

## Before Starting Engines:

1. Dinghy and deck furniture secured? Grill cover secure?
2. Disconnect shore power; stow cord.
3. Power panel: Green breakers ON; Yellow breakers ON as needed; Red breakers always OFF
4. VHF Radio, Nav System and Autopilot breakers are Off.
5. Close all hatches and portholes in staterooms and heads.
6. Open blinds and curtains in the salon for 360 degree visibility.
7. Remove the windshield sunscreen and stow on the port shelf in the forward stateroom when dry.
8. Upper helm: Remove the upper helm canvas cover and stow in the port side of the aft bench seat of the flybridge when dry. Remove bench seats canvas as appropriate. Optional: open the center Strataglass and secure to straps (See detail section).
9. Upper helm: Install ignition keys, install the remote marine radio control and secure bow thruster remote in upper helm holder (all of these items are kept at the lower helm when not in use).
10. Check oil and coolant levels in engines and generator; add if necessary.
11. Conduct a visual check under and around the engines looking for any signs of abnormal fluid spotting.
12. Confirm seacocks for the engines are open and seawater strainers are clear.
13. Confirm fuel strainer bowels are clear and no accumulation of water.
14. Check fuel gauges at lower helm (ignition keys must be on to check).

## Starting Engines:

1. Close the salon door.
2. Ensure ignition keys at lower and upper helms are in place. The four keys are not interchangeable, so please don't remove them from the key rings with their floating labels.
3. Ensure gear controls are in Neutral. If engine is cold, advance throttle levers about ½ inch. If warm, leave at Idle.
4. The Volvo Penta engines on Harmony don't require any preheating.
5. Turn key to start, starboard engine first, then port engine is the preferred sequence. Engine will normal 'catch' and begin running after just a second or two of starter engagement. Allow about 15 seconds before the second engine start is a good habit. If an engine starter doesn't engage, be sure controls are in neutral (safety interlock) and cycle the ignition key to the full counterclockwise 'kill engine' position, then try again to engage the starter. Do not engage the starter for more than 30 seconds without a 2-minute "rest" period.
6. Adjust throttles to warm up at 650-700 RPM, 2-3 minutes minimum to ensure stable engines.
7. Check oil pressure, typically 90-100 psi when cold engines
8. Water running from both engine exhausts? (Go look)
9. Throttles all the way down to Idle before engaging transmission!
10. Keep salon door closed when engines are running to prevent diesel exhaust film from settling on interior furnishings.

## Electronics: Be sure you start the engines before turning on electronics.

1. Stow sun covers in storage bin at lower helm.
2. Turn on the VHF Radio, Nav System and Autopilot breakers on DC power panel.
3. Radio: Check WX as appropriate and then monitor channel 16.
4. Nav System: MFD displays, acknowledge start-up message, set brightness by momentarily pressing the power button and then adjusting the brightness with the rotary knob, then OK. See detailed section in Owner's Notes for recommended screen selections and setup.
5. Garmin Portable GPS: hold power button on to start and acknowledge start-up message, once GPS signals acquired, we recommend you use this device to monitor the tide chart, select it by successively pressing the 'Page' button.

# Quick Start Procedures - Harmony

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## Before Leaving Dock:

1. Center the rudder. Select the stern camera on the chartplotter as appropriate.
2. Untie and stow mooring lines. (Use buckle latch straps or hang on the rail).
3. Close and latch the step-through door in the transom.
4. Once underway, stow the forward four fenders in fender racks at the bow. It is best to clip fender holders on the railing for added security. The two stern fenders can be raised and placed inside the cockpit at each stern corner. (Hint: Since the fender clips maintain an expected line length for each fender, use a pattern of keeping the four fenders stowed in the racks so that you return the same fender to the same location on each railing.)

**Always use Upper Helm station for docking and leaving the dock as it provides maximum visibility and communication with crew.**

## Underway:

1. Helmsperson "on watch" at all times. Be alert for logs or debris in water, it's out there with surprising regularity. Monitor the gauges and regularly validate your position and water depth in the area.
2. Keep RPM under 1000 until engines warm to 125 degrees and below 1300 RPM until 170 degrees.
3. Always keep effects of your wake in mind.
4. Over 1600 RPM, level the boat by adjusting the trim tabs. A good rule of thumb is to adjust trim to where the bow pulpit is somewhat above the horizon line when viewed from the lower helm, then tweak to achieve maximum forward speed.
5. Remember to raise trim tabs (bow up) when you slow down or cruise at 1600 RPM or below.
6. "Normal" readings:
  - a. Engine temp: 160-195, typically around 185; Oil pressure: 30-90 psi, varies with temp and engine speed
  - b. Note that the lower helm port engine temp reads a bit lower (10- 15 degrees) than the upper helm gauge, this is calibration error in the gauge.

## Approaching Dock:

1. Put fenders on appropriate side (stbd tie is preferable for ease of communication to / from skipper and deck hand on the swim step) or both sides as appropriate (At home port, both sides is preferred for protection for a neighboring vessel).
2. Attach Bow line to cleat and run line OUTSIDE stanchions and OUTSIDE fender lines toward amidships; blouse the line over the rail for someone on the dock to easily grab it.
3. Engines should be dead slow (Idle).
4. Mate ready to step off swim step (No leaping across water to dock!) and secure Stern first (most circumstances), then Bow. In heavier crosswind conditions, best to secure mid-line first.

## Upon Arrival at Dock in Marina:

1. Secure all lines: Stern, Bow and Fwd / Aft Springlines as a minimum.
2. If bow-in, be sure anchor is not protruding over dock walkway.
3. Turn off defroster (if using it) and engines (see "Stopping Engines" below).
4. Turn off Raymarine electronics at both helm stations; replace sunscreen covers.
5. Once shore power is connected, make certain there is 110 voltage on the panel. (See Electrical section of Owner's Notes for details.)

## Stopping Engines:

After operating at cruising speed, allow engines to idle a few minutes to cool down. (This usually happens naturally while maneuvering to the slip or setting the anchor.) Then turn keys to "Kill Engine" fully counterclockwise position. Then check to be sure all keys are in the off position (12 o'clock position). **Remove keys from upper helm station and stow them at lower helm station. Generally the lower helm keys are always left in place.**

# Quick Start Procedures - Harmony

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## Tying up to a Mooring Buoy:

1. Skipper at Upper Helm, Mate on starboard side of cockpit with boathook and nylon mooring line (stowed on hanger in the cockpit). Nylon line is less prone to fraying from the rub of the buoy ring than the regular dock lines.
2. Mate secures one end of dock line to stern cleat.
3. Skipper puts starboard end of stern next to buoy.
4. From stern, standing inside the cockpit, mate pulls up buoy ring with boathook and loops mooring line (single loop is best, it resists wandering but still allows slippage if wind / wave conditions dictate weathervaning of the bow) through buoy ring.
5. Mate places boat hook in cockpit, releases dockline from stern cleat and holds two ends of dock line while walking up side to bow. Skipper maneuvers bow close to buoy.
6. With buoy close to bow, secure one end of line to each front bow cleat. This allows for "quick release" when you're ready to cruise: Simply release one end of line from bow cleat and pull through the buoy ring and you're free to go.
7. Secure 2<sup>nd</sup> line as a safety if mooring overnight (straight feed thru the ring is best).
8. Turn off defroster (if using), engines and Raymarine electronics at both helm stations and replace covers.

## Mooring at Anchor:

1. Turn on Windlass power in power panel. Release safety loop that secures anchor.
2. Anchor is lowered with foot switches on bow deck or from remote controls at either helm while boat is backed up slowly away from anchor. Be careful that anchor doesn't swing wildly and hit the bow. Better technique is to lower the anchor over the roller by hand while feeding out a short burst of anchor rode.
3. Mate on bow to monitor length of chain going out and to troubleshoot if it gets tangled. (Anchor line marked at 50 ft with a five foot yellow mark, 100 ft with a 10 foot yellow mark, at 150, 200 and 250 ft with a 5 ft yellow mark, the last 10 ft of chain is marked red. There is then a triple braid rode at the end that would allow the skipper to fully deploy the chain and then cut it loose if emergency conditions warrant. Remember, anchor and chain is an expensive investment, cut it loose only in an emergency and if possible, attach a fender to the bitter end for future recovery of the anchor. We hope you never encounter a situation that requires you to take this action.
4. When desired chain length is out, stop windlass. (See "Tackle" section for recommended scope in NW waters, generally at least 4:1 but varies with conditions.)
5. Skipper to reverse one engine at a time gently to test the set of the anchor.
6. Attach "Snubber line" to anchor chain: Secure snubber line to windlass cleat. Attach hook to anchor chain beyond anchor roller. Run out enough chain to form loop in chain so tension is transferred to snubber line.
7. Turn off Windlass power at power panel.
8. Turn off engines. Turn off navigation electronics at both helms; replace covers.
9. See "Tackle" section of Owner's Notes for instructions on hauling anchor and **freshwater washdown (very important!) of anchor chain.**

## Daily (Overnight) Checklist in Marina:

1. AC Input "On" for shore power.
2. Magnum Charger controller: Charger "On" – Be sure it is charging.
3. Cover electronics screens at both helm stations. Be sure ignition keys are not left at the upper helm. Use flybridge canvas as appropriate to prevent rain / moisture from settling on the gauges / seats.
4. Keep an eye on water tank gauge and holding tank gauge.
5. If during the cruise day you were experiencing a lot of salt spray onto the topsides of the boat, take the opportunity to wash down the salt residue if permissible at the harbor.

# Quick Start Procedures - Harmony

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## Daily (Overnight) Checklist at Anchor or Buoy:

1. Anchor light: "On" during hours of darkness. How to turn on anchor light: Turn on "Nav Lights" switch on electrical panel, then switch adjacent toggle to "Anchor Light."
2. Turn off unnecessary electrical items.
3. Cover electronics screens at both helm stations. Be sure ignition keys are not left at the upper helm. Use flybridge canvas as appropriate to prevent rain / moisture from settling on the gauges / seats.
4. Keep an eye on water tank gauge and holding tank gauge.
5. If during the cruise day you were experiencing a lot of salt spray onto the topsides of the boat, take the opportunity to wash down the salt residue if you have sufficient fresh water in the tank.

## First Thing Each Day:

1. If at anchor, turn off anchor light.
2. Setup flybridge for normal operation per prestart checklist.
3. Check Magnum Charger controller for battery reserve. It is best to use the State of Charge (SOC) selection and before the level drops below 50%, start the generator or port engine to recharge the house batteries.
4. Check water tank level (gauge in electrical panel).
5. Check holding tank gauge (also at the electrical panel). If more than 2/3 full, pumping is necessary.

## Before Leaving Vessel:

1. Power panel: Turn fresh water pump "OFF".
2. Reinstall front windshield sunscreen for UV protection and reducing the heat load transferred to the salon.
3. Use blinds for theft deterrence and further UV / heat load management at your discretion.
4. Lock the salon door.