322Z Series Owner's Manual

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Catch More Fish

Welcome Aboard!

Congratulations on the purchase of your new boat. It was built for you with the fine craftsmanship and the utmost attention to detail that Sea Vee is renowned for.

Please take some time before operating your vessel to carefully review your owner's manual along with any other literature that that may accompany it in the owner's documents pouch. The owner's manual provides a broad overview of some of the inherent systems found on your new Sea Vee and information on how to safely operate your new vessel.

Specific information regarding some onboard components manufactured or otherwise supplied by companies other than Sea Vee is also included in your owner's document pouch for your convenience. If required, additional information may often be obtained by visiting the manufacturers' website.

This owner's manual and accompanying literature is provided to assist in familiarizing you with the numerous products and systems that might be found onboard your new Sea Vee. Please note that due to their complexity, variety and possible specification changes that might occur after printing, such material may not cover every circumstance that could arise in owning and operating your vessel. Contact the customer service department at 305-762-5600 if you have any questions or require any assistance.

Much work went into the design and construction of your vessel to ensure first-rate performance, longevity and safety. Whether you go out fishing, diving or take family and friends cruising, we hope that you get many years of enjoyment from your new boat.

Welcome to the Sea Vee family!

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Warnings and Cautions

Throughout this manual the terms “Danger,” “Warning” and “Caution” appear, alerting the boat owner and/or operator to dangerous or potentially dangerous situations that may arise.

Failure to comply with the safety dangers, warnings and cautions that appear in this manual can lead to serious illness, injury or even death and/or damage to your boat or the property of others. Beyond these warnings, boaters have a personal responsibility to utilize a common sense approach to the boating experience, including keeping individuals off or near the swim platform and the stern area of the boat during the engine operation.

Personal floatation devices (“PFDs”) save lives and ensure positive experiences. Sea Vee offers many proactive approaches to the boating experience, but the consumer is ultimately responsible for the positive and safe involvement in boating.

Be sure to review the Boating Safety section of this manual, which immediately follows this section.

Always use common sense when operating the boat or participating in any activities associated with the boat, including, but not limited to, periods of time when the boat engine is shut down and the boat is not in operation. Gasoline is highly flammable and its vapors may ignite, resulting in fire or explosion. Be sure to keep all sparks and flames away from the area while inspecting the boat’s fuel system.

Gasoline is explosive. If a gasoline odor is present or gasoline is visually observed in the bilge area during inspection, DO NOT OPERATE ANY COMPONENTS OF THE VESSEL. Remove the ignition key from the ignition switch and call for immediate service.

Rules of the Water

Just as there are rules that apply to driving an automobile on the street, there are also rules for operating a vessel on the water.
These rules are used internationally, and they are enforced by the United States Coast Guard and local agencies.
You should be aware of these rules and follow them whenever you encounter another vessel on the water.

Each state also has laws and boating limitations that may be applicable only within their boundaries. It is the operator's responsibility to seek out this information and become familiar with all the laws and rules governing boating operation in a particular area. The rules presented in this Manual are condensed and have been provided for convenience only. Often, this basic information is available through websites. (Refer to *Boating Safety 1-1*)

Steering and Sailing Rules/ Sound Signals

Any time two (2) vessels on the water meet one another, one vessel has the right-of-way. It is called the **stand-on vessel.** The vessel that does not have the right-of-way is called the **give-way** or **burdened vessel.**

These rules determine which vessel has the right-of-way.

The vessel with the right-of-way has the duty to continue its course and speed, *except* to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

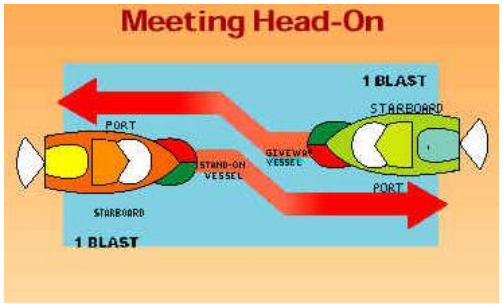
The vessel that does not have the right-of-way has the duty to take positive and timely action to stay out of the way of the stand-on vessel.

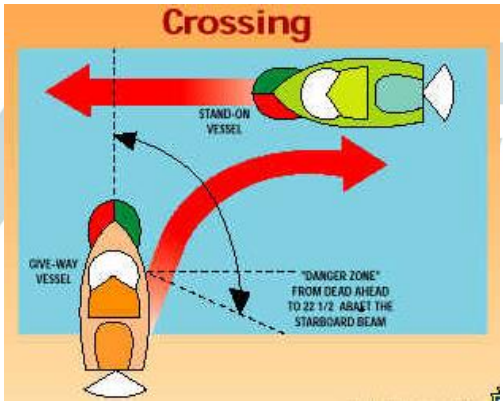
Normally, the give-way vessel should not cross in front of the stand-on vessel. Slow down or change direction briefly and pass behind the other vessel. You should always move in such a way that the stand-on operator can see what you are doing.

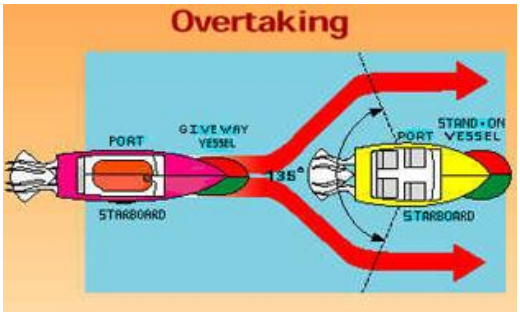
Rules When Encountering Vessels

There are three (3) main situations in which you may encounter other vessels, and you must avoid a collision.

These are:
• **Meeting** *(you are approaching another vessel head-on).*
• **Crossing** *(you are traveling across the other vessel's path).*
• **Overtaking** *(you are passing or being passed by another vessel)*







Other Special Situations

There are additional rules to remember when operating your boat around other vessels, such as:

• When navigating in narrow channels, you should keep to the right when it is safe and practical to do so.

• When preparing to go around a bend that may obstruct your view of other water vessels, you should sound a prolonged blast on the horn or with a whistle for four (4) to six (6) seconds. Even if no reply is heard, you should still proceed around the bend with caution.

Sailing Vessel Right-of-Way

Sailing vessels should normally be given the right-of-way.

The exceptions to this are:

• When the sailing vessel is overtaking the power-driven vessel, the power-driven vessel has the right-of-way.

• Sailing vessels should keep clear of any fishing vessel.

• In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel that can navigate only in such a channel.

Fishing Vessel Right-of-Way

Under international rules, all vessels that are fishing with nets, lines or trawls are considered to be fishing vessels; however, boats with trolling lines are not considered fishing vessels. Fishing vessels have the right-of-way, regardless of position, but these vessels cannot impede the passage of other vessels in narrow channels.

Navigational Aids Charts

The illustrated Navigational Aids Chart on the next two pages contains information concerning whistle signals, storm warnings, bridge signals, and buoy descriptions.

Common Sense Approach

This owner's manual has been developed to help ensure an enjoyable experience as you fish or cruise your Sea Vee.

As stated earlier, this information is not all-inclusive. There are many factors to consider and additional information that you need to research before undertaking any boating activity.

In addition to reading this Owner's Manual and other related material, and familiarizing yourself with the proper operation of your Sea Vee, you should also always use common sense when boating. For example, when anchoring your boat, you MUST turn OFF the engine.

Exhaust fumes containing carbon monoxide are emitted from the exhaust of the engines and accumulated in the transom area. No one should ever be on the swim platform or transom while the engine is operating.

Sea Vee strongly encourages individuals to wear Personal Flotation Devices (PFDs). In many states, it is a legal requirement for children to wear them. Non-swimmers and swimmers of limited ability of any age should never be without one.

Your Sea Vee boat can be the source of countless hours of family fun, as well as building friendships. But it works only if YOU use your head before, during and after your boating activity.

Carbon monoxide is a colorless, tasteless, odorless and poisonous gas that accumulates rapidly and can cause serious injury or death. Exposure to carbon monoxide can be fatal in a matter of minutes. Exposure to even low concentrations of carbon monoxide must not be ignored because the effects of exposure to carbon monoxide can build up and be just as lethal as high concentrations.

Carbon monoxide from exhaust pipes of inboard or outboard engines may build up inside and outside the boat in areas near exhaust vents.

STAY AWAY from these exhaust vent areas, which are located at the stern of the boat, and DO NOT swim or engage in any water sports or other activities in or near the stern area of the boat, when the engine is in operation.

CHAPTER 1

SAFETY

Safety Equipment

The US Coast Guard (USCG) requires that every boat have certain equipment aboard. You should check with your local authorities for other equipment that should be aboard apart from the list provided below. All safety equipment should be stored in a location that is readily accessible in the event of an emergency.

- **Fire Extinguisher**
  There are basically three different types or classes of fire extinguishers, each of which extinguishes specific types of fire. Newer fire extinguishers use a picture/labeling system to designate which types of fires they are to be used on. Older fire extinguishers are labeled with colored geometrical shapes with letter designations. Both of these types of labels are shown below with the description of the different classes of extinguishers. Many extinguishers available today can be used on different types of fires and will be labeled with more than one designator, e.g. A-B, B-C, or A-B-C. Make sure that if you have a multi-purpose extinguisher it is properly labeled.

  Fire Extinguisher Ratings

	**Class A Extinguishers** will put out fires in ordinary combustibles, such as wood and paper. The numerical rating for this class of fire extinguisher refers to the amount of water the fire extinguisher holds and the amount of fire it will extinguish.	
	**Class B Extinguishers** should be used on fires involving flammable liquids, such as grease, gasoline, oil, etc. The numerical rating for this class of fire extinguisher states the approximate number of square feet of a flammable liquid fire that a non-expert person can expect to extinguish.	
	**Class C Extinguishers** are suitable for use on electrically energized fires. This class of fire extinguishers does not have a numerical rating. The presence of the letter “C” indicates that the extinguishing agent is non-conductive.	

  - **Boats 26 feet to less than 40 feet in length require:** Two 2 pound portables, or one, 2½ pound extinguisher. When an approved fire extinguisher is installed, one less 2-pound extinguisher is required.

- **Boats 40 feet to not more than 65 feet in length require:** Three 2 pound portables, or one 2 pound and one 2½ pound extinguisher. When a fire extinguisher is installed, one less 2 pound extinguisher is required.

NOTE: Read labels on fire extinguishers; the extinguisher must say U. S. Coast Guard approved or U. L. listed for marine use.

Portable Fire Extinguisher Maintenance:

- Inspect once a month, if exposed to weather check it more frequently.
- Have the unit weighed annually to verify it's fully charged. Gauges fail often enough to where they cannot always be relied on. Twice a year, remove unit from bracket, turn upside down and shake to loosen any dry chemical compacted at the bottom.
- Recharge or replace after any use.
- Never check a unit by partially discharging it. Remaining pressure in canister can leak out over time.
- Have a full maintenance check annually by a qualified technician; see the Yellow Pages under "Fire Extinguishers." A more economical method: weigh the unit your- self every year, and replace it every few years.

- **Personal Flotation**
  There should be USCG approved PFD (Personal Flotation Device) for all passengers.

  - **Type I:** Has the greatest required buoyancy and is designed to turn most unconscious persons in the water from a face down position to a vertical or slightly backward position. The Type I PFD provides the greatest protection to its wearer and is most effective for all waters.
  - **Type II:** A wearable device designed to turn its wearer in a vertical or slightly backward position in the water. The turning action is not as pronounced as with a Type I, and the device will not turn as many persons under the same conditions as the Type I.
  - **Type III:** A wearable device designed so the wearers can place themselves in a vertical or slightly backward position. While the Type III has the same buoyancy as the Type II PFD, it has a little or no turning ability. A Type III comes in a variety of styles, colors and sizes. Many are designed to be particularly useful when water skiing, sailing, hunting, fishing or engaging in other water sports. Several of this type will also provide increased hypothermia protection.
  - **Type IV:** A device designed to be thrown to a person in the water and grasped and held by the user until rescued. It is not designed to be worn. The most common Type IV devices are a buoyant cushion and a ring buoy.
  - **Type V:** Any PFD approved for restricted use. Approved flotation devices which are partially or totally inflatable must be worn to be accepted as a legal device.

Type I
Offshore Lifejacket

Type II
Children's Vest

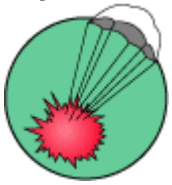
Type II
Automatic Inflatable

Type III
Water Sport Vest

- **Sound Signaling Device**
  Whistle or horn, or some other means to make an efficient sound signal
  - Vessels less than 39 feet 4 inches (12 meters) are not specifically required to carry a whistle, horn or bell but they must have some means of making an "efficient sound signal."
  - Vessels over 39 feet 4 inches (12 meters) are required to carry a bell and a powered whistle or horn.
- **Visual Distress Signals**
  U.S.C.G. Approved Pyrotechnic Visual Distress Signals hand-held, aerial, or floating.
  - All vessels used on coastal waters, the Great Lakes, territorial seas, and those waters connected directly to them, must be equipped with U.S.C.G. approved visual distress signals. Vessels owned in the United States operating on the high seas must be equipped with U.S.C.G. approved visual distress signals.
  - If pyrotechnic devices are selected a minimum of three are required. That is, three signals for day use and three signals for night. Some pyrotechnic signals meet both day and night use

Pyrotechnic Device Examples

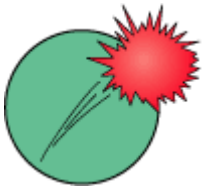
Red Flare
(hand held/day and night)



Parachute Flare
(day and night)

Orange Smoke Signal
(hand held/day only)

Floating Orange Smoke Signal
(day only)



Red Meteor
(day and night)

- **Lighting**
  Sea Vee boats are equipped with navigation lighting and should be displayed from sunset to sunrise and in areas of reduced visibility (fog, rain, haze, etc.).

- **Anchor Light**
  The marine signaling light on your top is known as an "anchor light", defined as a 360 degree white all round light. The function of this light is to signal other boats of an anchored vessel at night.

Additional Recommended Equipment

In addition to required safety equipment, Sea Vee recommends an extended list of basic tools, gear and spare parts.

Outboard models	Inboard models
• **Min. 2 Quarts of oil** • **1 Fuel filter per engine** • **Basic tool kit** (Wrenches, screw drivers, pliers, etc...) • **Prop Hub kit** • **Prop wrench** • **Spare Fuses** • **VHF Radio** • **Anchor** • **Flashlight** • **Registered EPIRB**	• **Min. 2 Quarts of oil** • **1 Primary fuel filter per Engine** • **1 Secondary filter per engine** • **Spare Engine belt** • **Basic tool kit** (Wrenches, screw drivers, pliers, etc...) • **Prop wrench & Puller** • **Spare Fuses** • **VHF Radio** • **Anchor** • **Flashlight** • **Registered EPIRB**

(Keep tools, spare parts and safety gear in good working condition.)

Boating Safety

Before manning your Sea Vee, READ ALL OPERATION AND MAINTENACE MANUALS. It is important to become familiar with your Sea Vee for proper use and service. This will insure the quality, performance, and longevity of your Sea Vee.

Emergency Stop Switch

All outboard Sea Vee models are equipped with an emergency stop switch if supplied by the engine manufacturer. The safety stop switch is a feature that if used properly, will shut down the engines if the operator leaves or falls from the helm

position. The shut off switch is activated by a lanyard that if pulled will shut off the engines. Engines will operate after reinstalling lanyard.

Emergency Information

You should prepare yourself for emergency situations such as fires, man overboard, collision, etc... The key to dealing with an unpleasant situation is to **remain calm.**

- **Assisting another vessel**
  The operator of a vessel is required by law to aid any person or vessel affected by collision, accident, or casualty. THE OPERATOR IS NOT REQUIRED TO ENDANGER THEIR VESSEL OR ITS PASSENGERS TO GIVE ASSISTANCE

- **Reporting an Accident**
  All accidents should be reported to local authorities. A written report is to be submitted within 48 hours as required by federal regulations

- **Lightning Precautions**
  When a lighting storm comes closer, safety precautions should be taken.
  - Dock the boat
  - Seek shelter on land

  If not possible, seek refuge inside the boat until storm has passed. STAY OUT OF WATER

- **Write Float Plan**
  A written plan should be left with someone responsible who can serve as useful information should you not return to land.
- **Under The Influence**
  NEVER operate the vessel or allow anyone under the influence of alcohol or drugs.
- **Minors**
  Individuals under the age of 16 should not be allowed to operate your boat. Inexperienced operators should be under supervision.
- **2nd in Command**
  Explain to at least one passenger on the basic fundamentals of boating and what to do in the event of an emergency.
- **Boating**
  Passengers should be settled in a safe position while boating.
- **Speed**
  Respect other boaters. Stay alert for posted “NO WAKE” zones and be aware of speed limits in your boating area.
- **Swimmers**
  Do not leave engines running while people are over board vessel. Shift levers in the neutral position can be accidently engaged. Carbon Monoxide gas may also concentrate in areas around your boat.
- **Pollution**

The cleanliness of the water and air is everyone's responsibilities. Use trash receptacles and dispose of properly.

Carbon Monoxide

Carbon Monoxide is a colorless gas that is poisonous and potentially fatal if inhaled for an extended period of time. All Sea Vee models with cabins have a carbon monoxide alarm. Turn on blowers for at least 10 minutes before starting generator. Carbon Monoxide can accumulate in cabins.

Fueling

Please take the time to read through carefully. Before fueling for the first time check your engine manuals to confirm the type of fuel specified by the manufacturer. Each fuel fill is opened by turning it counter clockwise. After fueling, install the fuel cap and tighten. Be sure to use the proper type and grade fuel. Refer to the engine owner's manual for additional information.

NOTE: DO NOT OVER TIGHTEN THE FUEL CAP. IF THE CAP IS OVER TIGHTENED, THE O-RING SEAL COULD BE DAMAGED ALLOWING WATER TO CONTAMINATE THE FUEL SYSTEM.

- **Before Fueling**
  - Shut down all engines
  - Turn all battery select switches to "Off" (To ensure that all lights, fans and etc… are off)
  - Close the console door, hatches, and engine compartment, to prevent fuel fumes from accumulating in these areas.
  - Turn off all lighted materials (cigarettes and other)

- **During Fueling**

While a tank is being filled, the air is displaced by the fuel escapes through the fuel vent.

  - Observe all safety regulations for the safe handling of fuel.
  - Keep the fuel nozzle in contact with the fuel tank fill hardware to prevent static sparks.

- **After Fueling**

After fueling, replace the fill caps, and wash the areas around the fuel fill plates and below the fuel vents. Residual fuel left on the deck and hull sides can be dangerous, and will yellow the fiberglass or damage the striping.

  - Tighten fuel cap, wash and clean any spilled fuel. Dispose of rags properly.
  - Ventilate console door, hatches and other closed areas.

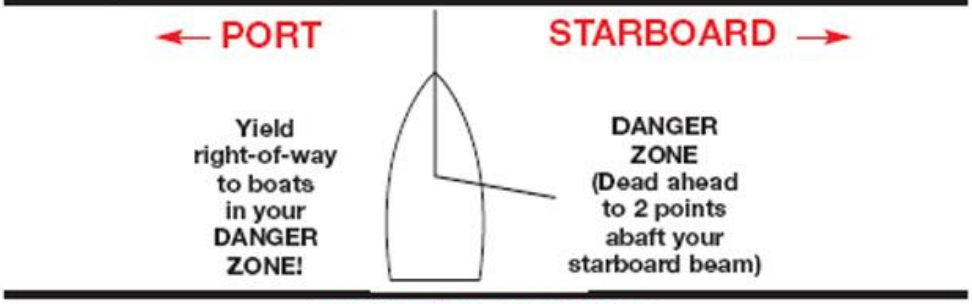
NAVIGATIONAL AIDS CHART

The illustrated Navigational Aids Chart on the next two pages contains information concerning whistle signals, storm warnings, bridge signals, and buoy descriptions.

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.



WHISTLE SIGNALS

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

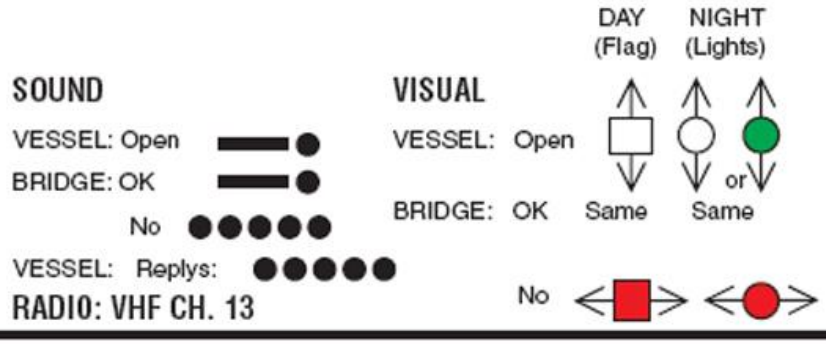
ONE SHORT BLAST: Pass on my port side

TWO SHORT BLASTS: Pass on my starboard side

THREE SHORT BLASTS: Engine(s) in reverse

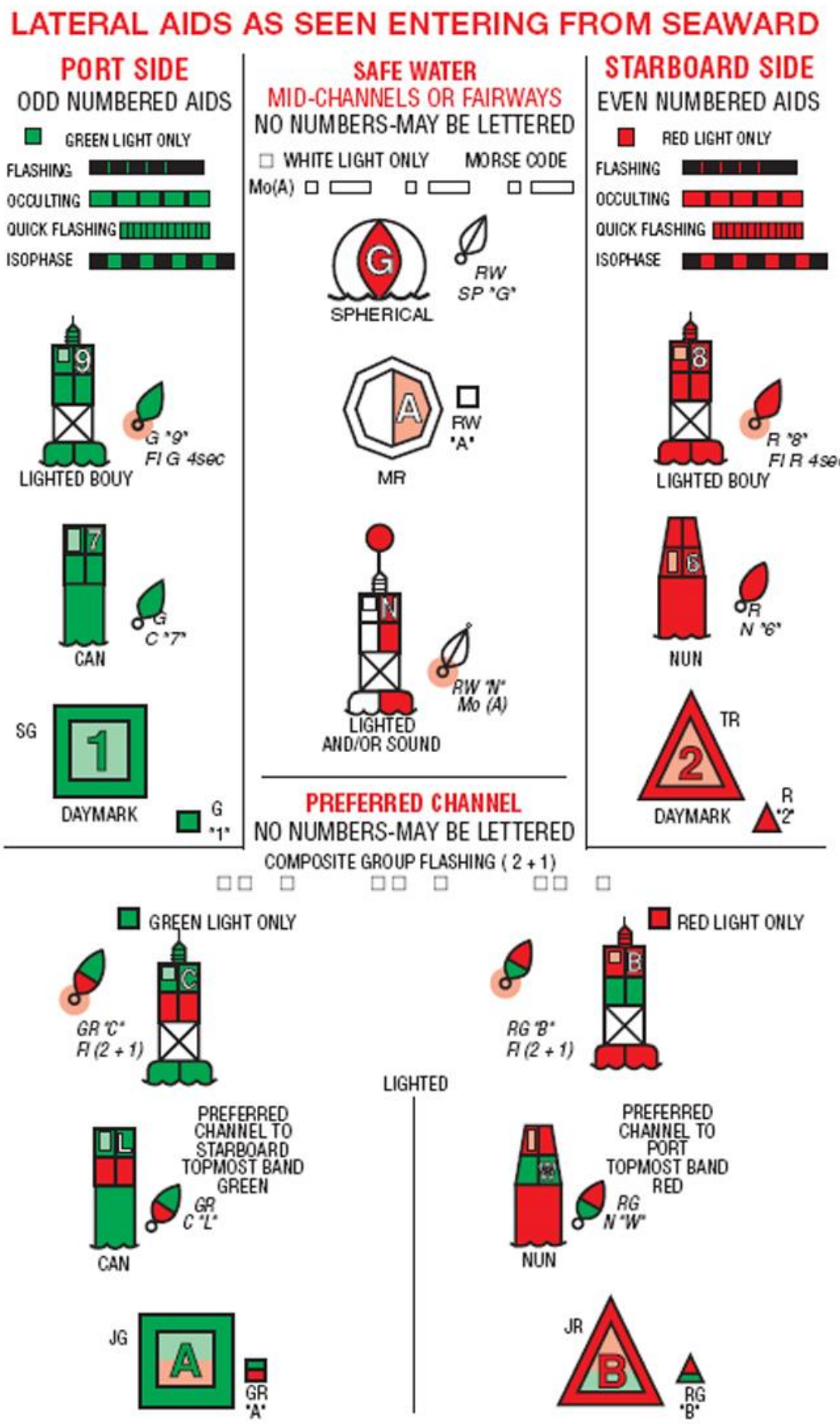
FOUR OR MORE BLASTS: Danger signal

BRIDGE SIGNALS



STORM WARNINGS

RED FLAG	2 RED FLAGS	SQUARE RED FLAG	2 SQUARE RED FLAGS
Small craft (winds to 33 knots)	Gale (winds up to 47 knots)	BLACK BOX (Storm)	BLACK BOX (Hurricane)


LATERAL AIDS AS SEEN ENTERING FROM SEAWARD
PORT SIDE
ODD NUMBERED AIDS
GREEN LIGHT ONLY
FLASHING
OCCULTING
QUICK FLASHING
ISOPHASE
LIGHTED BOUY
G "9"
Fl G 4sec
CAN
G
C "7"
SG
1
DAYMARK
G
"1"
SAFE WATER
MID-CHANNELS OR FAIRWAYS
NO NUMBERS-MAY BE LETTERED
WHITE LIGHT ONLY
MORSE CODE
Mo(A)
SPHERICAL
RW
SP "G"
MR
RW
"A"
LIGHTED
AND/OR SOUND
RW "N"
Mo (A)
PREFERRED CHANNEL
NO NUMBERS-MAY BE LETTERED
COMPOSITE GROUP FLASHING (2 + 1)
STARBOARD SIDE
EVEN NUMBERED AIDS
RED LIGHT ONLY
FLASHING
OCCULTING
QUICK FLASHING
ISOPHASE
LIGHTED BOUY
R "8"
Fl R 4sec
NUN
R
N "6"
TR
2
DAYMARK
R
"2"
GREEN LIGHT ONLY
GR "C"
Fl (2 + 1)
RED LIGHT ONLY
RG "B"
Fl (2 + 1)
LIGHTED
PREFERRED CHANNEL TO STARBOARD TOPMOST BAND GREEN
GR
C "L"
CAN
PREFERRED CHANNEL TO PORT TOPMOST BAND RED
RG
N "W"
NUN
JG
A
GR
"A"
JR
B
RG
"B"

Owner's logs and records

At the end of this chapter are several forms which you will find very helpful. The **Float Plan** 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 there is a space for listing emergency telephone numbers in case your return is delayed past the expected time of arrival. 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 assure an ample supply. The **Fuel Log** is a handy way to record information covering engine hours, fuel consumption, miles traveled, as well as RPM (revolutions per minutes), average mph (miles per hour), and gph (gallons per hour). The **Service/Maintenance Log** provides a record of maintenance work completed on your boat, the date of completion, and the engine hour reading. This log also helps you identify the frequency of routine maintenance work, such as engine oil changes. If you should decide to sell your boat, it demonstrates to prospective buyers that you have done a good job of taking care of your Sea Vee.

FUEL LOG

DATE	HOURS	FUEL (GAL)	RANGE (MI)	RPM	MPH	GPH

SERVICE/MAINTENANCE LOG

DATE	HOURS	SERVICE / REPAIRS PERFORMED

FLOAT PLAN

Copy this page and fill out the copy before going boating. Leave the completed copy with a reliable person who can be depended upon to notify the Coast Guard, or other rescue organization, should you not return as scheduled. DO NOT file this plan with the Coast Guard.

Name_____ Telephone_____
Description of Boat: _____Type _____ Color _____ Trim _____
Registration Number_____
Length _____ Name _____ Make _____
Hull Identification Number _____

Other Info. _____
Persons Aboard: **Name, Age, Address, Telephone**
_____
_____
_____
_____
Engine Type: _____ HP_____
No. of Engines: _____ Fuel Capacity: _____
Survival Equipment: PFDs _____ Flares _____
Mirror _____ Smoke Signals_____ Flashlight _____
Food _____ Paddles _____ Water_____
Anchor _____ Raft or Dinghy _____ EPIRB _____
Sea Anchor _____ Navigation Equipment Compass _____
Loran _____ GPS_____ Radar _____
Radio: Yes_____ No_____ Type _____ Freq _____
Phone: Yes_____ No_____ Phone No. _____
Destination _____ Est. Time of Arrival _____
Expect to Return By _____ Auto Type _____
License No. _____ Where _____
If not returned by _____ call the Coast Guard, or _____.
(Local Marine Authority)
Coast Guard Telephone Number: _____
Local Marine Authority Telephone Number: _____

Chapter 2
Maintenance and Service

General Information

Proper maintenance of your Sea Vee is a source of pride, it is also key to maintaining your boat's value. The bilge areas should be kept clean. Leaks found early and corrected will be less likely to cause damage. Do not allow grease and dirt to build up in these areas. Use a sponge on smooth surfaces including the deck and a soft bristle brush on the non-skid surfaces. Rinse away all residue and grime. For the best results, dry all fiberglass, acrylic, metal, and wind screens with a chamois. The chamois will help prevent water spots, leaving beautiful shiny surfaces. Good maintenance will keep your Sea Vee looking great for years to come.

Fiberglass / Gel Coat Finish Maintenance

The exterior of your Sea Vee is finished with a color pigmented gel coat. Even though the gel coat is a hard, smooth surface, it has microscopic pores that will allow this surface to discolor overtime; this is called oxidation. Darker gel coat colors require greater maintenance in order to extend their quality finish. Constant exposure to the natural environment and pollutants will oxidize the gel coat surface. Waxing will seal pores and also enhance the look of your boat. While waxing your boat visually inspect for any damages and correct them as soon as possible. DO NOT WAX SURFACES THAT MAY BE WALKED ON.

- **Washing Gel Coat Surfaces**

It is best to regularly wash the surfaces using boat wash products that contain wax. If your boat is kept inside a closed environment that protects it from the elements, then the fiberglass can be treated about every 6 months. However, if the boat is kept out under constant exposure, then regular maintenance should be done every 3 months without fail. If the gel coat is not maintained regularly it will begin to show signs of oxidation in 4 to 12 months.

- **Waxing Gel Coat Surfaces**

Choose a wax suitable for fiberglass, like 3M Marine Liquid Wax®. Regardless of the product you select, be sure to follow the application instructions to ensure that you get the best results and all the benefits that the product has to offer. Be sure to apply the products using the regular intervals suggested above.
CAUTION: EXCESSIVE COMPOUNDING CAN WEAR AWAY THE GELCOAT. DO NOT USE HIGH ALKALINE OR AMMONIA CLEANERS; THEY MAY DARKEN THE GEL COAT.

Upholstery Maintenance

The upholstery on your Sea Vee was constructed using the highest quality materials available; therefore maintaining it beautiful is important. By following these tips you can keep the upholstery looking great for years to come. Vinyl requires periodic cleaning to maintain its neat appearance. The frequency of cleaning depends on the amount of use and environmental conditions to which the vinyl is subjected.

Most common stains can be cleaned using warm, soapy water and clear water rinses. Moderate scrubbing with a medium bristle brush will help to loosen soiling material from the surface. For stubborn stains, use Yacht Brite Serious Marine Cleaner® Spray and wipe or spray on, agitate with gentle scrub brush, then rinse with water. For light cleaning and protection use Yacht Brite Serious Shine®. Spray and wipe with a microfiber towel. Certain stains may become permanently set unless they are removed immediately. Procedures for the removal of the more severe staining agents are outlined below.

- Ballpoint Ink, Permanent Marker: Ink spots will stain vinyl permanently. Immediate wiping with rubbing alcohol in a well ventilated area will remove most of the stain
- Oil-Based Paint: The use of turpentine in a well ventilated area will remove any fresh paint. Dried paint must be moistened carefully with a semi-solid gel-type stripper so that the softened paint can be gently scraped away.
- Rinse with soap and water. Caution: Direct contact with paint strippers will remove the print pattern from a vinyl. Paint strippers are very corrosive.
- Latex Paint: Fresh paint can be wiped off with a damp cloth. Hot soapy water will normally remove dried latex.
- Tar or Asphalt: Remove immediately, as prolonged contact will result in a permanent stain. First use a cloth lightly dampened with mineral spirits and rub the stain gently, working from the outer edge of the stain toward the center in order to prevent spreading. Rinse with soap and water.
- Chewing Gum: Scrape off as much as possible with a dull knife. Rubbing with an ice cube will make it easier to remove when scraping.
- Lipstick, Grease, Oil, Eye Shadow, Shoe Polish: Apply a small quantity of mineral spirits by means of a cloth with gentle rubbing. Take care not to spread the stain by smearing it beyond its original source. No time should be lost in removing shoe polish, because it contains a dye that will cause permanent staining. Rinse thoroughly with water.
- Candy, Ice Cream, Coffee, Tea, Fruit Stains, Liquor, Wine, Suntan Lotion, and Soft Drinks: Use a marine vinyl cleaner. Spray onto affected area let sit for 10 to 20 seconds, wipe clean, rinse with water, dry with a soft cloth. Any loose material should be gently scraped with a dull knife.

- Bird Excreta & Nausea Stains: Sponge the area with soapy water containing diluted bleach until the stain is removed. Rinse thoroughly with water.

  CAUTION: KEROSENE, GASOLINE, AND ACETONE WILL REMOVE THE PROTECTIVE MARINE TOP COAT. DO NOT USE ANY SILICONE BASED PROTECTANTS, THEY WILL EXTRACT THE PLASTICIZER LEAVING THE VINYL HARD AND BRITTLE. SUN TAN LOTION, TREE POLLEN, AND WET LEAVES CONTAIN DYES THAT STAIN PERMANENTLY.

Canvas Maintenance

The canvas on your boat was made using the highest quality materials, therefore paying close attention to the care of this product is vital. The seam holes in your canvas may leak by environmental abuse. To correct this, apply Uniseal® to the seams. Fabric should be cleaned on a regular basis to prevent the buildup of soil. **DO NOT USE AMMONIA OR PETROLEUM BASED CLEANERS ON CANVAS.**

Hardware Maintenance

- **Stainless Steel**

Stainless steel is a corrosion resistant chromium/nickel alloy steel that is strong and durable with excellent luster. However, it is not rustproof, particularly in the harsh environment of the ocean. The goal of your cleaning and maintenance program should be to keep the stainless steels protective chromium oxide layer intact. This is what prevents corrosion. The key to maintaining stainless steel is to keep it clean using mild solution of soap and fresh water.

Wiping down every metal part with Sheila Shine, Boeshield, T-9 or Corrosion block will help prevent light rust stains. Never attempt to use polishing products that contain mineral acids, bleaches or chlorine cleansers. To polish and protect your stainless steel, Sea Vee recommends using Sheila Shine which may be found at many marine supply stores or online at: www.Sheilashine.com

- **Aluminum Maintenance**

Many of your boats accessories are constructed using the finest anodized aluminum products. If not taken care of properly, these parts will become dull and pitted. The anodized aluminum used in your boat is the best available and is designed to marine grade specifications to enhance quality and performance. However, the marine environment is still one of the harshest conditions on earth.

We recommend the following to extend the life of your aluminum hardware. By washing your aluminum often it keeps contaminates from forming or building up. Use

extra care when cleaning the tubing directly beneath the hardtop, T-Top Canvas or Radar Arches. The aluminum tubing in these areas do not receive the natural rinsing of rainwater, also this area is shielded from the sun and usually does not dry as quickly as the rest of the frame. Give your anodized aluminum hardware the same attention you would other materials on your boat. Regularly washing with a specifically designed cleaner will keep your anodized aluminum bright.

Never use bleach or chlorides when cleaning; they have a tendency to stain and pit the aluminum. Never use: steel or brass wool, wire brushes, polishing wheels, or rubbing compounds; these items will remove the anodizing and lead to pitting. All the aluminum on your boat must be cleaned often with a mild soap solution. Sea Vee recommends using a mild soap such as Ivory or Dawn soap to clean these metals. Remember to clean the backing plates on top of the hardtop.

Bilge Area Inspection and Maintenance

Many of your boat's systems have critical features located in the bilge area. A thorough and organized inspection of the bilge area will address many of these critical features. For example, engine oil leaks, fuel system leaks, hydraulic fluid leaks and others could show themselves as contamination on the surface of the liquid that remains in the bilge. When you see such contamination, you should look for its source. Frequently, pump the bilge areas dry and remove all loose dirt. Be sure that all the limber holes are open. Limber holes are the openings in the stringers that allow water to flow from the outboard areas of the bilge to the bilge sump or lowest area of the bilge. Check the bilge pump float switch by moving it manually. The bilge pump should start when the float switch is raised and should stop when lowered. The float switch should also move freely without sticking, if it does not, have it serviced or replaced before boating.

Maintenance Check List

Wiring System

- ☑ Check all wiring insulation for signs of fraying or chafing.
- ☑ 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.

Fuel System

- ☑ Inspect the entire fuel system for evidence of leakage, including the fuel tank fill lines and vents. Any 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.

Fittings, Hoses and Clamps

- ☑ Inspect the entire bilge area for evidence 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.
- ☑ Check 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.

Winterization

The time and effort you spend now will have a definite effect on your boat's performance, or lack of it, and certainly save you time, effort and money come spring. You should remember that your insurance policy may not cover damage done by lack of maintenance or neglect. The best place for your boat to be during the winter is out of the water, under cover, in a climate-controlled boat storage area. If a climate-controlled boat storage area is not available make sure that your boat is well covered with a tarp or some other sturdy cover.

The first step in winterizing should be to make a checklist of all items that need to be accomplished. Check the owner's manual of your motor(s) for manufacturer's recommendations on winterization. The following is a generic outline of areas which should be of concern to you.

- **Inboard Engine(s)**

1. You should run the engine(s) to warm it up and change the oil while it is warm. This tends to allow impurities to be drained away with the oil.
2. You should also change the oil filter(s). Flush the engine(s) with fresh water.
3. You should circulate antifreeze through the manifold by using a pickup hose from the water pump to a bucket of antifreeze. Start the engine and allow the antifreeze to circulate until water starts to exit the exhaust. While you're in the engine room you should also change the fluid in your transmission. Remove spark plugs and use "fogging oil" to spray into each cylinder. Wipe down the engine with a shop towel sprayed with a little fogging oil.

- **Outboard Engine(s)**

1. The first thing to do is to fill the gas tank to prevent unpleasant things from happening such as condensation, oxidation, and subsequent spoilage, and add enough Sta-bil® to condition the fuel for storage.
2. After the fuel is top speed off, hook up your water supply hose to your "ears" and attach them to the lower unit. The "ears" are the same ones you use to flush and run your outboard with. Let all water drain from the engine.
3. While warming the engine, change the oil to allow impurities to drain.
4. Disconnect fuel hose and run engine until it stops. It is important to follow a step by step process to make sure that all fuel is drained
5. Use fogging oil in the cylinders to lubricate the cylinder walls and pistons. Apply water resistant grease to propeller shaft and threads

6. Change the fuel filter(s) and water separator(s).
7. Change the gear oil in the lower unit. Lightly lubricate the exterior of the engine or polish with a good wax.

- **Bilges**

  - Make sure the bilges are clean and dry. Use soap, hot water and a stiff brush to clean up any oil spills. Once the bilges are clean, spray with a moisture displacing lubricant and add a little antifreeze to prevent any water from freezing.

- **Fresh Water System**

  - Completely drain the fresh water tank. Pump a **non-toxic** antifreeze into the system and turn on all the facets including the shower and any wash-down areas until you see the antifreeze coming out.

- **Head**

  - Pump out the holding tank at an approved facility. While pumping, add fresh water to the bowl and flush several times. Add antifreeze and pump through hoses, holding tank, y-valve, macerator and discharge hose.

- **Interior**

  - Once you have taken care of the system you should remove any valuables, electronics, lines, PFD, fire extinguishers, flares, fenders, etc. Over the winter these items can be cleaned, checked and replaced as necessary. Open all drawers and lockers and clean thoroughly.
  - (Cabin models) Open and clean the refrigerator. To keep your boat dry and mildew-free you might want to install a dehumidifier or use some of the commercially available odor and moisture absorber products such as "No Damp, “or "Damp Away".

- **Out of Water Storage**

  - (Inboard Models) Pressure wash hull, clean barnacles off props and shafts, rudders, struts and trim tabs.
  - Clean all thru-hulls and strainers. Open sea cocks to allow any water to drain. Check the hull for blisters and if you find any that should be attended to you might want to open them to drain over the winter. This is a good time to wax the boat. (See Cleaning)

- **In Water Storage**

    - Close all sea cocks and check rudder shafts (Inboards) for leaks. Check your batteries to make sure they are fully charged, clean terminals and make sure your charging system is working. Check bilge pumps to ensure they are working and that float switches properly activate the pumps and that they are not clogged by debris. If your boat is in an area where the water actually freezes, you should have a de-icing device or bubbling system around your boat.

By following some of the above suggestions, you should be in good shape for the winter. Do not, however, neglect to consult your engine manuals for manufacture's recommendations on winterizing your engines. If you have not done a winterization job before or don't have an experienced friend to rely on seek out a professional to do the job for you.

Chapter 3

322 Series

Specifications

LOA……..32’- 9”

Beam……..9’- 6”

Boat Weight w/o Motors……..……. Z model 6,900 lbs

Max. Hp. Rating……..……...……900 Hp

Hull Draft ……..……..……..……..……20”

Hull Dead Rise……..….22.5°

Fuel Capacity (340 Outboard)…….....312 gal

Fresh Water Capacity……...39 gal

Port and Stbd Baitwells……..……dual 38 gal

Large Bow Fishbox…….....160 gal

Smaller Bow Fishbox …….....48 gal

version no. 101

Popular Features

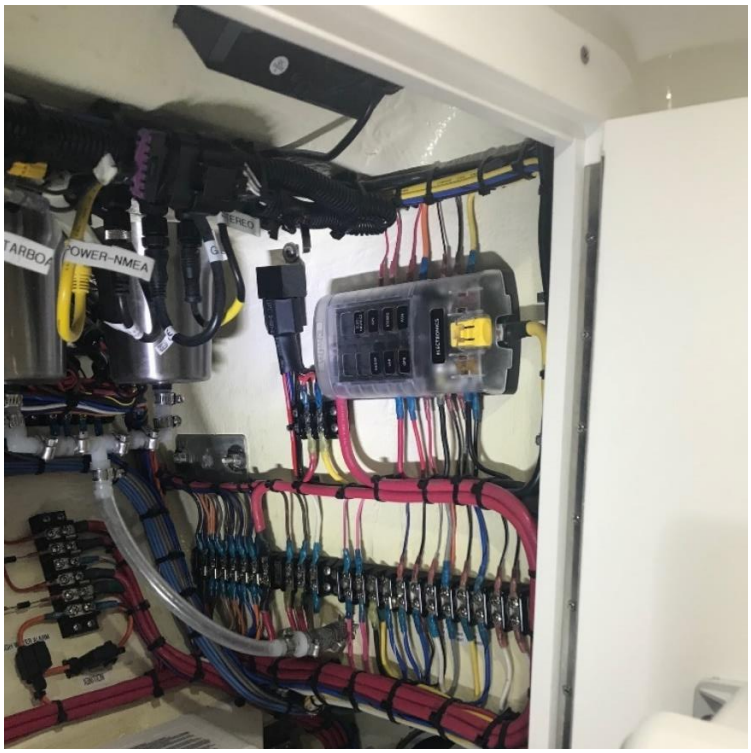
- Battery Charger
- Trim Tabs
- Insulated Fishboxes with overboard discharge system
- Saltwater Washdown system
- Freshwater Washdown system
- Electric Head with overboard discharge system
- Sounder Flush Mounted Transducer
- Storable Sliding Cooler Tray
- Aft Facing Mezzanine Seating with Built-in Cooler
- Removable Stern Seat
- Molded forward seating with Electrically Reclining Headrests
- Removable Bow Bench Seats
- Hull Side Dive Door with Fold-out Swim Ladder
- Stern mounted Pull-out s Ladder

Electrical System

This section of the manual includes information about your boat's electrical system. Your boat is designed with a safe electrical system to protect you from hazardous shocks. Sea Vee takes pride in the clean, professional electrical installation we are known for. Your Sea Vee is wired using only the best components available such as tinned copper wiring and connectors, epoxy heat shrunk connectors, color coded wiring, resettable circuit breakers and many others. These installations have been done to provide peace of mind and ease of service for many years to come.

Electronics Fuse Panel

The fuse panel is accessible through the top hatch located inside the center console and distributes power to all electronics installed in this compartment. The fuse panel uses ATC replacement fuses that can be purchased at any automotive or marine store. **NOTE: REFER TO ELECTRONICS OWNERS MANUAL WHEN REPLACING FUSES TO ENSURE PROPER AMPERAGE RATING IS INSTALLED. FAILURE TO DO SO MAY NOT PROVIDE THE REQUIRED PROTECTION RESULTING IN DAMAGE TO THE UNIT AND/OR POSSIBLE ELECTRICAL SHORT THAT MAY LEAD TO A FIRE!**



ELECTRICAL WIRING COLOR CODE

Description	WIRE COLOR / STRIP

NAV	GREY
ANCHOR	GREY / WHITE
COCKPIT LIGHT	BLUE / WHITE & BLUE/RED
COUTESY LIGHT	BLUE
BILGE 1	BROWN & BROWN / GREEN
BILGE 2	BROWN / BLACK & BROWN / RED
SALTWATER	BROWN / BLUE
FRESHWATER	BROWN / WHITE
FLOOD LIGHTS	BLUE / YELLOW
FLOODLIGHT	BLUE / GREEN
BAITWELL	TAN
BAITWELL	TAN
BAITWELL	TAN
BAITWELL	TAN
FISHBOX	ORANGE
FISHBOX	ORANGE
SPARE	ORANGE
UNDER WATER LIGHTS	BLUE / ORANGE
CONSOLE LIGHTS	BLUE / BLACK
PARALLEL	RED (+) & RED / BLACK
DC MAIN	PURPLE
BILGE 2	RED #12
BILGE 1	RED #12
12V POWER SOURE	RED #10
NEGATIVE TO NEGATIVE TERMINAL BLOCK	YELLOW #8
12V. CONSTANT TO BILGE PUMPS AT PANEL	RED / YELLOW #8
12V. MAIN TO SWITCH PANEL	RED / YELLOW #8
12V. MAIN TO ELECTRONICS FUSE TERMINAL	RED / YELLOW #8
BONDING	GREEN #8

120V AC System

Your boat may have a battery charging system which operates off 120 volts AC power from shore. Turn the charger on whenever your boat is connected to shore power to maintain batteries fully charged. The charging system is fully automatic and permanently wired into the 12-volt DC system. If the monitored battery level drops under the full charge range, the charger automatically turns ON and restores the battery to FULL charge status.

The basic 125 VAC, 30 AMP electrical system is composed of the following major components:

- Shore Power Inlet Receptacle (30AMP)
- Distribution Circuit Breaker Panel (30AMP)
- Battery Charger with DC circuit Protection (Optional)

NOTE: THE 120 VAC ELECTRICAL SYSTEM HAS BEEN INSTALLED AND WIRED TO PROTECT YOU AND THE PASSENGERS ONBOARD FROM: FIRE, SHOCK, AND CORROSION. ANY OTHER TYPE OF CURRENT INTRODUCED INTO THIS SYSTEM WILL CAUSE SERIOUS HAZARDS AND CAN DAMAGE EQUIPMENT ONBOARD.

AC Source

The shore power receptacle and main circuit breaker limits the current draw of the entire AC electrical system to 30 AMPS. The shore power receptacle and shore power cord must have matching plug ends to ensure proper AC current enters the boat's electrical system. This cord must have locking style connection at the boat end and a twist lock at the dock end.

Connecting the Boat to Shore Power

Step1. Turn OFF the 30 AMP shore power circuit breaker.

Step2. Connect the shore power cord to the boat's receptacle.

Step3. Connect the shore power cord to the power source on the dock.

Step4. Turn ON the 30 AMP shore power circuit breaker.

Disconnecting the boat from Shore Power

Step1. Turn OFF the 30 AMP shore power circuit breaker.

Step2. Disconnect the shore power cord from the boat's shore power receptacle.

Step3. Disconnect the shore power cord from its source (dock).

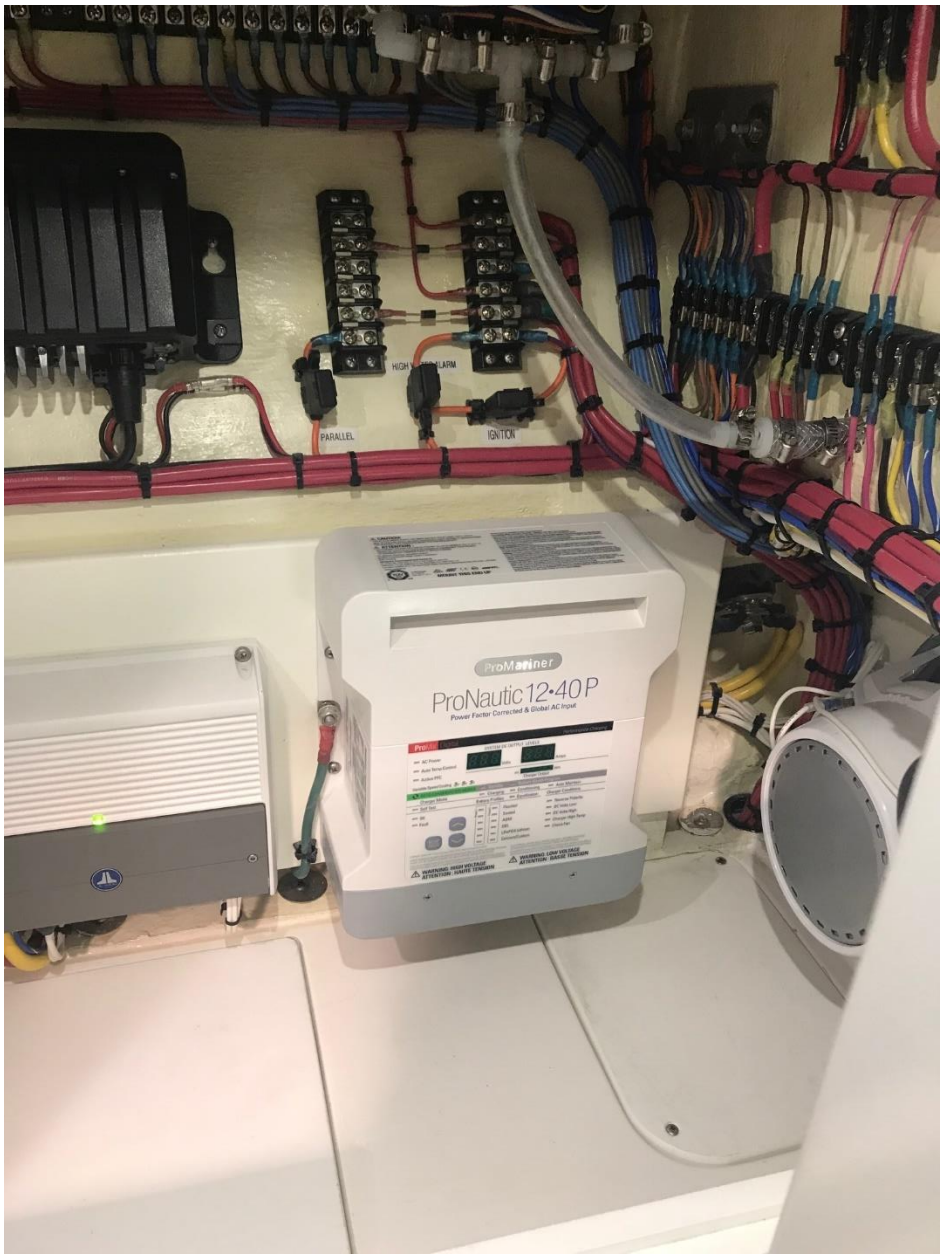
Distribution Panel

The AC distribution panel is located starboard side closet to the ceiling inside the console. Once the boat has been connected to shore power and the shore power breaker is in the "ON" position, the digital display will show the actual voltage at the distribution panel.

Charging Batteries using Shore Power

To turn on the battery charger, the boat must be connected to shore power. The 30 AMP shore power breaker and the 15 AMP battery charger breaker on the AC panel must be switched to the ON position.

When the shore power is connected, the battery charger automatically turns “ON” when the battery charger and AC main breakers are switched “ON”. The charger is located inside the console in the rigging area.



Normal configuration

12V DC System

Located inside the console is the DC breaker panel that contains DC Main Distribution Electrical Circuit Breaker Panel.

Some of the circuit breakers found on your boat's DC panel are:

- Dual DC Mains (each power the column of breakers below it)
- Trim Tabs
- Auto Pilot
- Electronics (enables the use of all the electronics installed behind the plexiglass electronics box)
- Amplifier(s)
- Electric Head (if equipped, enables the use of the marine head's control panel)
- Macerator (activates the macerator to empty the holding tank *make sure seacock is in the open position as pump should not run dry for any extended time. ** See **Seacocks, Waste System**.)

DC Multi-meter Displays

Located on the AC breaker panel and DC breaker panel are black digital screens which display the current voltage or amperage consumption for the circuit. To toggle between these functions, press the button on the multi-meter. On the DC side of the panel, individual battery banks can be monitored via the battery bank selector switch to the left of the multi-meter.

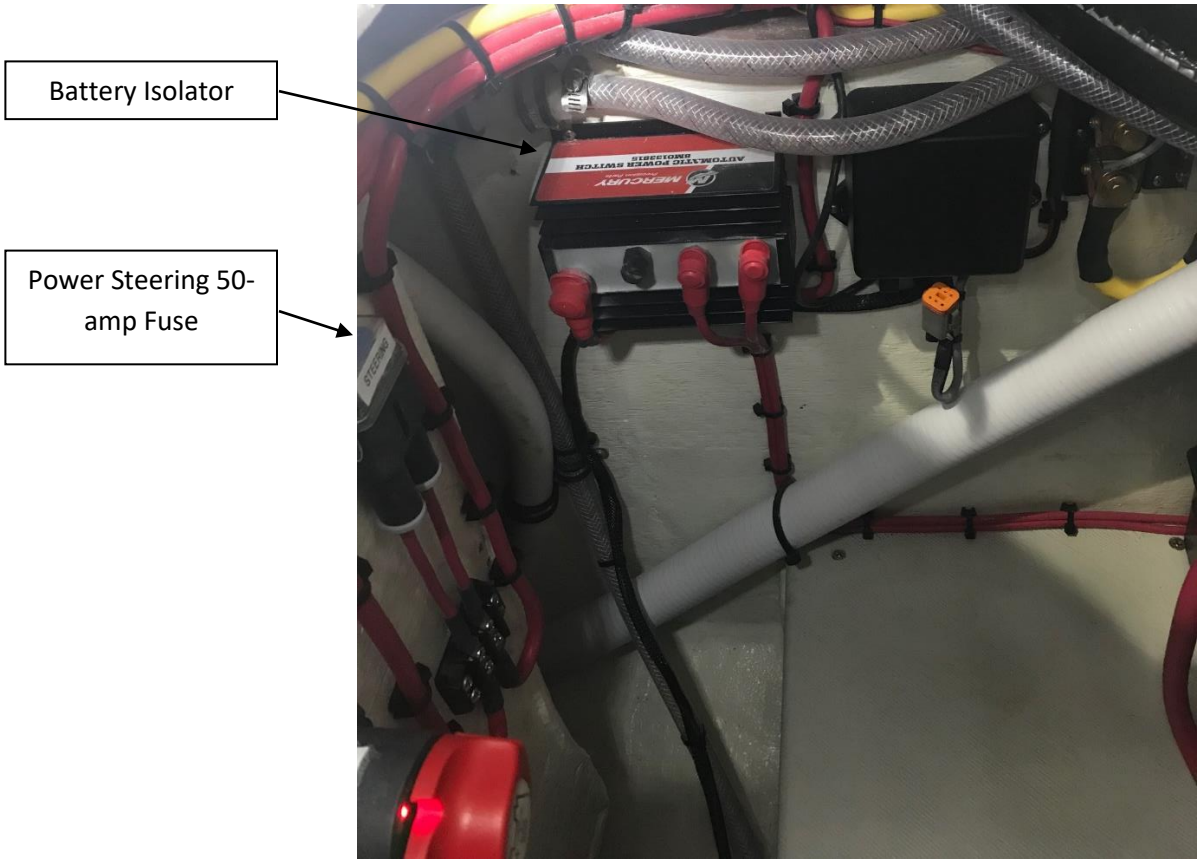
Battery Location

The batteries on the boat can be located inside the center console, inside the rigging area and below the hatch. The boat will be equipped with one battery per engine, or optional multiple batteries per engine/house bank for an increased reserve capacity.

NOTE: CARE MUST BE TAKEN WHEN REMOVING THE LABELED BATTERY BOX LIDS TO ENSURE THE ACCURACY OF BATTERY BANK IDENTIFICATION WHEN REINSTALLING THE LIDS.

Battery Isolator

The installed battery isolator is a one-way electrical valve, allowing DC current to flow in only one direction. The primary purpose of the battery isolator is to insure the power steering pump (standard on Verado engines) always has power in the event of a battery bank failure. A 90 AMP fuse is attached on the battery stud for each battery bank to feed each leg of the Isolator. Power is run from the Isolator to the power steering pump 50 AMP fuse is installed near the isolator connected directly to the power steering pumps power.



Control Helm

Your Sea Vee helm station is the control and monitor center for the engine, electrical, steering, and navigational systems.

Operating controls

Located at the helm are all the controls needed to operate your boat. These controls include:

- Switch/Breaker Panel
- Engine Throttle Controls
- Engine Trim and Tilt
- Engine Ignition Switches
- Engine Kill Switch
- Steering System
- Trim Tab Switches
- Instrumentation
- Compass

Helm Station Switch / Breaker panel

Located at the lower port side of the console helm station is the switch/breaker panel. Each individual circuit on this panel is protected by a resettable circuit breaker located above each individual switch. To reset the breaker, the white button above the rocker switch must be fully pushed inward in order to reset the breaker.

- **Navigation Lights**
  - This is a 3-position switch (Nav-Off-Anc). This function should be used after sunset or other poor visibility scenarios. The switch also operates the compass light, radio remote light, and baitwell light(s).
- **Cockpit lights**
  - This is a 3-position switch (Cpt-Off-Map.) it provides illumination in the cockpit helm area below the T-top.
- **Baitwell**
  - This switch operates the baitwell pump(s)
- **Bilge Pump**

  - This switch serves as an overriding manual switch to empty the bilge water. (Float switches should be checked periodically for proper operation.)
- **Fishbox**
  - This switch turns activates the strainer pump for drainage of fishboxes (Pump is located in the bilge, mounted on the strainer housing).
- **Fresh Water Washdown**
  - This switch operates the freshwater pump located inside the console, below the rigging area, inside the battery compartment.
- **Salt Water Washdown**
  - This switch operates the saltwater pump located inside the console, below the rigging area, inside the battery compartment. This pump is identified by the strainer on the side inlet fitting.
- **Flood Light**
  - These switches operate the bow and stern flood lights.
- **ACC**
  - Switches labeled ACC are used for other miscellaneous functions or can be left as empty circuits that can be used for other applications.
- **Console Light**
  - This switch enables you to turn on the light inside the console and helps prevent leaving the light ON accidentally and draining the batteries. NOTE: The interior light also has a switch that allows operation from inside of the console but the switch at the helm must be in the ON position for the light to function.
- **Parallel Switch**
  - In the event of low battery voltage at any bank, this toggle switch, places your batteries into a parallel series momentary mode to start the motor. This switch must be held down until the motor starts and for 10 seconds after it has started. Then release the switch, once released the parallel mode is disconnected.
- **12-Volt Receptacle**
  - The 12-volt receptacle is located on the switch/breaker panel at the helm station switch / breaker panel. Prior to plugging any accessories into a 12-volt receptacle, ensure that the device is designed for use when connected to a 12-volt system and rated for 15 AMPS or less.

Engine Throttle / Shift Control

Throttle and shift controls are installed on the starboard side of the steering helm. These controls are push-pull levers that are connected to your engine throttle and shift mechanisms. The shift control shifts the engine in the same direction the lever is moved, forward is to move forward and pulling the controls aft, moves the vessel backwards. The throttle control, controls the engine speed or RPM by pushing the levers forward to increase speed and pulling the lever back to decrease speed in the forward gear and opposite in the reverse gear. REFER TO THE ENGINE MANUALS FOR PROPER OPERATION AND MAINTENANCE OF THE ENGINE CONTROL SYSTEM.

Engine Trim and Tilt

The trim buttons on the engine lever control operates the trim and tilt system of the engines. Trimming the engine(s) DOWN has the effect of lowering the bow. The trim button also controls the tilt position of the engines. The engines tilt/trim system is provided by the engine manufacturer. REFER TO THE ENGINE MANUALS FOR PROPER OPERATION AND MAINTENANCE OF THE ENGINE CONTROL SYSTEM.

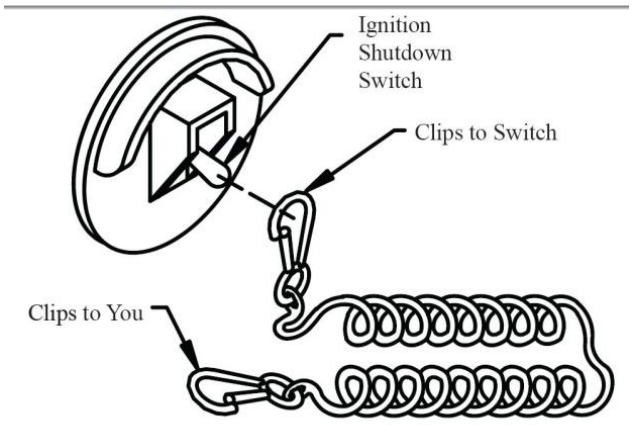
Engine Ignition Switches

The ignition switches are provided by the engine manufacturer. REFER TO THE ENGINE MANUALS FOR PROPER OPERATION AND MAINTENANCE OF THE IGNITION SWITCHES.

Engine Kill Switch

All outboard Sea Vee models are equipped with an emergency stop switch if supplied by the engine manufacturer. The purpose of the safety switch is to shut down the engines if the operator unintentionally leaves the helm station. Situations in which this could occur are: rough water, bad weather, and other adverse boating conditions. In these situations, the safety of the boat and its passengers is enhanced by using the safety lanyard, since the boat will stop if the operator evacuates the control station.

When the lanyard switch is used, the operator must securely clip the lanyard to their belt or clothing so that if the operator falls or leaves the helm area, the switch is activated and the engines shut down.



Steering System

The hydraulic steering system brings power from the steering wheel to the steering ram mounted on the engines. This system gives an instantaneous steering response to your engines to control the vessel while underway. The helm unit under the steering wheel contains hydraulic fluid that supplies the complete steering system. Periodic checks of the fluid level should be performed to insure a plentiful supply of fluid is always available to prevent air from entering the system and causing a loss of full steering. REFER TO THE MANUFACTURER'S MANUAL FOR PROPER OPERATION AND MAINTENANCE.

Trim Tabs

All Sea Vee boats are equipped with standard hydraulic trim tabs. The trim tab motor for the standard Bennett Trim Tabs is located in the bilge and is accessible through the bilge access hatch. The 340 may also be optionally rigged with the high-performance Mercury K-Planes. The trim tab motors for the Mercury K-Planes are located in the AFT transom hatch door. The K-Planes each have an individual trim tab motor equipped with a hydraulic fluid reservoir. The trim tab plates must be in the full up position when checking fluid levels.

(Mercury K-Planes)

(Mercury Trim Tab Pumps)

(Bennett Trim Tabs)

(Bennett Trim Tab Pump)

Operating Trim Tabs

Using your trim tabs in conjunction with your power trim will provide enhanced performance, efficiency, and speed. DO NOT OVER TRIM (particularly at high speeds as the bow will dig in and wave action may cause the boat to veer.)

- While underway, do not move one trim tab significantly farther down than the other as undesirable listing could occur.
- Use your trim tab helm control with caution.
- For best maneuverability, trim tabs should be fully retracted in a following sea, or when running an inlet.
- Improper use of trim tabs can cause an accident or injury.

Trim tabs are operated individually so that you can correct listing. Your control is designed so that you can use it "intuitively". Do not think about what the trim tabs are doing, just concentrate on the bow. If the port bow is high, push the port-side button "Bow Down" direction. If the starboard bow is high, push the starboard side button "Bow Down" direction until the boat is level. No one knows your boat better than you; the best learning method is to spend time becoming familiar with your boat's reaction to the trim tabs.

Instrumentation

Proper control of your Sea Vee extends beyond the steering wheel. Your boat is equipped with several gauges that provide information to guide the boat's operator in maintaining control of the boat. There are also a variety of switches and buttons within the boat that control various functions from comfort and enjoyment to safety-related features. It is important for the boat owner and/or operator to become familiar with all gauges and switches in the boat, their function, and how to respond to alarms and warnings that the instrument panel may display.

To avoid the possibility of mechanical damage to your engine, basic instrumentation for each engine is provided. Your Sea Vee is outfitted with instruments, provided by the engine manufacturer.

The operator should regularly check the instrumentation when first starting the engine and when running. Instrumentation gives vital information as to what is happening to the engines while operating. It is important that you become familiar with the appropriate reading for each instrument.

The gauge will power up when the keyed ignition is turned on. The gauges will stay on as long as the ignition is in the "ON" position. REFER TO THE ENGINE MANUALS FOR PROPER OPERATION AND MAINTENANCE OF THE INSTRUMENTATION.

Compass

Your Sea Vee is equipped with a magnetic compass. The compass is located on top of the helm station. Compass internal lighting is controlled by the NAV/ANCHOR light breaker switch located on the switch/breaker panel. The compass was calibrated at the compass manufacturer's facility. Information on calibrating the compass is included in the compass manual.

The Bilge

The deepest part of the hull, under the deck, is the bilge where water may accumulate. Be sure to keep the bilge area free of debris so that water can drain through the stringers and bulkheads to the bilge pump area. It is normal to have a small amount of water in the bilge. If you should notice fuel or oil in the bilge, check for leaks and correct immediately. Do not pump fuel or oil overboard, as this act of pollution is a violation of federal law. Clean up fuel and oil and properly dispose of on shore. Oil stains can be removed by using a bilge cleaner available in a marine store. Do not use flammable solvents to clean the bilge.

Bilge Pumps

Sea Vee provides (2) bilge pumps as standard equipment. These pumps remove water out of the bilge areas. The hull's stringer system has limber holes to allow the water to flow and collect in the deepest point of the hull "the bilge area". Each pump has two methods of operation. The manual operation of the two bilge pumps are controlled entirely by the BILGE PUMP switch at the helm. The float switch adjacent to the bilge pump controls the pump automatically. The float switch will turn on when the water level is such to activate the switch. The (2) bilge pumps are wired to constant power. Therefore, when the battery switches are in the OFF position, the bilge pumps may still be manually or automatically activated. Both pumps and auto float switches can be serviced through the bilge access hatch.

CAUTION: BE SURE NOT TO RUN PUMP DRY FOR PROLONGED PERIOD OF TIME. PLEASE CHECK FLOAT SWITCHES FOR PROPER OPERATION PERIODICALLY.

Seacocks

Ball valve seacocks are installed on all inlet through hulls below sea water level and may be your only option to stop water intrusion in the event of a plumbing failure. Seacocks are used for the baitwell pumps, overflows, holding tank overboard discharge, saltwater wash down system, and other possible applications. It is important that these valves stay open when these systems are in use. The open position is identified by the orientation of the handle. If the handle is in line or parallel to the body of the valve, the seacock is in the open position (see figure A below). If the handle is perpendicular to the body of the valve, the seacock is in the closed position (see figure B below).

NOTICE: ALL SEACOCKS SHOULD BE IN THE CLOSED POSITION IF NOT IN USE OR IF THE BOAT IS LEFT UNATTENDEDTO PREVENT WATER FROM ENTERING IF PLUMBING COMPONENTS FAIL.

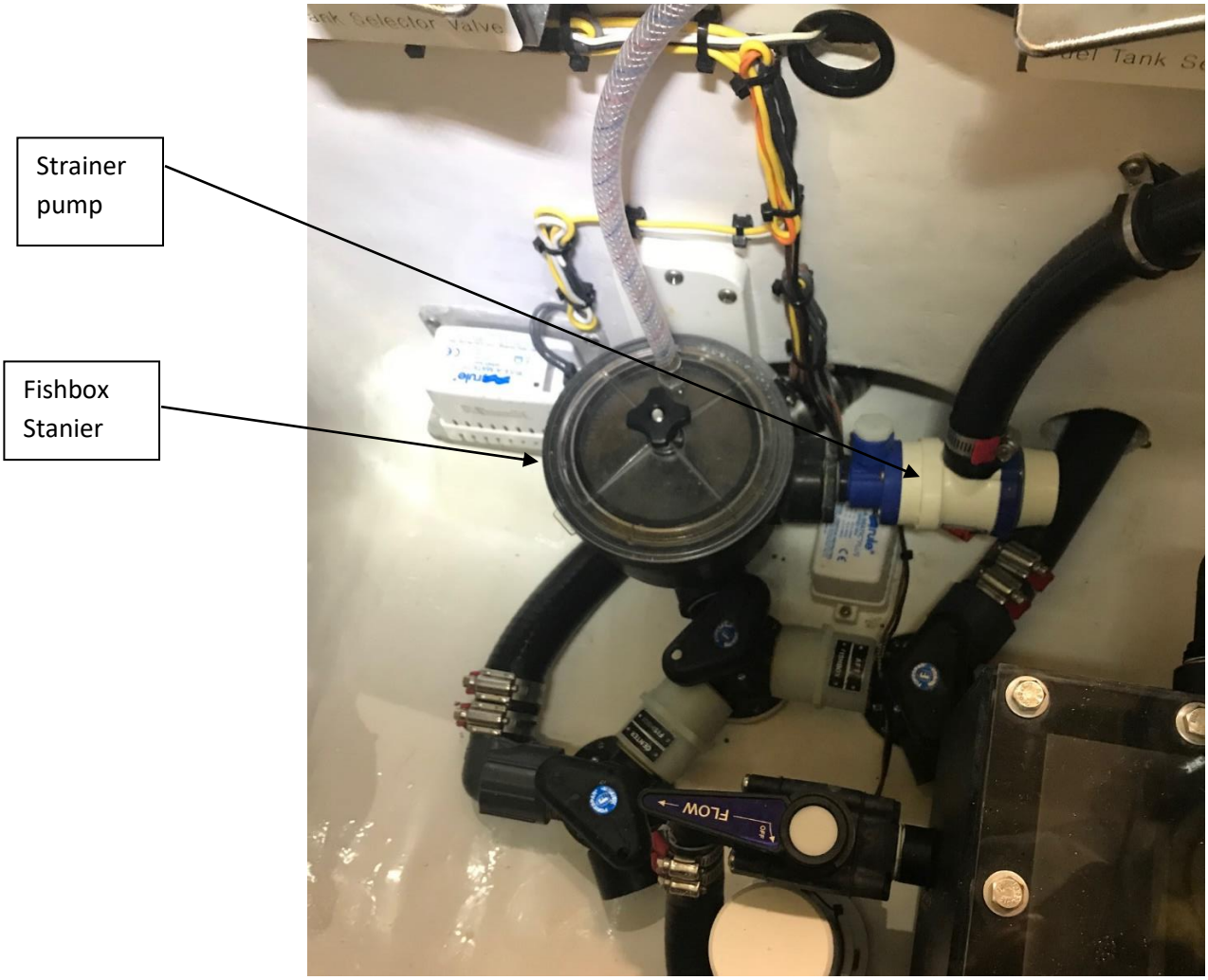
Figure A

Figure B

Fishbox(es)

Serious accommodations have been provided in your boat to ensure your prize catch is nicely stowed and freshly kept. Your Sea Vee fishbox(es) and its hatches are insulated to help keep ice longer.

The AFT ends of the fishbox(es) are plumbed to drain overboard via a strainer mounted pump. The pump is located in the aft bilge area and mounted on the side of the strainer housing. The fishbox drain hoses run through a Y-valve (*Picture shown below*) that allows one to select which fishbox to drain.



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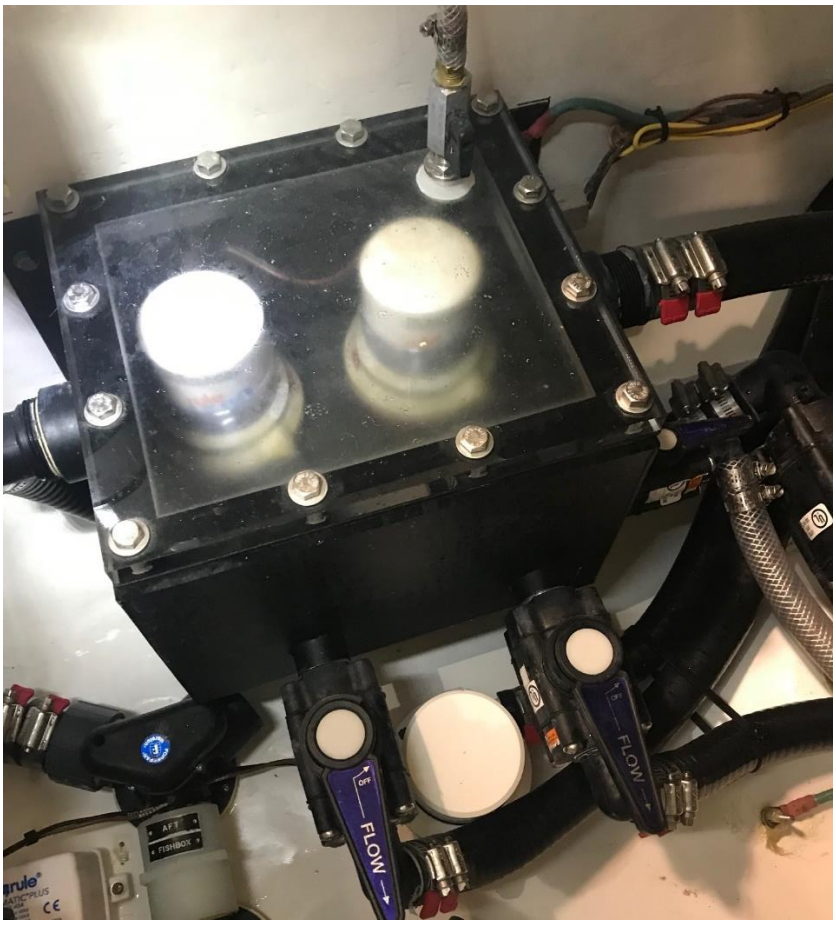
Live Baitwell System

Sea Vee boats are designed and equipped with superior baitwell systems that contribute to the fishing success Sea Vee is known for.

The baitwell tank(s) are plumbed with a minimum of one pump and 90° supply inlet to avoid scaling the baits and maintain circulating water movement inside the tank. The inlet inside the tank is equipped with a valve that can be used to restrict or shut-off the water flow into the tank. The baitwell supply pump(s) are located inside a sea chest with a clear lid in the aft bilge, each pump has a seacock valve that may be closed in the event of a plumbing failure or to avoid water from entering the baitwell tank while not in use due to the water pressure produced by the two high-speed pickups that feed the sea chest. Water will not be supplied to the tank if the seacock is closed. To operate the baitwell make sure the valves are open. Then, turn “ON” the baitwell switch(es). The sea chest draws sea water via two supply seacock valves. The sea chest supply valves are fed via under water pick-ups, one on the hull bottom and the other is stern mounted. Both valves must be in the open position for the sea chest to work properly.



In addition, each baitwell tank is plumbed with an upper overflow drain and a lower drain to empty the tank. The upper overflow drain is equipped with a strainer to avoid baits

and/or debris from clogging the plumbing. The lower drain must be plugged off with the supplied 1-1/2” black rubber drain plug to avoid baits or debris from entering the plumbing. Once all bait and debris has been removed from the baitwell tank, the rubber drain plug may be removed to empty the tank. Both, the overflow and lower baitwell tank drains are T’d together and drain via a 2” seacock valve located below deck as shown below.

NOTE: IF SEACOCK IS LEFT OPEN WHILE THE BOAT IS UNDERWAY THE BAITWELL WILL GRADUALLY FILL WITH WATER.

Saltwater Washdown System

The saltwater washdown system switch is located at the helm switch/breaker panel. Ensuring the sea water seacock is open; the system will be pressurized up to the column mounted outlet valve when the switch is in the “ON” position. The pump installed on your boat has an internal pressure switch that will keep the pressure until the switch is turned off at the switch panel. The pump is located inside the center console and may be identified by the water strainer mounted on its side.

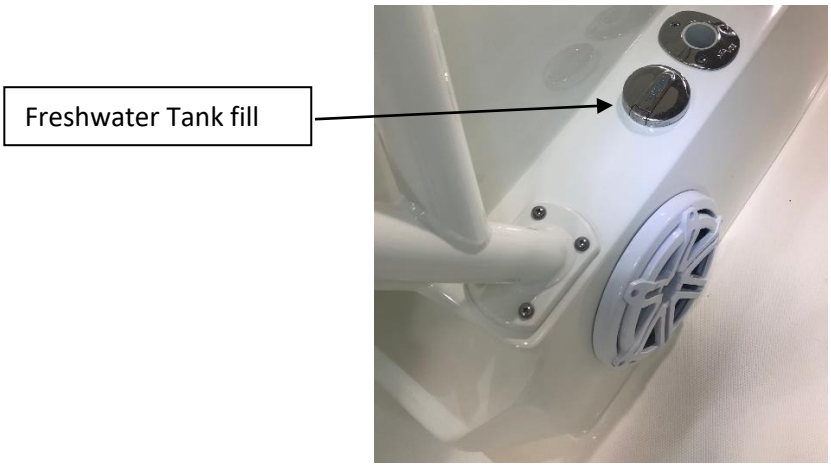
The strainer must be serviced periodically by first closing the supply seacock valve in the bilge (if the boat is in the water), then twisting off the clear lens cover on the filter housing mounted on the pump. A clean filter will help maximize your pumps performance.

Freshwater System

The freshwater system switch is located at the helm switch/breaker panel. The freshwater pump can be found inside your battery compartment. The water is provided by a 46-gallon tank located below deck, under the leaning post.

Refilling the freshwater tank is easy. First, find the fill plate labeled “WATER” on the starboard side of the console. Next, fill the tank and replace the cap on the fill plate.

The water used to flush the head waste system is also provided by the freshwater tank, so remember to always fill the water tank.



Waste system

The waste system provides the following components:

- Electric head
- Holding tank with macerator overboard discharge

Operating the Electric Head

1. Ensure the “Freshwater” system is ON at the helm switch panel.
2. Ensure the “Head” breaker is turned ON at the DC breaker panel inside the console.
3. Prior to using the head, press the “Fill” button to fill the bowl with water.
4. After using the head, press “Flush”. This function will fill and flush the head simultaneously.
5. Remember to drain the bowl prior to running in rough waters by pressing “Drain” on the control panel to prevent sloshing.
6. Don’t put anything else down the toilet except for sanitary paper.
7. The sanitary paper holder storage is located on the steps in front of the head.

As fresh water is being pumped to the toilet, the contents in the toilet are macerated and pumped to the holding tank. In areas where overboard discharge of the holding tank is permitted, the tank can be emptied using the holding tank macerator pump. This pump is controlled by a breaker labeled “Macerator” on the DC breaker panel inside the console. Never operate the macerator with a dry holding tank to avoid damaging the pump.

OUTSIDE U.S. WATERS YOU CAN DISCHARGE OVERBOARD DIRECTLY. (U.S. COASTAL LIMITS ARE THREE MILES; SOME STATE LIMITS ARE GREATER THAN THREE MILES.)

IMPORTANT: THIS HEAD IS INSTALLED WITH A MACERATED HOLDING TANK. WHEN DISCHARGING WASTE YOU MUST CHECK WITH LOCAL AUTHORITIES ON THE REGULATIONS IN YOUR AREA.

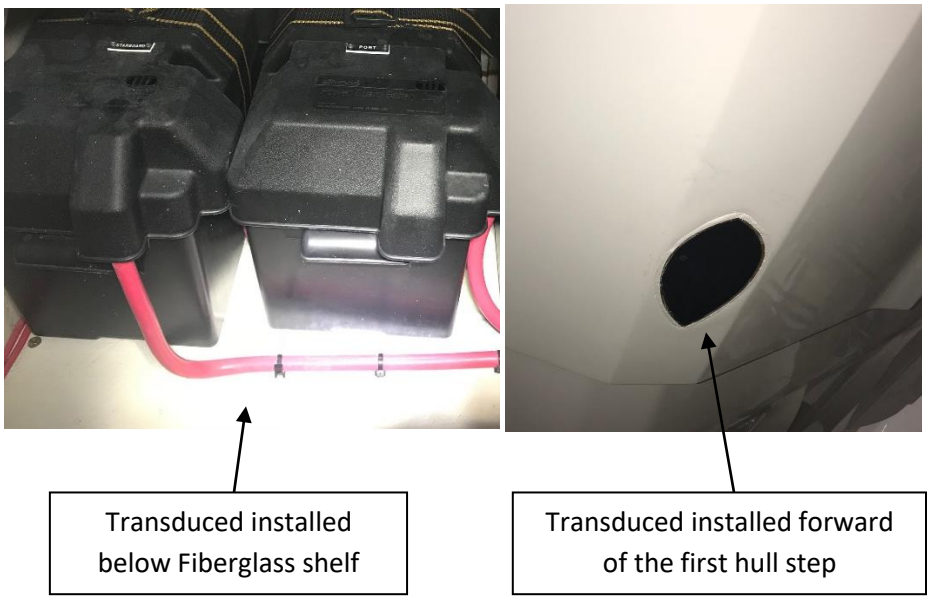
Holding Tank Seacock valve is accessible through the inspection hatch located on the steps inside the console.

Holding tank seacock (****See Seacocks** for open and closed positions)

Macerator Pump is located underneath the console steps

Flush Mounted Transducer

Flush mounted transducers are mounted in the mid-ship bilge, below the battery fiberglass shelf. To access the transducer from inside the boat, the batteries and fiberglass shelf must be removed. The black acoustic window material visible from the bottom side of hull is made of a soft, rubbery, elastic material called urethane, which carries sound waves in almost the same manner as water. Avoid damaging the face of the transducers by not scratching them; this can make readings inaccurate.



Gasoline Fuel System

The fuel system used in Sea Vee boats is designed to meet or exceed the requirements of the U.S. Coast Guard, the National Marine Manufacturer's Association, and The American Boat and Yacht Council in effect at the time of manufacture.
All fuel systems have been factory inspected and pressure tested in accordance with regulations in effect at the time of manufacture. This inspection assures that the system is air tight, leak proof and safe. It is the responsibility of the purchaser to maintain it in that condition. Make frequent inspections to assure that there is no deterioration or loosening of connections, as result from vibration. The fuel system installed in your Sea Vee includes (2) permanently installed tanks with a total capacity of 328 and gallons for the B Model and 364 Gallons for the Z model.

Your boat is equipped with a fully EPA and NMMA compliant marine Gasoline fuel system. The Gasoline fuel system consists of a welded aluminum fuel tank, combination fuel fill and vent in the fill cap, and various vent valves plumbed to the top of the tank. All hoses and other components are certified to prevent liquid and vaporous fuel leakage. Your boat may include multiple gasoline fuel tanks, and each is a separate gasoline fuel tank/fill/vent system.

The system is designed to contain fuel vapors during nightly expansion and contraction of liquid gasoline contained in the fuel tank,

and vents them if the tank pressure exceeds a certain value, per EPA requirements. The fill cap includes an automatic purge valve to vent vapors as required, and a suction valve to permit air to enter the tank to replace fuel as it used. Fittings inside the tank also are specifically designed to prevent spit back when filling the tank, and allow space in the tank for fuel expansion, to prevent liquid fuel from spilling from the tank. The entire system is automatic.

To fill the gasoline fuel tank, insert the nozzle in the tank fill fully, and dispense fuel in the tank. When the tank nozzle automatically shuts off, do not attempt to dispense more fuel in the tank. The tank design relies on the use of this automatic shutoff to prevent vapor emissions from the tank, as well as prevent spit back when filling, and liquid fuel spillage as a result of heel or trim angle when running the boat.

DANGER -

DO NOT ATTEMPT TO FILL THE TANK AFTER THE AUTOMATIC NOZZLE HAS SHUTOFF. SPITBACK OF LIQUID FUEL COULD OCCUR, AND LIQUID GASOLINE COULD SPILL OR BE EJECTED FROM THE TANK AT THE TIME OF FILLING, OR

LATER WHEN THE FUEL EXPANDS IN THE TANK.
SPILLED LIQUID FUEL IS FLAMMABLE, AND MAY ALSO DAMAGE THE COSMETIC SURFACES OF THE BOAT, INCLUDING BOAT COVERS, RUBRAIL, VINYL UPHOLSTERY, ETC. LIQUID GASOLINE IS DANGEROUS AND COULD CAUSE INJURY TO YOUR EYES, SKIN AND LUNGS.

Maintain your fuel system by inspecting the fuel cap O-ring periodically to ensure it is free from burrs and fits the cap tightly. This seal prevents water from the entering the fuel tank. Contact Sea Vee for a replacement if it shows signs of wear or no longer fits tightly on the cap.

Sea Vee recommends the use of non-ethanol gasoline in your boat, to help extend the life of all flexible fuel components in the boat and on the engine, and provide the best fuel economy from your outboards. If ethanol fuel is used, we recommend using the fuel immediately. Stored Ethanol Gasoline can degrade over time and may damage the engine if left in the boat for an extended time period due to the increased tendency for the fuel to separate and collect and emulsify water. Consult your outboard engine owner's manual for more information regarding ethanol.

Fuel Level Sender

Each fuel tank is equipped with a single electric float sender unit. This float operated electrical device provides the circuit required for operating the fuel gauge on the control helm. The fuel sender and gauge provide an approximate indication of the remaining fuel in the tank.

Onboard fuel filters

If your boat is powered with Mercury Verado engines, your boat will not have onboard fuel filters. Mercury Verado engines are equipped with fuel filters under each engine cowling. Please refer to your Mercury Verado engine manual for filter maintenance and instructions. Onboard fuel filters are installed below your bilge access hatch, one per engine (For all engines other than Mercury Verado). The onboard primary fuel filter cartridge must be changed with every scheduled engine maintenance. Refer to engine manual for schedule of maintenance. Onboard fuel filters also serve as water separators. The clear bowl below the filter may be best visually inspected after the engine has not been run for 4 hours or more. If water is in your fuel filter, it will accumulate at the bottom of the bowl. To drain water, using a canister, open the valve on the bottom of the filter bowl, until the fuel begins to drain. Contaminated water must be disposed of properly and safely. Once the filter bowl has been drained of the water or contaminates, the fuel lines should be primed prior to starting engines.

Fuel Tank Selection Valve

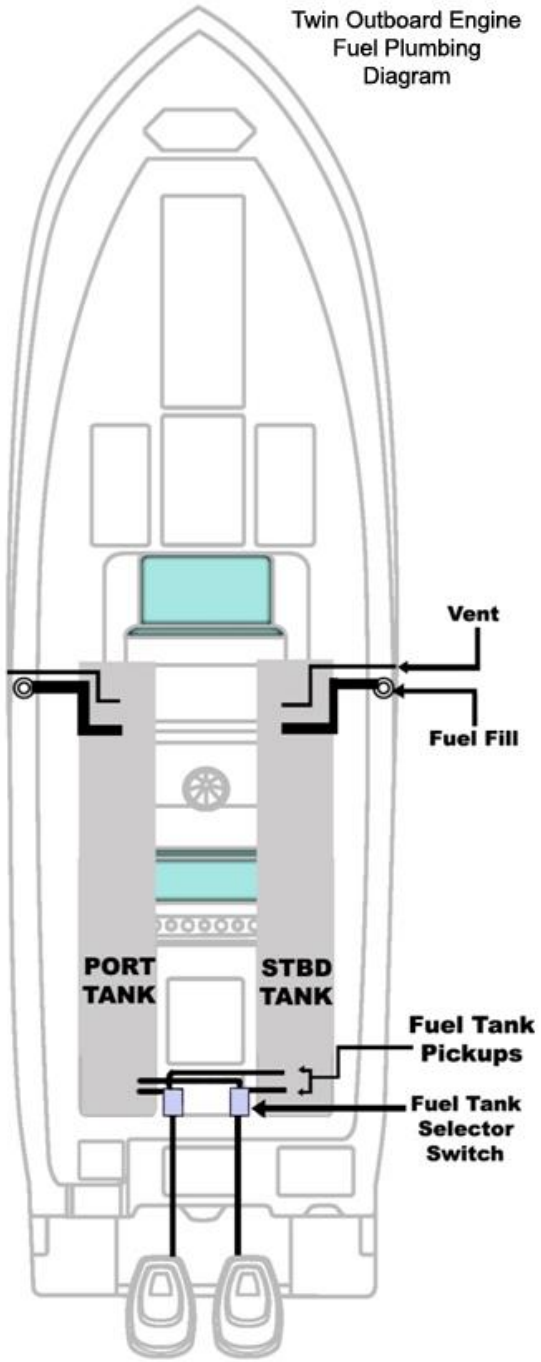
Your boat is equipped with one fuel valve per engine. Please read the label on the valve to ensure the proper fuel tank has been selected. The fuel valve on diesel powered boats also controls the fuel return to the tank selected for example: setting the fuel valve to “Port Tank” means that the engine will be fed fuel from the port tank and the excess fuel will be returned to the port tank.

Fuel Tank Pickups

The fuel pickup fittings, anti-syphon valves and the fuel tank level senders are located on the tank surface and are accessible through multiple fiberglass inspection hatches shown on the picture below as well as on either side of the rigging area inside the center console.

Hatch Shown

WARNING: IF FUEL ODORS BECOME APPARENT WITHOUT REASON, TURN OFF ALL BATTERY SWITCHES IMMEDIATELY AND HAVE THE FUEL SYSTEM INSPECTED FOR LEAKS AS SOON AS POSSIBLE. TRAPPED FUEL VAPORS ARE EXTREMLY FLAMEABLE AND DANGEROUS TO SPARKS AND OPEN FLAMES.


Twin Outboard Engine
Fuel Plumbing
Diagram
Vent
Fuel Fill
PORT
TANK
STBD
TANK
Fuel Tank
Pickups
Fuel Tank
Selector
Switch

Bonding

As with all large metal objects in the boat, the fuel tanks are connected to the boat's bonding system. Bonding and grounding is a very effective technique for minimizing the likelihood of an ignition from static electricity.

A ***Bonding*** system connects various pieces of conductive equipment together to keep them at the same potential energy. Static sparking cannot take place between objects that have the same potential energy. The bonding system in your Sea Vee is connected to the ground bars in the console. The ground bars are connected directly to the negative side of the 12VDC batteries.

Grounding is a special form of bonding in which conductive equipment is connected to a negative electrode or to the grounding system in order to prevent sparking between conductive equipment and grounded structures.

The bonding system consists of a heavy copper bus bar from which heavy stranded tinned copper wires (#8 AWG Green) branch out to the various exposed, metallic components that are to be protected. The bus bar is connected to the boat's common ground point, which is in turn connected throughout underwater hardware. Any stray AC or DC currents leaking from faulty electrical equipment or connections will thus be conducted overboard without attacking the boat's metallic components.

The bonding system is also connected to one or more sacrificial zinc anodes, these zinc anodes are disintegrated first so that the fittings and gears are protected from corrosion. Zincs must be checked periodically and replaced in timely fashion.

- Bonding prevents high voltages in exposed metal cases and electrical equipment that develop a fault
- Bonding provides a low-resistance path to ground for lightning strikes

Manual Sliding Cooler Tray

One of the many popular options is the sliding cooler tray which is also a seat. Located at the STBD corner of the tray is a pin. To slide the tray out, 1st push the button at the top of the pin, 2nd pull the pin up, 3rd slide the tray toward AFT, 4th reinstall the pin in the open position.

CAUTION: PRIOR TO OPERATING THE BOAT, ALWAYS ENSURE THE LOCKING PIN IS IN PLACE TO AVOID THE COOLER FROM SLIDING OUT UNEXPECTEDLY AND POSSIBLY INJURING SOMEONE. WHETHER THE COOLER IS IN THE OPEN OR CLOSED POSTION, THE LOCKING PIN SHOULD BE INSTALLED AT ALL TIMES.

Sliding Barrel Bolt Latch (Lockable in the open and closed positions)

Pneumatic System

Your SEA VEE may be equipped with a custom, state of the art, exclusive pneumatic system that may operate the console door and sliding cooler with ease, swiftly, smoothly and quietly. This system is powered by a DC 12V air compressor located below the console interior stairs and control box located on the backside of the console interior rigging area hatch.

The Pneumatic Base System includes:

- Air Compressor
- Air regulator and additional air/water separator
- Pneumatic system electronic control box

The Pneumatic Options are:

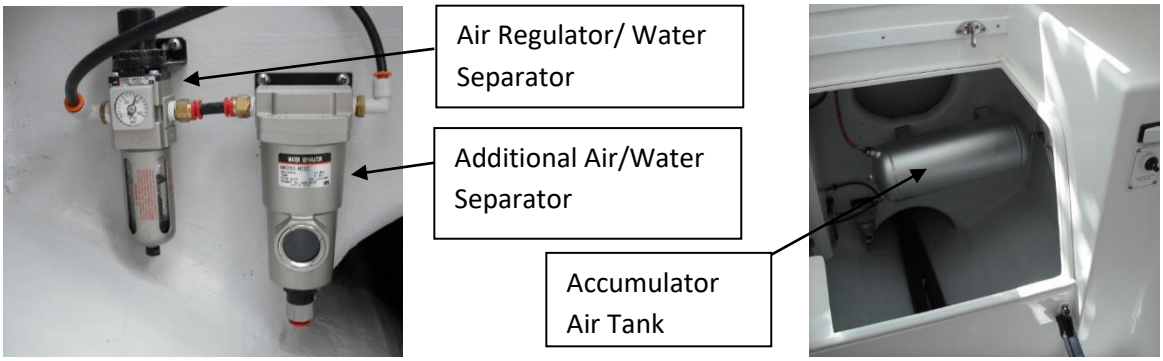
- Pneumatic Console Door
- Pneumatic Sliding Cooler Tray

Pneumatic System Maintenance

Much attention and effort has been made to design a system that requires very little maintenance and years of trouble-free operation. However, it is required that the following steps be taken to ensure the pneumatic system functions at its optimum performance.

Air Regulator and Water Separators

Located below the console interior stairs is the air accumulator tank, air regulator and additional water separator. Both the air regulator and additional water separator are equipped with automatic drains but should be inspected regularly to ensure they are dry by looking through the clear lens. To test for water, turn the manual drain fittings at the bottom of the bowls counter clockwise until air comes out. To close, turn the fitting clockwise until the air no air leaks out. Be careful not to over tighten these fittings and only hand tighten.



Air Compressor

The air compressor should only run when the pneumatic features are being used. If the air compressor is found to be periodically running without the use of any pneumatic features, the service department should be contracted to check the system for possible air leaks.

Console door and Sliding Cooler Tracks

The stainless-steel tracks on the console door and the sliding cooler should be lubricated periodically using a clear lubricant ex. (Boeshield T-9 or Corrosion X). Any excess spray should be wiped off the surrounding areas.

Console Door

The center console sliding door is one of the features powered by the pneumatic system. This door is operated by momentary rocker switches located inside and outside the console. The outside switch is located on the left side of the backrest cushion when facing the front of the console. The console door interior switch is located on the right side of the console interior stairs when facing toward the bow. It is important that caution be used when operating the door to avoid trapping or injuring anyone.

Pneumatic Sliding Cooler

The sliding cooler mounted below the helm station leaning post can be optionally controlled pneumatically. The switch to operate the sliding function of the cooler is located below the grab rail, on the back-side of the leaning post. Caution must be taken when pneumatically operating this function. Ensure that all hands and feet are clear of the sliding tray path. The switch used to control this function has a built-in lock-out to avoid accidental operation of the switch. This feature should not be used by small children.

Pneumatic System Emergency Operation

In the event of a pneumatic feature failure, the complete system may be overridden by opening one of the two emergency release valves labeled “Emergency Console Door Release”. These emergency valves are located on the starboard column just forward of the console, and another inside the console to the right of the stairs. These valves bleed the air out of the system within 20 seconds, allowing all pneumatic features to be manually operated by manually pushing or pulling them.

Console Interior Location: Inside the console, next to the door switch

Exterior Location: Column, under gunnel, starboard side

R n Seat

The stern seat can be easily removed by sliding up/down the latch lock behind the seat cushion on each side of the seat. The folding legs will allow for easy storage.

CAUTION: ALWAYS ENSURE THE FOLDING LEGS ARE FOLDED DOWN FULLY INTO PLACE PRIOR TO PLACING ANY WEIGHT ON THE SEATS.

The stern seat backrest is also easily removed by simply lifting the backrest while sliding it out of its bases which are built into the coaming bolster cushion.

Latch Locks behind seat cushion

Dive Ladder

The boat maybe equipped with a port side transom mounted swim ladder. To deploy the ladder, simply pull on the spring-loaded pin and simultaneously pulling

outward. The ladder will need to be slid out to the fully extended position before its able to rotate down to its usable position. Once in the rotated down position, the foot steps can be extended out by reaching in to both side of the ladder tube with a finger and rotating the steps out.

WARNING:

- **NEVER ATTEMP TO USE THE LADDER WHILE THE ENGINE IS RUNNING TO AVOID ANY POTENTIAL SERIOUS BODILY INJURIES.**
- **FAILURE TO STOW THE LADDER PRIOR TO RUNNING THE BOAT CAN EASILY DAMAGE THE LADDER.**