender pole.

Stand-On Vessel The vessel with the right-of-way.

Starboard The right side of a boat when you are facing the bow.

Stern The after end or back of the boat.

Stow To store items neatly and securely.

Strake Planks running fore and aft on the outside of a vessel.

Taffrail The rail around a boat's stern.

Tide The alternate rise and fall of waters caused by the gravitational attraction of moon or sun.

Topsides (1) The sides of a vessel above the waterline; (2) On deck as opposed to below deck.

Transom The transverse planking which forms the afterend of a small, square-ended boat. (Outboard motors are usually attached to a transom.)

Trim To arrange weights in a vessel in such a manner as to obtain desired draft at bow and stern.

Trimaran Boat with three hulls, the center one is the largest.

Unbend To cast-off or untie.

Underway Vessel in motion, i.e., when not moored, at anchor or aground.

USPS United States Power Squadron, a private membership organization that specializes in boating education and good boating practices.

Vessel Every kind of watercraft, other than a seaplane on the water, capable of being used as a means of transportation on water.

VHF Radio A Very High Frequency electronic communications and direction finding system.

Wake Moving waves, created by vessel motion. Track or path that a boat leaves behind it, when moving across the water.

Wash The loose or broken water left behind a vessel as it moves along; the surging action of waves.

Waterline The intersection of a vessel's hull and the water's surface; the line separating the bottom paint and the topsides.

Way Movement of a vessel through the water. Technically it is underway when not at anchor, aground, or made fast to the shore. The common usage is interpreted as progress through the water. Headway when going forward and Sternway when it is going backwards.

Well Area at the rear of a boat where the motor may be located.

Wharf A structure, parallel to the shore, for docking vessels.

Wheel (1) The steering wheel; (2) the propeller.

Whistle Signal A standard communication signal between boats, to indicate change of course, danger, or other situations.

Windward Situated on the side closest to the wind. (Opposite of leeward.)

Yaw To swing or steer off course, as when running with a quartering sea.