



# 35z OWNERS GUIDE



## BOAT INFORMATION

MODEL 35z Downeast  
HIN NUMBER EOU35z\_\_\_\_\_  
DESIGN PATENT US D475 338S (3 June 2003)

DELIVERY DATE \_\_\_\_\_

AIS MMSI NO. \_\_\_\_\_

REGISTRATION NO. \_\_\_\_\_

**ENGINES** Mercury  
MODEL Verado \_\_\_\_\_

SERIAL NUMBERS. \_\_\_\_\_ & \_\_\_\_\_

DRIVES Mercury  
MODEL 1307V23LY & 1307V24LY

PROPELLORS \_\_\_\_\_

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DEALER \_\_\_\_\_

BROKER \_\_\_\_\_

PHONE \_\_\_\_\_

EMAIL \_\_\_\_\_



Dear 35z Owner

Congratulations on becoming an owner of an MJM 35z. We're dedicated to making it the world's best in class. As you read this guide and share cruising adventures, we hope you'll discover our mission has been accomplished.

MJMs are built of the highest quality materials, a composite of epoxy, Eglass and Corecell. That contributes to MJMs being most fuel-efficient yachts of their type by a wide margin. The same is true in the selecting of equipment suppliers and cabinetmakers. 35z is built to structural scantlings of Category A and certified ISO Category B Offshore, the highest rating for seaworthiness achieved by a boat under 40 feet. 35z leads the outboard market with unusually complete standard specifications and amenities. The boats are safe, reliable, easy to handle by one person, and high performers. Last but not least, and our number 1 design mandate, they turn heads entering harbor.

In addition to this Owners Guide, and primary in terms of authority, are two large binders with equipment supplier owner manuals and warranties. These documents contain an enormous amount of important information. Please keep them accessible for reference when you have an issue or question not covered in sufficient detail by this guide. You can download most from supplier websites onto an iPad or install them on the Raymarine display.

This guide reflects our experience from building over 250 MJMs. I personally have spent more than 6000 hours cruising on MJM yachts so want to impart some advice and background information along with the "how to do it." See comments in the blue sidebars.

As you enjoy your new boat, remember that much of the equipment contains computer chips that can sometime have glitches, which are often corrected with a re-boot. With proper safety precautions and good weather planning, you will spend many enjoyable hours on your new vessel.

A handwritten signature in black ink that reads 'Bob'.

Robert L. Johnstone

Founder and CEO

(401) 862-4367

bobj@mjmyachts.com

## QUICK START GUIDE

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Here's a reminder checklist for an experienced captain, familiar with operation of twin Mercury Verado outboards equipped with Joystick Piloting and information in this guide and accompanying binders.

### Check Systems

CHECK to see that raw water strainers of the GENERATOR and combined SEAKEEPER/AIR CONDITIONING, located under aft cockpit seat are not clogged.

### Change AC Power Source - Shore Power to Inverter

Turn OFF the SHORE POWER breaker at the 120V AC panel. Then:

1. If planning to use the GENERATOR to power the AIR CONDITIONER underway, start the GENERATOR.
2. Otherwise turn ON the INVERTER on the AC Panel as well as on the PHOENIX CONTROL panel to sustain power to 120V AC circuits such as the ICE MAKER and AC OUTLETS on the AC Panel.

Turn OFF Dock Pedestal breaker first, then disconnect/stow shore power and TV cords

### Activate 12 Volt Equipment

With HOUSE BATTERY switch ON, check for at least 12.2V on the electrical panel. Turn ON ELECTRONICS, TRIM TABS, WIPERS, HORN, FW PUMP, GYRO and other breakers for equipment used underway... such as HEAD, NAVIGATION LIGHTS and SEARCHLIGHT if at night.

Turn ON two red ENGINE BATTERY rocker switches at the top of the 120V AC panel.

Insert TPS key fob (Theft Prevention System) into its slot above the electrical panels.

Insert and turn ON ENGINE KEYS high up under companionway bulkhead (where they can't be accidentally broken or switched off). Listen for acknowledging beep and look for Green "Systems OK" Light on Vesselview. (Key Code 35z #1 is "996")

SELECT "Engine Page" on VesselView and check engine battery voltage in top center.

**CAUTION** If batteries are low, don't leave the dock until you diagnose and correct the problem.

LOWER engines using rocker switch on port control handle, confirmed by trim bars in lower center on VesselView.

**CAUTION** Ensure people, equipment, lines and hoses are clear and not in the water before starting.

### Start Your Engines

Momentarily TOUCH engine start buttons to starboard of wheel. Don't hold them in. It's automatic.

TAP JOYSTICK lightly in any direction to insure it is functioning. The rim lights up GREEN.

**Cast Off** **CAUTION** Confirm that no one is on the foredeck or in the water.

If everything is in order, cast off dock lines. When maneuvering with the JOYSTICK, minimize going back to center to avoid shifting of outboard gears. If moving sideways to clear a float: You can move the bow to catch up with the stern by twisting the knob at the same time while held sideways... likewise with moving the boat slightly forward or aft by leaning the joystick forward or aft while still leaning the joystick in the sideways direction desired.

Move the SHIFT LEVER forward out of neutral normal operation to automatically disengage the JOYSTICK. The JOYSTICK is automatically ready for use (Green Lighted Rim) when SHIFT is in neutral.

## CE CERTIFICATION

CERTIFICATE NO.

BBBW005

AUTHORITY: ADDRESS:

International Marine Certification Institute

Rue Abbe Cuypers 3

B-1040 Bruxelles, Belgique

+32-2-741-2418

PHONE

WEBSITE

[www.imci.org](http://www.imci.org)

CLASSIFICATION

ISO CE Mark Design Category B Offshore (EC Directive 94/25/EC) for craft designed for offshore voyages (1) where the vessel is correctly handled in the sense of good seamanship and operated at a speed appropriate to the prevailing sea state and (2) with significant wave heights above 4 m (calculations are based on 7 m) and wind speeds in excess of Beaufort Force 8, but excluding abnormal conditions, e.g. hurricanes.

## CAPACITY

Maximum 15 Persons

PERSONS

Maximum Load 3518 kg

PERSONS/GEAR

Maximum Load 3518 kg

**RECEIPT BY OWNER** In compliance with ISO 10240:1995(E) the owner hereby certifies receipt of this manual and has read and agrees to the terms of the Builder's Limited Warranty included herein.



NAME

Signature

Printed Name(s) and Date

BOAT

Boat Name and Hull Number

CONTACT INFORMATION

Street Address

City, State, Zip

Mobile Phone

e-Mail

Please sign one of the two copies of this page and return it in the attached stamped envelope to MJM Yachts, 39 Washington Street. Newport, RI 02840.

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## MJM 35z

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LOA: Length Over-All including engines down & bow roller .....	37.9 ft.
LOD: Length on deck (LOD) .....	35.7 ft.
Beam (Maximum width on trailer) .....	11.0 ft.
Maximum Trailer weight (full tanks) .....	15,000 lbs.
Draft with Engines (Up) Down .....	(1.8 ft.) 2.8 ft.
Displacement (tested weight, no crew) .....	14,250 lbs.
Fuel tank .....	250 gal.
Fresh water tankage (including hot water tank) .....	56 gal.
Holding tank .....	25 gal.
Air height above water to top of radar dome mounted on hard top .....	9.0 ft.

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# 1 INTRODUCTION

## 1.1 PURPOSE AND LIMITATIONS

This purpose of this *Owners Guide* and the equipment suppliers' manuals in the accompanying binders is to provide you with an overview of the yacht's equipment, operation, systems and maintenance. The people at MJM and Boston BoatWorks have taken pains to edit this guide for accuracy in good faith. Most of these topics require further study and learning by the captain of a vessel who assumes extensive responsibilities for safe operation of the vessel and for safety of the crew.

This summary guide of yacht equipment and operation will never be complete or accurate in all respects. And, since we frequently make improvements, we assume no responsibility for missing information or errors contained herein. This document doesn't replace common sense nor qualify the reader in safety practices, boat handling or navigational skills. Mastering these systems and the skills of seamanship is each owner's/captain's responsibility. If this is your first yacht, or if you're changing from a different type of yacht, please get instruction and experience before assuming command. Your dealer, yacht club, marina or the US Power Squadron <https://www.usps.org> are all good resources that can recommend licensed captains, schools or other instructional entities.

Although this guide and the accompanying binders describe systems on the boat, they don't qualify you to work on them. When they need attention, please use qualified and certified trades personnel. If you question the information or are unsure about an action, check with the equipment supplier, a qualified person or us.

The *Appendix* includes other useful information. And there's a chapter on the people who create MJM yachts you can contact if you need help. Study these resources to understand how to operate your yacht safely.

**DANGER** The operation of a powerboat can be dangerous. Pay careful attention to safety notices in this guide and in the manuals in the binders.

Keep this guide in a secure place on the boat. If you sell the yacht, please give this copy to the new owner.

## 1.2 STANDARD SPECIFICATIONS

You may download the latest version of this guide and the standard specifications for a MJM35z from <http://www.mjmyachts.com/35z> to install on your computer, an iPad or navigational display.

## 1.3 CONVENTIONS

When we reference a specific device or item of equipment on the boat, it will be in all caps, such as HOUSE BATTERY.

As we describe each device we often use the following order.

1. BREAKER PANEL settings
2. Function, what it does
3. Directions for use
4. Advice or comments in a sidebar
5. The URL for the manual if available

*This guide is published in accordance with ISO standard 10240:1995E Small Craft - Owner's Manual.*

*Please contact us if you have a question about the material in this book, if you find a conflict between this material and the material in the binders or if you find an error or important omission on the following pages please contact Customer Service at Boston Boat Works.*

*...R.I.J.*



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## 2 SAFETY and some USCG REQUIREMENTS

### 2.1 BINDER MANUALS

The equipment suppliers' manuals in the accompanying binders have many safety notices that relate to their products, their operation and maintenance and their use in the boat. Ensure that you understand this essential information before you operate the boat. Spend time reviewing the safety procedures, how safety equipment works and where it's stowed. Instruct guests in safety procedures.

### 2.2 STANDARD EQUIPMENT

**VHF Radio** BREAKER PANEL settings: ELECTRONICS breaker on. The VHF RADIO may be used for receiving weather broadcasts, communicating with harbors, locks (ch13), bridges (ch 9), marinas, the U.S. Coast Guard (USCG), rescue services boats and other boats. The USCG monitors channel 16. If you normally have your radio tuned to channel 16 you can listen for emergency calls from nearby boats or be able to make an emergency call quickly. Don't use Channel 16 for a private conversation.



*To send a distress call (without specifying its nature) press and hold the red distress key for 3 seconds. See Ray218E/Ray55E Installation and Operation Instructions.*

**MMSI Number** The radio has Digital Selective Calling (DSC). It's arguably the most important piece of safety equipment on the boat. There's a one-button emergency transmit button that sends a Maritime Mobile Service Identity (MMSI) number to the USCG. The signal identifies the boat. It's interfaced with GPS so your position will be sent with the emergency message. The Automatic Identification System (AIS) will report your MMSI number to other vessels and you will see their MMSI number. If you sell your boat, log onto your account to cancel the MMSI number, so the new owner can register, acquiring a new MMSI.

In addition to the safety function, an MMSI number is like a phone number. You can make a call to another DSC-equipped vessel if you know its MMSI number. Only the vessel being called will receive the hail.

BoatUS <http://www.boatus.com/MMSI/> is authorized by the Federal Communications Commission and the USCG to assign MMSI numbers. The *Installation and Operation Instructions* for the VHF RADIO included in the binder explains how to install the MMSI number in your radio. It also explains how to use the VHF RADIO. It may be downloaded at:

<https://raymarine.app.box.com/s/grwg60669c5sozf6iolq/1/2757682985>

**The Horn** BREAKER PANEL settings: HORN breaker on. The USCG requires a "Sound Producing Device" for signals under many circumstances. The HORN is operated from a switch on the CONSOLE SWITCH PANEL at the helm. The adjacent UNDERWAY HORN/ANCHOR switch has programmed signals. (See page 13.)

**CAUTION** Electronics fail. It's wise to have a portable VHF radio, GPS receiver, SEARCHLIGHT and HORN that are battery operated and hand held.

**Fire Extinguishers** See *EMERGENCY DIAGRAM* page 5 for Fire Extinguisher locations when the boat is delivered.

**Carbon Monoxide Detector** See *EMERGENCY DIAGRAM* page 5.

**Companionway Hatch Board or Closure** A companionway board with the label "DON'T REMOVE WHILE UNDERWAY" is provided to comply with ISO requirements for cockpit draining and to prevent large waves from crashing down into the cockpit, running forward and entering the interior of the boat if the companionway door is not securely closed.

*Better to just secure the companionway slider and lid. It's quieter, prevents someone from being pitched below and provides a Chart Kit navigation surface.*

---R.I.J.

## 2.3 COMMISSIONING PACKAGE SAFETY ITEMS

The Commissioning Package Option, if purchased with your boat, will have:

- A copy of the U.S. Department of Homeland Security United States Coast Guard Navigation Rules to be on board. It also may be downloaded at: <http://www.navcen.uscg.gov/pdf/navrules/navrules.pdf>
- A First Aid Kit
- Twelve wearable USCG approved personal flotation devices (life-jackets) and one type IV throwable PFD
- A 12-Gauge Flare Kit
- A Hand-held Bilge Pump
- A Hand-held LED Flashlight
- Paper Charts

## 2.4 USCG REQUIRED EQUIPMENT

*A Boater's Guide to the Federal Requirements for Recreational Boats*, published by the USCG, lists required safety items. The Guide may be downloaded at: <http://www.uscgboating.org/images/420.PDF>. Check state regulations where you cruise for other requirements.



## 2.5 ADDITIONAL SAFETY EQUIPMENT

There are many other items of safety equipment to consider such as:

**EPIRB** (Emergency Position Indicating Radio Beacon) alerts search and rescue services by transmitting a coded message and is detectable by satellite anywhere in the world. Although the USCG doesn't require them, EPIRBs are essential offshore and desirable anywhere.

**Inflatable Life Raft** isn't required but prudent. Rafts come in compact sizes that can be stored in a cockpit locker. A dinghy isn't a substitute for a life raft.

**Heaving Line** is handy to have for emergency or to simply trail behind the boat (if the engines are off) attached to one of the stern cleats when people are swimming. Polypropylene is good because it floats.

**A Storm Anchor** is useful as a back up and for situations when two anchors are prudent or necessary.

## 2.6 SOME ADDITIONAL USCG REQUIREMENTS

In addition to the above safety equipment, the USCG requires:

**Ships Registration and Documentation** Carry the Vessel Registration, either the state-issued Certificate of Number or Vessel Documentation if federally documented with the USCG. It's wise to have your insurance as well.

**Pollution Regulation Plaques** You are required to post three visible placards in the boat that stipulate that waste must be managed; that oil discharge is prohibited and deposit of any refuse matter of any kind into the waters of the US is prohibited. West Marine has such plastic placards with adhesive backs that are available at little or no cost.

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## 2.7 FUEL SHUT-OFF VALVES

The first thing to do if there is a fuel fire or leak is stop engines, turn off ignition and engine battery switches and close fuel shut-off valves by turning them perpendicular to the hose. They are located in the cockpit locker, looking forward over the generator at the back end of the fuel tank. If there is fuel in the bilges, close valves, find the source of the leak and then clean bilges.

## 2.8 FIRE SUPPRESSION

An automatic, heat-activated, fire suppression system is installed in the generator compartment. It can be activated manually at the helm station. To prevent the engines from evacuating the fire suppression agent when it discharges, the system will shut off blowers and generator. Refer to the manual for maintenance instruction. (

Hand-held fire extinguishers (see *Emergency Diagram* page 5 for locations) are rated to fight type A, B & C fires. To extinguish a fire, first cut the source of fuel to the fire. In a fuel fire, turn off the fuel tank valves. In an electrical fire, turn off the BATTERY switches.

Fire safety begins with prevention. Reduce fire risk with these guidelines:

- Don't allow debris or oily rags to collect anywhere.
- Check bilges for oil or fuel regularly.
- Shut down unnecessary circuits when leaving the boat.
- Don't leave heat-producing appliances or equipment unattended.
- Inspect fire suppression equipment regularly and learn how to use it.

**DANGER** Exhaust gas contains carbon monoxide. It's colorless, odorless and lethal. Avoid inhaling. Inspect the exhaust system regularly. Idling engines at a mooring or at a dock isn't good for the engine and may allow gasses to accumulate in the cockpit or cabin.

**DANGER** Don't work on any mechanical or electrical equipment unless you're qualified. Electrical current and moving parts are dangerous and can be lethal.

## 2.9 NOTICES

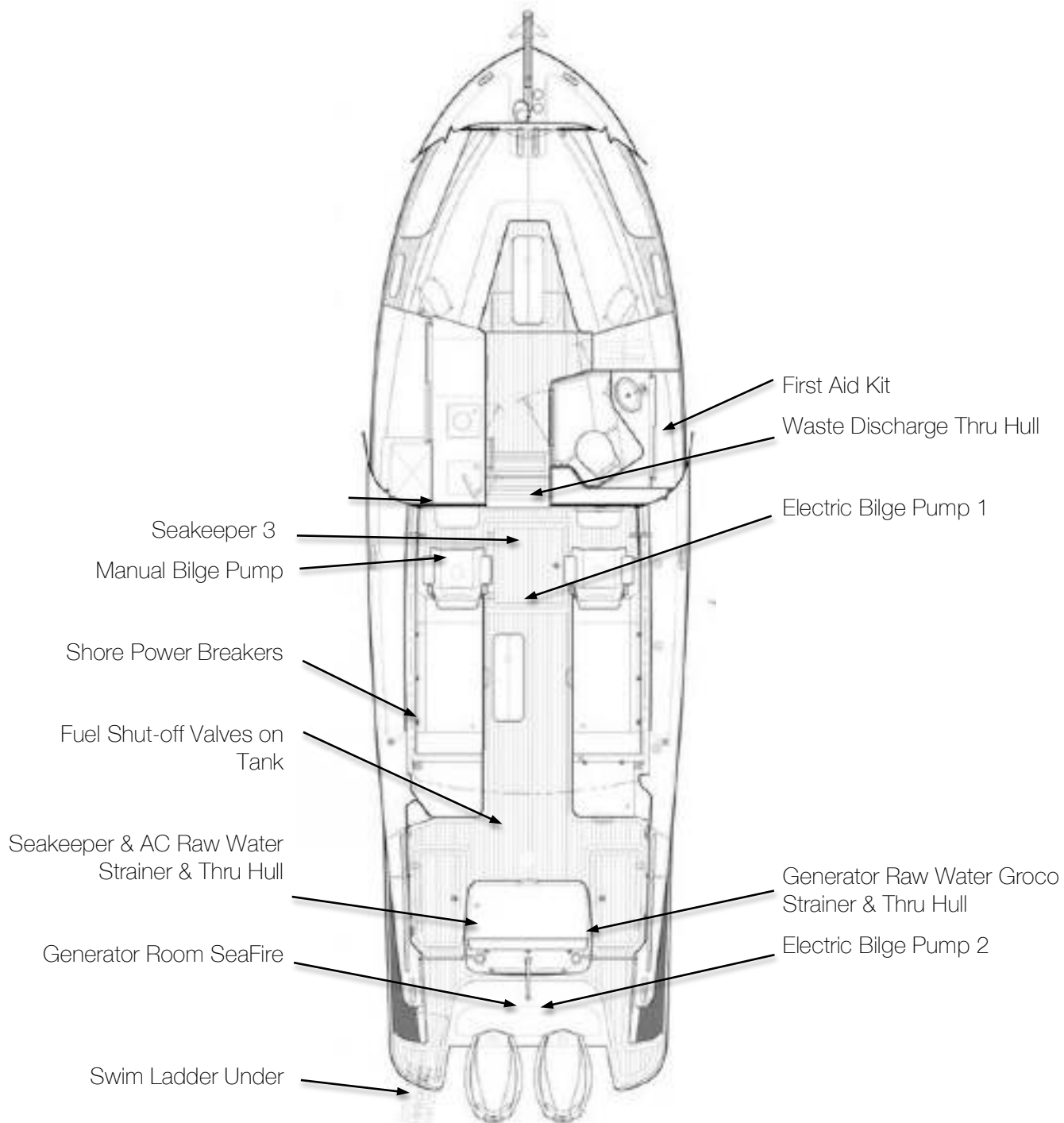
**CAUTION** Denotes a reminder of safety practices or directs attention to unsafe practices which could result in personal injury or damage to the craft or components.

**WARNING** Denotes a hazard that exists which can result in injury or death if proper precautions aren't taken.

**DANGER** Denotes an existing extreme intrinsic hazard that would result in high probability of death or irreparable injury if proper precautions aren't taken.

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## 2.10 EMERGENCY AND THRU HULL DIAGRAM



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## 3 PROPULSION

### 3.1 ENGINES

The MJM 35z is propelled by twin Mercury Verado 300 or 350 HP 4-stroke, 6-cylinder in-line outboard engines with HD heavy duty drives having either 3 blade Enertia-ECO 3-Blade or 4-blade Evolution-4 stainless steel propellers. When raised, engines are out of the water.



### 3.2 ENGINE CHECKS

See "Mercury Operation & Maintenance Manual (MOMM)" provided with your MJM. Before long trips, check hydraulic steering fluid level under the rear cockpit seat and engine oil level by removing the top cowl.

**Top Cowl Removal** to access most maintenance points. To tilt the engine closer, making this easier, use the small black AUXILIARY TILT SWITCH on the port side of the engine just below the top cowl.

Pull up on the top cowl latch on the back of the engine.

Pull the top cowl forward and lift off.

Remove dipstick on port side of engine to check oil, then securely reinsert.

Putting the top cowl back on is a bit tricky. Position the top cowl loosely in place over the engine, being sure it fits on top of the rubber seal all the way around. (MOMM says front first)..

Push down on the cowl, MOMM says back half first, then front half until it clicks into place. Make sure it's secure by pulling up on the back of the cowl. Don't want this flying off underway!

**Carbon Streaks** rub off with a swipe of the hand when hosing down boat.

**Water Separating Fuel Filters** should be replaced every 100 hours or annually. They are located on bulkheads outboard of the generator and aft of the fuel shut-off valves on top of the fuel tank.

The wire out of the bottom of the filter bowl is the sensor to alert that water is in the filter. This is not usually of an urgent nature, but rather a “change at next opportunity” event.

**In-Line Fuel Filter** under the engine cowl should also be replaced every 100 hours or annually. This pencil like device primarily captures fabrication debris picked up by the fuel in the tanks or hoses. Rarely does fuel clog it. (See MOMM pg 76)

**Check Fuel Level** The primary cause of engine failure is running out of fuel. There's a fuel level sensor in the 250 gallon tank and read out on VESSEL VIEW.

### 3.3 5 STEPS TO START

**CAUTION** Ensure there are no lines and hoses in the water near the props.

1. Turn on the PORT & STBD ENGINE BATTERY switches switch at the upper right of the lower (120v) breaker panel inside the companionway.
2. Insert the TPS fob into it's indepentent slot above the electrical panels..
3. Turn on both engine ignition keys at the top of the bulkhead inside companionway where they can't be accidentally bumped into when entering or exiting the interior.

**DANGER** Don't start the engine if people are in the water nearby.

4. Lower engines using the rocker switch on the port control handle. Ensure the ENGINE/SHIFT CONTROL LEVERS are in neutral. The engines won't start if either lever is in gear.

5. **START ENGINES**, push and immediately release the engine start button for each engine to starboard of the wheel. Do not hold them in as process is automatic until engine starts. If you don't hear the engines (these are quiet boats) look at the VESSEL VIEW DISPLAY panel to see they read 500-600 rpm idle. Also check to see if the Joystick base rim lights up GREEN indicating that it is active. See JOYSTICK PILOTING

**CAUTION** The boat may move abruptly when the gear is engaged. Ensure the boat is clear of all obstacles forward and aft. Cautiously shift to the IDLE FORWARD position then quickly back to NEUTRAL position. Observe whether the boat moves as you expect.

**WARNING** If a warning light or buzzer activates, stop the engine immediately. Determine the cause and repair the problem before continuing to operate.

### 3.4 STOPPING THE ENGINES

Put ENGINE/SHIFT CONTROL LEVERS in neutral. Push the lower STOP buttons on START/STOP Panel. The green base of the Joystick goes out and RPMs go to “0”. Once the engines have been raised, Reverse the Start process by turning of Ignition Keys, pulling out the TPS fob (and hiding it) then truning off the two ENGIINE BATTERY SWITCHES. i



Mercury FUEL FILTERS & Fuel Shut Offs



Engine Battery Switches



TPS (Theft Prevention) fob.



Engine Ignition Keys.



Engine START/STOP Buttons.



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It is unnecessary to remove the ignition keys, since they are below and the TPS fob is hidden ENGINE BATTERY SWITCHES are off and the cabin is locked.

**WARNING** Engine work should not be done with the engine running unless specified by the manufacturer for a specific reason and done by a qualified marine mechanic. Stop engines before opening engine hatch.

### 3.5 NEW ENGINE BREAK-IN

When running the engine for the first time, frequently check oil pressure, coolant temperature (normal is 145°), exhaust color, engine vibration, sounds and the operation of indicators and gauges. Don't run the engine at a constant RPM for long periods of time or apply full throttle for more than about 30 seconds.

**Lubrication** During the first 10 hours of operation, high oil consumption is typical. Change oil between 50 and 100 hours. Consult the *MOMM* for the proper oils for the climate where the boat will be operating.

### 3.6 OPERATING PARAMETERS

Pay attention to the engine data on the VESSEL VIEW or displayed on the Raymarine gS165 data bar. A significant change in oil pressure, coolant temperature or pressure, or voltage drop should be quickly investigated before the engine is damaged. Data should read approximately:

- Oil Pressure: 50 psi at 3000 RPM or more.
- Coolant Temperature: 145° F to 165° F
- Coolant Pressure over 3000 RPM: 15-25 psi.
- Charging: 13-14 Volts underway

While Mercury has run their engines for 300 hours straight at max RPM without damage, a good fast cruising speed is 35-37 knots. or about about 90% of max RPM at about 5200 RPM. Listen and feel for sweet spots. If you hear abnormal sounds, stop the engine and inspect.

### 3.7 LEAVING THE BOAT

With SHOREPOWER connected - Leave 12v HOUSE BATTERY switch on, as well as REFRIGERATOR breaker. And, on AC Panel: leave BATTERY CHRGR, ICEMAKER and AIR CONDITIONER breakers on.

Check that BILGE PUMP switches are set to AUTO

Turn off INVERTER breaker on AC Panel and on PHOENIX CONTROL

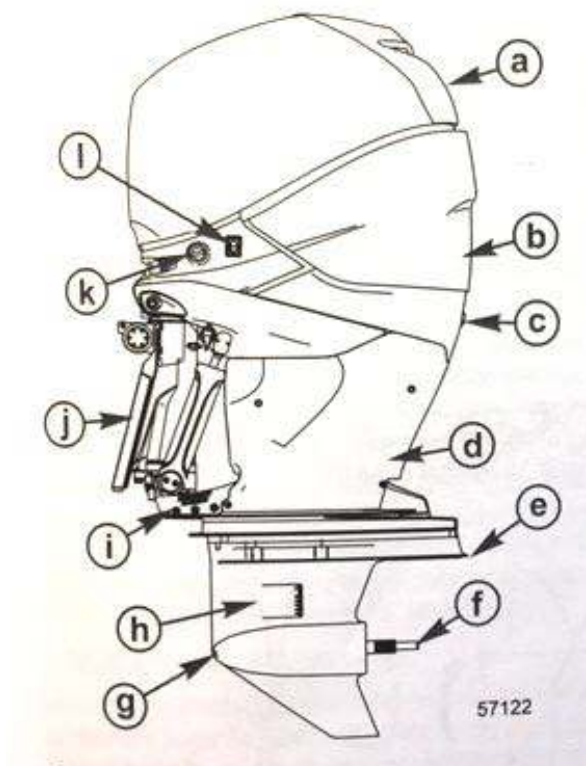
**If moored or with no shore power**, If gone for more than a week, it's best to turn everything off, including the MAIN INVERTER UNIT itself under the starboard pilothouse settee, to avoid the risk of having dead batteries when you return.

Or, take advantage of the optional 156W SOLBIIEN SOLAR PANEL. With INVERTER on It is designed to keep REFRIGERATOR and ICEMAKER going with a trickle charge to the HOUSE BATTERIES if not connected to Shore Power..

**Flushing the Engines** If you plan to let the boat sit for more than a few days, *MOMM* advises to flush the engines by hooking up a dock hose to the flush connector on the port side of the engines next to the auxiliary lift button and letting it run for about 15 minutes. See *MOMM* page 70. A "Y" hose connector would be helpful here to have both engines flushing at once.

*A reboot can solve mysterious issues. Electronic engine controls are computers. Mysterious problems emerge and may be caused by unusual switching sequence. They can often be fixed with a reboot. Stop the engines. Turn everything off—shut down the entire boat. Wait at least 10 seconds. (My printer and router call for 25 seconds.) Then turn HOUSE BATTERY and ENGINE BATTERY switches on (but not the ENGINE EMERGENCY, PARALLEL switch). Go on deck. Turn Ignition switches on at the helm. Wait until the engine control display shows data and has gone through its initial warm up. Then start the engines and check the Joystick Control functions (IPS & DPS).  
...R.I.J*

### 3.8 MERCURY VERADO 300 & 350 HP ENGINES



- a. Top Cowl*
- b. Rear Cowl*
- c. Idle Relief Exhaust*
- d. Lower Cowl Chaps*
- e. Anti-Ventilation Plate*
- f. Propeller Shaft*
- g. Low Water Intake Holes*
- h. Water Intake Holes*
- i. Trim Guide Plates*
- j. Pedestal*
- k. Engine Flush*
- l. Auxiliary Lift Switch*



## 4 INSTRUMENTS AND CONTROLS

35z power steering rotates outboards through a 20° arc. The steering is more positive and immediate than deflecting prop wash off a rudder from a propeller on a straight shaft and far more positive than directing a jet of water at water passing the hull..

...R.I.J.

The following material includes selected summaries of the *Volvo Penta Operator's Manual (VPOM)* included in the binders. Please read the entire manual for safety instructions. There are frequent page references to the *VPOM* in the following paragraphs.

### 4.1 HELM STATION

Most of the boat's controls and instruments are at the helm station. Below is the layout on ZINNIA #1. The respective circuit breakers must be on for the equipment to operate.

- 1 Ritchie Compass
- 2 Raymarine gS165 MFD
- 3 Mercury VesselView
- 4 Console Switch Panel
- 5 Raymarine MFD Control Pad
- 6 Raymarine Multi-display with Depth
- 7 Seakeeper Control Panel
- 8 Searchlight Control
- 9 Mercury Joystick Piloting
- 10 Autopilot Button
- 11 ZipWake Auto Trim
- 12 Engine/Shift Control Levers
- 13 Flip Down Drink Holder
- 14 Pilothouse Light Switches
- 15 Bilge Pump Controls (2)
- 16 Generator Start/Stop
- 17 Engine Start/Stop
- 18 Windlass Up/Down
- 19 High Water Alarm
- 20 Fire Suppression Alarm
- 21 VHF RAM
- 22 Air Conditioning Register
- 23 GFI/USB for Cell Phone
- 24 Mercury Active Trim
- 25 Engine Up/Down Rocker Switch.



**Esthec Riser (Option)** This 4" high removable riser improves visibility for someone shorter than 5'5". It locks into place with a barrel bolt and can be stored in one of the settee lockers.

# FEATURES AND CONTROLS

## SPECIAL DIGITAL THROTTLE AND SHIFT (DTS) FEATURES

The DTS system features several alternate operational modes for the electronic remote control (ERC) levers. Any of the listed features can operate simultaneously.



55232

Dual engine ERC

Item	Control	Function
a	Trim control (handle)	Raises and lowers the engines for best efficiency, or for conditions such as shallow water, trailering, etc.
b	NEUTRAL lights	Illuminate when the drive is in the neutral gear position. The lights flash when the engine is in throttle only mode.
c	TRANSFER	Allows boat control to be transferred to a different helm. Refer to <b>Helm Transfer</b> .
d	DOCK	Control lever operation reduces throttle capacity to approximately 50% of normal control lever throttle demand.
e	+	Increases brightness settings for CAN pad, VesselView and SmartCraft gauges.
f	THROTTLE ONLY	Allows the boat operator to increase engine RPM for warm-up without shifting the transmission into gear.

## FEATURES AND CONTROLS

Item	Control	Function
g	–	Decreases brightness settings for CAN pad, VesselView and SmartCraft gauges.
h	1 LEVER	Enables the throttle and shift functions of both engines to be controlled by the port lever.
i	SYNC	Turns off or on the auto-synchronization feature. Refer to <b>Sync</b> .

**NOTE:** Not all functions may be active.

### Dock

Dock mode reduces throttle capacity to approximately 50% of normal throttle demand, allowing finer control of engine power in close quarter situations.



DOCK button

### Throttle Only

**NOTE:** Throttle only mode should be used if the captain is not in command at the helm. Placing the ERC in throttle only mode will avoid unintended gear engagement. The engines will turn using the steering wheel and the RPM of the engines can be increased while in the throttle only mode, but the gear position will remain in neutral.



THROTTLE ONLY button

## FEATURES AND CONTROLS

To engage throttle only mode:

1. Place both ERC levers in neutral.
2. Press the THROTTLE ONLY button. The button light will turn on and the neutral lights will blink.
3. Place either ERC lever into gear. The warning horn will beep each time the levers are moved in and out of gear while in throttle only, but will remain in neutral.
4. The RPM of the engines can be increased.

**NOTE:** Pressing the *THROTTLE ONLY* button while the *ERC* levers are not in the neutral position, turns the button light off and remains in throttle only mode. You must place the *ERC* levers into the neutral position to disengage throttle only mode.

To disengage throttle only mode:

1. Place both ERC levers into neutral. Throttle only will not disengage unless the ERC levers are in neutral.
2. Press the THROTTLE ONLY button. The button light will turn off.
3. The neutral lights stop flashing and remain illuminated.

### 1 Lever

This feature commands both engines with a single lever on a dual engine application. This feature simplifies engine management during rough sea conditions by allowing you to use a single lever to command both engines simultaneously. It is not the same as the system feature called Sync.



1 LEVER button

To engage 1 Lever mode:

1. Place both ERC levers in neutral.
2. Press the 1 LEVER button. The button light will turn on.
3. Place the starboard ERC lever into gear.
4. When the handle is moved, the engines RPM and gear position is synchronized.

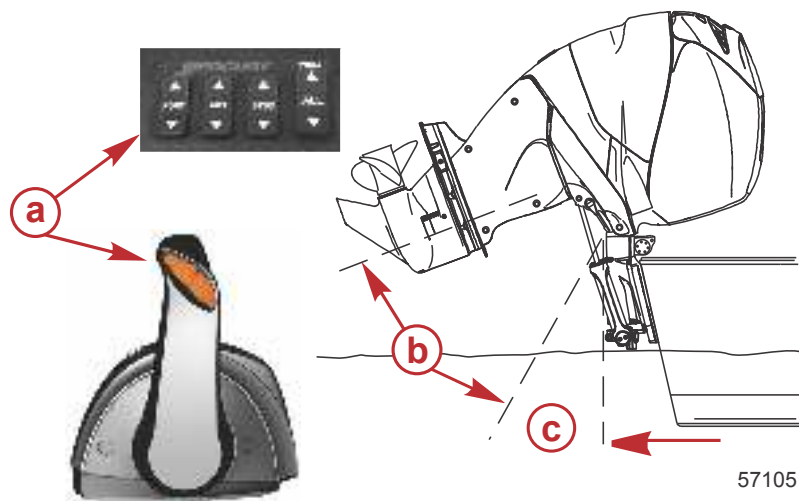
To disengage 1 Lever mode:

1. Place both ERC levers in neutral.

# FEATURES AND CONTROLS

## Power Trim and Tilt

The outboard has a trim/tilt control called power trim. This enables the operator to easily adjust the position of the outboard by pressing the trim switch. Moving the outboard in closer to the boat transom is called trimming in or trimming down. Moving the outboard further away from the boat transom is called trimming out or trimming up. The term trim generally refers to the adjustment of the outboard within the first 20° range of travel. This is the range used while operating the boat on plane. The term tilt is generally used when referring to adjusting the outboard further up out of the water. With the engine not running and the key switch in the ON position, the outboard can be tilted out of the water. At speeds below 4300 RPM, the outboard can be tilted up past the normal trim range.



- a** - Trim switch
- b** - Tilt range of travel
- c** - Trim range of travel

## POWER TRIM OPERATION

With most boats, operating around the middle of the trim range will give satisfactory results. However, to take full advantage of the trimming capability there may be times when you choose to trim the outboard all the way in or out. Along with an improvement in some performance aspects comes a greater responsibility for the operator, this being an awareness of some potential control hazards.

Consider the following lists carefully:

1. Trimming in or down can:
  - Lower the bow.
  - Result in quicker planing off, especially with a heavy load or a stern heavy boat.



## 4.2 MERCURY FEATURES AND CONTROLS (PAGES 56 -77)

### 4.3 JOYSTICK PILOTING

The Mercury Joystick Piloting functions very much like the Volvo Penta IPS, except it's more automatic.

MOVE Engine Controls to Neutral. The ring at the base of the JOYSTICK lights up Green to show that it's active.

TWIST Joystick to turn the boat or LEAN Joystick in direction desired or do both at same time While PUSHING Joystick forward or aft... without going back to center.

PUSH ADJUST "+" for 100% torque (shows 2 lights).  
PUSH "-" for 50% torque (1 light). "+" is recommended.

ENGAGE Engine Controls to deactivate.



**4.3.1 AUTOPILOT** Press boat outline button (Lower Left of Joystick) to engage Autopilot.

TAP Joystick port or starboard to alter course by 1 degree increments. Beep confirms.

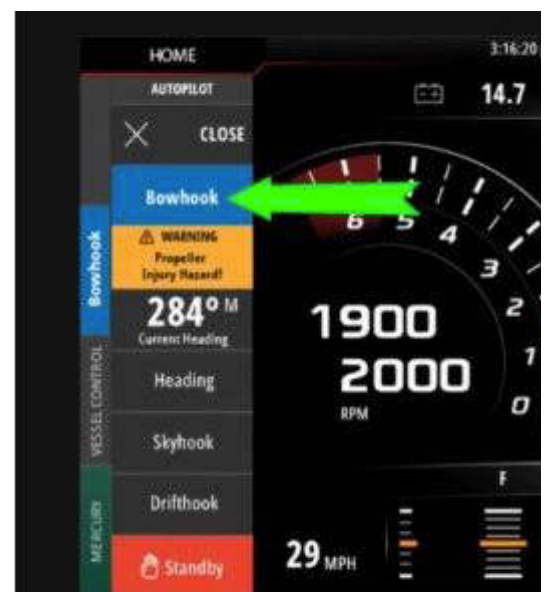
TWIST and RELEASE to alter AP Course in 10 degree increments.

**In an emergency**, you can forcibly TURN the wheel to disengage the autopilot

**4.3.2 WAYPOINT TRACK** Press "Tri-circle" diagram on starboard side of joystick to set course to WP-1 of course plotted on Raymarine display. Upon arrival at WP-1, there will be an audible beep. Push "Tri-circle" button again to set course to WP-2, etc.

**4.3.3 SKYHOOK** PUSH "SKYHOOK" button to hold heading and GPS position. GREEN necklace turns BLUE to indicate it is active. Seakeeper gyro helps greatly here, too, so waves don't readily throw the bow around.

**4.3.4 BOWHOOK** With SKYHOOK activated, PUSH "Bowhook" on Vessel View screen to hold GPS position, but unlock compass heading allowing boat to point into direction of wind/current so engines don't have to work so hard to keep boat in position. See illustration at right.



## FEATURES AND CONTROLS

- Generally improve the ride in choppy water.
- In excess, can lower the bow of some boats to a point where they begin to plow with their bow in the water while on plane. This can result in an unexpected turn in either direction (called bow steering or oversteering) if any turn is attempted, or if a significant wave is encountered.

### WARNING

Operating the boat at high speeds with the outboard trimmed too far under can create excessive bow steer, resulting in the operator losing control of the boat. Install the trim limit pin in a position that prevents excessive trim under and operate the boat in a safe manner.

2. Trimming out or up can:
  - Lift the bow higher out of the water.
  - Generally increase top speed.
  - Increase clearance over submerged objects or a shallow bottom.
  - In excess, can cause boat porpoising (bouncing) or propeller ventilation.
  - Cause engine overheating if any cooling water intake holes are above the waterline.

## TILTING TO FULL UP POSITION

### Tilt at Helm

**NOTE:** The trim/tilt switch will remain active for 15 minutes after the ignition key switch has been turned off.

1. If the ignition key switch has been turned off for over 15 minutes, turn it to the "ON" position.
2. Press the trim/tilt switch to the up position. The outboard will tilt up until the switch is released or it reaches its maximum tilt position.

### Tilt at Engine

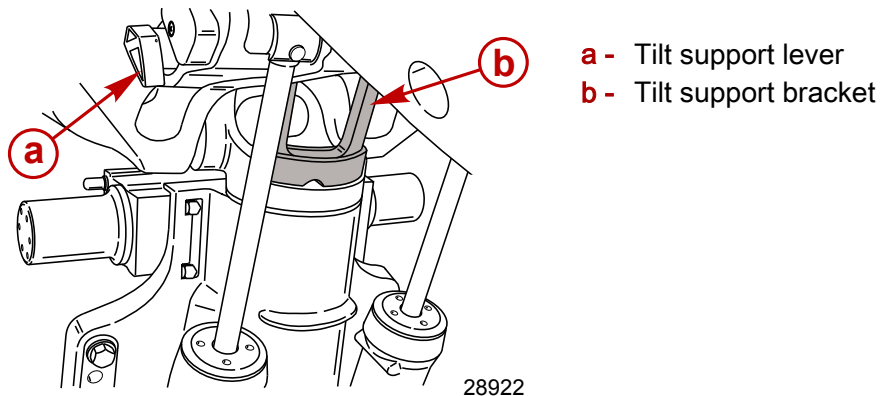
The cowl mounted auxiliary tilt switch can be used to tilt the outboard with the key switch in the "OFF" position.

### Tilt Support Lever

1. Rotate the tilt support lever down.
2. Lower outboard until tilt support bracket rests on the pedestal.

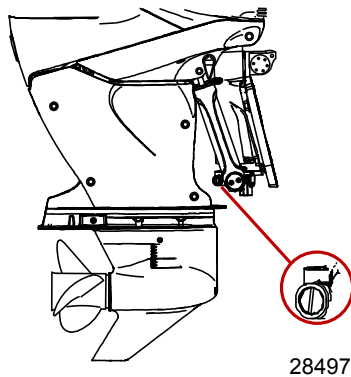
## FEATURES AND CONTROLS

3. Disengage the tilt support bracket, by raising the outboard up and rotating the tilt support lever up. Lower the outboard.



### MANUAL TILTING

If the outboard cannot be tilted using the power trim/tilt switch, the outboard can be manually tilted.



**NOTE:** The manual tilt release valve must be tightened before operating the outboard to prevent the outboard from tilting up during reverse operation.

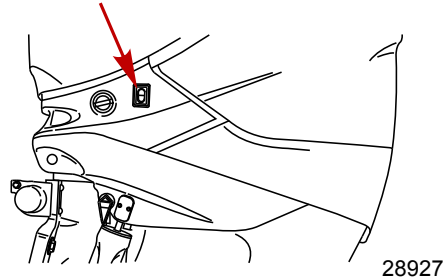
Turn out the manual tilt release valve three turns counterclockwise. This allows manual tilting of the outboard. Tilt the outboard to the desired position and tighten the manual tilt release valve.



# FEATURES AND CONTROLS

## AUXILIARY TILT SWITCH

The auxiliary tilt switch can be used to tilt the outboard up or down using the power trim system.



## SHALLOW WATER OPERATION

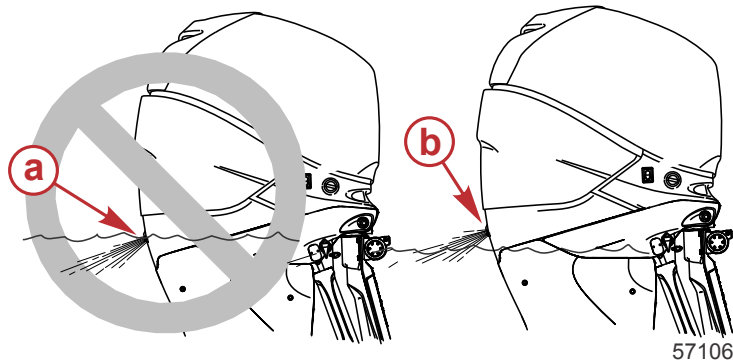
When operating your boat in shallow water, you can tilt the outboard beyond the maximum trim range to prevent hitting bottom.

1. Reduce engine speed below 4300 RPM.
2. Tilt outboard up. Make sure all the water intake holes stay submerged at all times.
3. Operate the engine at slow speed only. With the outboard tilted past 20° trim limit, the warning horn will sound and engine speed will be automatically limited to approximately 4300 RPM. The outboard must be tilted (trimmed) down below the maximum trim range to allow operation above 4300 RPM.

# OPERATION

## Setting Trim Angle While Running Engine at Idle Speed

The exhaust relief hole on the outboard can become submerged on some boats if the engine is trimmed full in while running at idle speed. This may result in exhaust restriction, rough idle, excessive smoke, and fouled spark plugs. If this condition exists, trim outboard up until exhaust relief hole is out of the water.



- a** - Relief hole submerged (wrong)
- b** - Relief hole above waterline (correct)

## Engine Break-in Procedure

**IMPORTANT:** Failure to follow the engine break-in procedures can result in poor performance throughout the life of the engine and can cause engine damage. Always follow break-in procedures.

1. For the first two hours of operation, run the engine at varied throttle settings up to 4500 RPM or at three-quarter throttle, and at full throttle for approximately one minute every ten minutes.
2. For the next eight hours of operation, avoid continuous operation at full throttle for more than five minutes at a time.

## Fuel Supply Module Priming Procedure

The fuel supply module (FSM) is not vented to the ambient air. The air trapped in the FSM, fuel lines, and fuel rail, will be slightly compressed during the initial ignition key "ON" with a dry or drained fuel system. Additional key "ON" events under these conditions, will not compress the air further to finish the priming of the FSM. Excessive number of key "ON" events may eventually damage the fuel pumps. The volume of air trapped in the FSM must be purged to prime the fuel system. This can be achieved by connecting a tool to the fuel rail Schrader valve fitting to quickly purge the system into an approved container, or by cranking the engine.

Modern marine navigation electronics are subjects beyond the scope of this guide. Extensive manuals are in the binders. The Lighthouse Operating Instructions are also available on the RAYMARINE MFD. You may also download it at: <https://raymarine.app.box.com/s/rb0rijlwkwla2h16k4d9iuf7tzbw2bs7> if you aren't familiar with navigation, please learn. Electronic equipment can fail. Have paper chart back-ups and learn dead-reckoning skills.

...R.I.J.

## 4.4 DISPLAYS

The Mercury VESSELVIEW 702 DISPLAY panel allows the operator to perform settings and choose information to be displayed. (Refer to the adjacent *VesselView 702 Quick Guide*) This panel is activated when the engine ignition keys are turned on.

RAYMARINE gS165 DISPLAY, MULTIFUNCTION DEPTH DISPLAY and VHF are activated by turning on the ELECTRONICS breaker on the 12V ELECTRICAL PANEL. Turn on any other equipment that you plan to use that have independent switches. Verify that all the navigation instruments are functioning as expected before you leave the dock.

**Boat Speed** over ground (SOG) may be displayed in the bar at the top of the Raymarine *MULTI FUNCTION DISPLAY (MFD)*. Or on VESSELVIEW. SOG is derived from tracking GPS positions rather than a paddle wheel or sonic device. SOG from the same source may be chosen for display in large digits on the MULTIFUNCTION display. Wind and current affect speed over ground and SOG isn't the same as speed through the water. If you learn to approximate speed through the water from RPM on the tachometer, you can compare it to SOG to determine the effect of wind and current.

## 4.5 COMPASS HEADING AND CALIBRATION

The yacht is equipped with three devices that display bearing:

1. The RITCHIE COMPASS on the dash
2. A DIGITAL COMPASS
3. The GPS COG (Course Over Ground) on the MFD or VESSELVIEW

When you are underway, these three sources should agree within a degree or so. If they don't, employ a professional compass adjuster. The DIGITAL COMPASS SENSOR is located aft (a puck) on the hard top.

**CAUTION** Don't store ferrous items such as tools near the DIGITAL COMPASS SENSOR or on the dash by the RITCHIE COMPASS.

## 4.6 TRIMMING THE 35z

Trimming a 35z is somewhat of an art form as there are 3 WAYS to do so and they are inter-related. The boat seems to run fine just trimming the outboards with the auto trim systems off.

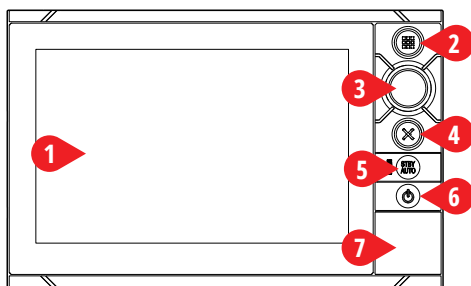
**4.6.1 ENGINE TRIM** With no side wind or leaning of the boat to port or starboard, there's not much more necessary than adjusting a comfortable bow up or down angle using the buttons on the ENGINE CONTROL LEVERS to change the angle of the outboards.

**4.6.2 MERCURY ACTIVE TRIM** (See following description) can automatically do the same, adjusting the outboards to your boat's loading and your ride preference.

**4.6.3 ZIPWAKE AUTO TRIM** On the 12v BREAKER PANEL, Turn TRIM TAB breaker on. This activates the ZIPWAKE automatic or manual leveling system. See the attached ZIPWAKE Operator's Quick Guide. The degree to which the interceptor blades are lowered is shown by the two angled bars at the bottom.

**CAUTION** It's possible to have dueling trim systems. If the boat is running level, and the ZIPWAKE does not respond to raise the bow higher in seas, you'll note that blades are fully retracted, so engines must be raised to correct trim.

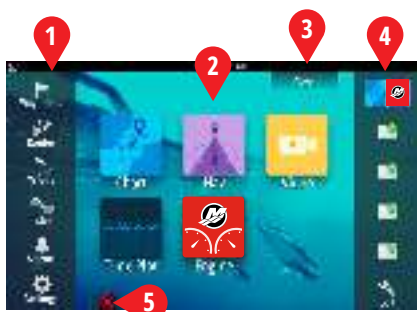
### Display Controls



- 1 Touch Screen**
- 2 Home Key** - Press once to display the Home page. Repeat short presses to cycle the favorite buttons. Press and hold to display all favorite buttons as an overlay on active page. Repeat short presses to cycle the favorite buttons.
- 3 Rotary Knob** - Rotate to scroll through menu items, then press to confirm a selection. Rotate to adjust a value and to zoom a zoomable panel.
- 4 X Key** - Press once to exit a dialog, to return to previous menu level and to remove the cursor from the panel.
- 5 STBY / AUTO Key** - Not applicable to Mercury autopilot system.
- 6 Power Key** - Press once to display the System control dialog. Repeat short presses to cycle the backlight brightness.
- 7 Card Reader Door**

### Home Page

HOME KEY



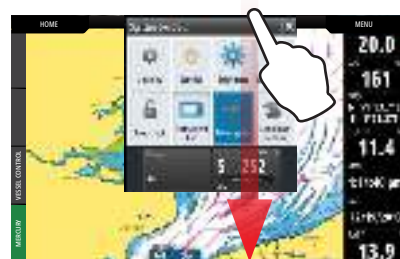
- 1 Tools**
- 2 Applications**
- 3 Close button** (Return to last screen)
- 4 Favorites**
- 5 Man Over Board (MOB) button**

### System Control Dialog

Gain quick access to system settings. Activate by:

- pressing the **POWER** or
- swiping from the top of the screen

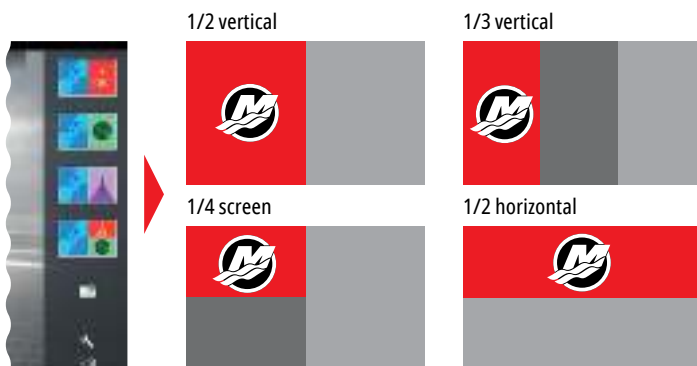
POWER KEY



Note: Content of the System Control dialog depends on connected equipment.

### Favorites

Use favorites to create custom panel configurations with engine data



### Edit a favorite page

Enter the Favorites edit mode by:

- Tapping the Edit icon
- Pressing and holding a favorite button
- Select edit options



Edit favorite page



Delete favorite page

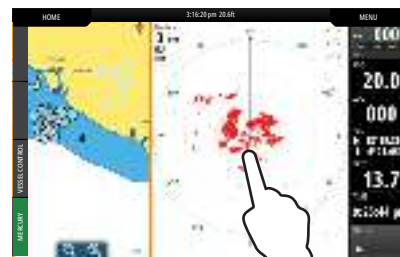


Add new favorite page

- Follow on screen instructions to build custom screens

### Adjust split page panel size

- 1.** - Open the System Control Dialog  
- Tap the adjust splits to show the resize icon
- 2.** Drag the resize icon to set preferred panel size
- 3.** Save the changes by tapping the screen





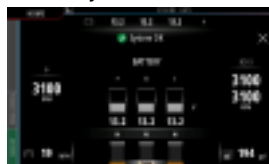
## 1. Engine



## 2. Speed



### 3. Battery



#### 4. Trim



## 5. Fuel



Note: Pressing in the center, on one of these screens will provide access to a deeper level that displays only the selected information. Except full engine data.

## 6. Control Bar: Mercury

Allows you to view engine data at a glance, without having the engine page open.



1

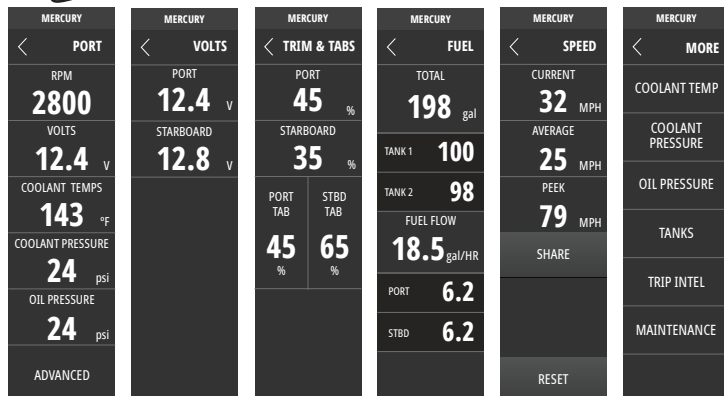
2

3

4

5

6



## 7. Control Bar: Vessel Control

Allows access to Mercury engine\* control features.

\*Note: Control features vary based on engine type.

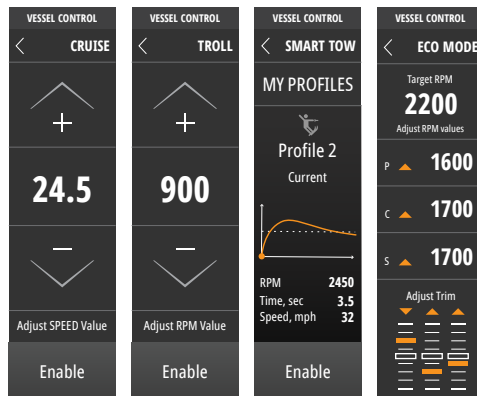


1

2

3

4



# OPERATION

## Introduction to Active Trim

Active Trim is Mercury Marine's patented GPS-based automatic trim system. This intuitive, hands-free system continually adjusts engine or drive trim for changes in operating conditions to improve performance, fuel economy, and ease of operation. It responds to boat maneuvers with precision and delivers a better overall driving experience. No knowledge of trimming an engine or drive is needed to take advantage of Active Trim.

- As the boat accelerates, the engine or drive will trim out.
- As the boat decelerates, for example, while making a turn, the engine or drive will trim in.
- Active Trim can be overridden at anytime by using the regular, manual trim buttons.
- Active Trim allows the boat operator to compensate for changes in boat load, driver preferences, and weather conditions while maintaining full automatic control.

## HOW IT WORKS

The Active Trim system has four modes of operation:



### 1. Idle Speeds

Maintains the existing trim position.



### 2. Acceleration (hole shot)

Tucks the engine or drive under to minimize bow rise and improve time-to-plane.



### 3. Planing Speeds

Progressively trims the engine or drive based on GPS speed to maintain the most efficient running attitude.



### 4. Override

When the boat operator uses manual trim, the Active Trim system is immediately overridden, returning full control to the operator.

At boat startup, Active Trim resumes the on/off state from the previous shut down. For example, if Active Trim was on at the previous shut down, it will be on at the next startup.



# OPERATION

## BUILT-IN GPS

This device includes a built-in GPS antenna used to determine vessel speed. The GPS has three start-up modes:

- Cold Start - If vessel battery power was turned off (using a battery switch), GPS will take 30–60 seconds to acquire a signal.
- Warm Start - If vessel battery power has been maintained since last shutdown, GPS will acquire a signal in approximately 30 seconds.
- Hot Start - If the vessel has been keyed off for less than eight hours, the GPS will acquire a signal in less than 10 seconds.

The Active Trim system will not automatically control trim until the GPS unit has acquired a signal. The system status light flashing red may indicate that no GPS signal has been acquired.

## Active Trim Keypad

**NOTE:** Refer to the engine's Operation and Maintenance manual for important information about the product's starting procedure and the standard power trim system before attempting to operate the Active Trim system.

The relative angle of the boat bottom to the water when the vessel is on plane affects acceleration, top speed, fuel economy, handling, and operation in rough or choppy water.



- a - ON/RESUME button and system status light**
- b - OFF button**
- c - Trim profile indicator:** Indicates the adjustable profile currently engaged. If any of these lights are flashing, the system is in setup mode (refer to **Setup and Configuration**).
- d - Trim profile adjust Up Arrow:** Changes the adjustable trim profile to a more aggressive trim curve (more trim angle at a lower boat speed).
- e - Trim profile adjust Down Arrow:** Changes the adjustable trim profile to a less aggressive trim curve (less trim angle at a lower boat speed).

# OPERATION

## SYSTEM STATUS LIGHT



- A constant amber light indicates that the system is working normally.
- A flashing amber light indicates that the Active Trim system is not controlling trim (user override). Press the ON/RESUME button to resume Active Trim control.
- A flashing red light indicates a problem with the system. Refer to **Troubleshooting**.

## Active Trim Operation

- Active Trim automatically controls trim to maintain the optimum engine or drive position based on engine RPM and boat speed.
- Active Trim progressively trims out the engine or drive to maintain an efficient running attitude.
- The operator can always override the Active Trim system with the panel mounted or control handle trim position switch. A flashing amber light on the **ON/RESUME** button indicates that an override has occurred. Press the **ON/RESUME** button to resume Active Trim operation.
- Active Trim will maintain the last known trim position when operating at speeds in excess of 80 km/h (50 mph).
- Operation above 80 km/h (50 mph) may require trim adjustments using the panel mounted or control handle trim position switch.
- Active Trim will gradually return the engine or drive to the down position during deceleration.
- Active Trim will only function when the engine or drive is in the normal trim range. Refer to **Trailer Position and Active Trim**.

**NOTE:** When paired with a SmartCraft gauge with an available ECO mode screen, the Active Trim system will override any ECO mode request.

## RESUME FUNCTIONALITY

If the boat operator overrides the Active Trim system at planing speeds using the trim button, or exceeds 80 km/h (50 mph), the system will stop controlling the trim. Active Trim will resume automatically under the following conditions:

- Override occurred above 80 km/h (50 mph) and the boat operator then decelerates to below 80 km/h (50 mph).
- Override occurred above 80% of the rated engine RPM and the boat operator then decelerates to below 80% of the rated engine RPM.
- Override occurred in the cruising speed range and then the boat operator decelerates to idle. Active Trim will become active on the next acceleration.



# OPERATION

## TRIM PROFILE ADJUSTMENT

Use the Active Trim keypad **Up Arrow** and **Down Arrow** buttons to adjust the selected profile to the most efficient running attitude to compensate for changes in boat loading (passenger or gear distribution, changes in ballast or fuel tank levels), weather, propping, and operator preference.



61873

- a - ON/RESUME** button and system status light
- b - OFF** button
- c - Trim profile indicator:** Indicates the adjustable profile currently engaged.
- d - Trim profile adjust Up Arrow:** Changes the adjustable trim profile to a more aggressive trim curve (more trim angle at a lower boat speed).
- e - Trim profile adjust Down Arrow:** Changes the adjustable trim profile to a less aggressive trim curve (less trim angle at a lower boat speed).

When you press either the up or down arrow, you are selecting a different trim curve. This means that Active Trim will use different trim angles throughout the entire range of operation. This is not the same thing as manually adjusting the trim (override).

**NOTE:** The boatbuilder or dealer should have configured the Active Trim system for optimal performance for your boat and power package combination. The five adjustable trim profiles should provide enough latitude to compensate for changes in environmental conditions or boat loading. If the five adjustable trim profiles are not adequate, Active Trim can be reconfigured to a different major trim profile. Changing the major trim profile will provide a different range of adjustable trim profiles. Refer to **Setup and Configuration**, in the **Installation** section of this manual.

## Selecting the Correct Profile

With so many available trim profiles, it can be difficult to determine which profile is the correct one. In making this determination, it is important to understand what trim is, how it affects boat operation, and how boat loading can influence the required trim angle. Armed with a clear understanding of these concepts, selecting the correct trim profile becomes simple.

# INSTALLATION

**NOTE:** The system can be returned to the setup mode if necessary by simultaneously pressing and holding the **ON/RESUME + Up Arrow** buttons for five seconds.



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- a** - **ON/RESUME** button
- b** - **OFF** button
- c** - Trim profile indicator
- d** - Trim profile adjust **Up Arrow**
- e** - Trim profile adjust **Down Arrow**

5. Operate the vessel in open, navigable water.
6. Accelerate until the vessel is on plane and cruising at the approximate desired speed. A comfortable cruising speed for most applications is typically achieved between 48 and 64 km/h (30 and 40 mph).

**IMPORTANT:** RPM will increase as the sterndrive or engine is trimmed out.

7. Momentarily press the keypad **Up Arrow** or **Down Arrow** to adjust the trim profile to the most efficient running attitude.
  - The number of flashing lights will increase or decrease, accordingly.

**NOTE:** The topmost flashing light indicates the major profile currently selected.

- As a general rule, increase the major profile level until the boat begins to porpoise. Then decrease one level.
8. Simultaneously press and release the **Up Arrow + Down Arrow** to capture the most efficient running attitude and retain the optimum trim profile in the Active Trim system's memory. The amber lights on the vertical LED trim display will stop flashing, and the display will move to the center profile position (level 3). The Active Trim is now ready to use.

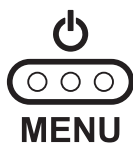
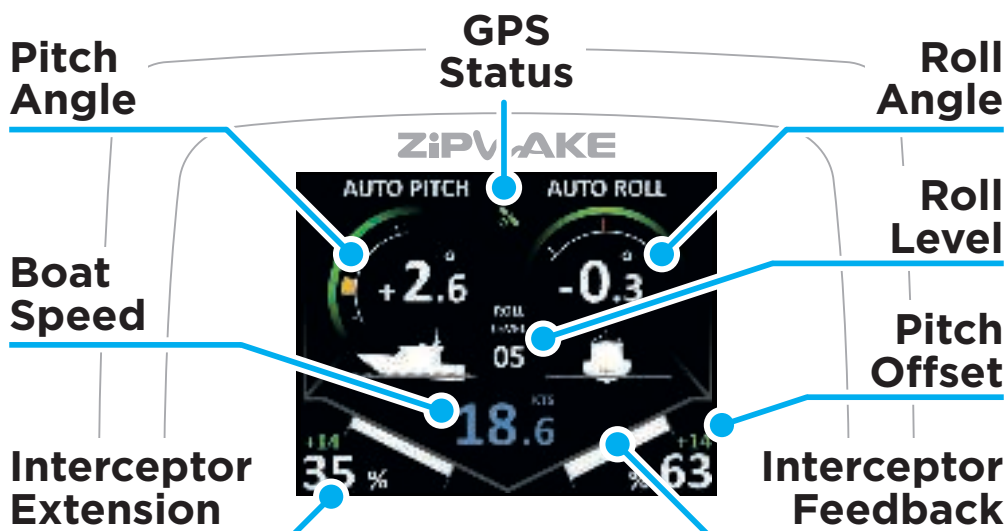
## CDS G3 Setup

**NOTE:** CDS G3 setup is required only for dual station applications and for enabling the GPS receiver for use with SmartCraft gauges.

- For multiple stations, assign the Active Trim keypad locations by performing a Trackpad Configuration in CDS G3. Next select the Active Trim GPS tab and follow directions to select which Active Trim keypad GPS helm source you would like to use.

# OPERATOR'S QUICK GUIDE

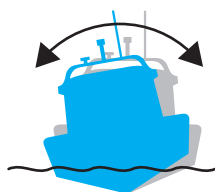
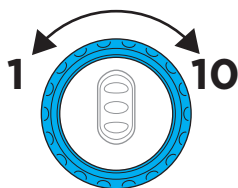
## AUTOMATIC MODE



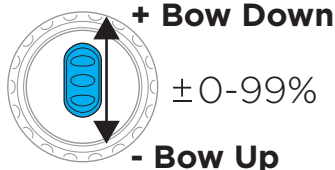
**Press and hold:**  
Auto Pitch & Roll  
Control on/off

**Press:** Auto Roll  
Control off/on

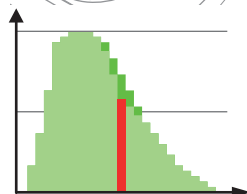
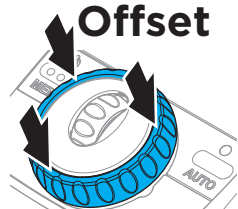
**Roll Level**



**Pitch Offset**

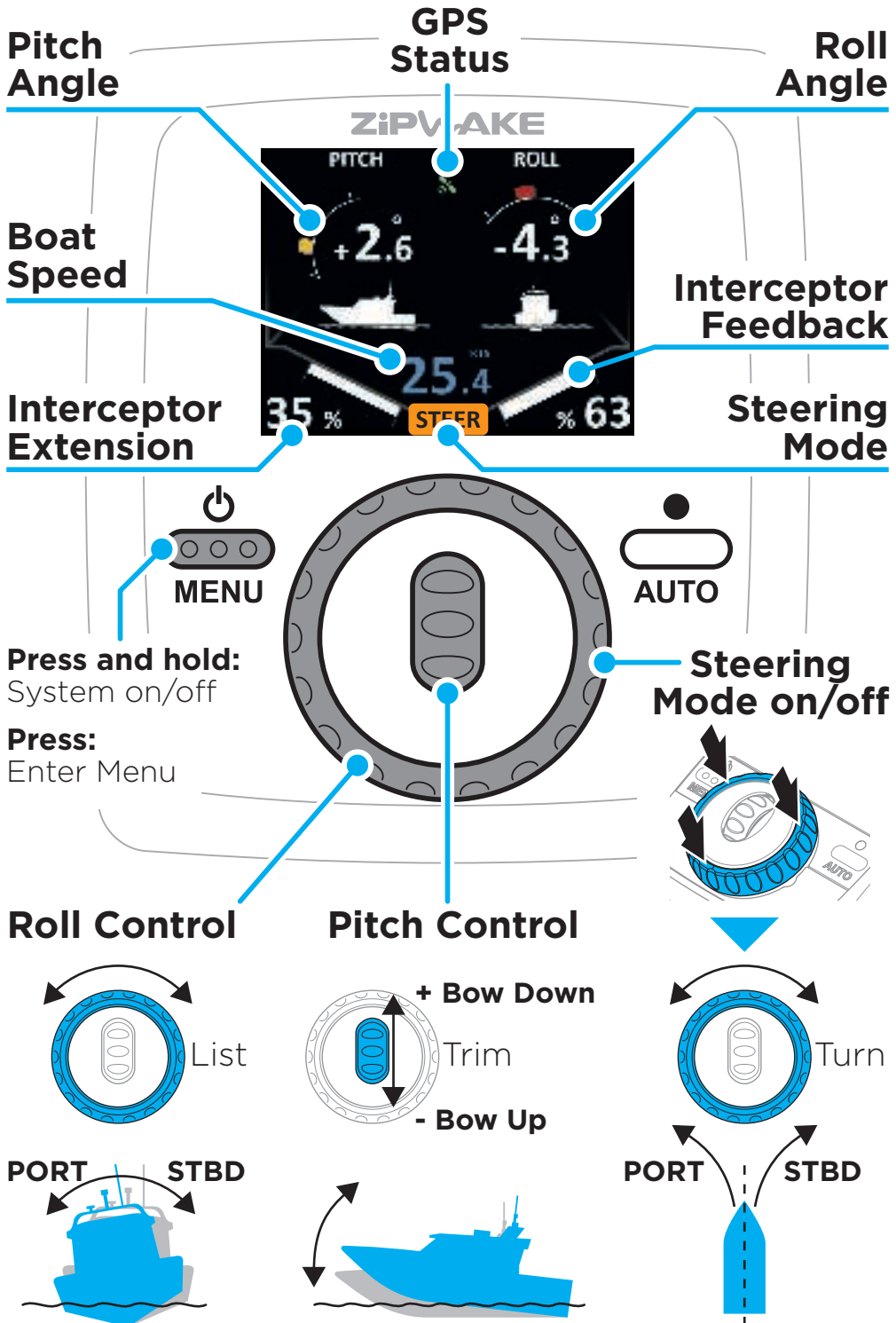


**Save Pitch Offset**



# OPERATOR'S QUICK GUIDE

## MANUAL MODE



This guide is intended as a quick reference. Refer to the Operator's Manual provided with your Zipwake System for full instructions and safety warnings.

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## 4.7 SEARCHLIGHT

BREAKER PANEL settings: SEARCHLIGHT breaker on. Turn on the light by depressing the on/off button.

The SEARCHLIGHT is a powerful LED appliance that may be operated with a joystick from the helm. The LEDs draw less power (only 2.8 amps at 13.8V) than previous incandescent devices.

With the joystick on the dash control, rotate your light to the desired location.

The speed of the light rotation can be controlled by depressing the fast/slow button once and by depressing it again to restore the original speed. The hard-wired dash control will be backlit when the bulb is illuminated.



SEARCHLIGHT CONTROL

## 4.8 MULTIFUNCTION DISPLAY (MFD)

BREAKER PANEL settings: Turn INSTRUMENTS breaker on.

The primary purpose of the MULTI FUNCTION DISPLAY (MFD) is to show depth in big numbers. The depth transducer is installed on the hull under the companionway steps. Depending on loading, speed and wave action it's about 1.3 feet below the waterline.

The MFD may be calibrated to show the water depth from the boat's waterline or from the bottom of the propeller. However, we do not recalibrate depth settings during sea trials and recommend keeping the 1.5 foot safety margin rather than recalibrating. The bottom can come up fast and it's helpful to buy seconds to react.

## 4.9 CONSOLE SWITCH PANEL

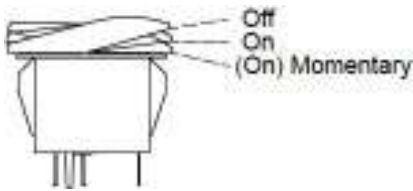
BREAKER PANEL settings: Turn on breakers for the CONSOLE switch panel functions you plan to use. Turn on the WINDLASS breaker and the FRESH WATER PUMP breaker to enable the ANCHOR WASHDOWN and the WINDSHIELD WIPER/WASHER.



**Windshield Actuators** Two switches operate the electric synchronous actuators that open the windshields (option).

**Horn** Press to sound the horn.

**Underway Horn / Anchor** Press forward end of rocker switch to automatically sound a one prolonged blast every 2 minutes when operating in low or restricted visibility. When at anchor or stopped and making no way through the water, press the aft end of the rocker switch to sound 2 prolonged blasts every 2 minutes.



WINDSHIELD WIPER switch

For improved ventilation or visibility, you can travel comfortably at 14-15 knots without being blasted by the wind if you open the starboard windshield and move slightly toward the centerline of the boat to get out of direct wind flow  
...R.I.J.

## Windshield Wipers

- One push to the on position will start three motors in synchronized interval.
- One more push to momentary will run three motors slow speed synchronized. One more push will run three motors fast speed synchronized.
- One more push starts from interval and so on.
- One long push from off to momentary will start one motor in interval (wiper 1). One more push will run one motor slow speed.
- One more push will run one motor fast speed.
- One more push starts one motor from interval and so on.

When running, push switch to momentary more than one second and washer will start. If the wiper motors get overloaded the power automatically breaks. Push switch to off, then to on and motor will start again.

**CAUTION** If the wiper's washer system is to be used in sub-freezing temperatures, a separate system must be installed which uses anti-freeze.

**NAV/ANC** Press the forward end of rocker switch to turn on the RED and GREEN NAVIGATION LIGHTS and the STEAMING LIGHT on the hard top over the pilothouse. Press the aft end of rocker switch to turn on the ANCHOR LIGHTS.

**Anchor Washdown** With windlass switch on, press switch to spray fresh water on the anchor rode when retrieving anchor.

## 4.10 WINDSHIELD OPERATION

**Manual Front Windshield** While the double manual windshield design creates individual windows that are easy to lift, a stick with a rubber tip is a handy way to raise or lower the windows without having to stretch over the console.

**Power Opening Windshield (option)** BREAKER PANEL settings: ELECTRIC WINDOWS breaker on. Lineal actuators open the windshields.

The optional power windows may be opened to any angle by electric powered lineal actuators. If they are left closed for some time, they tend to stick and then pop up when opening. The remedy is to coat the gasket with Teflon grease, such as Snap & Zipper Lube. The windows shut with a solid thunk. It's not necessary to dog them down at the bottom except in the roughest weather, even when leaving the boat.



POWER OPERATING WINDSHIELD

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# 5 ELECTRICAL SYSTEMS

**DANGER** AC and DC electricity can be lethal. Don't work on the boat's electrical system if you aren't a qualified marine electrician.

## 5.1 ELECTRICAL SAFETY

Please read and understand the safety precautions in the included National Marine Manufacturers Association (NMMA) publication, Sportfish, Cruisers, Yachts: Owner's Manual concerning electrical safety. For more reading, there is Boatowner's Mechanical and Electrical Manual by Nigel Calder and Boat Owner's Illustrated Electrical Handbook by Charlie Wing.

## 5.2 ELECTRICAL POWER

The MJM 35z includes both 12-volt direct current (DC) and 120-volt alternating current (AC).

**12-Volt DC** Most of the boat's electrical devices use 12V DC. It's stored in AGM absorbed-glass mat no-maintenance batteries as follows:

- Two Group 4D, 220 amp-hour HOUSE BATTERIES
- Two Group 31, 105 amp-hour PORT and STBD ENGINE BATTERIES
- One Group 27, 95 amp-hour GENERATOR BATTERY (if optional generator is present)
- One Group 31 BOW THRUSTER BATTERY (Optional)

The Victron INVERTER/CHARGER is factory set for AGM batteries.

**CAUTION** Don't try to open the batteries. Other than keeping them charged, stored and clean (especially between the terminals), there's no maintenance required.

**CAUTION** Don't let the voltage fall below 12 volts. Sensitive electronics may fail to function.

**120-Volt AC** Two different sources can provide 120V AC to the INVERTER/CHARGER to charge the batteries and provide power to the 120V AC circuits.

1. SHORE POWER 1
2. The NORTHERN LIGHTS GENERATOR (option)

120-volt AC power provides power for the COOKTOP, MICROWAVE, TV, AIR CONDITIONING, WATER HEATER and OUTLET/RECEPTACLES. There are SPARE BREAKERS that may be added for other devices. A 20-amp circuit with a ground fault circuit interrupter (GFCI) outlet/receptacle serves the AC OUTLET/RECEPTACLES.

The GENERATOR and SHORE POWER provide power to the INVERTER/CHARGER that charges the batteries and provides power to the 120V AC circuits at the left side of the 120V breaker panel.

*Only one GFCI OUTLET/RECEPTACLE is in the circuit with other non-GFCI outlet/receptacles. If the 120-VOLT BREAKER on the electrical panel is on and there is no power at the AC OUTLET/RECEPTACLES, the circuit interrupter may have tripped. Press the reset button on the GFCI OUTLET/RECEPTACLE.*

...R.I.J.





SHORE POWER & TV INLETS



24-HOUR CIRCUITS connection terminal

### 5.3 SHORE POWER

The single 50 foot, 30 amp shorepower cord is plugged in to SHORE POWER INLET outboard of the cockpit seat to port and provides power to breakers on the 120V AC electrical panel.

**Charging** The batteries will accept a charge from 120V shore power through the INVERTER/CHARGER if SHORE POWER is on even if the HOUSE BATTERY switch is off.

If you overload the shore power circuit and trip the breaker you may reset it by pushing the reset switch in the SHORE POWER BREAKER BOX. It's outboard in the port pilothouse settee locker.

### 5.4 FUSE LOCATIONS

(See the Appendix)

### 5.5 24-HOUR CIRCUITS

The connection block for the 24-hour circuits is against the bulkhead in the starboard pilothouse settee locker. The 24-hour circuits (shown in the sidebar) bypass the breaker panel, HOUSE, ENGINE and GENERATOR switches and are connected directly to the HOUSE BATTERY. They are:

- BILGE PUMPS (2 connections)
- HIGH WATER ALARM
- EMERGENCY PARALLEL
- STEREO MEMORY

The EMERGENCY PARALLEL connection enables the EMERGENCY PARALLEL switch on the 12V DC panel. The STEREO MEMORY connection provides a trickle charge to maintain the clocks and user settings.

**CAUTION** Disconnecting shore power with INVERTER left on will discharge the HOUSE BATTERIES over time. When leaving the boat for more than a few days without shorepower connected, be sure to turn off the Inverter on the unit itself under the starboard settee

## 5.6 THE 12V DC PANEL

The 12V DC panel includes circuit breakers for all 12V DC equipment except the 24-hour circuits **that are** permanently connected to the HOUSE BATTERY. The breakers are lighted and labeled. Spares are available for future installations.



The TOGGLE switch below the digital display on the 12V DC panel shows volts or amps for the HOUSE BATTERIES in position 1 and the GENERATOR BATTERY in position 2. Position 3 is not connected.

ENGINE BATTERY volts and amps are displayed on the Mercury VesselView.

Press the > and < buttons under the display to show volts or amps.

The center button dims the display.

*The HOUSE BATTERY switch and the GENERATOR BATTERY switch are at the upper right of the 12V DC panel. Turning on the HOUSE BATTERY switch provides power to the individual breakers at the panel. Turning on the GENERATOR BATTERY switch provides power to start the optional GENERATOR. The GEN. EMERG. PARALLEL switch combines the GENERATOR BATTERY with the HOUSE BATTERY BANK.*

## 5.7 THE 120V AC PANEL

The 120V AC panel receives power from the INVERTER/CHARGER or from SHORE POWER or from the Westerbeke GENERATOR. It also includes breakers for loads that can be handled by the HOUSE BATTERIES inverted to 120V AC by the Victron INVERTER/CHARGER.

When the SHORE POWER CABLE is connected:

1. Turn on the charger breaker.
2. Push the slider down and turn on the SHORE POWER breaker to supply 120V AC power to the circuit breakers of the AC panel.

**WARNING** Heavier Water Heater and Air Conditioning loads should only be turned on when Shore Power or Generator are used to source. 120v AC.

**WARNING** The 120V AC panel has reverse polarity indicators. If an AC supply is wired incorrectly, either aboard the boat or shore side, a dangerous shock situation could exist. If the reverse polarity lights are illuminated, disconnect that source of power and engage a qualified marine electrician and notify the marina dock master if in a slip.

The three buttons below the digital readout select volts, amps or watts for presentation on the digital display. The TOGGLE switch selects which side of the panel is reported in the digital display. Information from the left side of the panel is displayed in the up position, and information from the right side of the panel is displayed in the down position.

The PORT and STBD ENGINE BATTERY switches are at the upper right of the AC panel. Turning them on connects the battery to engine starter motors. The ENGINE EMERGENCY PARALLEL switch combines the PORT and STBD ENGINE BATTERIES. If the ACR switches are closed, the ENGINE BATTERIES are also combined with HOUSE BATTERIES.

The AUTO position is the same as off.

Notice the hinge at the bottom of each panel. The marquee at the top of each panel will pop off. There are screws that may be removed so a qualified electrician may hinge the panel down to add a new circuit for a new device or appliance at one of the SPARE positions.

Custom labels are available from customer service at Boston Boat Works.



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## 5.8 WESTERBEKE 3.5 SBCG GENERATOR (OPTION)

The *Westerbeke Operator's Manual* is included in the binders.

**Pre-Start Check List** The daily pre-start checklist :

1. Close seacock, clean the sea strainer (the cap should be hand tightened) and reopen the seacock.
2. Check the coolant. See diagram attached.
3. Check that the oil level is at the "FULL" mark on the dipstick .
4. Look to see that there are no loose belts or wires and that there is no oil or fuel in the pan under the GENERATOR.

**CAUTION** Don't remove the coolant cap from a hot engine.

**To Start** Turn on the GENERATOR BATTERY switch at the upper right of the 12V DC panel. Push both SLIDING INTERLOCKS up on the 120V AC panel and turn on the GENERATOR breaker at the left side of the 120V AC panel to connect the left side of the panel to generator power.

Press the Rocker switch to the start position and release. The engine will crank and start electronically after a brief delay. A GREEN LED on the switch will indicate that the engine is running.

Apply a light load until the generator warms up before applying a heavy load.

Keep the GENERATOR BATTERY switch on while the generator is running so its alternator will charge its battery. (Without a load on the alternator, the battery-charging regulator could be damaged.) Also, keep the GENERATOR breaker on while the generator is running. (It is not good for a diesel engine to run for an extended period with no load.)

After the generator starts, there is a short delay, then about 120V should show on the digital display at the top left of the 120V AC panel. (The toggle switch under the display is in the up position.) If the TRANSFER switch is pressed, there is a 2-minute delay before power is available on the right side of the panel.

If the generator starts but no AC voltage is seen at the panel, ensure that the SLIDING INTERLOCKS at the top of the 120V AC panel are up and that the GENERATOR breaker is on. If so, there is a possibility the generator was overloaded. See Westerbeke Manual.

**To Stop** Turn off breakers for 120V loads and run the generator for 2 or 3 minutes without a load to allow it to cool. Press the rocker switch and release. The Green light will go off.



GENERATOR FUEL PRE-FILTER is behind the generator against the bulkhead

## CONTROL PANEL - START/STOP PANEL

### DESCRIPTION

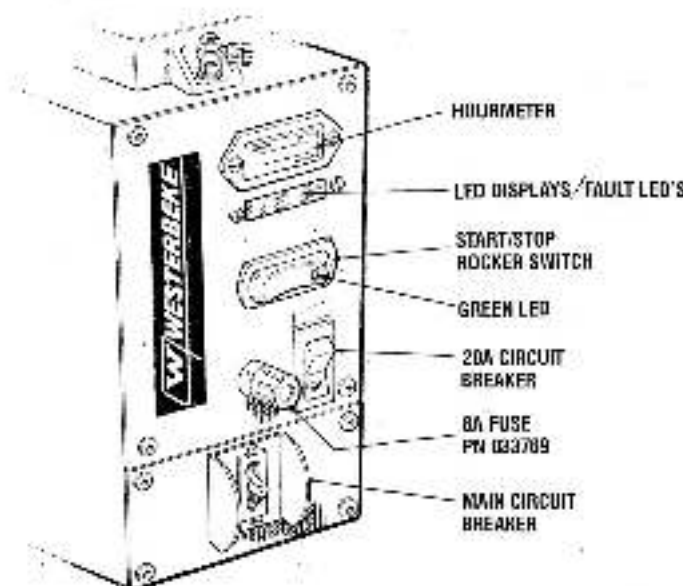
**To Start:** Press the rocker switch to the start position and release. (The switch will revert to its center position). The engine will crank and start electronically. A green LED on the switch will indicate the engine is running.

**NOTE:** There is a brief delay while the ECU self-tests before the start button responds.

Apply a light load to the generator and allow the engine to warm up to operating temperature before applying heavy loads.

**To Stop:** Press the rocker switch to stop and release. The ECU will receive the signal to shut the engine down. The green LED will go off indicating the unit has shut-down.

**NOTE:** This green LED may illuminate dimly when the engine is not running. This is part of the self diagnostic circuit and is normal.



### SHUTDOWN (Refer to SAFETY SHUTDOWNS SWITCHES)

A shutdown is when the ECU (Electronic Control Unit) stops the generator because it has detected an operating fault which could cause damage to the engine, the generator, or create an unsafe operating condition.

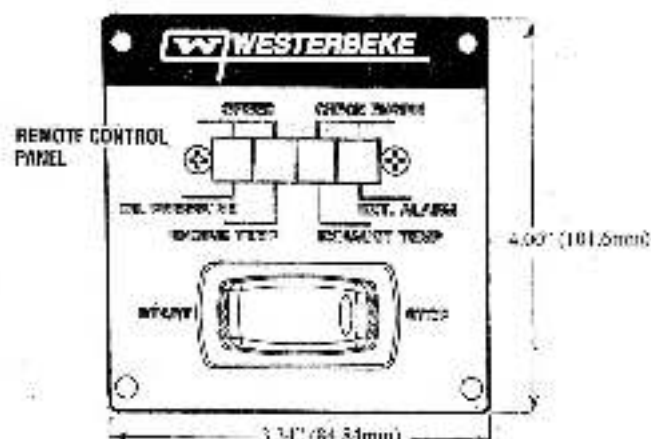
### AMPERAGE DRAIN

There is a very small amount of amperage being drawn from the unit's starting battery by the electronics on the unit when the generator is not in use. To prevent this and draw down of the starting battery, turn OFF either the panel DC breaker or the starting battery switch when the unit will not be operated for a period of time.

### FAILURE TO START

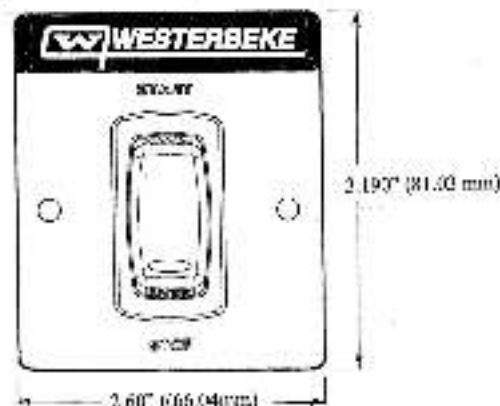
The start cycle will automatically terminate if the engine fails to start after 8 seconds of cranking. Three start attempts can be performed before an underspeed fault occurs. This prevents prolonged cranking which can result in the exhaust filling with water and backing into the engine.

To try repeat start attempts while solving and repairing the problem, close the thru-hull (water intake valve). When the starting problem is corrected do not forget to open the thru-hull.



### REMOTE PANEL (with Fault Display)

A remote panel is available that allows for remote operation of the generator. The panel comes with either a 15' or 30' plug in extension harness. The start/stop sequence is identical. Once installed, the engine can be operated by either panel.

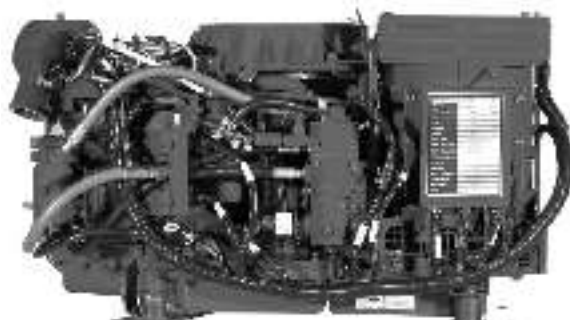


### REMOTE PANEL (STOP/START SWITCH ONLY)

**NOTE:** For wiring these remote panels, refer to the Wiring Diagram section in this manual.



## 17% More Power and Multiport EFI



3.5 SBCG Marine Gasoline Generator

### Compact, Lightweight, Powerful

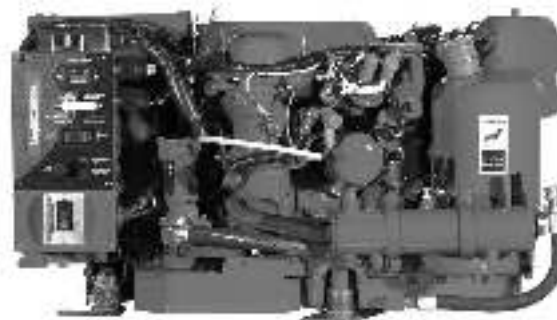
The 3.5 SBCG is the most compact 3.5kW gasoline generator available. Weighing only 188 pounds (85 kilos), it produces 17% more power than its predecessor. It is designed for small boat owners yearning for additional punch to operate an air conditioner, water heater or other appliances without a dramatic increase in generator size.

### Multiport EFI and Returnless Fuel System

The 3.5 SBCG features sequential multiport electronic fuel injection (MPI). MPI provides optimum fuel efficiency, easy starting, improved reliability and reduced emissions. In conjunction with MPI, electronic speed control maintains the engine at a constant speed (precise frequency regulation) and virtually eliminates "bogging down" when load is applied. A water cooled returnless fuel system aids in the prevention of vapor lock for improved performance in high ambient temperatures. MPI also features advanced diagnostic capabilities.

### Smooth & Quiet Operation

The 3.5 SBCG incorporates a two cylinder-engine, precise throttle control and a specially designed flywheel for smoother operation. Operating at 2200 rpm instead of 3000 or 3600, the 3.5 SBCG also provides low rpm quiet operation typical of Westerbeke generator products.



3.5 SBCG Marine Gasoline Generator

### Simple Installation

The 3.5 SBCG is a simple "plug & play" genset. An optional remote start/stop is available with a harness to plug into the side of the control box.

### Easy Operation

A simple "one-touch" rocker switch eliminates the need for separate start, stop and priming switches.

### Standard Features

- Simple, "one touch" start/stop control panel with running hour meter and warning annunciation
- Multiport EFI
- Water-cooled, returnless fuel system
- Electronic governing
- Safety warnings and shut-downs — overspeed, underspeed, low oil pressure, high exhaust and coolant temperature and more
- Fresh water cooling and coolant recovery tank
- A.C. circuit breaker
- 5 amp battery charger
- Water injected exhaust elbow
- Belt-driven raw water pump
- Vibration isolators
- Lube oil drain hose
- Belt guard
- Operators' manual and parts list
- Meets U.S.C.G. regulation 33CFR-183

## Generator Design

**DESIGN:** Brushless, two-pole.

**VOLTAGE REGULATION:** Standard +/- 5% no load to full load.

**FREQUENCY REGULATION:** .7 Hz (1%) no load to full load.

**INSULATION:** Class "H" as defined by NEMA MG1-1.66.

**TEMPERATURE RISE:** Within NEMA MG1-22.40 operating at full load.

**COOLING:** Molded centrifugal blower, direct connected.

**ELECTROMAGNETIC INTERFERENCE LEVEL:** Exceeds requirements for most marine radio-telephones and standard TV's.

Model	Electrical Characteristics					Ratings		Engine	
	Volts	Amps	Hertz	Phase	Wire	Power Factor	KW	RPM	Start
3.5 SBCG-612	120	29	60	1	2	1.0	3.5	2200	Remote
3.5 SBCG-512	230	15	50	1	2	1.0	3.5	2200	Remote

\* Not field convertible between 50 and 60Hz

## Specifications

Number of cylinders	2 Cylinder, horizontal in-line
Type	4 cycle
Displacement	21.4 cu. in. (.35 liter)
Bore and stroke	2.40" x 2.36" (61mm x 60mm)
Compression ratio	9.2:1
Rated RPM	2200
HP @ Rated RPM	6.0 HP
Maximum angle of operation	Not to exceed 25° in all directions
Exhaust elbow conn.	2.0" OD (50.8mm)
Raw water conn.	.50" OD (12.7mm)
Dry weight	188 lbs. (85 kilos)
Combustion system	Semi-spherical type
Aspiration	Naturally aspirated
Lubrication system	Forced pump
Cooling system	1.46 quarts (1.38 liters)
Full load fuel consumption	.50 GPH (1.9 LPH)
75% load fuel consumption	.41 GPH (1.6 LPH)
50% load fuel consumption	.33 GPH (1.3 LPH)
25% load fuel consumption	.25 GPH (1.0 LPH)
Fuel system	Multiport EFI
Governor	Electronic
Lube oil filter	Full flow, spin on element

Lubricant capacity	1.5 quarts (1.4 liters)
Fuel transfer pump	Mechanical type
Fuel supply piping	.25" ID (6.35mm)
Starting motor	12 volt, .6kW
Battery charging	5 amps, flywheel alternator
Cranking amps	70 amps @ 70 degrees F
Electrical system	12 volts DC, negative ground

## Construction-Engine Components

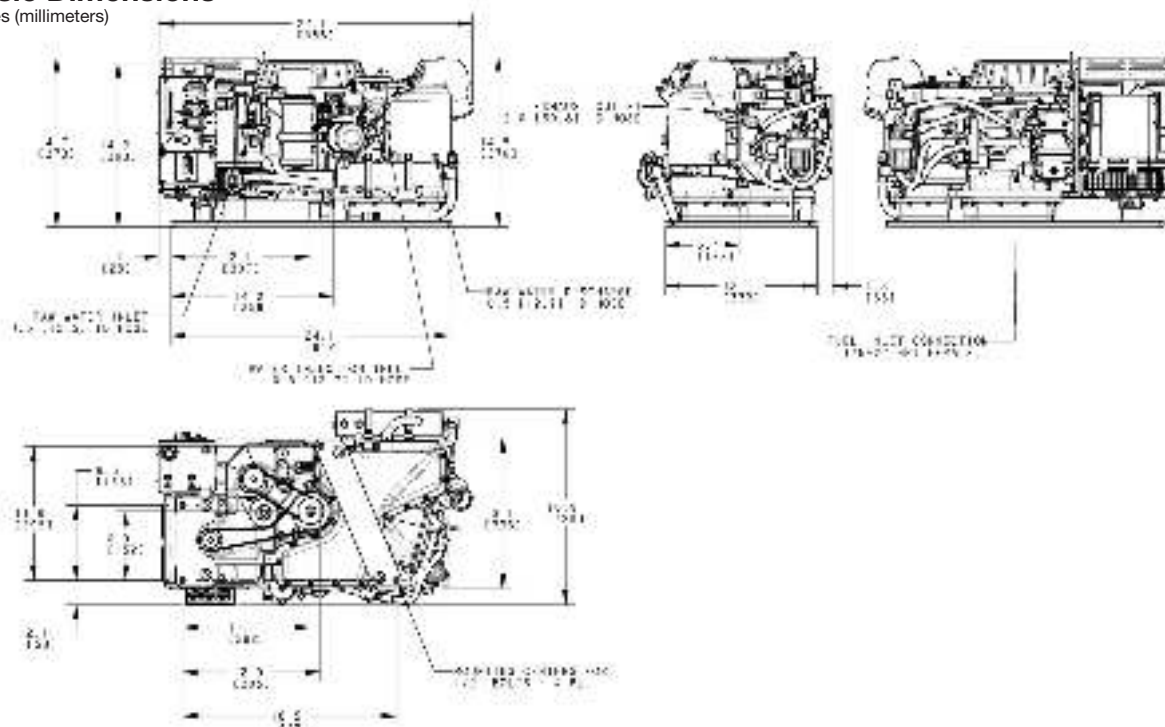
Cylinder head	Aluminum
Cylinder block	Aluminum
Crankshaft	Forged crankshaft, two main bearings
Valves	Overhead
Exhaust manifold	Cast almag, raw water-cooled

## Optional Equipment

Remote start-stop panel with warning annunciation
15' or 30' extension harness
Hydro-hush muffler and fittings
Ship-shore switch
"A" on-board spare parts kit; "B" extended cruising spare parts kit
Anti-siphon valve for overboard cooling water discharge
Technical Manual

## Basic Dimensions

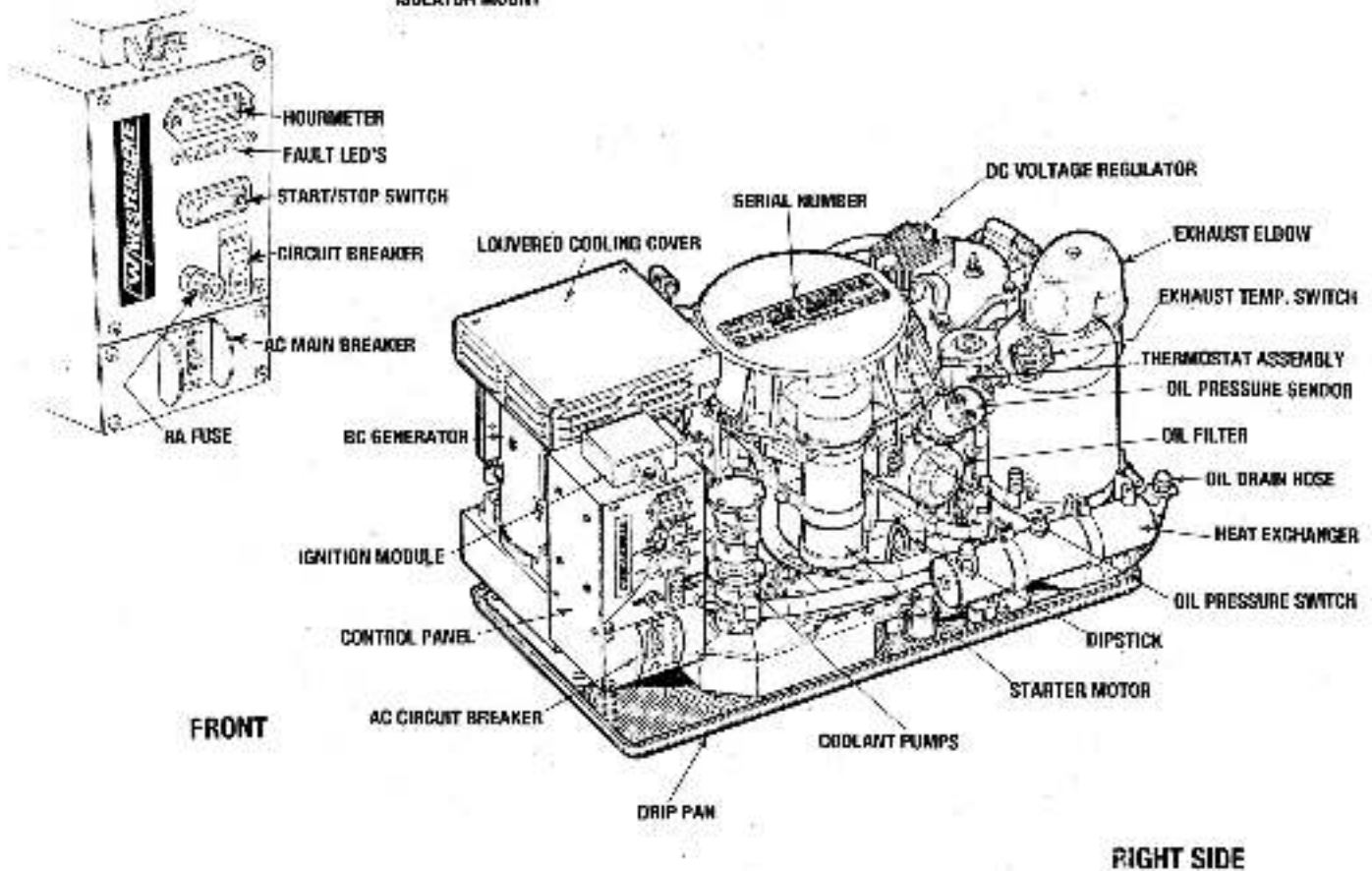
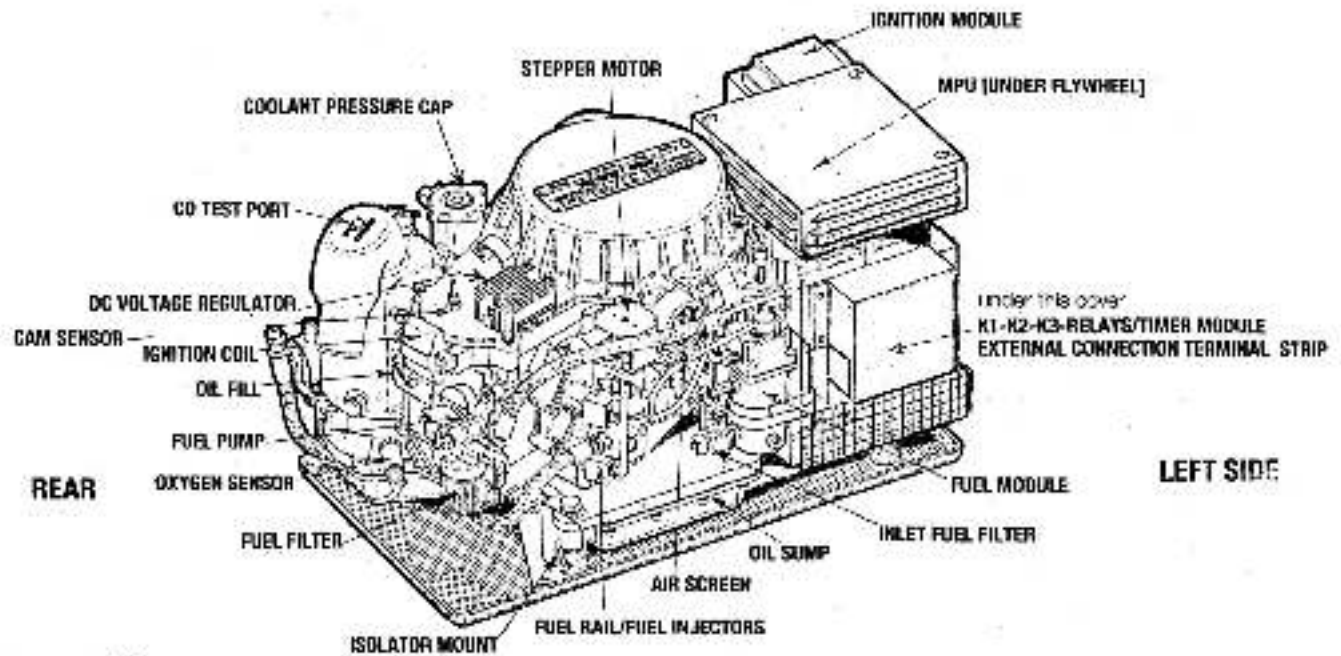
Inches (millimeters)



Drawings are for reference only and should not be used for installation. Detailed installation drawings are available upon request.



## PARTS IDENTIFICATION 3.5 SBCG GENERATOR



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## 5.10 VICTRON INVERTER/CHARGER

Under normal circumstances there is no need for adjustment other than switching the INVERTER on at the AC Panel and the toggle at the PHOENIX CONTROL to on to invert 12v DC Battery power to 120V AC power...or to off when 120V is sourced from SHORE POWER or GENERATOR.

When off, it works in reverse when charging from a 120v source.

**Charging** When SHORE POWER is connected to a 120v 30-amp shore power supply or when the GENERATOR is on, the INVERTER charges the HOUSE BATTERIES, the PORT and STBD ENGINE START BATTERIES, the THRUSTER (Option) BATTERY and the GENERATOR START BATTERY. Push the toggle switch to off and the the Battery Charger Breaker on the 120V PANEL to on.

**Inverting** The 120V AC panel operates accessories that require 120V AC, such as the COOKTOP, MICROWAVE, TV, and OUTLET/RECEPTACLES. To activate the inverter function: **DO NOT activate the WATER HEATER and AIR CONDITIONING when inverting. The loads are too great.**

1. Turn on the switch at the INVERTER/CHARGER located over the STARBOARD FUEL TANK under the pilothouse settee.
2. Push the toggle switch at the DIGITAL MULTI CONTROL to on. 120V AC power will be supplied to the left side of the AC 120V panel.

**CAUTION** Although INVERTER/CHARGER specifications claim it will automatically shut off the inverting process if the battery voltage drops, it's unwise to count on it. If you leave the boat with the DIGITAL MULTI CONTROL switched to INVERTER on, it may draw amperage even if no AC device is turned on and discharge your batteries. When you leave the boat, keep the PHOENIX CONTROL units switched to "off".

## 5.11 BONDING

The boat's bonding system connects underwater metal fittings to the sacrificial anode and the boat's negative bus bar. For the anode to protect an underwater part, the connection must be clean and secure. The green wires that make up this system don't normally carry current.



### INVERTING STATUS

**inverter on:** INVERTER is converting 12V DC to 120V AC for 120V loads on the left side of the 120V breaker panel and is draining the HOUSE BATTERIES.

**overload:** Load on the INVERTER is over 4000 amps.

**low battery:** The HOUSE BATTERY is low. INVERTER won't work.

**temperature** HOUSE BATTERY temperature is high.

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## 6 WATER SYSTEMS

### 6.1 FRESH WATER

BREAKER PANEL settings: FRESH WATER PUMP breaker on.

Fresh water is supplied from two interconnected 25-gallon water tanks under pilothouse settees, which are filled through a fitting on the starboard side deck.

No fresh water gauge is needed as you can readily see the level in the tanks.

#### Fresh Water Pump

A JABSCO 42755-0092 12V FRESH WATER PUMP provides fresh water pressure. The pump is in the pilothouse port settee locker. It runs when a faucet, the head, anchor chain wash, wiper wash, showers, etc., are used. It has two switches to maintain pressure in a useable range so the pump doesn't switch on every time fresh water is used. When pressure drops below the minimum, the pressure switches turn the pumps on and build pressure to the maximum. The pumps have outlet check valves that maintain pressure when pumps are off. The pump is protected from sediment by an in-line strainer mounted adjacent to the pump. Check and clean the strainer periodically.

If the pump runs continuously, a faucet might be open. The transom shower valve is a frequent culprit. If nothing is on, check that the FRESH WATER TANK has water. Then look for leaks in the lines. An air bubble in the line may defeat a pressure switch and cause the pump to fail to operate. Opening a faucet and turning the FRESH WATER breaker off for a moment and on may fix it. If that doesn't work, attach a hose to the DOCKSIDE HOSE INLET and run water through various fresh water outlets.

### 6.2 HOT WATER

Water is heated in the HOT WATER TANK two ways:

1. With an electrical immersion element
2. With an internal heat exchanger that uses hot coolant from the engine heat exchanger (when the engine is running)

The 8-gallon HOT WATER TANK is under the port pilothouse settee. It's part of the freshwater system and doesn't need separate filling.

If you want hot water and haven't run the engine, turn on the WATER HEATER breaker on the right side of 120V AC panel. The WATER HEATER is a high-load appliance and will require the GENERATOR to be on or SHORE POWER to be on. (The Inverter will not provide enough power to the WATER HEATER.



INDEL ISOTEMP 8-gallon HOT WATER TANK

There is no specified periodic maintenance, but it's wise to inspect connections and clamps periodically.

If you don't get hot water from the immersion heater, press the reset button under the white cover at the right side of tank. See sidebar and the *Indel Isotemp Owner's Manual* in the binders.

### Water Purifier

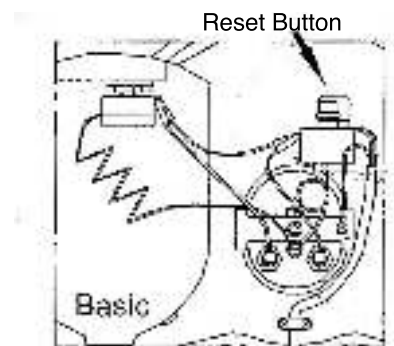
The General Ecology Seagull WATER PURIFIER in the galley is an excellent water purifier. It's used on many airlines and by the military.

General Ecology, Inc., states that Seagull IV purification systems meet the EPA guide standard protocol for microbiological purifiers for bacteria, cysts and viruses and excels at removing chemical and aesthetic contaminants, including herbicides, pesticides, chlorine and foul tastes, odors and colors.

The purifier has a cartridge in a stainless pressure vessel under the sink. Replace it if reduced water flow indicates that it's clogged, if any particulates are seen in the water, if there is any taste in the water or at least annually. The filter is rated for 1000 gallons, equal to about 15 water tanks. The replacement cartridge is Seagull IV X-1 Residential Replacement Cartridge RS-1SG and can be bought online.

[https://generalecology.com/category\\_products.php?category\\_name\\_url=in-home](https://generalecology.com/category_products.php?category_name_url=in-home)

**CAUTION** Clear the fresh water system of antifreeze before running water through the cartridge.



GENERAL ECOLOGY SEAGULL  
WATER PURIFIER

Mary and I credit our good health to  
using this system in all our boats and  
homes for the past 37 years.

...R.I.J

## 6.3 GRAY WATER

**Sumps** A GRAY WATER SUMP BOX collects water from the shower drain, sinks, the dish locker drain, AIR CONDITIONER condensate, bilge pumps, and deck run-off. Gray water can be legally discharged overboard. The sump pump switch on the 12V DC panel provides power to a pump with a float switch to empty the tank. It runs through port and starboard common drains in the transom. Remove the tank cover and clean tank and strainers periodically.

The Gray water sump box is located below the bottom companionway step.

**Common Gray Water Drains** To minimize through-hull penetrations, a common drain is used on port and starboard sides. Items that drain into the common drains include DECK DRAINS and HATCH GUTTERS. GALLEY & HEAD SINKS drain directly overboard. Ensure that these drain outlets aren't obstructed..



GRAY WATER SUMP

---

**Bilge Pumps** There are two automatic ELECTRIC BILGE PUMPS. They are located:

- Aft in the SEAKEEPER compartment
- Aft in the central cockpit compartment at the transom

They are wired directly to the HOUSE BATTERY bank so they function even if all the battery switches are off. (See *24-Hour Circuits*, page 16.)

Three 3-way switches at the helm control the pumps. (See page 10.) The pump will run in the AUTO position if water is present. The pump will run in the MANUAL position whether there is water in the bilge or not. The switches are wired so that the off position functions the same as the AUTO position.

The emergency MANUAL BILGE PUMP (delivered under the port pilot seat) is a backup to the three automatic bilge pumps. You may operate it by opening the plastic cover, inserting the handle (supplied loose) and pumping up and down. There's a noticeable difference when the bilge runs dry. Its capacity is 15 gal/min.

#### **6.4 RAW WATER**

Raw Water (seawater) is used for heat exchange for the GENERATOR, optional SEAKEEPER and the AIR CONDITIONER. Two raw water strainers and seacocks with shutoff valve, double clamped to its hose, have a strainer that should be checked regularly.



*Aft BILGE PUMP*



*BILGE PUMP SWITCH*

---

## 7 SEAKEEPER GYROSTABILIZER (Option)

The SEAKEEPER is a 550 lb. sphere that spins up to 8,450 RPM. It's anchored to a reinforced structure low in the boat to resist roll.

Following is a summary of the Seakeeper 3 Gyrostabilizer (GYRO) operation. Please review the details of operation and the safety notices in the Seakeeper Operation Manual in the binders. You can download a copy at:

<http://www.seakeeper.com/technical-library>.

Before you start the GYRO, Check its raw water strainer to ensure that the cooling water intake to the GYRO is clear.

### 7.1 TO START THE GYRO

The GYRO operates on 12v.

With HOUSE BATTERY on turn on the GYRO breaker on the 12V DC panel

When the 12V DC GYRO breaker on the display at the wheel will initialize and the HOME screen will appear. If a FAULT is present an ALARM screen will appear.

Press the POWER ON/OFF button once. The BLUE PROGRESS BAR begins to move and the GYRO begins spinning. It takes about 35 minutes before the GYRO is ready for stabilizing.

### 7.2 ACTIVATE/DE-ACTIVATE

Press the lower GYRO ON/OFF panel on the screen (the panel turns from gray to blue) It takes 5-10 seconds to activate.

Press GYRO ON/OFF button (the panel turns gray) to deactivate the GYRO.

**CAUTION** There is a large amount of torque about the gimbal axis when the GYRO is processing. Cover panels protect the GYRO while it's in operation. Don't stand on them or put anything on top. The covers should always be in place during operation. No maintenance should be attempted unless the gyro is locked and the flywheel has stopped spinning.

**Section 2: SYSTEM OPERATION**

## 2.1 Display Screens: Overview

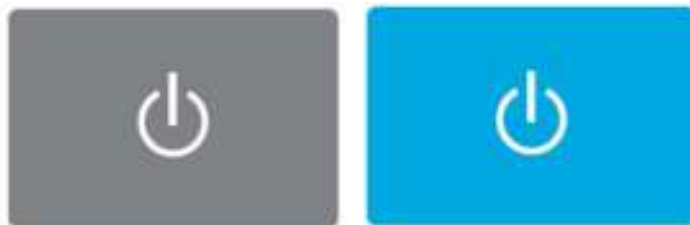
- 1) When 12 VDC power is applied to the Seakeeper, the display will power up and initialize. The splash screen will be displayed.



- 2) After the display has initialized, the home screen will be displayed.



- 3) The display uses a touch screen to allow users to select functions.



Seakeeper On/Off. The button will change from grey (Seakeeper Off) to blue (Seakeeper On)



## Section 2: SYSTEM OPERATION



Seakeeper Stabilize On/Off. The button will change from grey (Stabilize Off) to blue (Stabilize On)



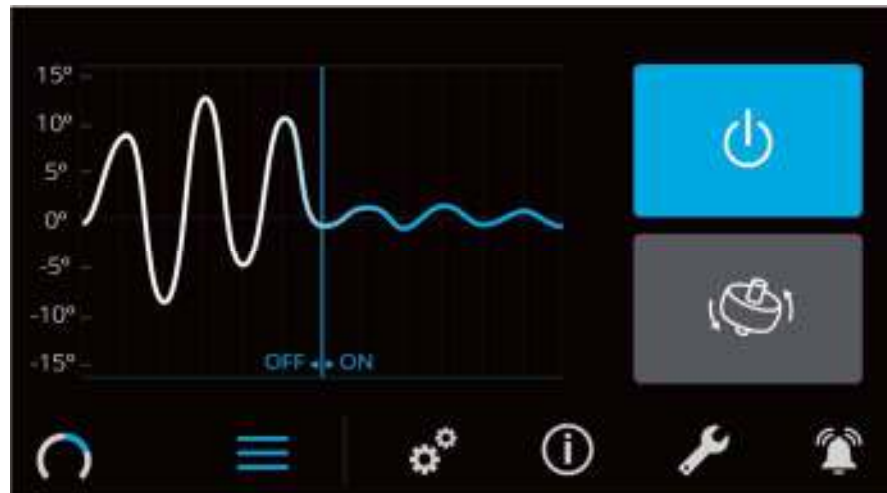
Home screen view. These buttons toggle home screen between the Roll Angle Gauge and the Roll Angle Graph as shown below.



- 4) When the menu button is pressed, the menu bar will appear or disappear at the bottom of the screen.



## Section 2: SYSTEM OPERATION



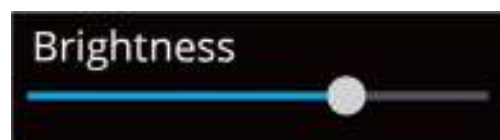
The menu bar is used to navigate between pages. From left to right, the available pages are home, settings, information, service and alarm history. The selected page is highlighted in blue on the menu bar.



5) The settings page allows the user adjust the following;



Increase or decrease the brightness of the display with the brightness slider.



**Section 2: SYSTEM OPERATION**

Adjust the sleep timer from 1 minutes to 60 minutes or on all of the time using sleep time slider. Touching the screen will wake the display up after it has gone to sleep.



Change the sign of the roll angle value displayed in the roll angle gauge so the gauge matches the motion of the boat. This will depend on installation orientation and will only need to be adjusted once.



Change the speed of the gyro between normal operation and low power operation. The selected speed is colored blue.



Change the display between day and night mode. The selected mode is colored blue.



Change the units of the temperatures displayed on the service page between degrees Celsius and degrees Fahrenheit. The selected units are colored blue.



- 6) The information page displays the Seakeeper model, Seakeeper serial number, Seakeeper software versions, RUN hours, and SEA hours, and other information

**Section 2: SYSTEM OPERATION**



- 7) The service page displays operating information from the Seakeeper.



- 8) The alarm history page shows what alarms have occurred in the past and the associated run hours. The scroll bar is used to move up and down through the list.



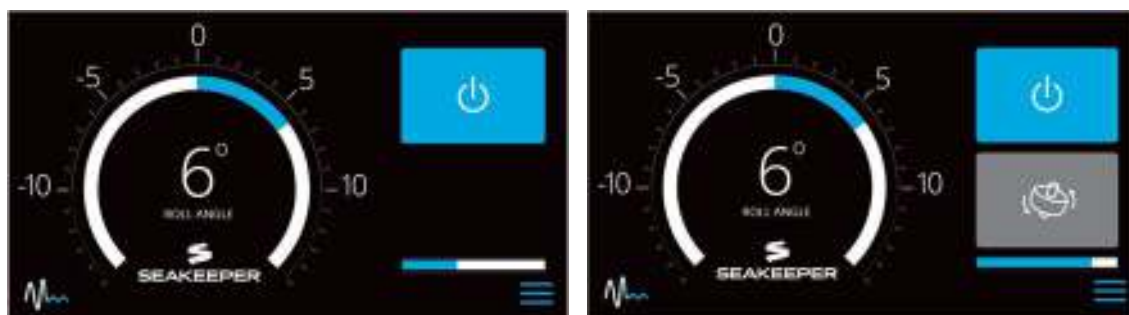
**Section 2: SYSTEM OPERATION**

## 2.2 Start-up

- 1) Make sure high current and low current DC inputs to the gyro are turned on.
- 2) When the low DC power is turned on the Display will initialize and the Home screen will appear.



To turn the Seakeeper on, press the On/Off button, the button will turn blue. The progress bar will appear and indicate how soon the Seakeeper will be available for stabilization. When the Seakeeper is initialized and up to minimum operating speed the stabilize button will appear. At this point, the Seakeeper is available for stabilization.



- 3) When the Seakeeper reaches its maximum operating speed where maximum stabilization is available, the progress bar will disappear and the Seakeeper is available for maximum stabilization.

**Section 2: SYSTEM OPERATION**



## 2.3 Stabilization

To stabilize the boat after Seakeeper is on and above the minimum operating speed:

- 1) Press the stabilize button. The button will turn blue indicating that the Seakeeper is stabilizing the roll motion.



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## 8 EQUIPMENT, APPLIANCES and FINISHES

### 8.1 ANCHOR WINDLASS

BREAKER PANEL settings: HOUSE BATTERY switch, FRESH WATER PUMP and WINDLASS breaker on.

It's prudent to have the engine or GENERATOR running when using the windlass; it draws considerable battery power from the HOUSE BATTERIES.

To retrieve the anchor, use the engine to move the boat over the anchor, not the windlass; it's sized to retrieve the anchor and rode, not pull the boat. If the anchor is lodged, motor over the anchor to break it loose, then retrieve it with the windlass.

Stop the windlass before reversing its rotation, otherwise the windlass fuse may blow or the breaker may trip. Refer to the windlass manual in your binders for specific operating instructions.

The WINDLASS can be operated from the WINDLASS CONTROL panel at the helm.

<http://www.muir.com.au/product-page/6145c752-d6cb-2bea-5d0e-6d4ab1547832>

**CAUTION** When anchoring, don't rely on the windlass to hold the anchor rode. Remove the rode from the anchor chute and feed it through a bow chock to a bow mooring cleat to avoid chafe on the anchor rode and to avoid damaging the windlass gears.

**CAUTION** When underway or when leaving the boat, secure the anchor and chain with the retainer clamp. This prevents the anchor and rode from running free and fouling the props. If the anchor chain slips, use the winch handle in the top of the windlass to tighten.

### 8.2 ANCHOR WASHDOWN

BREAKER PANEL settings: ENGINE START BATTERY switches on, HOUSE BATTERY switch, WINDLASS breaker and FRESH WATER PUMP breaker on.

A spray nozzle under the anchor roller washes salt water and mud from the anchor rode and chain as the anchor is raised when the rocker switch at the CONSOLE SWITCH PANEL is pressed. (See page 13.)

### 8.3 FUSION MULTI-MEDIA PLAYER

BREAKER PANEL settings: STERO breaker on.

The Fusion multi-media player has a single slot to play audio CDs and video DVDs on the TV. It has a SiriusXM receiver. You may install a Pandora app, tune in DAB stations and pair up to eight Bluetooth media devices.

See the instruction manual in the binders for operating instructions and for connecting to Internet media services.

<https://www.fusionentertainment.com>



MUIR Anchor Windlass



WINDLASS control panel at helm

There is good advice on anchoring and retrieving lodged anchors at <http://fortressanchors.com/resources/safe-anchoring-guide>

...R.I.J.



FUSION MULTI-MEDIA PLAYER



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## 8.4 PRIVACY/SUNSCREEN CURTAINS (OPTION)

The optional PRIVACY/SUNSCREEN CURTAINS provide privacy so the pilothouse can serve as an additional stateroom.

The two large side curtains roll up in place. The other curtains roll up in a carry bag. The aft and windshield curtains hook up inside. An advantage of inside curtains is that they don't get dirty or need storage when wet from dew when departing in the morning.



One good way to roll up the curtains is to lay them over the top of the pilothouse table. Roll all sections up together and put them in the storage tube. Don't fold them.



*PRIVACY/SUNSCREEN CURTAINS*



COOKTOP



MICROWAVE



REFRIGERATOR



ICE MAKER



DROP DOWN 32" TV

## 8.5 COOKTOP

BREAKER PANEL settings: COOKTOP breaker on. The COOKTOP in the galley requires 120V AC from SHORE POWER 1, the GENERATOR or the INVERTER. The COOKTOP has flush-mount, pop-up, heat-resistant rubber potholders. You must push on them for several seconds for them to respond. Refer to the *Installation Guide & Operation Manual* included in the binders.

**CAUTION** Don't leave an unattended cooktop on.

## 8.6 MICROWAVE

BREAKER PANEL settings: MICROWAVE breaker on. The MICROWAVE in the galley requires 120V AC from shore power connected to SHORE POWER 1, the GENERATOR or the INVERTER.

Refer to the *Owner's Manual* for operating instructions and precautions. The manual is stored inside the oven when the boat is delivered.

## 8.7 REFRIGERATOR

12v DC BREAKER PANEL settings: REFRIGERATOR breaker on.

The thermostat has an on/off button and a temperature adjustment button. Each time the temperature adjustment button is pressed, the LED indicator advances from left to right indicating a cooler setting.

It can take a while for temperature to stabilize, particularly after initial stocking with food and beverages.

## 8.8 ICE MAKER

120v AC BREAKER PANEL settings: ICEMAKER breaker on.

The ICEMAKER in the cockpit serving bar requires 120V AC. The built-in freezer box has stainless steel inner lining, plastic bottom section, wire basket and interior light. It has a range of 0 °C to -20 °C.

<http://www.indelwebastomarine.com>

## 8.9 TV (OPTIONAL)

120v AC BREAKER PANEL settings: GENERATOR on, or SHORE POWER 1 on, or INVERTER on and TV breaker on.

See the manual in the binders. The picture in the sidebar is of an optional TV installation in the Pilothouse.

Video signals may be acquired from the Fusion DVD player, from a dockside cable TV outlet, from the optional Glomax TV antenna that will receive local HD stations, from the optional KVH satellite dish system or from other devices you choose.

Depending on options you select, Surround-Sound may be achieved using the AUX function at the FUSION MULTI-MEDIA RECEIVER to integrate both TV Audio and the six-speaker stereo audio. Or kids can watch TV with dedicated audio below decks while parents are listening to jazz, with the "Fade" function directing sound to the two cockpit speakers.

## 8.10 VACUUM FLUSH HEAD SYSTEM

DC BREAKER PANEL settings: FRESH WATER PUMP breaker and HEAD breaker on.

Press the DRY FLUSH switch down at right to empty dry...or up to add water until desired water level is achieved. (It will shut off automatically to avoid overflow.)

Press the Left NORMAL FLUSH switch down for a moment, then release it. It activates a macerator pump that siphons water and waste from the bowl, macerates, and propels the effluent to a 22-gallon waste tank. The capacity is generous since, unlike conventional marine heads that use several quarts of seawater, each flush uses about a cup of fresh water.

The level of waste in the holding tank can be seen by looking forward in the starboard settee locker. Waste is discharged in one of two ways:

1. Pumped out at an authorized pumping facility from the WASTE deck fitting. To remove all the waste, turn off the vacuum pump system and press the SERVICE BUTTON to remove the vacuum.
2. Discharged overboard with the DISCHARGE PUMP. Open the large through-hull discharge waste valve, accessible under the companionway step. Push in and turn WASTE DISCHARGE KEY located in the starboard settee locker high up under the helm sea. Waste discharge regulations vary by location.

**CAUTION** Ensure compliance with federal, state and local regulations before discharging.

**WARNING** Normal household toilet tissues don't dissolve or flow well in low water consumption toilets. These tissues build up in a tank and eventually the toilet system fails. Use rapidly dissolving single ply Scott tissue. To determine that a tissue will dissolve, immerse a square of tissue in a jar of water and shake five times. It should disintegrate.

## 8.11 AIR CONDITIONING (OPTIONAL)

BREAKER PANEL settings: AIR CONDITIONER breakers on, and 12V SUMP PUMP breaker on. You must have the GENERATOR on, SHORE POWER on

There is a 16,000 BTU heat pump that heats or cools the interior and pilothouse as all one or separate zones, if AC grates are closed off its direct air flow into one zone or the other. They use raw water (seawater) much like the engines, for heat exchange. The heat exchangers extract heat from the refrigerant for the cooling cycle, and by reversing the flow of refrigerant they extract heat from seawater for heating. The heating cycle is effective if the sea temperature is above 35 degrees.

There's an intake seacock, RAW WATER strainer and pump located in the cockpit seat locker and port cockpit sole locker aft. They should be checked frequently and are the first things to check if the unit fails to deliver heat or cooling.

**Programming Procedure** There's a wide range of options for controlling the AC system. You can set it to heat mode, cool mode or automatic



VACUUM FLUSH control panel



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mode; set it to cycle on and off for humidity control when the boat is unused; control fan speeds, view service history and hour meter and set many more options. For a full explanation of the options, controls and the programming procedure, see the users manual.

**Programmable Parameters** The default parameters may be changed. Once new values are entered and memorized, the factory defaults are overwritten and the new parameters become the default values. You can restore the original factory default parameters manually. A summary of the parameters, the permitted values and original factory default settings are listed in Table 2, page 12 of the manual in the binders. When used with optional electric heat, the fan remains on for four minutes after the heater cycles off even if fan is set to cycled operation.

## 8.12 FINISHES

**Hull paint** The 35z hull is painted with Awlcraft 2000 color and three coats of clear Awlcraft. Awlgrip states that while it doesn't hurt to wax it, it doesn't help and can create a maintenance problem.

The interior cabin sole and cabinetwork are finished in clear Awlgrip. See the Awlgrip website for care and maintenance advice.

<http://www.awlgrip.com>

**Corian** Instructions for maintaining Corian counter tops are in the binders and at: [http://www.dupont.com/products-and-services/construction-materials/surface-design-materials/brands/corian-solid-surfaces.html?src=gg-kg\\_surfaces-us\\_corian&gclid=CP2jrr3Vx9ECFVg6gQod2AkK0g](http://www.dupont.com/products-and-services/construction-materials/surface-design-materials/brands/corian-solid-surfaces.html?src=gg-kg_surfaces-us_corian&gclid=CP2jrr3Vx9ECFVg6gQod2AkK0g)

*Gull droppings on the hardtop that  
drizzle down the side curtains after a rain  
or heavy dew have an acid that can,  
over time, etch the Strataglass curtains.  
Be sure to clean frequently. There is one  
known instance with a 36z that was  
moored in Chilmark on Martha's  
Vineyard.*

*...R.I.J.*

**Strataglass** Don't use chemicals or brushes to clean; use only mild soap and a sponge or a soft rag. If the curtains are scratched a mild polishing compound (a white cream similar to what is used on Awlgrip) can be hand applied to remove them. Test a small, unobtrusive area first. (See the Strataglass Care and Maintenance website.)

<http://www.strataglass.com/strataglass-care-and-maintenance>

It's best to leave the curtains in place, even when trucking. If they're removed, store them flat or rolled together with towels or paper between layers. To avoid creases, don't fold.

**UltraLeather Upholstery** The standard UltraLeather upholstery is water resistant, but don't use chemicals or brushes to clean, only mild soap and a sponge or a soft rag.

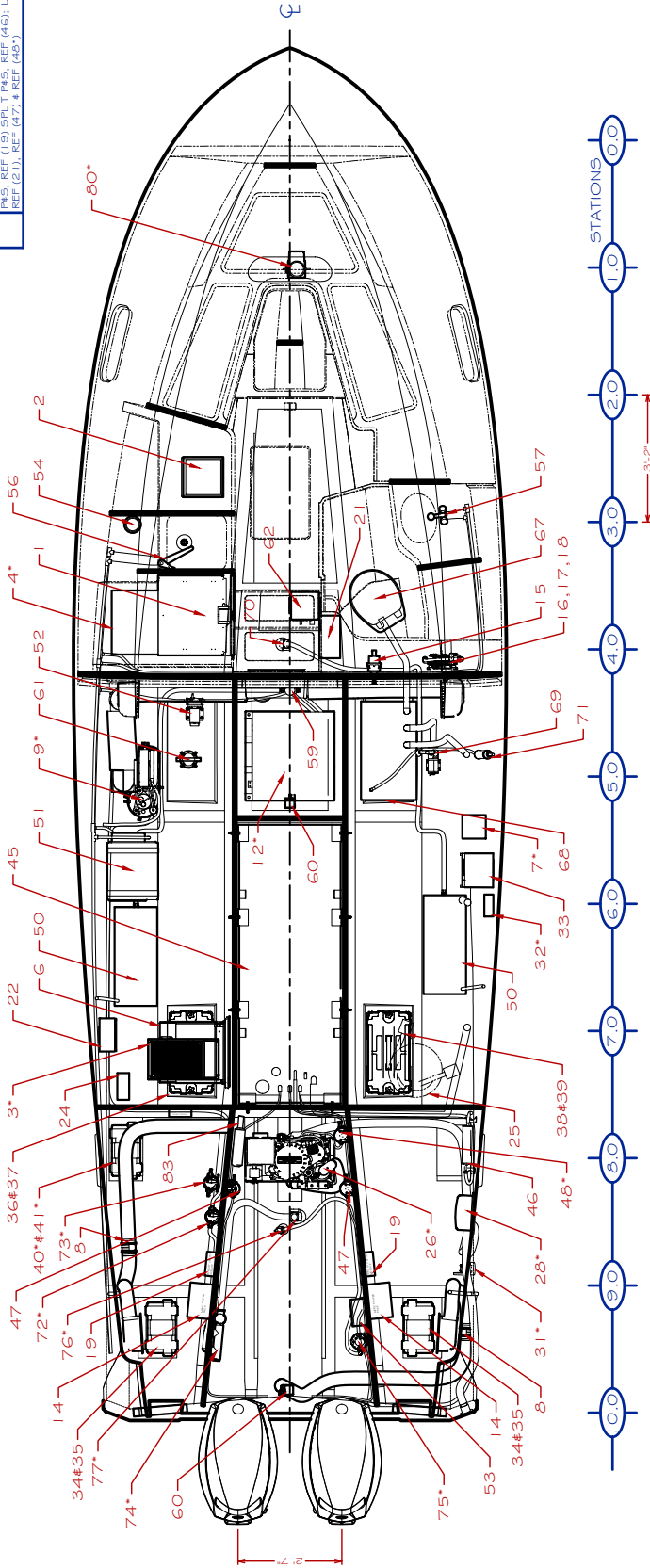
**Stidd Seats** See <http://stidd.com/support/> for maintenance recommendations. The Stidd seats swivel and lower for a sociable setting. Slide the seats forward before swiveling so the seat doesn't jam into the pilothouse walls.

REF	QTY	DESCRIPTION	MAKE	MODEL
1	1	Refrigerator - Cabin	Vitrifrigo	DW70 RXP4-EF-2
2	1	Cooktop - Ceramic, 1 Burner	Kenyon	B41573
3*	1	Electric Grill (Service Bar)	Kenyon	B70050
4*	1	Microwave	Frigidaire	FFCM0934LS
5*	1	Refrigerator-Bar (Not Shown)	Vitrifrigo	C621XD4-F
6	1	Icemaker - Bar	Vitrifrigo	IMXTIXN1-F
7*	1	Central Vac	Dirt Devil	CV1500
8	2	Air Extraction Fan - 4" Axial	Attwood	Turbo 4000 #1749-4
9*	1	A/C - Air Handler	Marine Air	DTU16
10	-	- RESERVED -	- RESERVED -	- RESERVED -
11	2	Interceptors	Zipwake	4505
12*	1	Gyro	SeaKeeper	SK3
13	-	- RESERVED -	- RESERVED -	- RESERVED -
14	2	Steering - Power Pack	Mercury	892440
15	1	Helm - Electronic	Mercury	Lord
16	1	Steering - Internal Measurement Unit	Mercury	8m0063320
17	1	Steering - DTS Helm Board	Mercury	8m2100278
18	1	Steering - Gateway	Mercury	8m0052772
19	2	Steering - Thrust Vector Module	Mercury	8m3002696
20	-	- RESERVED -	- RESERVED -	- RESERVED -
21	1	AC/DC Electrical Panel	Blue Seas	DC 3608726 / AC3609296
22	1	Charger - House	Victron	Centaur 12/100
23	-	- RESERVED -	- RESERVED -	- RESERVED -
24	1	Galvanic Isolator, 30A	Promanier	ProSafeF530 22034
25	1	Shore Power Cord - 30A, 50ft	Hubbell	HBL61CM08WLED
26*	1	Genset - 3.5kW, Gas	Westerbeke	3.5kW
27*	1	Genset - Muffler	Westerbeke	Quiet Hush
28*	1	Genset - Water Separator, 2"	Centek	1020200P
29*	1	Genset - Seawater Siphon Break	- TBD -	- TBD -
30*	1	Genset - Dry Exhaust Outlet, 2"	Marine Hardware	9405930
31*	1	Genset - Wet Exhaust Seacock, 1-1/2"	Forespar	931156
32*	1	Solar Charger Controller	Victron	MPPT75/15
33	1	Inverter - 3000W	Victron	Phoenix 12/3000
34	2	Battery - Engine	West Marine	Group 31 AGM #15020258
35	2	Battery Box - Engine	West Marine	Group 27/31 #2235604
36	1	Battery - House, Port	West Marine	Group 4D AGM #15020266
37	1	Battery Box - House, Port	West Marine	Group 4D #14201834
38	1	Battery - House, Stbd	West Marine	Group 4D AGM #15020266
39	1	Battery Box - House, Stbd	West Marine	Group 4D #14201834
40*	1	Battery - Genset	West Marine	Group 27 AGM #15020241
41*	1	Battery Box - Genset	West Marine	Group 27/31 #2235604
42*	1	Battery - Thruster	West Marine	Group 31 AGM #15020258
43*	1	Battery Box - Thruster	West Marine	Group 27/31 #2235604
44	-	- RESERVED -	- RESERVED -	- RESERVED -
45	1	Tank - Fuel, 250 Gal, 3/16" ALU	Florida Marine Tanks	FMT-253-BBW
46	1	Fuel Vent Carbon Filter	Attwood	99CC085-1
47	2	Filter - Engine Fuel	Mercury	8M0095669
48*	1	Filter - Genset Fuel	Racor	320R-RAC-02
49	-	- RESERVED -	- RESERVED -	- RESERVED -
50	2	Tank - Fresh Water, 25 gal	Moeller	WT2502
51	1	Water Heater - 8 gal	Isotherm	Basic 30
52	1	Pump - Fresh Water	Jabsco	42755-0092
53	1	Outboard Flushing System	Reverso	OFS-2-12
54	1	Freshwater Purification System	General Ecology	Seagull IV X-1F
55	-	- RESERVED -	- RESERVED -	- RESERVED -
56	1	Faucet - Galley	Scandvik	10480
57	1	Faucet - Head, Pull-Out	Scandvik	46010
58	1	Shower - Cockpit	Scandvik	12144
59	1	Strainer - 90 DEG, 1/2"	Jabsco	46400-0012
60	2	Pump - Bilge Auto - 1"	Rule	27DA-6, 1206R, 1222R
61	1	Pump - Bilge, Manual	Bosworth	GH-M500D (M5V)

REF	QTY	DESCRIPTION	MAKE	MODEL
62	1	Pump - Sump w/ Tank	Rule	98A-12
63	2	Thru-Hull - Bilge Water, Auto 1-1/8"	Marine Town	(BUILDER SPEC)
64	1	Thru-Hull - Bilge Water, Manual 1-1/2"	Marine Town	(BUILDER SPEC)
65	1	Thru-Hull - Sump, 3/4"	Marine Town	(BUILDER SPEC)
66	-	- RESERVED -	- RESERVED -	- RESERVED -
67	1	Toilet	Dometic	Master Flush 8112
68	1	Tank - Black Water, 22 gal	Moeller	WT2502
69	1	Pump - Black Water Discharge	Jabsco	18590-2092
70	1	Thru-Hull/Seacock - Black Water Discharge, 1"	Forespar	931144
71	1	Filter - Black Water Tank Vent	Sealand	Sanigard 5/8"
72*	1	Pump - Seawater - A/C	Marine Air	PML500L
73*	1	Pump - Seawater - Gyro, 5.2 GPM	Johnson	10-13252-107-BW
74*	1	Seawater Strainer - Gyro & A/C, 1-1/2" #20 MESH	Groco	ARG-1000-5
75*	1	Seawater Strainer - Genset, 1/2"	Groco	15935
76*	1	Thru-Hull/Seacock - Genset, 1"	Forespar	931144V
77*	1	Thru-Hull/Seacock - Gyro & A/C, 1-1/2"	Forespar	931146
78*	1	Baitwell	Kodiak	PF-32
79	-	- RESERVED -	- RESERVED -	- RESERVED -
80*	1	Bow Thruster	Side-Power	SE60
81	2	Wiper/Washer Assembly	Imtra	Motor - RC533221 Arm - RC538324 Blade - RC520922
82	2	Fire Extinguisher - Portable	Kidde	Manner 10
83	1	Fire Suppression System	Sea Fire	FG75A



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REV	DESCRIPTION	DATE
C	ORIGINAL ISSUE	01-31
A	ADDED 2" PVC WIRE CONDUIT ACROSS AFT BULKHEAD, UPDATED BLACK WATER PLUMBING, NO. 83 5"FC; RAISED HARDTOP 2"	03-01
B	CHANGED: REF (76) TO 1", REF (6) AS STANDARD; REF (48), ENGINE SPACING TO 12" (12" MIN); REF (32) AS 12" (12" MIN); REF (32); MOVED: REF (75), REF (76), REF (77), REF (16), REF (17), REF (18), REF (14) SPLIT; REF (44), REF (39) SPLIT; REF (46); REF (21), REF (67) & REF (45)	07-24



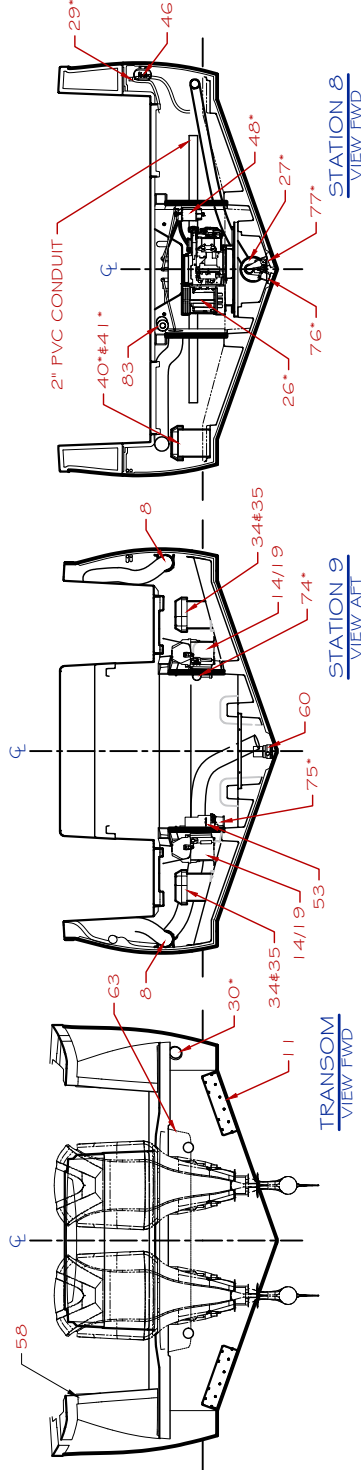
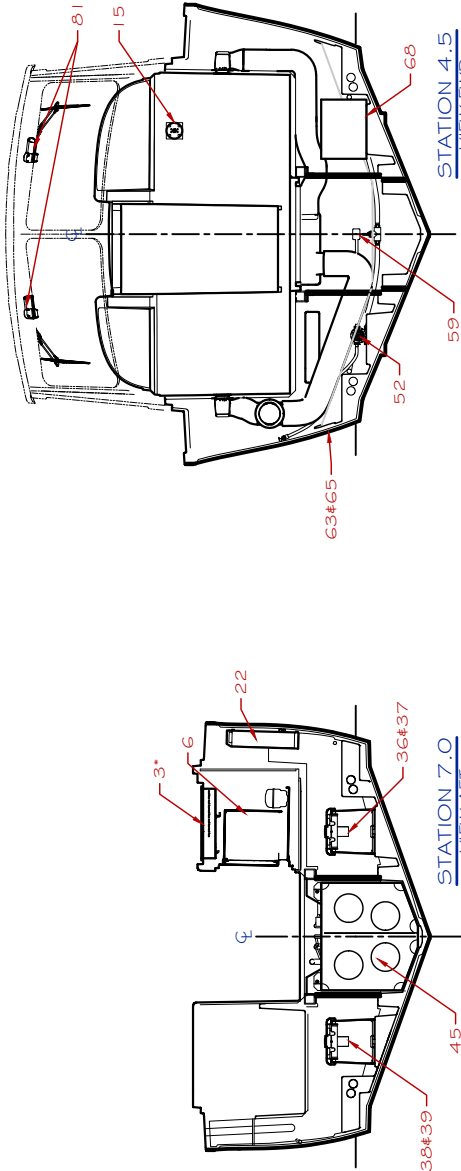
NOTE  
1. \*OPTIONAL EQUIPMENT  
2. REFERENCE 2ND DWG 15148 - 230 DECK HARDWARE FOR DECK MOUNTED EQUIP NOT SHOWN HERE  
3. DIMENSIONS ARE TO THE CENTERLINE UNLESS OTHERWISE SPECIFIED. IF A DIFFERENT MAKING OR MATERIAL IS SPECIFIED HERE, THE BUILDER SHALL VERIFY THAT THE SELECTED COMPONENTS OFFER EQUIVALENT OR BETTER QUALITY, AND THAT THEY ARE NOT INFERIOR TO THE COMPONENTS THEY ARE REPLACING.

**ZURN YACHT DESIGN**  
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MARBLEHEAD, MASSACHUSETTS 01944 USA  
781.639.0678 • [DMC@ZURNYACHTS.COM](mailto:DMC@ZURNYACHTS.COM)

MJM 35Z  
for MJM YACHTS, LLC

DWG NO: 15148 - 060A  
DATE: 18 JULY 2016  
SCALE: NOT TO SCALE  
DRAWN BY: KAK/DAZ  
SYSTEMS LAYOUT - OUTBOARDS

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REV	DESCRIPTION	DATE
0	ORIGINAL ISSUE	01-31
A	ADDED 2" PVC WIRE CONDUIT ACROSS AFT BULKHEAD, UPDATED BLACK WATER PLUMBING, NO. 63 5FEG; RAISED HARDTOP 2"	03-01
B	CHANGED: REF (76) TO 1", REF (6) AS STANDARD; REF (48), ENGINE SPACING TO 31" (32"); MOVED: REF (75), REF (76), REF (77), REF (16), REF (17), REF (18), REF (14) SPLIT; REF (59) SPLIT F&S; REF (46); UPDATED: REF (21), REF (67) & REF (45)	07-24



NOTE  
1. \*OPTIONAL EQUIPMENT  
2. REFERENCE 2ND DWG 15148 - 230 DECK HARDWARE FOR DECK MOUNTED EQUIP NOT SHOWN HERE  
3. A DIFFERENT MAKE/MODEL THAN SPECIFIED HERE, THE BUILDER SHALL VERIFY THAT THE SELECTED COMPONENTS OFFER EQUIVALENT OR BETTER QUALITY, AND THAT THEY ARE REPLACING.

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### 9.15 FUEL CONSUMPTION LOG.

[illegible]

## 9.16 BOSTON BOATWORKS LIMITED

### WARRANTY

#### Manufacturer's Sole and Limited Warranty for Pleasurecraft

**A. General.** This document sets forth the sole and limited warranty, which Boston BoatWorks, LLC ("The Manufacturer") is giving you in connection with the "Vessel" which you are acquiring. It is the only warranty being given by the Manufacturer and should be reviewed carefully together with manuals and other instructional material provided by the Manufacturer before you take delivery of the Vessel.

**B. Basic Warranty.** The Manufacturer warrants that the Vessel (except for Excluded items described below and when Properly Used, will be free of defects in material and workmanship for a period of twelve (12) months from delivery of the Vessel to you by an Authorized Dealer. If you sell the Vessel during this period, your buyer may receive the benefit of the balance of the warranty by agreeing to be bound by its terms.

**c. Extended Warranty for Structure.** In addition to the foregoing warranty, the Manufacturer warrants that the stringer systems, structural bulkheads and composite laminates of the Vessel (except for Excluded items) and when the Vessel is Properly \*Used and Maintained, will be free of defects in material and workmanship for a period of five (5) years from delivery date by an Authorized Dealer. This warranty may be transferred to your buyer in the same manner as the Basic Warranty. \*Improper over-the-road trucking of the vessel can cause local damage to the centerline of the boat requiring a localized FRP repair. Use authorized MJM trucking companies for moving your boat or contact Boston Boat Works' customer service managers for proper trucking information PRIOR to engaging with another trucking provider for boat transport.

**D. Extended Warranty Against Osmotic Blistering.** In addition to the foregoing warranties, the Manufacturer warrants that any gelcoat surfaces of the Vessel below the waterline won't blister when the Vessel is Properly Used for a period often (10) years from delivery date by an Authorized Dealer. This warranty may be transferred to your buyer on the same manner as the Basic Warranty.

**E. Dealers.** The name and address of Authorized Dealers is available from the Manufacturer. The Manufacturer doesn't authorize the Dealer, or any other person, to assume for the Manufacturer any liability in connection herewith or any liability or expense incurred in the repairing of its products other than those expressly authorized by the Manufacturer in writing.

**F. Excluded Items.** The Manufacturer gives no warranty as to:

- a. Paints, varnishes, gelcoats (except where included in paragraph D above) exterior wood, vinyls, fabrics, glass, chrome plating or anodized or other finishes or surface coatings because of the varying quality of these items manufactured by others and the effect resulting from different climactic and use conditions
- b. Engines, mechanical equipment, pumps, batteries, heating, plumbing, refrigeration, electronic components, masts, or other components manufactured by other than the Manufacturer, or the cost of removal or re-installment of the part and disassembly, or reassembly of the unit of which it is a component.
- c. All items not installed by the Manufacturer or altered after their installation, and items installed or altered by Authorized Dealers.
- d. Other than upon first being delivered, leaks in or around hatches, companionways, deck hardware or other leaks which are above the waterline.
- e. Damage to the Vessel (including, but not limited to, wet core) caused by leakage around decks, hardware or other accessories attached to, or incorporated into, the Vessel.
- f. Speed, fuel consumption or other performance characteristics, because they are estimated and not guaranteed.

**G. Proper Use.** The warranties contained herein are expressly conditioned upon your Proper Use of the Vessel. This means that you must use the Vessel solely as a pleasure craft (no commercial use) and operate it as directed in and after reviewing the manuals provided by the original equipment manufacturer and the Manufacturer, and perform maintenance to the Vessel as recommended in the manuals and as required by periodic inspections by an Authorized Dealer or Service Center.

**H. Warranty Claims.** To make a claim under this warranty you must do the following a. Report the defect to the Manufacturer or Authorized Dealer within 48 hours after discovery, and when possible prior to incurring any expense, identifying the Vessel and submitting photographs (email digital preferred).

b. Make the Vessel available for inspection by the Manufacturer or Authorized Dealer when requested.

c. Make the vessel available for repairs, if required, by the Manufacturer or Authorized Dealer.

d. Major components, such as engines, generators, air-conditioners, electronics, and appliances, for example, are warranted by the manufacturer of the component. They have authorized service dealers in most major boating markets. The Manufacturer or Dealer will identify such service dealers upon request.

**I. Repair or Replacement.** The manufacturer shall perform its obligations under this warranty by, at its option, repairing or replacing (at Manufacturer's expense) the defective part or component. Parts or components replaced will become the property of the Manufacturer. The replacement of parts or components won't extend the warranty but the replacement parts and components will be covered for the balance of the warranty period. You shall be responsible for returning the Vessel to Manufacturer at its plant or at a marina or to such other repair facility that the Manufacturer shall designate, at your sole expense.

**J. Specification Changes.** The manufacturer reserves the right to make changes in design, equipment, layout or construction without notice or being obligated to incorporate such changes in previous products.

**K. Registration Cards.** The Manufacturer recommends that you immediately fill out and return the Warranty Registration Card for the Vessel. Cards should be sent to:

Boston BoatWorks, LLC  
333 Terminal Street  
Charlestown, MA 02129  
ATTN: Customer Service

L. The information contained on this card will enable the Manufacturer to more quickly process any warranty claims and to comply with the Federal

Boating Safety Act. Should you sell the Vessel, the Manufacturer recommends that your buyer also fill out a Warranty Registration Card.

**M. Exclusion of Implied Warranties.** The foregoing warranty is intended to be in lieu of all other warranties, express or implied. In part, due to the hazardous, life-threatening environment, capable of overwhelming vessels of any size, that the Vessel will operate in, THE MANUFACTURER OR ITS DEALER DISCLAIMS ALL IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR USE. In some jurisdictions, the Manufacturer is prohibited from excluding or limiting implied warranties. In those jurisdictions, the Manufacturer expressly limits any implied warranties to the greatest extent and to the shortest duration allowed by law.

**N. Limitation of Damages.** THE MANUFACTURER OR ITS DEALER DISCLAIMS ANY LIABILITY TO YOU FOR INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES TO YOU, including loss of use, loss of revenue, travel expenses, transportation charges, food or lodging charges or loss of personal property. In some jurisdictions, the Manufacturer is prohibited from excluding or limiting implied warranties. In those jurisdictions, the Manufacturer expressly limits any implied warranties to the greatest extent and to the shortest duration allowed by law.

**O. Whole Agreement.** This warranty is the sole warranty given to you by the Manufacturer. Authorized Dealers aren't authorized to make changes to this warranty. Any questions about the warranty should be directed to the Manufacturer. If you do bring a claim against the Manufacturer that is related to the Vessel, you must bring it in the Courts for the State of Massachusetts.

# 10 THE MJM TEAM

Before we end, we'd like you to know the remarkable people, recognized throughout the yachting world, who create MJM Yachts. It's a team that has, in its young life, received many awards. The 50z received the AIM Publishing Group's 2014 Boat of the Year for the "Best 50 Foot Plus Down East Cruising Design"

By the end of 2017, MJM will have delivered 300 boats.

## 10.1 BOB JOHNSTONE

Bob is the founder and CEO of MJM Yachts. A Princeton graduate, he co-founded J/Boats in 1977 with his brother Rod. J/Boats is the leading performance sailboat brand worldwide with 20 Boat-of-the-Year awards, a Harvard Business School case study, five International Classes, and over 14,000 J Boats produced. Leaving J/Boats to the next generation in 2002, Bob and his wife, Mary, sought a boat for more comfortable cruising. Bob, true to form, figured that innovation was required to get the performance and solo handling ease comparable in power to what J/Boats achieved in sail. Such a boat did not exist. That was the start of MJM Yachts—the acronym MJM informally honors the inspiration: *Mary Johnstone's Motorboat*. The tradition of excellence continues. In 2016 Bob received the Mystic Seaport's *America and the Sea Award* was inducted into the National Sailing Hall of Fame and was cited by *Yachting Magazine* as one of 7 key Innovators in the marine industry.



## 10.2 CHRIS HUGHES

Chris is a partner at MJM. His personal boating experience includes almost every conceivable version of recreational vessel: waverunners, sailfish, small and large inboards, racing dinghies, power and sailing cruisers, center console fishing boats, offshore sport fishers and luxury yachts. He led BoatTEST.com LLC, a Web-based B-to-B and direct-to-consumer relationship marketing business. He received the Epstein Memorial Foundation Scholarship from Juilliard School of Music where he studied for four years. He is a veteran of the U.S. Marine Corps and saw duty in Central and South America and the Middle East. He was recognized for technical and leadership abilities and assigned to special duties for operational deployments. He participated in multiple operations including Desert Storm.



## 10.3 DOUG ZURN

Doug grew up sailing on Lake Erie in his family's boats. He absorbed Skene's Elements of Yacht Design and made drawings and boat models in high school. He graduated with honors from The Westlawn School of Yacht Design in 1993 and promptly established Zurn Yacht Design. He is a member of the Society of Naval Architects and Marine Engineers, the American Boat and Yacht Council and the Yacht Brokers Association of America. Doug believes that it is very clear that form and function need to work together when designing a yacht. The attention given to each detail, several times throughout the design process, is the number one key element of any successful design. Not a single detail can be left alone. With over 350 power and sailboats built in the last 20 years it's difficult not to recognize a Zurn Design as she passes in the water.







#### **10.4 SCOTT SMITH**

Scott is a founder of Boston BoatWorks. He studied bio-medical engineering at Boston University and worked in the financial industry at Boston Financial Data Services and Shawmut Bank. He formed Boston BoatWorks with Mark Lindsay to combine his passions as a life-long sailor, sailing competitor, technophile and entrepreneur. BBW has brought boatbuilding back to the place where famous clipper ships were built. Scott's active interest in contributing to community, harbor and business issues has led him to participate over the years as a Director of the East Boston Chamber of Commerce, Chairman of the East Boston Economic Development Council, Founder and trustee of East Boston's not-for-profit sailing program, Piers Park Sailing, Inc., Member of the Boston Redevelopment Authority's Municipal Harbor Planning Advisory Committee and Trustee of The Boston Harbor Association,



#### **10.5 MARK LINDSAY**

Mark is a founder of Boston BoatWorks. He spent much of his youth in an old boat shop watching a septuagenarian build lobster boats. At 14 he built a Sunfish and two years later won a Sunfish championship. He studied architecture at the U of Penn and MIT and began his boat-building career. One of the first to realize the strength-to-weight characteristic of vacuum bagged epoxy, carbon fiber and Kevlar, he made boats lighter, stronger and faster. His boats provided championships for many competitors—including himself. With technological support from Sikorsky Aircraft, DuPont and Hexcel Corporations, Mark pushed the envelope, building many exotic yachts with storied naval architects and yachtsmen. He provided specialized components for boats from Optimist prams to America's Cup boats. He teaches boatbuilding to 9th graders, is chief measurer for the Sonar Class, and Chairman of the Management Committee for the New Hampshire Appalachian Mountain Club Camp.



#### **10.6 STEVE BURKE**

Steve is the structural engineer for MJM boats. He graduated from the University of Michigan department of Naval Architecture and Marine Engineering. He began his career as a Naval Architect with hull design and structural engineering for hydrofoils, ships and submarines for Boeing and General Dynamics. In 1990, Steve turned to composite materials for the aerospace, naval, oceanographic and offshore energy communities. As the marine composites engineer at TPI, Steve was responsible for structural and project management for J/Boats.